Software Engineering

Project Plan

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US

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Table of Contents

1   Project Introduction

1.1   Project Outline

Our software house will implement and complete the project proposed ("The Ant Game") by the client within the deadline given, 10 April 2014. The software house will attempt to resolve any ambiguities within the design process with the stakeholders first, failing that the team will raise the issue in the next group meeting to find the best solution.

Following on from this introduction are sections describing how we will handle the development of the product, a brief overview of the timings expected to complete each phase of the project and an introduction to the team itself.

1.2 Project Schedule

The following Gantt chart is provided to give an overview of how we expect to achieve the job in its entirety.

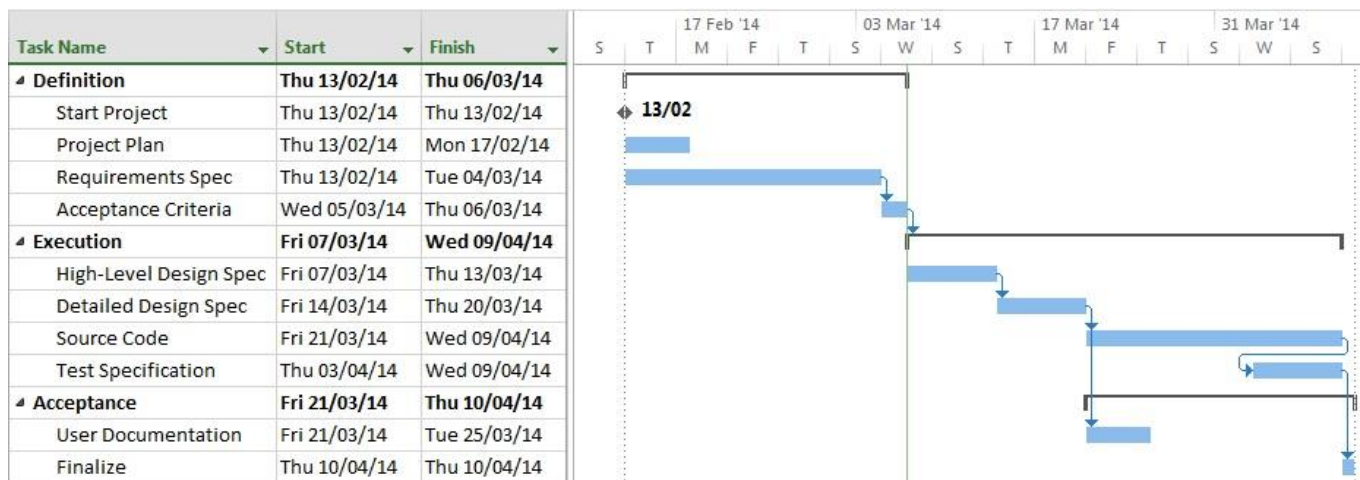| Task Name	Start	Finish
◢ **Definition**	**Thu 13/02/14**	**Thu 06/03/14**
Start Project	Thu 13/02/14	Thu 13/02/14
Project Plan	Thu 13/02/14	Mon 17/02/14
Requirements Spec	Thu 13/02/14	Tue 04/03/14
Acceptance Criteria	Wed 05/03/14	Thu 06/03/14
◢ **Execution**	**Fri 07/03/14**	**Wed 09/04/14**
High-Level Design Spec	Fri 07/03/14	Thu 13/03/14
Detailed Design Spec	Fri 14/03/14	Thu 20/03/14
Source Code	Fri 21/03/14	Wed 09/04/14
Test Specification	Thu 03/04/14	Wed 09/04/14
◢ **Acceptance**	**Fri 21/03/14**	**Thu 10/04/14**
User Documentation	Fri 21/03/14	Tue 25/03/14
Finalize	Thu 10/04/14	Thu 10/04/14

Figure 1 The Gantt chart. See the appendix for a larger size

Milestones for the development exist to be able to finish the project within the deadline provided. The main milestone achievements will be the design of the graphical interface for the ant-world as we intend to deliver a unique interface for the respective user. The completion of the source-code and its respective testing will bring the project to a close following the appropriate user documentation to complete the package.

We aim to meet at least once a week as a group to work towards the completion of these tasks. Motivation should be kept high and the direction be set on track by working as a group on a regular basis. The use of a group chat client will be utilized should the need for a question, update or any other comment be put forward to the group where we can all view and input our opinions and ideas. The chat client will be 'Facebook Chat'.

