Computer Science Department

Software Project Management Plan

Version 1.0

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TheLink

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Change History

Key Field Achievement Test		
Version 1.0	Release date: 09/06/21	Baseline Version
Version 1.1	Release date: 09/13/21	Modified Gantt Chart
Version 1.2	Release date: 09/15/21	Modified WBS

Preface

The goal of this document is to detail the project plan for developing an Online drop-servicing website otherwise known as TheLink. The project stakeholders are the project advisors, Mr Isong, and other participants in NWU's CMPG 224 course. This paper outlines a quick strategy for how the project will be carried out, including milestones and deliverables. The SPMP document will serve as a guide for the team responsible for generating the project's deliverable. This document will be updated on a regular basis and will serve as evidence of the project's progress.

Table of Contents

List of Figures

List of Tables

Overview

1.1. Project summary

1.1.1. Purpose, scope, and objectives

The purpose of this project, as descibed in the document, is to design and implement a software product, TheLink, a drop-service website that will assist many people market and monetize their skills. People will be able to communicate with like-minded people, position their abilities and make a career doing what they are most passionate about through TheLink website, using their profiles, creatives will be able to position as many skills as they have. Therefore, the main objective of developing such a software is to provide a convenient electronic environment for individuals to commercialize their skills.
However, the goal which will be included during the course of the project is to produce educational, planned and evaluated documentation of the deliverable, the software creation and design processes, as well as the overall project management process. That is, the project scope includes all the processes which will be taken care of during this project. These processes are mainly initiation, planning, estimation, control and monitor and closing process.

The back and front views are the two main interfaces of TheLink. The back-view is essentially the administrative portion of the software, which is well-secured and accessible only to authorized company users. It features modules that will assist the company's personnel in adjusting the software's front-end. Making new product categories and uploading new products, as well as updating and deleting those things, are all examples of this. The Front-view, on the other hand, is the most important component of the interface because it allows users to check out the company's information, items, the creative information and skills, and even place orders for them. It contains all the creatives signed up on the platform as well as a category menu that users can easily access and examine. In front-view, you may find information about events, special offers, and so on.

1.1.2. *Assumptions and constraints*

Following the conclusion of the SPMP, the team is expected to complete the software development within 7 weeks. All development procedures, from requirements to testing activities, are covered in these seven weeks. The software submission date is the 8th of November thus the schedule will be very rigid, but also feasible. There will be no extensions given, and any modifications in requirements that could create a delivery delay will be avoided.

This project will be given a small budget. Because the software product will be unique in comparison to others, everything must be completed within the project scope. Our client will be assumed to be our teacher. Any budget and schedule questions will be sent to him. SRS can be changed at any moment if both the client and the management team agree. In the event of improvements or essential alterations, the project plan could be revised and updated. This project has sparked a great deal of interest from the client. As a result, there should be no risks associated with clients making late project cuts.

1.1.3. Project deliverables

The list of project deliverables is

i. GUI implementing the functionalities specified in SRS
ii. All module or functionality source code as specified SRS

iii. Documentation found in this project
- Software Requirements Specification
- Software Design Description
- Software Quality Assurance Plan
- Project Risk Management Plan

1.1.4. Schedule and budget summary

A mini allocated budget for this project, due to time restrictions, the project deadline for all deliverables has been set for the 16th of September 2021 for SPMP and the 8th of November 2021 for the others.
A rough detail timetable is presented in Figure 1 below.

Item	Due Date
Software Project Management Plan (this document)	6 September 2021
Software Requirements Specifications	10 September 2021
Software Design Document	15 September 2021
Executable Source Code	25 October 2021
Test-cases	1 November 2021
Presentation	8 November 2021

Table 1: Schedule

1.2 **Evolution of the plan**

By September 10th, the first draft of the SPMP will be reviewed, and the final version will be submitted on September 14th. Following the completion of the SPMP, the next processes will begin immediately. Figure 1 shows all the due dates for the various stages.

As the project evolves, the SPMP will change. Any significant changes to this document must be approved by the client.

References

D. Hall, "The Ethical Software Engineer," in *IEEE Software*, vol. 26, no. 4, pp. 9-10, July-Aug. 2009, doi: 10.1109/MS.2009.106.

P. Bourque, R. Dupuis, A. Abran, J. W. Moore and L. Tripp, "The guide to the Software Engineering Body of Knowledge," in *IEEE Software*, vol. 16, no. 6, pp. 35-44, Nov.-Dec. 1999, doi: 10.1109/52.805471.

Tausworthe, R. C., 1979. The work breakdown structure in software project management. *Journal of Systems and Software*, Volume 1, pp. 181-186.

