PROJECT REPORT ON

PG DISSERTATION MANAGEMENT SYSTEM

COURSE : ADVANCE JAVA TECHNOLOGIES (CSE 1606)

SUBMMITED BY:

NAME	SEAT NO.	PRN
SAKSHI JETHVA	653005	
SHRUTI PATEL	653007	8021021412
OM MISTRY	653026	8021074848
BOBBY UPPRETI		
VIDHI PATEL	653054	8021079329

INDEX

Content	Page No
Project Description	01
Technologies and Tools	02
Use Case Diagram	03
Class Diagram	04
Database design	05
Test Use Cases	06
Implementation Details	19
User Manual	21

PROJECT DESCRIPTION

The PG Dissertation Management System is an efficient and user-friendly platform designed to streamline the management of postgraduates dissertations and PhD dissertation. This system simplifies the entire process, from proposal submission to final evaluation, ensuring a seamless experience for both students and guides.

OBJECTIVES

The main objective of PG Dissertation Management System is to optimize and modernize the management of UG, PG, PhD dissertation, aiming to improve efficiency, collaboration and overall effectiveness in the dissertation process.

Proposal Submission: Student can easily submit their dissertation proposal through an intuitive user interface.

Tracking Progress: Guides can monitor the progress of each dissertation in real-time.

Feedback: Students can receive feedback and reviews from guide to improve their work.

Security: The database ensures the security and integrity of all dissertation-related data, safeguarding sensitive information.

