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Docket Number	23176-702	Type a plus sign (+) inside this box →	+

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TITLE OF THE INVENTION (280 characters max)

INTERNET BASED SYSTEM AND APPARATUS FOR PAYING USERS TO VIEW CONTENT AND RECEIVING MICROPAYMENTS

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☐ A check or money order is enclosed to cover the Provisional filing fees. ☒ The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number: 23-2415 (23176-702)	PROVISIONAL FILING FEE AMOUNT ($)	$150.00

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

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Respectfully submitted,

SIGNATURE _____ Date August 30, 1999

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PROVISIONAL APPLICATION FILING ONLY

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UNITED STATES PROVISIONAL PATENT APPLICATION

OF

STANLEY T. LIM AND JOHN GALEN GIDDINGS

FOR

INTERNET BASED SYSTEM AND APPARATUS FOR PAYING USERS TO VIEW CONTENT AND RECEIVING MICROPAYMENTS

PREPARED BY WILSON SONSINI GOODRICH & ROSATI

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DETAILED DESCRIPTION

A. Overview

Some embodiments of the invention allow users to earn money, or credits, online by visiting sites and/or viewing advertising on a web site. The credits can be spent at content sites around the web, withdrawn as cash, and/or used to tip content providers. Furthermore, the system can allow users to use standard web browsers such as Netscape Navigator™, for Netscape Communications, Inc., Mountain View, California, or Microsoft Internet Explorer, from Microsoft Corporation, Seattle, Washington, and access the features provided by the various embodiments of the invention.

Site advertisers can target their most desired audiences by setting higher rewards for specific characteristics and thus qualify visitors to their site and/or viewers of their advertising. Further, advertisers can better control web based advertising costs.

Content providers can assess micropayments, e.g. small payments, typically less than $1.00 per item, for their content or provide a means for users of their web sites to leave them monetary tips.

B. System Architecture

The basic system architecture according to some embodiments of the invention is shown in Figure 1. Users 100a-c are coupled in communication with a network 102. The network 102 might be the Internet, or some other type of network. Through the network 102, the users 100a-c can access content providers 108a-c. For example, the content providers 108a-c might include web sites for entertainment, companies, research journals, newspapers, and/or some other type of content provider.

Advertisers such as the advertisers 106a-c are entities that wish to place advertising and/or draw visitors to their site. Some of the advertisers 106a-c may also be content

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providers. For example, a company such as Netscape might both advertise its portal service as well as provide content.

The host 104 includes an embodiment of the invention and supports the micropayment system. The host 104 stores information about user accounts, e.g. for the users 100a-c. The host 104 provides advertisers 106a-c a means to receive payment for qualified viewers, e.g. meeting a certain demographic. Also, the host 104 provides content providers a way to receive micropayments for goods and services they offer either through a fee or a tipping system. For example, the content provider 108a might offer access to a scientific journal for $0.05/article. Alternatively, the content provider 108b might provide a tipping link next to their articles to allow users to express their appreciation for a particular story or column.

Thus, the host 104 acts as the transaction mediator for this system. The host 104 may be multiple computers, a cluster of computers, a web farm, and/or some other sort of configuration of one or more computers. The remainder of the discussion will assume the configuration shown in Figure 1. Accordingly embodiments of the invention discussed are primarily hosted/provided from the host 104 although advertising content and links to rewards may be provided from other sources.

Also, the network 102 may have multiple hosts 104 supporting embodiments of the invention. Depending on contractual arrangements between providers, credits earned on one system may or may not be valid on another.

The invention will be described according to several systems and features as follows. First the user facing portions of the system will be described including sign up, searching for relevant web-sites, URLs or links, reading ads, tipping, bonuses, and other user portions. Next, the advertiser systems and features will be described followed by the content provider systems and features.

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C. User Systems and Features

Some embodiments of the invention offer a number of different features to support end users of the invention. The customer signup process will be described first, then the ad viewing and searching process will be described. Then, several additional features of the invention such as the tipping process, the content consumption process and the bonus process will be described.

User signup and login

Users can sign up quickly. Some embodiments of the invention only require a selection of a username and a password. This allows the registration process to be extremely simple. Further, the user can return at a later time to provide a more detailed registration. This will allow the user to earn higher rewards among other features.

The basic process is as follows:

1) **New users** are referred to sign up, e.g. from a content provider, advertising for the service, the service home page, and/or some other source.
   a) The new user may be asked to answer a quiz to test whether they are a human or not (see Quizzes below).
   b) Basic signup information is requested such as a username and a password.
      i) Some embodiments of the invention include a sponsor ad in the sign up window that rewards the new user for viewing the ad, and may offer an additional reward for clicking on the ad.
      ii) Some embodiments of the invention allow a new user to earn additional credit by answering basic profile questions.
      iii) Some embodiments of the invention allow a user to state a preference for viewing links as URLs, text links, expanded text links or graphical banners.
      iv) In addition to username, ID and demographic questions, the user can agree to share certain elements of their system usage history to earn greater rewards. For example, a travel site can predict that a user who has had account activity every day for six months has not had a vacation and target them aggressively.
         (1) The user may selective offer to share elements of their activity, for example, sharing that activity has occurred, but not the specifics of the activity or sharing the rewards a user has earned, but not the specific sites the user earned the rewards from.
      v) Some embodiments of the invention may e-mail a password to the new user. The email will be similar to the quizzes in that it is designed so that humans, but not automated systems, will be able to respond correctly. For example, "Your password is the word that (is not an animal, or does not have a # in it) or

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is presented in a graphic." If a user's email is not HTML enabled, an alternative web-site link to see the quiz may be included.

vi) After creating the account, a cookie may be placed on the users system with the user's account information to enable automatic sign-on for future sessions.

c) Depending on where the user was referred from they will be directed to an appropriate location. For example, if they came from a content provider site they may be redirected back to that site. Alternatively, they might be presented with the ad browser to allow the user to view more ads and/or sites to earn credits.

2) Registered user logging in

a) When a registered user logs on, the system checks for the presence of a cookie. If a cookie is present, the user is already logged on; although, the password may be requested to verify identity. If the cookie is not present, the new user is asked to log in. The registration cookie can be a permanent or session cookie per the user's preferences.

b) Once a user logs on or visits their account balance page, they are shown their current account balance. In some embodiments, the account balance is shown in a pop up window or in a fixed position on a web page.

c) The logon page may allow other users to identify themselves and thus log out the current user, e.g. for multiple people sharing a computer

3) Follow up registration

a) Users can return to their account and update their profile information to keep fields current and to enable earning higher bonus rewards and provide contact information.

b) Users can complete each field of their demographic profile by:

i) Entering a field and accepting the default of always sharing this information for demographic rewards and/or transferring the field value to the advertiser. These items will always be submitted and the bonuses will be received automatically. E.g., a user always wants to reveal that they live in a particular city.

ii) Entering a field and selecting 'submit on approval' By selecting this option, the user can decide on a case by case basis if they want to share their information for demographic targeting or the actual value of their profile. E.g., a user may be willing to reveal that they live in a group of zip codes (or their actual zip code) to some sites, but not to others.

iii) Leaving a field blank. E.g. a user never wants to share their email address.

c) Users can customize their auto sign on by setting their local cookie duration to permanent, timed, or per session.

d) Users can add to their account balance by attaching a credit or debit card to their account. This allows users to use the micropayment system without reading ads.

e) User account balances may be withdrawn. If appropriate, time restrictions, amount restrictions, and/or a service fee may be charged. E.g. no more than $100 withdrawn each month.

f) User account balances may be capped to encourage online spending. The cap may be increased on a per user basis based on that user's usage of their account over time. For example, a cap of $20 might be set, however a particular user, John, might have a higher cap of $100 based on his past usage.

g) Users can view their account balance and history. For each transaction, the content provider or advertiser site, transaction amount, time, resulting balance and/or other desired fields can be shown. (Figure 14)

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h) Users may be permitted to access tools to evaluate site activity with respect to demographics, activity over time, responses to price changes and discounts.

Constraints on automated usage

The number of users allowed to access the system from a particular computer or terminal may be limited by the number of cookies and/or Java applets installed on the user's computer or terminal. The system will also constrain automated access by allowing a limited amount of access from a single unique identifier, e.g. medium access control (MAC) address, Internet Protocol (IP) address, and/or CPU serial number.

Quizzes

Quizzes may be used as part of a process to verify that a user is a human, as opposed to an automated process. Because users are paid per ad and/or site viewed, an automated system would be able to earn the money without a human actually viewing the advertising or visiting the site.

Accordingly, some embodiments of the invention make use of periodic quizzes, also called a SmartQuiz™, to verify that a particular user is a human. As noted above, the quizzes may be employed during the registration process to verify a user is a human. Additionally, quizzes can be used in conjunction with follow up registration, and/or between transactions using some embodiments of the invention.

The basic premise is to use a display format that cannot be easily recognized or read by a machine. For example, text that is embedded in graphical representations such as an image. The pictures can contain a simple question that any user is expected to be able to answer, e.g. the picture might have the text "123" and the quiz question might read, "What number is shown?".

Because automated entities are not able to decipher the question from the graphic, they will not be able to respond correctly to the question. In contrast, because of the

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intentionally simple nature of the questions, almost any human could perform at 100% accuracy.

The answers to the quiz questions may be provided using a text-input box located anywhere on the picture, or around it. For multiple choice questions, the answers might be selectable from the image itself, e.g. using an image map, and/or through an HTML form surrounding the picture.

Types of quizzes:

a) There are several types of quizzes, all of which can be combined. Some examples follow: (See also Figure 4 for examples.)
   i) **Number recognition**. A number is presented graphically. The number can be generated randomly or from table
   i) **Simple word/object identification/recognition**. The name of an object is typed out in graphical text or a picture of an easily recognizable object is displayed, for example a dog, a book, a car, the word "Ice Cream", etc. Users are asked to type in the name of the object in the space provided, or, they have to click on the right picture or word matching the object displayed. Users may also be asked to identify the one object that does not belong in the set of objects displayed. Other recognition examples include:
      (1) **Twisted text recognition**. A simple question is presented in text that is twisted to make OCR difficult, but easily readable to a human.
      (2) **Color recognition**. A color is presented and the user is asked to identify it.
      (3) **Shape recognition**. User is asked to identify the shape presented.
      (4) **Self answering questions**. Text questions which contain their answer.
      (5) **One word question, one word answer**. The user simply types the word presented in the graphic
   ii) **Simple counting**. A number of similar object are displayed, such as 2 balls, 4 birds, 1 finger, etc. Users are asked to type in the number of objects displayed in the space provided, or, they have to click on the right picture, word or number matching the object displayed. Users may also be asked to click on the right set of pictures showing the same number of objects.
   iii) **Simple math**. Using numbers or objects or a text description, users have to perform simple math calculations such as 1 + 1, 2 * 2, "4 divided by two", "XXXX minus XX (where X is an object)". Users are asked to type in the correct number in the space provided, or, they have to click on the correct answer represented in picture, word or number. Users may also be asked to click on the right set of pictures showing the same mathematical results. For example, the question may display "2 cats + 2 dogs " and the correct answer may be "2 cats + 2 dogs ".
   iv) **Simple queries**. Users are asked simple questions using graphical text. Responses may be typed in or selected by clicking on the right area. Examples of questions are "What day was yesterday?", "How old is a 2-year old baby?", "What color is red?", "Is ice-cream hot or cold?"

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v) **Awareness**. Users are asked questions about the real world. "What day (month, year) is it?

b) The user may see the quizzes with reduced frequency as he responds accurately and with increasing frequency as he fails to respond accurately. (See also Figure 5)

Search Engine

Some embodiments of the invention include a search engine that allows the user to search for ads and content relevant to their interests. Search results can be sorted according to relevance, reward value, and popularity, and/or other criteria.

The following describes the search process:

1) Selects the search engine from a web site including an embodiment of the invention and enters or selects the search keyword(s).
   a) If the user is not logged in, they will be directed to the login/sign up pages, but in some embodiments, users can use the system without logging in.
   b) If a user is not logged in, they will be able to do searches without the benefit of the demographic reward and corresponding sorting. (Figure 10)
   c) Once registered (Figure 11) and logged in, the user's username, balance and/or demographic profile will appear either in the window and/or in a pop up window brought up by a mouse click from the user on a button. (Figure 12)
   d) The user types or selects the desired category to search for.
   e) The user is returned a list of links relevant to the user's search criteria. (Figure 13). Sites offering highest reward will be listed first, their reward indicating their heightened interest in the users demographic. This matchmaker function merges information about both parties, making a more efficient match for both, allowing destination sites to only pay lead rewards to targeted users and users to easily identify sites who desire them (as well as those who do not). For example, in Figure 13, Zoom travel, which targets young males appears at the top of the list, rather than the bottom, in contrast to alphabetic order. AAAAA Travel, on the other hand, is not targeting young males and correspondingly appears towards the bottom.
   f) A site may also choose to represent its link in a variety of formats, e.g. banner ad, expanded text listing, simple link, etc. In some embodiments, the particular format is selected based on whether or not the user's profile matches the target of the link. In other embodiments, different fees are charged to advertisers for different formats.
   g) The list of relevant sites can be sorted
      i) Search relevance
      ii) Popularity (number of hits to that site)
      iii) Reward potential to that specific user, e.g. John Doe gets $.10 for visiting a particular site because of his gender, while Jane Doe might only get $.05 for visiting the same site
      iv) Search results may be displayed as simple links, text descriptions, and/or graphics.
      v) Users may also be given the following options for displaying the search results:

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(1) List only the top *n* items offering a reward.
(2) List only items offering reward above a certain threshold.
(3) List only items offering a reward.
(4) List only reward items and top *n* non-rewarding items per search score or popularity.
(5) List all matching entries, including items with no reward

h) The user can set a default sort order for future searches.
i) An advertiser may sponsor the use of the search engine and give users a reward for each search done with their sponsorship ad posted up to a maximum cumulative reward set by the advertiser for a given time window. Sponsors may also choose how often the same user will be rewarded for repeated interaction.

Reading Ads

Ads are displayed with the user's personal reward as shown in Figure 6. Other ad formats can be used, e.g. splash screen ads, etc. When the user clicks on the ad, their account is credited with the reward. Limits can be set on user rewards per user, or per ad, to discourage abuse.

If desired, some embodiments of the invention can include a pop-up window that appears when the user positions her/his mouse over a portion of the ad. Using Java™, JavaScript and/or other scripting languages, the correct bonus and maximum bonus available are shown. The bonus reflects the demographic and profile information entered by a user.

1) Ads Hosted On Web site including embodiments of the invention

a) If a user is not yet signed up or logged on, he will be presented with a sign up or log-on page.
b) The user searches through the sorted search engine results and views the resulting ads and links. Next to each ad or link will be the basic reward, the actual bonus reward, and the total potential bonus reward. (See Bonuses and Research and Figure 6)
c) The user will not be shown ads for which the reward is zero due to either unexpired time window or repeat usage restriction.
d) When a user clicks on a link or banner ad enabled according to the invention:
   i) The user is sent to the destination site.
   ii) The user's account is credited with the available reward.
   iii) The destination host's account is debited the amount of the user reward and the amount of the transaction commission.

2) Ads and Links Hosted Remotely

a) Ads and links enabled by embodiments of the invention can be posted on any site.

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b) Enabled ads or links will appear as normal non-enabled ads or links to non- users. Users can always see the enabled version. For example, the advertiser 106a could host their own ads rather than storing them on the host 104. As such, they might provide both enabled and non-enabled versions. Users of the host 104 who have logged in will automatically be shown the enabled ad.
c) The mechanism can also be used on sites such as the content providers 108a-c to encourage deeper interaction by visitors. E.g., a user can be rewarded to take a survey or register for a product sample.

Consuming Content

Enabled content may be displayed with an access price. Clicking on the content link will deliver the content to the user and credit/debit her/his account accordingly.

1) The user will access content, e.g. from the search engine provided by some embodiments of the invention or from the content provider's site, etc.
   a) If a user is not yet signed up or logged on, she/he can be presented with a log-on page.
   b) The price of the content will be listed next to the link. (See for example Figure 7)
   c) Content providers may also bundle rewards for users to encourage their target customers to visit the content site. E.g., price is $2 for non-Californians, but only $1 for California residents.
2) **When a user clicks on a for-fee content link:**
   a) Verification is performed to check that the user has sufficient balance in their account.
      i) If there is not sufficient balance in the user's account, the user is advised of this and can be directed to the ad farm to earn additional credit.
   b) If sufficient credit is available, the user is sent to the content site.
   c) The user's account is debited the content price.
   d) The content provider's account is credited the content price less a transaction commission if appropriate.
   e) In some embodiments, it is up to the content provider to define and set up the access control mechanism for their content. They can define how often a user can access content that is paid for. For example, a cookie may be placed on the user's web browser recording that they have paid for access to the content site. Content providers can allow repeated access for a specified period of time and customize their site for paying return visitors.

Bonus and Research

Each ad or link can calculate a bonus for a specific user based on that user's demographic profile and the ads or link's desired target. In addition to simply qualifying users as members of a demographic group, advertisers can pay users in exchange for their specific profile information to do research.