Glossary

Term	Description
TheLink	Drop-servicing site
GUI	Graphical User Interface
SRS	Software Requirements Specification
SPMP	Software Project Management Plan
IEEE	Institution of Electrical and Electronics Engineers
WBS	Work Breakdown Structure
Stakeholders	A person, group, or organization with a stake in the outcome of an application that is being developed.

Table 2: Glossary

Project Organization

4.1 Internal structure

The project team's hierarchy is shown in the figure below.

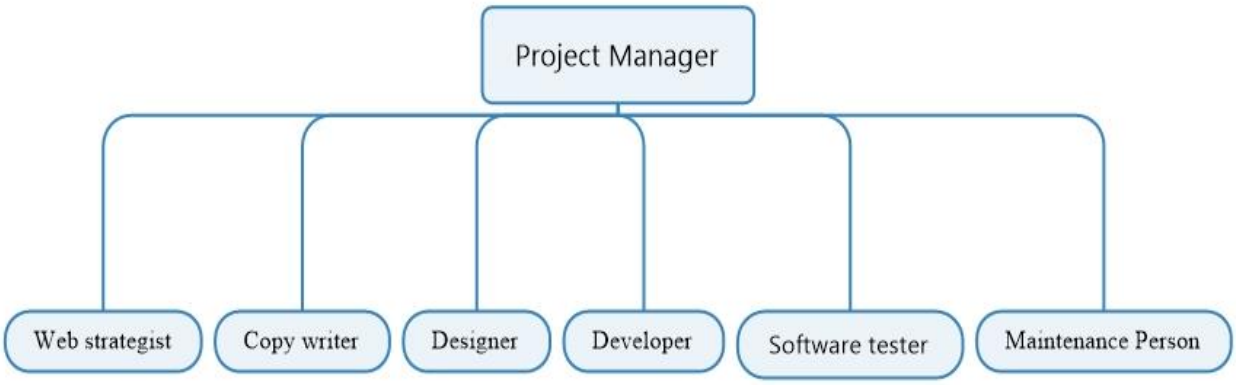


Figure 1: Project team hierarchy

4.2 Roles and responsibilities

Each project team member will be assigned responsibilities based on their prior understanding of the subject and their ability to communicate quickly and effectively. Each project team member will be responsible for all documentation related to the task modules they are responsible for, as well as consulting with other team members, which is an important part of the documentation and design process.

Role	Responsibility
Project manager	• keeps the projects to the scope, budget, and deadline. • Co-ordinates the activities of the rest of the team
Web Strategist	• Guides the development of the site • Sells the website to the client
Copy Writer	• Produce the text for the website
Designer	• Creates the required graphics that produce the look and feel of the site
Developer	• Codes, installs, and configures the software that makes the website work
Maintenance person	• Updates text, images, and multimedia context on the site

Table 3: Project team’s responsibilities

Managerial Process plans

5.1 Start-up plan

5.1.1 Estimation plan

Due to the time restrictions, all deliverables required for this project are expected to arrive on schedule. The requirements specification, technical design, and testing phases will each take no more than one week each, except for coding which will take two weeks to complete. To minimize wasting implementation time, a strong emphasis on documentation will be strictly monitored and considered during scheduling. The total estimated time is expected to be two months.

5.1.2 Staffing plan

This project will not require or hire additional personnel. Obviously, we'll need specialist people for planning jobs, people who can analyze data, requirement engineers, people who can design the system's architecture, people who are familiar with web programming and database management systems, and finally, people who can test the system. For a project of this magnitude, the pre-assigned four members of the core group will suffice.
Ms. Moeti, Mr. Mkhonza, Mr. Yy, and Ms. Xx are the members of the project team. These people will work together until the project is completed, which implies that all the workers will need to work for roughly 6-7 weeks.

5.1.3 Resource acquisition plan

We will be providing all the software and hardware tools for the project however the customer can use their personal laptop computer for development and testing with the required applications in this project.

5.1.4 Project staff training plan

No additional staff training will be required for this project, we will however provide documentation that includes system documentation, which could be in the form of a database, data dictionary or a basic administration guide and a user guide for the client’s staff that might need to interact with the administrative functions of the website. The documentation will be written to help clients understand and use the website.

