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Providing Event Search Results In A Map

ABSTRACT

Users utilize online maps to search for places as well as events of interest. Current map services are primarily focused on place results and have limited capabilities to return events that match user queries. This disclosure describes techniques to determine query intent and searching for matching places, events, and web results. The matching results are filtered to selectively display places, events, or both events and places, based on the determined query intent. A carousel of events is provided in the results user interface. The prominence of the carousel is determined based on the confidence that the query is for events.

KEYWORDS

- Event search
- Maps
- Query intent
- Map user interface
- Events carousel

BACKGROUND

Users utilize online maps, e.g., provided on a website or via an app to search for various entities, e.g., restaurants, clubs, concert halls, other event venues, etc. and for various events, e.g., music shows, comedy shows, movies, quiz nights, etc. In response to user queries, map applications, provide information such as matching locations, ratings for the locations, etc. However, many user queries can relate to events instead of, or in addition to, locations. For example, the query “jazz” is indicative of user intent in matching locations, e.g., “jazz clubs,”

and also of events, e.g., “jazz concert.” Current map services are primarily focused on place results and have limited capabilities to return events that match user queries.

DESCRIPTION

This disclosure describes techniques that enable a user to use an online map resource, e.g., a maps website, an app, an in-vehicle navigation system, etc. to search for both places and events that match user queries. When the user permits, the user’s location is used to return results that are near the user. Users can perform searches via any device such as a phone, tablet, computer, wearable device, navigation system, etc.

Per techniques described herein, the user is analyzed to make a determination regarding the query intent. For example, it can be determined that the query is for matching places, matching events, or both places and events, with a corresponding confidence value. Based on the query intent, it is determined whether one or more matching events are to be displayed in the search results.

For example, if it is determined that the query is for a particular location or type of location, e.g., “Italian restaurant,” only matching places are shown in the search results. In another example, if it is determined that the query is for events, e.g., “comedy events,” a list of matching events is shown. For other queries, e.g., where the query intent is indicative of events being a possibly relevant answer, a scrollable list (e.g., a carousel) of events is shown in the results user interface, along with a list of matching places.

To determine query intent, the received query is analyzed using a prediction model and/or based on query patterns. Based on the determined query intent and associated confidence, matching information such as matching places, matching events, and web search results that match the query is obtained. Use of multiple data sources helps provide relevant results in

response to the query. For example, if the web search indicates that a particular event is very prominent (e.g., a jazz concert by a Grammy award winning artist), the event is selected as a single prominent event to be included in the user interface generated in response to the user query.

If more than one event is obtained in the top web search results, the list of matching events is included in the user interface. Further, when the matching places are known to be event venues and/or the event results are detected as events happening at these venues, it is determined that the events results are more likely to be of interest to the user and are therefore included in the user interface.

If a single prominent event matches the query, the user interface lists the places that match the query and include the single prominent event as additional content. If multiple events match the query, matching events are identified and ranked. The results user interface is generated that includes a list of places along with a scrollable list (carousel) of the matching events. The position of the carousel in the results page is determined based on the confidence that the query intent is for events. When the confidence is high, the carousel is shown at a prominent position, e.g., at or near the top of the search results. When the confidence is low, the carousel is shown at less prominent positions, e.g., after the matching places.

Generation of the user interface can include the use of a machine learning model that takes various signals, e.g., matching events, places, web results, prominence of events, whether the matching places are event venues, etc. as input and provides a result that indicates what type of user interface (events only, places only, places with events carousel) is to be generated.

