LBS Mobile App: Social List

Group Members:
Xiaojing Huang
Hai Lu
Shimin Lian
Motivation

- Implements a mobile LBS App for people to organize, manage and participate in social activities conveniently.

- Overcomes the problems seen in other previous social mobile Apps by providing several new features and novel perspectives.
Problems of Previous Work

Problem 1: Do not send Location-based Notifications (invitations) of new activities to nearby users.
Solution for Problem 1:

Adds a new feature of sending notifications to nearby users whenever a new activity is created.
Problems of Previous Work

Problem 2: Do not keep track of the accurate locations of activities after they start
Solution for Problem 2:

Adds a new feature to let the server dynamically track the locations of the activities after they start.
Adaptive-distance Notification:

Based on the remaining time before the start of the activity and the number of users already register to attend the activity, the server will dynamically adjust the distance setting for broadcasting notifications to potential users to meet the expected number of participants specified by the host in time.
Activity-based Message Board:

Each individual activity is associated with a separate Message Board to allow its participants to chat and share their same interests conveniently.
Activity Name: Mobile

Host: Edwin

Date: "2012-12-12"

Time: "16:00:00"

Tag:

Description: Final project of mobile computing.
Activity Name: Mobile

Host: Edwin

Date: "2012-12-12"

Time: "16:00:00"

Description: Final project of mobile computing.

1 Message(s):
Alan:
I will be there!
data: "2012-12-12"
time: "11:14:00"
Activity Name: Mobile

Host: Edwin

Date: "2012-12-12"

Time: "16:00:00"

Description: Final project of mobile computing.

2 Message(s):
Alan:
I will be there!
data: "2012-12-12"
time: "11:14:00"

Alan:
good idea!
data: "2012-12-12"
time: "11:33:00"
Activity Name: pingpong
Date: 2012-12-15
Time: 15:30
Description: yes
Expect people:
Activity Name: table game

Host: Alan

Date: "2012-12-13"

Time: "15:30:00"

Description: play game together
Server

Bridge between the client and database

Client -> Server

http: // 130.132.54.179:6789/mm?typeID=2&uID=1

Server -> Database

SELECT activity.*
FROM user JOIN user_has_activity JOIN activity
ON user.id=user_id and activity_id=activity.id and user.id=1;
Query

Trivial
extracted from database

Activity Tracking
Activity Tracking

Host
  easy to extract from the db
  not always accurate

Participants
  mining the data
Assumption

I. At least certain proportion (40% in my code) of people signed up will actually show up.

II. People in the activity will be like a cluster of a certain geographically location.

III. People didn’t go to the activity will be randomized distributed.
K-means derived method

signed up -> sample set
K clusters -> 1 cluster of the size of a certain proportion

1. Decide belonging
2. Recalculate the cluster center
Reality

Activity competition

III. People didn’t go to the activity will be randomized distributed.

Start point is critical:

Host!
Refactoring

I. At least certain proportion of people signed up will actually show up.

II. People in the activity will be like a cluster of a certain geographically cluster.

(III. People didn’t go to the activity will be randomized distributed.
Or
IV. The host will be closer to his own activity cluster.)
Thank You !