<div align="center">**SOFTWARE REQUIREMENT SPECIFICATION FOR APEX AUTOMATION**</div>

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COMPONENT TECH STACK
BACKEND :NODE JS , EXPRESS JS
FRONT END :VUE JS
DATA BASE: MONGODB
API :RESTFUL API

PROBLEM STATEMENT:

To expedite the filing, approval, and administration of financial need forms for various departments, special labs, clubs, and societies inside the college, Bannari Amman Institute of Technology needs a digital solution. Because the existing procedure is paper-based, it is inefficient, slow to process requests and approvals, and difficult to track and audit. The college also need a safe way to get digital signatures in order to guarantee the accuracy and legitimacy of paperwork that are turned in.

PROJECT - FLOW:

Purpose:

The goal of this project is to provide Bannari Amman Institute of Technology with a digital solution for handling financial need forms. The administration, approval, and filing procedures will all be streamlined as a result, increasing their speed and efficiency. Transparency and accountability will be increased by the system's improved ability to track and audit requests. It will also offer a safe way to get digital signatures, guaranteeing the validity and authenticity of papers that are presented.

Scope:

The project's scope includes developing a web-based application for Bannari Amman Institute ofTechnology departments, special labs, clubs, and societies to submit and process financial need forms. It also entails creating a user-friendly interface for form submission, approval workflows, and tracking mechanisms. Moreover, the project will include a secure digital signature feature to guarantee document authenticity and legitimacy, as well as functionalities for generating reports and audits to enhance accountability and transparency in the management of financial requests. Finally, the system will be designed to seamlessly integrate with the college's existing IT infrastructure.

Business context:

The goal of Bannari Amman Institute of Technology's digital financial need form management system is to replace the institution's antiquated paper-based approach. The desire to boost productivity, shorten processing times, and strengthen tracking and auditing capabilities is what motivates this endeavor. Better resource management across departments, special labs, clubs, and societies will be made possible by the new system. ensuring that supplied papers are valid and maintain their integrity with secure digital signatures. In the end, this initiative helps the organization fulfill its promise to use technology to increase accountability and operational effectiveness.

Consideration:

- For authentication, each user has an active college email address.
- Consumers frequently have access to internet-capable gadgets like tablets, computers, and cellphones.
- A streamlined process that makes it possible to submit, review, and approve financial requests quickly.
- The system must respect applicable laws and policies and provide data security and privacy. • Integration for smooth data management and reporting with the databases and IT infrastructure already in place at the college.

Dependencies :

- **User Database:** To record user registration, authentication details, and role-based access controls for various users (students, professors, and administrators), a dependable and secure user database is necessary.
- **Database Management System:** To store and manage the financial need forms, approval statuses, department/club/society details, and audit logs, a database management system such as MongoDB is required.
- **Authentication and Authorization**: To guarantee safe system access and protect sensitive data, implement strong authentication and authorization procedures using JSON web tokens.
- **Notification System:** To keep customers informed about the progress of their financial need forms, approvals, and rejections, the platform uses a notification system (such as email or SMS)
- **Digital signature integration:** Integrating a secure digital signature service with submitted papers to guarantee their validity and authenticity is known as digital signature integration. This ensures legal compliance and tamper-proof records.

User Personas:

1. Students:

- For activities they participate in, they can submit financial need forms.
- They are able to monitor the progress of the forms and approvals they have filed.
- They have access to events that have been approved and can apply for funding.

2. Faculty (Event Coordinators):

- They are able to examine and accept financial necessity forms that have been filed for their activities.
- They are able to monitor event finances and budgets.

3. Faculty (Department Heads):

- They oversee the department's overall financial need form approval procedure.
- They have the authority to grant final approval for forms that organizers of events and students submit.
- They are able to produce reports on their department's financial requests and approvals.

User stories:

- As a faculty member/student club coordinator/special lab incharge, I want to ensure that all financial need forms are digitally signed and authenticated to maintain the integrity and also want to track the status of our requests.

- As a department head, I want to quickly review and approve financial need forms online so that requests can be processed more efficiently.

- As an administrator, I want to generate detailed reports on financial requests and approvals to facilitate better auditing and transparency within the institution.

- As an admin, I want a streamlined process for managing and approving financial transactions to reduce administrative burden and improve efficiency

FUNCTIONAL REQUIREMENTS:

1) User Registration and Authentication:

On the platform, users (teachers, administrators, and students) should be able to register and authenticate themselves.

2) Event Submission Form:

A digital form that includes the necessary amount, description, and department, club, or society should be available to students and faculty members for the purpose of making requests for financial assistance.

3) Form Approval/Rejection Mechanism:

Admins should be able to evaluate requests for financial assistance and decide whether to approve or reject them based on predetermined standards.It should be possible for users to see the status of requests they have filed.

4)Integration of Digital Signatures:

Secure digital signatures should be supported by the platform in order to guarantee the validity and authenticity of submitted documents.

5) Monitoring and Examining:

For accountability and transparency, the system should have the capacity to track the status of requests and keep a record of every transaction.

6)Alerts:

Users should receive alerts from the platform regarding the progress of their requests for financial assistance, including approvals, rejections, and any further steps needed.

7)Analytics and Reporting:

To aid in decision-making and resource allocation, the platform ought to produce reports and analytics on requests for financial assistance, approvals, and rejections.

8)Access Control Based on Roles:

To guarantee that only authorized users can access particular features and data depending on their responsibilities (e.g., students, professors, admin), implement role-based access control

9)Dashboard for Users:

Give users easy access to pertinent information, a user-friendly dashboard, and the ability to manage their submissions and check status updates.

10)Privacy and Data Security:

Make that the platform complies with privacy and data security regulations to safeguard sensitive data pertaining to user information and requests for financial assistance.

Non Functional Requirements:
   1) Scalability:

   The platform should support the addition and management of numerous departments, special labs, clubs, and societies within the college. It should be built to handle an increasing number of users, financial need forms, and approval workflows without compromising performance.

   2) Privacy and Data Security:

   The platform must guarantee user data confidentiality, integrity, and security by implementing encryption, implementing user authentication and authorization best practices, and maintaining data integrity.

   3)Maintainability:

   The codebase should be modular, well-documented, and easy to maintain, allowing for future enhancements and minimal disruption in adding new features and integrating with other systems

   <u>FLOW DIAGRAM:</u>