RMIT University
School of Computer Science and Information Technology
COSC2650 Programming Project 1, CLEVO Budding Sharemarket
Investor Project (http://clevo-rmit.space) Group 8

Who is the reader? In writing the report, keep in mind that the intended audience is:
 • Your supervisor and client.
• An external examiner who is not familiar with the project.

1 Software Development Project (Agile)

Here is an outline for the structure and content of the report. You can modify this to suit your project. Not all sections will be relevant for every project.

1. Meeting Agenda
2. Meeting Minutes and minutes weekly planning sessions with supervisor
3. Project Charter
4. Technical Solution Design document
5. Issue Register
6. Risk Register
7. Project Schedule
8. Proposed Assessment Formula
9. Tools research document
10. Learning Outcomes
11. Testing Register
12. Tools Setup Guide
13. Usage Scenarios
14. User Manual-Project Closure Report
15. Peer review
16. Trello and Slack
17. Project Report
18. Test Plan
19. Contribution Form

2 Learning Outcomes (Mandatory)

Enabling Knowledge

Identify the knowledge and skills used in the project that you acquired in earlier courses in the program.

Our group completed a survey from day one of this project to identify our individual skill sets, strengths and weaknesses as a team. The survey was submitted ad-hoc via Hangouts and recorded in a table under Google Drive shared folder, for later reference if required. Based on the skill set we then decided on the four possible projects we would like to work on.

On reflection of the knowledge required to complete this project, we discussed the units each of us had engaged with throughout our course and developed the following list of units that provided us with the skills and experience to manage the project, develop the software, design the web page and provide working deliverables by the end of the project timeline.

- COSC2452 Introduction to Programming
- COSC2135 Programing 1
- COSC2453 Web Programming
- ISYS2410 Software Engineering Fundamentals
- ISYS2095 Database Concepts
- ISYS3350 Software Engineering Project Management
- COSC2651 Security in Computing and IT

Some of the skills we developed in these units that were utilised in this project include: Using the knowledge of SCRUM methodology developed in project management unit, using coding languages such as: PHP, HTML, CSS, Javascript, software engineering class diagrams and SQL database building, user authentication and encryptions.

Critical Analysis

Identify the aspects of the project that required critical analysis. For example:

 What is your assessment of the project management methodology you used?
Throughout this project we used the Agile SCRUM methodology and utilised the Trello application to manage our sprints and backlog. Initially it felt as though we were behind in the delivery of a working prototype due the need for Research and development to determine the appropriate tools to use. We considered this to be our Spike sprint which was aimed at researching information rather than producing a shippable product in the initial couple of weeks. Once we had all of our information and tools ready and had an understanding of each team member and their abilities we were able to use Trello effectively to allocate roles, responsibilities and tasks. Once we had an initial working prototype the SCRUM methodology seemed to flow more seamlessly and the sprint backlog was beginning to burn down. Overall the methodology was effective and gave us the grounding we needed to structure the breakdown and allocation of tasks and to regularly review where we were at on a daily basis through our group chat where we conducted our daily stand up meetings.

What were the design options and how did you choose the one to implement?
For this project we used a Google add on call Moquaps (https://moqups.com/) which allows users to design user interface mock ups and consult with the team to select a design for the

webpages. As a team we discussed the options for the web design and created an initial design based on the specified requirements. After the initial draft was created we had further discussions and decided to change the design and change some of the features based on differing opinions in the group and feedback from our supervisor. We then began using the Moquaps add on and changed the design by using this tool.

How well does the developed system meet the requirements?

The developed system meets all of the specified requirements of the budding sharemarket project specifications. As a team we were able to share the workload to ensure each team member was utilised in areas that best suited their skill base and knowledge. We used Agile SCRUM as a methodology for project management and this allowed us to breakdown and allocate the tasks effectively to the team members who were most qualified or experienced to complete them. This effective use of resources enabled our team to ensure all aspects of the project were covered and all specification were met.

Problem Solving

Identify the major problems that had to be solved in the project and describe and evaluate your solutions.

Throughout the project we encountered a number of issues that we needed to solve as a team, this ranged from simple things like determining who had the appropriate skills for the tasks we needed to undertake to managing a team of people in different geographical locations across timezones. Although it is possible to manage and implement a project across various geographical locations, the difference in timezones made communication challenging at times, particularly as one team member was located in the United Kingdom and was working and contactable when the Australian team members we generally asleep. This sometimes meant delays in responses to questions or queries that occasionally halted works in some areas of the project however a group message through Slack (the application that allows us to create and organise multiple channels to discuss different aspects of the project and receive updates and alerts regarding each aspect of the project) allowed us to keep the lines of communication open through these alerts and updates.

