Group 16

End Of Project Report

Authors: Rhodri Pearce, Richard Price-Jones, Robert Mouncer

Config Ref: SE_16_EPR_01

Date: 5/11/15

Version: 1.2

Status: Release

Department of Computer Science Aberystwyth University Aberystwyth Ceredigion SY23 3DB
Copyright © Aberystwyth 2016

Contents

1.0 Introduction

1.1 Purpose of this document

This is the end of project report for group 16. This document describes the stages and processes that the group went through in order to complete this project. It provides all of the relevant information needed in order to give an overview of how the group went about the project.

1.2 Scope

This document summarises the project as a whole and how it was completed. It does not contain any technical information regarding the development of the project.

1.3 Objectives

The main objective of this document is to summarise the project as a whole. By breaking down the project into different sections it should provide the reader with a clear understanding of the work that was undertaken during the project and the contribution of each individual.

2.0 Management Summary

This software development project was an overall success. The team worked well throughout the process and worked to the best of their ability in order to complete the relevant tasks. Overall the final product from this project is pleasing and more than satisfactory.

Since the beginning of the project there was a definite emphasis on the need for the documentation to be correct and of a high standard. When a new document was needed for a deliverable the task was discussed in a meeting and depending on the length of the required document it may have been broken down into sections and allocated to different members of the team depending on their role within the team. Generally however documents were usually created by between one and three members of the team. Before its submission every member of the team reviewed the document to ensure that they were satisfied with it. Following the submission of documents we would receive feedback which would then be discussed again by the team before the suggested changes in the feedback would be implemented. As a result of our rigorous review process and our response to feedback every document is in a satisfactory condition.

During the project the team did occasionally encounter problems that hindered the progression of the project. There were some small external problems that were out of our control such as a loss of power to the university during the testing and integration week, however this was not a major issue as we were not behind schedule with our work it simply prevented us from working on certain elements of the project.

Time management was sometimes a problem during the project especially as we got closer to Christmas. Each member of the team had other commitments from other modules and assignments to complete while having to complete deliverables for the group project. Unfortunately this probably resulted in the quality of the deliverable being affected. The loss of quality however was rectified during the implementation and coding week when the team made changes to all of the deliverables based on the feedback we had received.

From a software development point of view there were also some difficulties encountered with that element of the project. The sub team that was developing the TaskerCLI application reported numerous time consuming difficulties when it came to developing the GUI.

The performance of the team was definitely one of the most positive aspects of the project. Since the beginning of the project the team has constantly worked together as an effective unit. There have been no personal conflicts or personality clashes throughout the process. The team was consistently performing efficiently and at a high standard. The great efficiency of the team was due to each individual completing their assigned tasks quickly and efficiently, and then coming together to work in sub-teams to produce larger parts of deliverables. During the integration and testing week the team used an online collaboration tool called Trello in order to help manage and keep track of all of the tasks that needed to be completed during the week.

3.0 Historical Account of Project

At the very beginning of this project the first task for the project was creating a plan and a timeline for the duration of the project. This plan was produced during the first week and clearly outlined the timeline for the project. The plan contained the dates of deliverables, other key dates and then a Gantt chart containing every date which allowed the timescale of the project to be viewed in an easier way.

The group decided at a very early stage to use the pre-set deliverable dates as the milestones for the project. There would be two weeks between each deliverable and therefore two weeks to complete each deliverable. At the end/beginning of a new two week period the previous deliverable would be discussed during the group project tutorial before discussing the new deliverable. During this discussion the deliverable would be broken down into smaller subtasks and these would then be assigned to group members. We also agreed as a group to have an informal second meeting every Wednesday in order to discuss the deliverable that was currently being worked on. These second meetings allowed us to keep on top of the deliverable and to discuss any problems that had been encountered and to reassign subtasks if need be.

The coding elements of the project were assigned strict timescales at the beginning of the project however it quickly became apparent that the coding teams were working ahead of schedule. From very early on then there was little need to ensure that the software development was on schedule because the coding teams were constantly further on from where they should be.

The timescale that was set at the beginning of the project was kept to throughout the project and definitely allowed sufficient time to complete each task. There was only one occasion where it proved to be a slight issue but that was due to commitments and assignments from other modules that were out of our control.

Throughout the project feedback has been provided by one of the group managers which contained suggestions for how to improve a certain deliverable. These feedback documents were read by each group member and then discussed at the next meeting. The improvements that were suggested were implemented into the documents if there was enough time left within the timescale for that week. Any deliverable that were not improved before the Christmas period or did not have feedback before then were improved during the coding week.

