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Subscription to Dynamic Information for a Personalized Map

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Subscription to Dynamic Information for a Personalized Map

ABSTRACT: A digital map may provide information that is not only personalized to a particular user/viewer, but also is current and dynamic. In particular, a user may subscribe to news from a specific point of interest represented on the digital map (*e.g.*, a restaurant, store, bar, museum, theater, park, etc.), and thereafter view associated posts/updates/news items for that point of interest. The digital map allows a user to subscribe to a particular point of interest by way of providing a user-selectable control on the map (*e.g.*, near the point of interest). Once the user has subscribed, the digital map may display the latest news item/update for the point of interest each time the user's viewport displays that point of interest. The news items may be provided by an authorized (*e.g.*, registered) source, and may be updated as desired.

Introduction

Currently, digital maps display information that is predominantly static/permanent in nature. For example, the digital maps may include visual indicators of roads, buildings and various geographic features (rivers, lakes, forests, etc.) as well as personalized information, such as a user's home location, or a set of various bookmarked locations/places. Thus, each time a user opens a maps application to view a map, or views an online map using a web browser, each area depicted on the map remains the same regardless of the time at which the user views the map. Typically, any changes to the map take place only on an extended time scale (*e.g.*, as the map is updated to reflect new roads, etc., or as the user updates his home and/or bookmarked locations). As a result, these kinds of digital maps do not present information that is only relevant for a short period of time. Using the techniques described below, however, digital maps can provide information that is not only personalized to each user, but also dynamically changing and timely. By way of these techniques, a user can subscribe to news/updates associated with a particular point of interest (*e.g.*, a restaurant, store, bar, theater, museum, park, etc.) located on a digital map, after which the digital map may show the latest news/updates for that point of interest each time the user opens the map at, or navigates to, a viewport displaying that point of interest. To provide the news/updates for the point of interest, an individual or entity associated with the point of interest (*e.g.*, an owner or manager of a restaurant) may use an application or web site to enter short snippets of text that are to be displayed near the point of interest on the

map. For example, an owner of a business might enter text describing a current sales promotion, or a theater might enter text describing a current show.

Points of Interest

The personalized news/updates described herein may relate to virtually any type of point of interest that can be displayed/represented on a digital map. For example, news/updates may be provided and displayed for restaurants, bars, stores, concert halls, movie or play theaters, museums, parks, or any other type of geographically located venue or place for which a person (e.g., a business owner or manager), or group of people, might wish to advertise or otherwise disseminate information.

Subscribing to News Associated with Points of Interest on a Digital Map

To view updates on a digital map, a user may first need to subscribe to news/updates for a particular point of interest, or for a number of different points of interest. For example, a user may subscribe to news/updates for a point of interest by clicking on a “subscribe” button that appears next to that point of interest when displayed in the viewport of the user’s mapping application or browser (e.g., on the user’s smartphone). In the scenario of Figure 1, for example, a marker showing the location of the Sydney Opera House is accompanied by a nearby pop-up item that allows the user to click on (or otherwise select) a “subscribe now” option.

The pop-up item, or other user-interactive control (virtual button, etc.), may appear only when the user positions the pointer (or hand icon, etc.) such that it is hovering over or near the point of interest marker, or may appear any time that the point of interest marker is within the viewport. If the user is at a zoom level that causes the point of interest marker to be hidden, the option to subscribe may also be hidden unless and until the user zooms in to a level that causes the point of interest marker to be displayed. A user may personalize his or her map display by choosing to subscribe to news/updates only from those points of interest that are of particular interest to that specific user.

Displaying News Items Associated with Points of Interest on a Digital Map

After a user has subscribed to news/updates for a particular point of interest, and when the viewport of the user's mapping application moves to an area (or initially opens in an area) in which the point of interest is located, the user is presented with a news item for that point of interest. The news item may be displayed on or near the point of interest marker within the viewport, for example. The news item may include any type of information that might be useful for, and/or serve some marketing or public relations purpose for, the associated point of interest. In at least some instances, news items may include time sensitive information. For example, news items for a bar might show current drink specials, news items for a restaurant might show the daily special, news items for a clothing store might advertise a limited-time sale, news items for a museum might describe a new exhibit on display for a limited time, news items for a concert hall might show the current or upcoming performer, news items for a state park might show unscheduled closings, and so on.

