Team 53 Research Report

**Project Plan**

During the first semester of the course our team created several detailed documents laying out the specific features of our application and how users would be able to interact with them, compiling these cases into Use Cases. These Use cases were then assigned specific values and priorities based upon the importance of their completion and the time it would take to do so.

**Tasks and** **Team Function**

Our team functioned under the idea that we should each work on tasks best suited to our strengths while also distributing the amount of work such that no single member was overwhelmed. We accomplished this delegation by utilizing the Use Cases and their estimated required hours as seen in our scrum documentation.

Nick, being accustomed to graphical design and proficient at SQL work, was assigned the initial creation of the club screens, the design of all graphics utilized during the project, and was put in charge of creating and maintaining the databases. Luke was enrolled in another programming class that had worked with APIs and as such was put in charge of implementing the Map functionalities throughout the application. Luke also had prior experience with GitHub from his internship over the past summer and helped the group get a handle on how to use Git. Leb, having additional experience working with SQL and PHP, was put in charge of any screens that generated content from the database within the application. Finally, Alex became the most proficient member of our group working with Swift, and as such he implemented the login, account settings, create event, and create club screens, as well as assisting members with any complicated technical problems they encountered.

**Accomplishments and Missteps**

Thanks to both large scale individual effort and team coordination our group managed to produce an application that met all of our expectations and even exceeded them. All of our proposed features were fully functional within the application, although some functioned in a different manner than originally intended due to technical difficulties that we had to adapt and compensate for. The map screen centered around the IU campus as designed and was able to shift focus to whatever club was selected, club location and information was easily available to any users, and events were easily created and viewed. All of our database functions worked as necessary, and all features and that interacted with the database were able to do so without any errors. The only significant difficulty that we encountered was with the Discover clubs screen, which we had initially intended to be tag based. However we encountered significant technical difficulties when a tag was selected, after which we were struggling to generate another view based upon the specific tag. We were able to compensate for this difficulty by simply displaying all clubs organized alphabetically which, while harder to sort through, would allow users to discover any clubs they had found on the map screen.

**Hindsight**

**Nick**

I learned a great variety of valuable skills while working with this project, most of which involved coding in Swift using Xcode features. In addition, I expanded upon my previous knowledge of SQL, PHP, and graphic design thanks to the practical experience I gained while working on the project. My greatest difficulty encountered while working with the project was easily the high learning curve required to work effectively with swift. While I quickly embraced the Xcode interface, enjoying the design features that allowed me to build the application screens, it was the code behind this interface that took me far longer to understand. With this difficulty in mind I would definitely recommend no only placing far more emphasis on truly learning and experimenting with the code rather than memorizing it from a training website or textbook, as this will aid implementation in real life projects.

**Luke**

Throughout two semesters of working on this project I learned many things about my ability to pick up new skills as well as work efficiently with a team. The main difficulty of working on this project was the fact that we choose to use Xcode and create an iOS application which none of us had any real experience with. Thus we were required to do a tremendous amount of research to figure out bugs and accomplish even the simplest of tasks which we had planned to implement. Had we taken a class on Swift and iOS development this project would have been significantly easier. We were able to create a working product that captured the knowledge we learned throughout the semester. At one point we felt we may not have enough time to finish our project but we worked hard together to make it happen.

**Alex**

Over the course of our Capstone Project I learned many things I can carry over from here on to the next experience. I worked a lot with Xcode, Swift, and PHP to get many of our application’s features working. I learned how to discuss my contributions, how to explain concepts to other team member, and other important aspects of team communication and transparency that lead to team success over failure. If I were to have changed/wished what I had done, I would have had meetings where we recap the progress that I/we made and have a chance to explain our new additions to other group members. I felt as if some of us didn’t understand each other’s work to the fullest extent and that could have made our application have greater potential.

**Leb**

Over the course of the capstone project, the main thing I learned is that the process work is important. Working on features consistently and incrementally probably would have made the project less stressful. Another key learning point during my experience is that Swift and Xcode are extremely difficult to work with if you're a newcomer to coding large scale projects. If I had the knowledge that I have now at the beginning of the project, I would have chosen to work on a web project or an android project. Instead of choosing the platform that was the most familiar to me, I would have done some research on other's experience with different platforms before choosing. Finally, in hindsight, I wish I had realized how hard this project was actually going to be. During the first semester, I was aware of the general process of how we planned to create the ClubHub app. However, I had no idea how many steps/intricacies are involved in creating a fully functional app. If I could go back in time, I would tell myself exactly how challenging this process would be and that I really needed to prepare myself by starting to budget time, do extensive research, and to do much more training than I thought was necessary.