Before the Christmas period the team had to produce the final deliverable during the group tutorial which was the working prototype of the application. This phase was successful due to the coding teams being ahead of schedule with the development meaning that the application was more

advanced that was required at that time. The application coupled with the mostly positive feedback we had received for our other deliverables meant that the project was in a very positive state as we went into the Christmas period.

The final main event of the project was the implementation and testing week. During this week the group worked on putting the final touches to the software and correcting any errors that existed as well as completing documents and making changes to old documents based on the feedback that we had been given. Throughout the week the group continued to work in the same sub-teams that have been used throughout the entire process. Two coding teams worked on the software development while the project leader and the quality assurance managers worked on writing documents and making improvements to old documents. At the beginning of the week we knew how much time we had left however there seemed to be an endless list of small tasks to be completed. In order to keep track of each task that needed to completed during the week we used an online collaboration tool called Trello which allowed us to list tasks and then categorise based on how close they were to completion. This tool was particularly useful in being able to easily identify which elements of TaskerMan and TaskerCLI were ready for testing.

4.0 Final State of Project

By the end of the project the vast majority of both applications were corrected and functioned as planned. However during the testing phase and acceptance testing some errors were identified. To begin with we did not implement the elements section for each task which went against the project specification. There was also another issue with the TaskerMan application as we failed to implement a filter function to order the tasks which also went against the specification. There was also another error during acceptance testing where the TaskerCLI application failed to save locally.

TaskerMAN had a few problems, but the largest one was that we missed out functional requirements that we just didn't read enough into. One of these was that the sorting and filtering on the website was not implemented. This lead to multiple acceptance testing failures.

During the acceptance testing we realised that the synchronisation wasn't working, this was due to the fact that the file that needs to be created was not. This may be the fact that the acceptance testing was conducted on the delphinium linux mint machines as we tested before and after and we got it to work with no problem. This then lead to the problem of offline mode not working.

One problem for both of the programs was that we didn't implement step comments as we misunderstood what was meant. This would have been easy to implement but it is missing from the functionality of the program.

We managed to correctly implement the login functionality that was not part of the requirements but we thought that it would be a nice flair for the programs.

5.0 Location of Repository

We have used GitHub throughout the development of this project. All files have been organised as per the document SE.QA.08 [1]. We have used the default branch that was created with the repository called "**master**".

URL of the GitHub repository: https://github.com/rij12/GroupProject

HTTPS clone: https://github.com/rij12/GroupProject.git

SSH: git@github.com:rij12/GroupProject.git

6.0 Performance of Each Team Member

This section will outline the roles and performance of each member of the group.

Robert Mouncer

During our first meeting Rob was elected to be the Quality Assurance manager. This meant that he was responsible for ensuring that each document conformed to the correct specification as well as taking the minutes during each group meeting. He also became responsible for the group's GitHub repository which involved uploading all of the relevant documents and ensuring that everything was in the correct directory. Throughout the project Rob would have the final say each document that was created by the group. Changes would first be made by any members that were involved with the document before Rob would ensure that there were no errors, the formatting was corrected and that it followed the specification.

He worked closely with myself and Richard to help make decisions regarding the project and identifying things that needed to be done. He also worked closely with his deputy (Max) in order to speed up the review process of documents and to confirm that the review had been carried out correctly. Towards the latter stages of the project Rob also made himself responsible for implementing some of the changes that had been suggested in the feedback we had been given.

Rob worked well throughout the project and maintained a high quality of work with every task he undertook. He constantly communicated well with each member of the team to report back on changes that had to be made to a piece of work or to inform them of changes he had made himself. He ensured that the coding teams conformed to the correct standards throughout the duration of the project as well as ensuring that he was completing his responsibilities within the group on time.

Rhodri Pearce

During our first meeting I was elected Project Leader by the group. My responsibilities first and foremost were to create a plan and timescale for the group to stick to throughout the project and then to delegate tasks to members of the group during our weekly meetings. My other responsibilities centred on general management of the group and project such as ensuring that work was being completed, reassigning tasks and arranging meetings. I also had to produce weekly reports summarising the work that had been competed during the week, the work that was still to be done and the time committed to the project by each member. I also contributed elements of some documents that were created for deliverables.

