

ACalendar Process Description

- Group Members:
 - Qinrong Lin (snailin@cs.washington.edu)
 - Qun Zhang (zq0605@cs.washington.edu)
 - Ruoyu Mo (rettymoo@cs.washington.edu)
 - Tong Shen (shent3@cs.washington.edu)
 - Zhengyang Gao (gaoz6@cs.washington.edu)
 - Ziyao Huang (ziyaoh@cs.washington.edu)
- Software Toolsets
 - Programming languages: Java and XML, since we are developing an Android app.
 - Data source: Amazon AWS -- the reason why we chose to use Amazon AWS is that several of our group members have worked with AWS before. Plus, Amazon AWS is known for its reliability and performance.
 - Version control: GitHub
(<https://github.com/CSE403DEATHEATERS/cse403-16au-ACal>)
 - Library & API:
 - For the calendar, we plan to use the Google Calendar API.
 - For database interactions, we plan to use the Java Hibernate library.
 - For marking the locations of events, we plan to use the Google Maps API.
- Group Dynamics
 - Product Manager: Zhengyang Gao (gaoz6@cs.washington.edu)
We chose Zhengyang Gao to be our product manager because we think he communicates with the team well and he can make a good balance between engineering and adding/deleting features. Furthermore, we trust that he will keep the team motivated and on schedule.
 - In terms of member roles, we are not going to designate specific members of the team as designers or testers, as all members will both develop and test their code. Furthermore, to make the software more robust, we will also designate members to test other members' code.
 - We try to create an open environment in the team -- if a disagreement arises between the developers, they can first bring it to the product manager. If the product manager cannot come up with a convincing argument to support/reject the proposal, we will try to bring in a third-party (could be other cs students or the

mentors some team member had while interning) to evaluate the problem from an outsider's perspective and try to come up with a solution that satisfies everyone.

- **Schedule & Timeline**

- By Wednesday, Oct 19, each group member should have decided on:
 - Database representation
 - API's of each module listed below.
- Having decided on the database representation and the API's we are going to implement, we can start implementing the project. Specifically, each group member is assigned the following module(s) and the expected finish time is listed below (for release version 1.0):
 - User accounts & login (Ruoyu Mo, finish by Oct.24)
 - Create account
 - Forgot password (by verification code via email)
 - Event-related modules (event creation/edit/sharing, etc)
 - Calendar view of all events for a user (Qun Zhang, finish by Oct.24)
 - Event dashboard for each event (Tong Shen, finish by Oct.31)
 - Post proposals or updates(input box and display)
 - Event Pool (Ziyao Huang & Qinrong Lin, finish by Oct.27)
 - Searching an event
 - Marking an event on Google Maps
 - User Dashboard
 - Notification-sending module (Zhengyang Gao, finish by Oct.27)
 - In-app
 - Push notifications
 - Email-sending module (Tong Shen, finish before Oct. 24)
 - Friends-related modules (Ruoyu Mo, finish by Nov.5)
 - We support logging in using Facebook accounts.
 - Add friends who is also using our app by searching Facebook friends.
- While implementing the backend of our app, we will also be implementing a rough UI so that we can test our code as we go. After finishing implementing the backend, we will focus on beautifying/improving the frontend UI. We expect this to take about 2 weeks (finish by Nov.15th).
- After finishing the majority of our app, we will set up an extensive bug bash. We expect this to take less than a week (finish by Nov.20th).
- If everything goes smoothly, we will have about two weeks left in the end, which we can use to implement some of our stretch goals.

- Risk Summary
 - Since we are using multiple external libraries/API's, and since none of the group members have used the Google Maps or the Google Calendar API's before, we are most worried about getting these external components to work in harmony with our app. Therefore, we will do extensive research on these external components to minimize the obstacles that we might run into in the future.
 - Another major challenge we face is how to handle different permission levels. Specifically, in our app, there will be two kinds of events: private and public events. For private events, every participant can edit that event, whereas for public events, only the owner can edit that event. Therefore, correctly implementing the permission hierarchy is a challenge for us. We will try to get our original plan to work, but if we can't, we will try to implement an easier logic regarding permission checking.
 - Kind of related to the last bullet point, on the frontend, we would like to display different UI for different users (event owners vs. participants). None of us have implemented this kind of features before. We will do research on this both beforehands and as we go, to make sure that we will be able to deliver this feature.

Design Changes and Rationale (Beta Release):

- For db interactions, we decided not to use the Java Hibernate Library and went with the set of APIs provided directly by AWS.
- For this beta release, we didn't get to implementing the "Forgot password" functionality.
- For this beta release, we didn't get to implementing the "Post proposals or updates" functionality. We are planning on doing this right after the beta release and hopefully we can get it done before the next release.
- For this beta release, we didn't get to implementing the "Search public events" and the "Marking an event on Google Maps" functionalities. We are planning on implementing both of these functionalities after the beta release and hopefully can get them done before the next release.
- For the notifications part, we decided not to use push notifications. Instead, for each event, we will maintain a list of all messages (notifications) posted to this event.
- For the friends module, we decided not to use the Facebook login APIs and instead developed our own login module. The reason we did it this way is because we thought this would be a good opportunity for us to learn about how login is done.

No other major changes to our Process Description.

Design Changes and Rationale (Feature-Complete Release):

- For our beta release, we were having some trouble with creating and editing events (we didn't quite get them to work for the beta release). Since then, we've been working on these two use cases and they now should work.
- As a result of spending a significant amount of time fixing the two event-related use cases mentioned above, we didn't have enough time to implement the functionality that allows users to reset their passwords. We did, however, make some progress on the "Post proposals and updates" functionality (originally we were using a different way of talking to the database than the one we are planning on using now; we changed it to make the code for this feature consistent with other parts of the project). As of the writing of this document, we are still working on getting out this feature (we are not sure whether or not we will be able to finish it before the feature-complete release, but we are doing our best :D).
- For the public events pool feature, we decided to push this off a little bit (during last week's meeting with Yue, we talked about this events pool and marking dates that have events on the calendar). We decided to implement the functionality that marks the dates that have events on the calendar first, as it seems like a more useful feature for a calendar app. We are glad to say that this feature is working now. Every date that has events in them will now be marked blue on the calendar.

No other major changes to our Process Description.