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UE21CS351A – DATABASE MANAGEMENT SYSTEM

**PROJECT REPORT
ON**

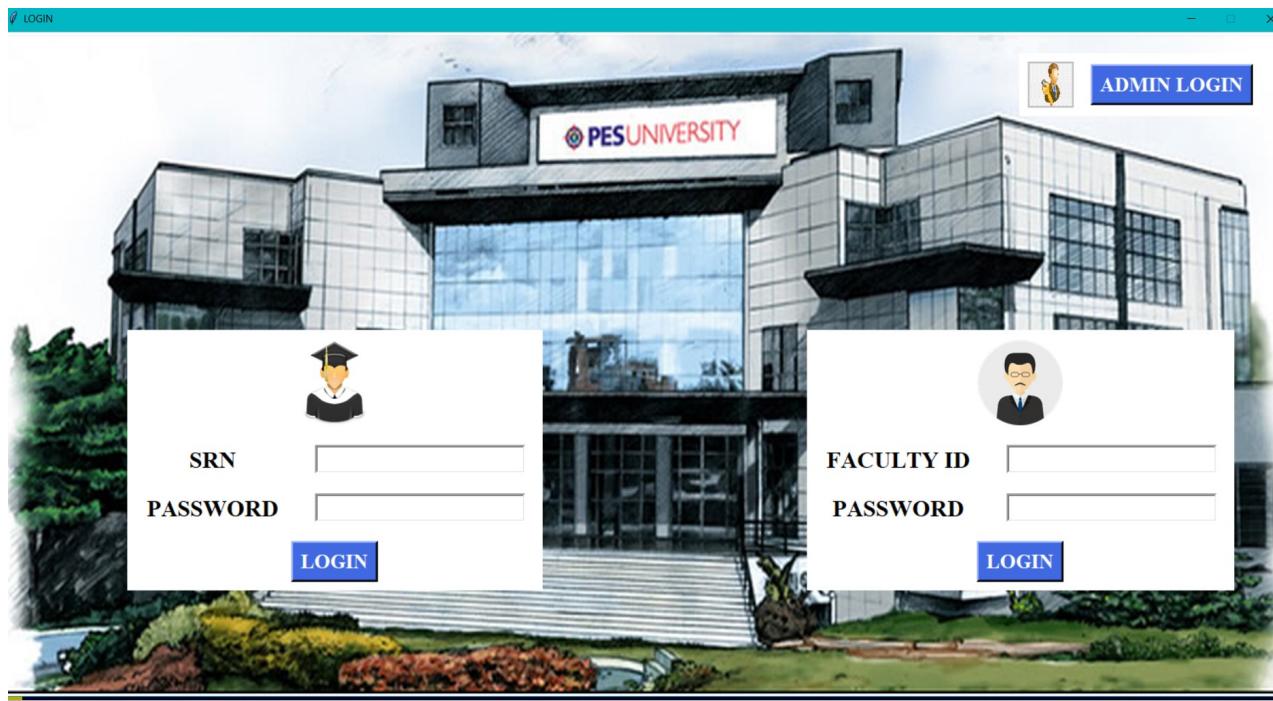
**FACULTY/ PROJECT RECOMMENDATION
SYSTEM**

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FACULTY/PROJECT RECOMMENDATION SYSTEM

PROPOSAL OF PROJECT

1. Introduction:

The Faculty/Project Recommendation and Management System is designed to streamline the management of faculty, projects, and students within an educational institution. The system aims to provide a user-friendly interface for students, faculty, and administrators to interact with the database and manage various aspects of the academic environment.

2. Project Overview:

The system consists of three main modules:

- Student
- Faculty
- Admin

Each module caters to specific user roles and responsibilities, facilitating efficient data management and communication within the academic community

3. Objectives:

- Centralized management of faculty details, student information, and project and papers data.
- Automated faculty recommendation system based on expertise and student preferences
- User-friendly interfaces tailored for students, faculty, and administrators.
- Robust security measures to protect sensitive data.

4. Features:

Admin Module:

- Admin login for system management
- Access to all database tables and schemas
- Different User management
- **Tables:** The Admin module allows the administrator to select different tables corresponding to various entities within the academic community, such as DEPARTMENT, DOMAIN, TEACHER, PROJECT, PAPER, STUDENT, TEAM, HAS_EXPERTISE_IN, INTERESTED_IN, MEMBER, and TEAM_PROJECT_RELATION.
- **Add Details:** Admins can add new information to the system. This includes adding details about departments, domains, teachers, projects, papers, students, teams, expertise relationships, and project-team relationships.
- **Update Details:** The system allows administrators to update existing records. This feature ensures that the information in the system remains accurate and up-to-date.
- **Delete Records:** Admins can delete records from the system. This functionality is useful for removing outdated or incorrect information.
- **Search Functionality:** We have a search function, enabling administrators to find specific records based on specified criteria. This facilitates efficient data retrieval and management.
- **Dynamic Table Display:** The system dynamically displays tables in the GUI based on the selected table by the admin. This feature allows administrators to visualize and manage the data associated with different entities in the academic community.

- **Error Handling:** The system implements error-handling mechanisms. In case of issues during database operations, the system provides error messages to inform administrators about the nature of the problem.

Student Module:

- Secure login for user “STUDENT”
- Access to project recommendations based on academic interests and faculty expertise.
- **Teacher Search:** Students can search for faculty members based on department, years of expertise, project title and paper title.
- **Team Search:** Helps to view teams, showcasing information about team ID, project title, team head, status, teacher name, and domain.
- **Project Search:** Allows students to discover projects based on teacher ID and domain, project ID, project title, teacher name, domain, and problem statement.
- **Member Search:** Enables students to find friends based on shared interests, displaying student details such as SRN, name, department, email, phone, and CGPA.
- **Friend Search:** Allows students to search for fellow students with similar interests.
- **Display:** Displays all teacher with the number of papers and projects that have been worked on
- **Additional Actions:** Students can edit their details, add interests, and perform other relevant actions to enhance their academic experience.

Faculty Module: (Coming Soon)

- Faculty login with ID and password.
- View and manage assigned projects and associated student details.
- Update expertise areas and personal information.

5. System Architecture:

- Utilizes a client-server architecture with a centralized database.
- Developed using Python and Tkinter library for the GUI
- MySQL database for storing faculty, their expertise, students, their interests, departments, domains, teams and members

6. Database Design:

- Organised schema with tables for faculty, projects, their expertise, students, their interests, departments, domains, teams and members
- Well-defined relationships between tables for efficient data retrieval

7. Implementation:

- Programming languages: Python for the front end, MySQL for the database
- GUI development using Tkinter and PIL for image handling

9. Future Enhancements:

- Implementation of authenticated login for different users
- Population of true data for over 3-5 years
- Integration with additional modules for event management and research publications
- Implementation of recommendation algorithms for personalized project suggestions.
- Mobile application for better accessibility by students and teachers

10. Conclusion:

The Faculty/Project Recommendation and Management System aims to enhance the efficiency of academic processes by providing a centralized platform for faculty, students, and administrators. The project is expected to streamline project allocation, improve communication, and contribute to the overall academic experience.

SCREENSHOTS

The screenshot shows a Windows application window titled 'ADMIN'. The top bar includes 'DATE:24/11/23' and 'TIME:11:58:17'. The main interface has a header with buttons for 'ADD DETAILS', 'DELETE', 'UPDATE', 'SEARCH', and 'EXIT'. On the left, there's a sidebar with buttons for 'DEPARTMENT', 'DOMAIN', 'TEACHER', 'PROJECT', 'PAPER', 'STUDENT' (which is highlighted in red), 'TEAM', 'HAS_EXPERTISE_IN', 'INTERESTED_IN', 'MEMBER', and 'TEAM_PROJECT_RELATION'. The main area displays a table titled 'STUDENT_TABLE' with columns: SRN, STUDENT_NAME, SECTION, DEPT_ID, STUDENT_MAIL, and STUDENT_PHONE. The table contains 20 rows of student data.

SRN	STUDENT_NAME	SECTION	DEPT_ID	STUDENT_MAIL	STUDENT_PHONE
PES1UG21AR001	PRIYANKA MOHAN	A	5	priyankapinks@gmail.com	9731351726
PES1UG21BT003	ANANYA	A	6	anu@gmail.com	6658974133
PES1UG21BT069	RISHIK MAKAM	A	6	rishik@gmail.com	6655442135
PES1UG21BT075	SHUBHASHINI	C	6	shulha@gmail.com	9342425186
PES1UG21CS002	NITISH	S	1	nitish@mail	8585746974
PES1UG21CS125	YOGITH ARAS	F	1	yogitharas@gmail.com	6955487596
PES1UG21CS244	JAYANTH K	D	1	JK@gmail.com	8553027643
PES1UG21CS335	PARAMESH KUMAR	M	1	methuko@gmail.com	9392971808
PES1UG21CS342	MOKSHA PRADHAN	F	1	moksha.pradhan@gmail.com	7338558240
PES1UG21CS367	R NAVEEN KUMAR	F	1	raveenkuamarapesi@gmail.com	9731351726
PES1UG21CS905	BABITHA	G	1	babs@yahoo.com	7548231654
PES1UG21EC011	NAVEEN JACOB	D	2	jackhoff@mail.com	6565835894
PES1UG21EC120	MEGHANA	A	2	meg@mail.com	7878959423
PES1UG21EC420	MANAS SHAH	B	2	shahrahul@mail.com	8558549462
PES1UG21EC840	NACHIKETH	C	2	nachiwonder@mail.com	6969691234
PES1UG21EE007	MANOJ KUMAR	A	3	mano@gamil.com	8523697412
PES1UG21EE465	SURYA GAGAN	H	3	surya@gagan.com	87863748563
PES1UG21EE986	MT ROSHAN	C	3	ROSHNI@gmail.com	78453679345
PES1UG21LL001	YASH	A	4	yash@mail	745748596

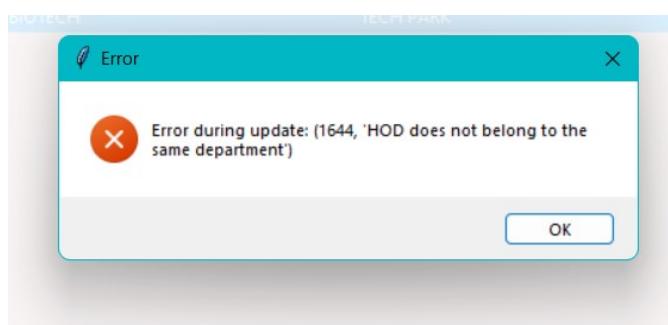
STUDENT TABLE IN ADMIN ROLE

ADMIN

DATE:24/11/23
TIME:11:59:55

TEACHER_ID	TEACHER_NAME	TEACHER_MOBILE_NO	TEACHER_EMAIL
AB001	DEEPIKA	6588912144	depu@pes.edu
AR002	GIRJA N	7235624857	girja@pes.edu
AR003	SRUJAN	7474756665	srujan@pes.edu
BT001	RESHMA S V	9731587576	reshma@pes.edu
BT002	DINESH M S	6669969674	dinesh@pes.edu
CS001	SHYLAJA S S	7126721983	shylaja.sharath@pes.edu
CS002	MAMATHA HR	8026721567	mamatha@pes.edu
CS003	UMA D	6556674983	umaprabhu@pes.edu
CS004	ASHWINI M JOSHI	8926721983	ashwinimjoshi@pes.edu
CS005	NAGASUNDARI	8546799774	nagasundari@pes.edu
EC001	ANURADHA M	9874563042	anuradha@pes.edu
EC003	MADHUKAR NARASIMHA	8907634256	madhukar@pes.edu
EE001	KESHAVAN	8578349234	keshu@pes.edu
EE002	SUSMITA DEB	9854728435	susmitadeb@pes.edu
EE003	REX JOSEPH	8478645382	REX@pes.edu
LL001	CHAYA B V	6589758694	chaya@pes.edu
LL002	KITHU ANNA	699956984	kithu@pes.edu
LL003	NIDHI	7556425898	nidhi@pes.edu

ADDING TEACHERS AS ADMIN



TRIGGER : CHECKING FOR DEPARTMENT

DELETION FUNCTIONALITY

SEARCH FUNCTIONALITY FOR PAPER TABLE AS ADMIN

The screenshot shows a user interface for a student system. At the top, there are four blue buttons: 'FIND TEACHER', 'FIND TEAM', 'FIND PROJECT', and 'FIND PAPER'. Below them are two more buttons: 'FIND TEACHER BY INTEREST' and 'FIND FRIENDS'. A red 'DISPLAY' button is followed by a red 'EXIT' button. In the center, there is a table with columns 'ID', 'NAME', 'DEPT_NAME', and 'PHONE'. The data in the table is:

ID	NAME	DEPT_NAME	PHONE
CS001	SHYLAJA S S	CSE	7126721983
CS003	UMA D	CSE	6556674983
EC001	ANURADHA M	ECE	9874563042

Below the table is a search dialog box titled 'SEARCH TEACHERS BY INTEREST'. It contains a label 'YOUR INTEREST' and a text input field with the value 'AIML'. There is also a 'SEARCH' button.

SEARCH TEACHER BY INTEREST FUNCTIONALITY AS STUDENT

The screenshot shows the same student interface as above. The 'DISPLAY' button is now greyed out. In the center, there is a table for teams with columns 'Team ID', 'Project Title', 'Team Head', and 'Status'. The data in the table is:

Team ID	Project Title	Team Head	Status
3	GIB SIMULATION	PES1UG21C5905	CAPSTONE
4	GIB SIMULATION	PES1UG21E011	ACTIVE
7	HANDWRITING REC	PES1UG21E420	ACTIVE
8	HANDWRITING REC	PES1UG21E840	CAPSTONE

Below the table is a search dialog box titled 'SEARCH TEAM'. It contains a label 'TEACHER ID' with a dropdown menu showing 'CS002', a label 'INTEREST', and a text input field. There is also a 'SEARCH' button.

SEARCH TEAMS BY TEACHER OR INTERESTS

The screenshot shows the same student interface. The 'DISPLAY' button is now greyed out. In the center, there is a table with columns 'TEACHER NAME', 'NO OF PAPERS', and 'NO OF PROJECTS'. The data in the table is:

TEACHER NAME	NO OF PAPERS	NO OF PROJECTS
ANURADHA M	0	0
ASHWINI M JOSHI	3	1
CHAYA B V	1	1
DEEPIKA	0	0
DINESH M S	1	1
GIRJUA N	0	1
KESHAVAN	0	0
KITHU ANNA	0	0
MADHKAR NARASIMHA	0	0
MAMATHA HR	0	2
NAGASUNDARI	3	2
NIDHI	0	0
RESHMA S V	0	0
REX JOSEPH	0	0
SHYLAJA S S	1	3
SRIJAN	0	0
SUSMITA DEB	0	0
UMA D	0	3
Total	9	14

DISPLAY FUNCTIONALITY IN THE STUDENT VIEW