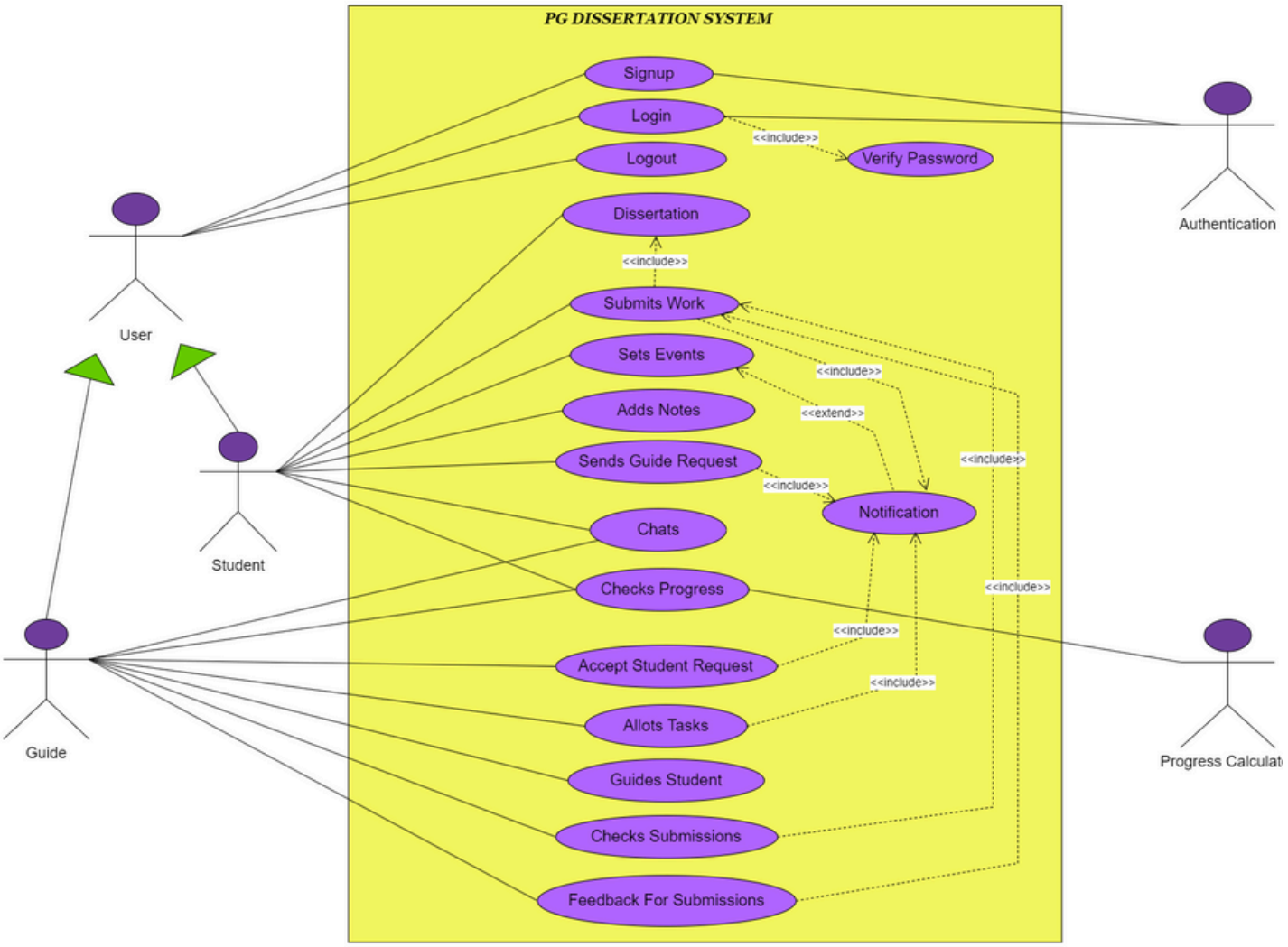
SCOPE

The project encompasses the development of a comprehensive system that improves various stages of the dissertation management process. It includes features such as proposal submission, topic selection, progress tracking, document submission, review and evaluation, and final submission.