Figure 2 shows a scenario in which the user has elected to subscribe to news/updates from the Sydney Opera House (*e.g.*, by clicking on the words "subscribe now" shown in Figure 1), and also from The Happy Flagon using the same subscription process. As seen in Figure 2, when the Sydney Opera House and The Happy Flagon are within the user's viewport, a news item ("Otello, 02.Jul-05.Aug") appears in close proximity to the Sydney Opera House point of interest marker, and another news item ("Happy Hour Friday") appears in close proximity to The Happy Flagon point of interest marker.

Each news item may appear automatically each and every time that the viewport includes (*i.e.*, moves to or opens at) the associated point of interest marker, and may disappear if the user navigates such that the point of interest marker is no longer in the viewport, or if the user zooms out far enough to cause the viewport to no longer display the point of interest marker. Alternatively, and similar to the subscription process described above, each news item may appear only when the user positions the pointer (or hand icon, etc.) such that it is hovering over or near the associated point of interest marker.

Unlike in traditional, static maps, the news items for a point of interest can change over time (*e.g.*, to reflect current sales, promotions, events, status, etc.), causing the user's map to take on a dynamic quality. As shown in Figure 3, for example, the Sydney Opera House news item

has changed to “Lion King – on sale,” and The Happy Flagon news item has changed to “free beer before 6pm.” The viewport of Figure 3 may correspond to a later time when the user has navigated back to the same area (or to an area that is not precisely the same, but still includes the same two points of interest).

The map may refresh each news item (*e.g.*, to display an updated news item if one exists, or to re-display the same news item if an updated news item is not yet available) in one of various different ways. For example, a new item may be refreshed only when the user returns to the same map area after ceasing to view that area (*e.g.*, after closing then opening a maps application, or after navigating away from the area and then returning), or, alternatively, the news item may be refreshed automatically even when the viewport remains open and displaying the point of interest.

While Figures 2 and 3 show the news items appearing just below the descriptions for the respective points of interest, other configurations are possible. For example, a list of news items, each with the name of the respective point of interest, may appear at the bottom, top, or side of the viewport. Moreover, the news items may appear within the maps window, or may appear in a new window.

Providing Updates for a Point of Interest on a Digital Map

The news items associated with a particular point of interest, including the updates thereto, may be provided/posted by an authorized source. Typically, the authorized source may be an individual, or a group of individuals, responsible for circulating news (*e.g.*, sales, promotions, events, etc.) relating to the point of interest. For example, the source of news for a small store may be the store manager, the source of news for a large or chain store may be a marketing employee or department providing services for the store, the source of news for a museum may be the curator or a curator’s staff, and so on.

Typically, a news source will update posted news items on a fairly regular basis in order to reflect recent conditions, events or situations. For example, and as suggested above, a bar owner might decide to update a news item daily or weekly to show current drink specials, a store

manager might decide to update a news item weekly or monthly to advertise limited-time sales, and so on.

To become “authorized,” a news source may need to successfully complete a particular registration process, which may or may not require providing evidence of a sufficient link to the point of interest (*e.g.*, proof of ownership, or proof of being an employee of the owner or entity, etc.). Alternatively, a device may be an authorized news source. For example, a business owner might register his or her smartphone, and anyone with full access to that smartphone may enter the news item updates. Regardless of whether an individual or a device is the authorized source, it may be necessary to log in to a particular website or application in order to provide an updated news item.

Geographic News Subscription Software System

Different approaches can be utilized to implement the above techniques. For example, a server associated with the company providing the on-line map (or maps application), or a third party server, may host a website that allows a person to register as a news source for a particular point of interest. The server may also maintain an authorization database that stores information identifying a number of different points of interest, as well as information indicating the registered individual(s) and/or device(s) associated with each of those points of interest. The authorization database can be accessed each time that someone attempts to post a news item for a particular point of interest, in order to deny an unauthorized individual or device the ability to post the news item.

When a post from an authorized individual or device is made, the server may set a flag value indicating that the posted text is to be provided each time that the corresponding point of interest marker is displayed. The server may do this directly (if the server is generating the map), or may communicate with another server or system to ensure that the text is displayed near the corresponding point of interest. The server may allow the news item to persist indefinitely, may cause the news item to “time out” and no longer be displayed after some predetermined amount of time (*e.g.*, one week, one month, etc.), or may cause the news item to no longer be

displayed at a time corresponding to a duration or end date entered by the authorized news source when posting the news item.

