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December 09, 2016

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Recommended Citation

Shea, Ryan and Miller, Ben, "Smart Local Map Displays with Integrated Localized Advertisements and Extended Applications to Users' Devices", Technical Disclosure Commons, (December 09, 2016)
http://www.tdcommons.org/dpubs_series/340



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Smart Local Map Displays with Integrated Localized Advertisements and Extended Applications to Users' Devices

BACKGROUND

When navigating an unfamiliar area such as a foreign city, mall, museum, or transit station, people commonly seek out a local map to find their way around. Local maps attempt to convey important information about the areas in a useful format in order to aid in navigation through the area. However, local maps are often static, outdated, or otherwise unhelpful for a person to successfully navigate a new area. Additionally, advertisements near the local maps may not be particularly relevant to the places in which a person is interested.

SUMMARY

An interactive local map display device that integrates localized advertisements is provided which allows a user to view products, places, or events that are in close proximity to the location of the user and for the user to download a local map to a user device. This interactive device enables users to interact with an interactive display screen on the device that displays localized information for the area in which the device is located. The interactive display device has an interface that provides local advertisements that can be displayed on the interactive display screen. In an example implementation, the interactive local map display device can sense user interaction with the device and can change the current display based on the user's interaction. The interactive local map display device may additionally or alternatively include an interface with a client-side mobile application that allows users of the device to download the localized map and directions to their mobile devices.

DESCRIPTION OF DRAWINGS

Figure 1 shows an example interactive device displaying an advertisement for a local place.

Figure 2 shows an example interactive device displaying a map from the user's location to the local place that was advertised on the example interactive device in Figure 1.

Figure 3 shows an example interactive device connecting with a user's personal device to provide directions from the user's current location to the local place that was advertised to the user in Figure 1.

DETAILED DESCRIPTION

An interactive display device with local advertisements and maps provides users with quick and easy access to local area information. An example display device broadcasts advertisements to users in the vicinity of the device much like customary electronic advertising displays.

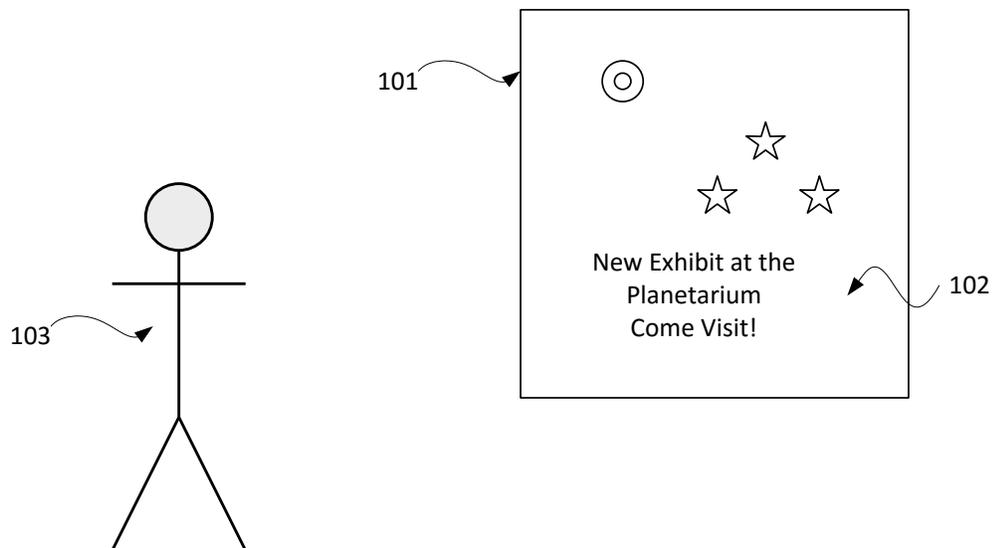


Figure 1

Figure 1 shows an example interactive device displaying an advertisement for a local place. In

this example, the interactive device (101) displays an advertisement for a new exhibit at a planetarium (102) to a user (103). Advertisements may include static images for a single advertisement or multiple advertisements, video images, or other interactive advertisement images. Additionally or alternatively, instead of traditional advertisements for products, places, or events, specialized locations such as museums or art galleries may show certain displays or pieces that are located within the location in close proximity to the example device.

When a user interacts with an example interactive display device, the image on display can change from an advertisement to an interactive local map. In order for the display to change, a user may interact with the display through an interface or triggered by an event such as the advertisement being presented for a given amount of time.