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1) **Next to each ad or link, the base reward is listed with the potential bonus and the actual bonus**.
   a) The base reward is what is given to any unqualified visitor.
   b) The potential bonus reward is the total reward possible if a user meets all of an advertiser's demographic target criteria.
   c) The actual bonus is the reward that a user will receive based on their actual demographic profile. E.g., of a potential bonus of $1.00, a user receives $0.50 because they live in San Jose, but not the additional $0.50 because they are not male.
   d) By clicking on the potential bonus, the user can see the association between demographic information and rewards for a specific ad. If the user has not provided all of the desired demographic information, he may return to his profile and add the desired information in order to receive the additional bonus. E.g., a user does not submit their gender, but over time notices that ads give a reward for gender. The user adds her/his gender her/his profile and from then on receives the gender bonus when her/his gender is the desired demographic.
   e) Demographic information can be held within the secure server and not transmitted across the network 102.
   f) Advertisers may, or may not be provided a user's demographic profile immediately, only the fact that the user satisfied the bonus criteria and qualified.
   g) When the user views a bonus ad the user's demographic information is compared to the ad bonus criteria and the bonus is calculated either on the host or on the user's client.
   h) When the user clicks on a bonus ad:
      i) The user is sent to the destination site.
      ii) The user's account is credited the base and bonus award.
      iii) The advertiser's account is debited the same amount, plus a transaction commission if appropriate.

2) **Research**
   a) If an advertiser and/or researcher wants to collect actual demographic information on users (in addition to demographic qualification), and the user agrees, actual profile information requested, and approved by the user, can be stored in the advertiser's reports for later access. (See also Figure 3 for an example)

D. Advertiser signup

Advertisers can provide ads using the system by creating an account with the host 104. The advertiser typically provides a destination URL, a banner link, a demographic target, the reward structure (how much for what demographic information, etc.), a working balance, and/or other information.

1) **Advertiser Selects Signup on Host**
   i) Advertisers can open an account by providing a banner image link, a destination location, a desired reward rate and contact information. The ad can be activated when the advertiser deposits money in their account to pay users. When an

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advertisers account balance reaches zero, the ad can be held from display to users, or the ad may be displayed with no reward to the user.

j) Base reward for unqualified users can be set.
k) Bonus rewards are set up by the advertiser using bonus criteria, involving their desired reward for each piece of profile information. (Figure 2)
l) Advertisers set the reward for targeted users by completing the n dimensional full factorial demographic reward matrix. (Figure 15)
m) Time caps can be set by the advertiser for the desired time elapsed before a specific user can earn from an ad again.
n) Number of allowed repeat visits by a user can be set.
o) Advertiser can set a cumulative reward cap per timeframe, e.g. $1,000 per 24 hours.
p) Advertiser can set a cumulative reward cap per user, e.g. $20 per user per lifetime of ad.
q) Rewards for repeat visitors can be set by advertiser to stay the same, decrease or increase, e.g. $0.10 for first visit, $0.05 for second and subsequent, etc.
r) Rewards can be varied over time. E.g., offer a higher reward during lunchtime than in the late evening. Or, reduce the reward as the balance runs low to stretch out the advertising campaign. Or, increase the reward if an ad is not attracting enough attention from users.
s) Keywords for ads (to be used by the search engine) can be set by advertiser.
t) Each ad may be assigned an identifier for reference.
u) Advertisers can monitor ad activity over the network 102. Reports are generated with a timestamp for transactions, amount awarded, commissions, total debit, and resulting account balances.
v) Advertisers can use network based tools for evaluating campaign activity with respect to demographics, activity over time, responses to reward changes and demographic targeting and data collection.
w) Credit can be added to an ad account at any time. When a campaign is completed, all unused account balance can be returned to the advertiser.

E. Content provider signup

Content providers can instantly begin earning money on their site by creating an account online. Simply provide the site URL, price, and type of charge (up front or tip). The content provider then inserts a single line of HTML to begin earning.

1) **Content Provider Signs up at Host**.
   c) Content providers can create a content account by providing the content price, content link and choosing a means of account transfer and contact information.
   d) Content fee collection method can be either as up front fees as tips
      i) Up Front fees are fixed, e.g. the user must pay the fee to access the content.
      ii) Tips allow the users to pay voluntarily without obstructing access to content. Tips can be customized as open, default suggested, check box, radio button, slide bar or fixed. This allows for great flexibility in incorporating the tips feature into the content provider's site.
   e) Each content URL can be assigned an identifier.

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f) The content provider can provide keywords (to be used in the search engine) for each content site.
g) The host sends the content provider a URL to use as his content fee or tip link and any appropriate HTML, JavaScript or other code to embed in the content.
h) Content providers can monitor account activity over the network 102. Reports can be generated with a timestamp for each transaction, amount charged, commissions, net credit, and resulting account balances.
i) Content provider's account balances can be transferred to any ordinary account such as bank account, credit card account, mailed check or a user account. Service fees may be charged for these services.

F. Tipping

Content providers can enable tipping to collect voluntary fees from users. After providing the tip, the user can be sent to a thank you page. Figures 8A-8B show the tipping process in detail.

1) **Web page based Tipping**
   a) A voluntary tip can be used when a content provider wants to collect fees without erecting entry barriers for users.
   b) The user views content including a tip icon, a tip form, tip link, etc. The user clicks on the icon to provide a tip
   c) If a user is not yet signed up or logged on, he will be presented with a sign up or log-on page.
   d) A pop up window offers the user one of several possible tip options (suggested amount, blank window, clickable amount options, slide bar amount, radio button selected amount, or default amount options etc. (Figure 9)
   e) The pop up window also allows the user to submit comments on the content.
      i) The host 104 verifies that the user has sufficient balance in their account for the tip amount submitted.
         (1) If there is not sufficient balance in the user's account, the user is advised of his balance with a link to view ads and returned to the tip window.
      ii) Once tipping is complete, the user can be sent to the content provider's "Thank You" page, content provider selected page, and/or a generic "Thank You" message can be displayed.
      iii) The user's account is debited the tip amount.
      iv) The content provider's account is credited the tip amount less a transaction commission, if appropriate.
      v) A cookie may be placed on the user's web browser recording that they have paid for access to the content site. Content providers can customize their site for paying return visitors. E.g., return customers who have given tips get a special welcoming message and/or are given a special reward for returning.
2) Email Tips
   a) A tip URL can be deployed in a text e-mail. When the user clicks on the URL, the tip functions the same as a web based tip.

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G. Limiting Spam Through Quizzes

A quiz can be embedded in a mail transport agent (MTA) or mail user agent (MUA) to verify that senders are human to assist in filtering spam e-mails. The following process can be used:

a) If email is received from an unknown sender, e.g. by checking against a list of known senders, the MTA and/or the MUA sends the URL to a quiz, or includes a quiz, in an e-mail to the unknown sender.
   i) If the quiz is not answered correctly within a predetermined period, e.g. 24 hours, the mail may be deleted or returned as undeliverable.
b) By verifying that the sender is human, automated spam email can be filtered. The user can add the sender to their known list so that future quizzes can be avoided. Similarly, the user can add any mailing lists they participate in to the known list.

The quizzes can be provided from a host, e.g. the host 104, for free or for a fee, e.g. $0.03 per quiz provided to unknown sender. Further, the spam control feature can be offered completely apart from the micropayment system, e.g. $10.00 for a year of spam filtering using quizzes.

Alternatively, the quizzing system can be integrated with the MTA and/or MUA on the user's computer. For example, sendmail, a common MTA, could be programmed to check a sender against a user's known list. If the sender is absent from the know list, sendmail could queue the mail for delivery pending response to an e-mailed picture containing a quiz generated by the MTA.

H. Technical Methods

The system (Figure 16) provides a standard user interface with low transactions costs and the ability to serve many users concurrently and securely.

The interface to the user is HTML and JavaScript. All that users are required to have on their computer system is an industry standard browser like Netscape Navigator and/or Internet Explorer that is Java™ enabled. The user can enter information into HTML

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forms submitted through HTTP requests to the web host. The HTTP request may contain a call to the web server application.

The web server application facilitates communication between the HTML interface, the application business rules and the back end database server. Because the request is to the application rather than to the database directly, system efficiency and scalability are improved. The application can securely hold database connections open, greatly reducing the overhead on the server for each database query. The application uses business rules to determine what queries need to be sent to the database and makes the calls in a single group.

This low overhead coupled with the ability to run multiple copies of the application on the web server allow for many concurrent users. The multithreaded web server balances the requests to each copy of the application. The application and database schema are designed such that information about accounts, reward calculations, etc., are stored in and verified from the database. The application is designed to make it difficult for a hacker, or an automated system, to create a URL that will increase their balance, etc. Once the application processes a command, it builds and returns feedback to the users in HTML and/or in a Java™ applet via their browsers.