5.2 Work plan

5.2.1 Work activities

The Work Breakdown Structure is given below:

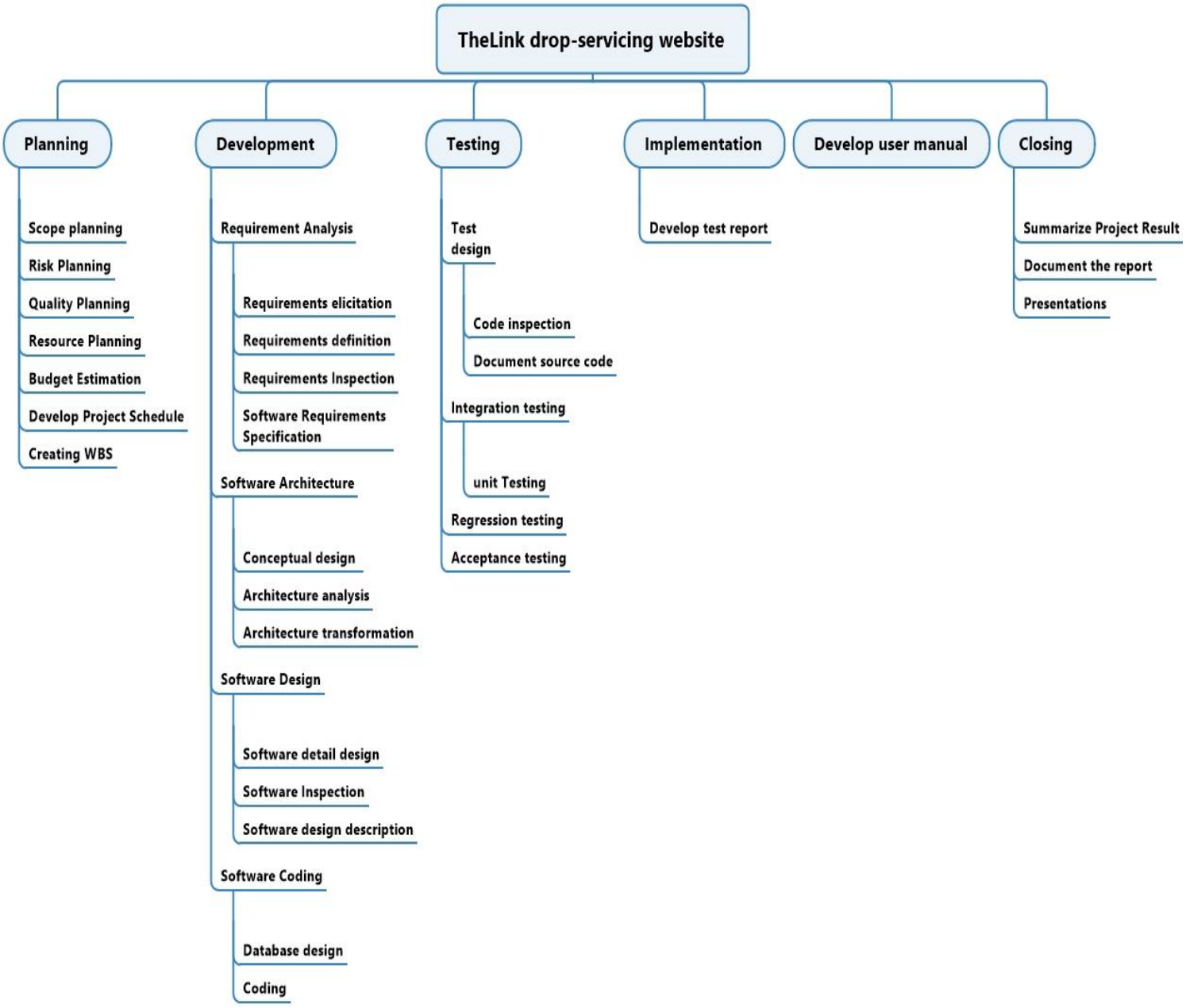
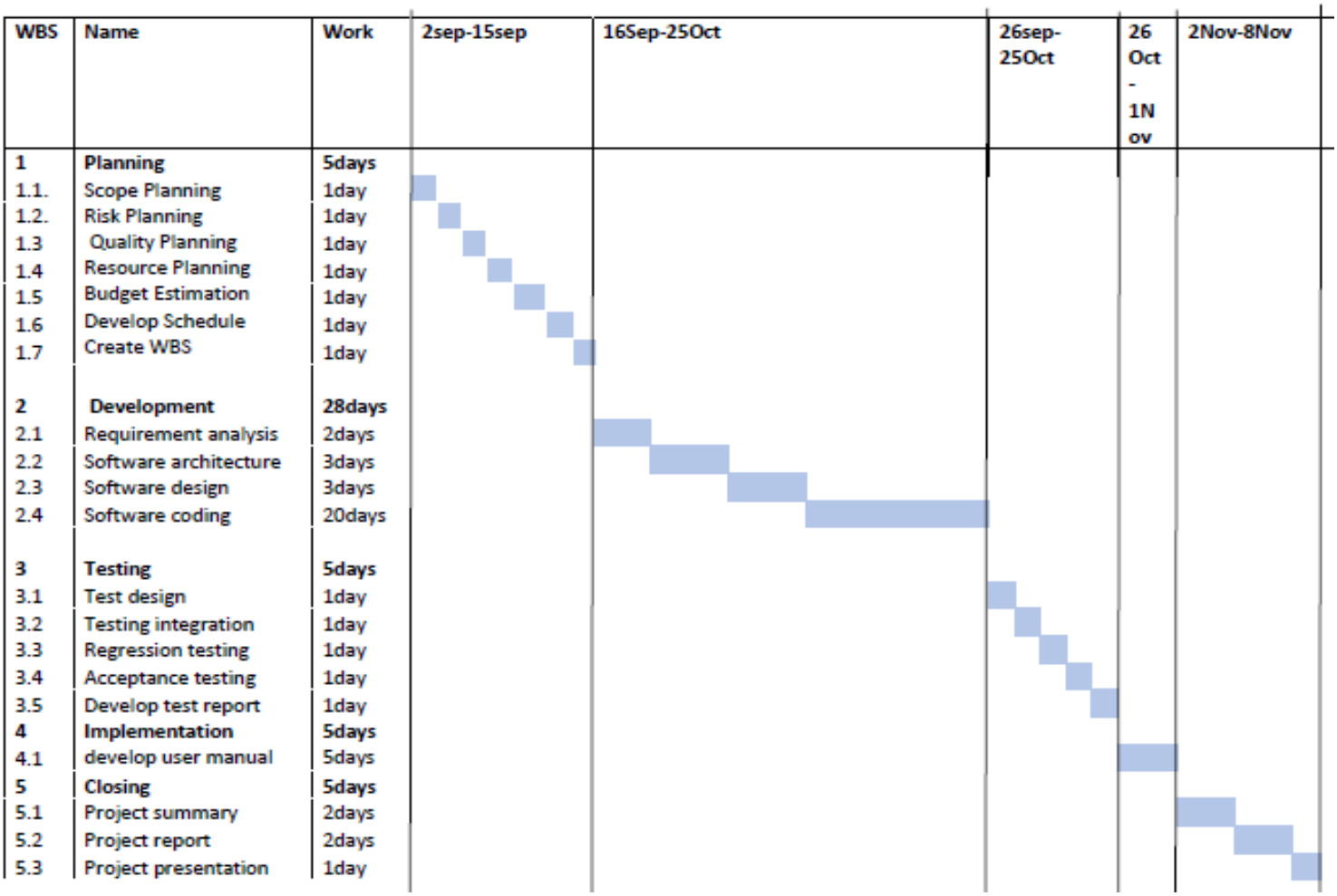


