# "One Size Doesn't Fit All": Helping Users Find Events from Multiple Perspectives

Sean MacLachlan & Stacey Donohue
relEVENTcity
{sean,stacey}@releventcity.com

Nevena Dragovic & Maria Soledad Pera
Dept. of Computer Science
Boise State University,Boise, ID, USA
{ndragovic,solepera}@boisestate.edu

## ABSTRACT

In this demo, we showcase a novel mobile application that offers various ways to present recommendations to users. While the majority of the existing applications in the tourism domain either focus on event recommendation or event browsing, our mobile application acknowledges the fact that users have different interests at different times and for different occasions. Consequently, while suggested events are filtered and ranked by proximity and date ranges to ensure they suit users' needs, each user is allowed to choose how to access these suggestions in one of four ways: search, categorized browsing, following, and traditional recommendations.

## CCS Concepts

•**Information systems** → **Decision support systems; Recommender systems;** *Personalization;*

## Keywords

Event recommendations; user perspectives; mobile application

## 1. INTRODUCTION

As defined in [1], recommendation strategies in the tourism domain can help users, i.e., visitors, find unique and interesting information about a particular travel destination that match their preferences and their current context.

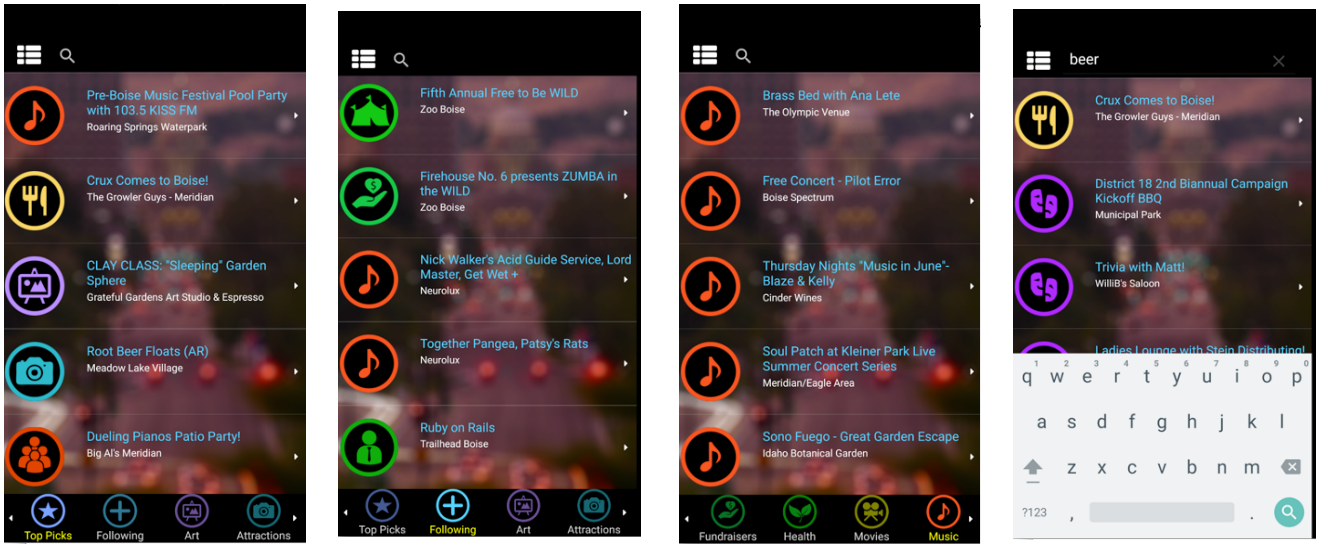
A recent survey on recommenders in the tourist domain [1] highlights the fact that the majority of the mobile applications focused on helping visitors create routes or tour plans, which often involved suggestions primarily focused on Points of Interest [3] and locations. Unlike points of interests, which are locations or places that people tend to find interesting, such as a museum, theater, or historical site, events occurring around town often have a short time-span, information (reviews and ratings) about them is usually limited, and they rarely reoccur. For example, the Eiffel tower is a well-known and popular tourist location with few restrictions besides the visiting hours and distance (which impacts transportation). Events, however, are more complicated. A concert or dinner event will also have time and location constraints, but the limited duration of the event combined with the lack of any historical data such as reviews or rating (because events often do not repeat) makes event recommendations much more challenging. Even after addressing the challenges inherent to event recommendation strategies, the application still needs to address the fact that different users have different preferences in terms of how they receive recommendations.

