



US007809709B1

(12) **United States Patent**
Harrison, Jr.

(10) **Patent No.:** **US 7,809,709 B1**
(45) **Date of Patent:** **Oct. 5, 2010**

(54) **SEARCH ENGINE SYSTEM, METHOD AND DEVICE**

(76) Inventor: **Shelton E. Harrison, Jr.**, 6225
Canterbury Dr., #105, Culver City, CA
(US) 90230

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 440 days.

(21) Appl. No.: **11/786,990**

(22) Filed: **Apr. 13, 2007**

Related U.S. Application Data

(63) Continuation of application No. 10/888,781, filed on
Jul. 9, 2004.

(60) Provisional application No. 60/486,630, filed on Jul.
11, 2003.

(51) **Int. Cl.**
G06F 7/00 (2006.01)

(52) **U.S. Cl.** **707/707**; 707/610; 707/603;
707/706; 707/713; 707/722; 707/736; 707/758;
707/781; 707/802; 707/822; 709/219

(58) **Field of Classification Search** 707/2,
707/3, 7, 8, 9, 10, 104.1, 610, 703, 706, 713,
707/722, 736, 758, 781, 702, 822, 999.003,
707/999.007, 999.009, 999.01; 709/219,
709/203

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,041,326	A *	3/2000	Amro et al.	707/10
6,397,212	B1 *	5/2002	Biffar	707/5
6,421,675	B1 *	7/2002	Ryan et al.	707/100
2002/0032723	A1 *	3/2002	Johnson et al.	709/203
2002/0049792	A1 *	4/2002	Wilcox et al.	707/522
2002/0107853	A1 *	8/2002	Hofmann et al.	707/7
2002/0120609	A1 *	8/2002	Lang et al.	707/1
2002/0165856	A1 *	11/2002	Gilfillan et al.	707/3
2003/0014428	A1 *	1/2003	Mascarenhas	707/200
2005/0015718	A1 *	1/2005	Sambhus et al.	715/513
2005/0076003	A1 *	4/2005	DuBose et al.	707/1
2005/0154761	A1 *	7/2005	Lee et al.	707/104.1
2005/0165766	A1 *	7/2005	Szabo	707/3
2005/0278317	A1 *	12/2005	Gross et al.	707/3

* cited by examiner

Primary Examiner—Hosain T Alam
Assistant Examiner—Syling Yen

(57) **ABSTRACT**

A “Build-Your-Own-Search-Engine” system allows a user to define his own search algorithm(s) and deploy his own customized search engine using said custom algorithm. The system includes a ranking method whereby relevancy scores are assigned to ranked items according to user-submitted URLs, terms, and weights, thereby allowing a whole user community to maintain and further customize the search engine to reflect their own interests, opinions, and tastes. Revenue-sharing and other steps are also disclosed. Licensing information may be obtained through <http://www.inventerprise.com>.

20 Claims, 69 Drawing Sheets

**UET System: UAML Subsystem: Method of
Creation and Deployment**

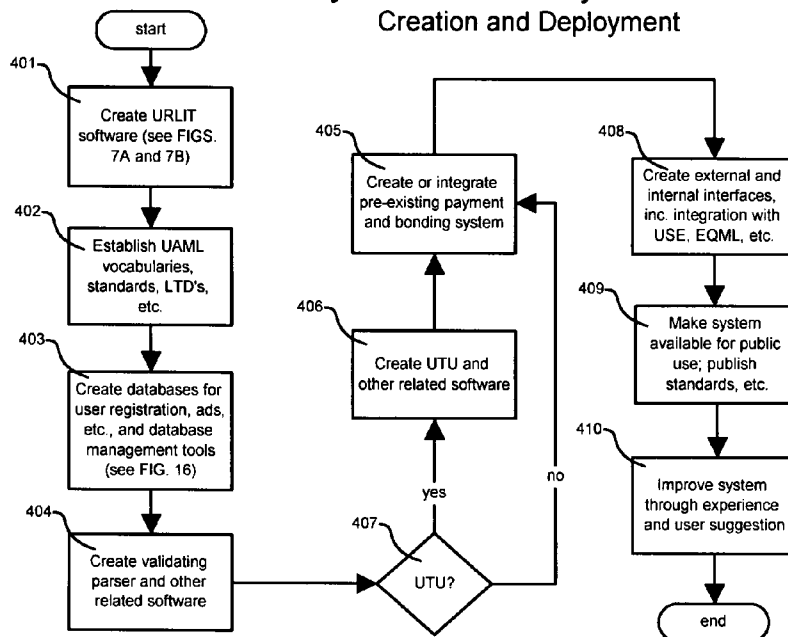


FIG. 1 **Universal Electronic Transaction (UET)
System: Method Overview**

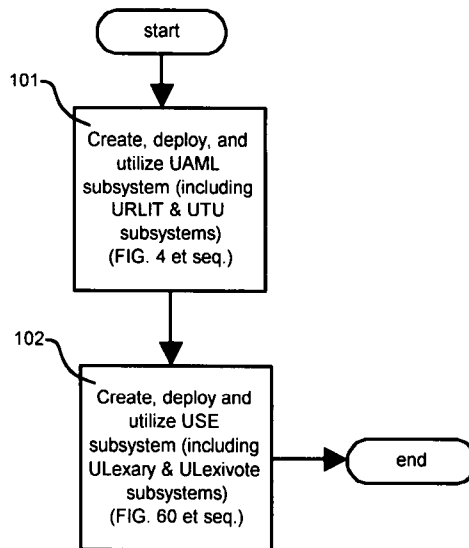


FIG. 2 **UET System: System Overview**

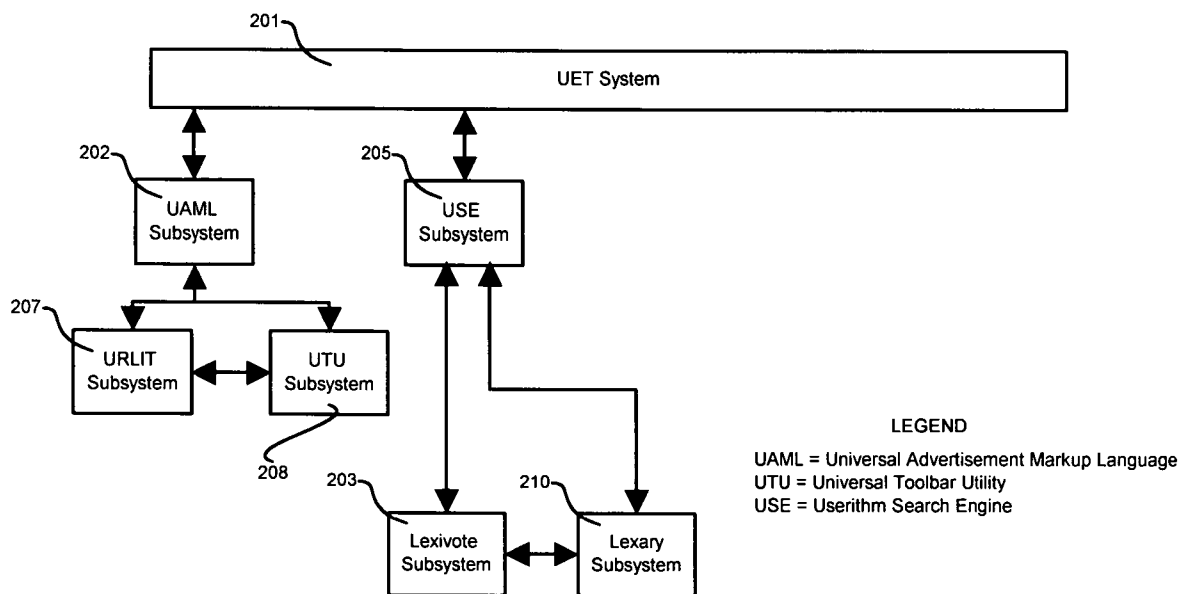


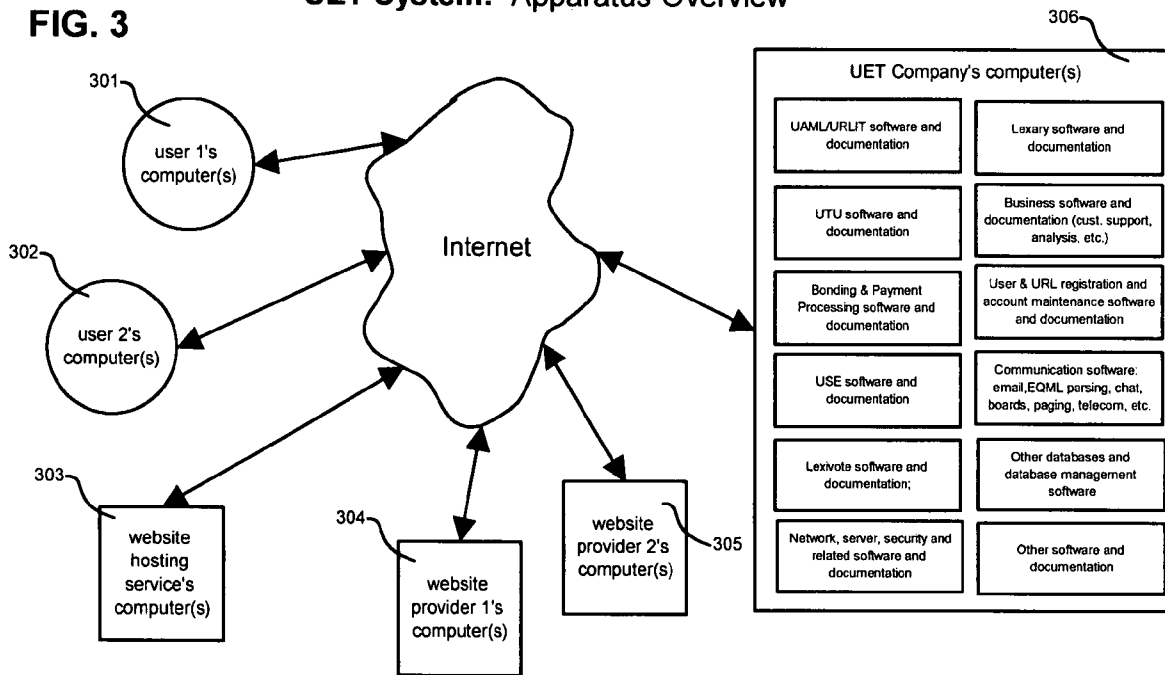
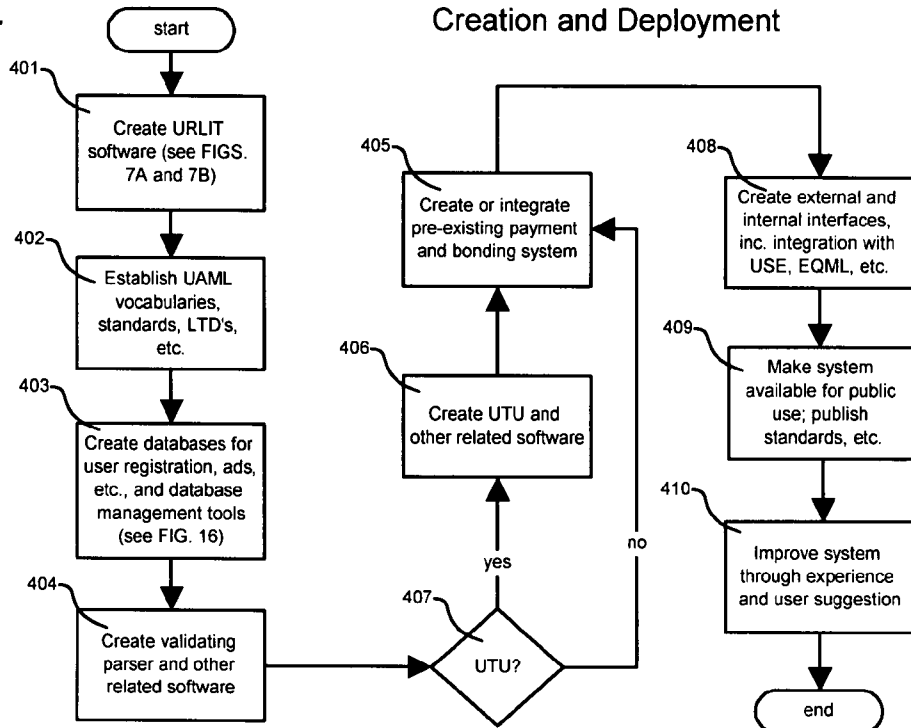
FIG. 3 UET System: Apparatus Overview**FIG. 4** UET System: UAML Subsystem: Method of Creation and Deployment

FIG. 5 UAML Subsystem: User Registration and Account Creation Process

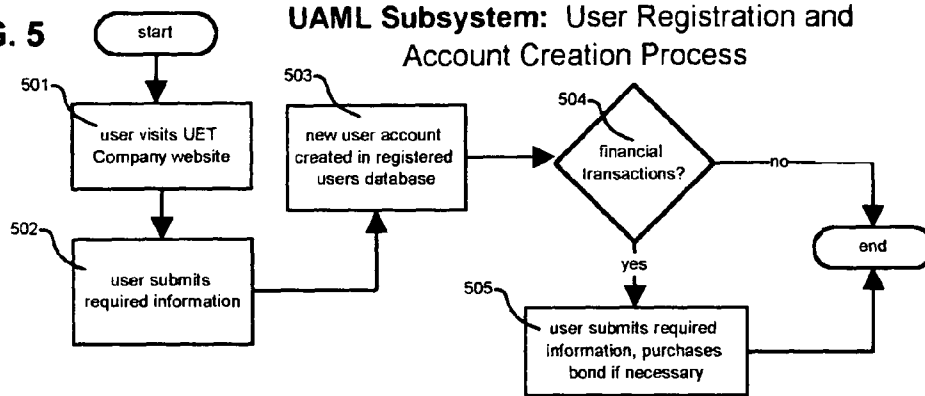


FIG. 6A UAML Subsystem: Basic Listing Process

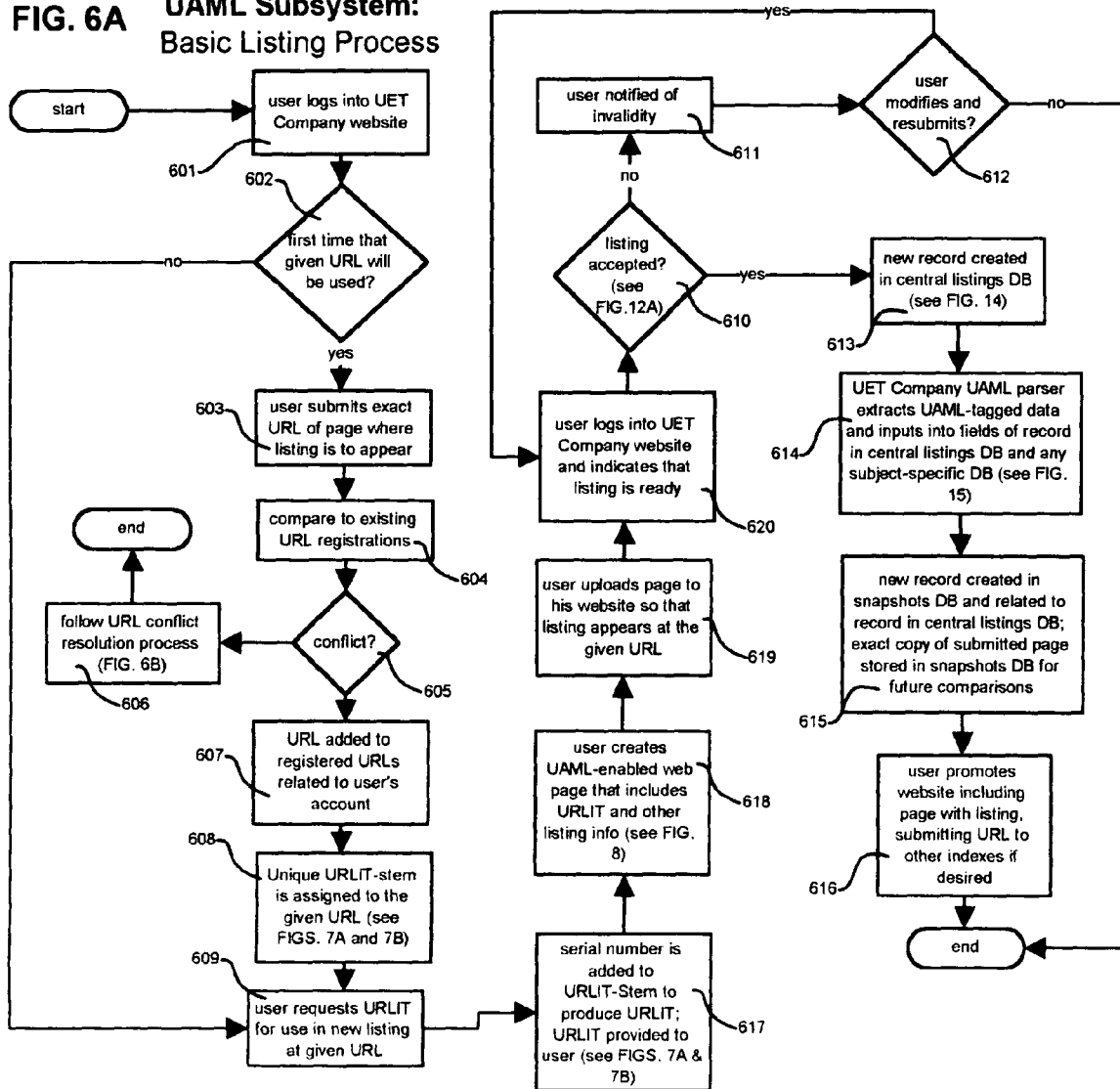
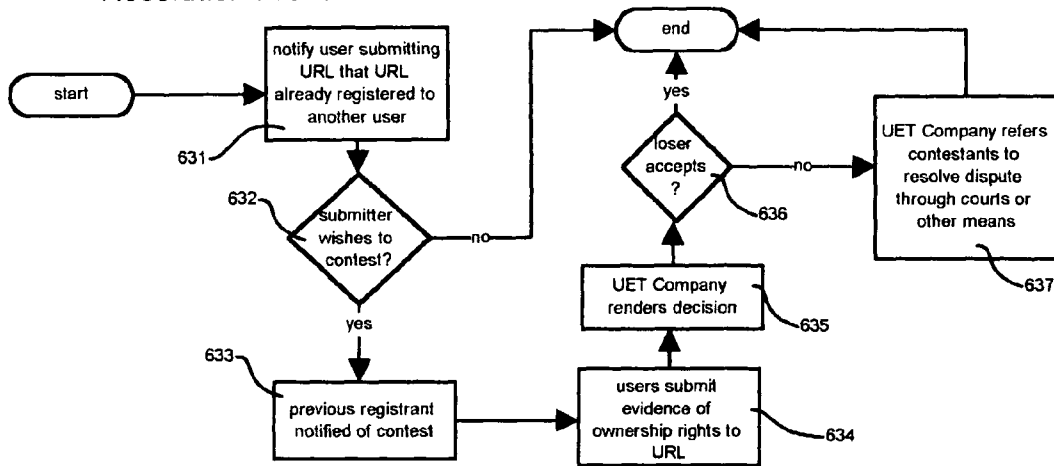
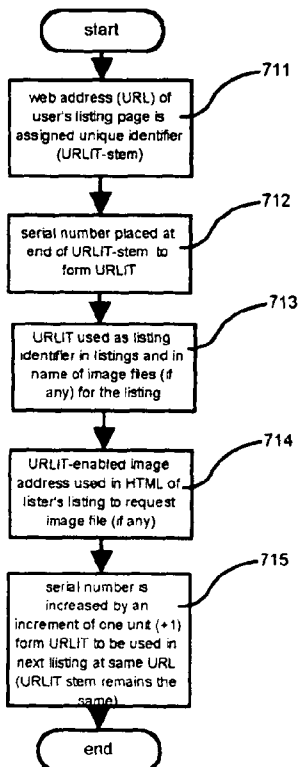
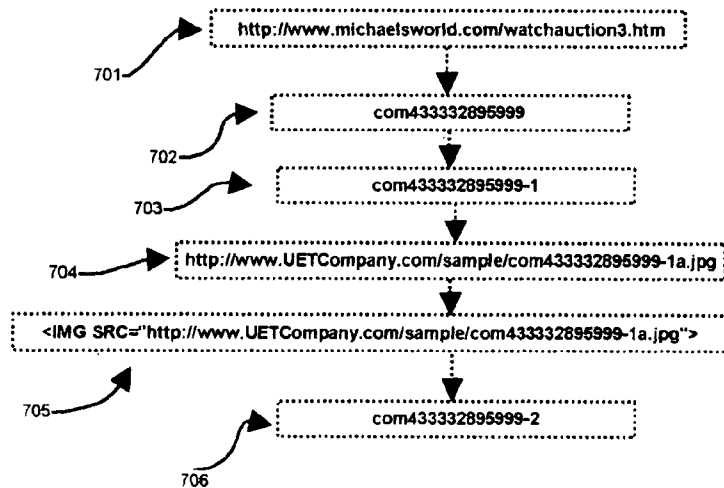


FIG. 6B**UAML Subsystem: URL Conflict Resolution Process****FIG. 7A****UAML Subsystem: URLIT Formation Process****FIG. 7B****UAML Subsystem: Example URLIT Formation and Usage**

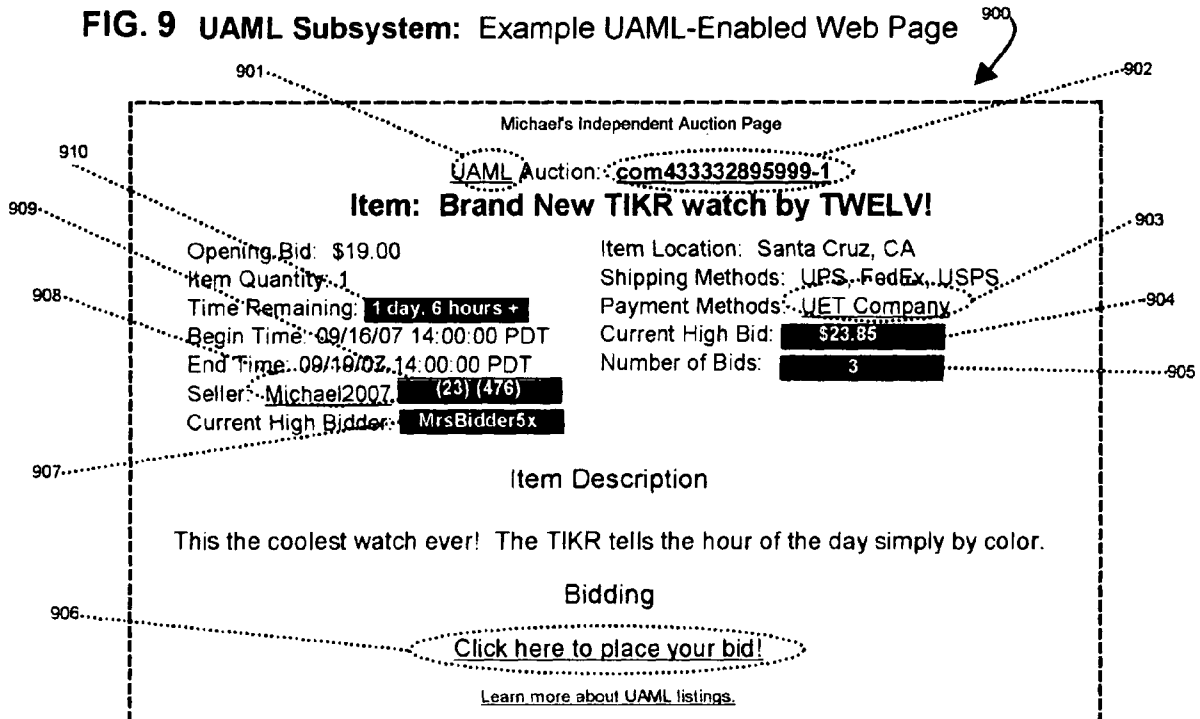
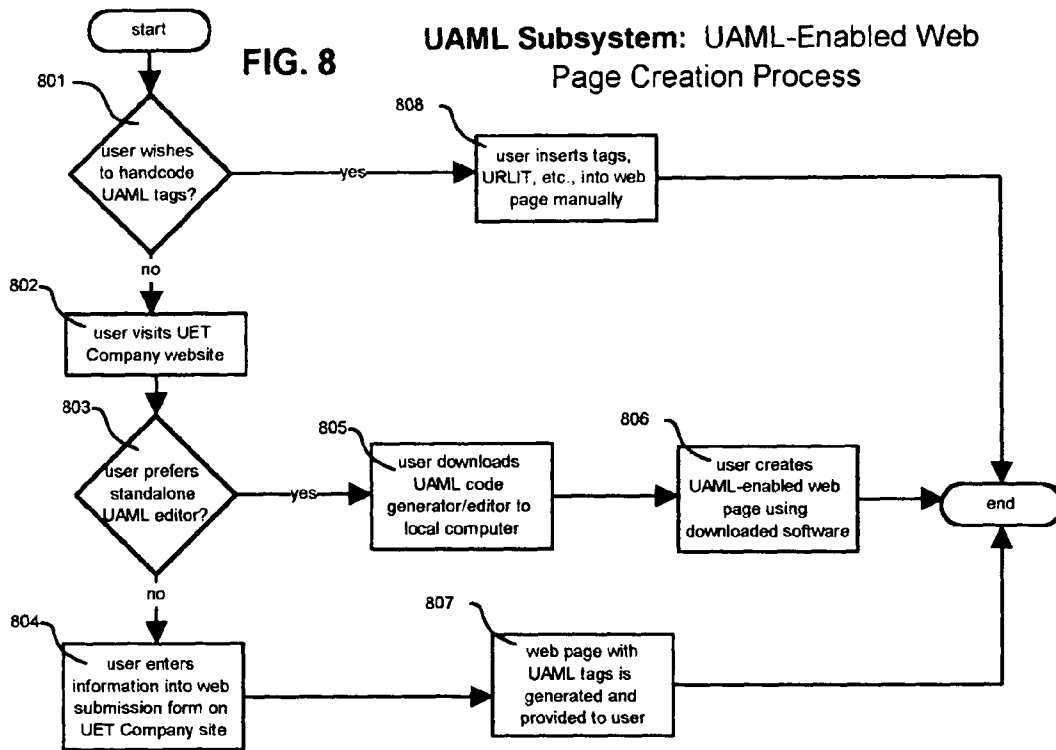


FIG. 10

1001 **UAML Subsystem: Excerpt from Example User-Accessible Submission Form for Entry of Data and Submission to UAML Code Generator**

**UAML-Enabled Web Page Generator:
Submit Your Auction Info Below**

Enter Your User ID	<input type="text" value="Michael2007"/>
Enter the Title of Your Auction	<input type="text" value="Brand New TIKR watch by TWELV!"/>
Enter the Opening Bid Amount	<input type="text" value="19.00"/>
[etc.]	

FIG. 11

UAML Subsystem: Excerpt from Example UAML-Enabled HTML Document

1101[cut].....
 <TR> <TD> <P><UAMLAuctOpenBidPhrase>Opening Bid:
 <UAMLAuctOpenBidAmount>\$19.00</UAMLAuctOpenBidAmount></UAMLAuctOpenBidPhrase>
 ></P>
 </TD></TR> <TR><TD> <P><UAMLAuctQPhrase>Item Quantity:
 <UAMLAuctQuant>1</UAMLAuctQuant></UAMLAuctQPhrase></P>
 </TD></TR> <TR> <TD> <P><UAMLAuctTimeRem>Time Remaining: <IMG
 SRC="uaml-images/com433332895999-1a.jpg"></UAMLAuctTimeRem></P>
 </TD> </TR><TR> <TD> <P><UAMLAuctBeginPhrase>Begin Time:
 <UAMLAuctBeginDate>09/16/07</UAMLAuctBeginDate>
 <UAMLAuctBeginTime>14:00:00</UAMLAuctBeginTime>
 <UAMLAuctBeginTimeZone>PDT</UAMLAuctBeginTimeZone></P></TD></TR>
 <TR> <TD><P><UAMLAuctEndPhrase>End Time: <UAMLAuctEndDate>09/19/07</UAMLAuctEndDate>
 <UAMLAuctEndTime>14:00:00</UAMLAuctEndTime>
 <UAMLAuctEndTimeZone>PDT</UAMLAuctEndTimeZone></UAMLAuctEndPhrase></P>
 </TD></TR><TR><TD HEIGHT=14><P><UAMLAuctSellerPhrase>Seller: Michael2007<IMG
 SRC="uaml-images/com433332895999-1b.jpg"></UAMLAuctSellerPhrase></P>
 </TD></TR><TR><TD><P><UAMLAuctHighBidderPhrase>Current High Bidder: <IMG
 SRC="uaml-images/com433332895999-1c.jpg"></UAMLAuctHighBidderPhrase></P>
 </TD> </TR></TABLE>
</P> </TD> <TD VALIGN=top WIDTH=375><P><FONT
 SIZE="-2" FACE="Arial" COLOR="#000000"><TABLE BORDER=0>
 <TR><TD><P><UAMLAuctItemLocPhrase>Item Location: <UAMLAuctItemLocation>Santa Cruz,
 CA</UAMLAuctItemLocation></UAMLAuctItemLocPhrase></P>
 </TD> </TR><TR><TD><P><UAMLAuctShipMethPhrase>Shipping Methods:
 <UAMLAuctShipMethod>UPS</UAMLAuctShipMethod>,
 <UAMLAuctShipMethod>FedEx</UAMLAuctShipMethod>,
 <UAMLAuctShipMethod>USPS</UAMLAuctShipMethod></UAMLAuctShipMethPhrase></P>
 </TD></TR><TR><TD><P><UAMLAuctPayMethPhrase>Payment Methods: UET Company</UAMLAuctPayMethPhrase></P>
 </TD></TR><TR><TD><P><UAMLAuctHighBidPhrase>Current High Bid: <IMG
 SRC="uaml-images/com433332895999-1d.jpg"></UAMLAuctHighBidPhrase></P>
 </TD> </TR><TR> <TD><P><UAMLAuctNumBidsPhrase>Number of Bids: <IMG
 SRC="uaml-images/com433332895999-1e.jpg"></UAMLAuctNumBidsPhrase></P>
[cut].....

FIG. 12

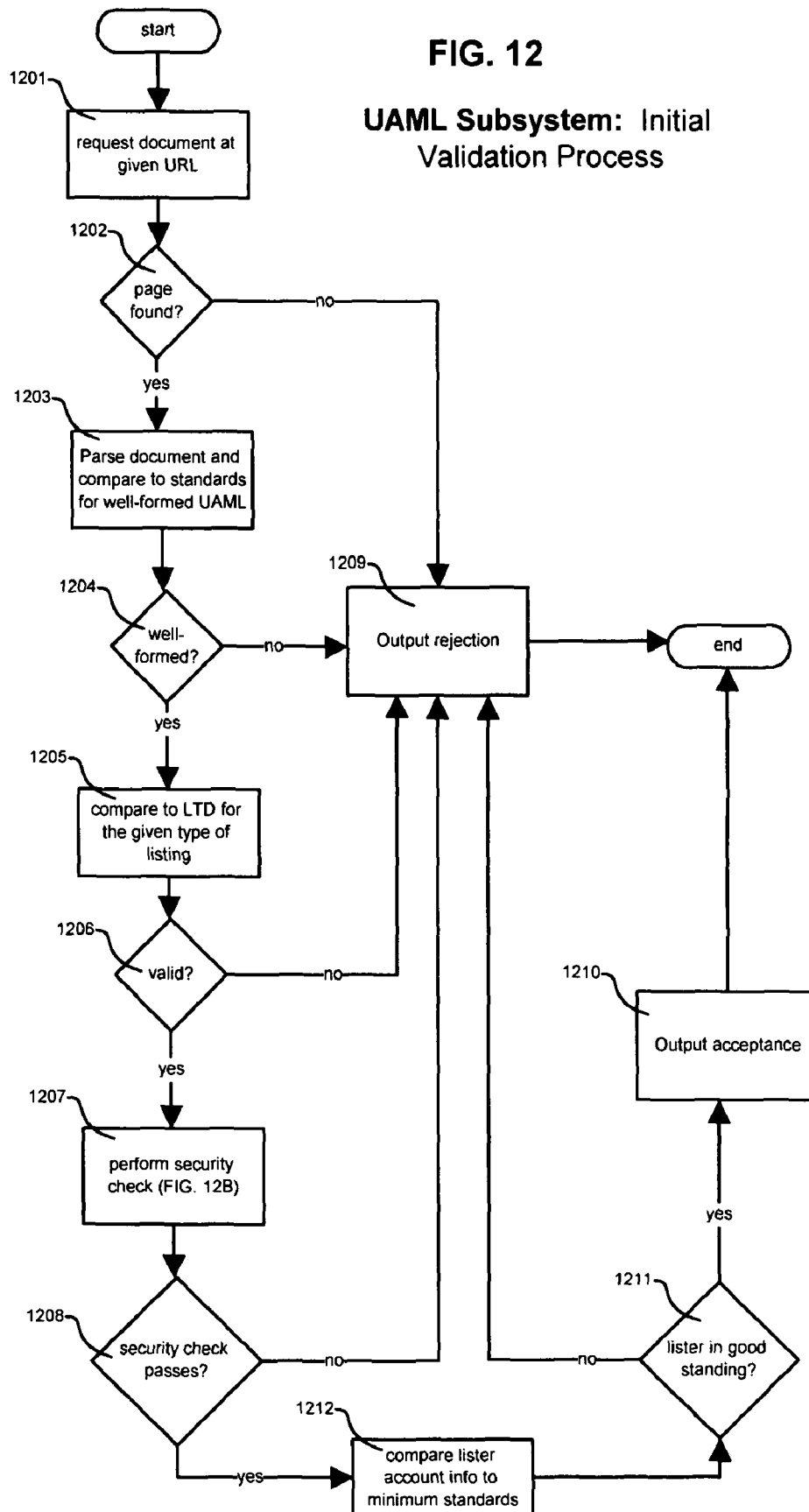
UAML Subsystem: Initial
Validation Process

FIG. 13
UAML Subsystem: UAML
Security Check Process

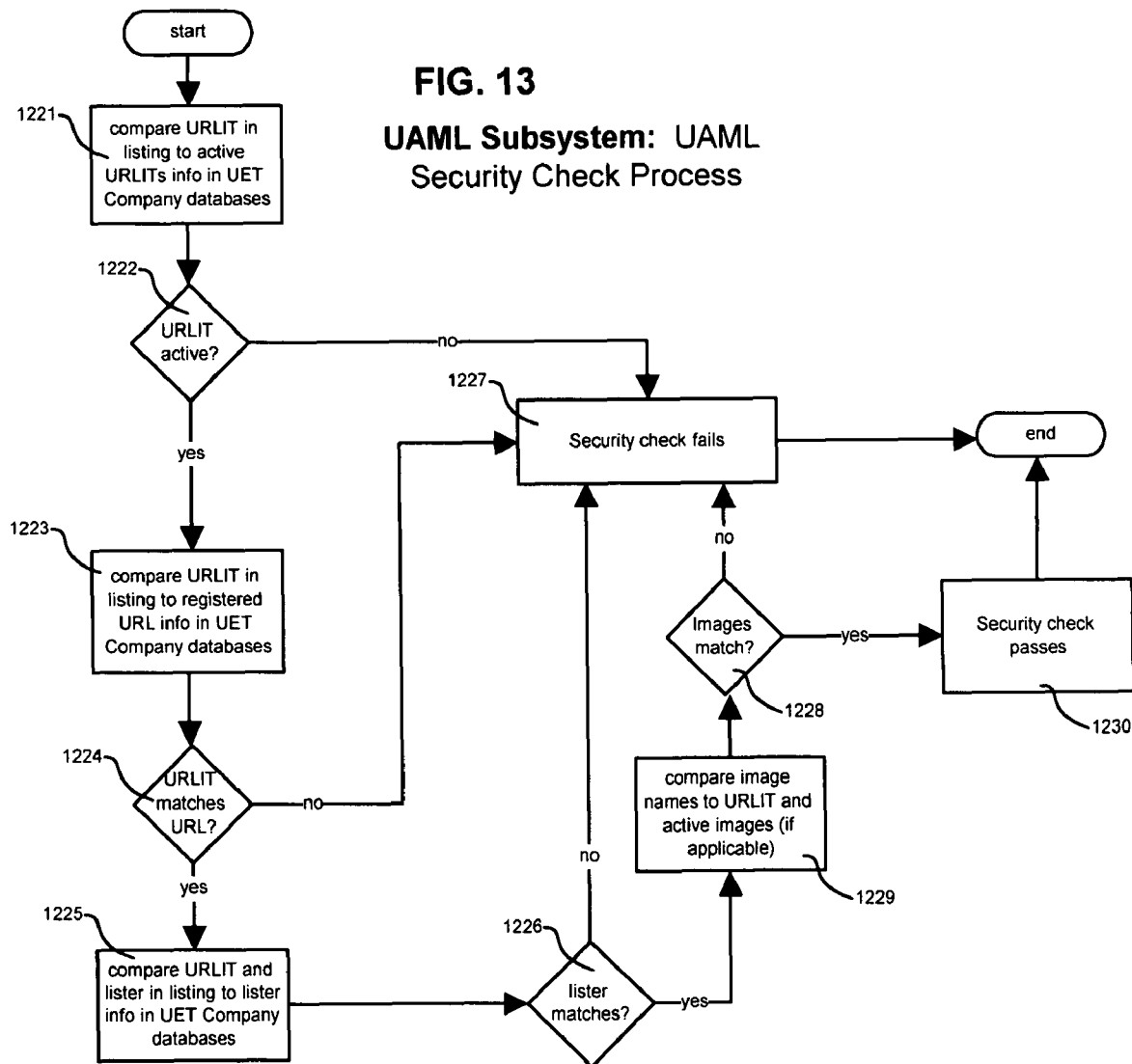


FIG. 14

UAML Subsystem: Fields in
UET Company Database

Field Name	Data
URLIT:	
UAMType:	
Listing user:	
[etc.]	

