



PES UNIVERSITY, BANGALORE

Department of Computer Science and Engineering

## **Project Planning for University Lost and Found Management System**

### **Team 11 Members:**

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**1: Identify the lifecycle to be followed for the execution of your project and justify why you have chosen the model. (Shreya Joshi - PES2UG21CS501)**

### **Answer:**

We plan to follow the Agile methodology for the execution of our project. Agile is a very realistic approach to software development, which promotes teamwork and cross-training.

Our project will span over a period of 2-3 months, involving 4 team members. In agile, the resource requirements are minimum and the functionalities can be developed rapidly and demonstrated. Agile enables concurrent development and delivery within an overall planned context. This aligns with our resource availability and team environment. We have hence chosen the Agile methodology for our project.

Listed below are the reasons why we preferred Agile over the SDLC Legacy models:

1. The Waterfall and V models assume that the requirements are frozen. They are difficult to change and are sequential in nature.
2. The Prototype model requires that the entire system prototype be built to understand the requirements. This may increase the complexity.
3. The Incremental model involves successive release of functionalities which are continually integrated until the entire system is achieved. This seems like an ideal model for our project too. However, the drawback is that it is hard to identify common functionalities across increments. Also, once an increment is released, it cannot be reverted back for any changes.
4. The Iterative model is rigid, involves continual rework that may cause the project to get extended.

**2: Identify the tools which you want to use throughout the lifecycle like planning tool, design tool, version control, development tool, bug tracking, testing tool.**

**(Shreya Joshi - PES2UG21CS501)**

Answer:

Planning tool – Microsoft Excel

Design tool – Microsoft Word, Lucid Chart

Version Control – GitHub

Development tool – XAMPP Server, PHP, MySQL

Bug tracking – To be filled

Testing tool – To be filled

**3: Determine all the deliverables and categorize them as reuse/build components and justify the same. (Sragvi Anil Shetty - PES2UG21CS537)**

**Reusable Components**

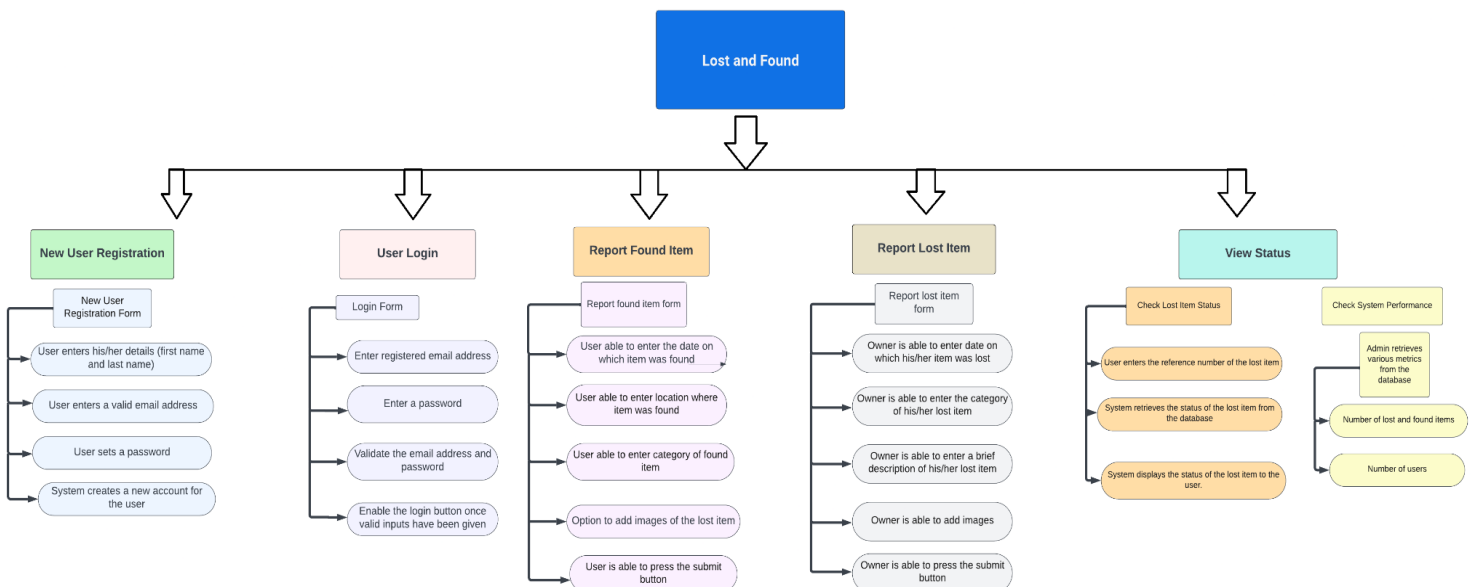
1. User Interface Design (Wireframes)- The reusable components in this include design templates, style guides, UI components.
2. Source code and Executables - Though the source code for University Lost and Found Management System is specific to this project, some libraries and frameworks that can be reused in future projects may exist.
3. User Documentation - User manuals can be used as templates for similar documentation for other projects.
4. Training Materials - These are the materials designed to facilitate the learning and understanding of how to use the software ( in this case the Lost and Found System). They can be reused for:
  - a. Continuous training - As the system will evolve with new updates and features these materials can be updated.
  - b. Scaling to other Campuses
5. Legal and Compliance Documentation - Can be adapted for other lost and found projects/applications.
6. Test Plan - The overall structure and format of a test plan document can serve as a template for creating test plans for other similar projects.  
The Risk assessment framework in the test plan can be reused with adjustments to assess the risks for new projects, especially if the risk categories and criteria are similar.
7. Maintenance and support plan - While the specific content of this plan will vary based on the characteristics of the project, the underlying principles, frameworks and procedures are usually consistent.

