

This week's goals were to implement some form of calendar system for users to include their schedules, and to implement a busy/available indicator on user profiles. In addition, peer-to-peer communication was to be researched to determine if it is viable for this project. These tasks have been completed.

The busy status feature and other future features will continue to use the client/server model. The initial argument for using peer-to-peer was to allow the users to quickly communicate with nearby users. It is not feasible to implement a feature like the busy status in this manner, because it would require a large amount of time, resources, and additional clients to connect two clients together¹. In order to optimize this, additional information would be needed from the server; this would defeat the purpose of using peer-to-peer.

The calendar feature has been implemented. A CalendarView has been added to allow the user to pick a date². Users can now modify their schedules through the profile page. This has been implemented using the built in Calendar Provider framework within Android³. This framework utilizes the built-in Android calendar. This would potentially open the door for future features by allowing synchronization with Google Calendar, as well as the merging of Google Calendar events with the currently implemented events. Currently, when the schedule

¹ "Creating P2P Connections with Wi-Fi | Android Developers." 2012. 24 Mar. 2015
<<http://developer.android.com/training/connect-devices-wirelessly/wifi-direct.html>>

² "CalendarView | Android Developers." 2011. 24 Mar. 2015
<<http://developer.android.com/reference/android/widget/CalendarView.html>>

³ "Calendar Provider." 2011. 24 Mar. 2015
<<http://developer.android.com/guide/topics/providers/calendar-provider.html>>

is accessed, the application synchronizes events from the present time onward (temporarily limited to a single day) with the server. In order to continue to allow the application to function if a user logs into a different device, the server will always accept modifications from the user, and never merge the calendars. This also prevents the application from modifying a user's Google Calendar if they log onto a different device.

The busy status has also been implemented. As mentioned before, the server stores some information about calendar events. This includes the start time and date, and the end time and date. This information is stored on the server so that the server may determine if a user is available without requiring the user to have a connection to the server. Issues with this include some parts of the Android framework using Julian dates, causing issues with conversion on the server side. This problem has been fixed. In addition, the "View Profile" button in the options menu of the homepage (Storyboard Page 2) does not provide accurate available/busy statuses. This is due to a previously made assumption that users would not require server information to modify their statuses. The user should not need to see their own busy/available status, but this feature has been left in place temporarily to facilitate bug testing and feature demonstration. Accessing this page (Storyboard 7b) through any other method does provide correct results.

In conclusion, the calendar feature has been implemented utilizing the built-in Android calendar features. A busy status has been implemented, allowing other users to determine if a user is busy at a given time by viewing their profile. Peer-to-peer communication has been researched, and it has been deemed that it would not contribute meaningfully, and could actually be a detriment, to this application.