FIG. 15 **UAML Subsystem:** Parsing and Mapping of UAML Data in
User's Web Page to UET Company Database Record

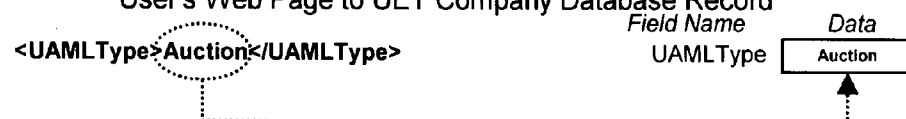
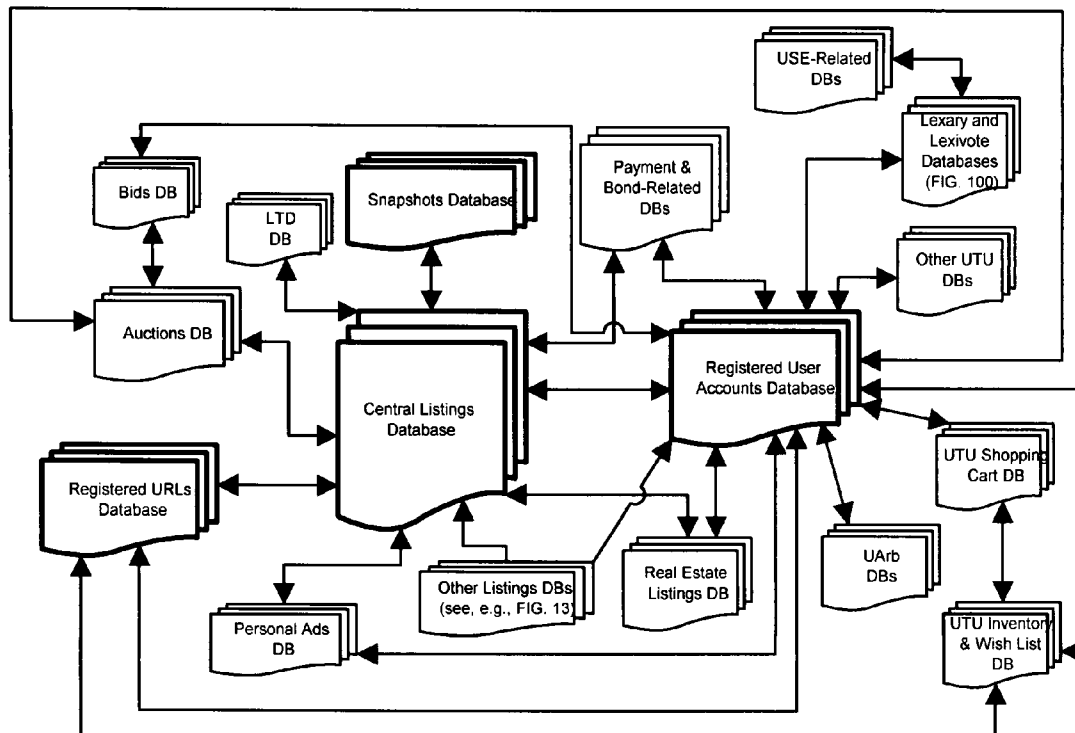


FIG. 16 **UAML Subsystem:** Example of UET Company Relational Database Complex with Focus on UAML Listings Core



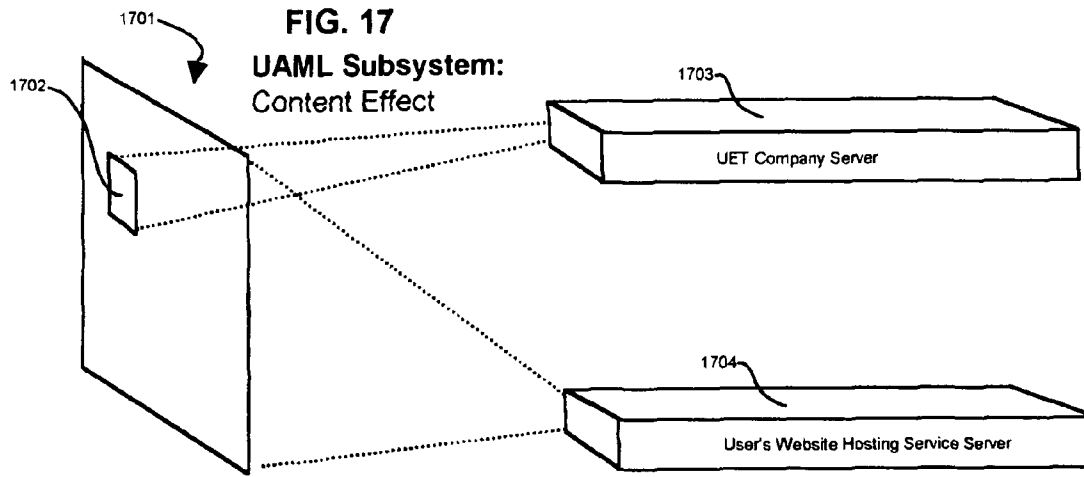


FIG. 18A **UAML Subsystem: Process for Dynamically Updating Information Displayed through Static Web Pages**

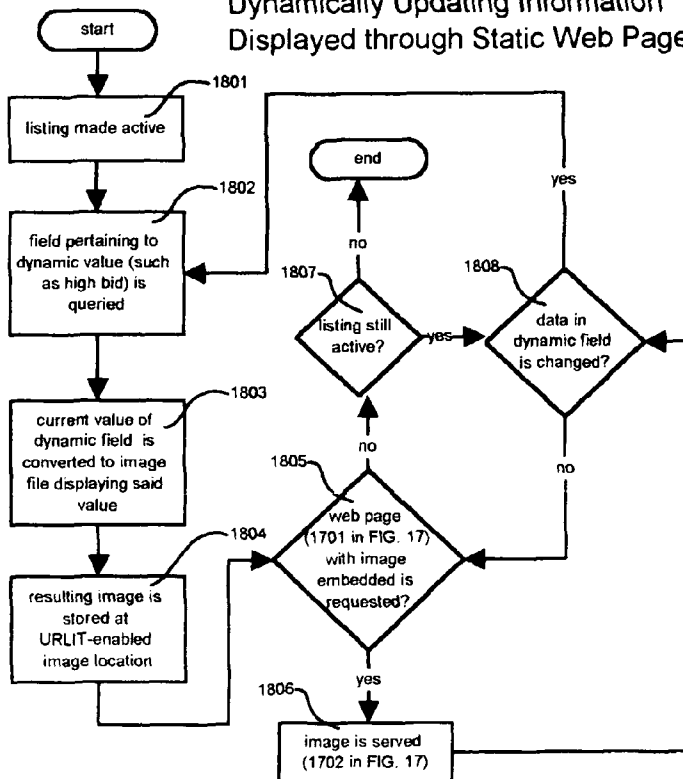


FIG. 18B
UAML Subsystem:
Example Progression of Images as Data Changes

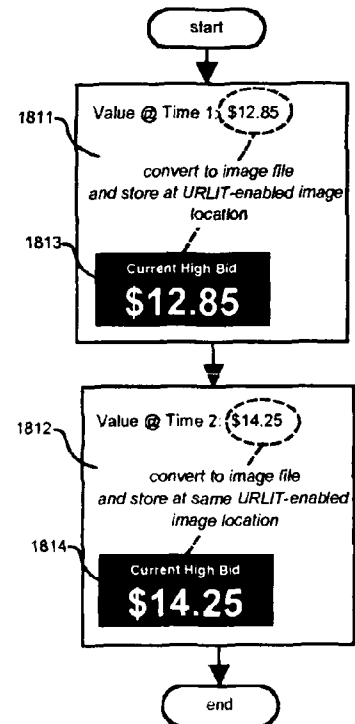


FIG. 19
UAML Subsystem: Process
for Confirming Continued
Validity of a Listing

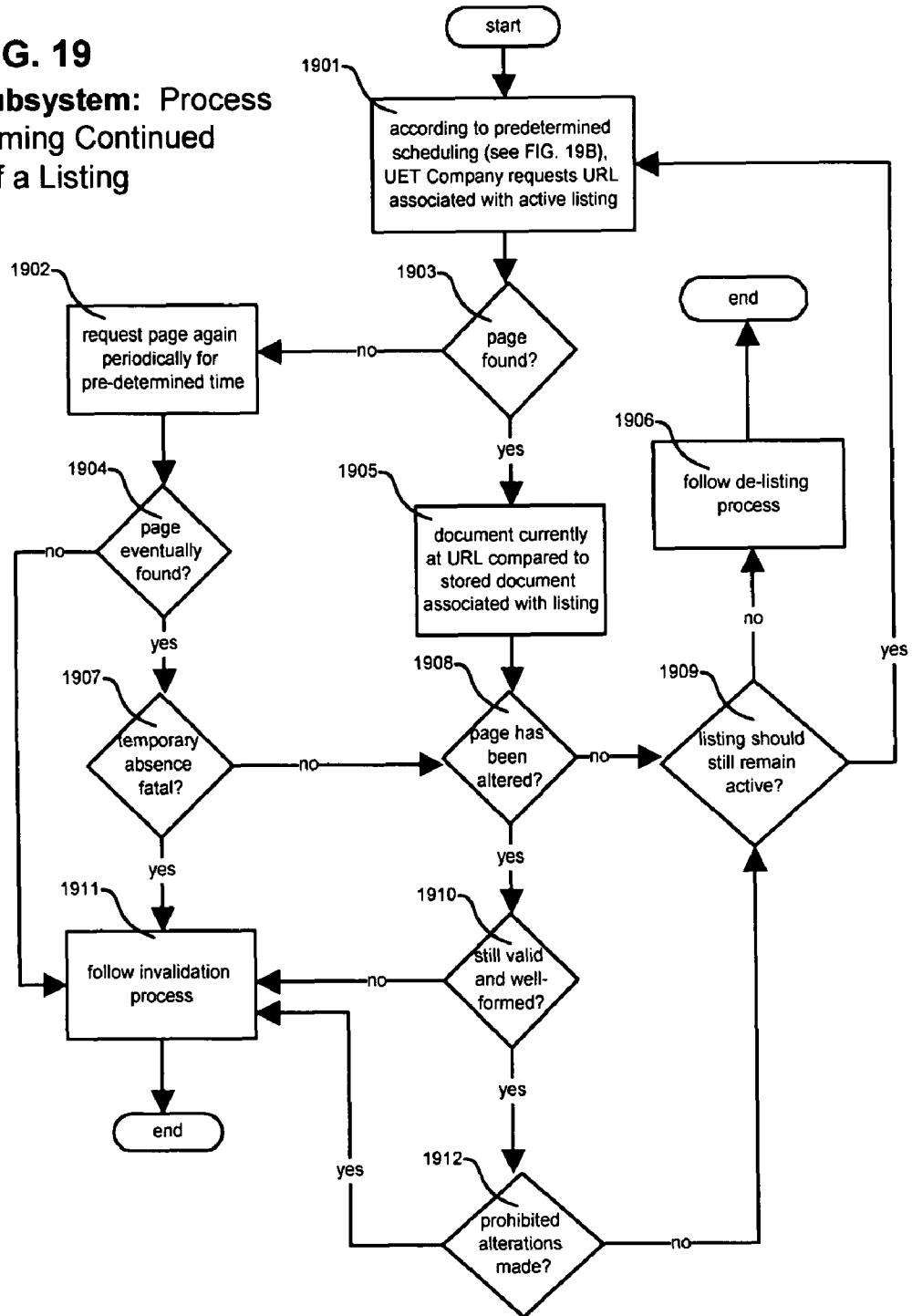


FIG. 20
UAML Subsystem:
Invalidate Listing
Process

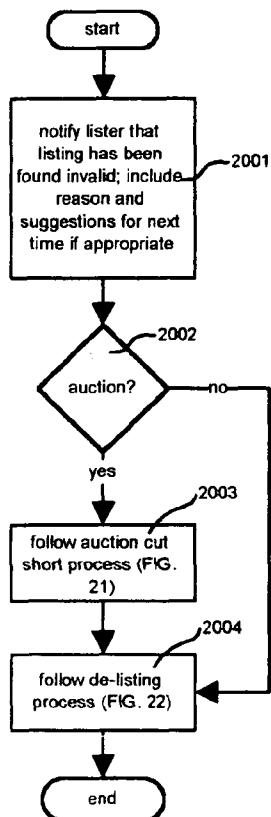


FIG. 21
UAML Subsystem:
Auction Cut-Short Process

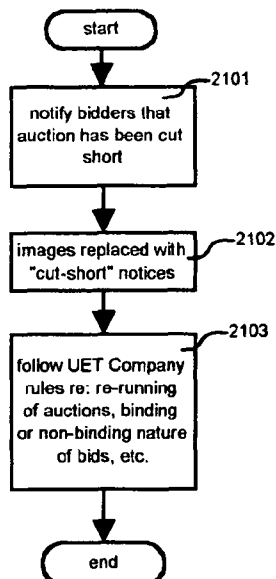


FIG. 22
UAML Subsystem:
De-Listing Process

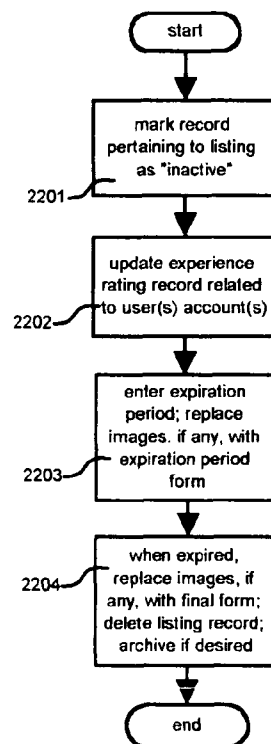


FIG. 23
UAML Subsystem: Example Usage Scenario

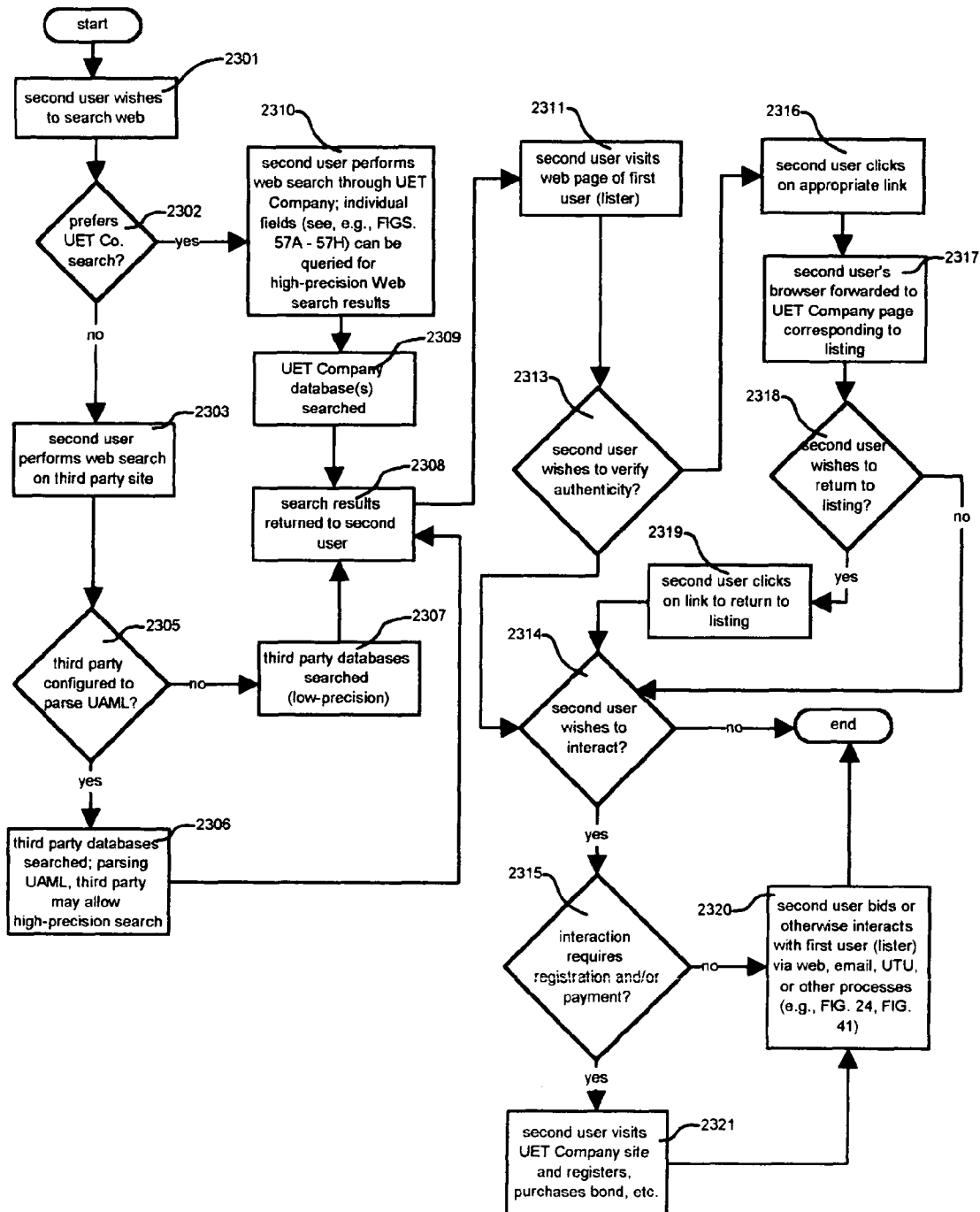
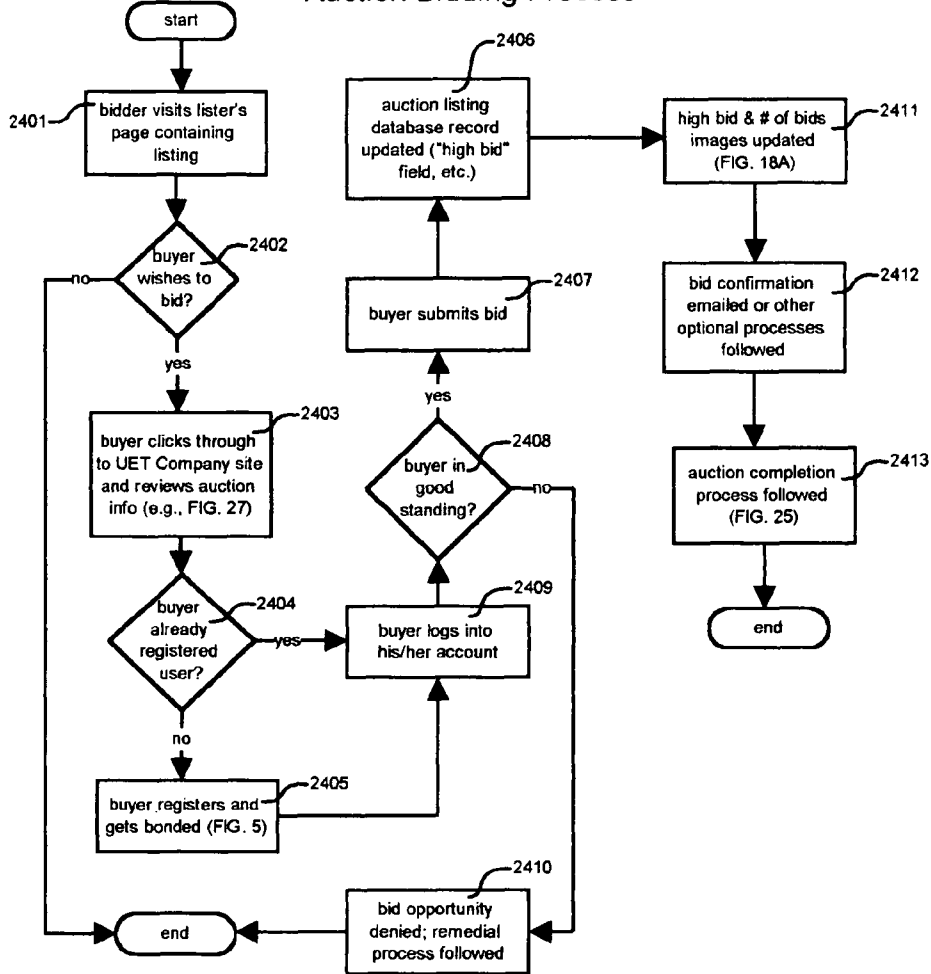


FIG. 24**UAML Subsystem:
Auction Bidding Process**

©2003-2004 Inventerprise® Invengineer™ Patent Illustrations

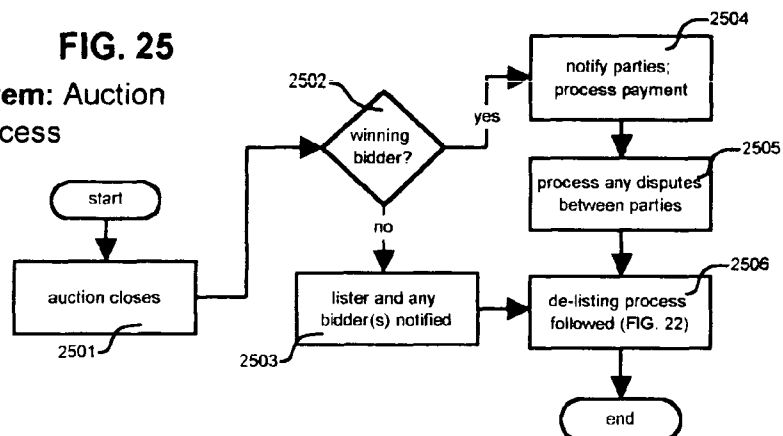
FIG. 25**UAML Subsystem: Auction
Completion Process**

FIG. 26 UAML Subsystem: Excerpt from Sample "My Registered URLs" Page

You are logged in as: Michael2007

My Registered URLs

URL	URLIT Stem	Active URLIT	UTU Inventory	UTU Wish	UTU Contact	UTU Auction
1. www.michaelworld.com/uaml/bookauction.htm	com431548621783	request	Inv_1	Wish_4	Cont_1	add
2. www.michaelworld.com/uaml/coinauction.htm	com431914362708	request	add	Wish_4	Cont_1	add
3. www.michaelworld.com/uaml/bookauction2.htm	com432489349101	com432489349101-8	Inv_1	add	Cont_1	add
4. www.michaelworld.com/uaml/lookingforlove.htm	com432819587432	request	Inv_1	Wish_2	Cont_1	add
5. www.michaelworld.com/uaml/watchauction3.htm	com433332895999	com433332895999-1	Inv_1	Wish_1	Cont_1	add

2601 → 2602 → 2603 → 2604 → 2605 → 2606 → 2607

UAML Subsystem: Sample Web Page from UET Co. Site
 FIG. 27 Displaying Record from UET Co. Listings Database Pertaining to a Given Auction Listing

You are logged in as: BidBather

URLIT: com433332895999-1
 Lister: Michael2007
 Type: Auction
 Item: Brand New TIKR watch by TWELV!
 Opening Bid: \$19.00
 Item Quantity: 1
 Begin Time: 09/16/07 14:00:00 PDT
 End Time: 09/19/07 14:00:00 PDT
 Item Location: Santa Cruz, CA
 Shipping Methods: UPS, FedEx, USPS
 Payment Methods: UET Company
 Current High Bidder: MrsBidder5x
 Current High Bid: \$23.85
 Number of Bids: 3
 Item Description: This is the coolest watch ever! The TIKR tells the hour of the day simply by color.

Enter Your Bid Amount

Enter Your Password

FIG. 28A

UAML Subsystem: Summary View of Interaction between UAML-enabled Pages Published by Users, Third Party Service Providers Tapping UAML-Enabled Pages, and UET Company Dynamically Generated Pages

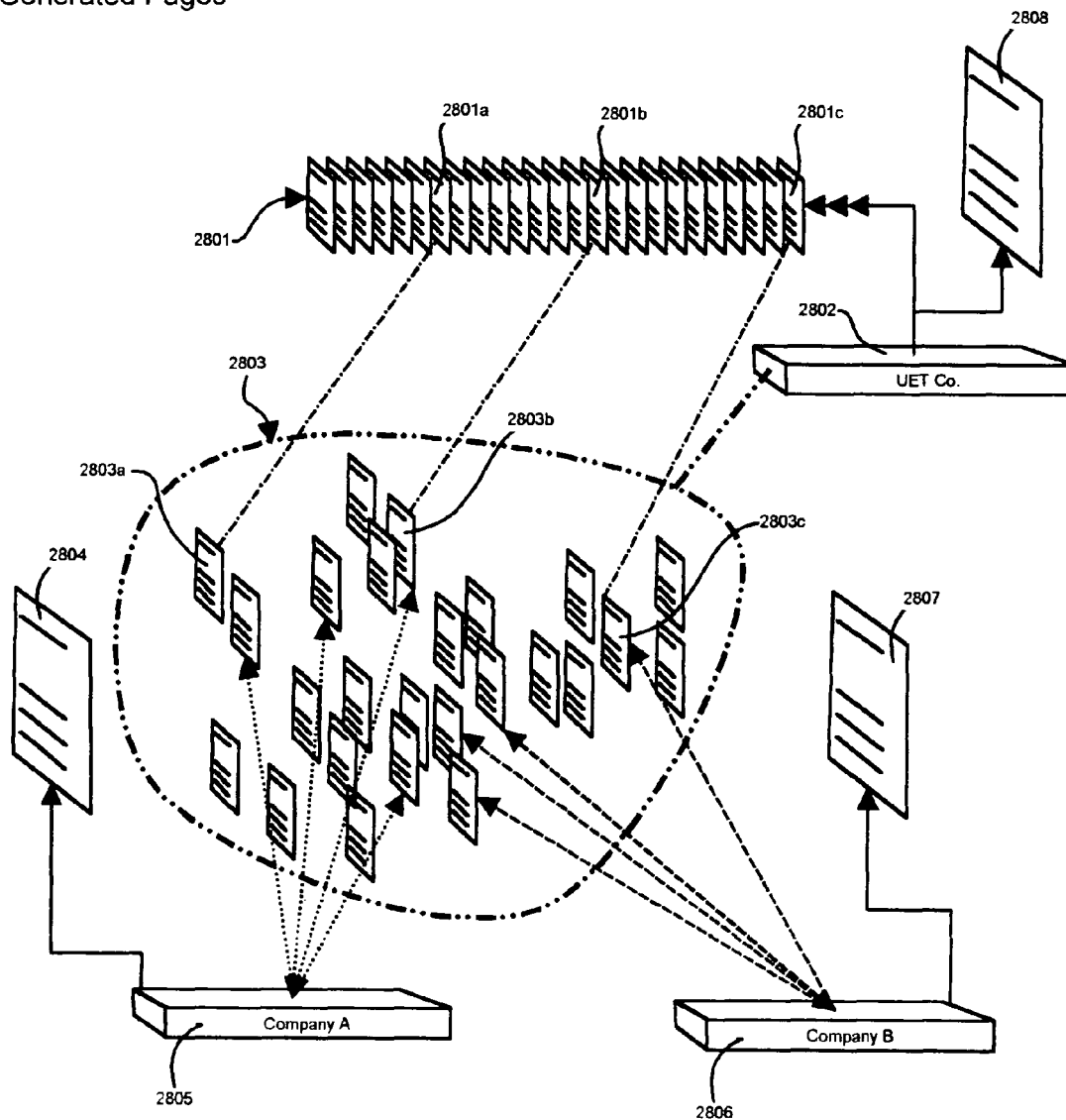


FIG. 28B

UAML Subsystem: Example Data Relationships Indicating Web Pages and Database Records Associated with a Listing

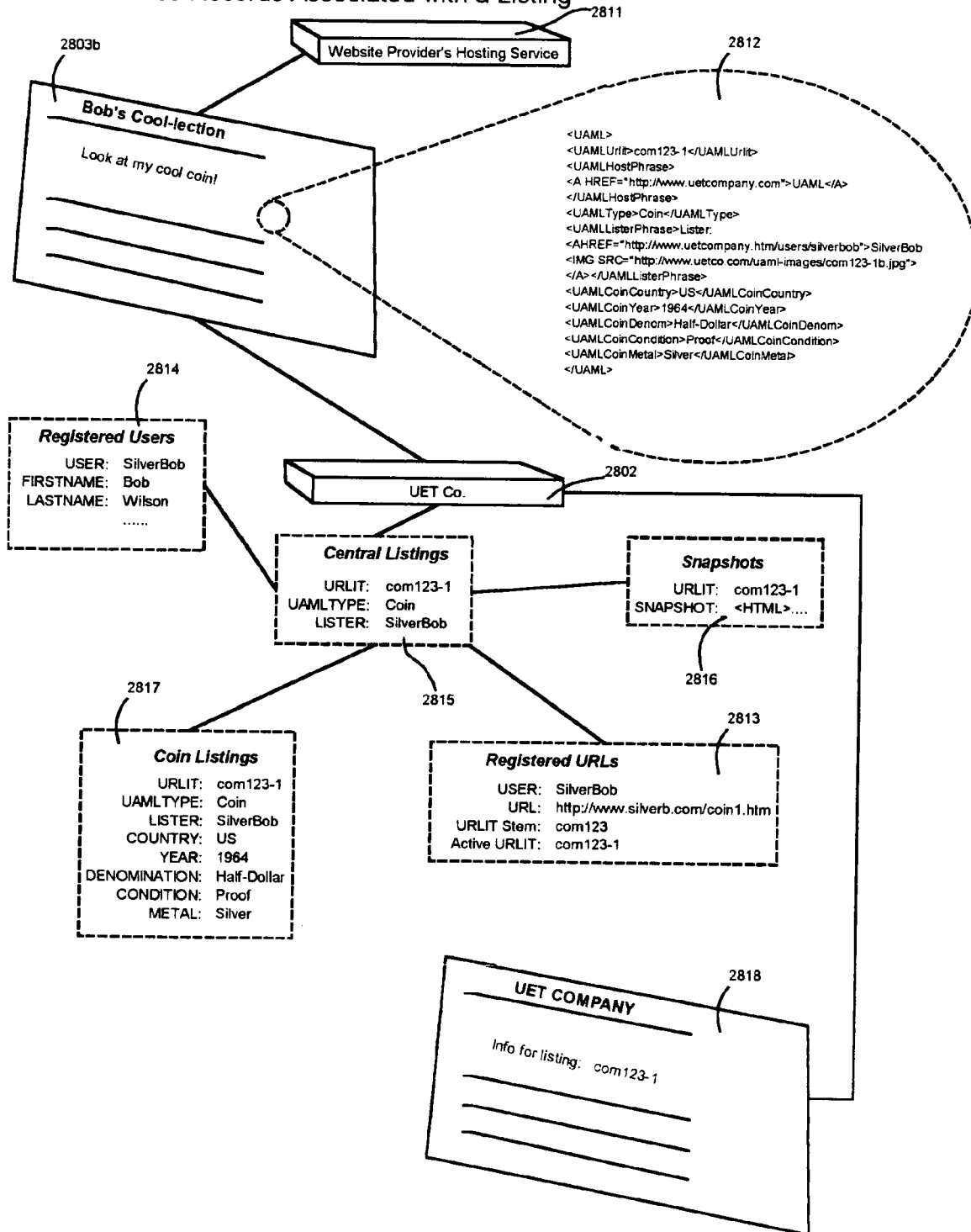


FIG. 28C

UAML Subsystem: Excerpt from Sample Web Page by Third Party
Website Provider Tapping UAML for Directory of Certain Type of Listings

PoetryAnthology.com		
The Best Poetry on the Web!		
Title	Poet	Year
<u>How Once We Were in Love</u>	<u>Billy Willie</u>	2004
<u>Two Panthers</u>	<u>Doodle McLean</u>	1972
<u>Nights and Wisdom, Coals and Tears</u>	<u>Studs Walsh</u>	1888
<u>Summer's End</u>	<u>Brucene</u>	1986

FIG. 28D

UAML Subsystem: Excerpt from Sample Web Page by Third Party
Website Provider Tapping UAML for Market Data

Auction Statistics - Week Ending 05/30/04		
Category	Auctions	Avg. Opening Bid
Automobiles	1008	\$1832
Collectibles	7313	\$15
Computer Hardware	941	\$61
Computer Software	1279	\$22

ations

FIG. 28E

UAML Subsystem: Excerpt from Sample Web Page by Third
Party Website Provider Tapping UAML for Independent Search
Engine

Magic Search
We Do Magic With the Web!

What are you looking for, Merlin?

Job

Auction

Real Estate

Personals

Car

Flight

Movie

Stock

Book
by ISBN

Product by
UPC/EPC

☒
☐
☐
☐
☐
☐
☐
☐
☐
☐

Enter the term(s) you want to search here, and let there be magic!

Abracadabra

FIG. 29
UAML
Subsystem:
Revenue Model

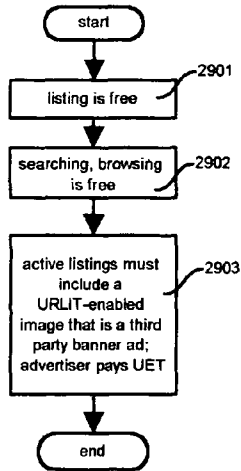


FIG. 30
UAML Subsystem:
Revenue Model

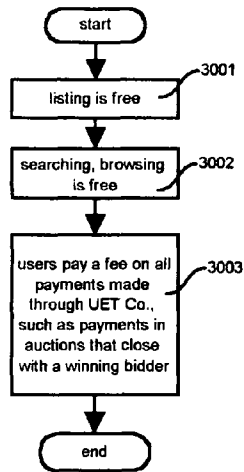


FIG. 31
UAML Subsystem:
Revenue Model

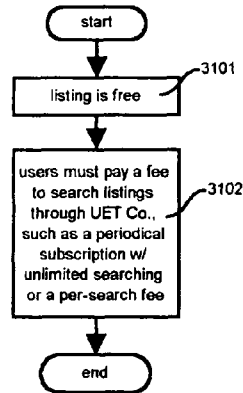


FIG. 32
UAML Subsystem:
Revenue Model

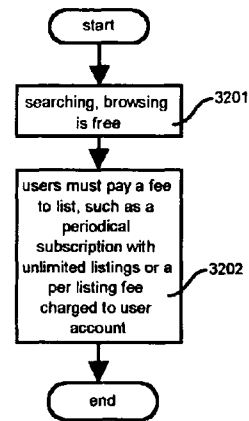


FIG. 34
UAML Subsystem:
Revenue Model

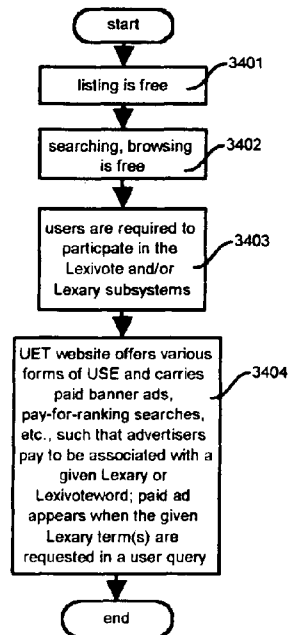


FIG. 33
UAML Subsystem:
Revenue Model

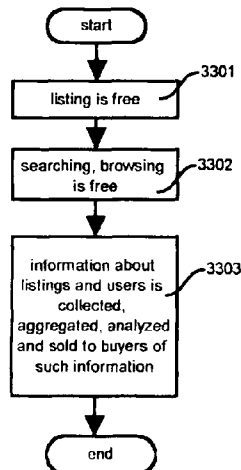


FIG. 35
UAML Subsystem:
Revenue Model

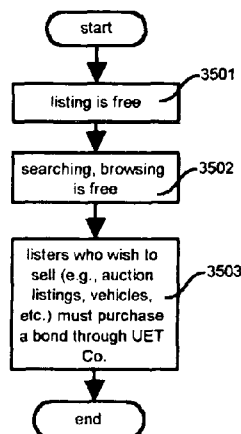


FIG. 36
UAML Subsystem:
Revenue Model

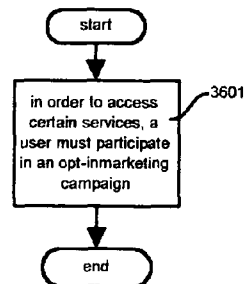


FIG. 37 UAML Subsystem: UTU System: Web Browser Toolbar for Displaying Information Associated with URLIT

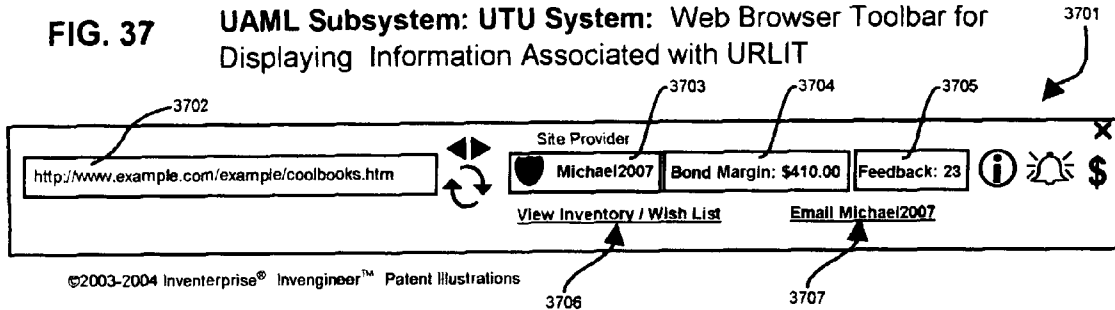


FIG. 38 UAML Subsystem: UTU System: Basic Steps for Using Universal Toolbar Utility (UTU)

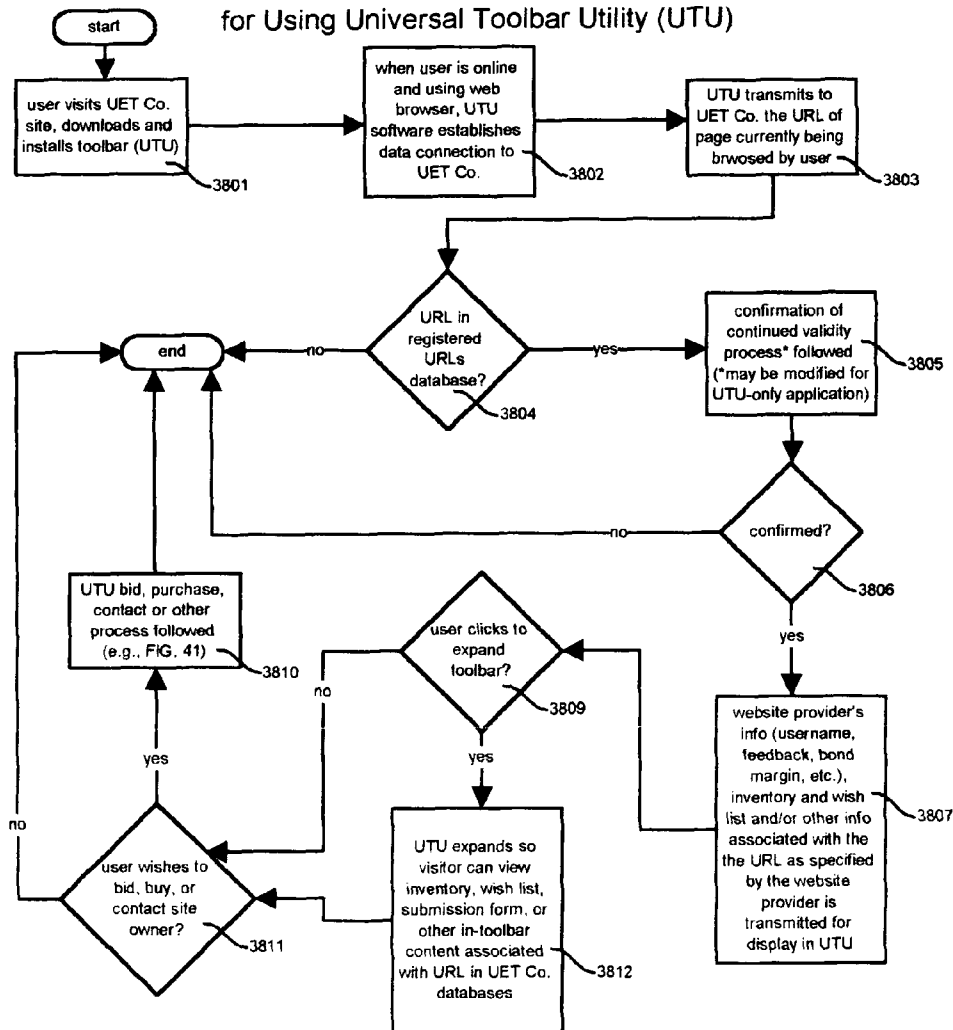




FIG. 39 UAML Subsystem: UTU System: Expanded Toolbar Displaying Inventory List & Wish List Associated with URL

<http://www.example.com/example/coolbooks.htm>





Site Provider


 Michael2007

Bond Margin: \$401.51

Feedback: 23







Inventory for Michael2007

	Description	# Available	Price	Add?
Seven Habits of Highly Effective Inventors	Book	1	4.74	<input checked="" type="checkbox"/>
The Rough Guide to Programming	Book	1	9.00	<input type="checkbox"/>
The Joy of Hex	CD-ROM	1	19.00	<input type="checkbox"/>

Subtotal 4.74

Shipping 3.75

Your Total from Michael 2007 \$ 8.49

Add Checked Items to My Cart

Total Value of Items Currently in Your Cart \$ 18.25

Checkout

Wish List for Michael2007

Old coins -- U.S. only

European postcards!! Email me!

