Introduction and Goals

Human beings need social relationships, no less than they need food, water, or shelter. But relationships do not form in a vacuum; they develop most readily within communities organized around shared interests or activities, and events are a natural way to spontaneously form such communities.

Below, we outline the design and development of WeGO, an Android application to help people create and connect with nearby events that interest them. By notifying users of events outside of their established social networks, WeGO promotes rich offline interactions and the formation of new relationships.

Our goals for this project were to:
- Promote freeform social interaction via event planning
- Simplify event creation and discovery
- Leverage mobile sensing capabilities to provide relevant event notifications
- Provide an intuitive user experience promoting ease of use and a streamlined workflow

System Architecture

Primary user interaction takes place on the Android phone. User account management is handled through close Facebook API integration. We require a Facebook account to use the system, and we use this interaction to fetch the users’ account information (full name, and user photo). Publicly searchable information from the users’ Facebook profile is shown to other users of the system.

Once the user has linked a Facebook account, we ask the user to specify some initial interests, which can be updated later. Interests are arbitrary strings, displayed as hashtags in event descriptions. Once a user has specified a set of interests, any nearby events matching one or more interests will trigger a push notification on the phone for immediate response. Users can create, update, and delete events from the app, and can apply hashed tags to the description of an event. They can also view the attendee count and roster for all events.

Tools which are utilized in our project include:
- Node.js
- SQLite
- Facebook API
- Google Cloud Messaging API
- Google Maps API
- Google Places API

The web service, written in node.js, communicates with the Android application running on the phone, and is responsible for storing and retrieving user and event data.

The web service also performs the push notification service using the Google Cloud Messaging for Android service. This is accomplished by storing a unique identifier keyed to each user’s phone(s). When a new event is created, the system will attempt to locate users whose interest criteria match the event’s details, and send a push notification to matched users. We store an approximate location for each user in order to filter by location on the server.

Conclusions

While social discovery is a promising development, the apps available on the market today are a poor fit for typical patterns of human interaction. Most people don’t form friendships by striking up conversations with strangers; they become friends with classmates, coworkers, teammates in club sports, and so on, and other members of their communities. Therefore, an app that aims to foster meaningful relationships extending beyond preexisting social networks must make forming a community as easy as striking up a conversation with a stranger. WeGO targets events as an organic way to create these communities, since they naturally bring people together for a common purpose.

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