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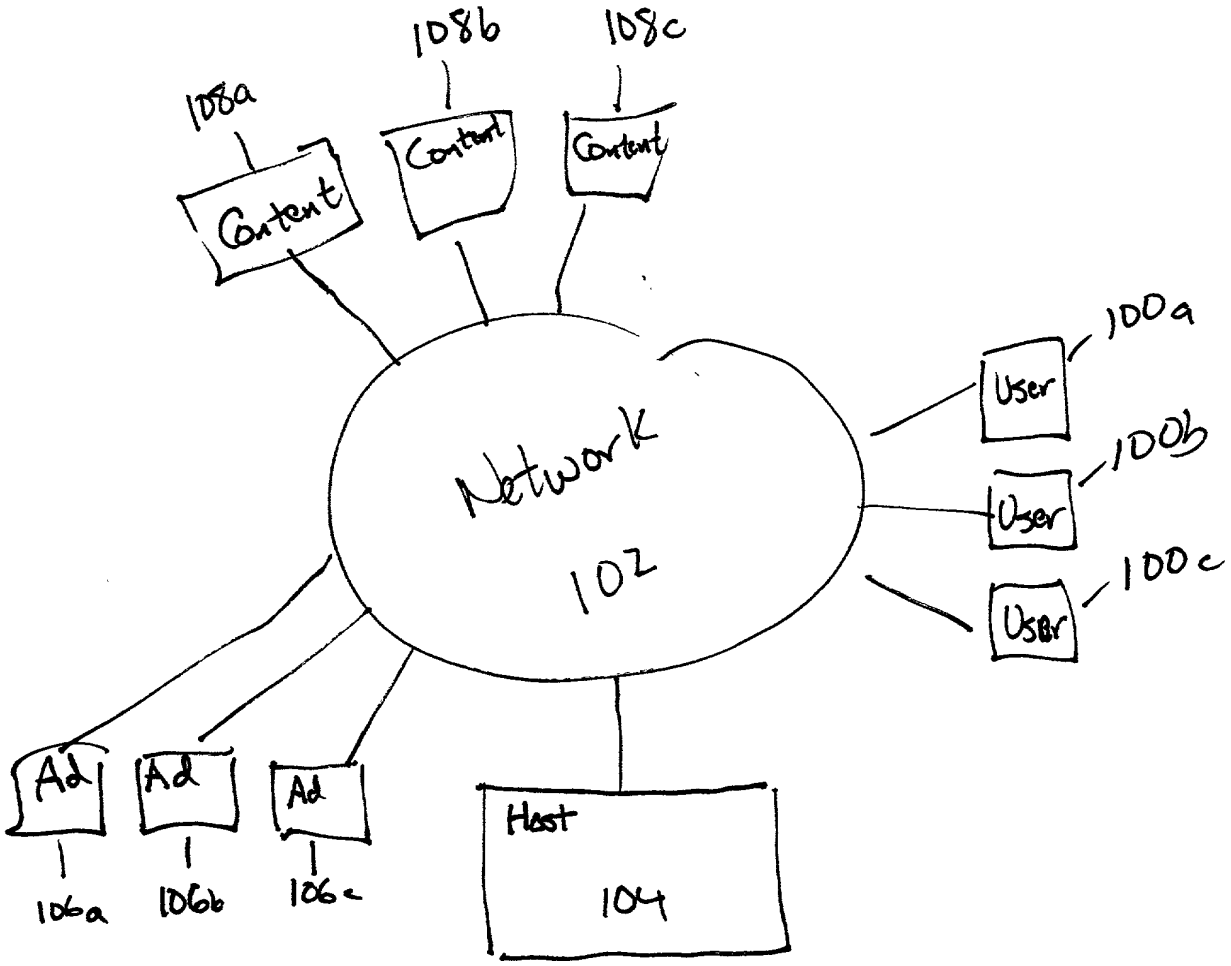

108a
108b
108c
Content
Content
Content
Network
102
User
User
User
100a
100b
100c
Ad
Ad
Ad
106a
106b
106c
Host
104

Fig 1

Figure 2

User Attribute Configuration Page - Screenshot

Attribute	User Values	Submit on approval for Demographic Qualification	Submit on approval for Demographic Research
Name	Stan Lim	ς	ς
Age	30		
Gender	MALE	ς	ς
Date of Birth	-		
Zipcode	95128		
Household Income	-		

SUBMIT CANCEL

Figure 3

Advertiser Specific Bonus Page - Sample Screenshot

Attribute	User Date Available?	Demographic Bonus	Research Bonus	Share for Demographic Bonus?	Share for Research Bonus?	User bonus
Name	ς	200	200	ς	ς	400
Age	ς	100	100	?	?	0
Gender	ς	100	100	ς	ς	200
Date of Birth	???	500	500	?	?	0
Zipcode	ς	500	500	ς	ς	1000
Household Income	???	10000	10000	ς	ς	0
Number of cars	5	5000	5000	ς	ς	10000
Total Bonus						11600

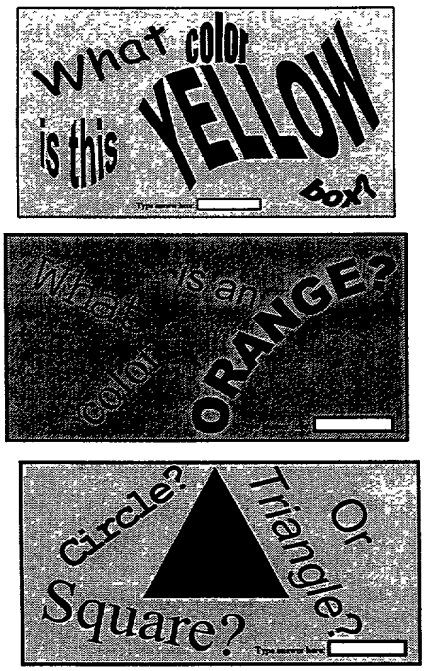
UPDATE CANCEL

Notes:

- All Attributes and Bonus rewards are defined by Advertiser
- If user data is available AND shared, user earns bonus for that attribute.
- Each User Bonus item and Total Bonus is calculated automatically, or may require optional "UPDATE" button
- ? denotes check boxes that user can check to share attribute and earn bonus. If checked, denoted by ς
- ??? denotes input box that user needs to fill out if user wishes to earn bonus for that attribute. In this example, the "5" was entered for "Number of Cars".

