SELF INTENSIVE TRAINING ON FULL STACK

DEVELOPMENT Stage -1

(Planning And Requirement Gathering)

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Seat No
Project ID: 15
Module Name: 12 WEEK NPTEL COURSE EXEMPTION

TECHNICAL COMPONENTS:

COMPONENT MERN STACK
Frontend: React (JS Library for building user interfaces)
Backend: (Node.js with Express.js)
Database: MongoDB (NOSQL Database)
API : Open API

1. Introduction

1.1. Purpose:

The purpose of this document is to outline the criteria and process for obtaining an NPTEL course exemption. It will detail the objectives and requirements for the exemption, describe the characteristics and interfaces of the application process, and specify the conditions under which the exemption can be granted.

1.2. Scope of Project:

- **Users:** Students or faculty members will be able to submit requests for exemptions from NPTEL courses through the software system.

- **Functionality:** Users can fill out an exemption request form, providing necessary details such as the course name, reason for exemption, and supporting documents.

2. System Overview:

2.1. Users:

1. **Students**:

They can upload necessary information, track the progress of their application, and examine their past NPTEL exam in addition to submitting applications for the next exam.

2. Admins:

Review submitted for exam applications, approve or reject applications (with remarks),

2.2. Features:

Exam Registration

1. Users have the ability to register new applications with information, like name, educational qualifications.

Exam Application

1.Users can book available exams for specific dates and time slots.

2.The system should prevent the exam from being written at the same date and time.

3.If a user attempts to book an already reserved exam , the request is sent to the administrator for review.

Administrator Review

1.Administrators can review booking requests for exams that have conflicts.

2.Administrators have the option to approve or deny the conflicting booking request.

3.Administrators can change the exam assigned to a booking request and provide comments or remarks.

Notifications

Users should receive notifications regarding the status of their exam registration and booking requests (approved, denied, or modified by the administrator).

User Management

1.The system should have user authentication and authorization mechanisms.

2.Users can be assigned different roles (e.g., regular user, administrator) with varying levels of access and permissions.

Reporting and Analytics

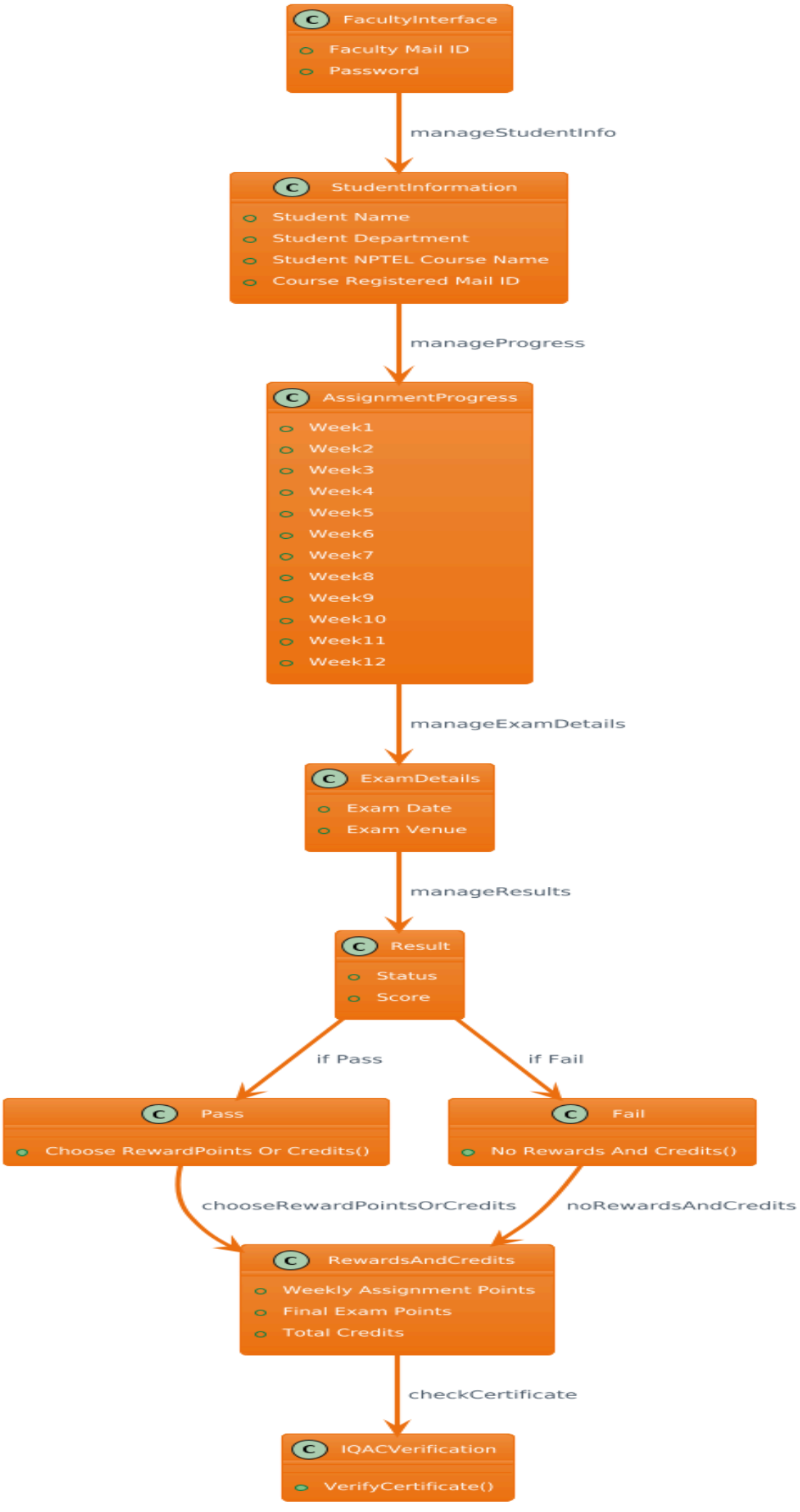
1.The system should provide reporting and analytics features for administrators to monitor exams utilization, booking trends, and other relevant metrics.