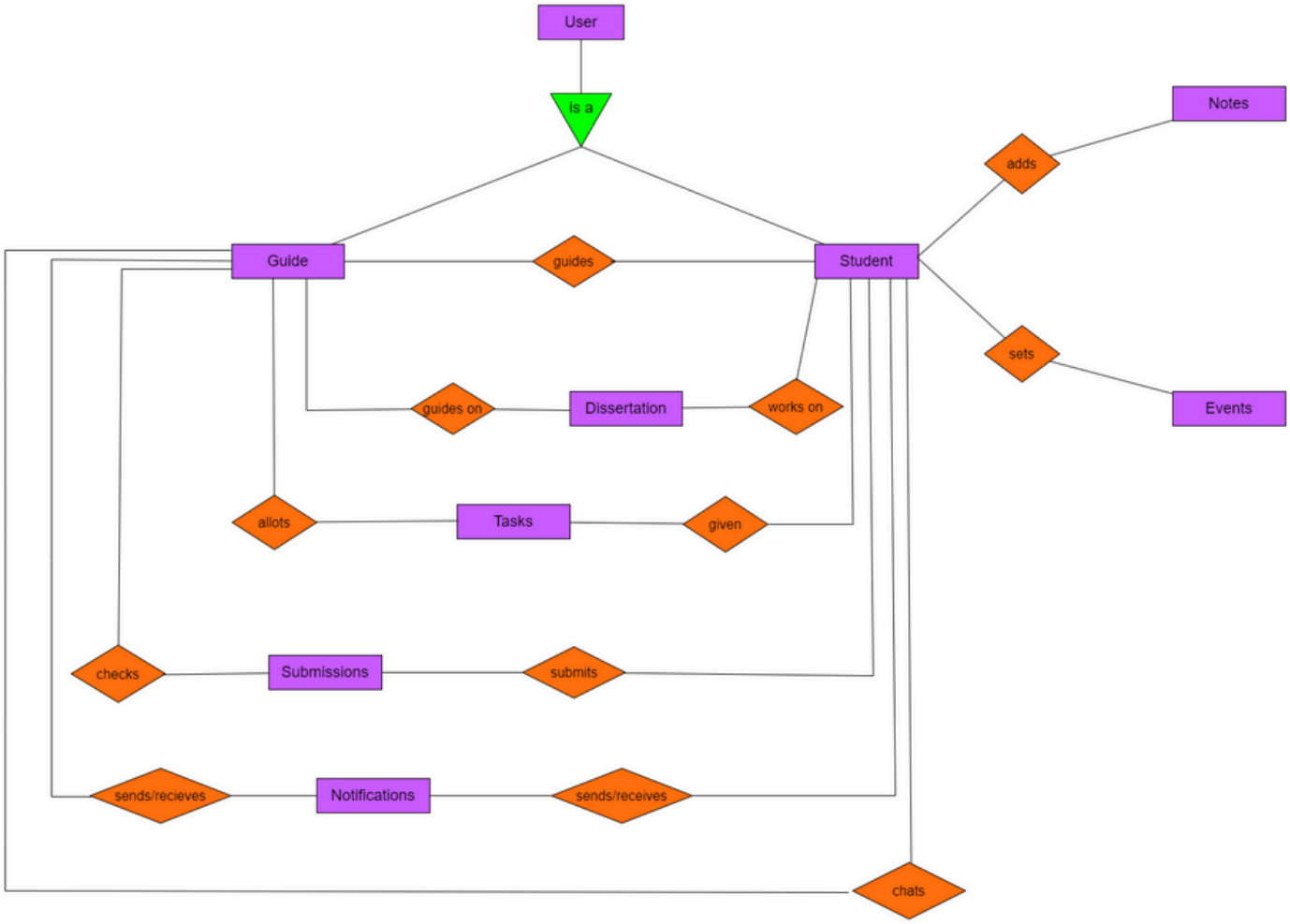
TECHNOLOGIES AND TOOLS

- **ReactJS**: For building dynamic and interactive user interfaces in web applications.
- **Spring Boot**: To quickly build and deploy Java-based web applications with minimal configuration.
- **MongoDB**: A NoSQL database option for more flexible data models or document storage.
- **Git**: To manage the source code repository, track changes, and collaborate with other developers.
- **Visual Studio Code**: IDEs for frontend development with JavaScript frameworks.

USE CASE DIAGRAM



DATABASE DESIGN



TEST CASES

User Registration:

Use Case Name	**Sign Up**
Use case Description	describes the process of a new user registering for an account on the PG dissertation management system.
Actors	User
Pre-Condition	The user accesses the system's sign-up page.
Post -Condition	The user is registered and can log in to the system using the provided credentials.

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Enter username A: Enter email A: Enter Password A: Enter confirm password Select Role
	2	S: Checks if the username is unique. S: Validates the email format. S: Ensures password meets complexity requirements.
	3	S: Redirect to Login page
Extensions	2a	Email format not valid: S: Display error message
	2b	Password rule not match: S: Display error message

User Login:

Use Case Name	Login
Use case Description	A user login to System to access the functionality of the system.
Actors	User
Pre-Condition	System must be connected to the network.
Post -Condition	User logs in to Dashboard

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Enter username A: Enter Password
	2	S:Validate username and password
	3	S: Redirect to user dashboard
Extensions	2a	Invalid Username System shows an error message
	2b	Invalid Password System shows an error message

Dissertation:

Use Case Name	Dissertaion
Use case Description	Describes the process of a student submitting their dissertation form through the PG dissertation management system.
Actors	Student
Pre-Condition	The student is logged into the system.
Post -Condition	The user is registered and can log in to the system using the provided credentials.

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Enters the title of the dissertation. A: Enter dissertation details
	2	S: Check all required fields
	3	S: Allow student to send guide request
Extensions	2a	Display error message if field validation fails

Guide Request:

Use Case Name	Guide Request
Use case Description	describes the process of a student requesting a supervisor to become their guide for their dissertation.
Actors	Student
Pre-Condition	The student has identified a supervisor they wish to request as their guide and student has filled the dissertation form
Post -Condition	student has successfully requested a supervisor to guide them through their dissertation.

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Selects the guide they wish to request as their guide. S: Displays the selected supervisor's profile, including their contact information and areas of expertise.
	2	S: Sends notification to the guide for this request.

