Student Name: ALABDUL BASITH I R

SEAT ID: 247

Project ID: 15

Project Title: NPTEL course exemption

1. Problem Statement:

 Students in the final year opt out course exemption through certificates earned from external reputed online platforms like NPTEL which ensures strict adherence and conductance of course learning for providing certifications and maintain academic standards. Thus, students learn preferred course and exempt their academic courses in final semesters. Absence of centralized platform causes intensive manual verification and chaos in validation of respective courses aligned with respective student department. This leads to several challenges which includes:

- O Delay in course verification.
- O Commotion in course exemption by Academics department.
- O Inconsistency of course clarification.
- O Manual intensive verification by team and communication inconsistencies.

2. Project Overview:

- **Project:** 12 weeks NPTEL course exemption system.

- **Objective:** To develop a system that allows students to request and manage course exemptions in Academics section.

- **Stakeholders:** Students, Administrators, IT support, Instructors.

3. Goals and objectives:

- **Primary Goal:** Streamline the process of course exemption requests and approvals.
- **Objective:**
    - Provide an intuitive interface for students to submit exemption requests.
    - Enable administrators to efficiently review and manage requests.
    - Ensure secure handling of sensitive student data.
    - Implement a notification system for request status updates.
- **Scope definition:**
    - **In-scope:**
        - User registration and authentication.
        - Request submission and document upload.
        - Request review and approval/denial process.
        - Notification system for status updates.
        - Admin dashboard for managing requests.
    - **Out-of-scope:**
        - Integration with external academic databases.
        - Automated validation of updated documents.

4. Functional Requirements:

I. **Student Interface**

- **Registration and Login:**
    - Students must register and log in to access the exemption system.
- **Dashboard:**
    - Overview of eligible courses for exemption.
- **Request Submission:**
    - Form to submit exemption requests with relevant details (previous courses, certifications, work experience).
- **Upload Documents:**
    - Feature to upload supporting documents (transcripts, certificates, etc.).

- **Status Tracking:**
  - Track the status of submitted requests (pending, approved, denied).
- **Notifications:**
  - Receive notifications about request status updates.

II.   **Administrator Interface**

- **Login:**
  - Secure login for administrators.
- **Dashboard:**
  - Overview of pending, approved, and denied requests.
- **Request Review:**
  - Detailed view of each request with supporting documents.
- **Approval/Denial:**
  - Ability to approve or deny requests with comments.
- **Communication:**
  - Send notifications to students regarding their request.

5. Non - Functional Requirements:

- **Security:**
  - Ensure data protection and privacy.
  - Secure login mechanisms.
- **Performance:**
  - System should handle concurrent users efficiently.
- **Usability:**
  - Intuitive user interface for both students and administrators.
- **Scalability:**
  - Ability to handle an increasing number of users and requests.

- **Availability:**
  - High availability and minimal downtime.

6. Technical Requirements:

- **Front-End:**
  - Frameworks/Libraries: Angular.js
  - Responsive design for accessibility on various devices.
- **Back-End:**
  - Frameworks: Node.js with Express.
  - Database: NoSQL (MongoDB).
- **APIs:**
  - RESTful APIs for communication between front-end and back-end.
- **Authentication:**
  - OAuth, JWT, or similar mechanisms for secure authentication.
- **Hosting:**
  - Cloud hosting solutions (AWS, Azure, Google Cloud).

7. User Stories:

- **As a student:**
  - I want to register and login with my bitsathy account so that I can access the exemption system.
  - I want to submit an exemption request so that I can be exempted from courses I am already proficient in.
  - I want to upload supporting documents to strengthen my exemption request.
  - I want to track the status of my request so that I know when it is reviewed. o I want to receive notifications about the status of my request so that I am informed in real-time.

- **As an administrator:**

o I want to log in securely so that I can manage exemption requests.

o I want to review exemption requests so that I can approve or deny them.

o I want to add comments to my approval or denial to provide feedback to students.

o I want to send notifications to students regarding their request status.

8. Project Flow Chart: