



BANNARI AMMAN INSTITUTE OF TECHNOLOGY

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Sathyamangalam - 638401 Erode District, Tamil Nadu, India

Student Name: SARATHY RAM M

Seat No: 135

Project ID: 15

Project title: PRODUCT REVIEW AND TRACKING
SYSTEM

Technical Components

Component	Tech Stack (Python Stack)
Backend	DJANGO
Frontend	HTML , Javascript , CSS
Database	POSTGRESQL
API	Restful API

PROBLEM STATEMENT:

The current state of product development processes is characterized by fractured communication channels and fragmented workflows. In order to handle different stages of the product lifecycle, teams frequently turn to separate tools and methodologies, which causes delays and inefficiencies. Important difficulties consist of:

- ❖ **Lack of Centralization:** It is challenging to monitor progress and retain visibility when vital project information is dispersed throughout several platforms and papers.
- ❖ **Ineffective Collaboration:** In the absence of a centralized platform, team members find it difficult to work together efficiently, which can result in misunderstandings and redundant work.
- ❖ **Manual Processes:** A lot of jobs, such as approving issue statements, submitting bills of material, and documenting them, require human participation, which makes them time-consuming and increases the possibility of mistakes.
- ❖ **Quality assurance:** Checking for plagiarism and originality in project submissions through peer reviews and other means is a labor-intensive yet sometimes disregarded step in the process.

Solution:

Our plan is to create a thorough system for product reviews and tracking in order to tackle these issues. Offering the following advantages, this system will function as a centralized gateway for overseeing every phase of the product development process:

- ❖ **Streamlined Workflows:** Our technology will expedite and simplify the product development lifecycle by automating repetitive operations and supplying predefined workflows.
- ❖ **Enhanced communication:** Team members may work together more effectively and transparently when they have access to features like centralized document management and real-time communication capabilities.
- ❖ **Better Quality Assurance:** The quality and integrity of project submissions are guaranteed by integrated review processes, plagiarism detectors, and documentation management.

Approach:

We will use an agile development approach, which is marked by iterative development cycles and close stakeholder participation, to implement our solution. The project will move forward via the subsequent stages:

- ❖ **Planning:** Setting project goals, specifications, and deadlines is part of planning. Interview stakeholders and obtain user input to help shape the project strategy.
- ❖ **Design:** To conceptualize the system architecture and user interface, create wireframes, prototypes, and UI/UX designs.
- ❖ **Implementation:** Use Django to create the backend infrastructure, HTML, CSS, and JavaScript to create

the frontend components, and PostgreSQL integration to handle data storage.

- ❖ **Testing:** Test thoroughly to make sure the system satisfies user expectations and quality standards. This should involve unit, integration, and user acceptance testing.
- ❖ **Deployment :**Introduce the system gradually, beginning with a pilot set of users and working your way up to a complete rollout. To guarantee a seamless transition, offer users assistance and training.

PROJECT WORKFLOW:

Purpose:

The purpose of the project workflow is to outline the sequence of tasks and activities involved in the product development process. It serves as a roadmap for project execution, guiding team members through each stage from initiation to completion. The workflow ensures clarity, consistency, and efficiency in project management, facilitating collaboration, communication, and decision-making among stakeholders.

Scope:

The project workflow encompasses the following stages critical for the success of the product development process:

- ❖ **Problem Statement Approval:** Initiate the project by defining the problem statement, objectives, and scope.
- ❖ **BoM Submission:** Submit Bills of Materials for evaluation and approval to procure necessary resources.
- ❖ **Reviews:** Conduct peer reviews and feedback sessions to assess proposed solutions and provide constructive feedback.
- ❖ **Student Member Assignment:** Assign student members to project teams based on their skills, expertise, and availability.
- ❖ **Uniqueness Checking:** Verify the originality and academic integrity of project submissions through plagiarism checks.
- ❖ **Documentation:** Create, manage, and share project documentation, including plans, reports, and artifacts.
- ❖ **Reward Points:** Incentivize active participation and recognize contributions to project success through a reward system.

Business Context:

The project workflow works to improve project efficiency, quality, and stakeholder satisfaction by streamlining workflows, enhancing collaboration, and promoting accountability. It also supports business goals like innovation, competitiveness, and stakeholder engagement by fostering a culture of continuous improvement and knowledge sharing within the project community. The project workflow is critical to ensuring the successful delivery of project outcomes and to aligning project activities with business objectives. It offers a structured framework for managing resources, controlling costs, and mitigating risks throughout the product development

process.

Dependencies:

The project workflow is dependent on various factors and resources, including:

- ❖ **Technology Stack:** The implementation and completion of project activities depend on the functioning and availability of the selected technologies, including Django, HTML/CSS/JavaScript, and PostgreSQL.
- ❖ **Human Resources:** For a project to be completed successfully, the availability and skill of team members—developers, designers, project managers, and domain experts—are essential.
- ❖ **Data and Information:** For well-informed decision-making and job execution, access to precise and current data and information is essential. This includes project requirements, documentation, and feedback.
- ❖ **Infrastructure and Tools:** To support project activities and team member participation, it is imperative that version control systems, communication platforms, development environments, and project management tools be readily available and dependable.

Requirements:

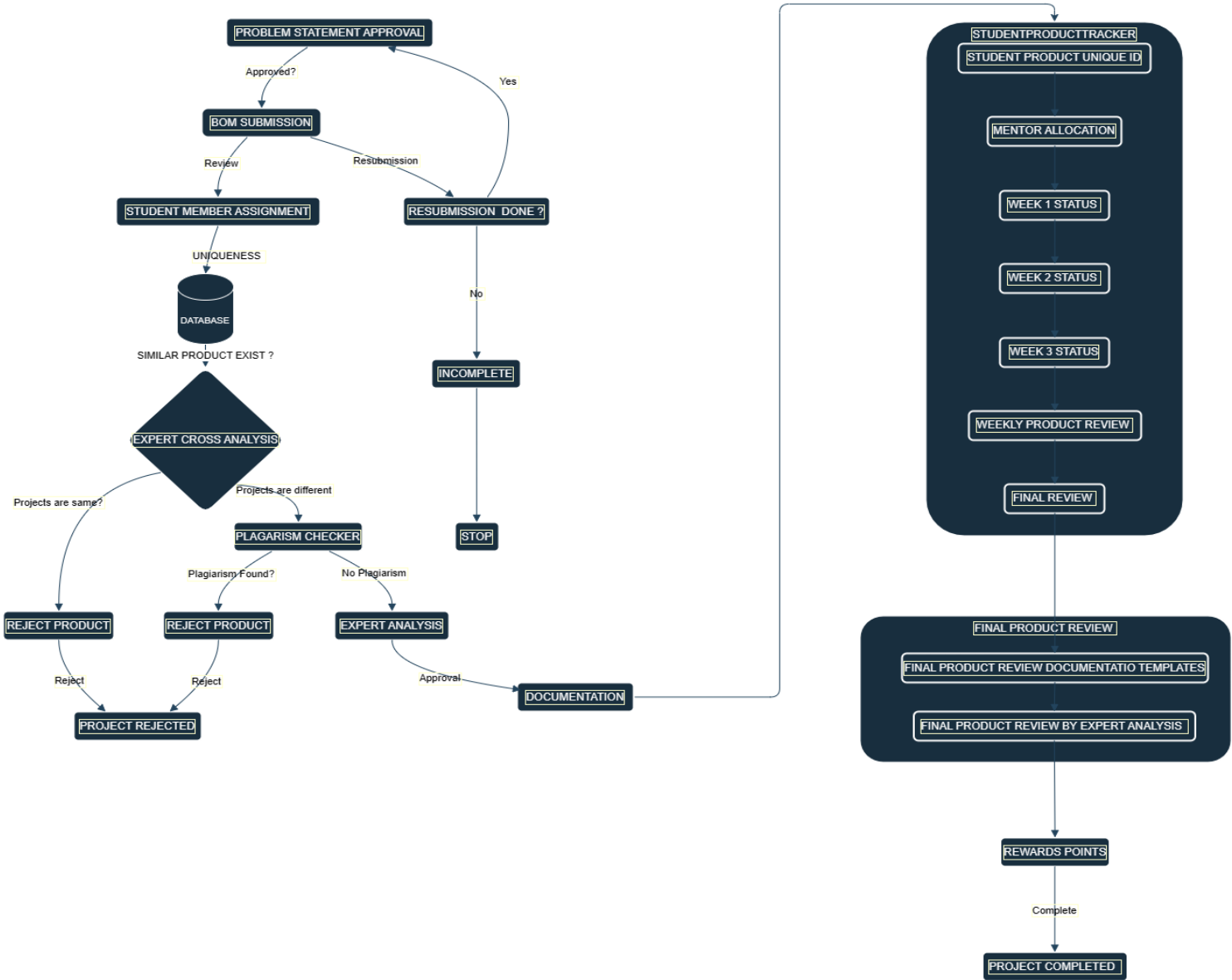
Functional Requirements:

- ❖ **Problem Statement Approval:** Allow stakeholders to submit problem statements for review and approval.
- ❖ **BoM Submission:** Enable users to submit Bills of Materials for evaluation and inclusion in project planning.
- ❖ **Reviews:** Facilitate peer reviews and feedback exchange among team members to improve solution quality.
- ❖ **Student Member Assignment:** Assign student members to project teams based on skills, availability, and project requirements.
- ❖ **Uniqueness Checking:** Implement plagiarism checks to ensure originality and academic integrity of project submissions.
- ❖ **Documentation:** Provide tools for creating, storing, and sharing project documentation, including version control and collaborative editing features.
- ❖ **Reward Points:** Implement a reward system to incentivize active participation and recognize contributions to project success.

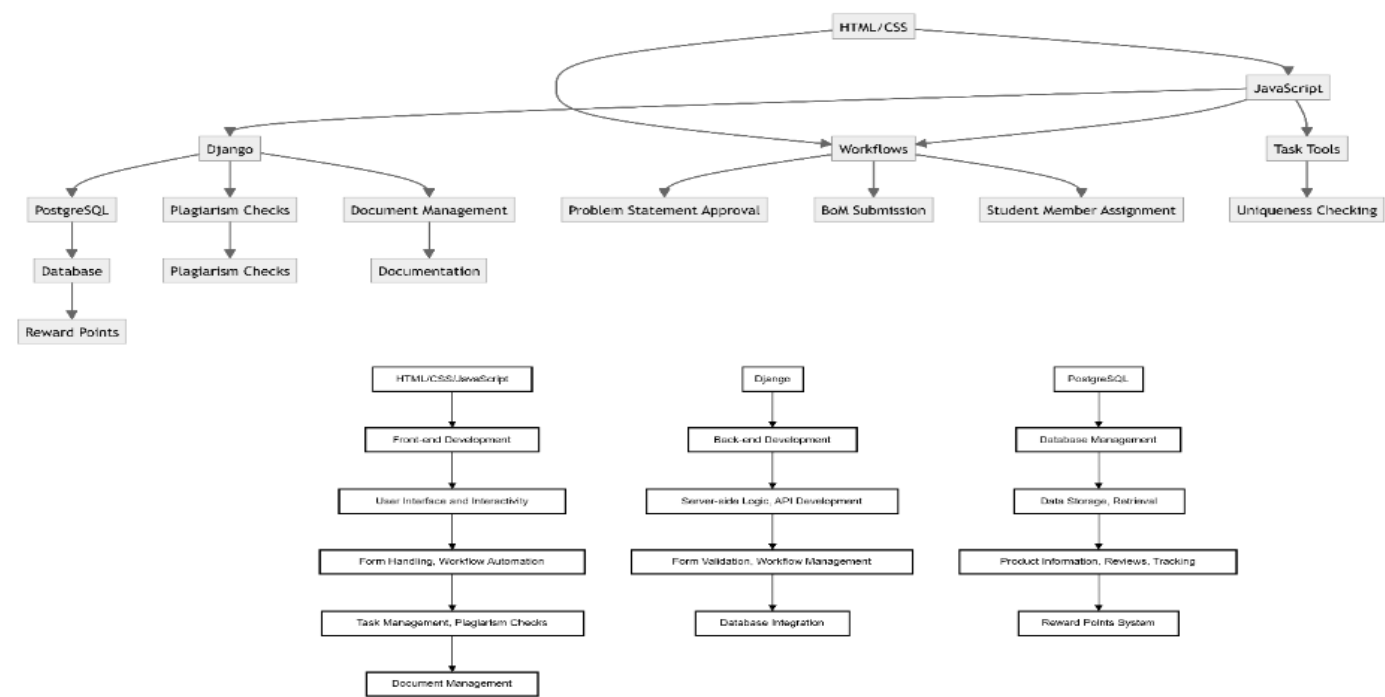
Non-functional Requirements:

- ❖ **Security:** Implement robust authentication and authorization mechanisms to protect sensitive data and ensure compliance with data privacy regulations.
- ❖ **Scalability:** Design the system to handle a growing user base and increasing volume of project submissions without compromising performance.
- ❖ **Usability:** Create an intuitive and user-friendly interface with clear navigation and informative feedback to enhance user experience.

PROJECT WORKFLOW CHART:



TECHNOLOGICAL STACK FLOWCHART:



DATABASE FLOWCHART:

