
Database Systems

Thesis Management System

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1. Introduction

1.1 Project Description:

Thesis Management System (TMS) is a comprehensive web-based platform, revolving around the academic domain, designed to enhance and manage the entire lifecycle of master's level thesis projects. This system integrates a robust database and a user-friendly interface to facilitate seamless interactions between students, faculty members, and administrators involved in the thesis process

1.2 Problem Statement:

The existing manual thesis management process is time-consuming, and lacks a centralized platform for effective collaboration between students, faculty, and administrators. The absence of a dedicated system results in inefficiencies, delays, and difficulties in tracking the progress of thesis proposals.

1.3 Problem Solution:

Thesis Management System addresses these challenges by providing an integrated online platform that allows students to efficiently submit, edit, and withdraw thesis proposals. The system incorporates a role-based access control mechanism, ensuring secure authentication and authorization for different user roles, including students, faculty advisors, reviewers, and administrators.

1.4 Benefits of proposed system:

- **Improved Efficiency:**

As it reduces the manual efforts and paperworks. So, it leads to increased efficiency in proposal submission, review, and approval.

- **Effective collaboration:**

The system provides effective collaboration among students, faculty advisors, and panel members, resulting in better communication and coordination throughout the thesis lifecycle.

- **Enhanced Security:**

The system ensures that only authorized users have access to specific data, safeguarding sensitive information and maintaining the integrity of the thesis process.

- **Automated Notifications:**

The system sends automated email alerts for critical events, such as proposal submission, and approval status. This reduces the risk of missed deadlines.

2. Functional Requirements

Following are the functionalities for each user role in the database system:

2.1 Database

The system is connected to the database, where the whole data is stored. Whenever a user is registered, the data will be stored in the database. The thesis data is also stored in the database and will be viewed by the user from the database.

2.2 Registration and Menu Page

1. Registration Page:

- a. Allow each user to register with the appropriate role. Each user will have their own unique username, password and other information, which will be stored in the connected database.

2. Menu Page:

- a. Serves as a central base for navigation of each page

2.3 Administrator

1. Registration Page:

- a. Register new users(Student, Panel Member, Supervisor) by providing essential details such as username, password and contact details.

2. Menu Page:

- a. Access to the system for viewing and navigating through different sections

3. Manage data:

- a. View registered users and their information
- b. Delete and edit user accounts

2.4 Student

1. Menu Page:

- a. Students can register and login by providing correct credentials and access the menu page having different options regarding thesis related sections.

2. Manage Thesis:

- a. Submit a new thesis

- b. Edit the thesis proposal
- c. Withdraw a submitted thesis

3. Notification

- a. Receive notifications from the users

4. Mailbox

- a. Check and view messages and notifications in the mailbox

2.5 Supervisor

1. Menu Page:

- a. Supervisor can register and login by providing correct credentials and access the menu page having different options regarding thesis related sections.

2. Manage Thesis:

- a. View the submitted thesis
- b. Notify students about the thesis status and requirements

3. Notification:

- a. Notify students regarding thesis

2.6 Panel Member

1. Menu Page

- a. Panel members can register and login by providing correct credentials and access the menu page having different options regarding thesis related sections.

2. Thesis Review

- a. View the submitted thesis proposal
- b. Review the submitted thesis proposal
- c. Provide Feedback
- d. Approve or reject the thesis proposal

2.7 Other Non-Functional Requirements

1. Role-Based Access Control:

- a. Implemented the role-based access control to ensure that users can only access the functionalities based on their assigned roles. All the users are specific to their assigned roles.