**Built Components**

1. Software Requirements Specification (SRS) - It is specific to the project and outlines the requirements for University level Lost and Found Management system. It cannot be directly used for other projects.
2. System Design Documentation - system architecture and the database design documents are tailored to be specific for this project. While the design principles may be adopted, it's not directly reusable.

3. Source Code and executables - The primary/core source code and executables are project-specific.
4. Post-implementation review (PIR) - is conducted after the completion of the project and evaluates the overall performance. This outcome is specific to the project.
5. Data-Intensive Components - parts that handle large amounts of data like database schema, data models or data processing. These components are built specifically for the project's requirements. Hence, it is not directly reusable by other projects.
6. Custom Components - These are software modules or functionalities which are developed to address the unique requirements of the user. In our project this could include: user authentication, matching lost and found items, item reporting form etc.

**4: Create a WBS for the entire functionalities in detail. (Spoorthi Shivaprasad - PES2UG21CS536)**



**5: Do a rough estimate of effort required to accomplish each task in terms of person months. (Sragvi Anil Shetty - PES2UG21CS537)**

Since we have a small team size, we are using the Organic CoCoMo model for calculating the rough estimate of the effort and time required to carry out the tasks in the WBS.

The project has a maximum duration of 3 months (September to November).

Parameters in Organic CoCoMo:  $a=24$   $b=1.05$   $c=2.5$   $d=0.38$

Assuming the size of each component to be:

- New user registration: 2 KLOC
- User login: 1 KLOC
- Report found items: 2 KLOC
- Report lost items: 1 KLOC
- View status: 2 KLOC

Calculating the effort and time for each of the task:

1. New user registration:

- Effort (E) =  $2.4 * (2^{1.05}) = 4.36$  person-months
- Time (T) =  $2.5 * (\text{Effort}^{0.38}) = 2.12$  months

2. User login:

- Effort (E) =  $2.4 * (1^{1.05}) = 2.4$  person-months
- Time (T) =  $2.5 * (\text{Effort}^{0.38}) = 1.17$  months

3. Report found items:

- Effort (E) =  $2.4 * (2^{1.05}) = 4.36$  person-months
- Time (T) =  $2.5 * (\text{Effort}^{0.38}) = 2.12$  months

4. Report lost items:

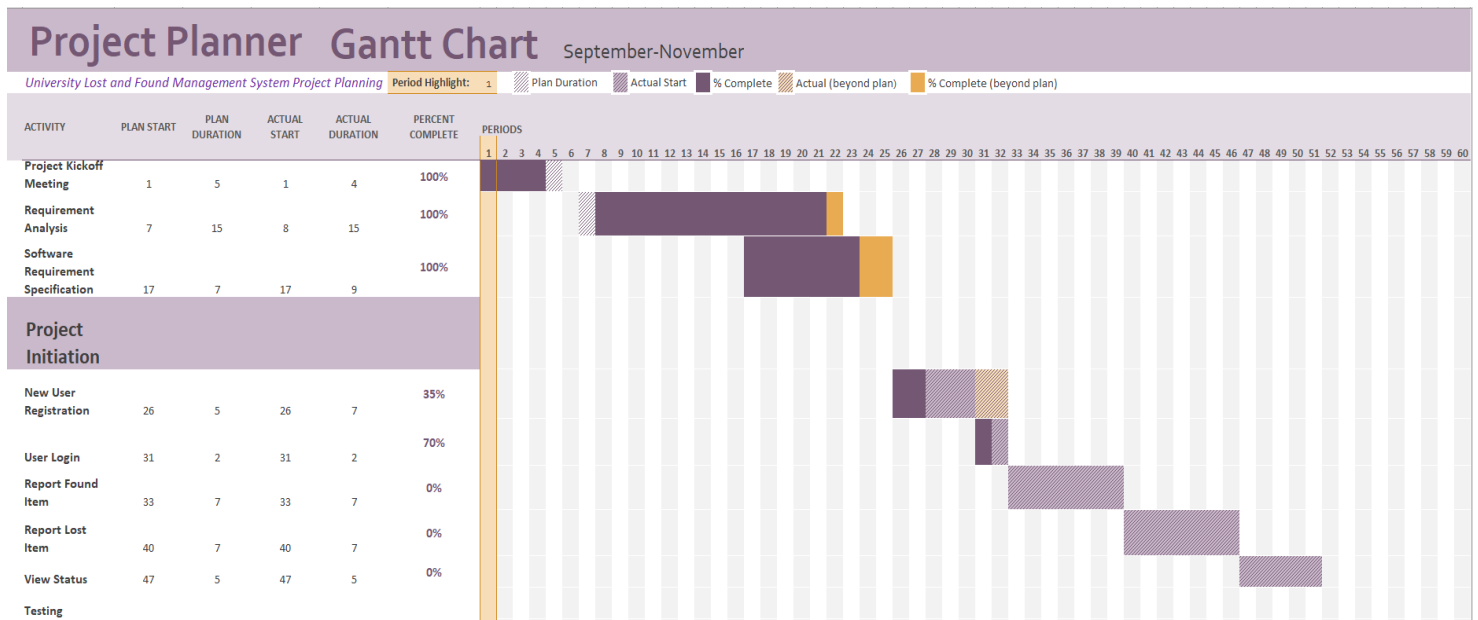
- Effort (E) =  $2.4 * (1^{1.05}) = 2.4$  person-months
- Time (T) =  $2.5 * (\text{Effort}^{0.38}) = 1.17$  months

5. View status:

- Effort (E) =  $2.4 * (2^{1.05}) = 4.36$  person-months
- Time (T) =  $2.5 * (\text{Effort}^{0.38}) = 2.12$  months

These tasks can be run parallelly. Since there are 4 people responsible for the development of the project, each task will be assigned to 1 member. The 5th task will be initiated a little later so the total time taken to complete the project will be around 3 months.

## 6: Create the Gantt Chart for scheduling using any tool. (Shruti C - PES2UG21CS514)



- MS Excel is the tool used to create the Gantt Chart.
- The Project Kickoff Meeting , Requirement Analysis and Software Requirement Specification are the tasks that are 100% completed.
- The remaining software components are in the stage of progress , which will be accomplished in the given duration of time.

**The purpose of a Gantt chart in scheduling is to help project managers plan, track, and communicate the project schedule. Gantt charts are visual representations of project schedules, and they can be used to:**

- **Identify and manage task dependencies:** Gantt charts show how tasks are related to each other, which can help project managers to identify and manage dependencies. This is important because some tasks cannot start until other tasks are finished.
- **Estimate the project duration:** Gantt charts can be used to estimate the total duration of a project by adding up the duration of all of the tasks. This can help project managers to set realistic deadlines and track progress towards those deadlines.

- **Communicate the project schedule to stakeholders:** Gantt charts are a clear and concise way to communicate the project schedule to stakeholders. Stakeholders can use Gantt charts to see what tasks are being worked on, when those tasks are scheduled to be completed, and how the project is progressing overall.