The server may also handle user subscriptions, as described above, by maintaining a subscription database. The subscription database may store information identifying a number of different users, as well as data indicating the various points of interest for which each of those users has subscribed to news. The subscription database may be updated each time a user subscribes to a particular point of interest (*e.g.*, by clicking on the words “subscribe now” in Figure 1). Where responsibility for posting updates is to be shared among multiple people, the subscription database may also index two or more individuals, or two or more devices (*e.g.*, smartphones), to a single point of interest.

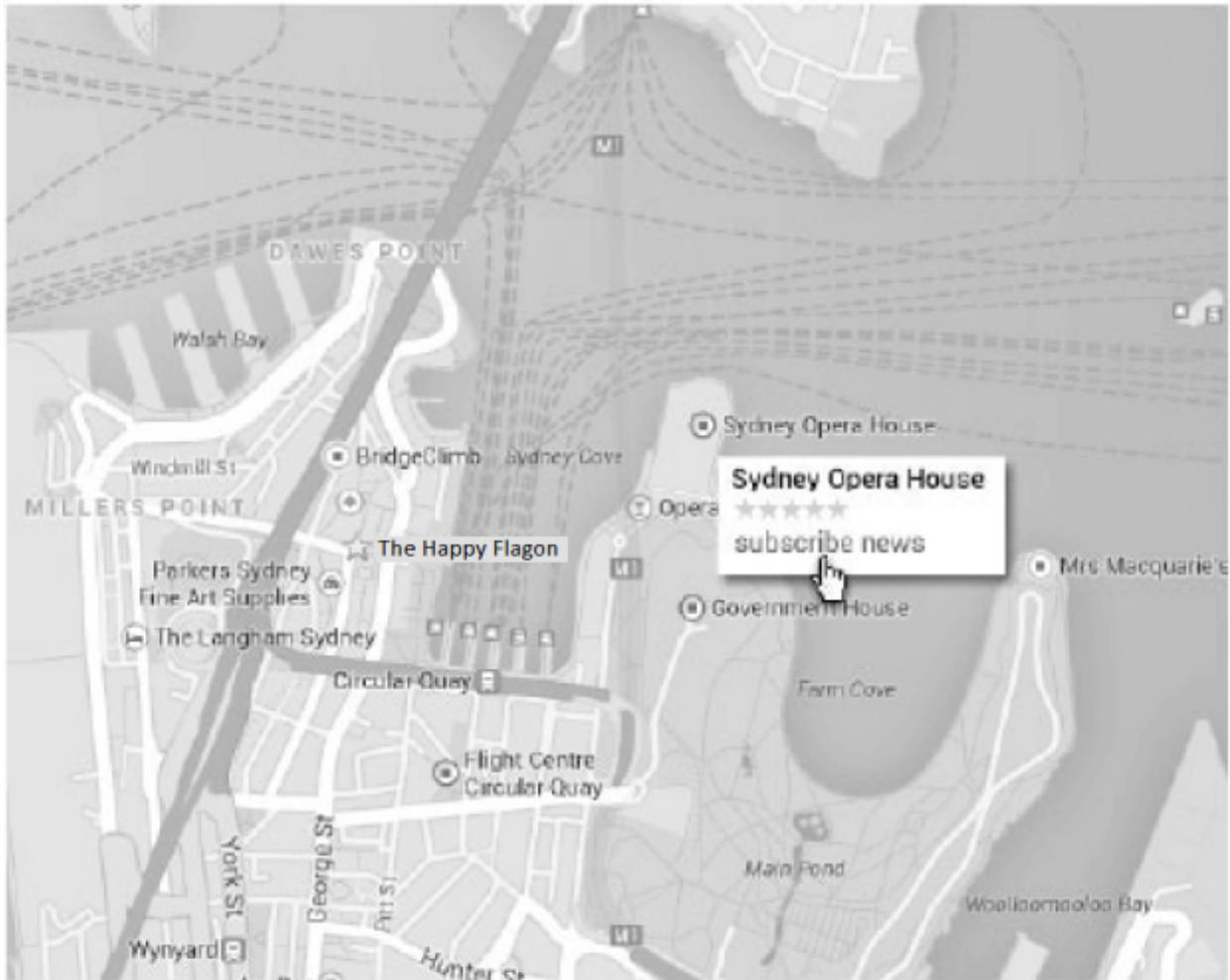


FIG. 1



FIG. 2



FIG. 3