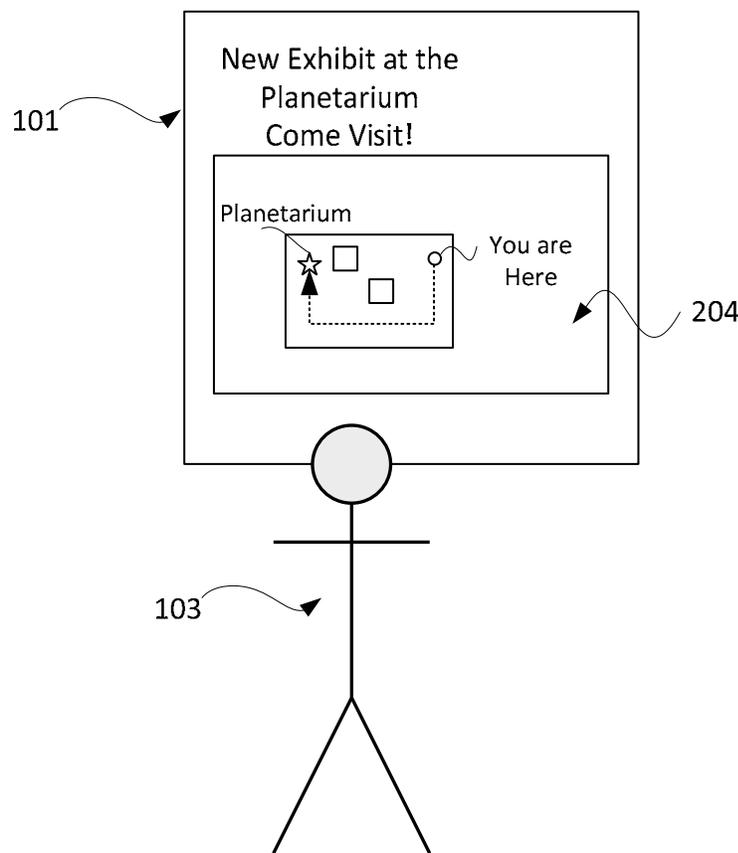


Figure 2

Figure 2 shows an example interactive device displaying a map (204) from the user's location to the planetarium that was advertised on the example interactive device in Figure 1. Figure 2 further shows a user in close proximity to the example interactive device. A user can interact with the displayed map similarly to how a user can interact with maps on his or her smart phone or other computing device. The user can scroll the display, enter information, or use a touch display to navigate to a specific area on the map. The user can then explore this specific area. The interactive display device allows users to get directions to areas of interest such as specific stores, places or attractions, or addresses. An interactive display device can have a search that allows users to search local information stored by the device with generic queries such as "what restaurants are nearby?" to view a listing of nearby places to eat.

An example interactive display device can also show users directions to products, places, or events that have been advertised on the device. For example, if the example interactive display device shows an advertisement for a pizza chain advertising their lunch special, when a user interacts with the display on the device, the interactive display device switches to a local map to show the user where the local store for the pizza chain is located relative to the user's present location (e.g., at the device). This type of advertisement gives people a clear destination to go and purchase an advertised product.

An example interactive display device can have additional features built into the device that is not available on a static or limited interactive map device. An example device may have multi-language support to help visitors that speak various languages with their navigation. These example devices may be able to be updated remotely so that advertisements and content being displayed can be current and relevant to the needs of users at the time the user is interacting with the device. In addition to including information about local attractions,

restaurants, events, and venues, an example display device may include wait times at venues or additional information about the places. For example, a user may interact with an advertisement for a restaurant on an interactive display device. The example interactive display device can then display a map to the restaurant as well as the current wait time to be seated and the daily specials.

The example interactive display device can be augmented with other features or applications to meet the needs of users in the local area. For example, an example interactive display device outside of an airport may be augmented with an application for ride sharing. An example interactive display device near a stadium may be augmented with a phone to call a taxi cab or WiFi to enable users exiting the stadium to use their own devices.

In the example, the interactive display device provides directions for walking, driving, or using public transportation in the local area. An example interactive display device can connect to a user's device, such as a smart phone, so that the user can receive the map or directions to a personal device so that the directions or map can be used offline or away from the interactive device.

