Graduation Project
Proposal Form

Project Information

Title

Location/Tour Recommendation Mobile App for Groups

Target

Public [X]   Restricted [ ]

Proposer Information

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IP (Intellectual Property) Information

The project is aimed to be studied for research purpose.

Project Description and Background Information

Description

Social network has been an effective media for people to gather. There are also location based social networks where people let other know about the places they visited and inform about these places through ratings and comments. This project is related with location and social media, but considers recommendation aspect. There are several location recommendations apps for individuals. This project focuses on location recommendation and tour of locations (such as first going to lunch, then to a movie theatre and then a coffee place) for a group of people.

Similar Products/Projects

There are several apps on location recommendation for individuals. Location/tour recommendation for group is merely a research problem right now. Hence the motivation of the project is to turn this research results into practice.

Justification of the proposal

There is no practical app currently for the described project. The aim of the project is to devise a practical tool using the ideas in the literature.

Contributions, Innovation and Originality Aspects of the Project

The research on this topic includes interesting research problems such as how to measure group satisfaction by the recommended location and how to minimize misery, and especially tour recommendation problem under certain constraints is proven to be NP-hard in the literature. Hence a practical app making use of some of the solutions in the literature will be interesting and novel.

The project idea can be further extended to different kinds of recommendations to groups other than location such as activity recommendation.

Technical Aspects of the Project

The project basically involves mobile development, map integration, social media integration and use of various data mining techniques.

Targeted Output, Targeted User/Domain Profile

The resulting software will be a social mobile application such that users register (probably through a social media account such as Twitter or FourSquare so that their location history can be accessed) and form groups. The app will have two different functionalities. In the first one, according the preferences explicitly given by the users and their current locations, a venue/location recommendation is generated. In the second step, a tour is recommended to the group, again according to the preferences. In addition to preferences, history of users and groups will be used, as well. The preference definition involves marking venues on the map. Social media functionalities, such as inviting a user, following a venue, and chat will be included.

In the literature, success of such recommendations is generally evaluated through metrics such as distance covered, group satisfaction and group misery. Such metrics will be employed to compare

alternative recommendations. In addition, a rating mechanism will be included for the presented recommendation.

Project Development Environment

There is not a specific restriction on project development environment.

External Support

The project does not include external support.

References

Mobile Apps on Location/Tour Rec for individuals:

www.zomato.com *(recommends restaurants for indivifual – in out case venue type is not limited, recommendation is generated on the basis of venue in user preferences)*
tripadvisor.com (location based POI recommendation for individual)

Google trips: https://get.google.com/trips/

https://www.fieldtripper.com

CitySeeker https://cityseeker.com

Publications:

Anagnostopoulos, A., Atassi, R., Becchetti, L. et al. Tour recommendation for groups, Data Min Knowl Disc (2017) 31: 1157. https://doi.org/10.1007/s10618-016-0477-7

Frederick Ayala-Gómez, Bálint Daróczy, Michael Mathioudakis, András Benczúr, and Aristides Gionis. 2017. Where Could We Go?: Recommendations for Groups in Location-Based Social Networks. In Proceedings of the 2017 ACM on Web Science Conference (WebSci '17). ACM, New York, NY, USA, 93-102. DOI: https://doi.org/10.1145/3091478.3091485

Aristides Gionis, Theodoros Lappas, Konstantinos Pelechrinis, and Evimaria Terzi. 2014. Customized tour recommendations in urban areas. In Proceedings of the 7th ACM international conference on Web search and data mining (WSDM '14). ACM, New York, NY, USA, 313-322. DOI=http://dx.doi.org/10.1145/2556195.2559893