Figure 4

SmartQuiz™



SmartQuiz™

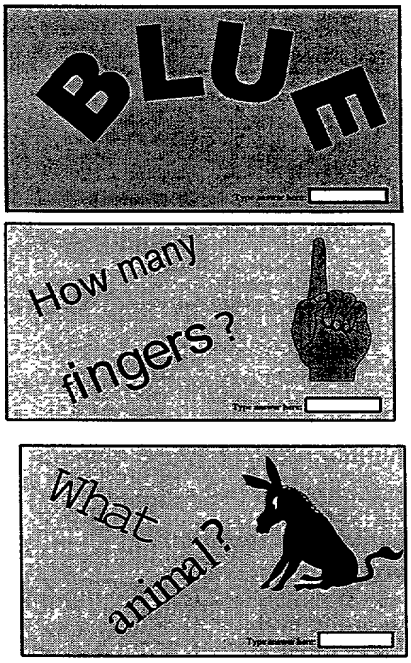


Figure 5

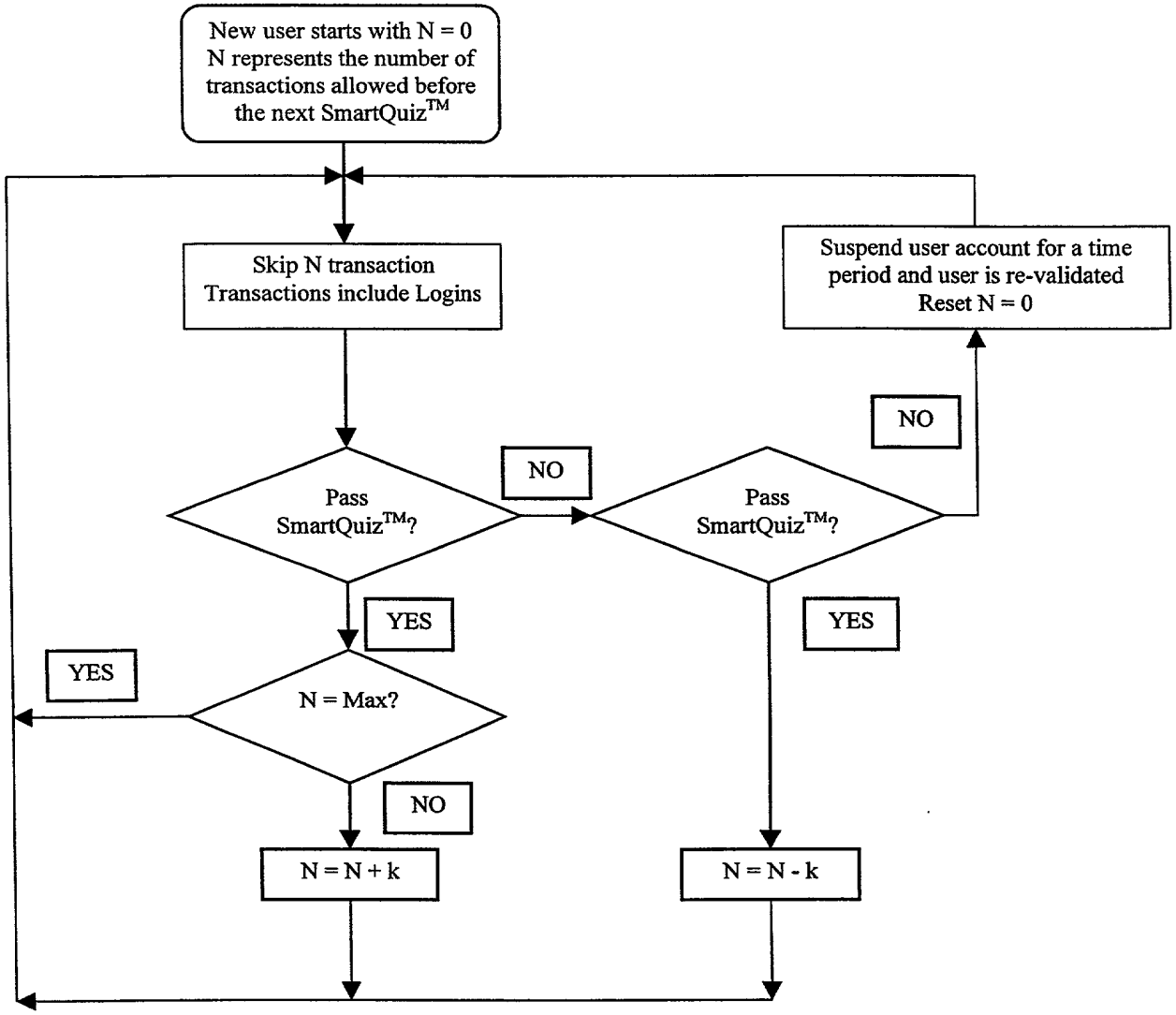
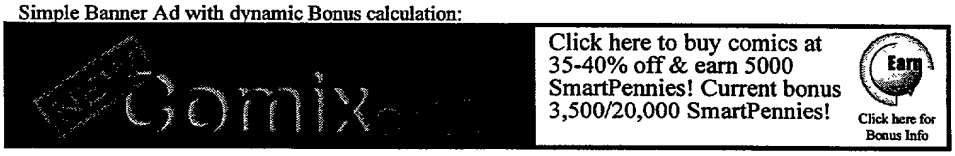

New user starts with N = 0
N represents the number of transactions allowed before the next SmartQuiz™
Skip N transaction
Transactions include Logins
Suspend user account for a time period and user is re-validated
Reset N = 0
NO
Pass SmartQuiz™?
NO
Pass SmartQuiz™?
YES
YES
YES
N = Max?
NO
N = N + k
N = N - k

Figure 6

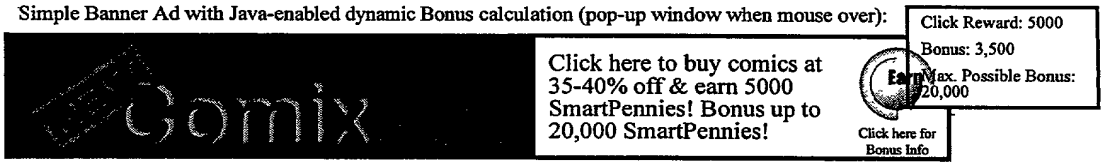
- Here are a few examples of how Banner Ads will look with the SmartPenny enhancements:

Simple Banner Ad with no dynamic Bonus calculation:

Simple Banner Ad with dynamic Bonus calculation:



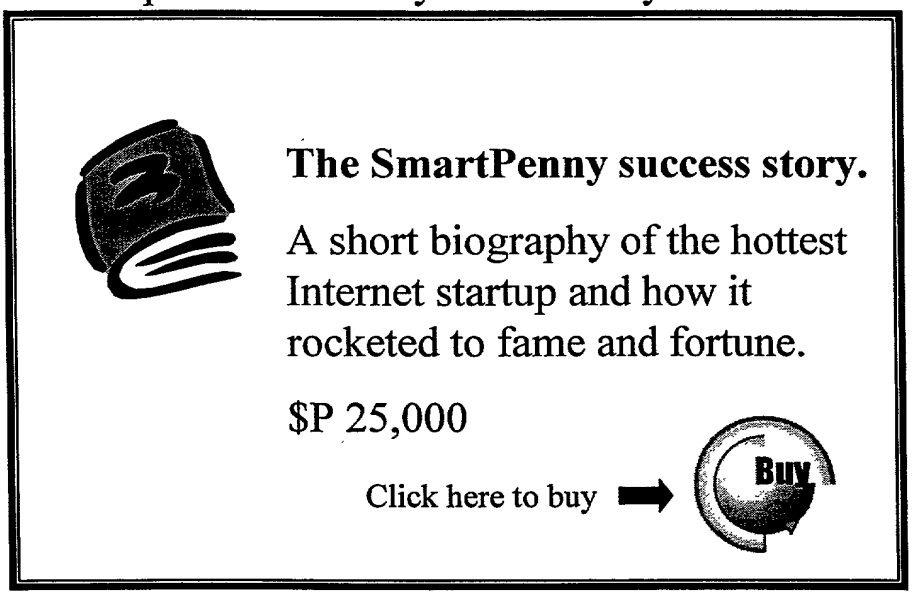
Simple Banner Ad with Java-enabled dynamic Bonus calculation (pop-up window when mouse over):



Simple Banner Ad with no Bonus:

Figure 7

Samples of what buy screens may look like:



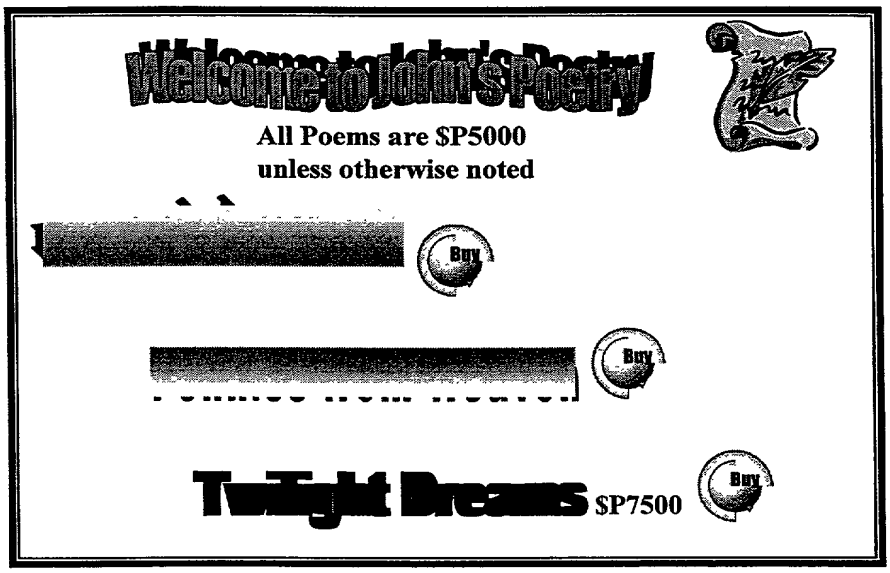


Figure 8A

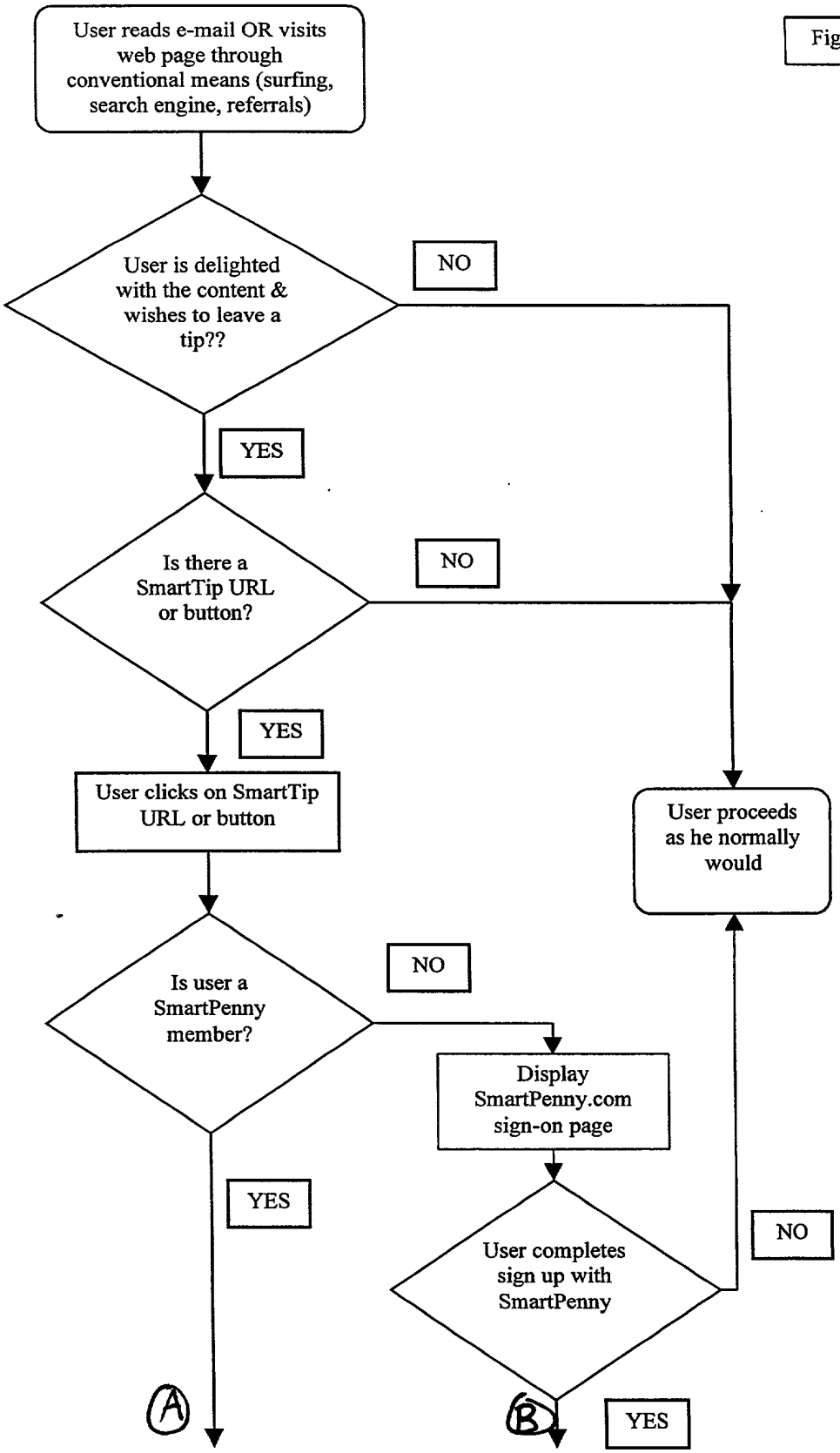

User reads e-mail OR visits web page through conventional means (surfing, search engine, referrals)
User is delighted with the content & wishes to leave a tip??
NO
YES
Is there a SmartTip URL or button?
NO
YES
User clicks on SmartTip URL or button
User proceeds as he normally would
Is user a SmartPenny member?
NO
Display SmartPenny.com sign-on page
YES
User completes sign up with SmartPenny
NO
A
B
YES

Fig 8B

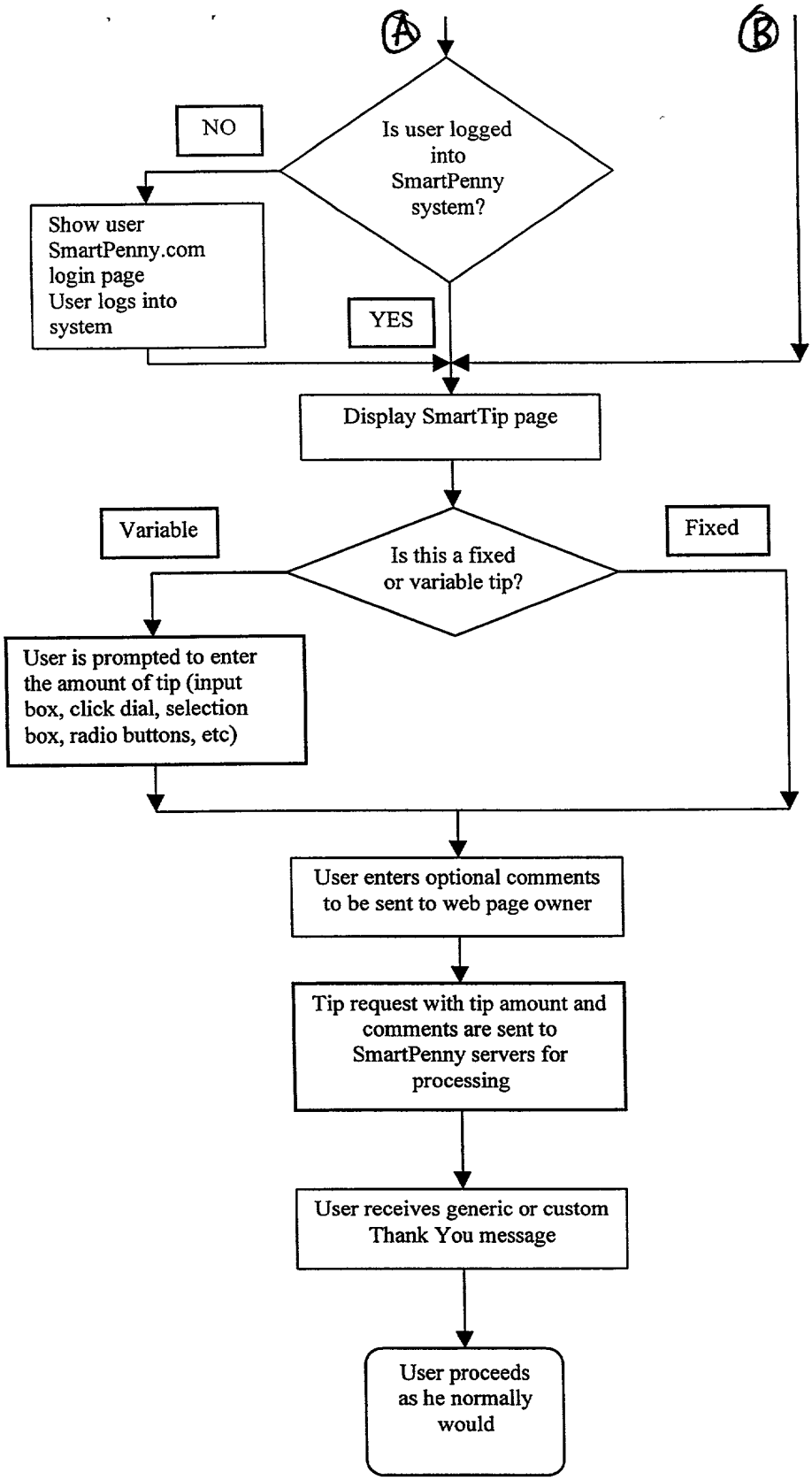
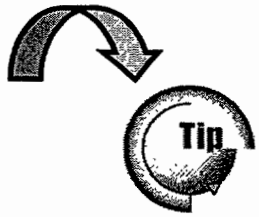

A
B
Is user logged into SmartPenny system?
NO
Show user SmartPenny.com login page User logs into system
YES
Display SmartTip page
Variable
Is this a fixed or variable tip?
Fixed
User is prompted to enter the amount of tip (input box, click dial, selection box, radio buttons, etc)
User enters optional comments to be sent to web page owner
Tip request with tip amount and comments are sent to SmartPenny servers for processing
User receives generic or custom Thank You message
User proceeds as he normally would

Figure 9

Content Providers can politely solicit gratuity by including the SmartTip™ button to theiw web pages. An example is shown below:

Click here to leave a tip



I hope you enjoyed this article. I welcome your comments and contributions. Thanks!

SmartTip™ Screenshots

This is example of what the SmartTip™ window may look like:

Enter Tip Amount $P 2500

Please enter any comments here:

Submit Tip | Cancel

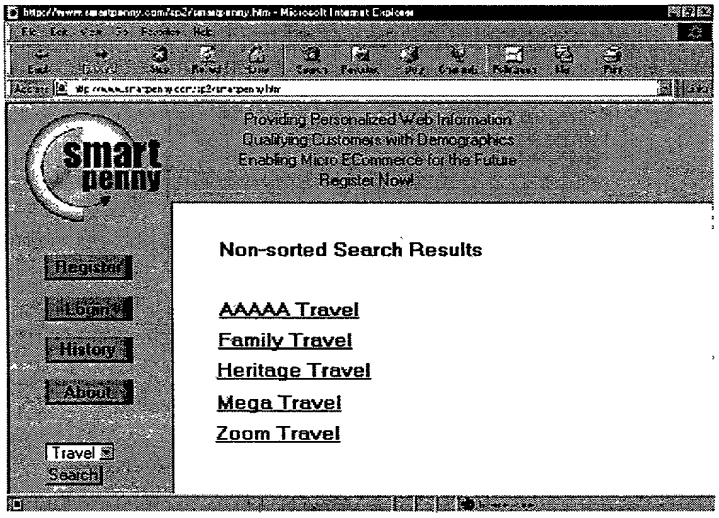

Providing Personalized Web Information
Qualifying Customers with Demographics
Enabling Micro ECommerce for the Future
Register Now!
smart penny
Register
Update
History
About
Travel
Search
Non-sorted Search Results
AAAAA Travel
Family Travel
Heritage Travel
Mega Travel
Zoom Travel