Figure 2: TheLink Work Breakdown Structure

5.2.2 Schedule allocation



WBS	Name	Work
1	**Planning**	5days
1.1.	Scope Planning	1day
1.2.	Risk Planning	1day
1.3	Quality Planning	1day
1.4	Resource Planning	1day
1.5	Budget Estimation	1day
1.6	Develop Schedule	1day
1.7	Create WBS	1day
2	**Development**	28days
2.1	Requirement analysis	2days
2.2	Software architecture	3days
2.3	Software design	3days
2.4	Software coding	20days
3	**Testing**	5days
3.1	Test design	1day
3.2	Testing integration	1day
3.3	Regression testing	1day
3.4	Acceptance testing	1day
3.5	Develop test report	1day
4	**Implementation**	5days
4.1	develop user manual	5days
5	**Closing**	5days
5.1	Project summary	2days
5.2	Project report	2days
5.3	Project presentation	1day

Figure 3 Gantt Chart for TheLink drop-service Website

5.2.3 Resource allocation

Each team member will work on their phase specific assigned role however the project manager will monitor and co-ordinate the activities of the rest of the team and oversee implementation and make sure that the project development is within its scope, budget, and deadline. At the end of each day, the team will gather to discuss problems and progress. At the end of each week a formal meeting will be held with the client to discuss the project progress and whether any changes should be made to the system.