2. Security

- a. Implemented proper and secure login and registration mechanisms to protect user accounts
- b. Fetch data from database that is needed

3. User friendly Interface:

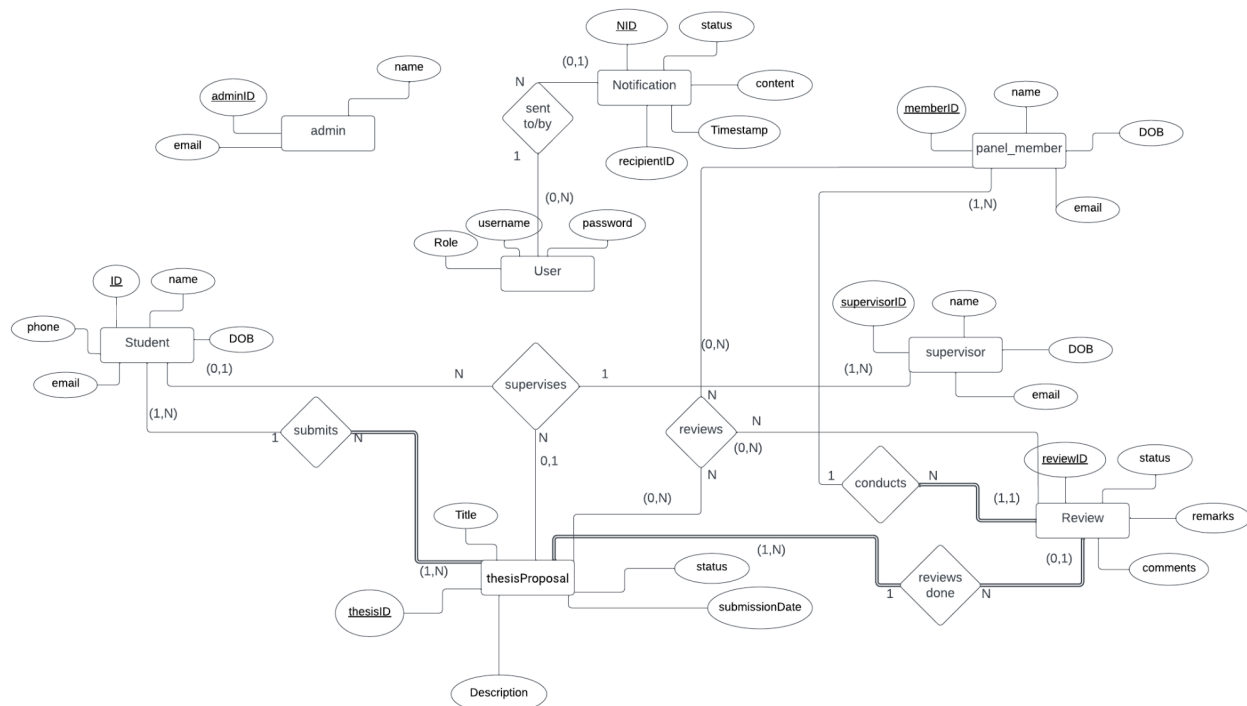
- a. Design an user friendly and appealing interface for easy use