Fig 10

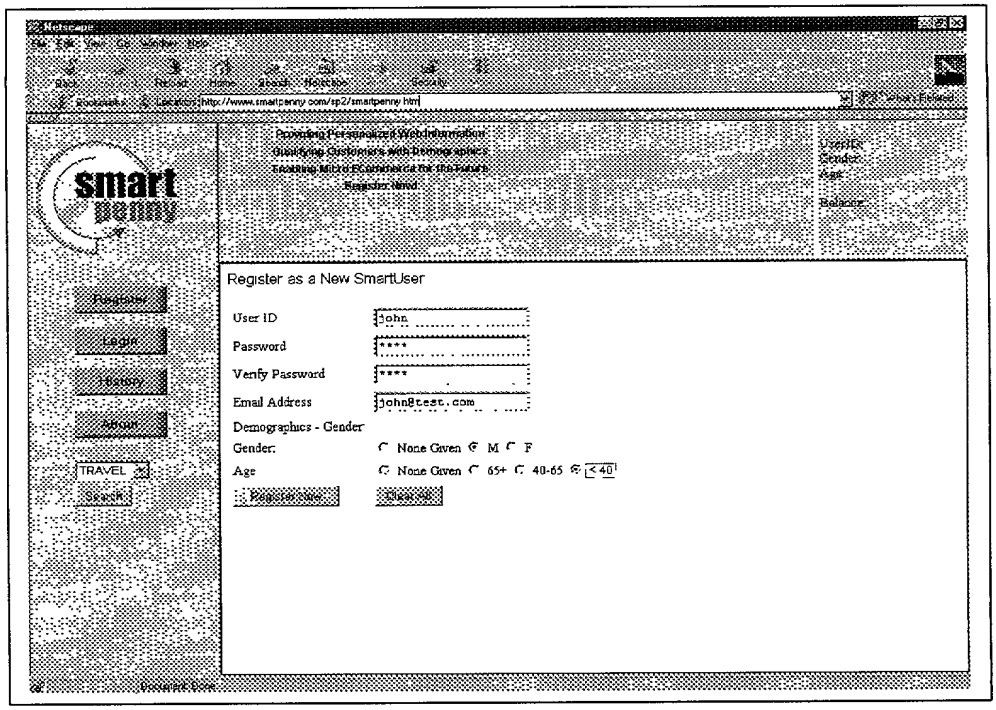

smart penny
Register as a New SmartUser
User ID
John
Password
Verify Password
Email Address
John@test.com
Demographics - Gender
Gender:
None Given
M
F
Age
None Given
65+
40-65
< 40
TRAVEL

Figure 11

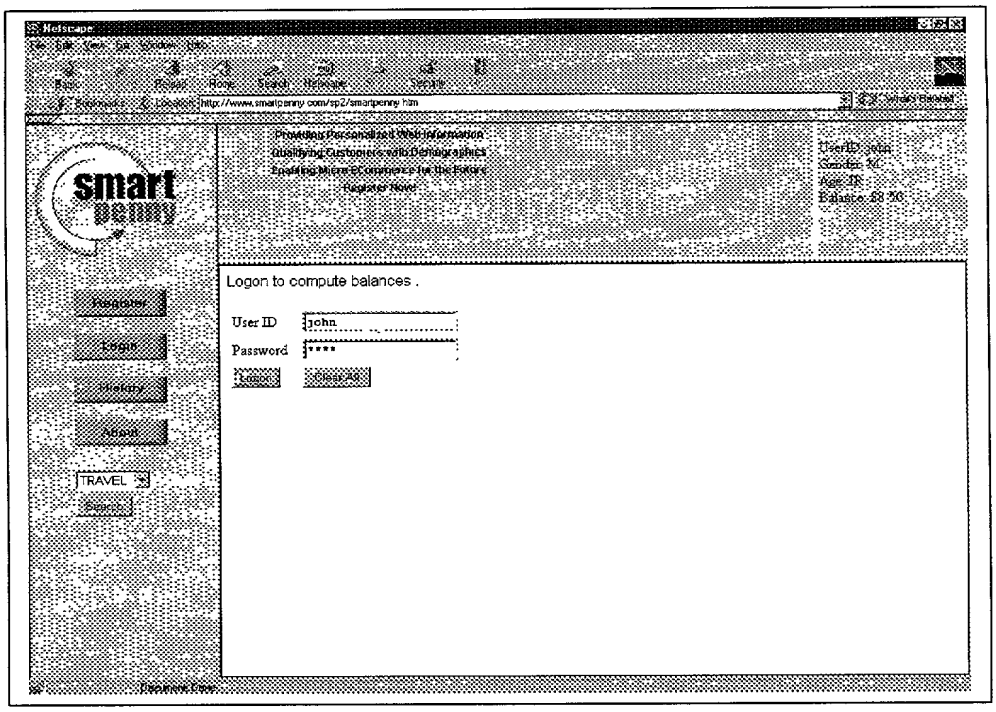


Figure 12

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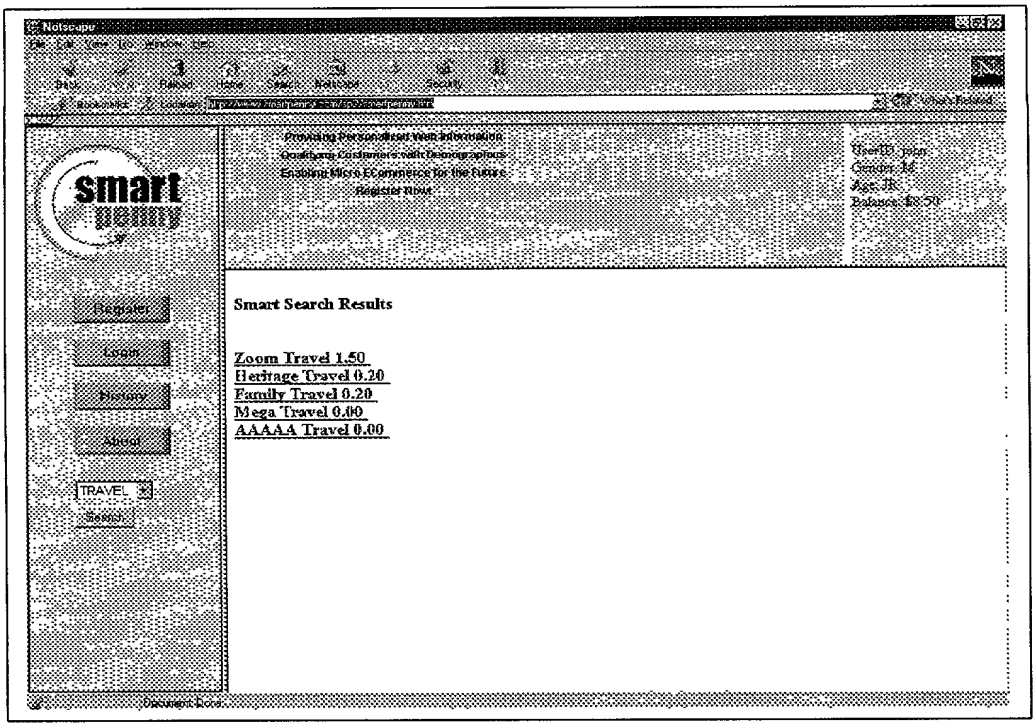
smart
Register
Login
History
About
TRAVEL
Search
Smart Search Results
Zoom Travel 1.50
Heritage Travel 0.20
Family Travel 0.20
Mega Travel 0.00
AAAAA Travel 0.00