I worked closely during this project with Richard and Rob in order to get alternative opinions on management issues as well assisting Rob and Max during the review meetings for deliverables.

In my opinion I believe that I have worked well throughout the project by effectively managing the group and ensuring that the project stayed on track by staying within the timescale set out at the beginning of the project. I also believe that my documents and contribution to documents have been of a consistently high quality.

Max Limbu

At the beginning of the project Max was elected to be the deputy Quality Assurance manager. By accepting this role he became Rob's deputy and assisted him in the role of quality assurance. He was heavily involved in the review of documents and the deliverable review meetings. He also produced a large majority of the test specification for the final system. During the final weeks of the project Max was mainly working on improving previous documents and implementing changes suggested in the feedback for deliverables.

A lot of Max's work and responsibilities involved having to work closely with Rob. As explained earlier they worked together to efficiently review documents and work and to ensure that everything conformed to the correct standards and formats.

Max worked well throughout the project and ensured that all of his work was completed on time and to a high standard. He worked well as part of the group and accepted his responsibilities within the group. He fully understood the responsibilities that came with being deputy quality assurance manager and worked well with Rob to complete their tasks.

Greg Sharpe

Greg was a key member of the coding team developing the TaskerMan application. At the beginning of the project we discussed each member's strengths and abilities and what area of the project they would preferably like to work on. Greg made it clear that he believed that he would be best suited to developing the TaskerMan application as he felt confident with using PHP and SQL. He was heavily involved with developing the PHP for TaskerMan as well as contributing to TaskerMan elements of the design documents.

Throughout the project Greg worked closely with the rest of the TaskerMan coding team (Dan and Archie) in order to develop the best possible software. Greg, like the rest of the coders were responsible for the software development constantly being ahead of schedule this took the pressure off the coding teams and allowed more time for documentation.

Greg has also worked well throughout the entire project. He completed his tasks within the specified time and usually with time to spare. He has helped to develop high quality software and done this head of schedule. He communicated and worked well within the group and his coding sub team as well as positively contributing during the weekly tutorials.

Richard Price-Jones

During the very early stages of the project Richard was elected to be the deputy project leader. This role came with several responsibilities such as covering for myself when I was unable to attend a meeting as well assisting myself in making management decisions. Richard worked alongside Emil in order to create the TaskerCLI application. This role was agreed in one of the earliest meetings, Richard and Emil were identified as possibly the most confident coders in Java and were happy to take on the role.

As stated above, Richard worked with Emil throughout the project in order to develop the software for the TaskerCLI application. He also worked with myself and Rob in order to discuss the direction of the project and help make management decisions.

Richard worked well for the duration of the project by fully understanding his role as deputy project leader while communicating and working very effectively with Emil to produce the TaskerCLI application. As mentioned earlier the efficient work of both resulted in the software development constantly being ahead of schedule which allowed plenty of time for improvements to be made and took some pressure off the project as a whole.

Emil Ramsdal

Emil was the other key member of the coding team involved with developing the software for the TaskerCLI application. Emil made it clear very early on that he was more than confident with all of the languages that were going to be used for the project so he was selected to work alongside Richard on the TaskerCLI. As well as being heavily involved with the software development side of the project, Emil also contributed to documentation such as the design documents.

As previously mentioned, Emil worked closely with Richard throughout the project in order to develop the TaskerCLI application. His extensive knowledge and confidence with programming was a significant contribution and was key factor that led to the software development being so successful and being ahead of schedule.

Like everyone else Emil worked well throughout the entire project especially on the software development side of it alongside Richard. They both worked efficiently as a team and delivered tasks ahead of time which allowed more time for other tasks and improvements. He also contributed well during meetings by proposing solutions to problems and suggesting ways of approaching the current task.

Archie Strange

Archie was another group member who worked alongside Greg and Dan on the TaskerMan application. All three contributed to the development of the software for the duration of the project. In the early stages of the project Archie proposed the user interface designs for the TaskerMan application within the first few days. This design was approved and was used from then on with very few changes made to it. He also contributed to documentation especially the early design documents.

As mentioned earlier Archie worked alongside Dan and Greg in order to develop the software for the TaskerMan application. As with everyone else who contributed to the actual software development Archie's work along with Dan and Greg allowed the TaskerMan to be constantly ahead of where it should be.

Like the rest of the group Archie worked well throughout the project and contributed well to the design, development and testing of the TaskerMan. He also contributed well in the group tutorials and the informal weekly meetings.

Daniel Thompson

Dan was the final member of the coding team responsible for the development of the TaskerMan application. During our early meetings Dan was selected for the coding team as he has a good knowledge and is confident at using PHP and SQL. Working alongside Greg and Archie, all 3 managed to get a large majority of TaskerMan working during the early stages of the project. Dan also contributed to the testing and the test specification.

Dan worked within a coding team of three that also included Greg and Archie. All three worked together in order to develop the TaskerMan. And as mentioned several times before their efficient team work allowed the coding elements of the project to be constantly ahead of schedule.

Dan also worked well throughout this project. He was a key contributor to the development of TaskerMan thanks to his knowledge of PHP and SQL. This also meant that very few issues were encountered throughout development and any problems that were encountered were discussed and quickly resolved. The combined knowledge of all three members of the TaskerMan coding team allowed the project to stay within the timescale and maintain a high quality of work throughout.

7.0 Critical Evaluation of the Team and the Project

7.1 Team Performance and Improvements

As a whole the team performed consistently well throughout the entire project. This began in the first meeting where we all agreed on roles. This was a fairly straight forward process at the time that did not require much debate as the every team member was satisfied with the roles within the team. Since the beginning of the project there hasn't been any conflict/clash of personalities involving team members. Every member has been cooperative and completed their fair share of the workload. When there was a new task to be done the team discussed the task in hand in the tutorial and the informal meeting before breaking it down into smaller subtasks which were assigned to an individual or sub team depending on the size of the task. For the duration of the project the team communicated well and efficiently in order to complete the required tasks.

With regards to the team performance during this project there were barely any errors at all. The only issue that occurred was sometimes there would be a misunderstanding of what was required for a certain deliverable. However this confusion was usually rectified very quickly by a discussion in the group meeting, clarifying it with the project manager or reading through the relevant quality assurance documents again.

7.2 Project Improvements

Overall every member of the team is very satisfied with how this project has gone and are also satisfied with the end product. The project has gone well since the beginning with very few issues encountered along the way. Any issues that were encountered were dealt with immediately to limit their effect on the progress of the project. The team worked at a consistently high standard throughout the process and constantly made good progress. Deliverables were met and were completed to the best of our ability. The feedback that was received regarding each deliverable was discussed and then improvements were made to the relevant documents.

7.3 Lessons Learnt About Software Projects and Working in Teams

This project was a valuable lesson for all team members as it simulated on a smaller scale what to expect in the future when we work on other software development projects. The project definitely highlighted the potential problems that can occur on a project of this nature and demonstrated why we should perform certain tasks and duties throughout the project. Lessons were learnt individually and as a team as we went through the project.

One lesson that was learnt was the importance of documentation. In previous individual projects documentation almost seemed unnecessary and pointless. However it has become apparent that on larger projects documentation is definitely need for a variety of reasons. Firstly design documents give the team and the project a clear plan and direction to work to. Testing documents then help ensure that the software meets the requirements specification and that everything works as expected. Finally reports and review documents help with the management and evaluation of a project by allowing issues to be documented and then resolved.

With regards to working in a team the skills needed to effectively operate within a team environment were definitely developed as the project progressed. Firstly the need for clear communication between team members became apparent from the outset. Good communication between team members was vitally important when it came to allocating tasks to individuals, discussing problems within meetings and reviewing documents/deliverables before submission.

The need for effective teams on software development projects was also something that became obvious as the project progressed. Working in a team is without doubt the most efficient way of completing a software development project. A project of this nature would be completed in much more time and far less efficiently if it was undertaken by an individual or a group of independent individuals not working in a team. In order for the project to be completed in the most efficient way it had to be broken down into tasks and then those tasks broken down even further again into subtasks. These subtasks are then allocated to sub-teams before everything is brought back together. Creating subtasks and assigning them to sub-teams also highlighted the need for effective management in a team project. Leadership and management are crucial to ensuring that the project is going in right direction, staying on time and sticking to the plan. It also requires the need to look ahead to foresee potential issues and to effectively manage resources and the individuals within a team.

References

[1] SE.QA.08 – Operating Procedures and Configuration Management Standards, 1.8, C.J. Price, N.W. Hardy & B.P. Tiddeman.

Change History

Version	CCF No.	Date	Changes Made To Document	Changed By
1.1	N/A	2016-02-11	Ready for review.	Robert Mouncer – rdm10
1.2	N/A	2016-02-12	Ready for release.	Robert Mouncer –rdm10