An online file hosting service will be used for all files and documents except the source code. The files and documents will be written on 'Google docs', a freeware web-based office suite so all members can access the files and documents, any changes will subsequently be journaled automatically should the need for amendments, reversals or revisions be necessary. The source code will be stored on 'GitHub', a web based hosting service that utilizes 'Git' revision control so that any member of the group can make changes to the code. GitHub is similar to a filing system for every draft of a document, it will control and manage each version of the code in a central repository.

The use and constant update of a centralized change log will be utilized by all members working on all aspects of the project. The change log will log four columns: Name, Date, File Changed, and Brief Explanation. It is expected by all members of the team to update the change log whenever any major or minor change is made to any existing file, additionally it should be used to record the creation of a new file.

2   Conflict Resolution Plan

Sub-deadlines are setup to allow for a smooth transition between the phases necessary for the project's completion. This section will focus on the conflict resolution plan should a member of the team not complete the work delegated to him within the deadline given (or a member of the team choosing not to participate).

All attempts will be made to minimize the risk of members dropping out by making all efforts to minimize the offset should a member lag behind. Part five talks about the peer assessment plan should a conflict arise and how we (the team) plan to counteract.

It is expected that some members may lag at different phases throughout the project due to other commitments, however should that lag be exceptional due to large absences or minimal effort then an intervention will be set up in the next meeting (should that member not be a ghost) to resolve the disruption within term time. The conflict is then dropped should a resolution be made that the team is satisfied with, if the team is not satisfied then alterations in the peer assessment will be made that was discussed in part five.

Attempts will be made by the rest of the group to make up for the missing work by delegating new members of the team and/or assigning more than one member to the task should it be part of the critical path.

3   Phase Plan

3.1   Project Phases and Milestones

A breakdown of the projects tasks and subtasks are given below. Timings for when we plan on achieving these milestones can be viewed in the Gantt chart (appendix).

- Requirements Specification – *This document will outline the clients requirements for the ant game, and will be split between chapters given below, each defining the requirements through different levels of abstractions*
    - Preface
    - Introduction
    - User Requirements Definition
    - System Architecture
    - System Requirements Specification
    - system Models
    - system Evolution
- High Level Design Specification – *This design specifies the overall structure of how the analysis model is to be implemented. This document is the first step of translating the requirements specification into an executable form.*
    - Introduction
    - Architectural Design
    - Common Tactical Policies
    - Requirements Cross-Reference
- Detailed Design Specification – *This design specifies how the analysis model is to be implemented. A refinement of the previous high level design giving full information about how the objects of the system are to be represented.*
    - *Introduction*
    - *Detailed Design*
- Source Code – *written in agreement with the low-level design. Documentation for each implementation of the code*
    - Class Documentation – *Documentation for each class*
        - Title
        - Purpose
        - change log
    - Method Documentation - *Documentation for each method*
        - Title
        - Purpose
        - change log
- Test specification – *testing and integration strategy through a specification. Descriptions given for how the modules produced during testing*
- User Documentation – *Documentation to be given to the client and users of the software*
    - Installation Guide
    - User Manual

Allocation to the tasks given will be done dynamically in order using the traditional waterfall method. We will work through the tasks as a team though a task will be reserved for one or more members should a member opt to do that task themselves, this could be due to the fact they may find that task more interesting than others, or they may have greater skills in completing that task than others. The conflict resolution plan describes what is executed should a task or member allocated to a task not complete a task in a reasonable time.

4   Organization Plan

4.1   Staff Organization

The team development structure is freeform and will utilise an agile approach for the work ethic and a waterfall approach in terms of milestones. No clear roles are set for members as members will work towards milestones prioritised in agreement within the group. Decisions are made together to know which task to focus on for completion of the most appropriate milestone starting from the beginning of the project phase plan. After agreement, the team will work simultaneously whilst updating the change log and giving progress reports.

Once a milestone is reached, the task is signed off and further work will be based off of the previous task. Should a deadline be looming, work will be done concurrently to complete tasks on-time. For example on the Gantt chart, testing starts five days before the completion of source code, hence work is done concurrently with the two finishing simultaneously.

5   Peer Assessment Plan

Attempts will be made by all members of the team to give their best efforts to any work they've been delegated or chosen to carry out. It is expected that members will input different levels of effort as the completion of the project approaches, this may be due to personal reasons amounting to absences, or the fact that individual members can execute independent tasks of the project at distinct levels of difficulty. Therefore the team as whole has recognised the difficulty attached to measuring effort and will take this into account if we feel points should be deducted.

