**Idea/Research Phase**

**Inputs:**

List of project ideas, research papers , similar projects, lecturer suggestions

**Process**

1. **Project Vision Statement**

One paragraph on the vision of your project. This is used to assign supervisors.

1. **Project Proposal Document**

Proposed Project Title and Objectives. Research areas defined and research commenced .Initial key citations and references identified. Initial research question Identified. Present your research question to the pool on Thursday 11th October.

**Outputs**

**Project Vision Statement** Thursday 19th September 2019

**Project Proposal Document** Week of Monday 7th October 2019

**Requirements Phase**

**Inputs:**

**Project Vision Statement**

**Project Proposal Document**

**(agreed and signed off by your supervisor)**

**Process**

1. Main research chapter in Literature Review in progress.

Table Of Contents of remaining Literature Review in progress.

(See template)

1. Risk analysis including platform issues.( Table format)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Risk description** | **Likelihood**  **(high, med, low)** | **Impact**  **(high, med, low)** | **Mitigation** | **Plan of Action** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Vision Document**

Definition:

The vision document defines the high level scope of the project, the objectives and provides a statement of work on how to complete each objective.

Contents (see template)

The template should include the following:

* Purpose / Introduction
* Scope / Outline
* Stakeholder and user descriptions
* Product overview / features
* User requirements, functional and non-functional.Priorities list (MOSCOW method). Each requirement is uniquely identified. A 3 digit number starting with 000.
* Solutions – technology etc
* References

Should be no more than 2 pages. Spell check, proof read. Agreed and signed off with supervisor.

**Functional Specification:**

Outlines the requirements in a system or feature both functional and non-functional in detail including the process involved. Is a guideline and a continuous reference point for developers. This determines the projects fulfilment of the requirements.

Contents:

Add User Stories (Backlog) for all **Must have** and **Should have** features.

Unique no : req no – story no

Title:

Description:

As a <type of user> I want <some goal> so that < some reason>.

Priority : MOSCOW.

Estimate using hr: 6-8 max

Acceptance criteria : A test case for each.

Can be done in word, exel, online tool (Trello, sonicagile, azur devops)

Check that each story compiles with the INVEST model.

**Outputs:**

Project Plan: Week of Monday 21st October 2019

Vision Document: Week of Monday 21st October 2019

Main Research Chapter in progress : Week of Monday 21st October 2019

Project Functional specification : Week of Monday 4th November 2019

**Design Phase**

**Inputs**

Project Plan:

Vision Document:

Main Research Chapter in progress :

Project Functional specification

All be agreed and signed off with your supervisor.

Process

1. Design Phase Document

A document which defines the design and structure of the project to satisfy the business and technical requirements and to give a software team guidance on the architecture or inner workings of the project. It is based on customer and developer input. It consists of the tasks being developed in order to keep track of the progress of the project .

Template:

Table of contents

1. Introduction/system overview
2. User diagrams
3. Uses cases ,
4. class diagrams
5. sequence diagrams
6. VOPC – a set of interconnected class diagrams that show how all the classes needed for a particular application to run.
7. State transition diagram: Used to represent activity in the system.
8. Scenarios
9. Entity relationship diagram
10. Interface design, Storyboard, Prototype, Screen layouts

**Output**

Design Phase documents

Sprints ( First draft) Key Class Diagrams

Week of Monday 18thth November 2019

**Implementation Phase**

**Inputs:**

Design documents, Use cases, User Stories

Prioritised Backlog

**Implementation**

**1 week + 12-15 hrs (5hrs lab +8hrs)**

**Sprint = 2 weeks (20-30 hrs)**

**Process**

1. Take approved items from the backlog
2. May need extra research
3. May need extra design details
4. Agree with supervisor the main classes that need to be unit tested. Create unit tests ( Decision tables, Equivalence partitions and boundary analysis, State trans diagrams etc.)
5. Coding. Clean code, adhering to industry coding standards, run code through a static analyser.
6. Run your unit tests
7. Run acceptance tests.
8. Monitor actual and expected times for each user story. Adjust as needs be.
9. Use the college reference system.
10. Review sprint, plan for next sprint.

**Exit.**

**User Stories acceptance tests passed.**

**Code**

**Unit tests (Main Classes)**

**Update Backlog**

**End of First Sprint.**

**Submission 3: Prototype & Design Presentation**

FYP Document: (Work in progress) Abstract , Research Chapters, Methodology Chapter & Design Chapter Some Increments (agreed with supervisor) implemented/tested Electronic submissions onto the X drive.

**FYP Design Presentations: December 9th 2019.**

Monday December