[Offer your item](#)

[Offer your item](#)

Michael 2007 is currently online!
[Instant Message](#)

[Hide Inventory / Wish List](#)

FIG. 40A

UAML Subsystem: UTU
System: Inventory/Wish List
Creation Process for Use with
UTU

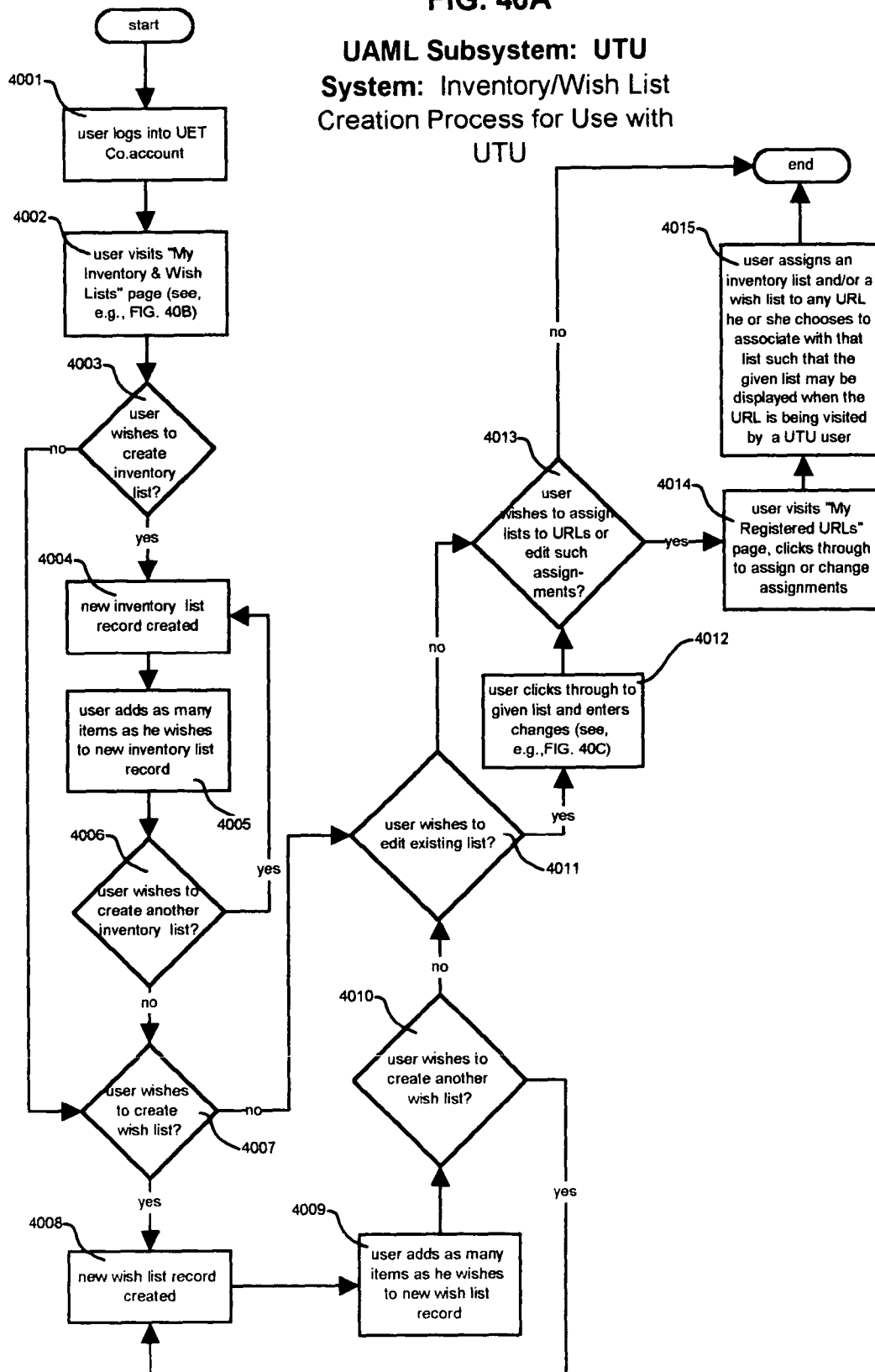


FIG. 40B UAML Subsystem: UTU System: Sample My Inventory & Wish List Main Page

You Are Logged in as: Michael2007
My Inventory & Wish Lists

Inventory Lists		Wish Lists	
Name of List	Creation Date	Name of List	Creation Date
Inv. 1	09/04/05	Wish. 1	09/04/05
Inv. 2	11/12/05	Wish. 2	09/04/05
Inv. 3 - Postcards	11/12/05	Wish. 3	09/04/05
		Wish. 4	10/02/05
		Wish. 5	11/12/05

[Create New Inventory List](#) [Create New Wish List](#)

FIG. 40C UAML Subsystem: UTU: Sample Inventory List Creation & Editing Page

You Are Logged in as: Michael2007
My Inventory & Wish Lists
Modify Inventory List

List Name Created: 09/04/05
Modified: 09/04/05

Existing Inventory

Item	Description	Quantity	Price	Status	Item ID
Seven Habits of Highly Effective Inventors	Book	1	\$4.74	* Reserved *	98236749832781
The Rough Guide to Programming	Book	1	\$9.00	For sale	74307078370078
Being Digital	Book	1	\$3.00	Sold - Ship Immediately	09834790187087

Add New Inventory

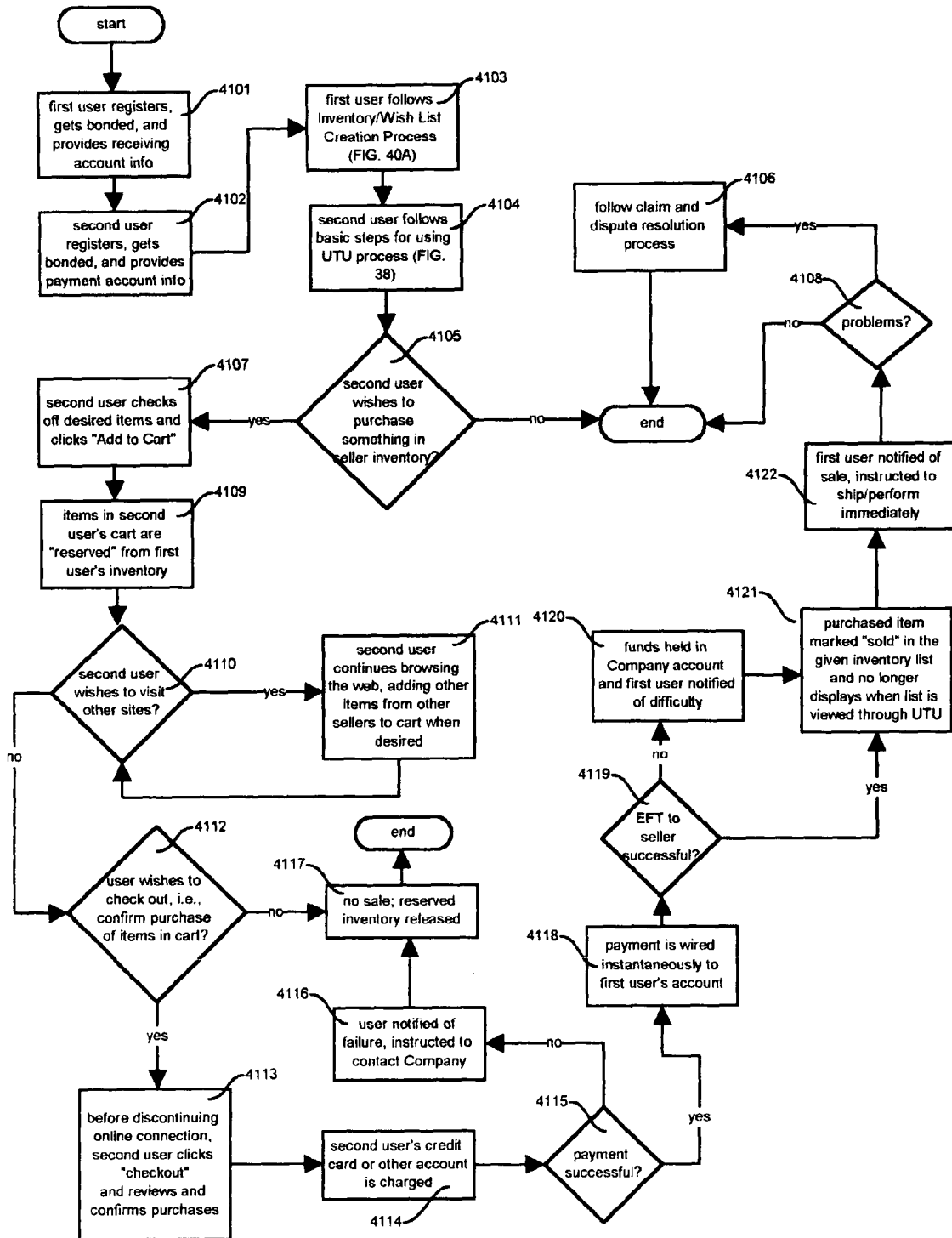
Item

Description

Quantity

Price \$

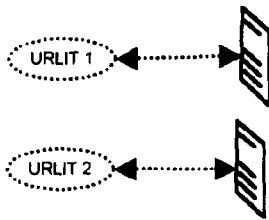
FIG. 41 UAML Subsystem: UTU System: Example Usage Scenario for UTU Shopping Cart Utility



UAML Subsystem: UTU: URLIT-to-URL Relationship in UTU
Application vs. UAML-Enabled Listing Application

FIG. 42A

Web Page w/ UAML-Enabled Listing: Contains Transaction-Specific or Listing-Specific Information, Requiring One-on-One Correspondence

**FIG. 42B**

Web Page for UTU Application Only: Contains No Transaction-/Listing-Specific Information; URLIT Serves Only as Identifier for Authentication Purposes, Allowing Many-to-One Correspondence Between Pages and a Single URLIT-Stem (Full URLIT Unnecessary)

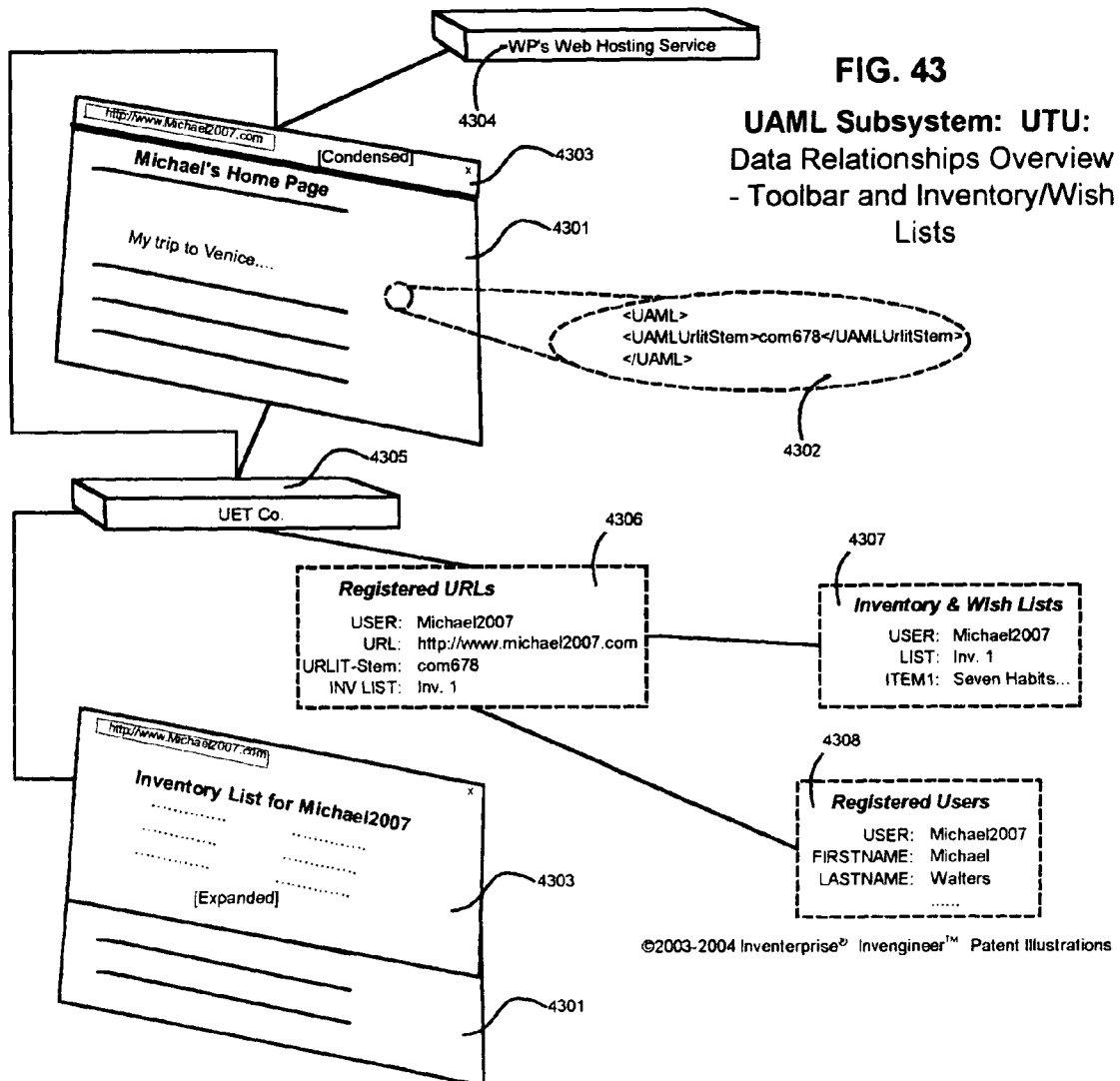
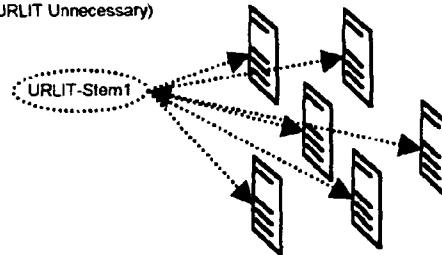


FIG. 44

UAML Subsystem: UTU: Data Relationships Overview - Multiple Inventory Lists and Shopping Cart

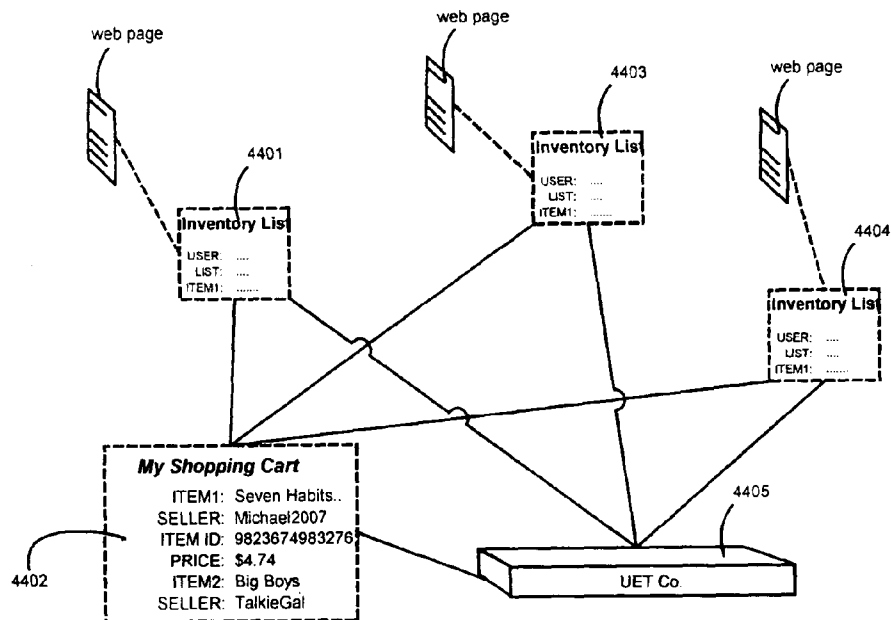


FIG. 45 UAML Subsystem: UTU: Non-Profit Donation UTU Embodiment

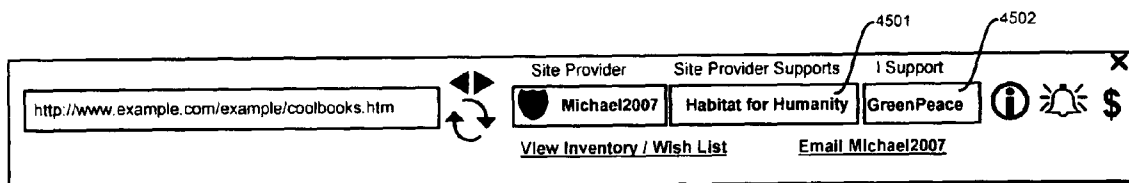


FIG. 46 UAML Subsystem: UTU: Non-Profit Donation UTU Embodiment with Pop-Up Menu Selected

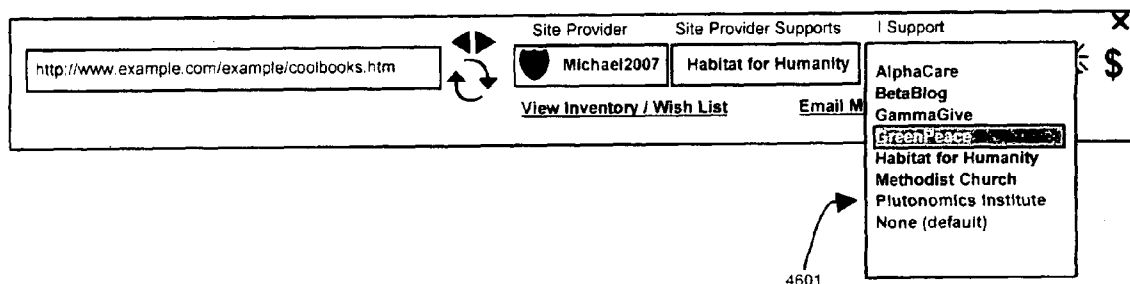


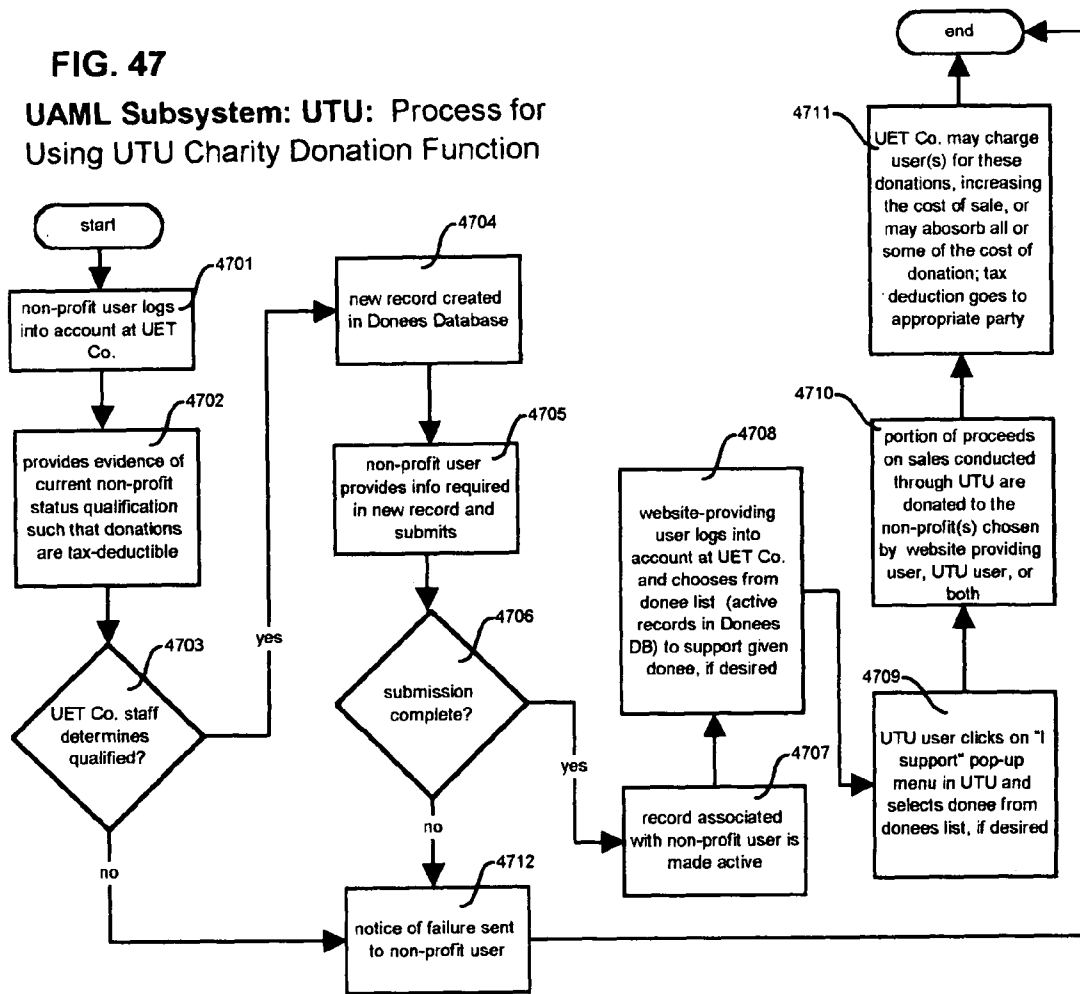
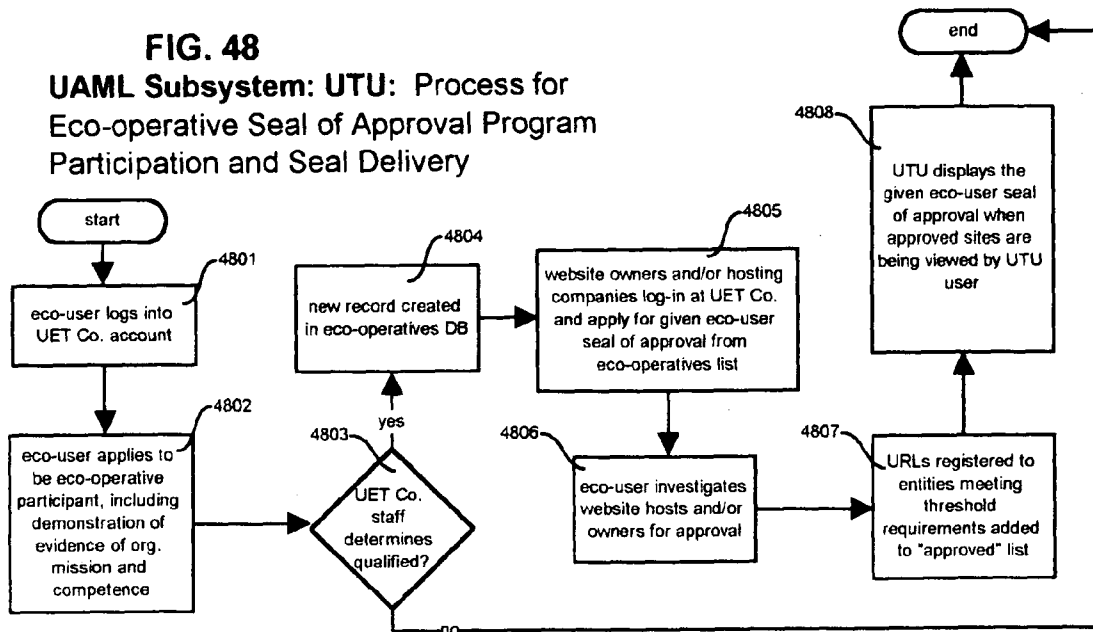
FIG. 47**UAML Subsystem: UTU: Process for Using UTU Charity Donation Function****FIG. 48****UAML Subsystem: UTU: Process for Eco-operative Seal of Approval Program Participation and Seal Delivery**

FIG. 49

UAML Subsystem: UTU: Example Eco-Operative Seal of Approval UTU
Embodiment in Use and Displaying Seal

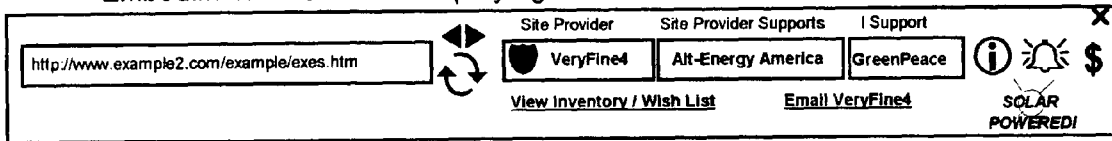


FIG. 50

UAML Subsystem: UTU: Process for Creation of a
Submission Form and/or Auction for Display in Toolbar

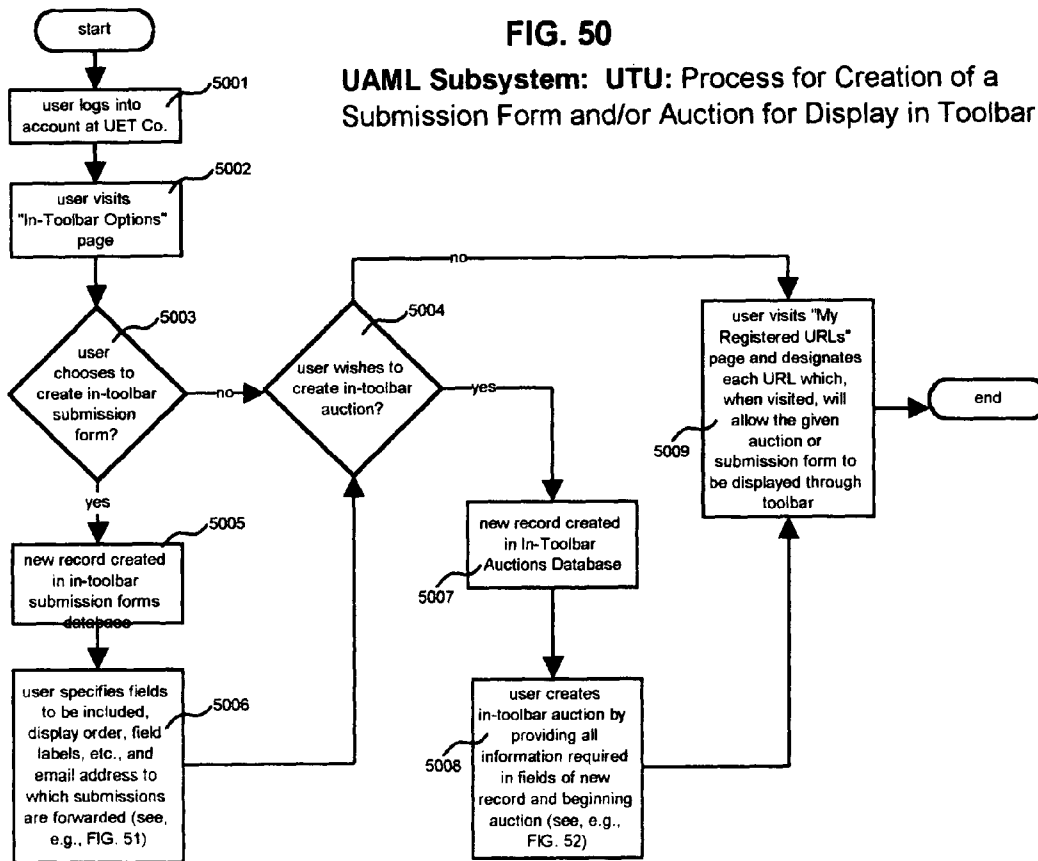


FIG. 51 UAML Subsystem: UTU: Excerpt from Sample Web
Submission form for Creation of a Submission Form for
Display in Toolbar

Account: Michael2007
Create Your Own In-Toolbar Submission Form

Check Box	Submit Button	Radio Button	Text Area	Text Field	Hidden Entry	Email Addr.	Pass-word	Field Name
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Email Address"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Your Name"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text" value="Submit"/>
[etc.]								

FIG. 52 UAML Subsystem: UTU: Excerpt from Sample Web
Submission form for Creation of an Auction for Display in
Toolbar

Account: Michael2007
Create Your Own In-Toolbar Auction

Auction Title

Duration ☐ 3 Days ☐ 5 Days ☐ 7 Days

Enter the Opening Bid Amount

[etc.]

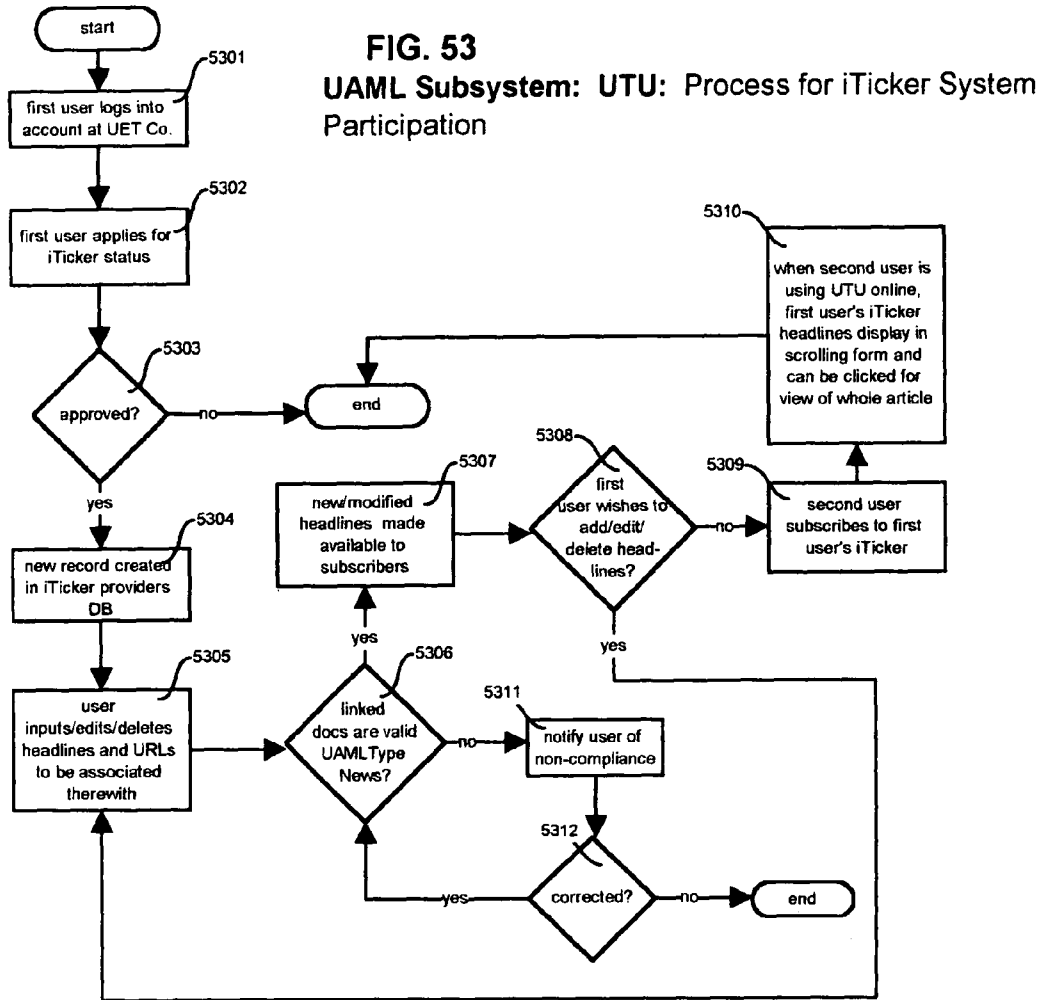
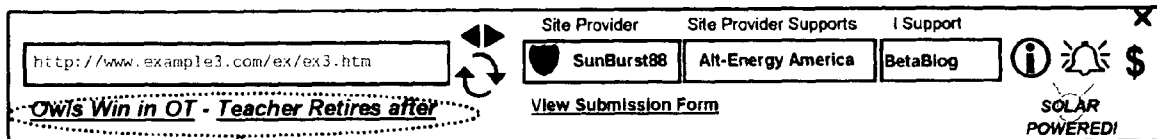
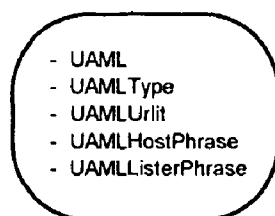


FIG. 54 UAML Subsystem: UTU: Example iTicker UTU Embodiment in Use and Displaying iTicker Headlines



5401

FIG. 55 UAML Subsystem: Example Common Tags**FIG. 56** UAML Subsystem: Subject-Specific Tag Nomenclature Template (for this disclosure)

<[Language][Database][Field]>Data</[Language][Database][Field]>

FIG. 57A UAML Subsystem: Example Subject-Specific Tag Vocabulary/Fields for Database Record: Collectible Coin Listings

-
- UAMLCoinYear
 - UAMLCoinDenomination (data: penny, etc.)
 - UAMLCoinCountryOrigin (data: US, etc.)
 - UAMLCoinCondition(data: MS-60, Proof, etc.)
 - UAMLCoinPrecMetalType(data: gold, etc.)
 - UAMLCoinWeight
 - UAMLCoinPrecMetalPercent (data: 73, etc.)
 - UAMLCoinIrreg (data: double-die, etc.)
 - UAMLCoinPrice
 - UAMLCoinAppraisalValue
 - UAMLCoinLocation

FIG. 57B UAML Subsystem: Example Subject-Specific Tag Vocabulary/Fields for Database Record: Car Listings

- UAMLCarYear	- UAMLCarFrontWDrive
- UAMLCarMake	- UAMLCarHorsePwr
- UAMLCarModel	- UAMLCarFuel (data: gas, diesel, hybrid)
- UAMLCarMpg	- UAMLCarIntCubicFt
- UAMLCarIntColor	- UAMLCarTowCap
- UAMLCarExtColor	- UAMLCarMileage
- UAMLCarNumDoors	- UAMLCarNumOwners
- UAMLCarPowerWin	- UAMLCarBluebook
- UAMLCarPowerLock	- UAMLCarLocation
- UAMLCarSoundSys	- UAMLCarVIN
- UAMLCarFourWDrive	[etc.]

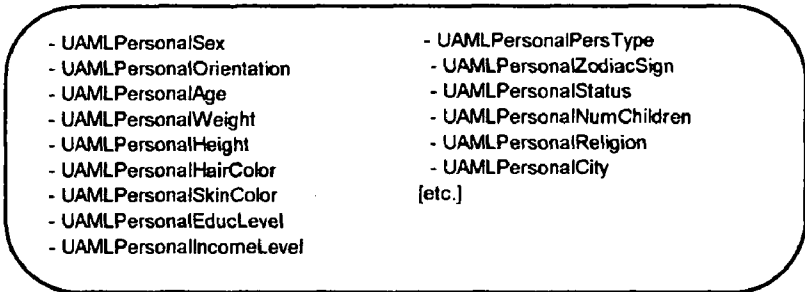
FIG. 57C UAML Subsystem: Example Subject-Specific Tag Vocabulary/Fields for Database Record: Real Estate Listings

- UAMLRELotSqFt
- UAMLREBldgSqFt
- UAMLREZoning
- UAMLREYrBuilt
- UAMLRENumBeds
- UAMLRENumBaths
- UAMLREPrice
- UAMLREPropType (data: condo, SFR, etc.)
- UAMLREPool
- UAMLREMLSNum
- UAMLREContactName
- UAMLREContactNum
- UAMLREContactEmail
- [etc.]

FIG. 57D UAML Subsystem: Example Subject-Specific Tag Vocabulary/Fields for Database Record: Job Listings

- UAMLJobTitle	- UAMLJobRole
- UAMLJobStatus (data: W-2, 1099)	- UAMLJobHealthIns
- UAMLJobPayWeek	- UAMLJobDentalIns
- UAMLJobHrsWeek	- UAMLJobTravelPct
- UAMLJobLocation	- UAMLJobRetirePlan
- UAMLJobYrsExpReq	- UAMLJobEmployer
- UAMLJobDegreeReq	- UAMLJobContactName
- UAMLJobTelecommute	- UAMLJobContactNum
- UAMLJobIndustry	- UAMLJobContactEmail
- UAMLJobField	[etc.]

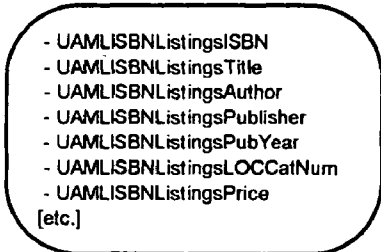
FIG. 57E **UAML Subsystem:** Example Subject-Specific Tag
Vocabulary/Fields for Database Record: Personal Ads



A rounded rectangular box containing two columns of text. The left column lists fields: - UAMLPersonalSex, - UAMLPersonalOrientation, - UAMLPersonalAge, - UAMLPersonalWeight, - UAMLPersonalHeight, - UAMLPersonalHairColor, - UAMLPersonalSkinColor, - UAMLPersonalEducLevel, - UAMLPersonalIncomeLevel. The right column lists: - UAMLPersonalPersType, - UAMLPersonalZodiacSign, - UAMLPersonalStatus, - UAMLPersonalNumChildren, - UAMLPersonalReligion, - UAMLPersonalCity, [etc.]

- UAMLPersonalSex
- UAMLPersonalOrientation
- UAMLPersonalAge
- UAMLPersonalWeight
- UAMLPersonalHeight
- UAMLPersonalHairColor
- UAMLPersonalSkinColor
- UAMLPersonalEducLevel
- UAMLPersonalIncomeLevel
- UAMLPersonalPersType
- UAMLPersonalZodiacSign
- UAMLPersonalStatus
- UAMLPersonalNumChildren
- UAMLPersonalReligion
- UAMLPersonalCity
- [etc.]

FIG. 57F **UAML Subsystem:** Example Subject-Specific Tag
Vocabulary/Fields for Database Record: ISBN (Book)
Listings



A rounded rectangular box containing a list of fields: - UAMLIBSNListingsISBN, - UAMLIBSNListingsTitle, - UAMLIBSNListingsAuthor, - UAMLIBSNListingsPublisher, - UAMLIBSNListingsPubYear, - UAMLIBSNListingsLOCCatNum, - UAMLIBSNListingsPrice, [etc.]

- UAMLIBSNListingsISBN
- UAMLIBSNListingsTitle
- UAMLIBSNListingsAuthor
- UAMLIBSNListingsPublisher
- UAMLIBSNListingsPubYear
- UAMLIBSNListingsLOCCatNum
- UAMLIBSNListingsPrice
- [etc.]

FIG. 57G **UAML Subsystem:** Example Subject-Specific Tag
Vocabulary/Fields for Database Record: UPC or EPC
(Any Product By UPC or EPC)

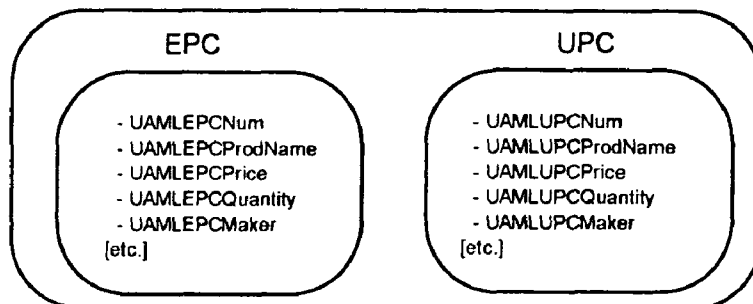


FIG. 57H UAML Subsystem: Example Subject-Specific Tag Vocabulary/Fields for Database Record: Lending Institution, with Tag for Dynamic Look-Up Field

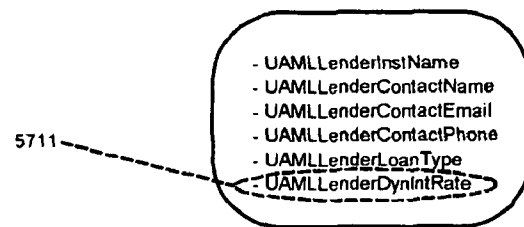


FIG. 58 UAML Subsystem: Process for Usage with Dynamically Generated Pages

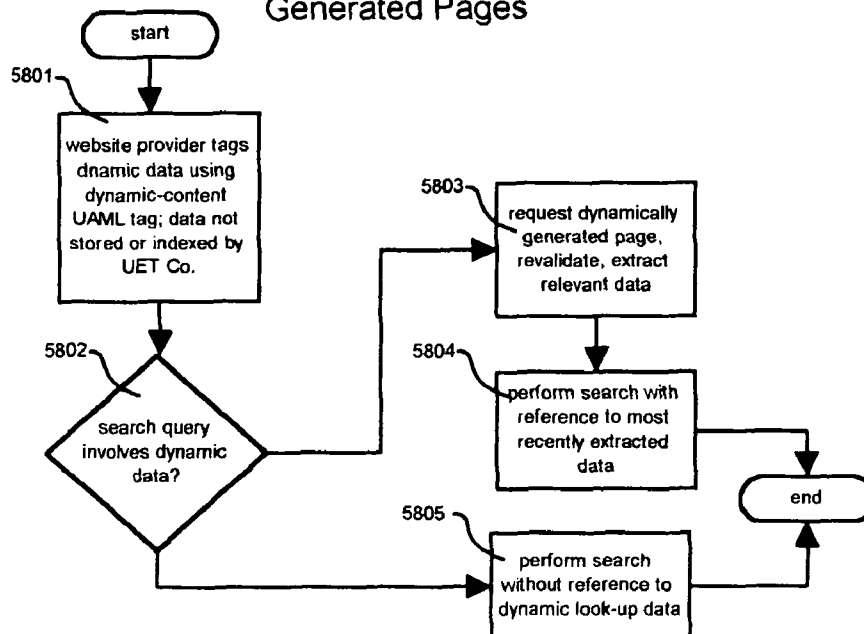


FIG. 59A
UAML Subsystem:
Automatic Data Capture
Integration Process

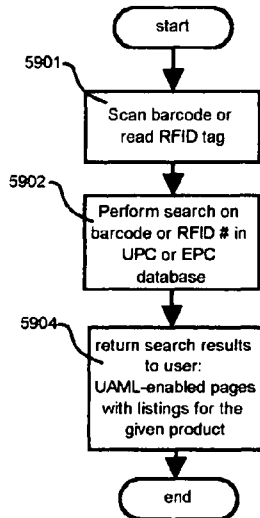


FIG. 59C
UAML Subsystem: Email
Integration Process

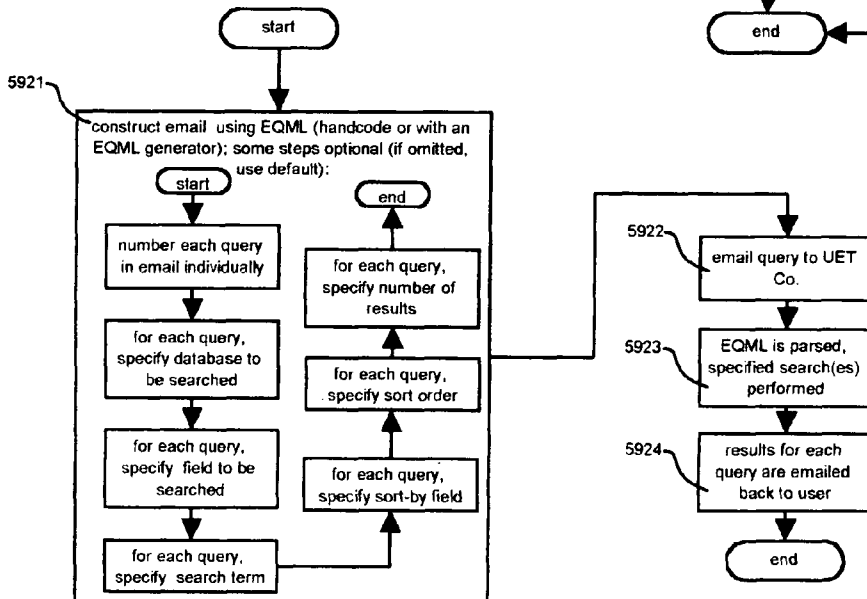


FIG. 59B
UAML Subsystem:
Telephone
Integration Process

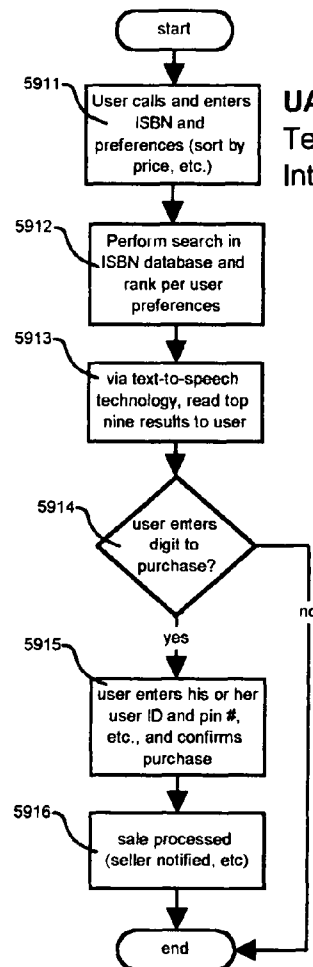


FIG. 59D

UAML Subsystem: Email Integration
Cont'd: Example of EQML-Enabled Search
Engine Query via Email

5931

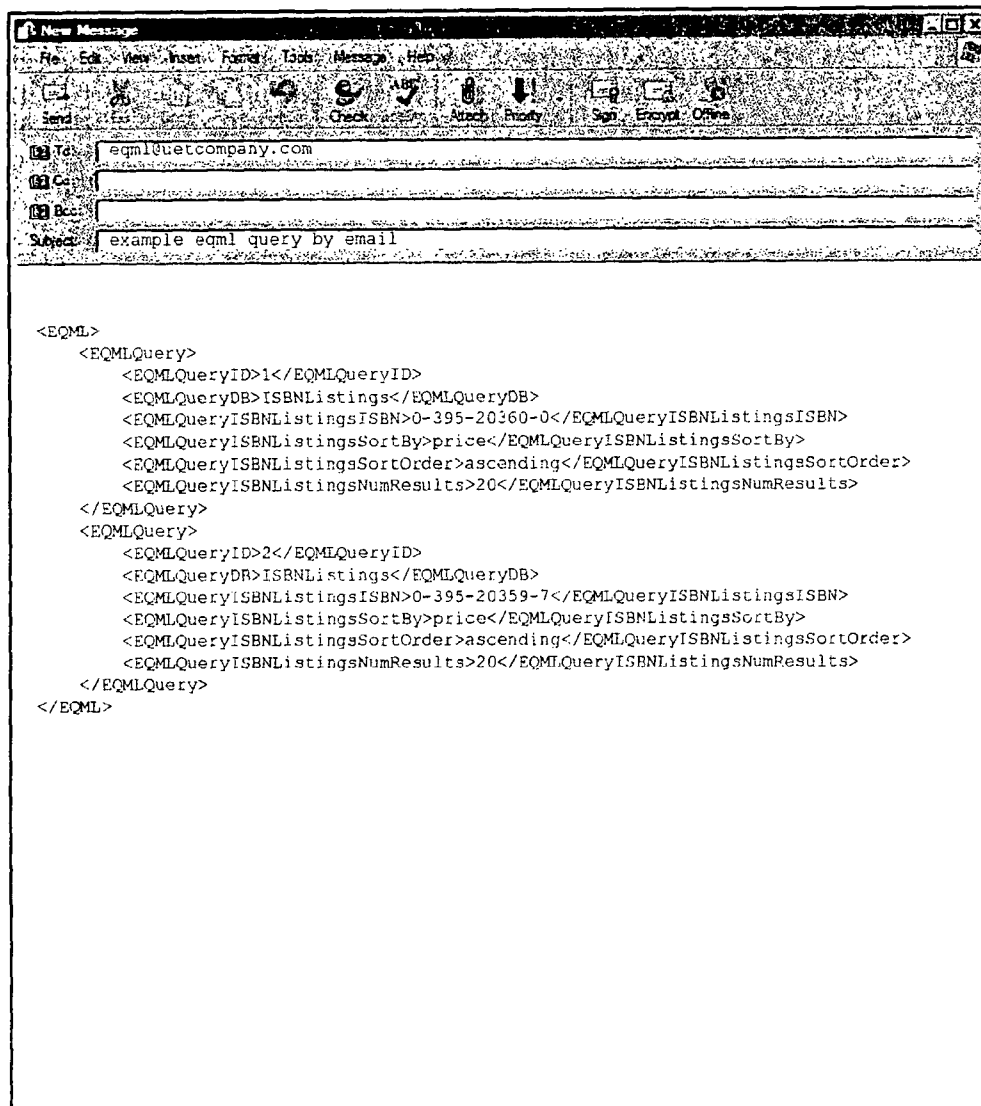


FIG. 59E UAML Subsystem: Email Integration Cont'd:
Example of EQML Query Results

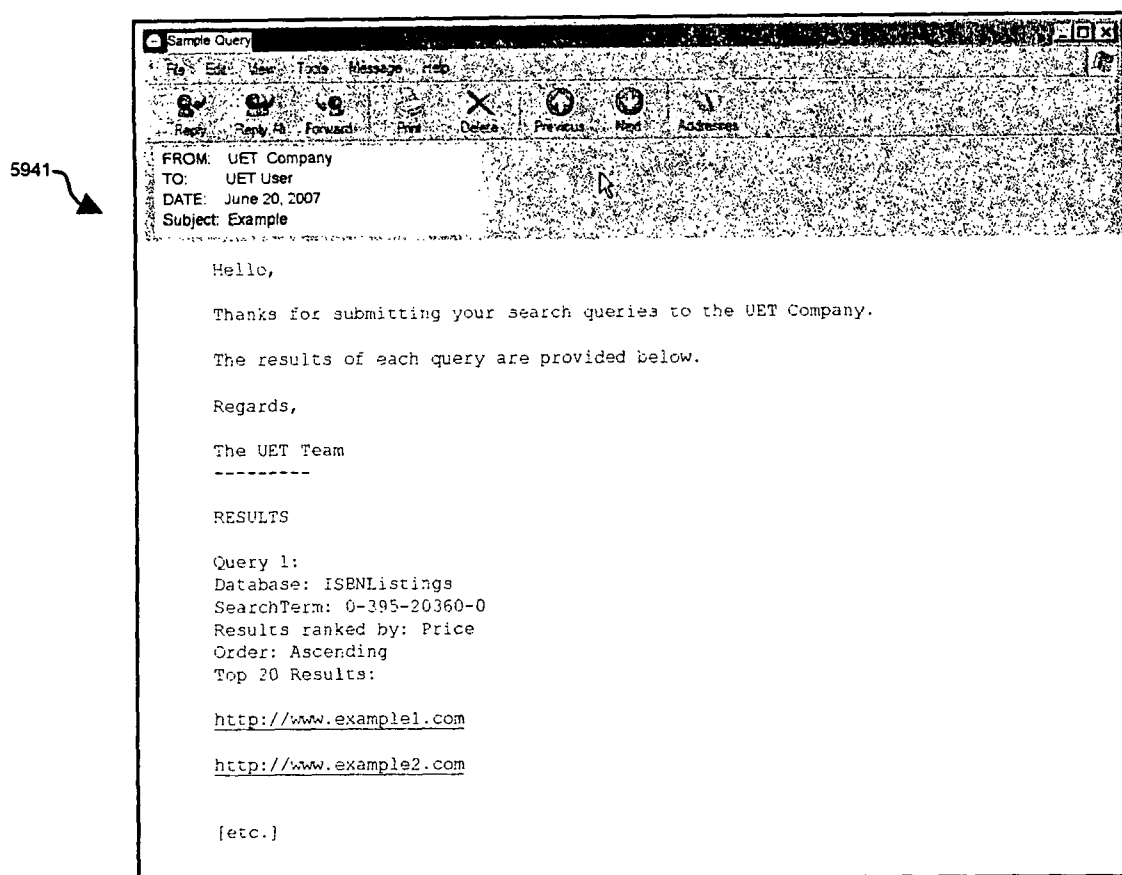


FIG. 60

USE Subsystem: Userithm Search Engine ("USE") Process Overview

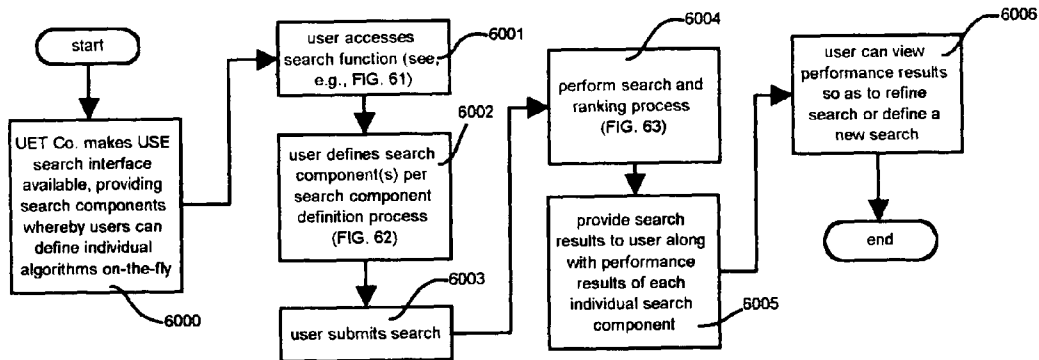


FIG. 61

USE Subsystem: Template for Primary (i.e., Simple Search Component) USE Search Submission Form with Three Simple Search Components (A, B & C)

The form is a table with columns for Weight, Search term, and Search methodology (S1 through S7). It contains three rows (A, B, C) for different search components. Each row has a Weight field (W1, W2, W3), a Search term field (term1, term2, term3), and a row of seven radio buttons (S1 through S7) for selecting a search methodology. A search button is located at the bottom.

	Weight	Search term	Search methodology						
			S1	S2	S3	S4	S5	S6	S7
A	W1	term1	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B	W2	term2	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C	W3	term3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FIG. 62

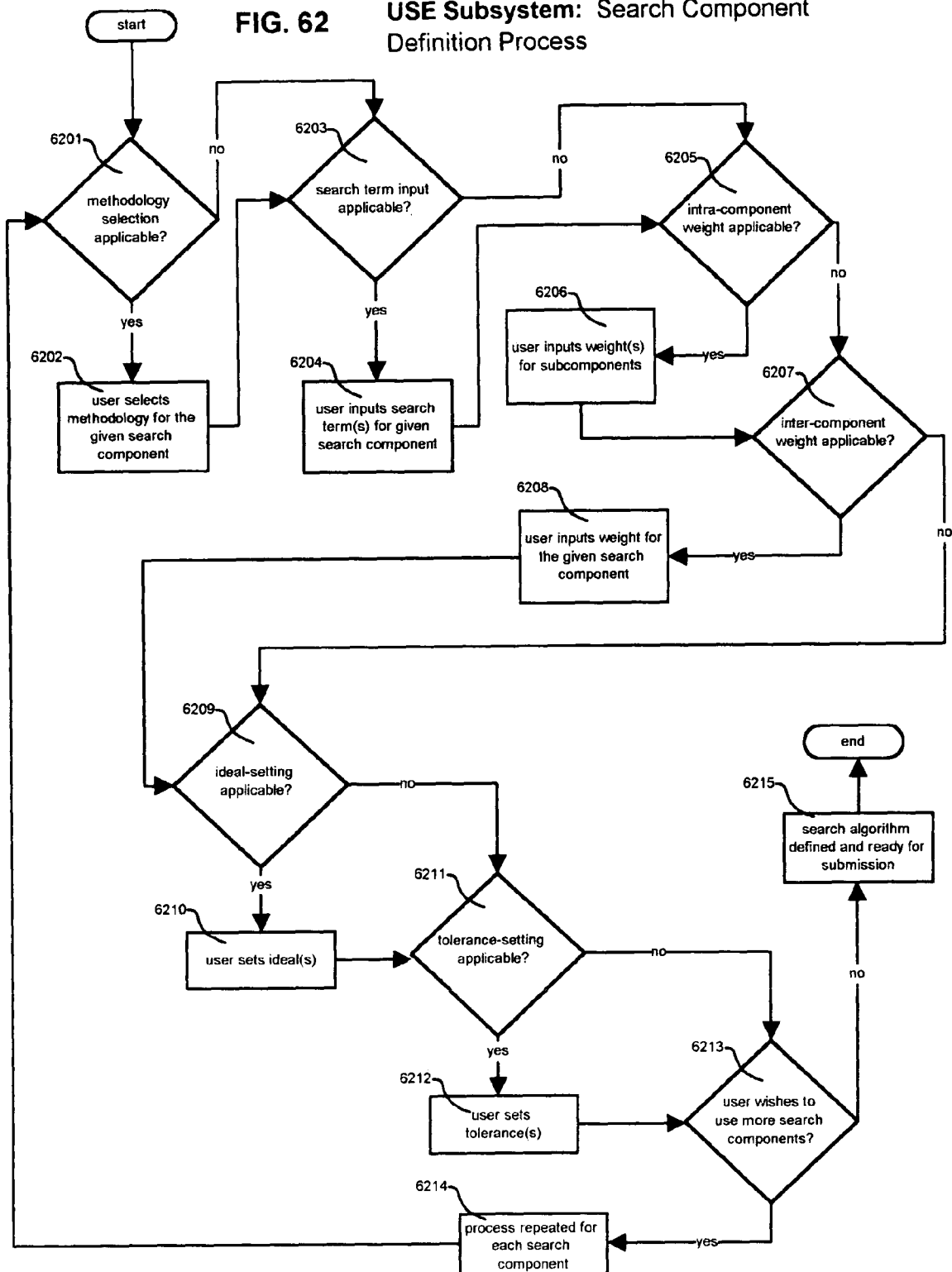
USE Subsystem: Search Component
Definition Process

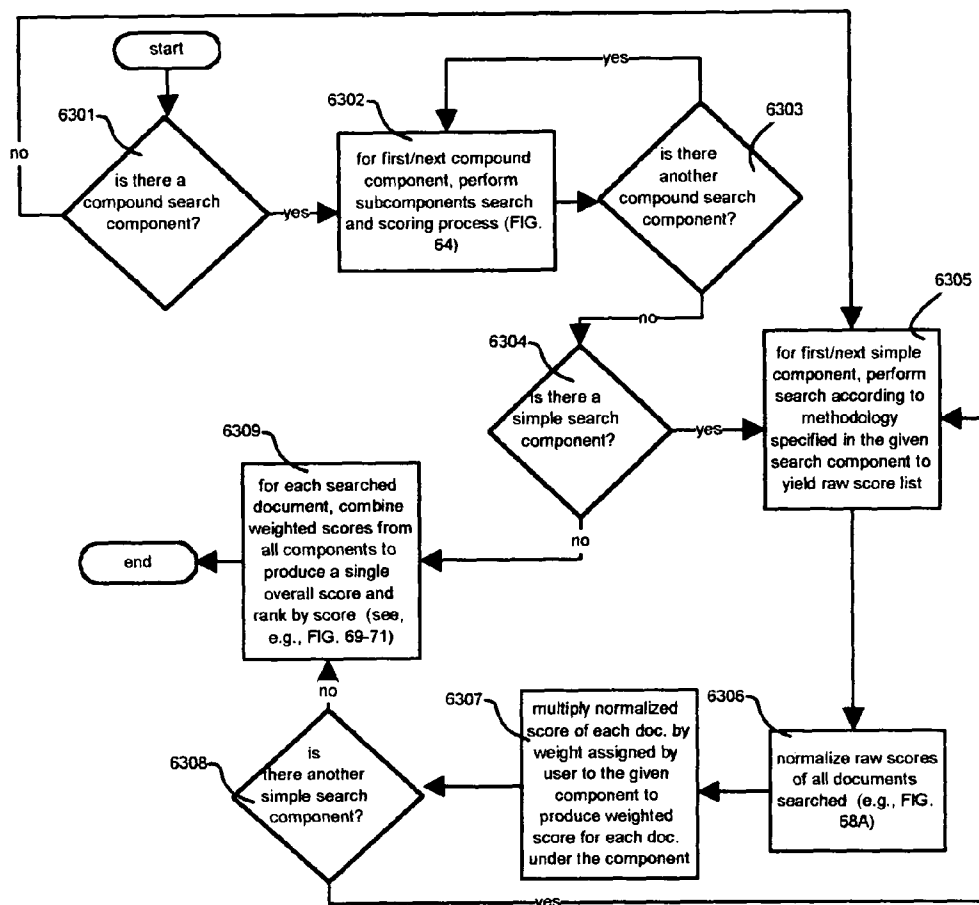
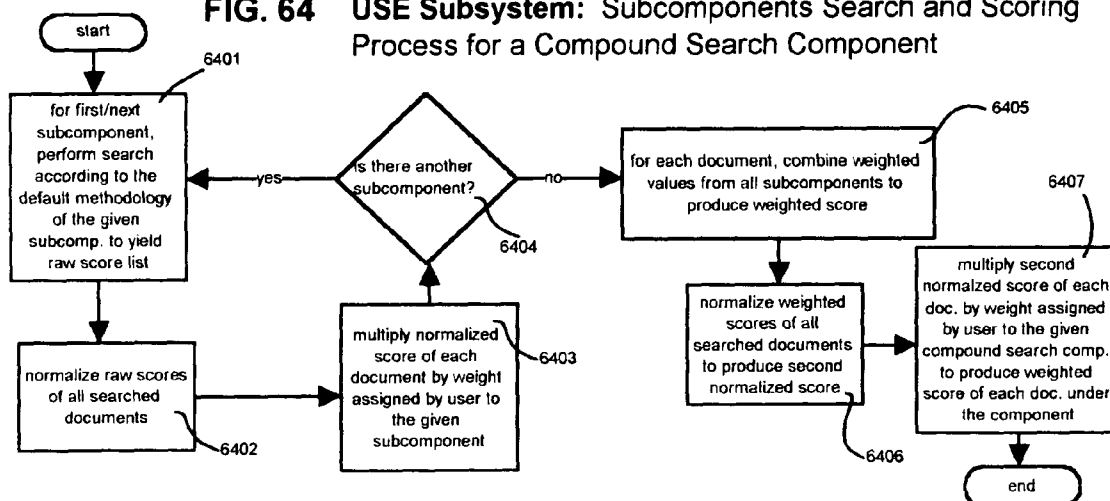
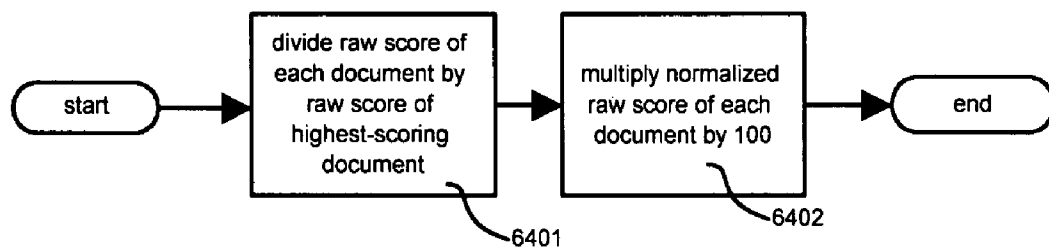
FIG. 63 USE Subsystem: Search and Ranking Process**FIG. 64** USE Subsystem: Subcomponents Search and Scoring Process for a Compound Search Component

FIG. 65 **USE Subsystem:** Example Simple Component USE Search Submission Page

Weight	Search term	Search methodology						
		<i>links to</i>	<i>links from</i>	<i>pay-for-placement</i>	<i>freshness</i>	<i>title or URL</i>	<i>popularity</i>	<i>Lexivote</i>
50	guitar	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	guitar	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FIG. 66 **USE Subsystem:** Example Simple Component USE Search Submission Page with Methodology Already Defined

Weight	Search string
50	bears BUTNOT chicago
10	grizzly OR kodiac

FIG. 67**USE Subsystem: Basic Normalization Process****FIG. 68****USE Subsystem: Score Equation**

$$r_1(A) = w_1(r_2(A)) + \dots + w_{n-1}(r_n(A))$$

FIG. 69 **USE Subsystem: EXAMPLE:***First search component, assuming user-assigned weight of "50"*

	Normalized Score (scale of 1-100, as an integer)	Weighted Score
Page P1	100	5000
Page P2	79	3950
Page P3	65	3250
Page P4	55	2750
Page P5	51	2550
Page P6	45	2250
Page P7	33	1650
Page P8	22	1100
Page P9	20	1000
Page P10	11	550

FIG. 70**USE Subsystem: EXAMPLE:***Second search component, assuming user-assigned weight of "10"*

	Normalized Score	Weighted Score
Page P3	100	1000
Page P6	87	870
Page P11	65	650
Page P4	55	550
Page P1	51	510
Page P5	33	330
Page P2	22	220
Page P8	22	220
Page P7	21	210
Page P10	19	190

FIG. 71**USE Subsystem: EXAMPLE:***Overall scores and ranking according to sum of weighted values of first and second search components*

Rank in Descending Order	Final Overall Score
Page P1	5510
Page P3	4250
Page P2	4170
Page P4	3300
Page P6	3120
Page P5	2880
Page P7	1860
Page P8	1320
Page P9	1000
Page P10	740

FIG. 72 **USE Subsystem:** Conceptual Rendering of or Template for Results Page with Search Component Gauge

<i>Site URL</i>	<i>Rank per each search component</i>		
	<i>A</i>	<i>B</i>	<i>C</i>
http://result 1	Rank A1	Rank B1	Rank C1
http://result 2	Rank A2	Rank B2	Rank C2
http://result 3	Rank A3	Rank B3	Rank C3
http://result 4	Rank A4	Rank B4	Rank C4
http://result 5	Rank A5	Rank B5	Rank C5
http://result 6	Rank A6	Rank B6	Rank C6
http://result 7	Rank A7	Rank B7	Rank C7
http://result 8	Rank A8	Rank B8	Rank C8
http://result 9	Rank A9	Rank B9	Rank C9

FIG. 73 **USE Subsystem:** Example Web Search Results Page with Search Component Gauge

Site URL : Performance by Component		7301	7302	7303
http://www.example1.com	Rank: 1, Comp. A , 3, Comp. B			
http://example2.com	Rank: 3, Comp. A ; 2, Comp. B			
http://www.example3.com	Rank: 2, Comp. A ; 18, Comp. B			

FIG. 74 **USE Subsystem:** Example Auction Search Results page with Search Component Gauge

Item : Performance by Component		7401	7402
Item #44908	Rank: 2, Comp. A , 1085, Longevity , 103, Feedback		
Item #47223	Rank: 1, Comp. A ; 22079, Longevity ; 28653, Feedback		
Item #45705	Rank: 4, Comp. A ; 18754, Longevity ; 16543, Feedback		

FIG. 75 **USE Subsystem:** Example Advanced USE (Level 1): Simple Components + Compound Component (Example: Auction Search)

		Search methodology							
	Weight	Search term	S1	S2	S3	S4	S5	S6	S7
A	50	silver	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B	10	dollar	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

search

		Seller or item listing attributes						
	Weight	bonded or insured	buy now option	feedback total	feedback ratio	longevity	sales volume	item location
C	10	10	0	5	10	3	0	0

7501

7502

7503

FIG. 76 **USE Subsystem:** Advanced USE (Level 1): Alternative Application
(Example: Stock Search (Simple Components not pictured))

	<i>Book value</i>	<i>P/E ratio</i>	<i>Market cap</i>	<i>Volatility</i>	<i>Dividends/share</i>	<i>Slope</i>	<i>Up/downgrade history</i>
Weight	5	10	0	0	9	9	5
search							

FIG. 77

USE Subsystem: Advanced USE
(Level 1): Alternative Application
(Example: Bond Search(Simple Comps. not pictured))

	<i>Grade/rating</i>	<i>Interest rate</i>	<i>Market cap - issuer</i>
Weight	6	10	5
search			

FIG. 78

USE Subsystem: Advanced USE
(Level 1): Alternative Application
(Example: Mutual Fund Search(Simple Comps. not pictured))

	<i>Performance 5 yr</i>	<i>Performance 1 yr</i>	<i>Performance 3 mo</i>
Weight	10	5	1
search			

FIG. 79 **USE Subsystem:** Advanced USE (Level 1): Alternative Application
(Example: Mutual Fund Search (Simple Comps. not pictured))

	<i>Stocks</i>	<i>Bonds</i>	<i>Gov't issues</i>	<i>Real estate</i>	<i>Currency</i>	<i>Precious metals</i>
Weight	10	3	0	0	1	0
search						

FIG. 80

USE Subsystem: Advanced Level 2: Simple Components (not pictured) + Compound Component with User-Assigned Intracomponent Weights and User-Defined "Ideal" or "Standard" (Example: Real Estate Search)

Real estate search					
	<i>Baths</i>	<i>Bedrooms</i>	<i>Acreage</i>	<i>Sq. Ft.</i>	<i>Price (thousands)</i>
Ideal	<input type="text" value="3"/>	<input type="text" value="3"/>	<input type="text" value="1"/>	<input type="text"/>	<input type="text" value="\$300"/>
Weight (10=Mandatory 0-9=Strength of Preference)	<input type="text" value="10"/>	<input type="text" value="10"/>	<input type="text" value="5"/>	<input type="text"/>	<input type="text" value="3"/>

FIG. 81

USE Subsystem: Advanced Level 2 USE: Alternative Application (Example: Job Search)

Job search					
	<i>City</i>	<i>Position</i>	<i>Hours/wk</i>	<i>Start date</i>	<i>Salary (thousands)</i>
Ideal	<input type="text" value="Rome"/>	<input type="text"/>	<input type="text" value="40"/>	<input type="text"/>	<input type="text" value="\$150"/>
Weight	<input type="text" value="10"/>	<input type="text"/>	<input type="text" value="5"/>	<input type="text"/>	<input type="text" value="10"/>

FIG. 82

USE Subsystem: Advanced Level 2 USE: Alternative Application (Example: Car Search)

Car search					
	<i>Year</i>	<i>Price (thousands)</i>	<i>MPG</i>	<i>Doors</i>	<i>Passengers</i>
Ideal	<input type="text" value="2004"/>	<input type="text" value="\$5.5"/>	<input type="text" value="65"/>	<input type="text" value="4"/>	<input type="text" value="4"/>
Weight	<input type="text" value="10"/>	<input type="text" value="5"/>	<input type="text" value="10"/>	<input type="text" value="5"/>	<input type="text" value="2"/>
Send the search results to me by email: <input type="text" value="user@example.com"/>					

FIG. 83

USE Subsystem: Advanced Level 2 USE: Simple Components (not pictured) + Compound Components Including User-Assigned Intracomponent Weights, User-Defined "Ideal" or "Standard", and User-Assigned Intercomponent Weights (Example: Personal Ads)

Personals search		Height (ft)	Hair color	Eye color	Weight (pounds)	Age (years)
Weight of Physical Traits	Ideal	6.0	brown	brown	200	35
	Weight	10	1	2	2	8
		Education	Religion	Profession	Myers- Briggs	Income (thousands)
Weight of Personal Traits	Ideal	MD			ESFP	\$150
	Weight	10			5	8
search						

FIG. 84 **USE Subsystem:** Advanced Level 3 USE: Simple Components + Compound Components Including User-Assigned Intracomponent Weights, User-Defined "Ideal" or "Standard", and User-Assigned Tolerances for Variation from Ideal (Example: Articles Search)

Article or document search or subscription									
	Weight	Search term	S1	S2	S3	S4	S5	S6	S7
A	50	Lincoln	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
B	25	emancipation /5 slaves	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Article, author, publication attributes						
		Language	Length (words)	Author rating (1-5)	Publication rating (1-5)	Freshness (weeks)
	Ideal	Eng., Span.	400	5	3	2
C	Weight	10	5	5	3	10
	Tolerance		+50%/-5%	0	+	

FIG. 85 **USE Subsystem:** Advanced USE Level 2 Variation Combining Filter Component and Scoring Component (Example: Airline Flights Search)

Travel search									
	<i>Airport From</i>	<i>Airport To</i>	<i>City From</i>	<i>City To</i>	<i>Airline</i>	<i>Date Depart</i>	<i>Date Return</i>	<i>Window</i>	<i>Aisle</i>
MUST HAVE	<input type="text"/>	<input type="text"/>	<input type="text" value="SF"/>	<input type="text" value="Nash"/>	<input type="text"/>	<input type="text" value="3/23"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
PREFER TO HAVE	<i>Airport From</i>	<i>Airport To</i>	<i>City From</i>	<i>City To</i>	<i>Airline</i>	<i>Date Depart</i>	<i>Time Depart</i>	<i>Window</i>	<i>Aisle</i>
Ideal	<input type="text" value="SEO"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="United"/>	<input type="text"/>	<input type="text" value="11AM"/>	<input type="text" value="Y"/>	<input type="text"/>
Weight	<input type="text" value="7"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="4"/>	<input type="text"/>	<input type="text" value="7"/>	<input type="text" value="10"/>	<input type="text"/>

FIG. 86 **USE Subsystem:** Primary USE: Single Input Field Variation

Search string
<input type="text" value="finger-picking (25, linksto) instruct! (40, lexivote) guitar (!)"/>
<input type="button" value="search"/>

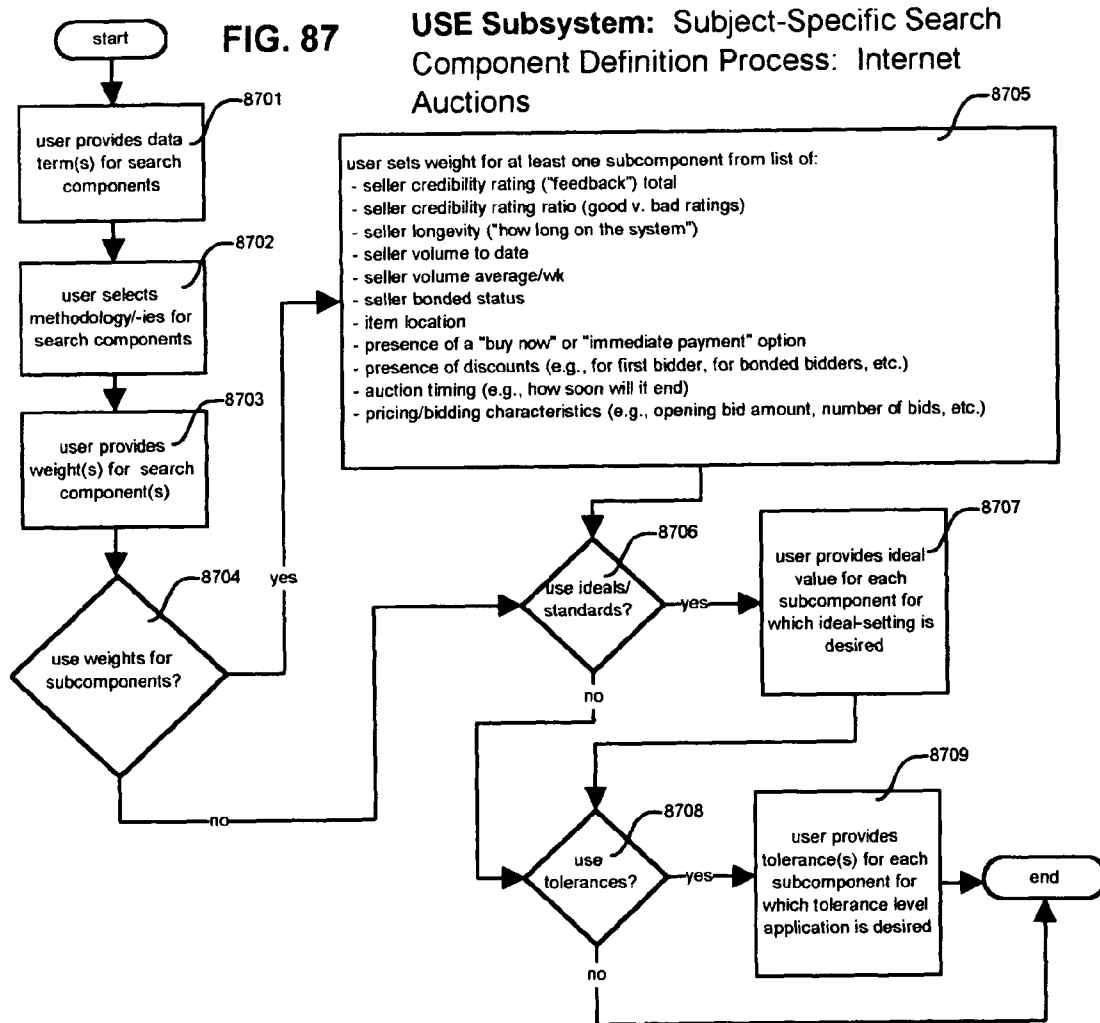


FIG. 88

USE Subsystem: Email Integration:
Example of EQML-Enabled Search Engine
Query via Email