Accept Student Request

Use Case Name	Accept Student request
Use case Description	describes the process of a guide accepting a student's request to become their guide for their dissertation.
Actors	Guide
Pre-Condition	Guide has received notification of student request and accessed pending requests.
Post -Condition	Guide can allot task to the student.

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Select the pending request they wish to see. A: Can see dissertation details. .
	2	A: Accept or decline request
	3	S: Send the student request about guide’s decision.
Extensions	1b	S: Display error if Dissertation details not fetch.

Allot Tasks

Use Case Name	Allot Tasks
Use case Description	describes the process of a guide allotting a task to a student as part of their dissertation guidance.
Actors	Guide, student
Pre-Condition	Guide accepted student's request to guide them
Post -Condition	Student can work on the tasks.

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	S: displays a list of tasks previously assigned to the student, if any.
	2	A: selects the option to allot a new task to the student
	3	A: fills in the required information for the new task: A: Enters a descriptive title for the task. A: Provides detailed instructions or a description of the task. A: Specifies a deadline by which the task must be completed.
	4	S: Sends notification to the student about alloted task.
	5	A: Can edit or delete the task if needed.
Extensions	3	S: Display error if Task form fields are not validated.

Submissions:

Use Case Name	Submission
Use case Description	describes the process of a student submitting their completed dissertation
Actors	student
Pre-Condition	Guide has alloted some task.
Post -Condition	Guide can check on the work.

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	S: Display the list of tasks alloted.
	2	A: Selects the a task to add his submission.
	3	A: Enters a descriptive title for the task. A: Enters the necessary details for the form A: Upload the file for given submission.
Extensions	2	S: Display message if no task are alloted.
	3a	Validate the form fields.
	3c	Validate file format.

Check Submission:

Use Case Name	Check Submission
Use case Description	describes the process of a guide or administrator checking the status and details of a student's dissertation submission
Actors	Guides
Pre-Condition	Student submits their work.
Post -Condition	Student can see feedback

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Guide can see students submision
	2	A: Provide feedback.
	3	A: Approve or reject sbmission
Extensions	2a	S: Display error if no feedback given
	3a	S: Display error if not provided data.

Set Event:

Use Case Name	Set event
Use case Description	Describes the process of a supervisor or administrator checking the status and details of a student's dissertation submission.
Actors	Student
Pre-Condition	Student is logged in.
Post -Condition	Event will be added.

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Add events data through form.
	2	A: See events added earlier.
	3	A: Mark event as completed
Extensions	1a	S: Validate form fields.
	2a	S: Display message if no events are added.
	3a	S: Display events which passed end dates.

Add notes:

Use Case Name	Add note
Use case Description	Describes the process of a supervisor or administrator checking the status and details of a student's dissertation submission.
Actors	Student
Pre-Condition	Student is logged in.
Post -Condition	Note is added.

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Fill the data for notes.
	2	A:See the added notes.
Extensions	1a	S: Validate the fields of note form.
	2a	S: Display no notes message if there are no notes

Progress :

Use Case Name	Progress
Use case Description	describes the process of tracking the progress of a student's dissertation
Actors	Student
Pre-Condition	Student is logged in
Post -Condition	-

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	S: Display the progress including key milestones, completion status, and any pending tasks
Extensions	1a	S: Display error message if progress not fetch

Chat:

Use Case Name	Chat
Use case Description	describes the process of initiating and participating in a chat conversation between a student and their supervisor to discuss the dissertation progress or related matters.
Actors	Guides, Student
Pre-Condition	Student and guide are both logged into the system
Post -Condition	-

Main Scenarios	**Serial No**	**Steps**
A:Actor S:System	1	A: Student selects the option to start a new chat
	2	A: Enters the message and receives message from other
Extensions	2	S: Display message if chat is not begin

IMPLEMENTATION DETAILS

1. User Management:
   - Implement user authentication using JWT (JSON Web Tokens) for secure access.
   - Create routes and controllers for user registration, login, and logout.
   - Hash and salt passwords before storing them in the database to enhance security.
   - Define user roles (student, guide) and restrict access to certain functionalities based on role permissions.

