

# **G52GRP Individual Report**

## **Website and app to support parents of preterm infants**

**Group Id: 326568**

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## **Description of the project**

The main goal of the project is to design and create apps for IOS and Android to be used by parents of pre-term children. It will provide information for parents in a localized place so that searching information that they need is easier and quicker. The App will also be used for storing baby data, so the parents can compare their baby weight with the average baby through the chart. A diary category has been design for keeping baby diary which can track the progress of baby growth. The App helps the parents to communicate with the Bliss staffs easily.

## **Individual contribution to the project**

Based on the Belbin Test, I play the role of implementor in this project. Because I have some experience on website building and I am eager to build an App, I volunteered to become a leader of the IOS development team and a user interface designer.

In order to explain our ideas and prototype clearly to the client, I design an initial user interface which is accord with the project requirements in the first week. The client feels so satisfied with my efficient and quality work and give us some feedback timely. Define a user interface will help client and programmer to understand the requirements clearly, so I spend much time on the UI at the start of the project. In order to design a satisfying user interface for the main page, everybody is tasked with designing the main page UI and each one upload the UI to slack, then we vote for the UI and discuss both advantages and disadvantages of these design. We also show our UI to our supervisor and client for more advice, finally, my UI for the main page has been chosen.

At the beginning, only Daniel has some knowledge about App developing, so I recommend that everyone should learn about how to build an app and choose a programming language. I do some research and find that nowadays, a HTML5 framework called Ionic is quite popular, it is a beautiful, open source front-end SDK for developing hybrid mobile apps with web technologies. The advantage of it is we can develop IOS and Android together, and because most of us have already got web technologies, starting with Ionic will be easier. I introduce the Ionic for the group members in the weekly meeting and show some demos for them. Everybody thinks it is necessary to try it. I initialize a Ionic project and code for some basic page based on the previous UI. Very soon, I find that compared with swift and objectiveC, Ionic is not suitable for some native functions for iOS app, like using spotlight. Then, I consider should we change our programming

language to swift or objectiveC instead. After doing some research, I finally choose swift, the reason is swift is developed by Apple Company for building application for apple devices, and Apple encourages developers to build app with swift, also, there are a larger amount of object library can be used. This language is more clear and easier to be understood than objectiveC. Our team is working in an Agile/Scrum style with sprints and turndown charts. Before the christmas vacation, we separate our work and list everybody's task by using Trello(a Kanban boards). Before the christmas, my task is to improve our user interface and gets some feedback from our client periodically. Because the user interface has not been finally decided, I do not focus too much time on coding for UI. Be familiar with the function and algorithm(like signIn, signUp, make a phone call, draw a chart, etc.) to implement the app can make sense for me before christmas. I complete the function for the project before the Christmas vacation. During the vacation, based on the bliss website, I redesigned the website color style and structure style of all the pages. I send my UI to other group member periodically and get feedbacks from them, keep updating it. When a new UI is finally decided, I start coding for that UI and connect it with the function which I have already written. I also do some questionnaire to understand whether people prefer local data or online data for articles and books. Based on the survey, I finally decide to store the article category data locally and books data on the server. Half of the IOS project has been done in the christmas vacation.

In the spring semester, I was working with the rest of the IOS project. After I finished that on my private server for testing. I discussed with the CMS/API developer team and send my test database for them. In order to ensure the IOS and Android can share the data, the structure of the database must be the same. We update the database to ensure that the tables have included all the necessary columns. Then I need to move the php files and database to the public project server for wide range use. We discuss with the supervisor, and it has been suggested that the school server should be a choice. The supervisor also told us to discuss with other groups which need a server as well. Compared with all the servers, I recommend the amazon web service should be a suitable one because the school server can only be accessed through the university network, and that will impede many people access it. Eventually, we were given a server by the supervisor. At the end of the project, in order to improve the user experience, we consider to do some use tests, I joined the apple university program, and it is possible to share the app with other people who joined the university program as well. However, it is still impossible to subscribe the app to the app store, so the best way for test our app is to install it for the users who are willing to use this app by

connecting their phone with my computer. As a person who knows the app quite well, I volunteered to install the app for the parents and I also recorded a tutorial video to show how to use our app. Finally, I spend the last two weeks focusing on refactoring the code and writing some comments for the code competition.

## **Reflection**

### **1 Self-reflection**

At the start of the project, I was taciturn in the weekly meeting. I just show my work to them and get some feedback. Very soon, I find that is inefficient, I need to express my ideas to my team members frequently and let them know what I was thinking about. So each time when my idea is not suitable, they can correct me quickly and give me some advice for doing the task. That will helps me to work more efficient. In the spring semester, I began more brave to express my ideas and the quality of my work has been improved a lot. As a IOS team leader, I believe I did well in this aspect, every week, I set some goals and separate some big tasks into sub-goals for my daily work, I was always working with the project in a controllable step. And each time, when I faced with some issues which are difficult for me to fix, I mark them as a to do task in Trello. For example, when add data to draw a weight chart, the previous version require that the user must input the data in order, that means if in the next week, the user want to add some data for the previous month, the chart will crash. Due to I mark that as a to do task, when I finished most of the project, I can go back and think this problem. Eventually, I fixed that by implementing the bubble sort algorithm. Every week, I make sure that I finish my tasks and really make a contribution to the project. Nevertheless, what I need to improve the next time is I need to clarify all the viewController when I start with the project, because, when approaching the end of the project, all the viewController in my storyboard looks messy, and I need to reorder them. As a user interface designer, due to the lack of designing experience, I spent much time in this aspect as well, compared with coding task, the most significant thing I learn from designing task is listen to others advice. UI is for what it looks like, it can affect the feeling of App directly. A good UI must be accepted by most of the people, so listen to how others feel about this UI is necessary. From this project experience, I learnt that a team is consist of people good at various areas, so each member need to communicate with others. Let others know what you are doing and know what they are doing can avoid people doing duplicate things. For instance, David works with API, so for

