

# #FriendFinder: On-Campus Social Networking

Tyler Allen  
Western Carolina University

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# Outline

Today we will:

- Discuss the purpose of this application.
- View the technologies used in the creation of this application.
- View the design and current implementation progress of this application.

# Purpose and Goals

- Develop a social-networking application for college students.
- Target the application at specific campuses.
- Provides features targeted at users with low geographical distance between them.

# Features for Users

- User Accounts and Profiles
- Friends
- Events
- Groups
- Calendars
- Mapping Locations

# Technologies

- Implementation Language: Java
- Application Platform: Android
- Network Encryption via Secure Socket Layer (SSL)
- Network Communication using Javascript Object Notation (JSON)
- Database Communication using Java Database Connectivity (JDBC)
- Backend Database using PostgreSQL
- Client Side Database using SQLite3

# Java

- Standard Language for Android
- Solid Server Language
- Built-in Database Connectivity
- Using the same language for the whole project simplifies development.

C/C++ were considered, but would increase development time drastically.

# Android

- Android is one of the most popular mobile platforms in the world.
- Prior experience in both Java and Android
- Majority of available testing devices were Android.

# Secure Socket Layer

- Encryption is necessary for any system with private user data.
- SSL provides encryption for all data sent between client and server.
- SSL is recommended by Android.
- SSL support is built into the Android Framework.
- Hypertext Transfer Protocol Secure (HTTPS) could be placed on top of SSL in the future if necessary (e.g. for a web application).



# JSON

- Key-value store.
- Built for server-client communication within web applications.
- Built-in Android support.
- Multiple supported Java libraries.

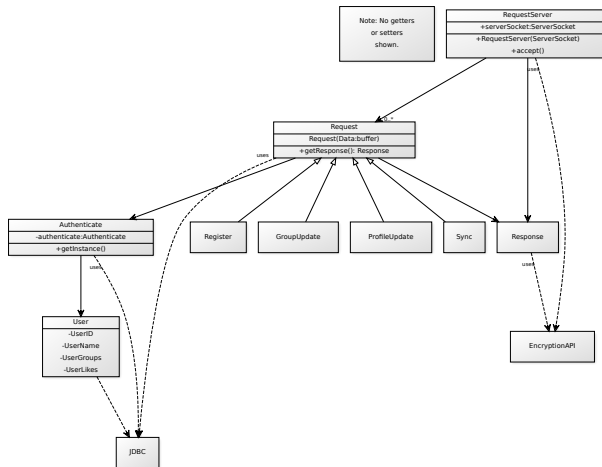
# JDBC and PostgreSQL

- JDBC is the default library for accessing databases in Java.
- PostgreSQL is open-source and has JDBC support.
- Prior experience using PSQL for designing a web application.

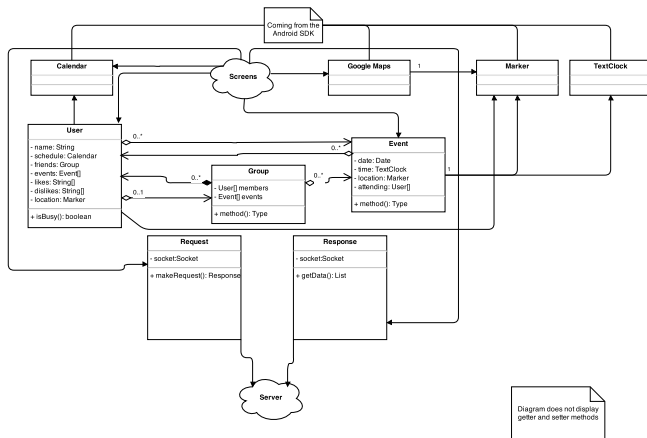
# Client-side Databases

- The Android Framework uses *ContentProviders* to store large volumes of data.
- SQLite3 is the Android supported database language compatible with *ContentProviders*.
- SQLite is lighter weight than PostgreSQL, and provides less features, but is suitable for the reduced amount of data stored on each individual client.

# Server UML Class Diagram



# Application UML Class Diagram



## Current Implementation

- Active development server with functioning test PostgreSQL database.
- Client-server communication via Transfer Control Protocol (TCP) and SSL is functioning.
- Client has functioning *ContentProvider* with SQLite Database containing the relevant subset of data received from the server.
- Layout navigation primarily complete.
- Viewing of events, groups, and users is complete.
- Searching for users and groups are available.
- User login, authentication, and registration is complete.

# Demonstration

# Summary

- The communication and data storage backbone of the application has been completed.
- A number of viewing, querying, and searching features have been implemented.
- User authentication and registration has been completed.



# Future Work

- Allow users to create their own groups, events, etc.
- Add friends.
- Allow users to set their schedule and make it viewable exclusively to friends.
- Marking event locations on a Google Maps interface for other users to see.
- Allow syncing to be less redundant, more efficient.