4. Error Handling:

- a. System will show error messages in case of incorrect information

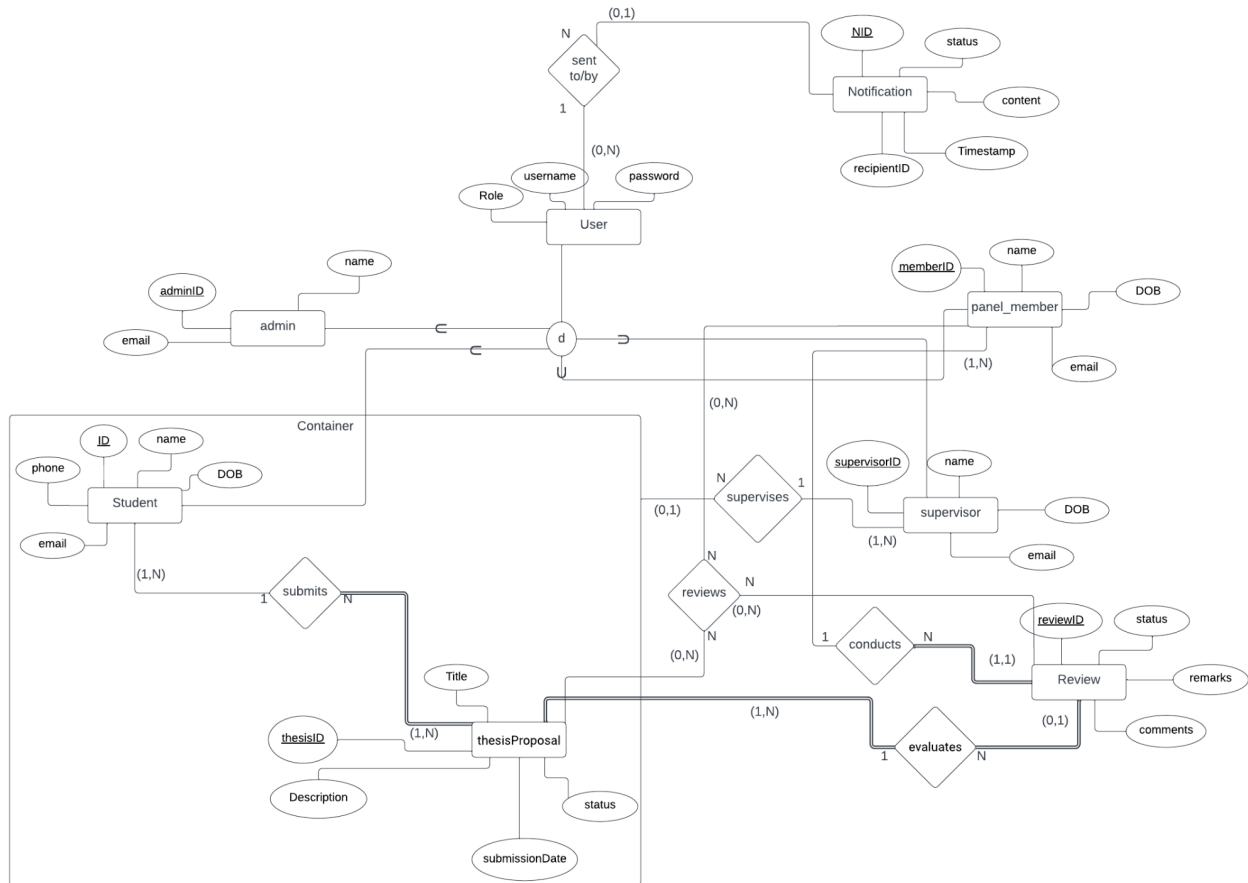
3. ERD

Entity-Relationship Diagram is given below:



4. EERD

Enhanced Entity-Relationship Diagram is given below:



5. Relational Schema

Following is the relational schema which is in 3NF

Student

<u>StudentID</u>	SName	Email	DOB	Phone	<u>RoleID(FK)</u>	<u>SupervisorID</u>
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Supervisor

<u>SupervisorID</u>	Name	Email	DOB	<u>RoleID(FK)</u>
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Panel Member

<u>PanelMemberID</u>	pm_Name	Email	DOB	<u>ProposalID</u>	<u>RoleID(FK)</u>
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Thesis Proposal

<u>Proposal ID</u>	Title	Description	Status	Submission Date	<u>StudentID (FK)</u>	<u>SupervisorID(FK)</u>
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Review

<u>ReviewID</u>	Comments	remarks	<u>ProposalID(FK)</u>	<u>PanelMemberID(FK)</u>
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Administrator

<u>AdminID</u>	AName	Email	<u>RoleID(FK)</u>
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UserRole

<u>RoleID</u>	RoleName	Password
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Notification

<u>NotificationID</u>	Content	Recipient	Timestamp	Status
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Reviews Conduct

<u>thesisID</u>	<u>PanelMemberID</u>	<u>ReviewID</u>
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6. User Guidelines and Screenshots

Following are the user guidelines with step by step screenshots.

1. Main login. You can **login or create a new account**

The screenshot shows a login form with the following elements:

- UserName**: A text input field.
- Password**: A text input field.
- User Type**: A text input field.
- Login**: A purple button.
- Create new account**: A purple button.