5.2.4 Budget allocation

With a sum of R200 000.00 the budget summary is as follows

Task	**Estimated Cost**
Planning	R40 000.00
Software Dev.	R90 000.00
Testing	R30 000.00
Implementation	R30 000.00
User Manual	R10 000.00
Total	**R200 000.00**

5.3 Control plan

5.3.1 Requirements control plan

If any changes in requirements occur after the requirements have been finalized and the final SRS has been released, these modifications must be notified to all system stakeholders, and when agreement has been obtained by all stakeholders, the system will continue to final approval. A new version of the SRS will be produced once all stakeholders have agreed on the requirements and have given their approval.

5.3.2 Schedule control plan

In the case where the project development encounters a delay in the scheduled plan, the reason for the delay will be properly investigated and proper steps shall be taken to meet the deadline and deliver the final version of the project in time. To minimize any delays in the delivery of the final project will comprise of explicit elicitation of the requirements and realistic time estimation. As a result of the plan we shall have scheduled updates and corrective measures in place. We will need the project timeline, as well as the Gantt chart, as inputs in the plan.

The other inputs in the plan are performance reports, which will determine which planned dates have been met and which have not; therefore, in order to have these reports available, we should continue with the project and see if we will meet the deadlines for various tasks, as well as change requests, which can take many forms and will almost certainly influence the schedule. It will either delay the schedule or allow it to be accelerated. The schedule management plan, which is included in this report, is the last input.

5.3.4 Quality control plan

We will keep an eye on specific project outcomes to see if they meet appropriate quality requirements, we will also use deliverables mentioned in the report as inputs. As a result, we will get quality improvements, accepted choices, and process adjustments, which are all important actions that will help prevent or correct any encountered flaws.

5.3.5 Reporting plan

Upon completion, the SPMP will be distributed to all project stakeholders. Additional plan revisions will be communicated to all members and delivered to the stakeholders for final approval. The IEEE standards must be followed in all reports.

5.4 Risk management plan

If any Risks are identified in the development and execution of the drop-service website, otherwise referred to as TheLink, a Risk Management Plan that will discuss these risks, their implications on the system and how to minimize them will be developed. Risk Contingency Planning will be carried out to avoid interruptions for the site users in the case of an unanticipated event.

The table below lists potential risks, as well as their likelihood and magnitude of impact if they occur, as well as mitigating options.

Risk Description	Probability and Impact level	Mitigation
In one or more employees are missing	Low probability High impact level	Making an agreement between employees and being ready to assign jobs to others if someone is absent.
Missing deadline	Medium probability High impact level	We will begin working as soon as possible and to provide room for error, we will finish the coding as soon as possible
There is a lack of knowledge in various sectors.	Low probability High level of impact	Use manuals
Changing requirements	Medium probability High level of impact	Before we begin working, we will make sure that we have all the criteria in place, we will also Code in a flexible manner such that modifications may be performed quickly.
Files and/or documents are lost	Low probability High level of impact	we have a good version control system in place. It is essential to get back ups on a regular basis.
Making code errors due to a lack of understanding of the requirements.	Medium probability Medium level of impact	Inspection of the requirements, which requires the participation of all members. Regular meetings to discuss progress

Table 4: Risk Management Plan

5.5 Closeout plan

The system's post-mortem, all the lessons learned from its development, any planning error and the team members' skills and basic knowledge will be reviewed in the closeout plan. The project will be completed by the 8th of November 2021, when all software and documented results have been created, valued, and sent

Technical process plans

6.1 Process model

Both the Agile and Waterfall model will be used

6.2 Methods, tools, and techniques

The workflow will be done in accordance with the waterfall and Agile models. The website requirements are clear hence a waterfall model was chosen but Agile methodologies will also be used because they are flexible, easily changeable and give the team enough freedom for implementations. The product will be implemented using JavaScript, CSS, and HTML. The product will be developed using Expression Web which will enable designers and developers to work together using the dynamic functionality feature.

6.3 Product acceptance plan

Now there are no other acceptance requirements however it is essential to provide high quality documentation and to maintain timely delivery.

Supporting Process Plan

7.1 Configuration management plan

We will document all the deliverables for the drop servicing website (TheLink) and maintain proper versioning. The documentation as well as the code are included in these deliverables.

7.2 Quality assurance plan

A Quality Assurance Plan will be created, which will include all the quality procedures and standards that we will abide by throughout the software development life cycle. The Quality Control Plan will detail all the tests that can be performed to detect any software flaws.
The plan will include a Test Plan that will cover the full test case scenarios and processes that will be used to test the drop-servicing project based on these test outlines.
To ensure the quality of all outputs, appropriate methods will be discussed.

7.3 Problem resolution plan

We do not foresee any problems occurring in the near future thus in the absence of difficulties, no problem-solving strategy is put in place

Additional Plan

There are no other plans for this project.

Index