User Interface

1.The system should have a user-friendly interface for users to register exams, book exams, and view their booking history.
2.Administrators should have a separate interface or dashboard to manage exams, review booking requests.

FLOW CHART :

ADMIN INTERFACE


FacultyInterface
Faculty Mail ID
Password
manageStudentInfo
StudentInformation
Student Name
Student Department
Student NPTEL Course Name
Course Registered Mail ID
manageProgress
AssignmentProgress
Week1
Week2
Week3
Week4
Week5
Week6
Week7
Week8
Week9
Week10
Week11
Week12
manageExamDetails
ExamDetails
Exam Date
Exam Venue
manageResults
Result
Status
Score
if Pass
if Fail
Pass
Choose RewardPoints Or Credits()
Fail
No Rewards And Credits()
chooseRewardPointsOrCredits
noRewardsAndCredits
RewardsAndCredits
Weekly Assignment Points
Final Exam Points
Total Credits
checkCertificate
IQACVerification
VerifyCertificate()

3. System Requirements Specification:

3.1 Functional Requirements:

User Management

1.User registration and authentication (login/logout)

2.User roles (admin, regular user) with different permissions

Exam Management

1.Exam registration by users (with details like name, And educational qualifications)

2.Exam approval/rejection by administrators

Booking Management

1.Book available exam for specific dates and time slots

Administrator Functions

1.Review conflicting booking requests

2.Approve, deny, or modify (change exam, add comments) conflicting bookings

Notification Management

1.Notify users about exam registration status (approved/rejected)

2.Notify users about booking request status (approved/denied/modified)

3.2. Non-Functional Requirements:

● **Performance:** The system must respond to user actions within 2 seconds to ensure efficient usability and must handle a concurrent user load of at least 100 users without significant performance degradation.

● **Security:** User data must be encrypted during transmission and storage, and access to sensitive functionalities should be restricted to authorized

admin users through secure authentication mechanisms.

- **Usability:** The user interface should be intuitive and user-friendly, with clear and concise error messages provided to guide users in case of input errors or system failures.

- **Reliability:** The system should be available 24/7 with minimal downtime and should have a backup and recovery mechanism in place to prevent data loss in case of system failures or crashes.

- **Scalability:** The system should be designed to accommodate an increasing number of users and data volume over time, and it should be scalable to support additional features and functionalities as per future requirements.