# SE Project Plan
# 13 - Research Paper Management

**Team Leader : Shreya Mandi [PES2UG21CS546]**

**Roles Assigned:**
**1 & 2 - Suhas [PES2UG21CS546]**
**3 & 5 - Soham [PES2UG21CS532]**
**4 - Srinivaasan [PES2UG21CS542]**
**6 - Shreya [PES2UG21CS505]**

**Q1>**

**Lifecycle model chosen:**

Agile - XP (Extreme Programming)
This method was chosen due to the following constraints:

> We have a very short time to complete the project,
> The requirements for the project might change,
> Small Team size of 4,
> Unfamiliar Technology,
> Continuous Involvement from Stakeholders (Teacher),
> The final software should be reliable.

Based on the above constraints, we have chosen to use an Agile SDLC.
The reason we have chosen XP over Scrum or other Agile methodologies is because:
> XP uses shorter sprints,
> Focuses on Test-Driven-Development (TDD), hence making the software reliable and only implements the features whichever are required and necessary.
> Pair Programming, leads to higher code quality and ensures that everyone has some idea about the entire code-base and how everything works and not just their component.
> Communication between team members is essential.

**Q2>**

**Tools to be used:**

Planning tool - Jira Software, WBS Gantt Chart-plugin,
Design tool - Draw.io
Version control - Github
Development Tool - VScode, RustRover, Streamlit, Rust, Cargo, MySQL
Bug Tracking - None
Testing Tool - Selenium

**Q3>**

**Deliverables:**

Reuse Components:

- Database
- Operating System
- Web Browser
- HTTP
- HTTPS

Build Components:

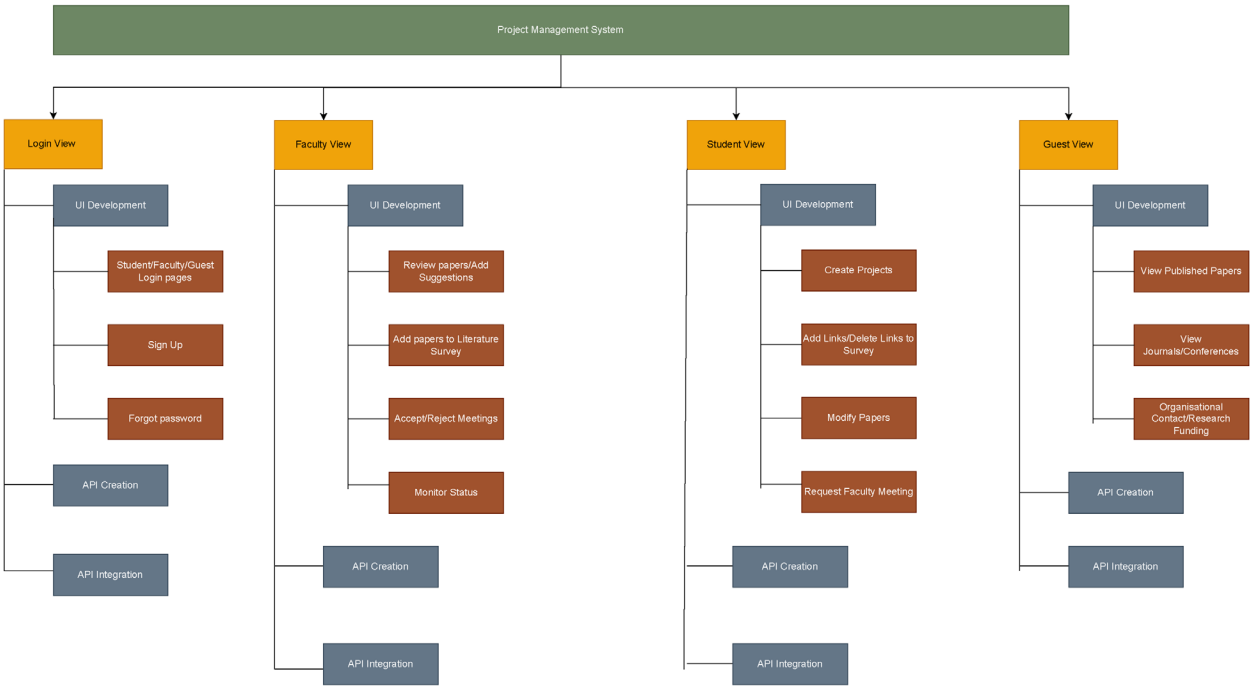
- User Authentication and Authorization
- Dashboard Views
- Project Management
- Collaboration Tools
- Literature Survey
- Meeting Requests
- Faculty Review and Suggestions
- Journals and Conferences Calendar
- Paper Submission

Justification:

The reuse components are existing technologies and frameworks that can be used to implement the build components. For example, the database can be used to store user data, project information, and literature survey links. The operating system and web browser will be used to run the system and provide a user interface. HTTP and HTTPS will be used for communication between the client and server.

The build components are specific to the Research Paper Management System and need to be developed from scratch. These components include the functionality for user authentication and authorization, dashboard views, project management, collaboration tools, literature survey, meeting requests, faculty review and suggestions, journals and conferences calendar, and paper submission.

**Q4>**
**WBS:**




**Q5>**
**Estimate of Effort per Task:**

| Software Projects | a | b | c | d |
|---|---|---|---|---|
| Organic | 2.4 | 1.05 | 2.5 | 0.38 |
| Semi-Detached | 3.0 | 1.12 | 2.5 | 0.35 |
| Embedded | 3.6 | 1.20 | 2.5 | 0.32 |

$$E = a(KLOC)^b$$

In our project, we utilized the CoCoMo (COnstructive COst MOdel) software estimation approach. The specific CoCoMo model implemented in our project is the Organic model.
Hence a = 2.4, b = 1.05, c = 2.5, d = 0.38
We can calculate the efforts as follows:
KLOC = 1.6
Efforts = 2.4 $(1.6)^{1.05}$ = 3.93 = 4 Person months
Hence, we require 4 persons to work rigorously for a month to complete the deliverables.

**Q6>**

**Gantt Chart:**