Examples of use

- Query: “Italian restaurants” Results: Matching places

- Query: “comedy events” Results: Matching events
- Query: “comedy near me” Results: Matching places (comedy clubs) and events (comedy events)

Example user interface

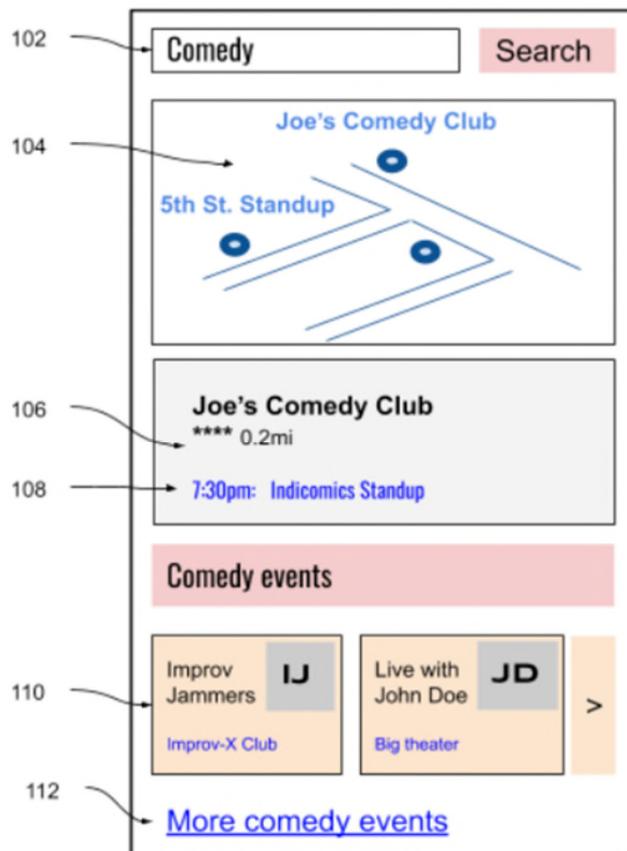


Fig. 1: Map displaying results from user query

Fig. 1 illustrates an example user interface for a map with selective display of places and events, per techniques described herein. The user interface includes a search box (102). In the example illustrated in Fig. 1, the user has entered a search query for “comedy.”

The results include both places and events. As seen in Fig. 1, a map (104) is displayed showing locations of places that match the query (“Joe’s Comedy Club,” “5th St. Standup”). The

user interface also includes a list of place results (106) with information regarding the matching places. In the example illustrated in Fig. 1, a single place result is shown; however, any number of matching results can be shown. Further, the place result can include event information for events scheduled at the place, e.g., “Indicomics Standup” (108), as shown in Fig. 1.

In the example of Fig. 1, it is determined that the query intent indicates that the user may be interested in events in addition to places. Accordingly, a carousel (110) of event results is shown that includes various events, e.g., “Improv Jammers,” “Live with John Doe,” along with the names of the places where the events are scheduled. In this example, carousel is a horizontal scrollable list of UI elements, e.g., cards, with one UI element per event. Users can select a particular card to obtain additional information about the event. In this example, the events carousel is shown below the first place result. However, as described earlier, based on the determined query intent, the placement of the events carousel can be higher or lower in the user interface. A link (112) to additional matching comedy events (“More comedy events”) is provided that enables the user to view a vertical scrollable list of events that match the query.

While the foregoing description refers to a vertical list of events and a horizontal events carousel when both places and events are determined as relevant to the user query, different combinations of carousels and vertical scrollable lists can be used to display the search results. If it is detected that an event result and a place result are duplicative of each other, the results are combined and a single result is shown.

Further to the descriptions above, the user is provided with controls allowing the user to make an election as to both if and when systems, programs or features described herein may enable collection of user information (e.g., a user’s preferences; sensor data such as a camera feed, user’s current location, ambient sound levels, etc.), and if the user is sent content or

communications from a server. In addition, certain data is treated before it is stored or used, so that personally identifiable information is removed. For example, a user's identity is treated so that no personally identifiable information can be determined for the user; a user's geographic location is generalized where location information is obtained so that a particular location of a user cannot be determined. Thus, the user has control over whether and what information is collected about the user, how that information is used, and what information is provided to the user.

CONCLUSION

This disclosure describes techniques to determine query intent and searching for matching places, events, and web results. The matching results are filtered to selectively display places, events, or both events and places, based on the determined query intent. A carousel of events is provided in the results user interface. The prominence of the carousel is determined based on the confidence that the query is for events.