

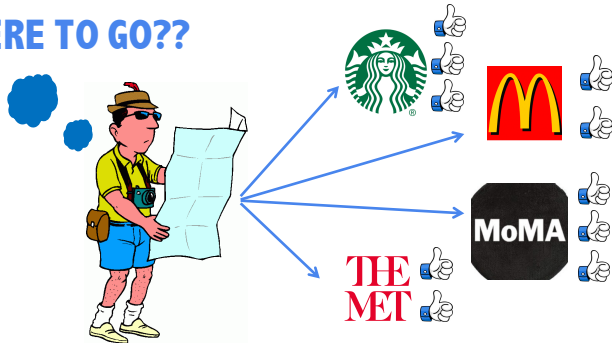
In Search for Relevant, Diverse and Crowd-screen POIs

Xiaoyu Ge, Samanvay Reddy Panati, Konstantinos Pelechrinis, Panos K. Chrysanthis, Mohamed A. Sharaf**
University of Pittsburgh and University of Queensland**

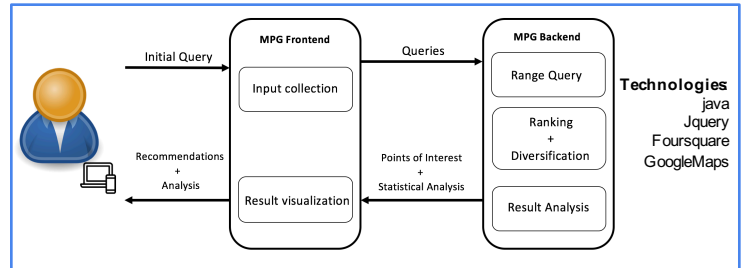


Motivation

WHERE TO GO??



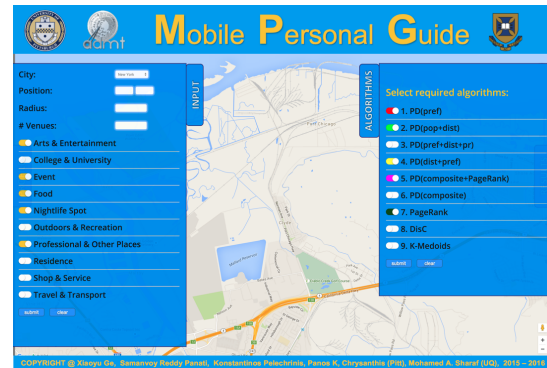
MPG Architecture



MPG Interfaces

MPG (Mobile Person Guide) [1]

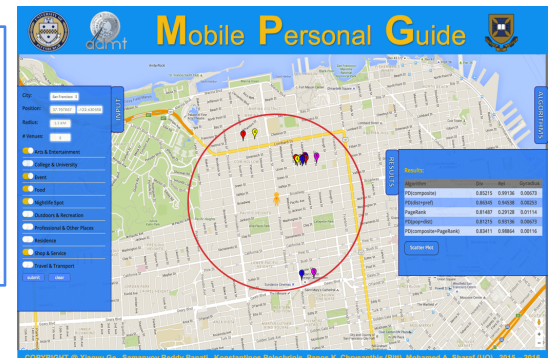
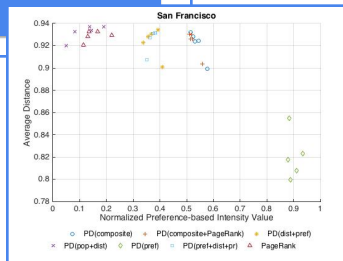
- ❖ Assist users to explore a new city and find interest POIs.
- ❖ Provide diverse POIs recommendations that better align user's interest.
- ❖ Provide multi-platform user-friendly interfaces.
- ❖ Backend system delivers fast response time and scalability.
- ❖ Supports as experiment subject nine recommendation algorithms.
- ❖ Real-time quality analysis of the recommendations.
- ❖ Real-time visualization for better comparison between different algorithms.



- ❖ The "Input" panel to formulate the query, and choose algorithms through the "Algorithms" menu.

Main Features of MPG

- ❖ **Multiple Spatial Indexes For Fast Range Query**
 - ❑ M-Tree, K-Medoids and etc..
- ❖ **Multi Granularity Diversification Method**
 - ❑ Category Tree
 - ❑ Word2Vec
- ❖ **Multi-Dimensional User Preferences Representation**
 - ❑ Distance-based preference
 - ❑ Popularity-based preference
 - ❑ Preference-based preference
- ❖ **Venue Flow Network**
 - ❑ Captures the transitions of people between the venues



- ❖ POIs are visualized on a map or a scatter-plot and a dashboard presents with corresponding analysis.

[1] Xiaoyu Ge, Panos K. Chrysanthis, and Konstantinos Pelechrinis. MPG: Not so Random Exploration of a City. In proceeding of the 16th IEEE International Conference on Mobile Data Management, June 2016