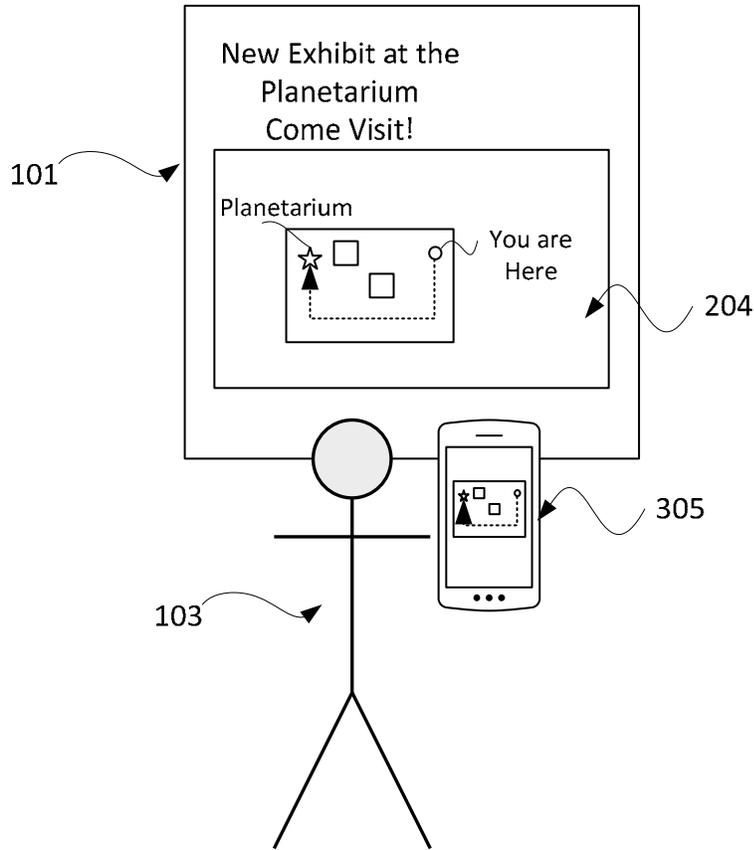


Figure 3

Figure 3 shows an example interactive device connecting with a user's personal device to provide directions from the user's current location to the planetarium that was advertised to the user in Figure 1. A user can receive maps and other information from the example interactive display device (101) so that the information can be displayed on the user's device (305). The example interactive display device can connect to a user's device by near-field communication, Wi-Fi, Internet, QR code, Bluetooth, an application downloaded to the user's device, or some other communication mechanism between two devices. In some implementations, the connection between the devices can occur in response to launching a native application on the user's mobile device, which then connects with the interactive display device to download the information provided on screen.

An example of user interaction with an example interactive display device may be that a man is at a mall shopping for his wife. He sees an advertisement for a new perfume on an example interactive display device. He approaches the device and the device switches to a localized map of the mall, highlighting three stores in the directory that carry the advertised perfume. The man may pick the closest store and the map shows walking directions to the store. The map sends the directions to the chosen store as well as information about the other two stores that carry the product to the man's mobile device. The man can then successfully navigate to the store and buy the perfume for his wife.

In another example of user interaction with an example interactive display device, a woman traveling through India may get off a bus in New Delhi. She approaches an example interactive display device showing an advertisement for a local curry place. Sensing that the woman is looking at the advertisement (e.g., based on the woman being located within a specified distance of the display device for a threshold amount of time), the interactive display device switches from advertising mode to map mode and shows the woman on a local map where the curry place is located. The woman may not speak or read Hindi, so she can switch the device to English mode in order to understand the nearby attractions and directions. In some embodiments, instead of manually switching the example device to a certain language, the example device can synchronize with a user's device to obtain the correct language to display advertisements and local information.

In another example, a businesswoman may arrive in a foreign city. If the woman is on a train from the airport, she may not know exactly at which stop she should disembark the train. While on the train, the woman may see an example device displaying an advertisement for a local cultural festival. When the woman touches the display of the interactive display device,

the device may switch to map mode and show which stop she should get off the train to go to the cultural festival. The device can also provide more information about the cultural festival. The woman may be able to extend the device to contain two localized maps, one of the city and one of the rail system so that she can find directions from the train station to the cultural festival. The woman can then download these directions onto her device.

In another example, a man in a local downtown area may be looking to grab a quick lunch. The man may see an example interactive display device on the side of a nearby bus terminal. He may approach the interactive display device as it displays an advertisement for a new fall jacket. The interactive display device recognizes a user is present as the man approaches and the display device switches the display to a map of stores carrying the jacket. However, the user may not be interested in the jacket and instead search the device for pizza using the local map search functionality of the interactive display device. The interactive display device may then provide a list of nearby pizza places on the map. Pizza places that pay for advertisements on the interactive display device may be displayed with priority at the top of the list or displayed with some other designation as paid advertisement. The man then selects one of the pizza places, downloads the directions to his device, and goes to get lunch.

In another example, a family visiting a museum may see interact with an example interactive display device in a room of the museum that provides information about the contents of rooms in close proximity to the device or an advertisement for the gift show. The example interactive display device switches from advertising to map mode when the family interacts with the interactive display device. As the family clicks on various rooms in the museum, the family is presented with detailed information about the museum contents of each room. The more detailed information could include information such as where a T-Rex fossil is located and may

even include an overall searchable database of displays for the museum. The family can download the map of the example display device or access the map through a plug-in from an application dedicated to the museum so that they can navigate the museum more easily.

ABSTRACT OF THE DISCLOSURE

A technique is provided for providing local advertisements and maps to users. An example display device broadcasts advertisements to users in the vicinity of the device. When a user interacts with an example interactive display device, the image on display changes from an advertisement to an interactive local map. An example interactive display device shows users directions to products, places, or events that have been advertised on the device and allows the user to receive or download the directions and information to the user's personal device so that the directions or map can be used offline or away from the interactive device.