2. Project Management:
   - Develop CRUD (Create, Read, Update, Delete) functionalities for dissertation projects.
   - Create routes and controllers for creating, editing, and deleting dissertations.
   - Implement logic to assign supervisors to projects and allow multiple students to work on a single project if needed.
   - Include features for setting project statuses (e.g., proposal, literature review, data collection, analysis, defense) and tracking project progress.
   - Implement validation checks to ensure that only authorized users can access and modify projects.

3. Document Management:
   - Integrate file upload functionality to allow users to upload project-related documents.
   - Implement file download functionality to allow users to access and download project documents.

4. Notification System:
   - Develop a real-time notification system to alert users about important updates and actions related to their projects.
   - Implement notifications for events such as new project assignments, document uploads, comments, and project status changes.
   - Allow users to configure notification preferences and settings.

5. Chat System:
   - Use web sockets (e.g., Socket.io) to enable real-time communication between the student and guide.

6. Reporting and Analytics:
    - Create reports and analytics dashboards to provide insights into project progress and performance.
    - Develop queries to retrieve data from the database and generate visualizations (e.g., charts, graphs) using libraries like Chart.js or D3.js.
    - Implement export functionalities to allow users to download reports in different formats (e.g., PDF, CSV).
7. Integration:
    - Integrate the frontend and backend components of the system to ensure seamless communication.
8. Testing:
    - Write unit tests for each component of the system to ensure functionality and reliability.
    - Perform integration tests to verify interactions between different modules and components.
    - Conduct end-to-end testing to validate the entire workflow of the system, from user authentication to project management and document handling.

USER MANUAL

1. Introduction:
Welcome to the PG Dissertation Management System! This user manual is designed to guide you through the various features and functionalities of the system. Whether you are a student, supervisor, or administrator, this manual will help you navigate the system effectively to manage postgraduate dissertation projects efficiently.

2. Getting Started:

- **Accessing the System:** To access the PG Dissertation Management System, open your web browser and enter the URL provided by your institution's IT department.
- **Sign Up:** Once on the sign up, enter your username, email and password in the respective fields and click the "Sign up" button to register your account.

3. User Roles:
The system supports 2 user roles:

- **Student:** Students can create and manage their dissertation projects, upload documents, communicate with guides, and track project progress.
- **Guide:** Guides oversee student projects, provide feedback, and monitor project progress. They can accept student request for dissertation project.

4. **Notification**: Once you are login onto your account you can see unread notifications on the navbar, clicking on the notification you will be directed to that particular page.

5. **Student:**

- **Dashboard:** Upon logging in, you will be directed to the dashboard, where you can view an overview of your projects and any notifications. The dashboard provides quick access to key features and functionalities of the system.
- **Adding Dissertation:** Add the dissertation details like dissertation name, description, starting date.
- **Guide Request:** After adding dissertation details student can select a guide and send request. The dissertation process starts after guide accepts the request.
- **Add Submissions**: Add your submissions from the submission form in common dissertation page. You can edit your submission within 1 hour only.
- **See Submissions**: Your submitted data and guide feedback and approval status will be visible here.

- **Progress:** You can see the completion percent, overall credits, remaining days and all the progress data in dissertation page.
- **Chat:** A chat option is provided on this page where you can communicate with the guide and seek guidence.

5. Guide:

- **Dashboard:** Upon logging in, you will be directed to the dashboard, where you can see your details, past student mentored, new requests and ongoing dissertations.
- **Accepting Request:** You can view the dissertation detail given by the student and accept or reject him/her as your student.
- **Add Task:** From the ongoing dissertation page you can click on Add task to see all the task you previously alloted to the student. You can add new task, edit or delete the existing task.
- **Give Feedback**: From the ongoing page you can visit the dissertation page and see student's submitted work. You can provide your feedback there and either approve or reject the work, giving the credits accordingly.
- Chat: A chat option is provided on this page where you can communicate with the student and answer their queries.