8801

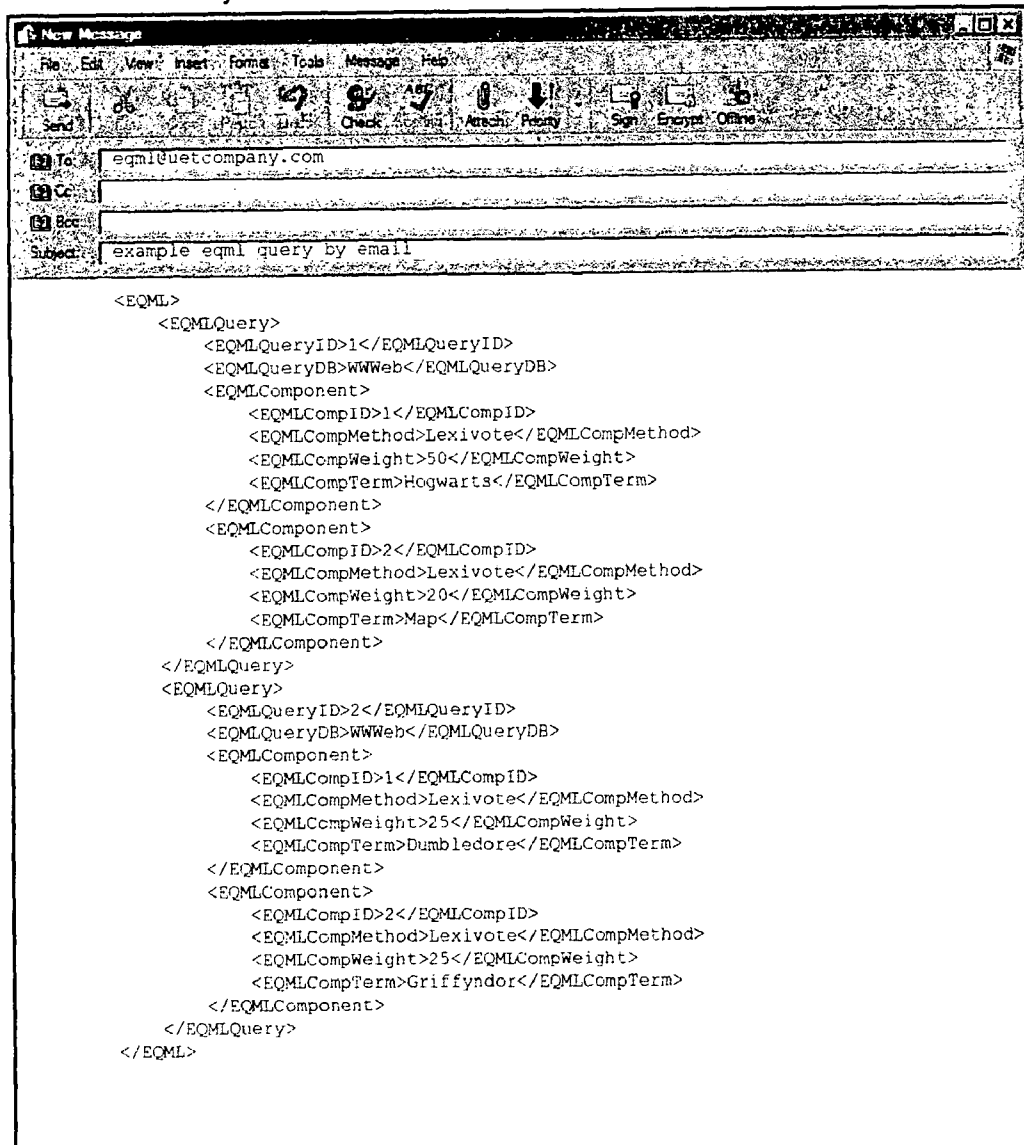


FIG. 89

USE Subsystem: Email Integration Cont'd:
Example of EQML Query Results

8901

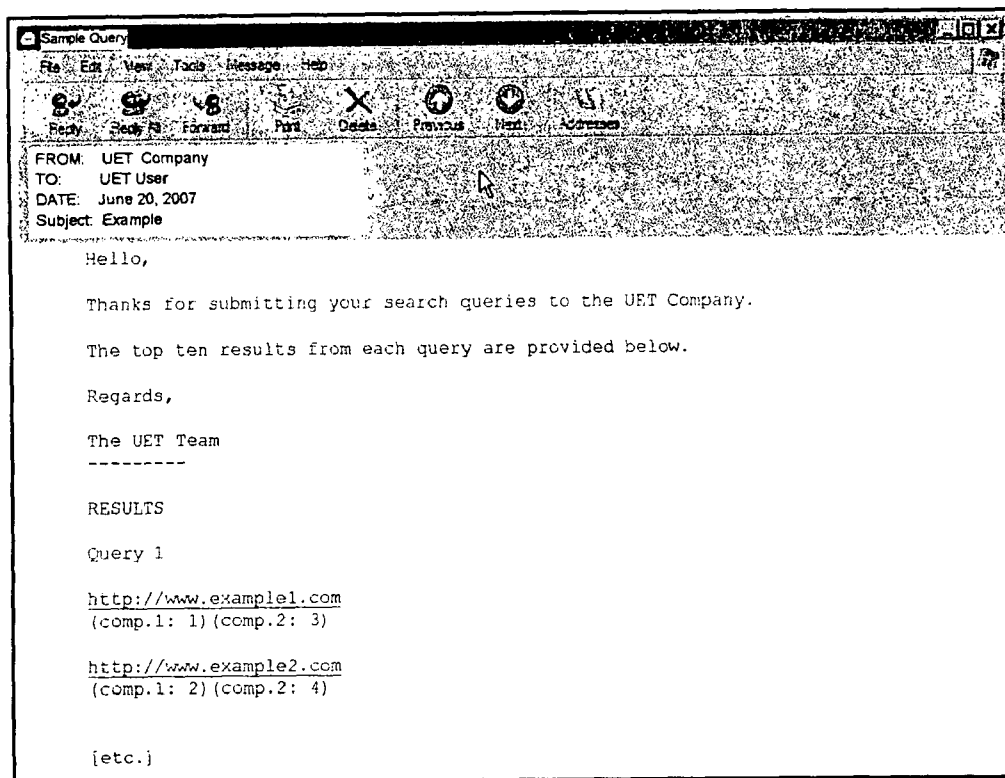


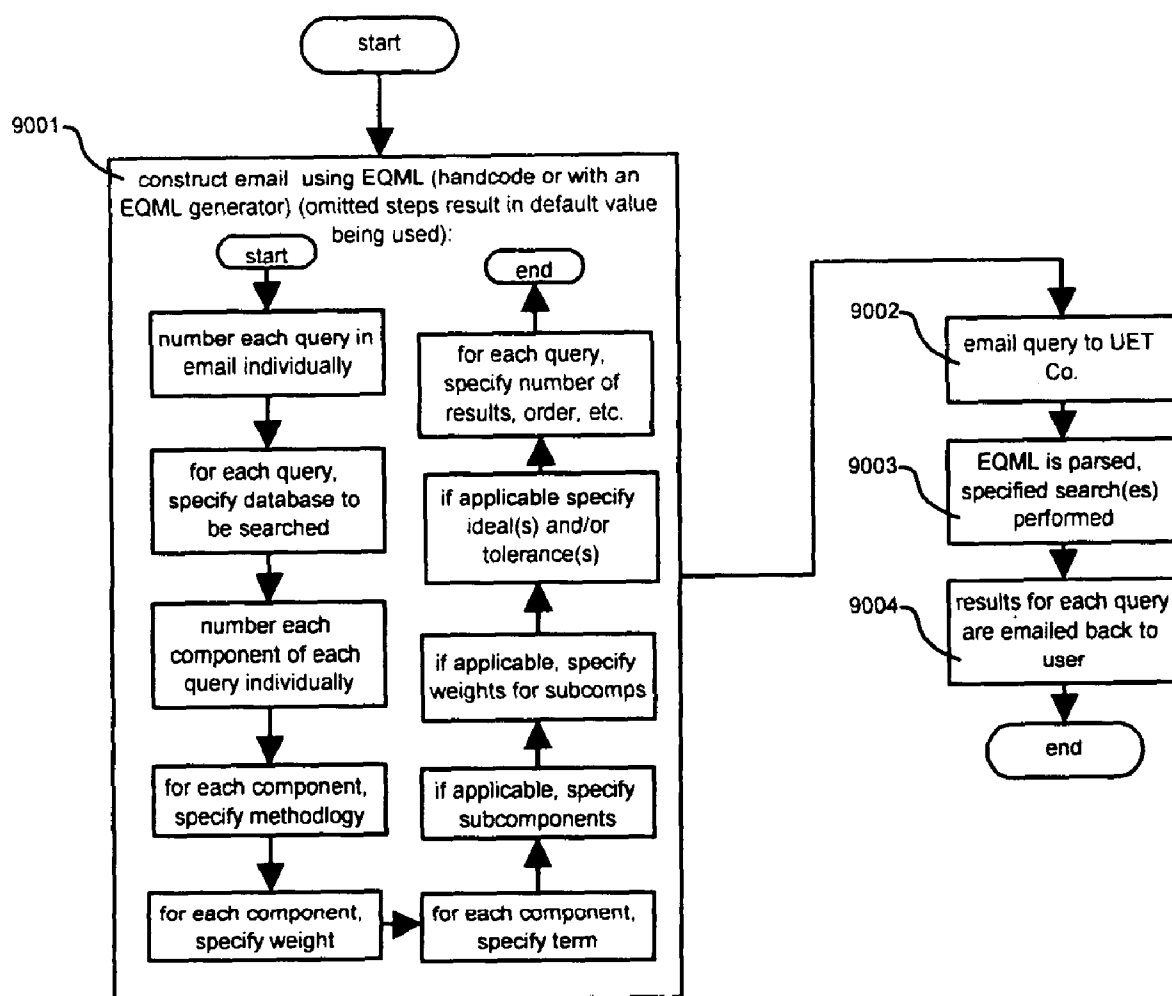
FIG. 90**USE Subsystem: Email
Integration Process**

FIG. 91

9101

9109

9102

9102

Account: MyFlowers23 **Build Your Own Search Engine!**

Which database would you like your search engine to search?

	auct.	cars	coins	comp.	web	[etc.]					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9103

Number of Simple Search Components

Methodology Menu Choices per Simple Search Component

	S1	S2	S3	S4	S5	S6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9103

Number of Compound Search Components

Auction-Related Methodology Options						Real Estate-Related Methodology Options			
PS1	PS2	PS3	PS4	PS5	PS6	PS7	PS8	PS9	PS10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Stock-Related Methodology Options						Car-Related Methodology Options			
PS13	PS14	PS15	PS16	PS17	PS18	PS19	PS20	PS21	PS22
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9103

Allow Inter-Component Weighting?

Allow Intra-Component Weighting?

Allow user ideal-setting?

Allow user tolerance-setting?

Display search component performance gauge?

☐

☐

☐

☐

☐

9104

9105

9106

9107

9108

Submit

FIG. 92

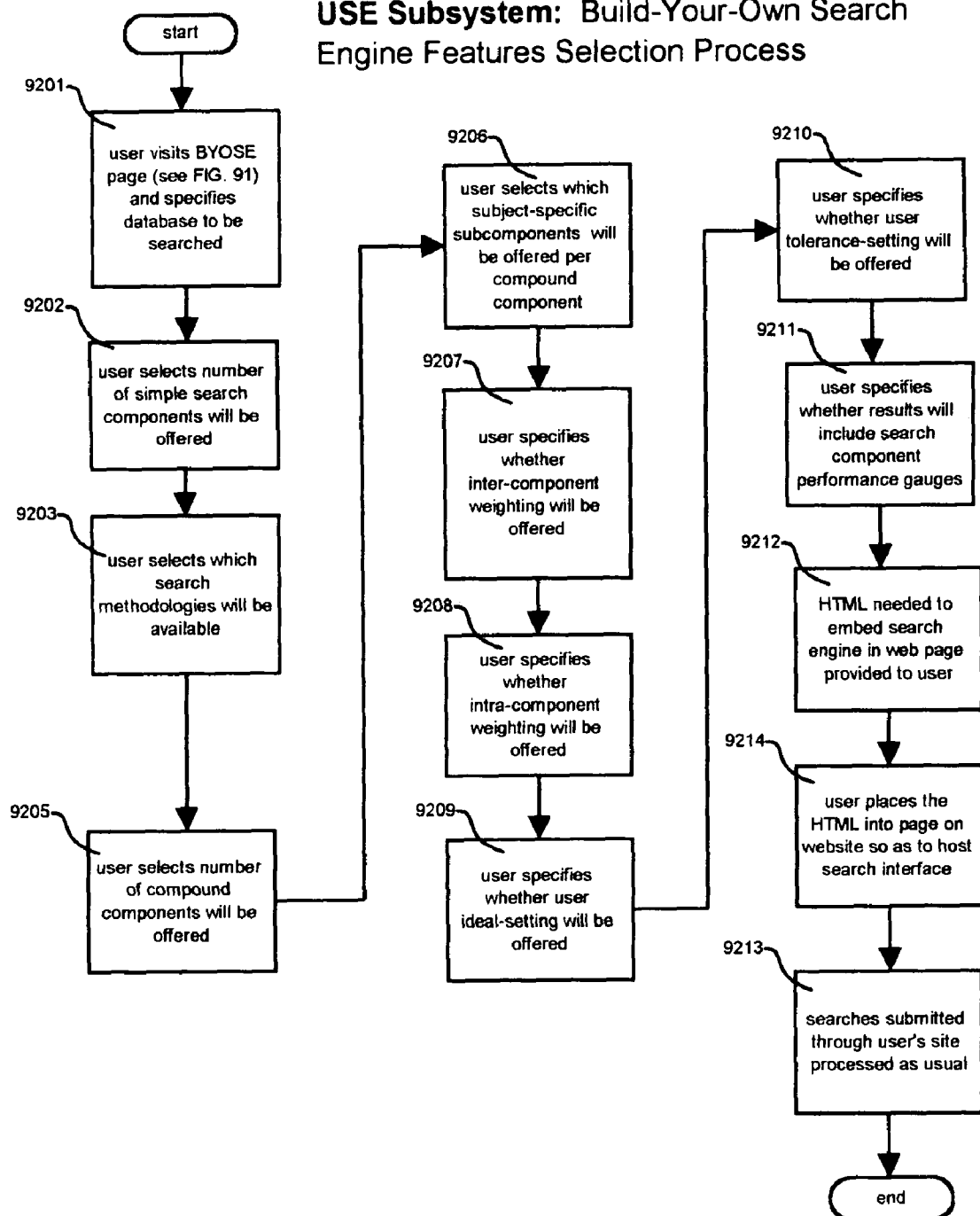
**USE Subsystem: Build-Your-Own Search
Engine Features Selection Process**

FIG. 93

USE Subsystem: Lexivote Search
Methodology: Sample Search Submission
Form

9301

Search term

university of virginia

Search methodology

S1 S2 S3 S4

☒ ☐ ☐ ☐

In order to proceed, you must enter a word of your choice and then the name of your favorite website related to the chosen word. For instance, if you choose the word "football," you might enter "http://www.nfl.com" as your favorite website related to football. If you have more than one favorite, enter them in order of your preference.

Your word

cinderella

Your favorite website(s) related to chosen word

1 http://www.disney.com

2

3

search

9302

9303a

9303b

9303c

FIG. 94

USE Subsystem: Lexivote: Use Process
(Random visitor, non-account embodiment)

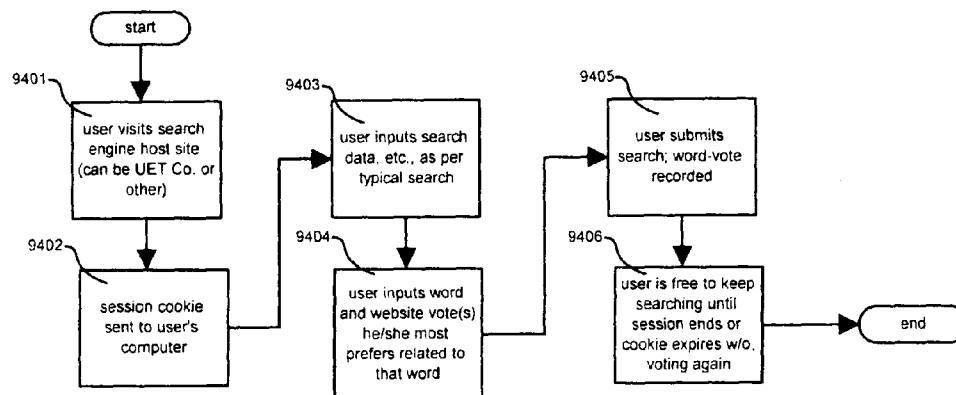
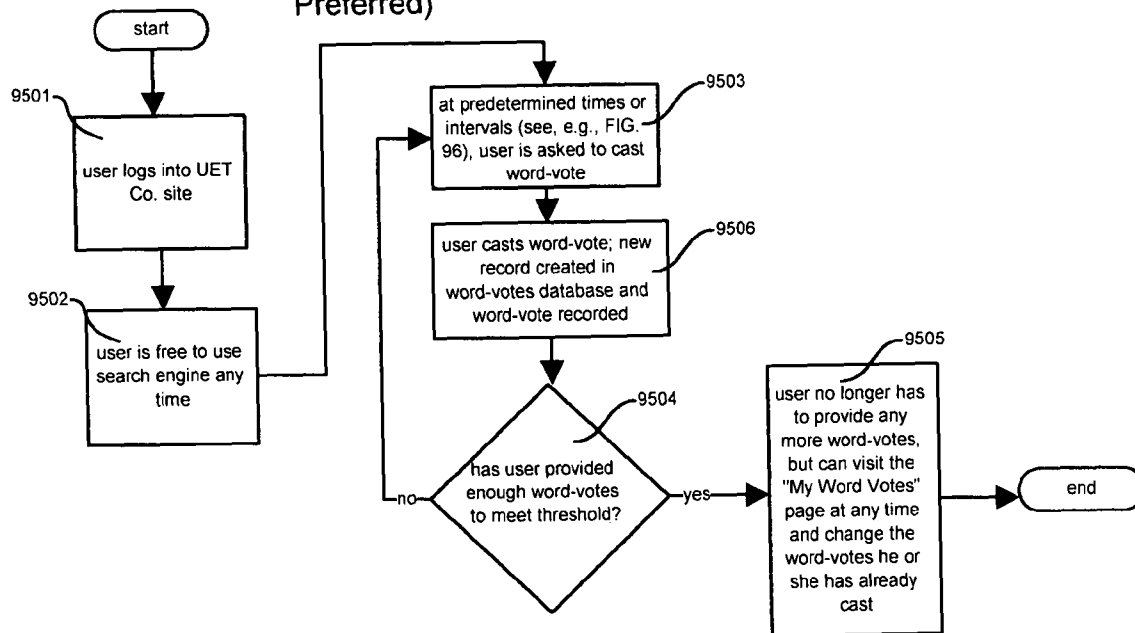


FIG. 95

USE Subsystem: Lexivote: Use Process
 (Account-Holding Users Embodiment - Preferred)

**FIG. 96**

USE Subsystem: Lexivote: Sample Word-Vote Weighting Schedule

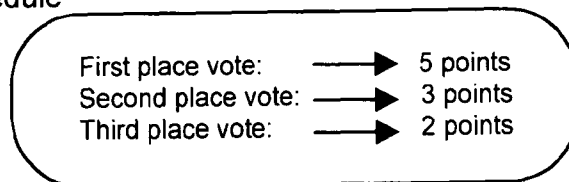
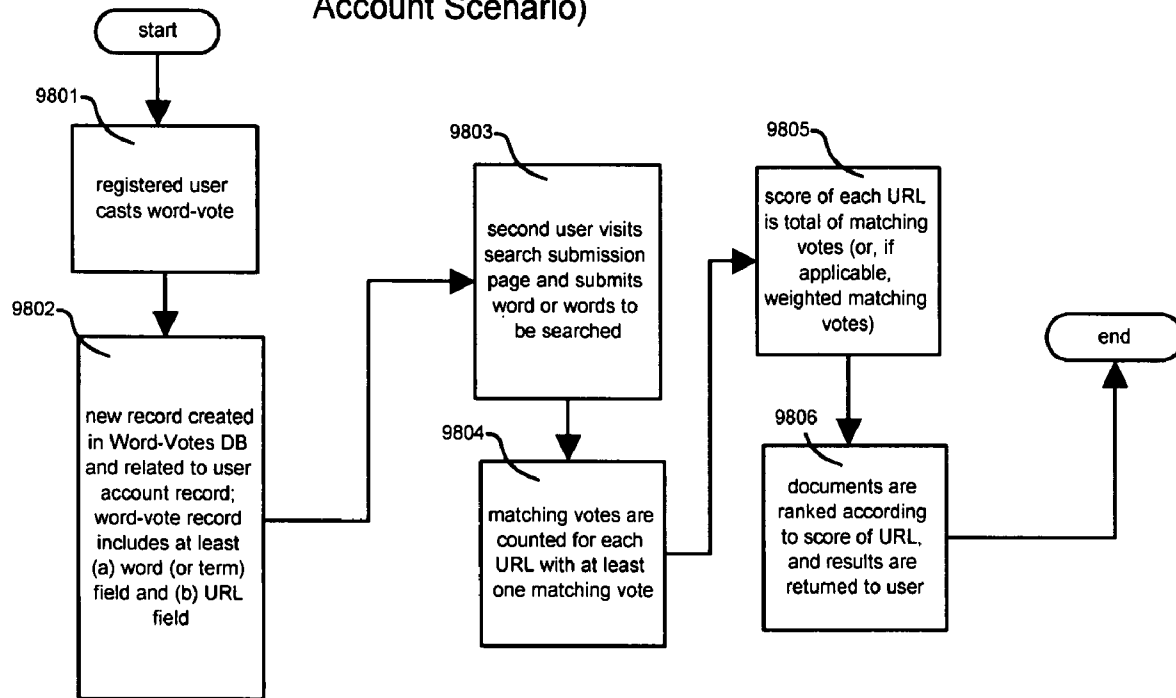


FIG. 97**USE Subsystem: Lexivote: General
Lexivote Search & Ranking Process (User
Account Scenario)****FIG. 98****USE Subsystem: Lexivote: Scoring Equation
when Weighted Word-Votes Are Used**

$$r_1(A) = w_1(v_1(A)) + w_2(v_2(A)) + w_3(v_3(A))$$

FIG. 99

USE Subsystem: Lexivote: Sample
excerpt form "My Word-Votes" page for
viewing and altering votes

9901

Account: MotorVoter3

My Word-Votes

1. Word	Votes
cinderella	First place <input type="text" value="http://www.disney.com"/>
	Second place <input type="text"/>
	Third place <input type="text"/>

2. Word	Votes
stamps	First place <input type="text" value="http://www.philatelist.org"/>
	Second place <input type="text" value="http://www.philatelifelife.com"/>
	Third place <input type="text"/>

Submit changes

FIG. 100

USE Subsystem: Lexivote: Database
Relationships for Lexivote & Lexary
Integration

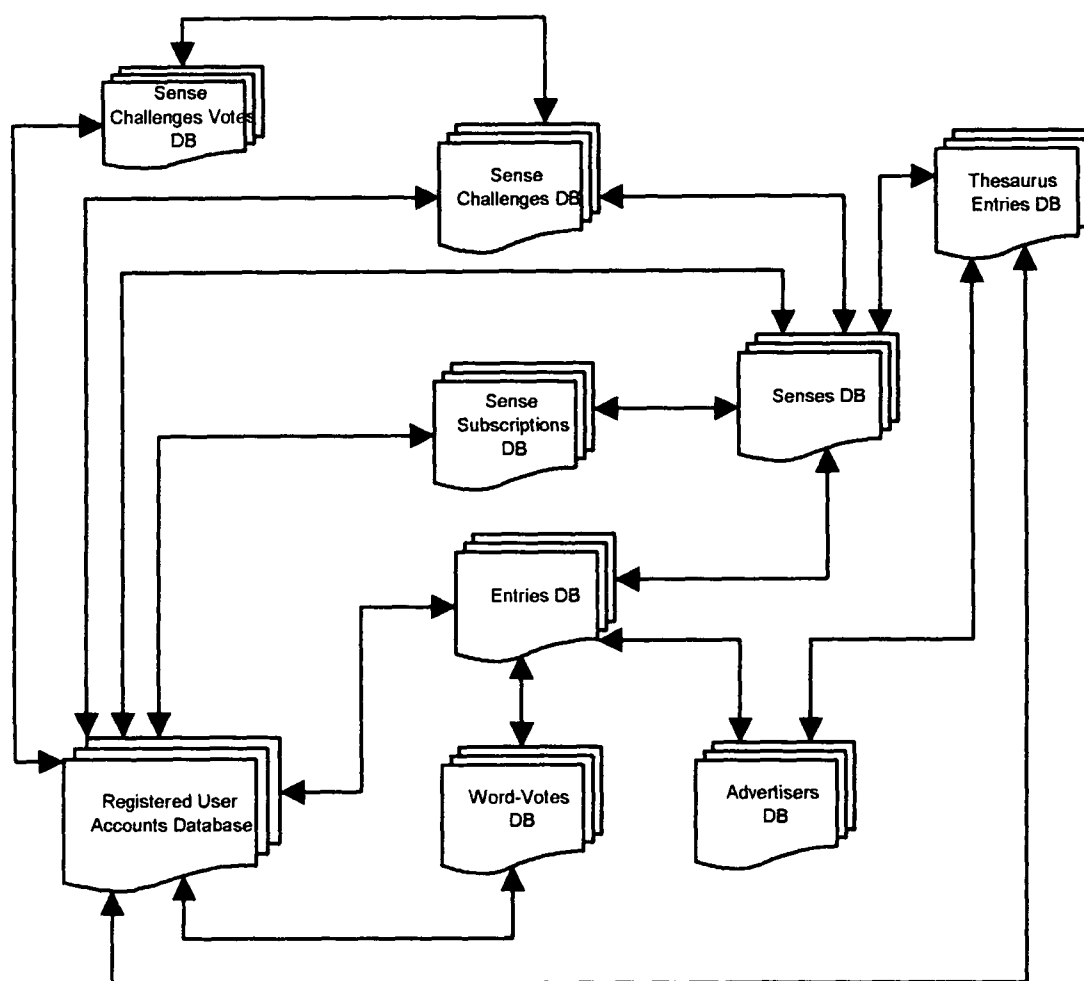


FIG. 101 USE Subsystem: Lexary: Method of Creation, Deployment and Use of the Lexary Subsystem

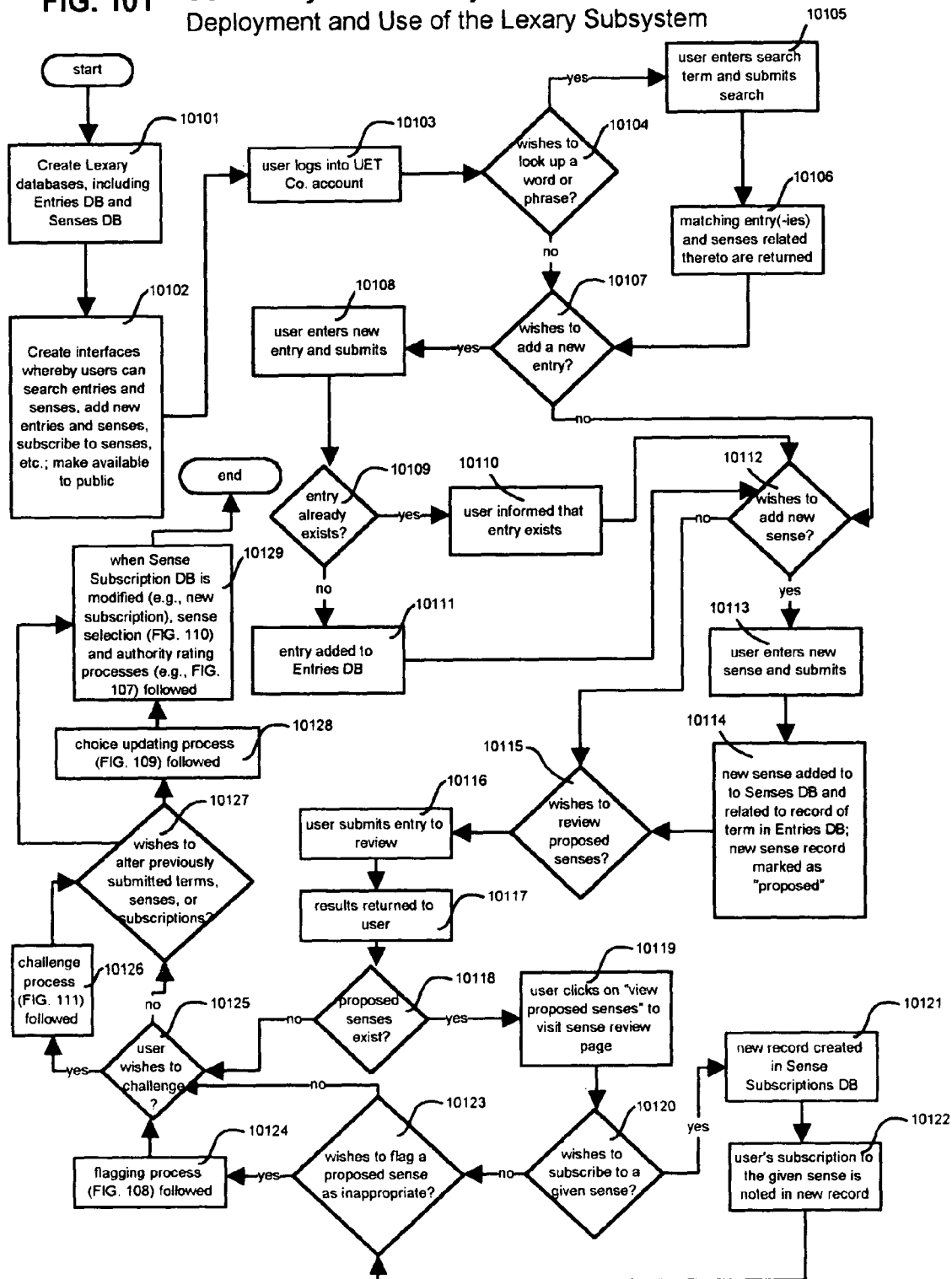


FIG. 102 USE Subsystem: Lexary: Interface for User
Look-Up from the Lexary

10201

epoet Lexary Project

Enter the term for which
you would like a definition

run submit

FIG. 103 USE Subsystem: Lexary: Example Results
Page Displaying Entry and Related Senses

10301

epoet Lexary Project

Term searched:

run

Results:

3 approved senses

view 2 proposed additional senses

submit new sense

Sense 1 v: (intransitive) to move rapidly (23) (wordsmith: 198)

Sense 2 n: a point scored in the game of baseball (17) (michael2007: 21)

Sense 3 v. (intransitive): to work properly; to be in a functioning state (11) dillon (26)

Running Shoes - \$19.95!

10302 10303 10304 10305 10306 10307 advertisement

FIG. 104 USE Subsystem: Lexary: Submit New Sense
Page

10401

epoLexary Project

Term searched: **Submit New Sense**

run **Part of Speech** **Qualifier**

New Proposed Sense

Definition for this sense of the word

Etymology (if known, not required)

Usage notes, including, if possible, usage in a sentence.

submit

FIG. 105 USE Subsystem: Lexary: Review "Pending Proposed Senses" Page

10501

epoet Lexary Project

Term searched: run

Pending Proposed Senses
[return to search page](#)

Proposed Sense 1 n: a sortie; an outing, typically with a particular mission, as in "a bombing run" or a "run to the post office" (11) (wordsmith: 198)

[I subscribe](#) [flag](#)

Proposed Sense 2 n: something we did last night (0) (eggheadz: -1)

[I subscribe](#) [flag](#)

10502 10503 10504

©2003-2004 Invention Enterprise® Invention Engineer™ Patent Illustrations

FIG. 106 USE Subsystem: Lexary: Excerpt from Example Sense Challenge Submission Form

10601

epoet Lexary Project

Term searched: run

Sense Challenge Page

Sense 1 v: (intransitive) to move rapidly (23) (wordsmith: 198)

Do you wish to enter a challenge of this sense definition? Yes ☐

If so, please enter your reasons below, being as specific as possible:

You must also supply a proposed alternative to the sense definition you are challenging. Your alternative:

[submit](#)

FIG. 107

USE Subsystem: Lexary:
Authority Rating Process

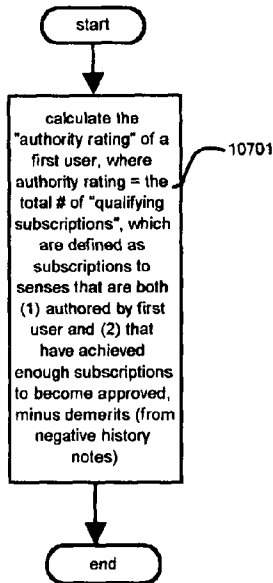


FIG. 108

USE Subsystem:
Lexary: Flagging
Process

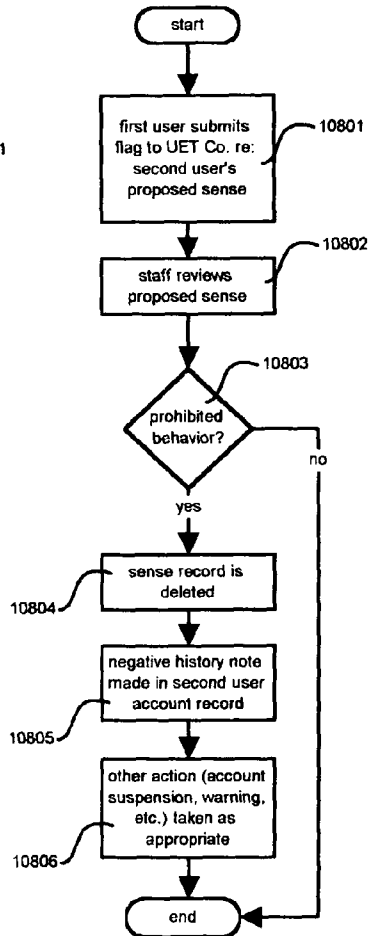


FIG. 109

USE Subsystem:
Lexary: Choice
Editing Process

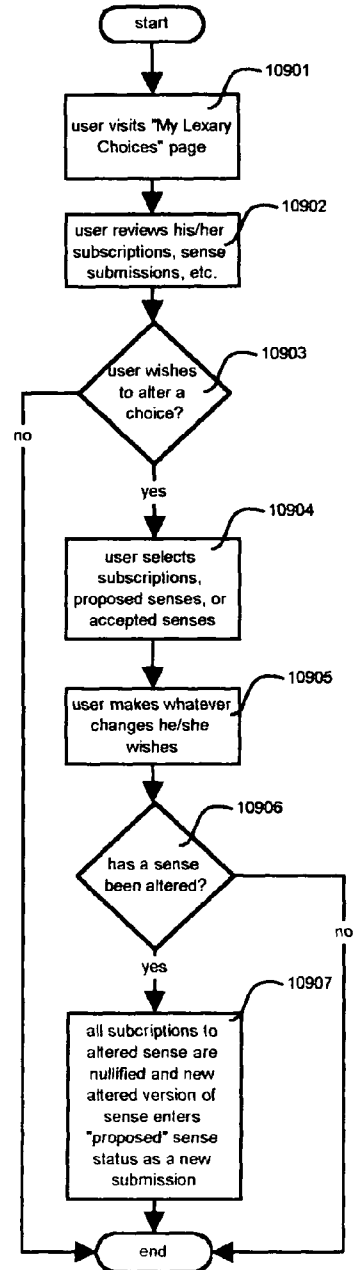
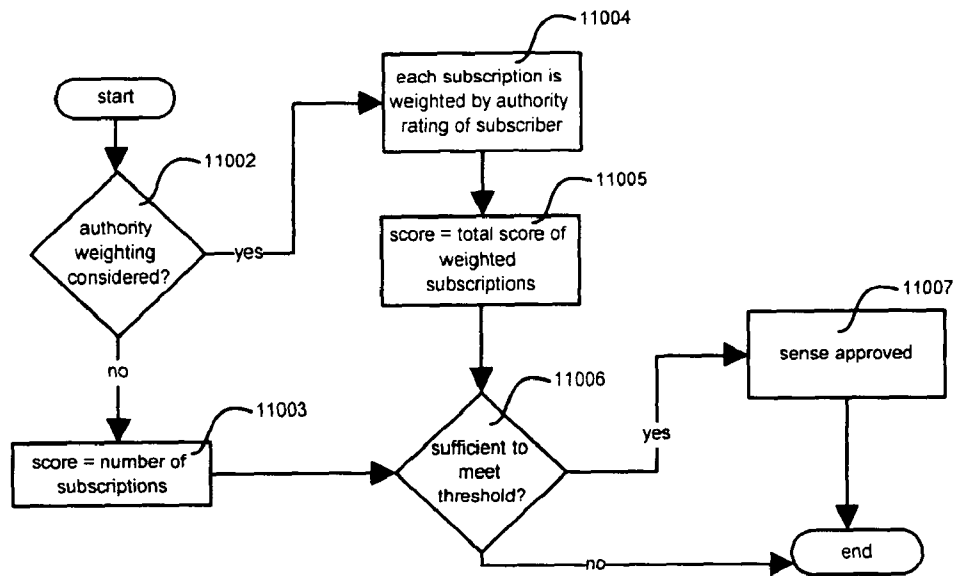
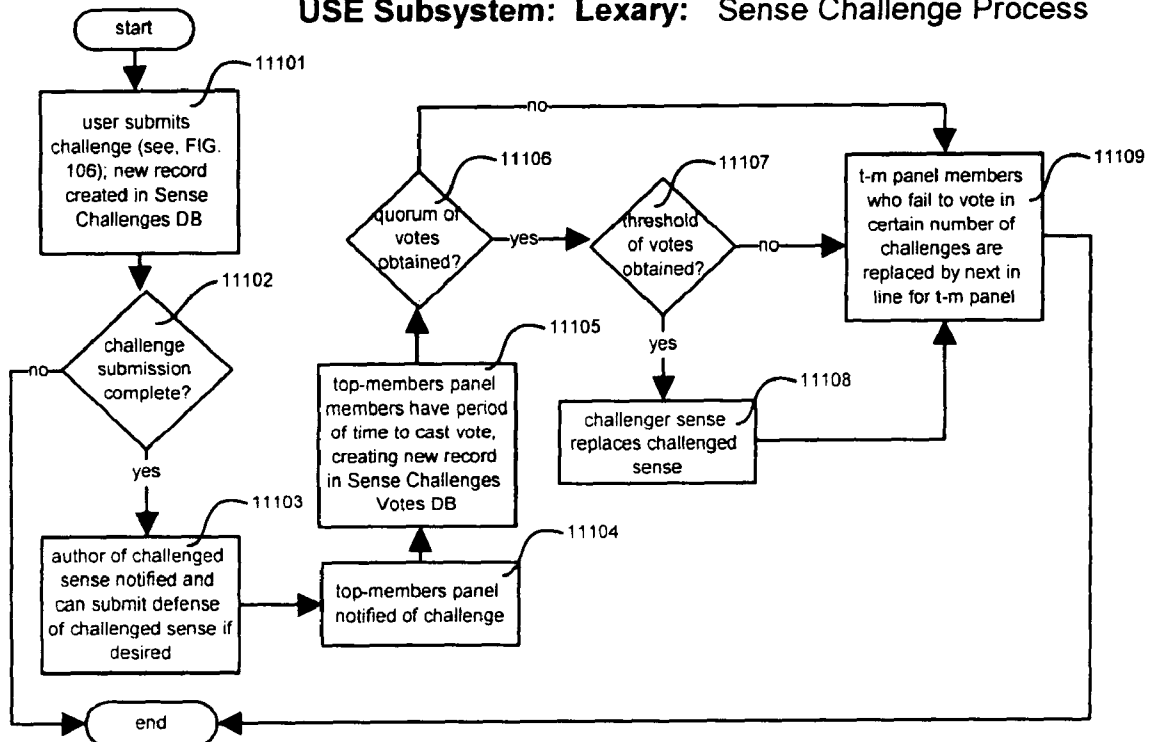


FIG. 110 USE Subsystem: Lexary: Sense Selection Process**FIG. 111** USE Subsystem: Lexary: Sense Challenge Process

11201

FIG. 112

USE Subsystem: Lexary: Simple Component
USE Search Submission Form for Integration with Lexary

Weight	Search term	Search methodology						
		links to	links from	Lexivote	pay-per-placement	title or URL	popularity	freshness
50	rubber	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	stamp	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="button" value="search"/>								

11301

FIG. 113 **USE Subsystem: Lexary: Secondary**
Selections Page for Lexary-Integrated USE

11302

*The search term(s) entered
have multiple meanings.
Please select the sense in
which you mean the word:*

rubber

☐

Sense 1 n: an elastic material (29) (wordsmith: 198)

☐

Sense 2 n: a device planted into a pitcher's mound in the game of baseball (21) (pitchingBill: 41)

stamp

☐

Sense 1 v: (transitive) to make an impression upon an object by forceful impact (73) (wordsmith: 198)

☐

Sense 2 n: a small piece of paper affixed to a piece of mail to indicate that postage has been paid (107) (postboy: 31)

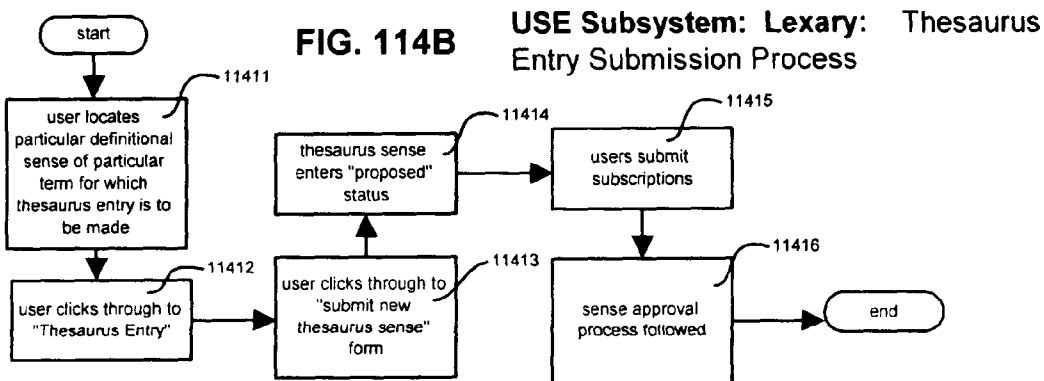
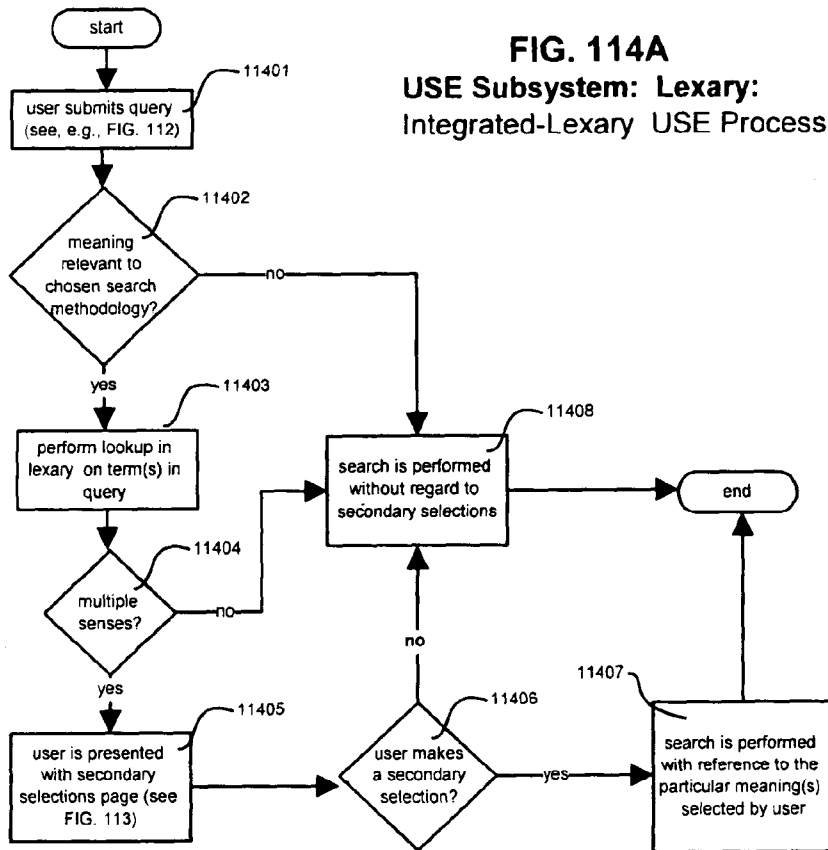
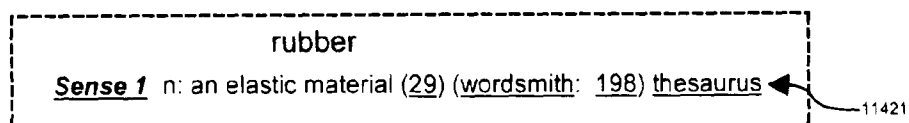


FIG. 114C USE Subsystem: Lexary: Excerpt from Sample Sense Display Page with Link to Thesaurus Entry for the Given Sense



SEARCH ENGINE SYSTEM, METHOD AND DEVICE

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation application of U.S. patent application Ser. No. 10/888,781, filing date Jul. 9, 2004, entitled "Universal Electronic Transaction System, Method and Device", which application claimed the benefit of priority filing of U.S. provisional patent application 60/486,630, filing date Jul. 11, 2003, entitled "Information Management System, Method and Device". Said parent application and said provisional patent application are hereby incorporated by reference in their entirety into the present disclosure.