2. Choose the user role by just clicking on the following options and register by providing the information

Welcome To Registration Page

Choose Your Role

Panel Member

Supervisor

Student

3. Following is the registration page for students. Fill in the following information and press **Sign up** button to register

Sign Up as Student

Enter Details to Sign Up

Name

UserName

Email

Password

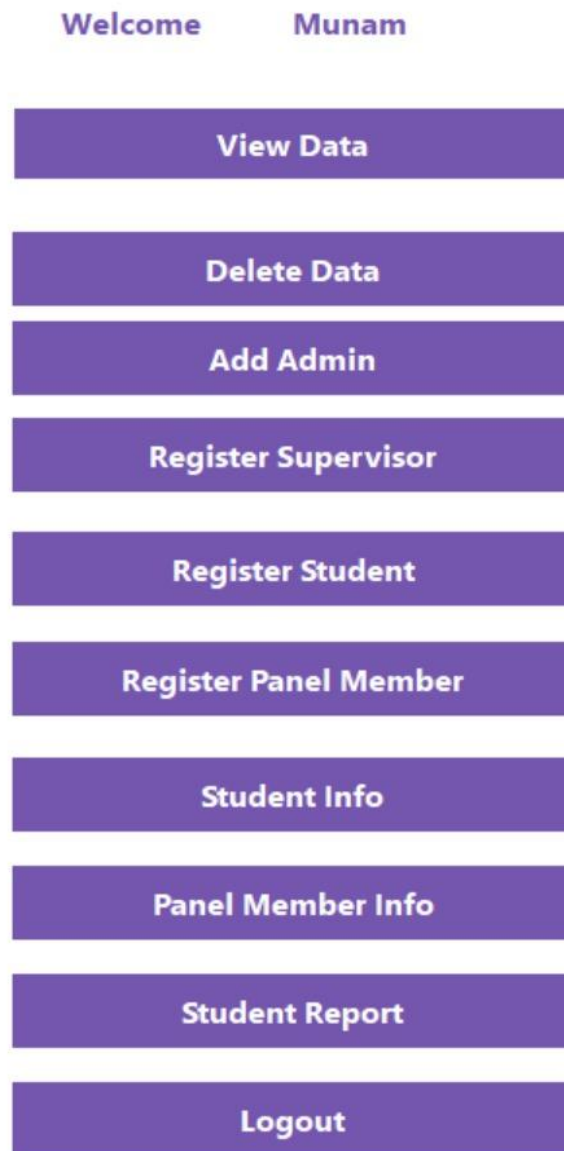
Student Id

Date of Birth

Phone Number

Signup

4. Admin can **login** and access the menu page, having the following options



5. Admin can view all the users in the database by **View Data** option and entering **User Role**

Enter Table name

UserRole

Enter

	RoleID	RoleName	Password	UserName1
►	0	Supervisor		
	1	Admin	Munam123	Munam
	3	Admin	A12	A12
	6	Admin	B123	B123
	7	Supervisor	A12	C12
	9	Supervisor	C123	C123
	10	PanelMember	molvi302	molvi302
	16	Supervisor	Malik12	Malik12
	22	PanelMember	Sohail12	Sohail1
	33	Supervisor	Shabi12	Shabi12
	53	Admin	Munib12	Munib12
	55	Student	Musa1234	Musa12

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6. Student can login to the main menu and have the following options

Welcome label2

Submit Proposal

Edit Proposal

Widraw Proposal

Check Mailbox

Logout

7. Student can submit the thesis proposal by clicking on the **Submit Proposal** button

Welcome

label2

Title

Description

Submission Date

Submit

Go Back

- Supervisor and panel member can also view the submitted proposals by just clicking on the **View Proposal** button

Thesis Proposals

	Title	Description	Status	SubmissionDate	StudentID
▶	AAA	AAA	Withdrawn	01/01/2023	456
	Abd	andcsn	Approved	02/03/2022	100
	MyProposal	This is my prop...	Pending	02/11/2023	456
	MyProposal2	This is musa pr...	Pending	05/11/2023	55
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View

Go back