Another problem we encountered was the differing opinions on how the design should look. In order to resolve this, we went back to the drawing board and using Moquaps we created some templates and decided to go with a solution that involved feedback from all members of the group.

Communication

Describe the communication methods you adopted for the project including within group communication and communication between the group and the client/ supervisor.

The initial communication method adopted by the group was Google Hangouts for written chats. This was in use while we were determining our project preferences, explaining our skill sets, exchanging contact details and taking minutes of our chats until a project was assigned to us and we held our initial meeting with the project supervisor. For our weekly

group meetings with the Supervisor we used Google Hangouts to conduct audio meetings online. After the project was assigned we commenced using Slack for all group communications regarding the project as our default tool for all subjects. Trello is used to communicate all the task allocations to individual team members and share any additional information required on each task. Trello also allowed us to use checklists to see when tasks were completed or which parts still required attention.

How effective were they?
We found the communication tools incredibly effective, especially Slack because it allowed group members to be tagged in different conversations so they would receive alerts and keep track of issues, main group priorities and share useful links that were beneficial for the project about different documentation. We also collected questions for our supervisor in one of the channels which ensured they were in one place where we would then send them to the supervisor by email. Slack also allowed us to exchange code snippets and screenshots for easier communication of solutions, issues or improvements.

How could they be improved?
In the initial stages it would have been useful to be made aware of slack prior to commencing group communications so that all communication could have happened through Slack right from the beginning.

Teamwork
Describe the organisation and operation of the team.

What were the roles?
The roles in the team were as follows:
Vio Marcu: Project Manager - Manage all aspects of the project and development
Lucas Brook: Team Leader - Manage development team and assist project manager
Carlo Beasley: Development and Testing - Work along with the project manager in order to develop the Budding Sharemarket Investor application
Evan Le Clercq: Development and Testing - Work along with the project manager in order to develop the Budding Sharemarket Investor application
Ocal Ogten: Development and Testing - Work along with the project manager in order to develop the Budding Sharemarket Investor application

How did you deal with different cultural backgrounds and life circumstances and differing levels of technical expertise?
In order to deal with differing levels of technical expertise we held discussions at the commencement of the project to determine which group members had strong technical skills, which members had strong project management skills and at what level each member felt they were able to perform different tasks such as: coding, web design and development, frontend and backend and testing. Through this we were able to allocate tasks based on people's strengths and interests.

As none of our group members had ever met each other prior to this project the initial communications revolved around setting up group expectations for communication and

learning about each other's work schedules and the different timezones we were dealing with. This was challenging because we were often required to work at different times and therefore the daily stand up had to happen at different times during the day when team members were available. In order to resolve this we used Slack chats for most of our communication, this meant that even when some of us were at work (at our jobs not working on the project) we could still get discreet updates about what others were doing on the project so that we could continue working when we became available. Majority of the team members have full time employment and therefore were working around a number of competing life priorities. Using Slack was the most effective way to keep all team members in the loop at all times and Trello provided a quick snapshot of which tasks in the backlog were completed or still required attention. Through the flexibility of the team members we were able to work around these competing priorities using the tools we had available to us.

Responsibility

What were the relevant professional standards, ethical considerations and legal and privacy issues for the project? How were they resolved?
In the creation of the project we were required to understand some legal and ethical requirements to create the webpage.
It was important to understand the Privacy and Confidentiality Act to be aware of how personal information and data can be collected, stored and used to create the privacy policy tab and inform users how their data is handled. This also informed the ethical considerations regarding what information users needed to provide in order to register. For example they need to provide their age to ensure they are over 18 however they do not need to give us their birthdate.

As advised by our supervisor we were informed that we could utilise code that is free to use as long as we follow the specifications of use outlined by the provider. For example one of the features that allows our boxes to slide up is embedded within the template of our website has the following conditions of use: In order to use this feature a reference must be made in the footer of the website, therefore at the bottom of our website it states: " © 2016 Statistics UI Kit . All Rights Reserved . Design by W3layouts"

Each company that is part of the Australian sharemarket has a unique code identifier on the ASX website. We were able to obtain this list from the ASX website as there was a free licence to use this list. Therefore, we were able to embed this list into a database and used API calls to the yahoo financial website to retrieve current share values for individual companies as requested by the user. As this was a free licence we were able to use this information within the considerations of professional and ethical standards.