

This week's goals were to add support for event locations, allow users to select time/date dialogs, and to allow event owners to send event invitations. All of these features have been completed.

Events now support the ability to display a location. The 'map' button is available on all versions of the event page (Storyboard 7) will display the location of the map. When creating an event, a default location is chosen. The owner of the map may select and hold the map icon to drag it across the map to a new location. The owner may modify this location when creating the event and when editing the event. Users who are not owners may only view the location. The map page is screen 4 on the storyboard.

The owner of a group may now select the time and date of their event via the date and time buttons on the event modification page (Storyboard 3a). Due to the use of buttons, the current time and date are not entirely visually intuitive to the owner. This would need to be fixed when the layout design is finalized. Other users will see a `TextView` containing the date and time as text fields (Storyboard 3b etc). This implementation required modifying the way dates/times were handled by the client and server to ensure that they were compatible with the PostgreSQL date/time data types¹.

Event owners are now able to invite other users to their event (Storyboard 3a to 13). Owners may only do so during event modification currently. This feature is not available during event creation because users are currently invited on a screen independent from the event page. This means that, if users could be invited during creation, a user could be invited to an event that has not yet been created. The invitations page allows for searching of users similar to the search page. Selecting an item from the list displays a dialog box with a prompt to invite the selected user to the event. All users are potentially visible on the invitations page, but inviting a user who is already attending the event will display an error dialog. Removing users who are already attending an event would require heavily modifying the current database access system to allow for set differences and was not feasible for this report.

This also means that the Invites tab on the home screen (Storyboard 2c) now displays invitations. If a user views an invitation, they may select the "Attend" button. If the users selects "Attend", the user will no longer be pending invitation, the invite will no longer show up in the "invites" tab, and the event will be displayed in the "events" tab. During the implementation of the invites tab, research was done to discover the similarities between this method of sending invitations and the built-in Android notifications. It was discovered that, in

¹ "PostgreSQL: Documentation: 9.1: Date/Time Functions and ..." 2011. 3 Mar. 2015
<<http://www.postgresql.org/docs/9.1/static/functions-datetime.html>>

order to use notifications, the Google Cloud Messaging (GCM) framework must be used². This method is not mutually exclusive of the SyncAdapter approach currently being used by this application, but requires heavy integration of Google Play Services and other features. GCM acts as a layer in between the client and the server, and may have been useful during the initial development of this application.

In conclusion, date/time fields for events are currently working but currently are not completely intuitive to the owner of the group. A map is now visible from the event page, where the event location can be seen. Owners may modify the location of their event. Event invitations may now be sent by the event owner and received by other users.

² "Google Cloud Messaging for Android | Android Developers." 2013. 3 Mar. 2015
<<https://developer.android.com/google/gcm/>>