The team endeavours to complete the project in its entirety to the best of our abilities, aiming for a final product at a high standard with the workload being shared as equally possible, though the aspiration for an absolute equal spread of the workload contains its inherent difficulty, as mentioned above.

An equal spread of the peer assessed marks will be assigned should the project conclude successfully with each member in agreement to an equal workload.

For exceptional circumstances, a vote within the group at the end of the project's life cycle will be put forward to decide if a member should lose a small portion of their assigned marks should the member in question have not given their fair contribution to the project. If the vote is passed then a further vote will be held to decide who we believe those lost points should to go to. We do not desire to carry out this process but it must be anticipated should a member exceptionally drop their contribution to the workload.
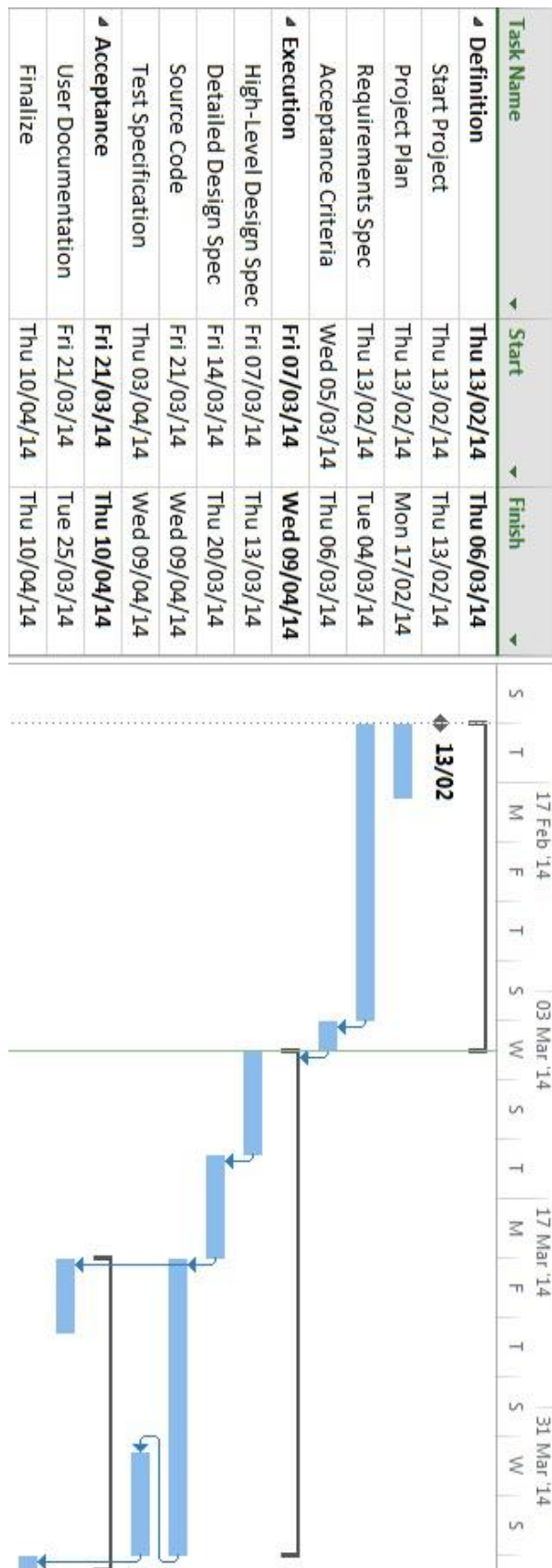
The following are areas the team will focus should there be a need for a non-equal split:

- Relating positively to other group members: allowing other members to have a fair chance to contribute, responding constructively to each other's contributions.
- Being a teacher: explaining things to others, helping other group members to learn and grow.
- Being a social mediator: helping to detect and defuse conflicts in the group.
- Out-of-class attendance.
- Out-of-class participation.
- In-class attendance on group days.
- Quality of work.
- Interest in the project.
- Overall level of participation.
- Understanding what is required.
- Suggesting ideas.
- Extracting something useful from the ideas.
- Keeping the group going when things are rough.
- Sorting out problems.
- Initiative: Generating ideas for the activities and methods of solution, Findings ideas from other sources.
- Commitment: doing a fair share of the work, meeting deadlines, attending meetings and being punctual.

The conflict resolution plan discusses what to do should a disagreement be present with a members peer assessment.

6 Appendix

6.1 Large Gantt chart

Task Name	Start	Finish
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