A portion of the disclosure of this patent document contains material which is subject to copyright protection. The copyright owner has no objection to the facsimile reproduction by anyone of the patent documents or patent disclosure, as it appears in the patent trademark office patent file or records, but otherwise reserves all rights whatsoever.

The inventor wishes to thank the faculty, staff, and students of Stanford University.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH AND DEVELOPMENT

None.

REFERENCE TO SEQUENCE LISTING, A TABLE, OR A COMPUTER PROGRAM LISTING APPENDIX

None.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to Internet search engines and relevance-ranking methodologies.

2. Description of Related Art

The descriptions of related art in the above-referenced non-provisional application and provisional application are hereby incorporated by reference in their entirety into this section of the present disclosure.

BRIEF SUMMARY OF THE INVENTION

Disclosed is a Universal Electronic Transaction (UET) system, method, and device comprising several subsystems and submethods/subprocesses as well as the physical apparatus of a computer network configured to execute certain steps. An entity called the UET Company is assumed to be the implementer of the UET system.

Elements include a "Build-Your-Own-Search-Engine" system (hereinafter, "BYOSE") that allows a user to design and deploy his or her own unique search engine and relevance ranking algorithm so that other users can use the customized search engine and obtain results that are ordered according to the first user's preferences, opinions and areas of interest.

The BYOSE provides a disclosed system, method and device whereby a user can specify what features are to be included in his or her customized search engine, including features pertaining to user-assigned weights, freshness ranges or limits (e.g., regarding how old an article can be and still be included in search results), standards, tolerances for

deviation from such standards, and methodologies to be used in ranking. The user also specifies which of the UET Company's databases are to be searched and which type(s) of methodology are to be used in searching. The user submits these choices to the UET Company via a disclosed submission form, and the UET Company returns markup language text, e.g., HTML, to the user. The user then embeds this markup language text in a Web submission form hosted on his or her own web site so that others can take advantage of the customized search engine.

The user can also submit a disclosed Lexivote so as to assign a weight, a URL, and a term, which lexivote can then be used to alter search results so that the results returned by his or her customize search engine are further customized to his or her own preferences and tastes; the lexivote mechanism, in short, allows a user to affect or skew search results returned by his or her custom search engine so that URLs that he or she prefers are boosted in rank vis-a-vis other URLs; he or she can use this mechanism to promote his or her own websites or simply those websites that reflect his or her views. Other users may also participate in the Lexivote system, so that search engine results provided by the customized search engine are tailored, not just by the initial user who first designed the custom search engine, but also by the community at large. Various revenue models, including paid advertising, are also disclosed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 provides a flowchart of the method by which the Universal Electronic Transaction (UET) technology is created, deployed, and used.

FIG. 2 provides a diagram of the UET system and its component subsystems.

FIG. 3 depicts a diagram of the physical apparatus of the UET technology.

FIG. 4 depicts a flowchart of a method by which the UAML subsystem is created and deployed.

FIG. 5 depicts a flowchart of the process by which users of the UAML subsystem are registered and their accounts created.

FIG. 6A depicts a flowchart of a process by which UAML advertisements/listings are made available.

FIG. 6B depicts a flowchart of a URL conflict resolution process.

FIG. 7A depicts a flowchart of a process by which a URLIT is assigned to a Web address, used in an image location, and otherwise used to enable the UAML system.

FIG. 7B depicts an example URL and URLIT information associated therewith.

FIG. 8 depicts a flowchart of a process by which UAML-enabled web pages are created.

FIG. 9 depicts an example UAML-enabled web page.

FIG. 10 depicts an example of an HTML submission form whereby information can be submitted to a code generator program so that UAML tags can be automatically generated to describe the submitted information.

FIG. 11 depicts an example of an excerpt from source code of the UAML-enabled web page.

FIG. 12 depicts a flowchart of a process whereby documents submitted for use within the UAML subsystem are validated.

FIG. 13 depicts a flowchart of a UAML security check process.

FIG. 14 depicts a chart of some fields that could be contained in a record within a relational database complex for use in the UET system.

FIG. 15 depicts a diagram of extracting PCDATA within a particular element within the UAML-enabled document and inserting the data into a record in the relational database complex.

FIG. 16 depicts a diagram of some databases and relationships in the relational database complex.

FIG. 17 depicts a diagram of an effect of having content of a listing hosted on two servers, one under control of the UET Company and the other under control of the user.

FIG. 18A depicts a flowchart of a process by which images hosted by the UET Company and appearing in listings are updated when database information changes.

FIG. 18B depicts a temporal diagram of an image at a first moment in time and an image at a second moment in time.

FIG. 19 depicts a flowchart of a process whereby continuing validity of a listing is confirmed.

FIG. 20 depicts a flowchart of a process for invalidating a listing.

FIG. 21 depicts a flowchart of a process for cutting short an auction.

FIG. 22 depicts a flowchart of a process for delisting a listing.

FIG. 23 depicts a flowchart of an example usage scenario.

FIG. 24 depicts a flowchart of an auction bidding process.

FIG. 25 depicts a flowchart of an auction completion process.

FIG. 26 depicts an excerpt from an example "My Registered URLs" page.

FIG. 27 depicts an excerpt from an example auction review and bid submission page related to an auction listing.

FIG. 28A is a diagram of a relationship between UAML-enabled listings under control of users and related pages under control of the UET Company, and a relationship between the listing pages and third party companies.

FIG. 28B is a diagram of an example UAML-enabled web page including a listing and various databases that include a record related to this listing.

FIGS. 28C, 28D, and 28E depict excerpts from web pages displaying data extracted from listings.

FIGS. 29 through 36 depict revenue models for the UAML subsystem.

FIG. 37 depicts an example of the Universal Toolbar Utility in use.

FIG. 38 is a flowchart of steps for using the UTU.

FIG. 39 depicts an example of the Universal Toolbar Utility in use, in expanded form.

FIG. 40A is a flowchart of a process for creation of an inventory list or wish list for display through the UTU.

FIG. 40B depicts an excerpt from an example web page hosted by the UET Company displaying lists of a given registered user's inventory lists and wish lists.

FIG. 40C depicts an excerpt from an example web submission form through which a user can modify a given inventory list.

FIG. 41 is a flowchart of the process whereby a user uses the UTU universal shopping cart feature.

FIG. 42A is a diagram depicting a one-to-one relationship between a URLIT and a UAML-enabled listing in contrast to a one-to-many relationship between a URLIT-stem and successive iterations of a document at a particular URL when used strictly for UTU purposes.

FIG. 43 is a diagram depicting a web page and databases involved in displaying information associated with the web page through the UTU.

FIG. 44 is a diagram depicting relationships between data in a shopping cart record of a UTU user and inventory lists

associated with web pages under the control of other users from whom the UTU user is purchasing.

FIGS. 45 and 46 depict an example of an alternative embodiment of the UTU, configured to facilitate automatic contributions to nonprofit organizations.

FIG. 47 is a flowchart of the process through which the UTU is used to donate to nonprofit organizations.

FIG. 48 is a flowchart of the process through which the UTU is used to benefit environmentally conscious website providers and hosting services.

FIG. 49 depicts an example of the UTU in use displaying a "seal of approval" that indicates that a website provider or hosting service has met standards set by a user that has been found to be qualified to evaluate environmentally conscious business practices.

FIG. 50 is a flowchart of a process for user creation of a submission form or auction that is to be accessible through the UTU.

FIG. 51 depicts an excerpt from an example web submission form used in the creation of a UTU submission form.

FIG. 52 depicts an excerpt from an example web submission form used in the creation of an auction to be displayed through the UTU.

FIG. 53 is a flowchart of a process through which users participate in use an iTicker feature of the UTU.

FIG. 54 depicts an example of a UTU embodiment displaying scrolling iTicker headlines.

FIG. 55 depicts a chart of example UAML tags common to all listings.

FIG. 56 depicts a template for a subject-specific tag names used in the present disclosure.

FIG. 57A depicts a chart of example subject-specific tags, corresponding to the fields of the UET Company database record in a database, for use in UAML-enabled listings for collectible coins.

FIG. 57B through FIG. 57H depict other subject-specific vocabularies.

FIG. 58 is a flowchart of a process through which variable data in dynamically generated web pages can be tagged for use within the UAML system.

FIG. 59A is a flowchart of a process through which automatic data capture hardware, such as bar-code scanners and RFID readers, can be integrated into the UAML subsystem such that listings throughout the World Wide Web can be searched for a UPC or EPC.

FIG. 59B is a flowchart of a process through which the UAML subsystem can be used through a telephone.

FIG. 59C is a flowchart of a process through which a search query can be composed and the UAML subsystem can be used through e-mail.

FIG. 59D depicts an example e-mail to be sent to the UET Company, where it is parsed and a search performed according to search criteria specified in the e-mail.

FIG. 59E depicts an example e-mail sent by the UET Company to a user in response to a query such as that depicted in FIG. 59D.

FIG. 60 is a flowchart of a process through which the Userithm search engine is used.

FIG. 61 depicts a template for web pages for use in submission of search queries under the Userithm search engine subsystem.

FIG. 62 is a flowchart of a process by which search components are defined on-the-fly in real time by a user of the Userithm search engine subsystem.

FIG. 63 is a flowchart of the Userithm search and ranking process.

5

FIG. 64 is a flowchart of the subcomponents search and ranking process.

FIG. 65 depicts an excerpt from a sample submission form through which a user submits a Userithm search query.

FIG. 66 depicts an excerpt from a sample search submission form with predefined methodology which still allows entry of intercomponent user assigned weights.

FIG. 67 is a flowchart of the normalization process.

FIG. 68 depicts an equation whereby an overall score of a document is produced by combining weighted scores of the document under various search components.

FIGS. 69 through 71 are charts of scores of a group of hypothetical web pages.

FIG. 72 depicts a template for display of search results along with performance gauges associated with each result.

FIGS. 73 and 74 depicts excerpts from example results pages including performance gauges.

FIGS. 75 through 86 depict excerpts from alternative example submission forms through which a user may submit a Userithm search query.

FIG. 87 is a flowchart of the process whereby search components are defined in a subject specific database search.

FIG. 88 depicts an example e-mail in which a user submits Userithm search queries via e-mail.

FIG. 89 depicts an example e-mail wherein results of a Userithm search query submitted by e-mail are provided to a user.

FIG. 90 is a flowchart of a process whereby the USE subsystem is accessed via e-mail.

FIG. 91 depicts an excerpt from an example submission form through which a user can submit choices to the UET Company regarding a customized search engine.

FIG. 92 is a flowchart of a process by which a build-your-own-search-engine feature is used.

FIG. 93 depicts an excerpt from an example web page through which word-votes are submitted for use in the Lexivote search system and methodology.

FIG. 94 is a flowchart of a process through which word-votes can be obtained from users of a search engine.

FIG. 95 is a flowchart of an alternative process through which word-votes can be obtained from users.

FIG. 96 depicts a sample weighting schedule for weighting word-votes.

FIG. 97 depicts a flowchart of a Lexivote ranking process.

FIG. 98 depicts an equation used in the Lexivote ranking process.

FIG. 99 depicts an excerpt from a sample submission form through which a user can modify his or her word-votes.

FIG. 100 depicts an overview of databases and database relationships involved in the Lexivote and Lexary subsystems.

FIG. 101 depicts a flowchart of the process of creation, deployment and use of the Lexary subsystem.

FIG. 102 depicts an excerpt from a sample submission form through which a user can look up a definition in the Lexary.

FIG. 103 depicts an excerpt from a sample document in which approved senses of a given term are displayed.

FIG. 104 depicts an excerpt from a sample submission form through which a user may submit a new sense for consideration for approval by the user community for inclusion in the Lexary.

FIG. 105 depicts an excerpt from a sample document displaying pending proposed senses.

FIG. 106 depicts an excerpt from a sample submission form through which a user may submit a sense challenge.

6

FIG. 107 is a flowchart depicting a process by which an authority rating of a user is calculated.

FIG. 108 is a flowchart depicting a process by which a given sense is flagged.

FIG. 109 is a flowchart depicting a process through which a choice is edited.

FIG. 110 is a flowchart depicting a process whereby a sense is approved by the user community for inclusion in the Lexary.

FIG. 111 is a flowchart depicting a sense challenge process.

FIG. 112 is an excerpt from a sample submission form through which a user can submit a query to a Lexary-enabled USE system.

FIG. 113 is an excerpt from a sample secondary selections page for use in a Lexary-integrated USE.

FIG. 114A use a flowchart of a process whereby the Lexary-integrated USE is used.

FIG. 114B is a flowchart of a process whereby a thesaurus entry is submitted for consideration for approval by the user community for inclusion in the Lexary.

FIG. 114C depicts an excerpt from a sample document in which approved senses of given term are displayed along with a link to a document displaying thesaurus entries related to the given sense of the term.

DETAILED DESCRIPTION OF THE INVENTION WITH REFERENCE TO THE DRAWINGS

1.1 Preface

The Present Disclosure

As is clear from the following detailed description, the disclosed invention is a subtle and complex one, including both technical innovations and broad syntheses. Every attempt has been made to render the text highly readable, avoiding lengthy restatements of known material. Toward that end, many simple examples and specific details have been provided for the sole purpose of illustration. As will be apparent to anyone of ordinary skill in the art, the disclosed invention lends itself to rich variation and alteration, yet such modification remains within the scope of the invention. Therefore, the following embodiments of the invention do not serve to limit the claimed invention but rather to teach its generality through the use of particulars.

1.2 Introduction

The Universal Electronic Transaction System

Disclosed is an invention called a "Universal Electronic Transaction" (UET) system, which is to be operated by a UET Company. The UET system comprises computer hardware and software configured to execute certain steps of a disclosed UET method, which method includes both computer-implemented and human-implemented steps.

The UET system makes possible a new way of using the Internet and World Wide Web. Certain processes that were heretofore considered essential to the World Wide Web are rendered largely unnecessary, and certain inefficiencies that were heretofore considered inherent are eliminated.

1.3 Userithm Search Engine/Lexivote/Lexary Subsystem Overview

The Userithm subsystem provides users the power to define their own search algorithms. To achieve this effect,

data input fields are grouped into clusters called “search components.” In a basic embodiment, three distinct pieces of data are input by a user for each search component: (I) the term or terms to be searched, (II) a search methodology selection, and (III) a weight. Additional fields may also be included in a search component as discussed below.

When a user defines two or more search components, a separate search of the UET Company databases is performed for each component, and results of each search are scored according to the given search methodology. Then, the multiple results lists are combined into a single list according to the weights assigned to each component by the user, i.e., the results of a search under a higher weighted component have a greater effect on the final list ranking than do the results of a search under a component that has been assigned a lower weight by the user.

The Userithm search engine may also include additional fields for user input of data. For instance, users may set their own standards for a particular variable. This technique is most useful for Userithm search engine embodiments that are geared for a particular subject matter, such as real estate. For instance, in a Userithm search engine devoted to real estate, a user may assign a value of “3” to set the standard for the number of bedrooms. Units with three bedrooms score the maximum under this criterion, while units with two bedrooms or four bedrooms score lower, while units with one bedroom or five bedroom score even lower.

Users may also set their own tolerance levels for variation from standards. Thus, the user may set, in the above example, a tolerance of plus or minus one bedroom, such that units with two, three, or four bedrooms are not filtered out of search results, but units with one bedroom or five bedrooms are.

Userithm search engines devoted to specific subject matter, such as stocks, mutual funds, vehicles, real estate, personal ads, etc., may also include intracomponent weighting fields in addition to intercomponent weighting fields.

While the Userithm system has been designed to accommodate multiple pre-existing search methodologies—as well as any methodologies developed after the time of this writing—a particular novel search methodology, called a “Lexivote” method and system, is also disclosed. The Lexivote system provides a mechanism through which users can submit a word or phrase along with a website address that the user believes is a valuable resource pertaining to that word or phrase. Then, when another user submits a search query including that word or phrase, search results are scored according to such user preference submissions or “votes” such that websites receiving more votes with respect to a particular word or term are ranked higher than websites receiving fewer votes or no votes with respect to the searched word or phrase.

To take more advantage of the Lexivote system, the UET Company may also use a disclosed method and system called a “Lexary”. The Lexary is an online reference tool—specifically, a combined dictionary, thesaurus, stylebook, and grammar book—in which entries and senses are submitted, maintained, and evaluated by the user community per disclosed processes.

1.4 General Introductory Drawings

The present invention may be more fully explained through reference to the drawings.

FIG. 1 provides an overview of the current invention construed as a method. Specifically, the present document discloses a two-step process: creation and deployment of the Universal Advertisement Markup Language (UAML) sub-

system 101, including major parts such as the URLIT mechanism and the Universal Toolbar Utility (UTU); and creation and deployment of the Userithm Search Engine (below) 102, including the Lexivote search methodology subsystem and the Lexary subsystem. Each of these steps is described in greater detail below.

FIG. 2 depicts an overview of the current invention construed as a system, wherein interaction between subsystems serves to produce a greater whole.

FIG. 3 depicts an overview of the current invention construed as an apparatus.

2.1 Detailed Description of URLIT and UAML

FIG. 4 depicts the steps necessary for creation and deployment of the UAML subsystem. As will be clear to anyone of ordinary skill in the art, the depicted steps can be performed in an order that differs from that depicted. URLIT software for processing URL submissions and assigning URLITs is developed 401 so as to execute steps depicted in FIG. 7A and exemplified in FIG. 7B. UAML vocabularies and standards for well-formed UAML and valid UAML documents of different types (“UAML listing document type definitions” or “LTDs”) are established 402; example vocabularies appear in FIGS. 55 through 57H. A complex of relational databases needed to manage information used in the UET system is created 403; major databases and relationships are depicted in FIG. 16. Next, a validating UAML parser and related software for mapping data extracted from UAML-enabled documents to appropriate fields in records in the UET Company’s relational databases as exemplified in FIG. 15 are created 404.

Although it is not necessary for the UTU to be included in the UAML subsystem, the benefits of this feature are significant and desirable. If the UET Company chooses to include the UTU 407, then software for performing functions such as those depicted in FIGS. 37 through 54 is developed 406. An electronic payment and bonding system such as that disclosed in U.S. patent application Ser. No. 09/848,639 by Harrison (hereinafter, “Harrison bonded payment system”) is developed or integrated with the remainder of the UET system 405.

Next, internal and external interfaces for UET Company staff and the general public of users respectively are created 408, including integration with, inter alia, the Userithm Search Engine and the EQML techniques discussed below. Thereafter, the UAML subsystem is made available to the public, and standards for the use of UAML and participation in the UET system in general are disseminated 409. Finally, the UAML subsystem is continually improved through experience and suggestion 410.

Usage of the UET system by the public begins with a user registration and account creation process depicted in FIG. 5. Visiting the UET Company website 501, the user submits required information 502, including first and last name, address, e-mail address, password, and other contact or identification information, and, presuming the submission is complete, a new record is created in the registered users database to establish the new user’s account 503. If the user wishes to buy and/or sell through the UET system 504, he or she may also be required to submit financial information, such as credit card numbers, Social Security numbers, bank account information, electronic funds transfer information, and credit references, and, for larger transaction volumes, purchase a bond through a mechanism such as the Harrison bonded payment system 505.

A process for listing an ad (e.g., an Internet auction, job listing, real estate listing, registered UTOU listing, or other listing) through the UET system is depicted in FIG. 6A. A

user logs into his or her account with the UET Company **601**. If the listing is to appear at a URL that has not previously been registered to the user's UET account **602**, the user submits the exact URL of the page where the listing is to appear **603**. This URL is compared to all URLs currently registered in the UET system **604**, and if a conflicting registration exists **605**, a URL conflict resolution process is followed **606** as depicted in FIG. **6B**. If the URL submitted is not currently registered to someone else **605**, the submitted URL is added to the user's account as a registered URL **607**.

Next, a unique alphanumeric character string called a "URLIT-stem" is assigned to the newly registered Web address **608**. The URLIT-stem may be randomly generated or can be the product of a predetermined URL-conversion algorithm, but no two URLIT-stems should be identical to each other.

When the user is ready to use the registered URL for a listing, the user requests a URLIT for use in the new listing **609**. The URLIT is produced by adding a serial number to the URLIT-stem **617**, and the URLIT is provided to the user **617**. The serial number added to the URLIT-stem to produce a URLIT must be unique with respect to that URLIT-stem but need not be unique with respect to other URLIT-stems. Thus, the first serial number to be applied to the URLIT-stem can simply be a "1". The second time a URLIT is requested for the same URLIT-stem, the serial number applied to the URLIT-stem can be simply "2".

Equipped with the new and unique URLIT, the user creates a UAML-enabled Web page (an HTML document) in which the URLIT is included per UAML standards **618**. The user then uploads this page to his or her website **619**. The user then logs into his or her UET Company account and submits the listing for activation **620**. An initial validation process, depicted in FIG. **12A**, is followed to determine whether the listing is accepted for inclusion in the UET system **621**. If accepted **610**, a new record is created in a Central Listings Database **613**, this record including fields such as those depicted in FIG. **14**. The UAML parser software then extracts the UAML-tagged data and maps this data to corresponding fields in the Central Listings Database and a subject-specific database that corresponds to the particular type of listing **614**, if any, specified in the listing. The subject-specific database and the LTD applicable to the listing are identified in a "UAML type" element, for which example data appears in FIG. **13**. Data in UAML elements are extracted and entered into the corresponding fields in the UET Company database as exemplified in FIG. **15**.

An identical copy of the page in which the new listing appears is stored in the snapshots database **615** for use in a later comparison, such as a comparison used in a process for confirming continued validity of the listing, depicted in FIG. **19A**.

Since the listing appears on the user's own website, the user is free to promote the web page and listing by whatever means he or she deems appropriate, including submission of the given URL to search engines not affiliated with the UET Company **616**. In this way, the easy capturing of a static web page is combined with the power of field-by-field searching and the database-driven flexibility of dynamically generated content as described below.

FIG. **6B** depicts the steps of the URL conflict resolution process. First, the user who has submitted a URL already registered to another user is notified of the conflict **631**. If the submitting user indicates that he or she wishes to contest the prior registration **632**, the prior registrant is notified of the contest **633**. Both parties may then submit evidence of their ownership rights in the URL **634** to the UET Company. The

UET Company then renders its decision **635** based on the evidence submitted. If the loser accepts **636** the decision of the UET Company, the conflict has been resolved. If not, the UET Company refers the opposing parties to resolve the dispute by other means **637**. Such disputes can often be resolved by simply testing access: a person who is unable to access a given URL—by uploading a URLIT-enabled web page, for instance—is not likely to be the rightful owner thereof, especially if the opposing user does have such access. However, it is possible that two conflicting parties could have access to the same URL, a situation which renders the "access test" unhelpful.

The URLIT formation and usage process is separately depicted in FIG. **7A**. First, after the user has submitted the URL of the document in which a listing is to appear, a unique identifier is assigned to this location **711**. This unique identifier is the URLIT-stem. When the user wishes to activate a listing at the URL, he or she requests a full URLIT for use in the listing; this full URLIT is created by adding a serial number to the given URLIT-stem **712**. The user then embeds the URLIT in UAML tags per UAML standards so that his or her listing can be validated and made active **713**. The URLIT also serves as a portion of the filename for any image files required for a valid document of the chosen type of listing **713**. For instance, typically five image files are required for an auction listing; the names of these five image files can simply be the URLIT plus a letter (e.g., a, b, c, d, and e). The URL of each image is used in the web page that includes the listing so that when this web page is called, the image is also served **714**. When the user decides to remove the listing and put a new listing up at the same Web address, he or she requests a new URLIT, which is created by replacing the prior serial number with the next incremental serial number **715**.

FIG. **7B** illustrates the process in FIG. **7A** through example. Here, an example URL has been submitted by a user **701**. A unique identifier, the URLIT-stem, is then assigned to this URL **702**. When the user requests a URLIT for use in a listing, a serial number is added to the URLIT-stem to produce a complete URLIT **703**. This URLIT is then, in some cases, used in the name of a unique, dynamically updated image file that resides on the UET Company's servers **704** such that the user has no control over the content of this image. In such cases, when the user creates the web page in which his or her listing is to appear, he or she includes an HTML image reference to this file **705** so that it can serve as a dynamic indicator of the current high bid, number of bids, or other variable content as described in more detail below in FIGS. **18A** and **18B**. When the user subsequently decides to reuse the given URL for publishing a different listing, he or she requests a new URLIT, which is provided **706** by replacing the serial number of the previous URLIT with the next incremental serial number. The new URLIT serves to uniquely identify the new listing.

Creation of a UAML-enabled web page can be handled in many ways, as depicted in FIG. **8**. If a user wishes to tag data by hand **801**, he or she may do so **808**. Otherwise, the user may visit the UET Company website **802** where he or she may choose **803** between downloading a UAML editor for stand-alone use on a local computer **805**, such as a laptop or desktop, or simply entering all data to be included in his or her listing into a form on the UET Company site and submitting it **804**. An example of such a submission form appears in FIG. **10**. This Web-accessible UAML generator returns a UAML-enabled web page to the user **807** by whatever means is preferred, either providing the marked up text on the Web or via e-mail. When properly submitted, UET Company software adds HTML and UAML tags to the user-submitted

11

information so as to produce a document such as that which appears in FIG. 11. The stand-alone UAML editor serves as a typical HTML editor with the added functionality of generating UAML tags so as to produce a UAML-enabled web page 806. It may also include an automatic means of requesting URLITs, validating UAML documents, etc.

FIG. 9 depicts the end result of the process in FIG. 8: a basic UAML-enabled web page as displayed in a typical browser, such as Netscape or Internet Explorer. A link 901 to the UET Company through which the UET system is made possible is provided, as well as a link 902 to the UET Company web page that corresponds to the user's listing, e.g., FIG. 27 (a listing that is not an auction will be represented on the UET site by a page that is similar to that depicted in FIG. 27 in that it displays information drawn from the UET Company database records pertaining to the given listing except that no data entry fields through which a bid can be submitted appear in the page, being unnecessary to a non-auction listing). The listing user, identified by a registered user ID 908, has specified that payment will be processed through the UET Company 903. A link to the web page on the UET Company site through which a bidder can place a bid is also provided; such a web page is depicted in FIG. 27. Five URLIT enabled images—time remaining 910, sellers feedback rating and bond margin gauge 908, current high bidder 907, current high bid 904, and number of bids 905—also appear in the listing document, along with an item description and other information. An excerpt from the source code of the web page depicted in FIG. 9 appears in FIG. 11; such a document 1101, as is plain, includes both HTML tags and UAML tags. The disclosed UAML system takes advantage of the standard Web browser practice of ignoring unrecognized tags, so that the UAML functionality can be added to a web page without the appearance of the page being affected.

Note that the UAML tags describe only parts of the data, namely, that which is to be extracted for replication in the UET Company databases. Thus, much of the data in the document is "invisible" from a UAML perspective, just as the UAML tags themselves are ignored by a Web browser when displaying this page as shown in FIG. 9. By design, however, the data that is described within UAML tags also appears in some form in the web page as displayed by browser. UAML-tagged text is text that is also displayed as text in the browser, and the UAML-tagged image files are displayed as images in the Web browser. In other words, not all data that is relevant from an HTML perspective is relevant from a UAML perspective, but most if not all data that is relevant from a UAML perspective is also relevant from an HTML perspective in this document. Such is the preferred relationship between UAML data and HTML data; preferably, UAML tags should not include attributes, for instance. Data to be captured by a UAML parser should be visible through the Web browser so as to minimize the likelihood of a discrepancy between crucial information seen by a website visitor and that "seen" by a UAML parser. Thus, for instance, a validating UAML parser may be configured to ignore any UAML tags appearing in HTML "comment" tags, since the data within such tags may be ignored by a Web browser in displaying the document.

Since the web page 900 is hosted on the user's website—either on a computer owned and operated by the user or one which belongs to the website hosting company from which the user rents Web space—and therefore under control of the user, the user can modify the appearance of the web page 900 to suit his or her business branding needs and personal aesthetic preferences so long as the UAML standards for validity of a document are not violated. Such complete user control of

12

the appearance of an auction listing is not possible under the related art systems in which the appearance of auction listings is set by the auctioneer.

While the web page is static, the image files serve as dynamically changing indicators by virtue of the process depicted in FIG. 18A, producing the effect depicted in FIG. 17. When a listing is made active 1801, the relevant fields of the database record in the auction listings database in the UET Company relational database complex are queried to retrieve the current values of the fields 1802. Specifically, the current high bid field, the current high bidder field, and the other fields which can change during the course of the auction are queried, and the current values of each of these fields is converted to an image file 1803. Each resulting image is named per the URLIT filename step described above and stored at the appropriate image location 1804 so that when the user's auction listing web page is requested 1805, these dynamically updated images are returned for display in the requesting browser 1806.

Whenever a new bid is submitted, data in the relevant fields changes 1808. When the data in these fields changes, these fields are queried 1802, and a new image is created displaying the new value of the data in each of the relevant fields 1803. The old image is overwritten with the new image 1804 using the same file name and location. The process is repeated until the listing is no longer active 1807. For illustration, FIG. 18B depicts an image file 1813 (e.g., jpg or gif file) which displays the value of the current high bid field at time 1. After a higher bid has been submitted (time 2), the value of the current high bid field changes and a new image 1814 is created and replaces the old image 1813.

The net effect is that the features of a dynamically generated web page can be replicated through a static web page. As shown in FIG. 17, the static web page 1701 is hosted on the user's website host servers 1704, while each image 1702 serving as a variable real-time indicator is hosted on the UET Company's servers 1703. This image file is overwritten with a new image at the same file location each time the information it portrays changes as per the process depicted in FIG. 18A. Thus, each time the static web page is requested, the latest value represented by the image is presented to the user. The user cannot control the content of the image or delete the image 1702, since it is hosted on the UET Company's servers 1703. Also, while the information appears in an image file 1702 in the web page itself 1701, the underlying data is still stored as a value by the UET Company, a more searchable form.

FIG. 12 depicts the initial validation process used during the basic listing process of FIG. 6A to determine whether the listing submission is accepted or rejected 621. Specifically, UET Company software requests the file located at the submitted URL 1201. If the page is found 1202, then the document is parsed and compared to the standards for well-formed UAML 1203, which includes syntactical requirements as well as the requirement that a URLIT be present in the document and tagged as such. If well-formed 1204, the document is then compared to the LTD for the specified type of listing 1205. If the document is valid 1206 under the given LTD, the security check process of FIG. 13 is performed 1207. If the security check passes 1208, then the registered user account of the submitting user is compared to the minimum standards for acceptance of a listing 1212. For instance, if the submitting user currently has a past due balance owed to the Company or is otherwise delinquent in his or her responsibilities to the UET Company or another registered user, his or her submission will be rejected 1209. If all facets of the validation process are passed, then the listing is accepted 1210.

FIG. 13 depicts the UAML security check process used 1207 in the initial validation process of FIG. 12. First, the URLIT appearing in the submitted web page is compared to the active URLITs in the UET Company databases 1221. If the URLIT in the submitted page is existent and active (e.g., not expired) 1222, the URLIT is compared to registered URL information in the UET Company databases 1223. If the web page in which the URLIT is being used appears at the same URL for which the given URLIT was issued 1224, then the user ID specified as that of the lister in the listing is compared to the user ID associated with the registered user account to which the URL is registered 1225. If the lister matches 1226, then the image names and locations in the web page are compared to the image names and locations associated with the given URLIT 1229 if applicable. If any security comparison fails, the security check fails 1227. If all succeed, the security check passes 1230.

A number of data choices are available for use in the presently disclosed system which may be appropriate for designation of a given type of listing in the "UAML type" element. Each of these choices typically specifies a different database within the UET Company database complex, a different LTD, and sometimes a different vocabulary that is used by valid documents of the given listing type. Available user-specified database choices include:

TABLE 1

Auctions, personals, real estate, leases, vehicle identification numbers, jobs, coins, stamps, pets, antiques, book numbers, reviews, recipes, resumes, parcels, product codes, patents, copyrights, trademarks, press releases, news, sports, weather, restaurants, films, stage shows, music, accounts, hardware, software, furnishings, services, rentals, caselaw, statutes, companies, nonprofit organizations, government, military, electronics, stories, games, artworks, poetry, hotels, flights, cruises, and lenders.
--

FIG. 14 depicts some of the fields occurring in records of a specific database within the UET Company's relational database complex, the central listings database. These fields include the URLIT, the listing type, the user ID of the lister, etc. UAML-tagged data in a document is extracted by UET Company parsing software and input into the corresponding field in the appropriate database within the UET Company database complex as illustrated in abstract form in FIG. 15. The URLIT field may be used as the "key" field whereby records of the central listings database are related to records in other databases; the listing user field may serve as the key in other relationships.

FIG. 16 depicts the UET Company relational database complex such that primary databases and important relationships between certain databases are represented. As is plain to one skilled in the art, additional databases may and should be used to supplement those depicted in order to effectively serve the purposes of a given implementation of the disclosed UET system. Moreover, a limited deployment of the current system could be effectively implemented without reference to some of the depicted databases. For instance, the UET Company may not wish to serve user demand for personal ads and would therefore have no needs for a personal ads database.

FIG. 19 depicts the process by which the continued validity of a listing is confirmed. At predetermined times, the URL associated with an active listing is requested 1901. Various options for scheduling confirmation of listing validity include: (I) request page on regular schedule (e.g., once every day); (II) request page every time an image that is hosted by

UET Co. (and embedded in the page) is requested; (III) request page every time it appears in search results (optionally, before providing those results to user such that returned results only include listings that have been confirmed); (IV) request (and optionally store a copy of) page every time a bid is submitted; and (V) whenever a user of UTU visits URL. If the page is found 1903, the page currently appearing at the URL is compared with the document stored in the snapshots database associated with this listing 1905. If the page cannot be found, is no longer well-formed and valid 1910, or one or more prohibited alterations have been made 1912, then the listing invalidation process depicted in FIG. 20 is followed 1911. Also, if a page is temporarily unavailable and later found but the temporary absence is considered unacceptable for the type of listing (e.g., an auction listing was unavailable during the hour prior to close) 1907, the listing invalidation process in FIG. 20 is also followed 1911. If the listing has expired (e.g., the auction has closed) 1909, then the delisting process depicted in FIG. 22 is followed 1906.

When an auction that is currently running is found to be invalid, special measures must be taken, since the contractual obligations undertaken by seller and any bidders were premised on a particular closing time, one which will not be reached when the auction is cut short. Thus FIG. 21 presents the process used in cutting short an auction. After the listing invalidation process depicted in FIG. 20 has been followed, bidders are also notified that the auction has been cut short 2101. All URLIT-enabled image files associated with the listing are overwritten with "auction cut short" notices so that any subsequent viewers can be so informed 2102. Business rules established by the given UET Company are applied regarding whether the auction can be restarted, etc. 2103.

All listings, whether delisted by the user's choice or by the UET Company for some reason, eventually go through the delisting process depicted in FIG. 22. Records pertaining to listings being delisted are marked as inactive so that they are no longer included in the records searched through user submitted search queries 2201. The lister's experience rating, such as that used in the Harrison bonded payment system, is updated to reflect any events that may have caused the delisting or may otherwise affect the registered user's experience rating 2202. The listing then enters a period of expiration during which period any image files, such as those used in an auction listing, display information indicating that the listing has closed but also displaying the final values (i.e., the winning bid) so that the parties to the auction can still refer to the images 2203. Finally, when the expiration period has ended, the listing is officially expired and the images, if any, are replaced with their final form, which can be whatever the UET Company chooses, such as a UET Company banner ad 2204. The relevant database records are deleted and archived or otherwise handled as the UET Company wishes 2204.

FIG. 23 depicts the steps that may occur in a given usage case. For example, considering the lister to be a first user, a second user wishes to search the Web 2301. The second user chooses to perform a Web search through the UET Company 2310, or the user may search through a third party website 2303. In either case, search results are returned to the second user 2308 who then clicks through to view the lister's web page including the listing 2311 which includes UAML-tagged data, although the UAML will not be visible to a visitor unless he or she examines the actual source text of the given web page. If the second user wishes to verify the authenticity of the listing or find out more about the lister 2313, the second user clicks the appropriate link appearing in the web page 2316 and thereby visit the UET Company website, specifically, the dynamically generated web page

15

associated with the given listing **2317** and incorporating certain information as stored in the UET Company databases. Thereafter, the second user interacts with the lister via the web page, by following the auction bidding process depicted in FIG. **24**, for instance, or via the UTU, e-mail, or other mechanism or process **2320**. Some actions, such as bidding, may require registration and purchasing of a bond **2321**.

FIG. **24** depicts an auction bidding process for use in the UET system. After having visited the listing page **2401**, a potential bidder clicks through to the UET Company site **2403** where he or she views a dynamically generated web page, such as the example depicted in FIG. **27**, that presents auction information as stored in the UET Company databases. Here the user reviews the auction information, and if he or she wishes to bid, the buyer registers if necessary **2405** and logs into his or her UET Company account **2409**. Presuming that the buyer is in good standing **2408**, the buyer then may submit his or her bid via a bid submission form such as that depicted in FIG. **27**, which depicts an excerpt from the dynamically generated web page that displays content from a database record associated with the listing **2701**; clearly, this web page resembles conventional Internet auction listings, since it, unlike a UAML-enabled static web page, is a dynamically generated page. Upon submission of a bid, the database record pertaining to the given auction listing is updated **2406** and images are replaced **2411** per the process depicted in FIG. **18A**. Bid confirmation notices, outbid notices, etc., and other optional processes are followed **2412**.

When the auction ends, the auction completion process in FIG. **25** is followed **2413**.

To summarize, the basic information flow for usage of a URLIT includes the steps:

- The first user submits a URL to the UET Company
- The UET Company assigns a URLIT-stem to the URL
- The first user requests a URLIT
- The Company adds a serial number to the URLIT-stem to produce a URLIT
- The UET Company provides the first user the URLIT
- The first user embeds the URLIT using UAML tags in a UAML-enabled HTML document
- The first user uploads the document such that it appears at the URL associated with the URLIT
- The first user notifies the UET Company that the listing is ready
- The UET Company requests the document at the URL
- The UET Company parses, validates, and authenticates the document
- The UET Company inputs data extracted from UAML-tagged elements in the document into corresponding fields of database records
- the UET Company notifies the first user that the listing is active
- A second user performs a search through the UET Company
- Search results are returned to the second user
- The second user requests the document containing the first user's listing
- The document (hosted by the first user's hosting service) is served to the second user, along with any URLIT-enabled images (hosted by the UET Company), as in the case of a UAML auction
- If the second user is using a UTU and the first user has created a wish list, inventory list or other UTU content, this content is made available to the second user through the UTU (see below)
- If the listing is a UAML auction and the second user wishes to bid, the second user requests the UET Company site

16

page associated with the given listing, reviews the information therein, and submits his or her bid

The URLIT-enabled images are updated to reflect the new high bid, number of bids, etc.

When the auction closes, the first and second users are notified that the transaction identified by the particular URLIT has been consummated

If the first and second user are bonded and electronic funds transfer information is correct, payment is wired from the second user's account to the first user's account instantaneously upon the close of the auction

If a dispute arises, the aggrieved user visits the UET Company site and opens a dispute claim specifying the transaction by URLIT

If the first user wishes to reuse the URL for another listing, he or she requests a new URLIT for use with the URL and process begins again

Note that this overview is meant to cover the highlights of a URLIT's lifespan. Various peripheral steps are not explicitly mentioned, such as the periodic revalidation of the UAML-enabled web page containing the user's listing, periodically updating the "time remaining" image file, etc. Additional URLIT-related processes and criteria can be established, such as automatic expiration of a URLIT after a predetermined period of time has elapsed.

Management of a user's listings is handled through the "My Registered URLs" page associated with the given user's account as depicted in FIG. **26**. Information may be displayed as shown in columns, including a URL column **2601** where each item is linked to the given URL itself; a URLIT-stem column **2602**; an active URLIT column **2603**, where each item is linked to the record in the given UET Company central listings database associated with the given URLIT; and various columns associated with the UTU described below, including the inventory list column **2604**, which displays which inventory list is assigned to the given URL; the wish list column **2605**; the UTU contact form column **2606**; and the UTU auction column **2607**.

FIG. **28A** depicts a diagram of the relationship between user-hosted UAML-enabled web pages containing listings and corresponding pages dynamically generated by the UET Company in response to browser requests. Depicted are a group of UAML-enabled pages **2803**, each of which contains an active listing. These pages **2803** have been parsed and validated by the UET Company's computers **2802**, and a record has been created in the UET Company's databases for each listing. The UET Company's databases can be searched through the UET Company's search page **2808**.

For each listing **2803** a corresponding dynamically generated page **2801** can be requested through the UET Company site. For instance, suppose that a particular web page **2803a** is an auction listing, similar to that depicted in FIG. **9**. If a visitor wishes to bid, he or she requests the corresponding page **2801a** on the UET Company site, which appears similar to the page depicted in FIG. **27**.

Notice that other companies can also collect data from the UAML-enabled pages **2803**, since the markup tags can be parsed by anyone. Thus, for example, Company A may collect and store some data on its computers **2805** from some UAML-enabled pages, while Company B catalogs other pages on its computers **2806**. Each of these companies may in turn publish data pertaining to or links to these pages through its own Company website page **2804, 2807**. Examples of the types of web pages that could be effectively produced by third parties using information derived from UAML listings appear in FIGS. **28C** through **28E**.

17

FIG. 28B presents a more detailed view of information relationships underlying FIG. 28A. A given user's web page **2803b** is hosted by a Company C's Web server **2811**. Included in this user's web page **2803b** are a number of UAML tags **2812** describing the data in the web page (most of the HTML within which these UAML tags are embedded is not shown for the sake of simplicity of this example; see FIG. 11 for fuller context). The UET Company computers **2802** request the web page **2803b** and parse the UAML data **2812**. Security check is made with reference to the registered URLs database record **2813** pertaining to the URL of the given web page **2803b** and the given registered users database record **2814** pertaining to the registered user to whom the URL is registered. When the listing is approved, a record is created in the central listings database **2815**, a copy of the web page is stored in the snapshot database **2816**, and a record is created in the subject-matter-specific database **2817** (the coin listing database in the depicted example) and related to the central listings database record **2815** by the URLIT field. When requested, the UET Company computers **2802** serve a dynamically generated web page **2818** that incorporates the data stored in the company databases, e.g., FIG. 27.

FIG. 28C depicts an excerpt from a web page created by a third party, not the UET Company, that has parsed the UAML-tagged data out of various listings of a particular type, in this case, poems, that have been published by users through UAML-enabled web pages on their own websites. FIG. 28D depicts an excerpt from another third-party-published web page, in which data has been extracted and analyzed and then published in statistical form.

Although a third party would not have the full control and security benefits of the URLIT system, it is nonetheless fully possible for a third party to parse UAML-enabled pages, index them, publish its own site and provide its own high-precision search engine. FIG. 28E depicts an excerpt from a web page through which visitors can submit a query for such a search. Such transparency provides a significant advance over the "proprietary data" model used in the related art.

2.2 Revenue Models for Use with the UAML System

Several different revenue models are possible: FIG. 29 depicts a model in which listings are required to carry banner ads for which advertisers pay the UET Company **2903**. FIG. 30 depicts a model in which users pay a fee for payment processing **3003**. FIG. 31 depicts a model in which users pay a fee to search listings through the UET Company, paying either on a search-by-search basis or on a subscription basis **3102**. FIG. 32 depicts a model in which users pay a fee to list a listing either on a per-listing basis or a subscription basis **3202**. FIG. 33 depicts a model in which data gained about listings and users through the UET system is sold to third parties for research or marketing purposes **3303**. FIG. 34 depicts a model in which revenues are generated through advertising related to the search engine, either through paid advertisements thereon, payments to be included in search results, or other methods **3404**. FIG. 35 depicts a model in which sellers and/or bidders must purchase a bond through the UET Company before being allowed to place listings offering something for sale **3503**. FIG. 36 depicts a model in which access to certain UET services is contingent upon user

18

agreement to participate in opt-in marketing campaigns (e.g., to receive e-mail advertisements), for which advertisers pay the UET Company **3601**.

2.3 The Universal Toolbar Utility (UTU) Subsystem

FIG. 37 depicts a "screenshot" of an embodiment of the Universal Toolbar Utility (UTU). The UTU can be integrated into a Web browser or operated in conjunction with a Web browser. The UTU leverages the URLIT system to provide a large number of services directly through the toolbar that have conventionally been provided only through web pages.

The UTU **3701** depicted in FIG. 37 shows the URL of a web page in the address field **3702** as in a typical Web browser. Additionally, however, the user name of the site provider **3703**, the bond margin gauge **3704** corresponding to the site provider's UET Company account, and the site provider's feedback or credibility rating **3705** also appear. A link **3706** to display the given site provider's inventory list and wish list and a link **3707** to display a contact form through which the site provider can be contacted are also supplied.

In this way, several pieces of information that may or may not be available in the particular web page being browsed at a given time are nonetheless readily available through the toolbar.

FIG. 38 depicts steps whereby the UTU serves its function. A UTU user acquires and installs the UTU **3801**. As in some common forms of toolbar or instant messenger software, the UTU establishes a live data connection to the UET Company computers when the UTU user is online **3802**. The UTU transmits the URL of a web page currently being browsed by the UTU user **3803**. If the given URL is registered in the UET company databases **3804**, the document at the URL is requested, parsed, and checked for continued validity **3805**. Note that, as described below, a page need not include a listing in order to be valid for UTU purposes.

If the page is valid for UTU purposes **3806**, the additional information such as that depicted in FIG. 37 is transmitted from the UET Company computers to the UTU installed on the UTU user's computer **3807**. The user of the UTU can ignore the additional information in the toolbar and continue Web browsing as usual, or can click on one or more of the additional information links, so as to expand the toolbar **3809** and view the inventory list, wish list, submission form or other in-toolbar content associated with the given URL **3812**. An example of the expanded UTU appears in FIG. 39. If the UTU user wishes to interact with the website provider **3811**, he or she follows the appropriate process for contacting, purchasing from, or bidding on the auction of the website provider through the UTU **3810**.

FIG. 39 depicts the UTU in expanded form. As shown, the inventory that the given website provider has associated with the given URL through the inventory/wish list creation process depicted in FIG. 40A appears, allowing the UTU user to check those items which he or she wishes to buy and add the checked items to the UTU "universal shopping cart" through the process depicted in FIG. 41. The total value of items currently in the UTU user's cart—items which have been added to his or her cart from other vendors' inventory lists that he or she has viewed earlier in the given browsing session—is also shown, and he or she can click the appropriate link to display the other items in his or her cart.

Also visible is a wish list that the given website provider has associated with the URL in the UET Company's databases. If the UTU user wishes to respond to the website provider's wish list, letting the website provider know that the UTU user has something that the website provider wants, the

19

UTU user simply clicks the “offer your item” link to display the website provider’s contact form.

FIG. 40A depicts a process whereby a given website provider creates inventory and wish lists and associates these lists with registered URLs in the UET company database complex. The website provider logs into his or her account at the UET Company website 4001. The website provider visits the “My Inventory and Wish Lists” page 4002, an example of which is depicted in FIG. 40B. If the website provider wishes to create an inventory list 4003, he or she clicks the “create new inventory list” link to create a new record 4004 in the inventory list database and browse the “Create and Modify Inventory List” page, such as the example depicted in FIG. 40C. From this page, the website provider submits items to be included in the particular inventory list record 4005, and/or removes any items that he or she no longer wishes to sell. If the website provider wishes to create additional inventory lists 4006, the process for creating an inventory list is repeated.

If the website provider wishes to create a wish list 4007, a similar process is followed: a new record is created 4008 and items that the website provider would like to acquire are added to the wish list 4009. The process is repeated 4010 as necessary. If the website provider wishes to edit an existing list 4011, he or she can also do so 4012.

Once at least one wish list or inventory list has been created, the website provider can choose to assign the list to a URL that has been registered with the Company 4013. This is done through the “My Registered URLs” page 4014, where assignments of lists to URLs are made 4015 by clicking on the name of the list currently assigned to the given URL (or “add” if no list is assigned) to visit another submission form (not depicted) through which he or she can choose from a list of available lists.

FIG. 41 depicts a process by which the UTU user uses the universal shopping cart utility function of the UTU. The website provider registers with the UET Company, gets bonded per the Harrison bonded payment system, and provides electronic funds transfer information for a receiving account into which funds collected from buyers will be deposited 4101. The UTU user registers, gets bonded and provides payment account information, such as a credit card account, bank account, or other account from which funds to pay for purchases made through the UTU are to be drawn 4102. The website provider creates an inventory list 4103 per the process in FIG. 40A. The UTU user logs into his or her account through the UTU and uses the UTU 4104 per the process in FIG. 38. If the UTU user wishes to purchase something in the website provider’s inventory 4105, the UTU user checks the checkbox next to the item or items and clicks the “add to cart” button 4107. The selected items are then marked as “reserved” in the UET company database record pertaining to the given inventory list. When an item is reserved, it no longer is displayed when the given inventory list is displayed in the UTU but appears in the shopping cart of the UTU user who has reserved it.

If the UTU user wishes 4110, he or she can visit other websites and add more items to his or her shopping cart 4111 from other vendors unrelated to the aforementioned website provider. Thus, instead of filling out multiple purchase forms and registering with multiple web vendors, the UTU user can buy from any number of vendors through a single interface: the UTU.

When the UTU user is ready to checkout 4112 and confirm the purchases in his or her cart, he or she clicks the “checkout” button 4113, reviews a list of the items in his or her cart (not depicted), and clicks “confirm purchases”. The UTU user’s

20

confirmation can be processed directly through the UTU, or, alternately, this last step of the process can be handled through a Web form on the UET Company website. Once the UTU user confirms the purchases, the amount due is charged to the payment account previously provided 4114. If the payment is not successful 4115, e.g., a credit card is declined, the UTU user is notified and instructed to contact the Company 4116. Otherwise, funds are then wired to the website provider’s receiving account previously provided 4118, minus any processing fees charged by the UET Company, etc. If the electronic funds transfer is impossible for some reason 4119, the website provider’s funds are held by the UET Company and the website provider is notified and requested to provide a valid receiving account 4120. In any case, once funds have been collected from the UTU user, the purchased item is marked “sold” and is no longer visible through the UTU nor available for purchase 4121. The website provider is then instructed to deliver the item immediately 4122. If the UTU user does not confirm his or her purchases before ending the UTU session during which they were reserved, these items are removed from reserved status so that other users may purchase them. FIGS. 42A and 42B illustrate the difference between usage of a URLIT for UAML listings and usage of a URLIT-stem for UTU purposes. In the context of UAML listings, the URLIT serves both a security/authentication purpose and a transaction identification purpose. Thus, a given URLIT can only be used for one UAML listing. If a URL is reused for another UAML listing, a new URLIT must be used; usage of a URLIT that has already been used for a previous listing will result in rejection under the validation process depicted in FIG. 12A.

Meanwhile, however, transactions that take place through the UTU do not rely upon the URLIT as a transaction identifier. In this case, therefore, a one-to-many relationship is possible. Thus, within the context of the UTU system, a URLIT-stem can be reused for multiple iterations of a web page at the particular URL for which that URLIT-stem was generated and assigned, provided that this URLIT-stem is correctly tagged as such in the UAML embedded in the web page.

FIG. 43 depicts data relationships underlying the UTU system. The website provider’s web page 4301 hosted by the website provider’s computers 4304 includes embedded UAML tags identifying a URLIT-stem 4302. The UTU 4303 transmits the URL being browsed by the UTU user to the UET Company’s computers 4305. This URL is compared to the registered URLs in the registered URLs database, and provided that there is a match and that the URLIT-stem in the website provider’s web page is the URLIT-stem assigned to the registered URL in the registered URL database record 4306, the inventory list or wish list from the inventory database or wish list database associated with the given URL is retrieved from the inventory and wish list database record 4307 and transmitted to the UTU 4303. The UTU user clicks to expand it and thereby view the inventory and/or wish list(s) that the website provider has associated with the URL.

FIG. 44 depicts the data relationships between the various inventory lists that various website providers have assigned to registered URLs and the shopping cart that the UTU user uses to purchase from these website providers all through the same shopping cart vehicle hosted by the UET Company. The UTU universal shopping cart feature eliminates the need to register with individual website providers, to go through a different checkout process with each website provider, or otherwise undergo redundant steps. Avoidance of such redundancy not only saves time and makes online shopping easier, but, in reducing the number of separate site registrations and pur-

chase transactions, minimizes the risk of improper usage of users' personal information, such as identity theft.

The UTU user visits a first website and through the UTU views the associated inventory list **4401**, adding an item to his shopping cart **4402** as per the process depicted in FIG. **41**. Then the user visits a second website and adds another item to his shopping cart **4402** from the inventory list **4403** associated with the second site. The user then visits a third website, views the inventory list **4404** associated with the given URL in the UET company database complex, and adds another item to his or her shopping cart **4402**. Since both the inventory lists and shopping cart are hosted on the UET Company's computers **4405**, when it is time to checkout, the UTU user can simply checkout but a single time and purchase thereby multiple items from multiple vendors.

FIG. **45** depicts an alternative embodiment of the UTU. This toolbar, geared toward the promotion and financial support of nonprofit institutions, provides both a "Site Provider Supports" field **4501** and an "I Support" field **4502**. Participation in this mechanism is accomplished on the part of the website provider by way of a process depicted in FIG. **47**. The UTU user, meanwhile, selects the organization that he or she supports directly from the UTU itself, which displays a pop-up menu **4601** for the "I Support" field as depicted in FIG. **46**. The options available in the "I support" field are the names of the organizations that have successfully activated a record in the donees database through the process depicted in FIG. **47**. The UTU user can select his or her preferred donee from the pop-up menu, and a portion of the proceeds from his or her purchases through the UTU goes to whichever donee is the selected donee at the time the given user checks out.

FIG. **47** depicts a process by which a donee database record is created and activated, the website provider designates a donee for UTU sales, and the UTU user designates a donee for UTU purchases. A nonprofit organization logs into its account at the UET Company **4701** and provides evidence of its nonprofit status, qualification as a 501(c)(3) corporation, etc. If the UET Company staff determines that the nonprofit organization is qualified **4703**, a new record is created in the donees database **4704**, the nonprofit organization is notified, and the nonprofit organization is requested to provide additional information as required in the new record **4705**, such as electronic funds transfer information. If all required information is submitted **4706**, the nonprofit organization's record in the donee database is made active **4707**.

The website provider logs into his or her UET Company account, and if he or she wishes to have a portion of the proceeds of sales conducted through the UTU donated to a qualified nonprofit, selects a donee from the active donees **4708**. As discussed in reference to FIG. **46**, the UTU user can also select a donee from the active donees **4709**. Thereafter, a portion of proceeds from sales and/or purchases conducted through the UTU are donated to the registered nonprofit user or users designated by the website provider, UTU user, or both **4710**. Business rules established by the UET Company can fix the percentage of the transaction value donated, or the registered user account of a given donor can provide a field wherein a percentage is set by the donor correctly.

Business rules established by the UET Company can also provide that donors are charged for donations or an alternate scheme can be established, such as absorption of some or all of the cost of the donation by the UET Company, or matching of donations by the UET Company or by a third party **4711**. The tax deduction is treated according to applicable law.

FIG. **48** depicts a process whereby a "seal of approval" can be displayed by the UTU when environmentally friendly websites are being viewed. An "eco-user" who wishes to be

approved as an "eco-operative" logs into its UET Company account **4801** and applies to be an eco-operative **4802**. This application includes demonstration that the eco-user, such as a nonprofit or governmental agency, is competent to determine whether a website provider adheres to particular environmentally friendly standards. If the UET Company staff determines that the eco-user is qualified **4803**, a new record is created in the eco-operatives database **4804**, and the fields of the record are populated with information pertaining to the eco-user.

Thereafter, a website provider logs into its UET Company account and applies for a seal of approval from the eco-user **4805**. The eco-user then investigates the relevant practices of the website provider or the host of the website provider's website **4806**. If the provider or its website hosting service meets the requirements for the given eco-user's seal of approval, the relevant URL or URLs are added to the given eco-user's approved list **4807**. Then, when a UTU user visits the approved web page(s), the UTU displays the eco-user's seal of approval **4808** as demonstrated in FIG. **49**.

FIG. **49** depicts a UTU embodiment that includes the eco-operative seal of approval feature. As shown, a "Solar-Powered" icon appears in the toolbar, indicating that the given URL is controlled by a website provider or hosted by a website hosting service that has been approved by the eco-user who offers the "Solar-Powered" seal of approval.

As demonstrated above, a wish list or inventory list can be created for display through the UTU when a given URL is being browsed by a UTU user. FIG. **50** depicts a process by which a contact form or auction can alternately be created for display in the UTU. The website provider logs into his or her account at the UET Company **5001** and visits an "In-toolbar options" page **5002**, where he or she can choose to create an in-toolbar submission form **5003** or in-toolbar auction **5004**. If the website provider chooses to create a submission form, a new record is created in the in-toolbar submission forms database **5005** and the website provider specifies fields to be included in the submission form **5006** through a submission form such as that depicted in the example in FIG. **51**. If the website provider chooses to create an in-toolbar auction **5004**, a new record is created in the in-toolbar auctions database **5007** and the website provider provides information pertaining to the auction **5008** through a Web submission form, depicted in the example in FIG. **52**. Finally, as with wish lists and inventory lists, the website provider then visits the "My Registered URLs" page and designates which URLs will allow display of the auction **5009**. The contact form, however, will display through the UTU any time the "e-mail [user name of website provider]" link is clicked in the UTU. Alternately, this link can be a conventional "mail to" link, of which the e-mail address is that which the website provider designates, or a link to a Web submission form hosted on the UET Company site. If an in-toolbar contact form is used, the submission is processed through the UET Company servers and forwarded to the website providing user at the e-mail address associated with the website provider's registered user account.

FIG. **53** depicts a process by which another optional feature is used. The "iTicker" is a UTU function to which UTU users can subscribe so as to be presented with scrolling headlines that are provided by a chosen source. These headlines can be provided by any approved iTicker provider, and are especially well-suited for distribution of information to members of long-standing group affiliations, such as school alumni, club members, church members, and enthusiasts (sports team fans, etc.).

An iTicker provider logs into his or her account at the UET Company **5301** and applies for iTicker provider status **5302**. This application may require demonstration of affiliation with the particular group to which the proposed iTicker headlines and content will be directed, i.e., if an iTicker provider wishes to provide headlines for alumni of a particular school, the UET Company may require the iTicker provider to demonstrate its official capacity to represent that school. If the iTicker provider is approved for iTicker provider status **5303**, a new record is created in the iTicker provider's database **5304** and the iTicker provider inputs headlines and URLs to be associated with these headlines into the iTicker provider record **5305**, which can be maintained and updated as often as the iTicker provider wishes so as to keep the content fresh. Although not necessary, the UET Company may wish to require that the URL associated with a given headline be the address of a web page that is properly UAML-enabled so as to be a valid "news" UAML listing **5306**.

After the iTicker subscription has been made available **5307**, the UTU user can subscribe to the given iTicker provider's iTicker **5309** such that when the UTU is in use, the iTicker headlines provided by the iTicker provider are displayed in the UTU in scrolling form and can be clicked if the UTU user wishes to view the article associated therewith **5310**. FIG. **54** depicts a UTU embodiment with iTicker function **5401**.

FIG. **55** depicts a chart of example UAML tags or elements common to virtually all listings, including one element identifying the UAML markup language (or namespace, if XML is to be used to implement the invention); an element declaring the LTD/type of listing; one describing the URLIT; one identifying the UET Co. through which the listing is to be processed (more than one UET Co. may exist), inc. a child element link (in HTML) to the UET Co.; and one describing the lister's user ID. Some elements are to contain only PCDATA; others should contain both prescribed data (e.g., "Seller:") and one or more child elements, including HTML elements to be captured for validation purposes, e.g., to verify that the lister ID links to UET Co. page associated with lister's UET account or that a proper image reference to URLIT-enabled image exists. Such validation of HTML elements (to appear in UAML "phrase" elements) is crucial to insure that listings display in browsers per UET standards. These common elements can only appear once in a valid UAML listing document, and omission or deviation from mandatory content (URLIT, link, etc.) is fatal to listing approval.

FIG. **56** depicts an abstract template of nomenclature used in figures pertaining to subject-specific vocabularies. Specifically, for this disclosure, each tag begins with "UAML" to denote that the tag element pertains to the present invention; a different name may be used in a given implementation. Each tag then names a subject-specific database which, in addition to the central listings database, is to store information extracted from UAML-described elements. For instance, a coin listing involves a record in the central listings database and a record in the coin listings database, the subject-specific database. Finally, each subject-specific tag includes the field name into which data described by that tag is to be entered.

FIG. **57A** depicts a chart of an example subject-specific tag vocabulary for use with collectible coin listings. FIG. **57B** depicts such a vocabulary for car listings. FIG. **57C** depicts such a vocabulary for real estate listings. FIG. **57D** depicts such a vocabulary for job listings. FIG. **57E** depicts such a vocabulary for personal ads. FIG. **57F** depicts such a vocabulary for book listings, which, preferably, rely primarily upon the ISBN of the given book for easy and reliable grouping and

indexing, since book names and other identifiers may be often misspelled; notice that the database in these tags is called "ISBN listings" so as to distinguish from "ISBN reviews", a database and listing type for book reviews. FIG. **57G** depicts two separate vocabularies, one for product listings which rely primarily upon the EPC of the given product, another for product listings which rely primarily upon the UPC of the given product for easy and reliable grouping and indexing, since product names and other identifiers may be often misspelled.

FIG. **57H** depicts such a vocabulary for use in a listing for a lending institution. This vocabulary includes a special tag for use with web pages that include dynamically generated, variable content, the tag that includes the "Dyn" letters. Data described by this tag is not stored by the UET Company. Rather, when a search is done on this field, the data is looked up from the listing page itself in real time. In this way, the UAML technology, designed to enhance the functionality and searchability of static web pages, can also be used to search dynamically changing pages more effectively than the related art allows. This approach allows data that changes rapidly, such as interest rates offered by a lender, to be looked up for current values each time such is necessary.

FIG. **58** depicts the process of using UAML in dynamically generated pages.

Search results can also be obtained using nontraditional means of submitting search queries. FIG. **59A** depicts the process through which automatic data capture hardware, such as a bar-code scanner or RFID reader, can be used to perform a search of UAML enabled listings throughout the entire World Wide Web. First, the automatic data capture mechanism, coupled to a computer including a computer monitor, is used to scan a product for its RFID tag or bar-code number, a UPC or EPC number **5901**. This information is submitted to the UET Company, and a search is then performed in the appropriate field of the appropriate database **5902** on the given identification number. These results are then returned to the user **5904** in the form of a hypertext document that includes links to listings for the given identified product.

The barcode reader can also be used in an alternative embodiment (not shown) optimized for real estate. A URLIT can be encoded in barcode form, placed on a "For Sale" sign that is installed at a property, and then scanned by an interested party. The listing associated with the URLIT is then looked up for more information on the property.

FIG. **59B** depicts the process through which a telephone can be used to perform a search of UAML-enabled listings throughout the entire World Wide Web. A user calls a telephone number dedicated to this purpose and, when prompted, enters the ISBN number of a book for which he or she wishes to search **5911**. Menu options the UET Company wishes to offer, such as sorting preferences, can also be selected **5911**. A search is then performed in the ISBN listings database and the results are ranked according to the user selected preferences, if any **5912**; default ranking is by price in ascending order. Text-to-speech technology is then used to read the nine top results to the user, each result (book title, price, seller ID) being identified by a digit **5913**. If the user wishes to purchase **5914**, he or she enters the digit corresponding to the results desired. The user then enters his or her user ID and personal identification number, etc., and confirms the purchase **5915**. The sale is processed as other sales, with funds being drawn from the buyer's payment account and funds being wired to the seller's receiving account, the seller being notified by e-mail of the sale, etc. **5916**.

FIG. **59C** depicts the process through which an e-mail can be used to perform a search of UAML-enabled listings

throughout the entire World Wide Web. First, the e-mail, using the disclosed markup language called “EQML”, is written per the process depicted in step box **5921**. The e-mail is then e-mailed to the UET Company at an e-mail address dedicated to this purpose **5922**. The EQML text in the e-mail is then parsed and a search performed according to the criteria specified in the UAML-enabled e-mail **5923**. The results for each search query defined in the user’s e-mail are then e-mailed back to the user **5924**. An example of an EQML-enabled e-mail **5931** appears in FIG. **59D**. Note the structure of an EQML document: the EQML language (or root element, or namespace, where applicable) is specified, and then each separate query is defined in a separate element. Each query element includes child elements such as: an ID number element that identifies one query as opposed to other separate queries in the same document; a database element; an element specifying the field to be searched and the search string; an element specifying the field by which results should be sorted; an element specifying the sort order; and an element specifying the number of results desired. Additional or alternative tags can be used; some elements can be omitted and default values used.

FIG. **59E** depicts an e-mail from the UET Company to the UET user in which the results of the queries submitted by the e-mail depicted in FIG. **59D** are provided to the submitting user.

3.1 Userithm Search Engine (USE) Subsystem

The Userithm search engine (USE) system allows a user to design his or her own search algorithm in real time, on-the-fly. Although the USE system can be used with a wide variety of databases and database content, including databases of articles, court cases, statutory law, patents, dictionary or thesaurus entries, business records, etc., the illustrative case of the World Wide Web is used herein to demonstrate the function and benefits of the USE system. Specifically, the USE system disclosed herein represents a superior technique for locating relevant documents in response to a search query by a user attempting to find information on the World Wide Web.

FIG. **60** depicts an overview of the process through which the user uses the Userithm search engine. The UET Company provides a search page through which clusters of information, called “search components,” can be input by the user and transmitted to the UET Company. The user accesses the search function by visiting the search page on the UET Company website **6001**. The user then defines one or more search components per the search component definition process **6002** and submits his query **6003**. A search, including a separate search for each search component as described below, is performed and results are ranked according to the search and ranking process **6004**. Results of the search are provided to the user **6005** along with gauges of the performance of each result under the individual search components **6006**. The user can then view the search results and performance gauges and refine his or her search as necessary. A wide variety of additional steps can also be performed as described below.

FIG. **61** depicts an excerpt from a web page including a Web submission form whereby the user search query can be submitted. Included are three “search components” **6105a**, **6105b**, and **6105c**. Each search component includes a weight field, a search term field, and a search methodology field. For instance, in search component A **6105a**, a field is provided wherein a user can enter a weight **6102**, a word or group of words to be searched **6103**, and a selection **6104** from radio buttons provided in the depicted search methodology menu.

The process for defining search components through an interface such as the various example submission forms disclosed herein is depicted in FIG. **62**. Provided that a search methodology selection is available **6201**, the user selects the methodology from the given search methodology menu **6202** for the given search component. Provided that usage of a search term is applicable **6203**, the user provides a search term or terms for the given search component **6204**. Provided that intracomponent weight assignments are applicable **6205**, the user provides intracomponent weights for subcomponents of search components **6206**. Provided that intercomponent weights are applicable **6207**, the user sets a weight for the given search component **6208**. If ideal-setting is allowed **6209** as in the search interface depicted in FIG. **80**, the user inputs an ideal **6210** pertaining to the given variable. Provided that the given search component allows user input of tolerances **6211**, the user inputs a tolerance pertaining to the given ideal **6212**. If the user wishes to define more search component **6213**, the process is repeated **6214** for each search component. Once all search components have been defined **6215**, the search is ready for submission.

FIG. **63** depicts an overview of the search and ranking process. If a given search component is “compound”—meaning that it contains subcomponents **6301**, which are individual searches to be performed and then combined to establish the score of a document under the compound component—then the subcomponents search and ranking process is performed first **6302** and for each other compound search component **6303**. If the search contains a simple component **6304**, then a separate search is performed for each simple component **6305** under the algorithm described by the user-input criteria of that search component, i.e., the selected methodology, terms, etc. Each separate search component therefore yields a separate raw score list **6305**. Each individual raw score is then normalized **6306** to a single scale, such as 0 to 100, where 0 represents the lowest performing page and 100 represents the highest performing page under the given search component, thereby producing a normalized score for each document for each search component. Normalization is accomplished through a process depicted in FIG. **67**. Each normalized score is then multiplied by the user-assigned weight for the given search component **6309**, and the weighted values assigned to each page under each search component are combined to yield a single overall score **6309**. Results are then ranked according to their scores.

FIG. **64** depicts the subcomponents search and ranking process. An individual search is performed according to the specified or default methodology for each subcomponent **6401**, yielding a raw score for each document for that subcomponent. Results for each subcomponent are then normalized **6402**. The normalized results under each subcomponent are multiplied by the weight assigned to the given individual subcomponent **6403**. The process is repeated for each other subcomponent **6404**. The resulting weighted values are combined to form a single overall score for each document **6405**. The overall scores for each document are then normalized again **6406** and then multiplied by the weight assigned to the whole compound component by the user **6407**.

FIG. **65** depicts an example of a primary USE submission page, where “primary” means that the depicted interface provides only the fields necessary for simple search component definition; no compound components appear in this particular search definition interface. In the depicted example, the user has assigned a weight of “50” to the first search component, a weight of “10” to the second search component, and a weight of “10” to the third search component. The user-provided search term of the first search component is the word “guitar.”

The search methodology selected by the user for this first component is “pay-for-placement,” a search methodology under which pages are ranked according to the amount bid by an advertiser, e.g., U.S. Pat. No. 6,269,361 to Davis.

The user has also input the term “guitar” as the search term for the second search component, but has selected the “links to” methodology for this search component. The links to methodology ranks pages according to the number of link citations to the given page, as per the methodology depicted in U.S. Pat. No. 6,285,999 to Page, or a similar interconnectedness-based ranking methodology.

The step of selecting a methodology can be broken out such that a user first selects a methodology and then inputs search terms and weights; FIG. 66 depicts a submission form for use in such an embodiment.

TABLE 2 depicts a chart of example search methodologies that can be offered as options in the search methodology menu available to each search component. This list is not intended to be exhaustive but simply illustrative.

TABLE 2

Links to	Items ranked according to number of pages containing the search term that link to the given page (see, e.g., U.S. Pat. No. 6,285,999 to Page)
Links from	Items ranked according to number of pages containing the search term to which the given page links
Meaning	Items ranked with reference to meaning gleaned from words appearing in page related to the meaning of the search term (synonyms, etc.) (see, e.g., www.appliedsemantics.com)
Title/Name/URL	Items ranked according to density of search term itself in title, file name, and/or URL
Density	Items ranked according to density of search term in the given page
Popularity	Items ranked according to usage by previous users (see, e.g., U.S. Pat. No. 6,539,377 to Cullis)
Hits	Items ranked by a hit counter on the page that contains the search term
Freshness	Items ranked according to the time the document was most recently updated
My visits	Items ranked according to number of pages that the user has visited that link to the given page (with reference to visited URL's history)
Amount bid	Items ranked by bid of the site owner to pay for search ranking (see, e.g., U.S. Pat. No. 6,269,361 to Davis et al.)
Lexivote	Per the present disclosure, FIG. 93 et seq.

FIG. 67 depicts the process of normalizing the scores of items being ranked to a single scale (0 to 100 in this case). Normalization is necessary so that scores from separate searches can be combined in a meaningful way.

The score of a page A according to the present invention can be defined, as depicted in FIG. 68, as

$$r_1(A) = w_1(r_2(A)) + \dots + w_{n-1}(r_n(A))$$

where $r_1(A)$ is the overall score of page A; $r_2(A), \dots, r_n(A)$ are the normalized scores of A under each individual search component; and w_1, \dots, w_{n-1} are the weights individually assigned to each search component by the user.

This formula is applied in the examples depicted in FIGS. 69 through 71. FIG. 69 provides an example of a normalized

score list and a resulting weighted score list of a hypothetical set of ten pages under a hypothetical first search component with a user assigned weight of “50”, such as the first search component depicted in FIG. 65. FIG. 70 depicts an example of a normalized score list and a resulting weighted score list of the hypothetical set of 10 pages under a hypothetical second search component with the user assigned weight of 10, such as the second search component depicted in FIG. 65. FIG. 71 depicts a final ranking of these ten pages, wherein the weighted value of each page under the first search component is combined with the weighted value of that page under the second search component to produce a final value, the score of the given document. Documents are ranked according to their scores as depicted in the overall rank list in FIG. 71.

In order to maximize the utility of allowing users to define their own search algorithms, users may also be provided with immediate feedback on the performance of the search components they have designed. FIG. 72 provides a template for such a feedback mechanism. In this abstract search results page, a first column from the left displays the URLs of ranked documents in order of their overall rank. A next column displays document scores under the first search component's search criteria. Another column displays document scores under the second search component's search criteria. Another column displays document scores under the third search component's search criteria, and so on.

FIGS. 73 and 74 depict the search component gauge in an example usage. Referring to FIG. 73, a URL 7301 of a document is displayed in the first column; the rank of the document under the first search component is displayed in the second column 7302; and the rank of the document under the second search component is displayed in the third column 7303. Referring to FIG. 74, an example results page geared specifically for searching auctions, gauges of the performance of each document under certain subcomponent searches are displayed. For instance, in a search where the user has allotted some weight to longevity and feedback scores of sellers, ranks of the sellers of the searched items under these criteria are provided, specifically, the longevity ranking 7401 and the feedback ranking 7402 (different from a feedback rating) of a given seller.

FIG. 75 depicts an excerpt from an example web page containing a Web submission form through which an advanced USE search can be performed, “advanced” referring to a USE embodiment which provides one or more compound search components. The embodiment in FIG. 75, optimized for use with an Internet auction system, provides two simple search components as well as a group of subcomponents that together form a third “compound” search component, “compound” signifying that a search component is enabled for processing that occurs at the intracomponent level—between subcomponents—prior to processing at the intercomponent level. Specifically, as depicted, a number of fields are provided into which a user can put a weight on a particular attribute associated with a seller or item in an auction environment, such that the weight is used to place relative importance upon one subcomponent as opposed to another subcomponent. Thus, for instance, in the depicted example, the user has input a weight of 10 into a “bonded or insured” field 7501, a weight of 5 in a “feedback total” field 7502, and a weight of 10 in a “feedback ratio” field 7503, thereby establishing the relative importance of search results obtained under searches performed for these three subcomponents relative to each other.

FIG. 76 depicts an example of a compound search component that includes subcomponents optimized for searching stocks. As depicted, this advanced USE allows user entry of

an individual weight for each subcomponent. Thus, a user can assign the relative emphasis to be placed upon the results of each search under one subcomponent relative to the results under other subcomponents. Note that a user does not have the option of selecting a search methodology for each subcomponent; the search performed under each subcomponent is performed according to a default methodology that is specific to that subcomponent, e.g., a "book value" subcomponent searches records pertaining to stocks and scores them according to book value; a "P/E ratio" searches stock records and scores them according to price-earnings ratio. The user simply defines which variable is more important to him or her.

FIG. 77 depicts an alternative embodiment of a compound search component optimized for searching bonds, including subcomponents with default methodologies for ranking bonds by grade, interest rate, etc.

FIG. 78 depicts an alternative embodiment USE optimized for searching mutual funds, including subcomponents with default methodologies for ranking mutual funds according to their performance over different time periods.

FIG. 79 depicts another alternative embodiment USE optimized for searching mutual funds, including subcomponents with default search methodologies for ranking mutual funds according to the types of assets in which the given mutual invests.

FIG. 80 depicts a "level 2" advanced USE. In a level 2 advanced USE, the subcomponents can be assigned not only a weight but also an ideal, i.e., a value that sets the standard against which other values are measured within the given subcomponent's search results. For instance, a user may assign a value of "3" to set the standard for the number of bedrooms. Given this value as the standard, units with three bedrooms score the maximum under this subcomponent, while units with two bedrooms or four bedrooms score lower, while units with one bedroom or five bedrooms score even lower. Meanwhile, emphasis on search results from this subcomponent relative to those from other subcomponents is established by user-assigned weight.

FIG. 81 depicts a level 2 advanced USE embodiment optimized for searching job listings. Here, the user sets his or her ideal value for numbers of hours of work per week, for instance, and available positions are ranked under a "hours per week" subcomponent according to how close each listed position comes to the user's ideal. Intracomponent weighting is again performed according to weights input by the user.

FIG. 82 depicts a level 2 advanced USE optimized for searching an automobile ad database, again providing data entry fields through which a user can assign an ideal and a weight to a given subcomponent. In this particular example, a field is also included whereby a user can submit an e-mail address where search results can be sent.

FIG. 83 depicts a variation of the level 2 advanced USE embodiment that provides two search components having subcomponents, optimized for searching a personal ads database. In this example, the results from each of two depicted compound components can be weighted relative to each other. Specifically, a given record is ranked according to each subcomponent in a "physical traits" compound component and these results are weighted and combined to produce a single score for that compound component. The same is done for a "personal traits" compound component. Then the result of the physical traits component is combined with the result of the personal traits component according to the user assigned weights of each compound component so as to produce a single overall score for the given record.

FIG. 84 depicts a level 3 advanced USE. In a level 3 advanced USE, not only can a weight and an ideal be assigned

to a subcomponent, but also a tolerance level with respect to variation from the ideal can be assigned. The tolerance level essentially serves as a filter mechanism as opposed to a scoring mechanism. In other words, records falling outside of an acceptable level of variation get no score under the search component. Alternately, at the choice of the given UET Company, records that exceed the tolerance set by the user can be excluded from search results altogether.

In either case, the syntax a user uses to enter a tolerance level that can be properly processed can take whatever form the UET Company chooses to support. For instance, the tolerance level can be specified using a percentage accompanied by a plus (+) or minus sign (-); an integer that simply indicates how many units away from the ideal threshold an item can fall before exclusion; a greater than/less than relationship; or any other relative or absolute indicator that will serve to establish a meaningful boundary for acceptable variation.

Thus, in FIG. 84, a search algorithm input form is depicted that includes two simple search components, A and B, and one compound search component, C. The compound search component provides subcomponents whereby searches on language, length, author rating, publication rating, and freshness of an article can be defined. Each subcomponent provides a data entry field for ideal, weight, and tolerance assigning for the given subcomponent. As shown, for the length subcomponent, the user has input "+50%/-5%" to indicate a willingness to accept articles that are up to 50 percent longer than the user-established ideal length (400 words in the depicted example) and down to 5 percent shorter than this ideal length. The user has entered a "0" in the tolerance field for author rating to indicate that no variation from the ideal is acceptable in this subcomponent. The user has entered a "+" in the tolerance field for the publication rating to indicate that variation of any magnitude is acceptable provided that this variation is positive, i.e., values greater than the user-established ideal are acceptable and values less than the ideal are not.

FIG. 85 depicts a variation of the level 2 advanced USE in which one search component, labeled "must have", serves as a filter, while the second component, labeled "prefer to have", serves to rank results that have passed through the filter. The particular example is a USE optimized for searching airline flights.

FIG. 86 depicts a primary USE with but a single field. This particular embodiment, of course, is attractive for its simplicity. Rather than having separate fields for selection of a search methodology and input of user-assigned weights and search terms, all three characteristics of a simple search component are input using operators that are parsed by the UET Company computers after submission by the user.

Thus, in the depicted example, the first search component is defined via two main parts: (I) a search term ("finger-picking") and (II) some information in parentheses. The information in parentheses identifies a search methodology to be used in the search under the given search component and a weight to be assigned to results of the given search component relative to other search components. Specifically, a number appears first and then is separated by a comma from a methodology selection. Thus, following the first search term in the depicted example is the information "(25, linksto)". This information puts an intercomponent weight of "25" on the first search component and selects "linksto" as the search

methodology for the first search component. Two more search components as input by the user are included in the depicted example.

3.2 USE Subsystem

EQML Integration

FIG. 88 depicts an example of an e-mail through which a USE query can be submitted to the UET Company, thereby providing the same power and flexibility afforded by the submission form embodiments depicted above while using e-mail as the submission medium. As depicted, EQML tags are used to denote a database to be searched, a search methodology for each component, an intercomponent weight for each component, a search term for each component, and so on.

FIG. 89 depicts an example of an e-mail returned to the UET user by the UET Company in response to a search query submission submitted by an e-mail such as that depicted in FIG. 88. Results are returned to the user, including the Web address of each result and performance gauge information pertaining to each result.

FIG. 90 depicts the process by which e-mail is used to tap the USE subsystem.

3.3 USE Subsystem

The "Build-Your-Own Search Engine" Feature

FIG. 91 introduces an extension of the USE concept: the "Build Your Own Search Engine" system. FIG. 91 depicts an excerpt from a sample web page that includes a Web submission form through which a user can select features to be included in a search engine interface that the user can then embed in his or her own website. This web submission form 9101 shows the user ID 9109 of the user after he has registered per the process depicted in FIG. 5 and logged into his account on the UET company web site. The form 9101 provides several data entry fields whereby the user can specify the algorithm to be used in processing queries submitted through his custom search engine: one or more databases to be searched can be specified through the database selection fields 9102, such as the databases appearing in TABLE 1; one or more methodologies for ranking search results is selected through the methodology selection fields 9103, such as the methodologies depicted in TABLE 2; and additional fields for user specification of algorithmic choices are provided, namely, fields pertaining to weights 9104 and 9105 (see, e.g., weighting results according to a user input as shown in FIGS. 69-71 and elsewhere), ideals or standards 9106 (see, e.g., user-specified ideals depicted in FIG. 84 and elsewhere), tolerance for variation from standards 9107 (see, e.g., user-specified tolerances depicted in FIG. 84 and elsewhere), and appearance 9108 are also provided (see, e.g., FIGS. 72-74). The search itself is then still conducted through the UET Company computers, but according to the algorithmic and appearance features that the user chooses.

Note that if one of the methodologies from TABLE 2 selected by the user is the disclosed lexivote methodology, the user can cause his or her custom search engine to display search results that are skewed toward the user's own URL preferences and term preferences and weight preferences, thereby boosting performance of one search result over another when comparison reveals that there is a term match or a URL match. See, FIGS. 93-99. Moreover, selection of this methodology allows the entire user community, through sub-

mission of additional URLs and terms and weight preferences, to continue customizing the results obtained from the search engine even after the time of its original deployment by the user who originally designed it. Note also that ongoing management of the search engine is possible through the registered user's UET Company account (see, e.g., FIG. 99).

Meanwhile, as the selected Lexivote methodology is also integrated with the disclosed Lexary system, one or more banner ads 10307 pertinent to a search conducted through the custom search engine can be displayed as disclosed in FIG. 103. Alternately or additionally, if one of the methodologies selected by the user is one in which advertisers pay to be included in search results, then the user's custom search engine can be used to generate advertising revenue through such a bid-for-placement model. Moreover, if the custom, user-generated search engine is used to facilitate electronic commerce, as in the case of disclosed UAML and UTU transactions, revenue-sharing between the user, the UET company, and a third-party is possible as disclosed in FIGS. 46-47. A universal shopping cart mechanism usable throughout the World Wide Web, such as that depicted in FIG. 41 et seq., can also be used in conjunction with the user-generated search engine so as to further generate revenue. The relevant submission form(s) may be included in a web page, e.g., FIG. 91, or a Web browser toolbar, e.g., FIG. 51. Note, also that, instead of using the disclosed Web submission form 9101, submission of a markup language document may also be used to specify algorithmic or appearance features as disclosed in FIGS. 59D and 88.

To build and deploy his or her own search engine, the user follows the process in FIG. 92: First, the user chooses which UET Company databases are to be searched 9201, which search can be high precision or low precision (see generally, FIG. 23 for process of searching by user-specified, subject-specific tags such as those shown in FIG. 56 et seq.). Next the user selects the number of simple search components that are to be offered 9202. The user then selects which search methodologies are to be available for use with each simple search component 9203. The user then chooses how many, if any, compound components are to be offered 9205. The user then chooses which subcomponents are to be included in each compound component 9206. The user then specifies whether intercomponent weighting 9207 is to be offered (if not, then each search component is equally weighted), and, if compound components are used, whether intracomponent weighting 9208 is to be offered. If compound components are being used, the user indicates whether ideal-setting is to be offered 9209 and whether tolerance setting is to be offered 9210. The user then specifies the appearance of search results pages by specifying whether results are to include search component performance gauges 9211 (see FIGS. 72 through 74).

Once the form has been submitted, markup language text to be embedded in the web page where the user will host his or her submission form is e-mailed or otherwise provided to the user 9212 (see, generally, discussion of Web-enabled code-generator in reference to FIGS. 8 through 10). Queries submitted through the user's submission form are then processed by the UET Company as normal 9213, namely, by processing the submitted query according to the user-specified methodology selections, user-assigned weights, and other user-submitted userithm parameters.

Lexivote Ranking Methodology

Allowing users to design their own algorithms and manipulate the power of multiple search methodologies, as demonstrated above, is a powerful tool. However, the power of the USE can be even more fully realized when combined with a more powerful relevancy ranking methodology than the related art provides.

The Lexivote ranking methodology essentially allows a search engine user to interview millions of other users to find documents most relevant to his or her query. Specifically, a database of "word-votes" is created, then populated over time through user input, and then searched in response to a search query so as to provide the most relevant documents pertaining to the term or terms searched.

A word-vote, in its simplest form, is a pairing of two data: (I) a word datum and (II) a URL datum. Thus, a given word-vote could be a group such as "music" and "http://www.performer.org". A word-vote database record, in its simplest form, has two corresponding fields: the word datum field and the URL datum field.

Word-votes are cast one at a time by individual users. Specifically, the user inputs a word and inputs a URL that he or she believes to be the URL of the best resource pertaining to that word.

A query for use in the Lexivote system is, in its simplest form, a word. When a query consisting of a word is submitted for a search under the Lexivote methodology, the word-vote database is searched for matching word-votes. A matching word-vote is a word-vote record in which the word datum in the word-vote vote matches the query word.

Results of the search are ranked using matching word-votes. In its simplest form, the score of a document A under a Lexivote search according to the present invention is

$$r(A)=m$$

where $r(A)$ is the score of the document A and m is the number of matching word-votes in which the URL is the same as the URL of document A.

Thus, for instance, assume that users have cast exactly 1000 word-votes in which "music" is the word, and, of these 1000 word-votes, exactly 7 of them contain "http://www.performer.org" as the URL. When a query on the word "music" is submitted, there are 1000 matching word-votes, and the score of the document appearing at the URL http://www.performer.org under the submitted query is 7.

Complexity and subtlety can be added to the process quickly. For instance, the word datum in a word-vote can be a phrase or almost any character string rather than just a single word. A word-vote can include more than one URL-datum field, such that there can be a one-to-many relationship between the word/phrase datum and the URLs associated with this datum in a single word-vote database record.

In such a one-to-many word-vote, the URL data fields can be weighted such that a user puts his or her favorite URL in first, his or her second favorite URL in second, and so on. Then, instead of the score of the document being simply the number of matching votes that include the URL of the document, such matching votes are weighted according to the priority of the given URL in each matching vote. Greater weight is assigned to the first URL than to the second URL, and greater weight is assigned to the second URL than the third URL. A formula for scoring under such an approach appears in FIG. 98.

Additionally, word-vote derivatives can be included. A word-vote derivative is an additional datum derived from a word-vote. For instance, every word-vote database record can include an additional field that is automatically populated with simply the domain name appearing in the URL datum. This domain name field can then be used in a secondary ranking methodology: when the basic Lexivote ranking methodology yields rankings that are very close together, the domain name field is used in a sort of "tiebreaker" methodology; a URL that includes a more popular domain name ranks higher than the URL that includes a less popular domain name.

The Lexivote system is further explained in reference to the figures. FIG. 93 depicts an example of an excerpt from a web page 9301 that provides a search query submission form. Also included are the fields necessary for submission of a word-vote to a Lexivote system operated by the UET Company. Specifically, the user chooses a word or phrase to enter in the word datum submission field 9302 and then enters into the URL datum submission field 9303a a URL that identifies the web page that he or she believes to be the most relevant page associated with the given word or phrase. If the user wishes to submit more than one URL to be associated with the chosen word, he or she can enter them in the additional "Favorite Website . . ." fields provided 9303b, 9303c. The user then submits both his search query and his word-vote by clicking the "search" button.

While FIG. 94 depicts a process by which the Lexivote system can be implemented without the use of registered user accounts, this approach is particularly vulnerable to abuse. The preferred embodiment therefore is that depicted in FIG. 95, which is based upon registered user accounts. Through this approach, several quality control measures can be implemented. For instance, by allowing only registered users to cast word-votes and preventing any registered user account from including a duplicate word-vote, i.e., a word-vote in which the word datum is identical to that of another word-vote, the given user account can be limited to one word-vote for any given term. This measure will help to reduce the likelihood of attempts to "stuff the ballot box." (Note that the presence of multiple word-votes cast by the same user and including identical URLs as the URL data is not problematic; certainly, the same website can be a user's favorite website pertaining to a variety of different words.)

Thus, in the preferred embodiment, the user logs into his or her UET Company account 9501 and uses the UET search engine 9502. At predetermined times, intervals, or events, the user is asked to cast a word-vote 9503; the UET Company can choose to follow some suggested timing criteria for requesting users to submit word-votes or adhere to a schedule of its own design. Some suggested timing criteria include: (I) require user to provide a word-vote every time he or she logs in until threshold is met; (II) require word-vote every fifth search performed until threshold met; or (III) require word-vote once per month until threshold is met.

Over time, as more and more users participate in the Lexivote system and cast more and more word-votes, the word-vote database grows richer and the Lexivote ranking methodology more effective.

FIG. 96 depicts an example weighting scheme for use in an embodiment in which one-to-many relationships are possible in word-votes.

FIG. 97 depicts a process through which pages are ranked according to word-votes. First, registered users cast their word-votes 9801. For each word-vote, a new record is created in the word-votes database and related to the user account of the user casting the vote 9802. As discussed above, each

word-vote includes a word/phrase datum and a URL datum (or more than one URL datum in certain embodiments).

When the user submits a query **9803**, results are ranked according to matching votes **9804**, or, in some embodiments, weighted matching votes.

One benefit of the account-based approach is that users can change their votes as their tastes change and as the World Wide Web evolves. FIG. **99** depicts an excerpt from an example web page through which the user can view and alter his or her word-votes in an account-based Lexivote system. This feature can be used to further enhance the functionality of the Lexivote system by assuring “freshness” of word-votes; users can be periodically required to confirm previously cast word-votes or otherwise update them if the user’s preferences have changed or a URL is no longer valid.

3.5 USE Subsystem

Lexary Reference Tool

A Lexary is provided to further enhance the functionality of the Lexivote subsystem and USE subsystem.

The Lexary is an electronic reference tool that includes two basic reference features, entries and senses. The Lexary serves the combined functions of a dictionary, thesaurus, grammar book, and stylebook. An entry is a word, phrase, punctuation mark, or other datum that may be included in such reference materials. A sense is a definition, synonym, antonym, usage note, or other descriptive content that explains the entry with which the sense is associated. Thus, a sense can be a dictionary sense (e.g., a definition of a word entry), a thesaurus sense (e.g., a synonym or antonym of a word entry), a grammar sense (e.g., a usage note pertaining to a punctuation mark entry), or a style sense (e.g., a usage note pertaining to an editorial convention entry, such as idiomatic usage of a phrase or proper citation of a source).

The Lexary provides a mechanism through which users can submit entries and senses. Additionally, so that the Lexary can serve as an authoritative source of information, the Lexary also provides a number of quality control mechanisms. Without such mechanisms, the anarchy and misinformation that characterizes many user-generated-content sites would almost certainly overtake the Lexary also.

When a new sense is submitted, whether in association with an existing entry or a new entry, the new sense is marked “proposed.” In order for the sense to move beyond proposed status to “approved” status, it must receive a predetermined threshold number of “subscriptions,” a subscription being an indication of approval of the sense by a registered user. Once approved, the sense becomes published as part of the Lexary such that a search on the given entry will return the given sense as an authoritative statement.

Over time, as the number of Lexary users increases, users with unusually high levels of linguistic understanding will periodically encounter senses that have been approved but are not completely accurate. The Lexary therefore provides a “challenge” mechanism through which the user can call an existing approved sense into question and seek to supplant it with an improved version of the sense. The challenge is denied or upheld through a special voting procedure that involves only a small portion of the whole user community, namely, the users who have already demonstrated an outstanding track record with respect to contribution of material to the Lexary. This track record is represented by the user’s authority rating.

A general method of creation, deployment and use of the Lexary system appears in flowchart form in FIG. **101**. First, a

group of databases necessary for use in the Lexary system, such as those depicted in FIG. **100**, are created **10101**, as are a group of interfaces through which users can submit, review, search, subscribe to, challenge, flag, and edit entries and senses **10102**.

Once the Lexary has been made available to the public, a user logs into his or her UET Company account **10103** and, if the user so desires **10104**, the user enters a term search through the Lexary search interface **10105**. Search results are returned to the user **10106**, including an entry or entries matching the search term and a sense or senses associated therewith.

If the user wishes to add a new entry **10107**, the user enters information pertaining to the new entry through a new entry submission form **10108**, and if the entry does not already exist **10109**, the entry is added as a new entry record in the entries database **10111**.

An entry is not searchable through the official published Lexary until at least one sense associated with the given entry has been approved. If a user wishes to add a new sense **10112** to be associated with an entry, the user enters the new sense through a new sense submission form **10113** and a new record is created in the senses database and related to the given entry record in the entry database **10114**. The new sense is marked “proposed” at this point.

If the user wishes to review proposed senses **10115**, he or she submits a search on the term to be reviewed **10116** and results are returned to the user **10117**. If there are some pending proposed senses associated with the search term **10118**, the user clicks through to a sense review page **10119**. If the user wishes to subscribe to a sense **10112**, he or she clicks the “I subscribe” link and a new record is created in the sense subscription database **10121** noting the subscription of the user to the given sense **10122**.

Occasionally, users will propose inappropriate senses in an attempt to be funny or offensive. If the user wishes to flag such a sense **10123**, the flagging process depicted in FIG. **108** is followed **10124**. If the user wishes to challenge an approved sense **10125**, the sense challenge process depicted in FIG. **111** is followed **10126**. If the user wishes to alter a choice he or she has formerly made—such as a sense or subscription he or she previously submitted—the choice editing process depicted in FIG. **109** is followed **10128**.

Any time a choice made by a user affects a calculation used in the Lexary system, the process of performing this calculation is restarted **10129**. For instance, sense approvals are based on the number of user subscriptions; thus, when a user submits a new subscription, a sense selection process, depicted in FIG. **110**, must be followed again; running of the process need not occur immediately but rather can be conducted at regularly scheduled intervals at the choice of the UET Company. Similarly, since a user’s authority rating is based upon approved senses, an authority rating process, depicted in FIG. **107**, should be followed when a sense authored by a user has become approved.

For the sake of simplicity, the following figures depict excerpts from sample web pages for a limited scope deployment of the Lexary, specifically, one that serves only as a dictionary. It should be understood that one of ordinary skill in the art can easily modify the depicted pages so as to allow the searching, submitting, and editing of non-dictionary entries and senses, such as grammar and style entries and senses. It should also be noted that the same basic processes disclosed herein can be used for management of longer entries, such as encyclopedia entries, although the Lexary is primarily aimed at serving the purposes described above.

FIG. 102 depicts a Web submission form 10201 through which a term can be looked up in the Lexary. FIG. 103 depicts an excerpt from a sample results page 10301 generated and returned to the user in response to a Lexary search query.

The results page 10301 displays all approved senses associated with the term searched. Additionally, the number 10302 of subscriptions to each sense is displayed to the right of that sense. The user ID 10303 of the user who submitted the given sense is also displayed, as is the authority rating 10304 of this sense author.

A link 10305 to a page that displays pending proposed senses associated with the entry, such as the page depicted in FIG. 105, is displayed. A link 10306 to a page including a Web submission form through which a new sense for the entry can be submitted, such as the "Submit New Sense" page depicted in FIG. 104, is also displayed. An advertisement 10307 also appears. An advertiser pays the UET Company to serve the advertisement 10307 each time certain terms are searched in the Lexary.

When a user wishes to submit a new sense, he or she does so through a Web submission form such as the form 10401 in FIG. 104. For a dictionary sense (as depicted), the submission form includes fields for a part of speech, a qualifier (such as transitive or intransitive in the case of verbs), a definition, an etymology, and a usage note. Clearly, additional fields can be used and different fields should be used for different types of entries, e.g., grammar or style.

If a user wishes to subscribe to a pending proposed sense, he or she does so by clicking an "I subscribe" button 10502 appearing in the review proposed senses page 10501 depicted in FIG. 105. If a user wishes to flag a proposed sense, he or she clicks a "flag" link 10503 to initiate the flagging process depicted in FIG. 108. Inappropriate use of the Lexary can result in demerits which subtract from a given user's authority rating; enough demerits can result in a negative authority rating 10504.

FIG. 106 depicts an excerpt from an example "Sense Challenge Submission" form 10601. Through such a form, a user may submit a challenge to a currently approved sense. Such a challenge may be necessary when an approved sense is good enough to have received enough subscriptions to be approved but nonetheless is, in the eyes of the challenger, incomplete or otherwise imperfect. Fields to be included in a sense challenge page should include an "explanation for the challenge" field and a "proposed alternative" field.

An embodiment of the authority rating process is depicted in FIG. 107. In the depicted embodiment, a user's authority rating equals the total number of "qualifying subscriptions," where qualifying subscriptions are defined as subscriptions by other users to approved senses that were authored by the user being rated, minus any demerits. Certainly, other formulae for producing an authority rating can be used. For instance, a recursive definition, using one or more known techniques for handling recursive equations, can be used. Such a definition might define a first user's authority rating in terms of authority ratings of other users who have subscribed to senses authored by the first user.

The flagging process is depicted in FIG. 108. After a flag has been submitted by a user 10801, UET Company staff reviews the flagged sense 10208. If the staff determines that the flagged sense was not submitted in good faith 10803, the sense record pertaining to the flagged sense is deleted 10804 and a negative history note is entered in relation to the user account of the submitter of the flagged sense 10805. Such a negative history note may result in demerits per UET Company business rules. If the violation is sufficiently egregious

or part of a pattern of misconduct, additional action may be taken 10806, such as suspension of the offending user account.

Occasionally, users will find that they no longer agree with senses they themselves have submitted or with senses to which they have previously subscribed. In such a case, the user can follow the choice editing process depicted in FIG. 109. The user browses the "My Lexary Choices" page 10901, from which he or she can review previously submitted subscriptions and senses 10902. If the user wishes to alter such a choice 10903, the user selects the choice to be modified 10904 and makes the appropriate change 10905. If the user alters a sense 10906, the altered sense is treated as a new sense submission 10907: all previous subscriptions to that sense are voided and the modified sense enters "proposed" status. This measure is necessary so that approved senses are not subsequently altered into a form that would not have received such approval from the community.

Senses are approved through a sense selection process such as that depicted in FIG. 110. The UET Company can choose 11002 to weight subscriptions with reference to the authority rating of the subscribing user 11004 and 11005, or to simply count all subscriptions equally 11003. Whichever methodology is chosen, the score of a sense is compared to a predetermined threshold 11006, and if the score meets or exceeds this threshold, the sense is approved 11007.

Senses are challenged through a sense challenge process depicted in FIG. 111. If a user wishes to submit a challenge, he or she does so through the submission of a form such as that depicted in FIG. 106, and a new record is created in the sense challenges database 11101. Provided that the submission meets minimum requirements for completeness 11102, the author of the challenged sense is notified and given the opportunity to submit a rebuttal to the challenge 11103. After this rebuttal has been received or a certain period of time has elapsed, a panel of users who are considered "top members" are notified of the challenge. Top members are users with the highest authority ratings, and the top member panel may consist of approximately 300 to 500 top members.

Panel members must cast a vote agreeing or disagreeing with the challenger's case within a certain period of time 11005, each vote being a record in the sense challenges votes database. If not enough votes are received to reach a quorum 11106, the challenge fails. But if a quorum is reached and enough votes for the challenger are received to meet or exceed a predetermined threshold 11107, the challenge is upheld and the challenger sense replaces the challenged sense 11108. The UET Company can choose whether a successful challenger sense inherits all the subscriptions of the challenged sense it replaces or simply is awarded a minimum number of subscriptions to become approved. The UET Company can also choose what happens to the replaced sense.

The viability of the sense challenge process relies upon the participation of top members. A top member who repeatedly fails to respond when asked to vote on challenges may be removed from the top members panel and replaced by another top member 11109.

The Lexary can be integrated with the Userithm search engine system to produce an even more effective search mechanism. FIG. 112 depicts an excerpt from a web page including a USE search submission form 11201; this particular USE embodiment provides two simple search components.

When a search query submitted through this form 11201 contains search terms that appear in the Lexary as entries with more than one associated sense per entry, the user is presented with a secondary selections page such as that 11301 depicted

in FIG. 113. This page provides an input field 11302 next to each available sense so that a user can eliminate ambiguity by selecting the particular sense of the word that he or she intends.

For instance, if a user submits a search query that includes the words “rubber” and “stamp” as depicted in the example in FIG. 112, he or she may be presented with a secondary selection page such as that 11301 depicted in FIG. 113. This page 11301 displays two approved senses associated with the word “rubber” in the Lexary. This page also displays two approved senses associated with the word “stamp” in the Lexary. The user can either bypass the use of secondary selections by clicking a “bypass this step” button, or he or she can check a checkbox next to the sense in which he or she intends the word, thereby indicating his or her secondary selection, and then click the “search according to my selections above” button to submit the search query.

This process is summarized in the flowchart depicted in FIG. 114. When a user submits a query 11401 and the chosen search methodology relies in part upon the meaning of the given word 11402 (as opposed to a search simply for the appearance of a word in a domain name, for instance), the submitted search term or terms are looked up in the Lexary 11403. If any of the search terms appear as entries in the Lexary with more than one associated sense 11404, a secondary selections page such as that depicted in FIG. 113 is presented to the user 11405. If the user chooses to refine his or her search through the use of a secondary selection 11406, the search is performed with reference to the particular sense or senses selected by the user 11407. Otherwise, the search is performed as usual without reference to secondary selections 11408.

Searches performed using secondary selections can be enhanced by reference to the thesaurus-like functionality of the Lexary. Specifically, the usage of synonyms of a particular sense of a word in a document helps to indicate that the word is being used in the intended sense in the document. Thus, while the process of submitting a thesaurus entry is essentially similar to the process of submitting any other type of entry, a thesaurus entry submission process is depicted in FIG. 114B. In the depicted embodiment, while viewing senses associated with an entry, a user locates the particular dictionary sense for which he or she wishes to submit a synonym 11411. The user then clicks through, using a link such as that 11421 depicted in FIG. 114C, to view the thesaurus entry related to the given sense 11412. The user can then view thesaurus senses associated with the particular dictionary sense of the word, and, if desired, the user can click through to a Web submission form whereby he or she can submit the new thesaurus sense 11413. The new thesaurus sense then enters “proposed” status as usual 11414, allowing other users to submit subscriptions 11415, and the sense approval process is followed as usual 11416.

4.1 Ramifications

As shown, the disclosed URLIT and UAML system offers users opportunity, flexibility, economy, and precision. UAML listings, including Internet auctions, can be hosted on any website, and the appearance of such listings is determined by the user. Indexing and searching such listings is easy, and the precision and accuracy of such searches are much greater than conventional HTML pages and Web search engines allow. This power can even be tapped by e-mail, telephone, or other nontraditional search input media. Meanwhile, the subject

matter of UAML listings is almost limitless: auctions, jobs, personals, automobiles, real estate, and all manner of other classified ads.

The disclosed UTU reduces or eliminates the need for traditional Web submission forms and purchase forms, thereby saving users time and reducing the risk of identity theft. The universal shopping cart feature allows purchasing from multiple vendors through a single interface. The inventory and wish list features give website providers an additional vehicle for maximizing the value of their websites.

The disclosed Userithm Search Engine gives users tremendous leeway in customizing search algorithms to meet their individual needs for a unique search in real-time, on-the-fly. Performance feedback is provided immediately so that users can improve their own techniques over time. The Userithm Search Engine method can be applied to a wide variety of subject matter, including auctions, personal ads, real estate, investment vehicles and more.

The disclosed Lexivote search methodology offers direct access to the collective intelligence of the World Wide Web user community. Lexivote search results are essentially the product of countless individual interviews, making for highly dependable levels of relevancy.

The disclosed Lexary reference materials method provides both the currency of a user-maintained resource and the authority of extensively reviewed content, while avoiding the pitfalls of anarchy.

5.1 Scope

Although the description above contains many specificities, these should not be construed as limiting the scope of the invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. Accordingly, the scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the examples given. For instance, it will be understood that features of one embodiment may be combined with features of other embodiments while other features may be omitted or replaced as being nonessential to the practice of the invention. As is plain to one skilled in the art, the disclosed invention can be deployed using entirely different tag names as long as the purposes for which these tags exist are served. Following disclosed tagging conventions may be useful, but one skilled in the art will see that the invention can use other conventions or be modified to meet external standards, e.g., XML.

6.1 General Description of Steps

The present may therefore be generally described as follows:

A method for allowing a user to customize his or her own search engine and make said search engine available to others, said method comprising the following steps: hosting a first submission form on a first computer, said first computer being under the control of a first entity and connected to a computer network, said first submission form comprising at least a first data entry field suitable for user entry of data, said first entity being a maintainer of at least a first database, said first database comprising a plurality of records and being suitable for use in registration of a plurality of users; receiving a first submission from a first user, said first user being different from said first entity, said first submission comprising at least a first user-specified piece of data, said first user-specified piece of data being selected from the group consisting of (i) a second user-specified piece of data, said second user-specified piece of data pertaining to weight, (ii) a third

41

user-specified piece of data, said third user-specified piece of data pertaining to freshness, and (iii) a fourth user-specified piece of data, said fourth user-specified piece of data pertaining to tolerance; providing markup language text to said first user, said markup language text suitable for use in a second submission form, said markup language text being suitable for embedding in said second submission form, said second submission form comprising a second data entry field and being hosted on a second computer, said second data entry field being suitable for user entry of a first term, said second computer being different from said first computer and being under the control of said first user and being connected to said computer network; receiving a second submission, said second submission comprising said first term and being submitted by a second user from a third computer through said computer network by way of said second submission form, said second user being different from said first user and different from said first entity, said third computer being different from said first computer and different from said second computer; ranking a first set of items in response to said second submission, said step of ranking being performed by said first entity and being performed according to a ranking algorithm, said ranking algorithm being determined at least in part by said first user through said first submission, said first set of items comprising at least a first item and a second item; and providing a search engine results document to said second user, said search engine results document providing to said second user at least some results of said step of ranking.

The invention claimed is:

1. A method for allowing a user to customize a search engine and to make said search engine available to others, said method comprising the following steps:

hosting a first submission form on a first computer, said first computer being under the control of a first entity and connected to a computer network, said first submission form comprising at least a first data entry field suitable for user entry of data;

receiving a first submission from a first user, said first user being different from said first entity, said first submission comprising at least a first user-specified piece of data, said first user-specified piece of data being selected from the group consisting of (i) a second user-specified piece of data, said second user-specified piece of data pertaining to weight, (ii) a third user-specified piece of data, said third user-specified piece of data pertaining to freshness, and (iii) a fourth user-specified piece of data, said fourth user-specified piece of data pertaining to tolerance;

providing markup language text to said first user, said markup language text being suitable for embedding in a second submission form, said second submission form comprising a second data entry field and being hosted on a second computer, said second data entry field being suitable for user entry of a first term, said second computer being different from said first computer and being connected to said computer network;

receiving a second submission, said second submission comprising said first term and being submitted by a second user from a third computer through said computer network by way of said second submission form, said second user being different from said first user and different from said first entity, said third computer being different from said first computer and different from said second computer;

ranking a first set of items in response to said second submission, said step of ranking being performed according to a ranking algorithm, said ranking algorithm

42

being determined at least in part by said first user through said first submission, said first set of items comprising at least a first item and a second item;

providing a search engine results document to said second user, said search engine results document comprising at least some results of said step of ranking and being selected from the group consisting of a first search engine results page and a first search engine results email;

receiving a first URL;

receiving a first label, said first label comprising at least a first word;

receiving a first indication of a first strength of preference, said first strength of preference being associated with said first label;

receiving a first query via a third submission form;

comparing said first query to said first label;

ranking a second set of items, said second set of items comprising a third item and a fourth item, said third item being associated with said first URL, said step of ranking said plurality of items comprising a step of ranking said third item higher than said fourth item when said first strength of preference is higher than a second strength of preference;

establishing a first vendor account, a second vendor account, and first shopper account;

indicating that said first vendor account has been established;

providing an electronic shopping cart mechanism;

receiving by way of said electronic shopping cart mechanism information pertaining to a plurality of different purchases;

charging said first shopper account for said plurality of different purchases;

paying a plurality of different vendors for said plurality of different purchases;

instructing said plurality of different vendors to ship said purchases to a first shopper, said plurality of different vendors comprising a first vendor and a second vendor, said first vendor being associated with said first vendor account, said second vendor being associated with said second vendor account, and said first shopper being associated with said first shopper account, said first vendor being different from said second vendor and from said first shopper; and

wherein said first strength of preference comprises a first value, said first value being one among a range of possible values, said range of possible values comprising at least three different values.

2. The method in claim 1 additionally comprising the following steps:

providing first embeddable information;

determining whether said first embeddable information appears in a first resource; and

alternately providing or denying access to a first account function according to an outcome of said step of determining whether said first embeddable information appears in said first resource.

3. The method in claim 1 additionally comprising the following step:

providing a search query disambiguation function, said step of providing said search query disambiguation function comprising a step of providing a first plurality of alternate meanings, said first plurality of alternate meanings comprising at least a first meaning and a second meaning.

43

4. The method in claim 1 additionally comprising the following steps:
 providing a first collective intelligence reference resource;
 and
 receiving a first entry. 5

5. The method in claim 1 additionally comprising the following steps:
 determining qualification, said qualification pertaining to
 (i) non-profit or charitable status or (ii) affiliation with or
 representation of an organization; and 10
 alternately providing or denying access to a first account
 function according to an outcome of said step of determining qualification.

6. The method in claim 1 additionally comprising the following step: 15
 providing a first mobile device query submission mechanism; and
 receiving a second query from a first mobile device user.

7. The method in claim 1 additionally comprising at least one of the following steps: 20
 providing a first management page to said first user, said first management page comprising information pertaining to a plurality of submissions that have been previously submitted by said first user;
 providing a first resolution process, said first resolution process being selected from the group consisting of (i) a transaction dispute resolution process and (ii) a URL conflict resolution process; or 25
 normalizing a first score so as to make it more suitable for combining with a second score to produce a third score. 30

8. The method in claim 1 wherein said step of ranking further comprises the step of using at least a first methodology, said first methodology being selected from the group consisting of:
 (i) a second methodology, said second methodology being 35
 at least partly based upon links or citations; and
 (ii) a third methodology, said third methodology being at least partly based upon bidding or paying for placement in search results.

9. The method in claim 1 additionally comprising the following step: 40
 providing a first toolbar customization selection; and
 providing a first toolbar function according to said first toolbar customization selection.

10. The method in claim 1 additionally comprising the following step: 45
 providing a first web browser toolbar function, said first web browser toolbar function being selected from the group consisting of (i) a newsfeed, (ii) a wish list, (iii) a user-to-user sale mechanism, (iv) an indication that a web site provider uses renewable energy, (v) an indication that a web site provider supports a charity, and (vi) an opportunity to choose a charity to support. 50

11. The method in claim 1 additionally comprising the following steps: 55
 receiving a markup language document, said markup language document comprising instructions, said instructions describing at least one parameter for a custom search engine or custom search algorithm.

12. A method for enabling a user to create his or her own custom search engine, said method comprising the following steps:
 hosting a first submission form on a first computer, said first computer being under the control of a first entity and connected to a computer network, said first submission form comprising at least a first data entry field suitable 65
 for user entry of data;

44

receiving a first submission from a first user, said first user being different from said first entity, said first submission comprising at least a first user-specified piece of data, said first user-specified piece of data being selected from the group consisting of (i) a second user-specified piece of data, said second user-specified piece of data pertaining to weight, (ii) a third user-specified piece of data, said third user-specified piece of data pertaining to freshness, and (iii) a fourth user-specified piece of data, said fourth user-specified piece of data pertaining to tolerance;
 providing markup language text to said first user, said markup language text being suitable for embedding in a second submission form, said second submission form comprising a second data entry field and being hosted on a second computer, said second data entry field being suitable for user entry of a first term, said second computer being different from said first computer and being connected to said computer network;
 receiving a second submission, said second submission comprising said first term and being submitted by a second user from a third computer through said computer network by way of said second submission form, said second user being different from said first user and different from said first entity, said third computer being different from said first computer and different from said second computer;
 ranking a first set of items in response to said second submission, said step of ranking said first set of items being performed according to a ranking algorithm, said ranking algorithm being determined at least in part by said first user through said first submission, said first set of items comprising at least a first item and a second item;
 providing a search engine results document to said second user, said search engine results document comprising at least some results of said step of ranking and being selected from the group consisting of a first search engine results page and a first search engine results email;
 receiving a first URL at said first computer via said first computer network;
 receiving a first label, said first label comprising at least a first word;
 associating said first label with said first URL;
 receiving a first query via a first query submission form;
 comparing said first query to said first label;
 ranking a second set of items, said second set of items comprising a third item and a fourth item, said third item being associated with said first URL, said step of ranking said second set of items being performed according to an outcome of said step of comparing said first query to said first label;
 establishing a first vendor account, a second vendor account, and first shopper account;
 indicating that said first vendor account has been established;
 providing an electronic shopping cart mechanism;
 receiving by way of said electronic shopping cart mechanism information pertaining to a plurality of different purchases;
 charging said first shopper account for said plurality of different purchases;
 paying a plurality of different vendors for said plurality of different purchases; and
 instructing said plurality of different vendors to ship said purchases to a first shopper, said plurality of different vendors comprising a first vendor and a second vendor, said first vendor being associated with said first vendor

45

account, said second vendor being associated with said second vendor account, and said first shopper being associated with said first shopper account, said first vendor being different from said second vendor and from said first shopper.

13. The method in claim 12 additionally comprising at least one of the following steps:

providing a first newsfeed;
receiving a first news item from a first news submitter;
receiving a first approval or disapproval; and
indicating popularity, said popularity being based in part upon said first approval or disapproval.

14. The method in claim 12 additionally comprising the following steps:

providing first embeddable information;
determining whether said first embeddable information appears in a first resource; and
alternately providing or denying access to a first account function according to an outcome of said step of determining whether said first embeddable information appears in said first resource.

15. The method in claim 12 additionally comprising the following steps:

providing a first phone interface; and
receiving a second query via said first phone interface.

16. The method in claim 12 additionally comprising the following steps:

providing a first markup language standard;
determining whether a first text submission conforms to said first markup language standard; and
providing a first custom search engine or algorithm according to said first text submission.

17. The method in claim 12 additionally comprising the following step:

providing a first toolbar icon, said first toolbar icon indicating that a first web site provider meets a first organizational, legal or environmental criterion.

18. The method in claim 12 additionally comprising the following step:

providing a first web browser toolbar function, said first web browser toolbar function being selected from the group consisting of (i) a newsfeed, (ii) a wish list, (iii) a user-to-user sale mechanism, (iv) an indication that a web site provider uses renewable energy, (v) an indication that a web site provider supports a charity, and (vi) an opportunity to choose a charity to support.

19. The method in claim 12 additionally comprising the following steps:

participating in a first semantic web environment, said step of participating in said first semantic web environment comprising a step of parsing a first markup resource, said first markup resource conforming to a first standard, said first standard pertaining to tagging text in a manner that indicates at least in part the meaning of said text.

20. A method for allowing a user to customize and generate revenue through a search engine, said method comprising the following steps:

receiving a first submission from a first user;
providing a first set of embeddable information to said first user;

46

receiving a second submission from a second user via a first submission form, said first submission form being under the control of said first user;

ranking a first set of items in response to said second submission and according to said first submission, said first set of items comprising at least a first item and a second item;

receiving payment from at least a first advertiser for at least a first paid result;

sharing revenue with at least said first user;

providing results to said second user, said results comprising said first paid result;

determining whether said first embeddable information appears in a first resource;

providing access to a first account function according to an outcome of said step of determining whether said first embeddable information appears in said first resource;

receiving a first URL;

receiving a first label, said first label comprising at least a first word;

receiving a first indication of a first strength of preference, said first strength of preference being associated with said first label;

receiving a first query via a third submission form;

comparing said first query to said first label;

ranking a second set of items, said second set of items comprising a third item and a fourth item, said third item being associated with said first URL, said step of ranking said plurality of items comprising a step of ranking said third item higher than said fourth item when said first strength of preference is higher than a second strength of preference;

establishing a first vendor account, a second vendor account, and first shopper account;

indicating that said first vendor account has been established;

providing an electronic shopping cart mechanism;

receiving by way of said electronic shopping cart mechanism information pertaining to a plurality of different purchases;

charging said first shopper account for said plurality of different purchases;

paying a plurality of different vendors for said plurality of different purchases;

instructing said plurality of different vendors to ship said purchases to a first shopper, said plurality of different vendors comprising a first vendor and a second vendor, said first vendor being associated with said first vendor account, said second vendor being associated with said second vendor account, and said first shopper being associated with said first shopper account, said first vendor being different from said second vendor and from said first shopper; and

wherein said first strength of preference comprises a first value, said first value being one among a range of possible values, said range of possible values comprising at least three different values.

* * * * *