



Visual Analysis of Social Check-in Data

ideas, visual design

@HKUST

February 27th, 2013

Overview of Ideas

- Influence Analysis
- Detecting the Dynamic of City
- Regions/Activities/Users Characterization
- Mobility Analysis
- Commercial Evaluation (Strategy and Survey)
- Social Flow (Human Behavior)
- Modern City Management (Planning, Anomaly, Emergency)

Influence Analysis

- Problem
 - How to visualize spatio-temporal behaviors influence for regions/activities/users? (4)
- Target Users
 - Sociologist
 - Normal users: Intuitively (Info graphs), Evolution=> App
- Effectiveness
 - High (4)
- Novelty
 - High (4)
- Workload
 - Heavy (2)

Detecting the Dynamic of City

- Problem
 - How to visualize dynamic of city (social constructed regions vs political constructed borders) (3)
- Target Users
 - Normal users: What's the difference between your mental picture and the visualization?
 - Government
- Effectiveness
 - Medium (3)
- Novelty
 - High (4)
- Workload
 - Light (5)

Regions/Activities/Users Characterization

- Problem
 - Characterization: Spatial Distribution + Temporal Evolution (2)
- Target Users
 - Ecologists
 - Normal users
- Effectiveness
 - High (4)
- Novelty
 - Low (1)
- Workload
 - Very light (5)

Mobility Analysis

- Problem
 - People's migration flow in the city (2)
- Target Users
 - Ecologists
 - Normal users
- Effectiveness
 - Low (2)
- Novelty
 - High (Flow with context, 4)
- Workload
 - Heavy (2)

Commercial Evaluation

- Problem
 - Strategy evaluation or field study/survey (dynamic) (4)
- Target Users
 - Business people
 - Normal users: App, Where to play/live/work
- Effectiveness
 - Low (2)
- Novelty
 - High (4)
- Workload
 - Heavy (2)

Social Flow

- Problem
 - Spatio-temporal analysis of human behaviors (2)
- Target Users
 - Sociologists
 - Normal users: App
- Effectiveness
 - Medium (3)
- Novelty
 - High (4)
- Workload
 - Medium (3)

Modern City Management

- Problem
 - City management: Urban planning, anomaly detection, emergency response (4)
- Target Users
 - Government
 - Normal users: App
- Effectiveness
 - Low (2)
- Novelty
 - High (4)
- Workload
 - Medium (need to add the streaming model, 3)

Summary of Ideas

Idea	Problem	Effectiveness	Novelty	Workload	Total
Influence Analysis	4	4	4	2 (?3?)	14
Detecting the Dynamic of City	2 (?3?)	3	4	5	14
Characterization	2	4	1	5	12
Mobility Analysis	2	2	4	2	10
Commercial Evaluation	4	2	4	2	12
Social Flow	2	3	4	3	12
Modern City Management	4	2	4	3	13

- Scores: 1 – 5 (1 is worst, 5 is the best)