Based on our user analysis, we noticed that users not only differ in terms of the type of recommendations they favor, they can also prefer different types of recommendations depending on the circumstances (time of day, day of the week, weather, current mode, etc.). In the end, providing lists of "things to do", even if they all appeal and are tailored to individual users is not enough. Context plays a key role, and it is the duty of the recommender to both narrow down choices and provide enough flexibility to cater to users' diverse needs. With this in mind, we present RelEVENT, a mobile application that offers different recommendation styles, thus allowing users to choose the one that best fits their current, but likely to change, information retrieval preference. Our analysis revealed four different groups of users: (i) the ones that consider only suggestions provided by the app and do not feel the need for further exploring, (ii) the ones that are interested in events their friends are going, or their favorite band is organizing, (iii) the ones that are only interested in one type of event at time (Friday for dinners, Saturday for sports), and (iv) the ones that are already aware of events they would like to visit but they need more information about them.

## 2. OVERVIEW

In this section we discuss each RelEVENT's strategies to provide recommendations targeted to users' needs. **Traditional Recommendations.** The main contribution of RelEVENT is providing personalized event suggestions for each individual user. The algorithm running in the background matches users' preferences, demographical information and historical data (such as, ratings, reviews, likes), with available metadata of each candidate event happening in a given city (Figure 1a). Based on our recommendation strategy, each user is provided with top-N suggestions from which to choose. Users who like receiving diverse (sometimes even unexpected) suggestions, prefer this type of recommendation. An ancillary benefit to this approach is that it doesn't require any effort from the user in order to receive credible

Copyright held by the author(s).
RecTour 2016 - Workshop on Recommenders in Tourism held in conjunction with the 10th ACM Conference on Recommender Systems (RecSys), September 15, 2016, Boston, MA, USA.




(a) Traditional Recommendation (b) Follow (c) Category (d) Search

Figure 1: Screen captures of our mobile application, which illustrate the different manners in which users can take advantage of RelEVENT to identify suitable events

recommendations. Therefore, a significant group of users prefers this type of recommendation delivery method.

**Follow.** Based on our empirical study conducted to detect preferred styles of recommendations, we noticed that another group of users are interested in knowing about the events their friends like (e.g., movie that is currently playing in the nearby theater), are interested in (e.g., concert that will happen in 3 months) or already attended (e.g., museum exhibit). Since these users prefer seeing this type of recommendation, RelEVENT (as shown at Figure 1b) provides suggestions based on the people they follow. In addition to following a person, we added a feature that allows users to follow a specific event. For example, the Cannes movie festival occurs every year and has a wide variety of movie screenings. By following the event, users can keep up to date about changes in the festival lineup or smaller events happening within the bigger event (e.g., of director roundtables associated with the film screenings).

**Category.** Based on our study, we concluded that users often prefer one category of events over another at a specific point of time (e.g., time of day, day of week, or month). During the football season, we noticed some of the users are more interested in the sports category on Sundays, while on Friday night users preferred events related to movies and dinners. In order to provide suitable recommendations related to specific category, RelEVENT provides users the ability to search and filter suggestions based on the current category of interest as shown in Figure 1c. The suggestions in each category will still be ranked based on the specific interest of a user (e.g., football fans will find the Seahawks game ranked first in the sport sections).

**Search.** The last group contains users who already know what type of events they would like to attend. RelEVENT enables them to find information about different types of events by doing a basic keyword search. In doing so, users can submit to the app specific constraints and still retrieve events that are relevant to their specifications, yet they are sorted, i.e., recommended, based on what RelEVENT knows this user favors (in terms of location, budget, etc). As shown in the Figure 1d, if a user is interested in going to an event related to "beer" he can type that keyword and RelEVENT will locate events that refer to "beer" in their archived metadata, filter and personalize the identified events, and provide suitable and relevant suggestions to the user.

## 3. CONCLUSIONS

We have introduced a mobile application that allows users to discover interesting events from multiple perspectives. While, as stated in [2], context-aware venue suggestion is still a challenge for the RecSys and Information retrieval communities, by offering exploratory and traditional avenues for recommendations to ease users' decision making process and therefore represents a step forward. Based on data collected using the mobile application presented in this demo, we will conduct the necessary empirical analysis to validate and quantify the degree to which offering multiple perspectives can increase user satisfaction in the recommendation process and allow them to take better advantage of the events a new destination offers visitors.

## 4. REFERENCES

[1] J. Borras, A. Moreno, and A. Valls. Intelligent tourism recommender systems: A survey. *Expert Systems with Applications*, 41(16):7370–7389, 2014.

[2] R. Deveaud, M.-D. Albakour, J. Manotumruksa, C. Macdonald, I. Ounis, et al. Smartvenues: Recommending popular and personalised venues in a city. In *ACM CIKM*, pages 2078–2080, 2014.

[3] Y.-T. Zheng, Z.-J. Zha, and T.-S. Chua. Mining travel patterns from geotagged photos. *ACM TIST*, 3(3):56, 2012.