the task of removing the data from my server to the public server, I need to discuss with him frequently and that speed the work for making connection between the App and server.

## **2 Running of the project**

Since there is no major conflict happened, our team was totally successful. Everybody knows their tasks clearly and are working active and well. Sam is the group leader and the lead documentation, I am the iOS lead developer, David is the CMS/API lead developer, Tom and Oliver are the CMS developer, Daniel is the Android Lead developer, and Hamzah is the Android developer. However, before the christmas, due to most of the work is individual, when we merge our branch to the git master, it cause a conflict. Sam compared our work carefully and helps every member to merge their branch. Maybe next time, when doing individual task, we also need to communicate. Due to we use Trello to manage our tasks, we do not pay much attention to the milestones on git, and next time, it should be a good to choice to take the advantage of milestones because that will mark our code with a label and milestone, when we crash the current version, it will be easier to get with the latest version we need. A very good practice in our project is we use scrum board and burndown chart to manage our task and see our progress. Separate a long term project as to do, in progress and done really helps us to get everybody clearly about each group process. Every weekly meeting, everyone needs to state what he or she has done in the previous week and talk about he or she next week task, after that the leader Sam write a minute and upload that to the slack and git. This standup meeting helps us to know everybody's contribution to the project and made our task assignment easier. Even if someone missed the meeting, we can catch up him with the latest ideas we just come up with.

What was not achieved by us is the forum does connect with the bliss website database. The reason is we still have not got the permission to access that.

## **3 Future improvement**

What I would do differently if I was starting over again is I should discuss with team members before I start doing my work. That means I need to confirm my ideas agreed by the team before starting. For example, many UI need to change after a weekly meeting, some points are unnecessary but I take them necessary, some points are important but I miss them.

Another important thing I need to improve is make a list of points we need to improve in the future. For example, some times, I was not satisfied with the data structure, I need to mark down. In the future, when I come up with a well-structured ideas, I can replace that quickly and that ensure I will never forget the code which need to be updated. This progress will helps me a lot when refactoring the code, and avoid some accidental bugs. A useful experience I learn is that when different group merge their work together, do not use electronic communication to work. Come to the lab together, and merge their work face to face. Some problems are difficult to express through typing, a face to face communication will help each other to understand what the conflict is and what result it comes out. If we need a server for the project, consider about the server early, and try to test on that server rather than the private server. There are many accidental problem will happen when implement the same thing on different server. Prepare everything early.

## **Peer assessment**

Sam Allison leads our group in a well-planned process. He is responsible for the report writing and minutes, manage a meeting with the supervisor and the client. In the fall semester, he plays the main role of wring the interim report, and his brilliant writing skills ensure me to have more time focus on programming.

David Fricker is in charge of the CMS and API, and he is a good communicator to work with. He set up the server for the project and keep updating the project API. He produces many quality work and made some contribution to the team. When connecting IOS with the server, he helped me a lot and our cooperation speeds up our process.

Daniel Betts is the Android lead developer, and because he has some Android developing experience , he helps the Hamzah with the Android project a lot. Daniel is a good Android developer except some slow execution with the task. Although two people are working with Android and one person is working with IOS, IOS process is always faster than Android. Also, he was not always at the meetings.

Hamzah Abdulla is the Android developer, he is a creative person and always gives some quality advice for the group. Previously, he will go to New Zealand in the spring semester, in order to make more contribution for the team, in the interim report he helps Sam a lot. Due to some reasons, he stay in UNUK in the spring semester and then he become an Android developer. Because he does not have any experience with Android developing, although he works hard to learn it, he has not made too much contribution

for the Android project.

Tom Vine is the CMS developer, he does not make much contribution for the project. And each meeting, Tom can not attract us with some creative ideas. He used to set up the server, however, the server is set by David finally. The reason why I give he a low mark is he is not a active with the project and always sits around. For example, when everybody is tasked with designing the UI for the mainpage, Tom does not design anything.

Oliver Bodinar is used to be a IOS developer, nevertheless, he cannot catch up with the IOS work. I try to show my Xcode project file for him and helps him to understand the swift language, however, it still makes him hard to work with IOS developing. So he is arranged to the CMS group. Then, his work is related with some HTML work. In the fall semester, he does not do too much work, however, in the spring semester, he does some work the CMS like refactoring Login, add article HTML, Refactoring DB connection. Compared to Tom, I think his work is more useful.