Figure 13

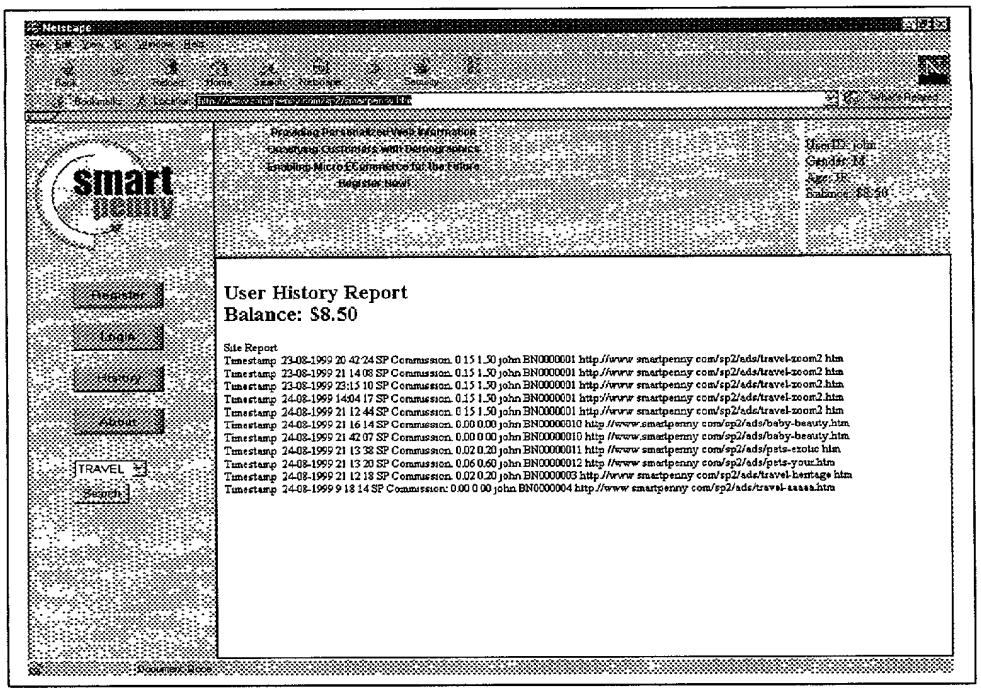
Netscape
smart penny
Broadcasting Personalized Web Information
Encouraging Customers with Demographics
Enabling Micro E-Commerce for the Future
Help Me Now!
User ID: john
Gender: M
Age: 35
Balance: $8.50
Register
Login
Profile
About
TRAVEL
Search
User History Report
Balance: $8.50
Site Report
Timestamp 23-08-1999 20 42 24 SP Commission. 0 15 1.50 john BN0000001 http://www smartpenny com/sp2/ads/travel-zoom2 htm
Timestamp 23-08-1999 21 14 08 SP Commission. 0.15 1.50 john BN0000001 http://www smartpenny com/sp2/ads/travel-zoom2 htm
Timestamp 23-08-1999 23:15 10 SP Commission. 0.15 1.50 john BN0000001 http://www smartpenny com/sp2/ads/travel-zoom2 htm
Timestamp 24-08-1999 14:04 17 SP Commission. 0.15 1.50 john BN0000001 http://www smartpenny com/sp2/ads/travel-zoom2 htm
Timestamp 24-08-1999 21 12 44 SP Commission. 0 15 1.50 john BN0000001 http://www smartpenny com/sp2/ads/travel-zoom2 htm
Timestamp 24-08-1999 21 16 14 SP Commission. 0.00 0.00 john BN0000010 http://www.smartpenny com/sp2/ads/baby-beauty.htm
Timestamp 24-08-1999 21 42 07 SP Commission. 0.00 0.00 john BN0000010 http://www.smartpenny com/sp2/ads/baby-beauty.htm
Timestamp 24-08-1999 21 13 38 SP Commission. 0.02 0.20 john BN0000011 http://www smartpenny com/sp2/ads/psts-exotic htm
Timestamp 24-08-1999 21 13 20 SP Commission. 0.06 0.60 john BN0000012 http://www smartpenny com/sp2/ads/psts-your.htm
Timestamp 24-08-1999 21 12 18 SP Commission. 0.02 0.20 john BN0000003 http://www smartpenny com/sp2/ads/travel-heritage htm
Timestamp 24-08-1999 9 18 14 SP Commission: 0.00 0 00 john BN0000004 http://www smartpenny com/sp2/ads/travel-aaaaa.htm

Figure 14

Demographic Reward Matrix

Gender	Age	Six months of daily usage? (Due for vacation)	Show Banner?	Reward
MALE	Young	NO	NO	$ 1.50
MALE	Young	YES	YES	**$ 3.50**
MALE	Middle	NO	NO	$ 0.60
MALE	Middle	YES	YES	**$ 2.60**
MALE	Senior	NO	NO	$ 0.50
MALE	Senior	YES	YES	**$ 2.50**
MALE	None Given	NO	NO	$ 0.50
MALE	None Given	YES	YES	**$ 2.50**
FEMALE	Young	NO	NO	$ 1.10
FEMALE	Young	YES	YES	**$ 3.10**
FEMALE	Middle	NO	NO	$ 0.20
FEMALE	Middle	YES	YES	$ 2.20
FEMALE	Senior	NO	NO	$ 0.10
FEMALE	Senior	YES	YES	$ 2.10
FEMALE	None Given	NO	NO	$ 0.10
FEMALE	None Given	YES	YES	$ 2.10
None Given	Young	NO	NO	$ 1.00
None Given	Young	YES	YES	**$ 3.00**
None Given	Middle	NO	NO	$ 0.10
None Given	Middle	YES	YES	$ 2.10
None Given	Senior	NO	NO	$ -
None Given	Senior	YES	YES	$ 2.00
None Given	None Given	NO	NO	$ -
None Given	None Given	YES	YES	$ 2.00

Figure 15

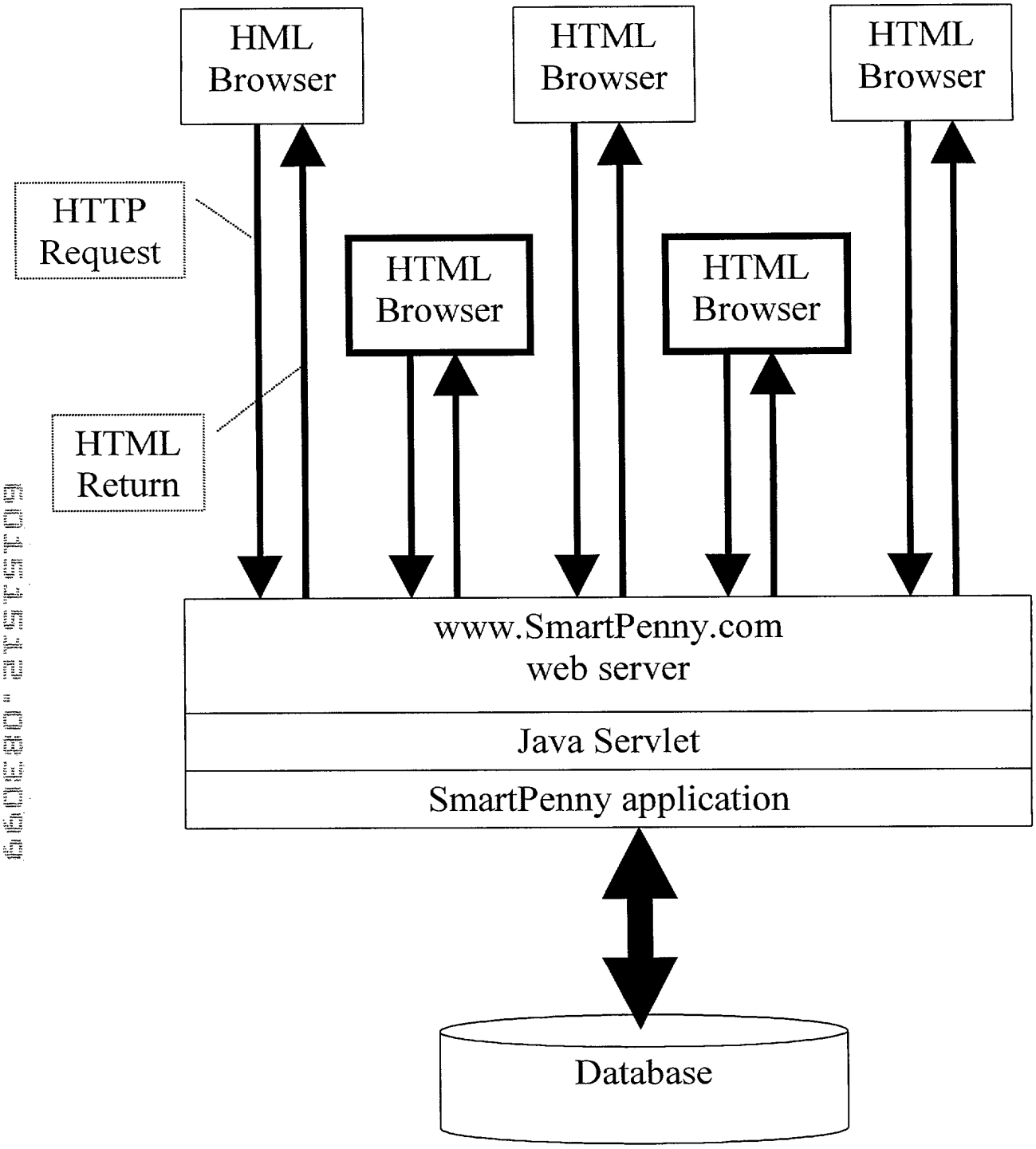
HML Browser
HTML Browser
HTML Browser
HTTP Request
HTML Browser
HTML Browser
HTML Return
www.SmartPenny.com web server
Java Servlet
SmartPenny application
Database

Figure 16