CLIENTSYNC CRM:

A CRM FOR EDUCATION SECTOR

MAJOR PROJECT REPORT

Submitted in partial fulfillment of the requirement for the Degree of Bachelors of Engineering in Computer Science & Engineering

Submitted To:

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PARUL INSTITUTE OF TECHNOLOGY VADODARA, GUJARAT

SESSION: AY 2025-2026

Parul University

Parul Institute of Technology

(Session: 2025 -2026)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CERTIFICATE

This is to certify that **Parth Vyas, Shejal Rathod, Rachit Vats, Manav Singh,** students of **CSE VI Semester** of **"Parul Institute of Technology, Vadodara"** has completed their **Major Project** titled **"CLIENTSYNC CRM: A CRM FOR EDUCATION SECTOR"**, as per the syllabus and has submitted a satisfactory report on this project as a partial fulfillment towards the award of degree of **Bachelor of Technology** in **Computer Science and Engineering** under **Parul University, Vadodara, Gujarat (India)**.

Patel Rupesh Manojbhai	Prof. Sumitra Menaria	DR. Swapnil Parikh
(Assistant Professor)	Head (CSE)	Principal
(CSE)	PIT, Vadodara	PIT, Vadodara
(Project Mentor)		

DECLARATION

We the undersigned solemnly declare that the project report "**CLIENTSYNC CRM"** is based on my own work carried out during the course of our study under the supervision of **Patel Rupesh NareshBhai, Asst. Prof, CSE/PIT**.

We assert the statements made and conclusions drawn are the outcomes of my own work. I further certify that

1. The work contained in the report is original and has been done by us under the general supervision of our supervisor.
2. The work has not been submitted to any other Institution for any other degree / diploma / certificate in this university or any other University of India or abroad.
3. We have followed the guidelines provided by the university in writing the report.

Whenever we have used materials (data, theoretical analysis, and text) from other sources, we have given due credit to them in the text of the report and giving their details in the references.

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ACKNOWLEDGEMENT

In this semester, we have completed our project on **"CLIENTSYNC CRM"**. During this time, all the group members collaboratively worked on the project and learnt about the industry standards that how projects are being developed in IT Companies. We also understood the importance of teamwork while creating a project and got to learn the new technologies on which we are going to work in near future.

We gratefully acknowledge for the assistance, cooperation guidance and clarification provided by **Rupesh Patel Sir** during the development of our project. We would also like to thank our Head of Department **Prof. Sumitra Menaria** and our Principal **Dr. Swapnil Parikh** Sir for giving us an opportunity to develop this project. Their continuous motivation and guidance helped us overcome the different obstacles for completing the Project.

We perceive this as an opportunity and a big milestone in our career development. We will strive to use gained skills and knowledge in our best possible way and we will work to improve them.

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LIST OF ABBREVIATIONS

S. No	Abbreviation	Full Form
1	CRM	Customer Relationship Model
2	DFD	Data Flow Diagram
3	ER	Entity - Relationship
4	DB	Database
5	UI	User Interface
6	UX	User Experience
7	SQL	Structured Query Language
8	ID	Identifier
9	API	Application Programming Interface
10	MRR	Monthly Recurring Revenue
11	HTML	HyperText Markup Language
12	CSS	Cascading Style Sheets
13	JS	JavaScript
14	PK	Primary Key
15	FK	Foreign Key

ABSTRACT

CLIENTSYNC CRM: A CRM FOR EDUCATIONAL INSTITUTIONS

CLIENTSYNC CRM is a powerful yet easy-to-use customer relationship management system designed specifically for small businesses, freelancers, and individuals who need an efficient way to manage client interactions. Unlike traditional CRMs, which can be overly complex, expensive, and time-consuming to implement, CLIENTSYNC CRM provides a lightweight, intuitive solution that enhances client management and business efficiency without unnecessary overhead.

Why Choose CLIENTSYNC CRM?

Managing client relationships is crucial for business success, but many CRM systems overwhelm users with excessive features and a steep learning curve. CLIENTSYNC CRM eliminates this frustration by offering a simplified yet effective platform that ensures no client interaction falls through the cracks. Whether you're a freelancer juggling multiple projects, a small business owner handling client communications, or an independent professional looking to streamline workflows, CLIENTSYNC CRM offers a tailored experience to meet your needs.

Core Features That Drive Success

CLIENTSYNC CRM is built around four essential features designed to optimize client engagement and improve productivity:

1. Automated Follow-Ups

Never lose track of a client conversation again. The system automatically reminds users when to follow up with customers, ensuring that leads are nurtured, relationships are maintained, and no opportunities are missed. Customizable reminders allow businesses to set follow-up schedules based on client preferences and past interactions, increasing the likelihood of successful conversions.

2. Email Communication

Communicating with clients has never been easier. CLIENTSYNC CRM allows users to send emails directly from the system, streamlining correspondence and keeping all communications organized in one place. No need to switch between multiple applications—emails are logged, tracked, and managed seamlessly within the CRM interface, ensuring quick responses and better client engagement.

3. Basic Business Insights

Understanding business performance is key to making informed decisions. CLIENTSYNC CRM provides essential business insights by tracking the number of clients, scheduled follow-ups, and inactive customers. The built-in analytics tools offer a clear overview of business activity, helping users identify trends, optimize engagement strategies, and maintain a strong client base.

4. Real-Time Data Updates

Stay up to date with live data synchronization. The dashboard refreshes automatically to display the latest client interactions, follow-ups, and email communications. This ensures that all team members have access to the most current information, allowing for seamless collaboration and enhanced customer service.

Who Can Benefit from CLIENTSYNC CRM?

CLIENTSYNC CRM is ideal for:

1. **Freelancers** who need to manage client projects, track communication, and ensure timely follow-ups.
2. **Small business owners** who want an efficient, budget-friendly CRM without the complexity of enterprise-level solutions.
3. **Independent professionals** such as consultants, coaches, and real estate agents who rely on maintaining strong client relationships.
4. **Startups** that require a cost-effective and scalable CRM to support business growth.

CLIENTSYNC CRM is a simple yet powerful tool designed to enhance client management, improve business efficiency, and provide meaningful insights—all without the complexity and cost of traditional CRM software. With automated follow-ups, integrated email communication, real-time data updates, and valuable business insights, CLIENTSYNC CRM ensures that users stay organized and connected with their clients effortlessly.

Say goodbye to overwhelming CRMs and hello to a smarter way of managing client relationships with CLIENTSYNC CRM!

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CHAPTER 1

INTRODUCTION

1.1 Overview

Educational institutions today manage a vast amount of information related to students, faculty, counsellors, institutions, and leads. Traditional record-keeping methods are often fragmented, inefficient, and prone to errors. To address these challenges, modern Customer Relationship Management (CRM) systems are being adopted to centralize and streamline interactions.

CLIENTSYNC CRM is a web-based application designed specifically for the education domain. It integrates multiple stakeholders — Admin, Faculty, and Counsellor — into a single platform. The system supports user management, student and lead tracking, task scheduling, and interaction logging, while offering role-based dashboards for personalized access.

The solution is implemented using Flask (Python) as the backend framework, SQLite as the relational database, and HTML, CSS, and JavaScript for the frontend to provide an interactive and responsive user interface.

1.2 Problem Statement

Most educational institutions face difficulties in:

- Maintaining accurate records of students, institutions, and contacts.
- Tracking leads and follow-ups systematically.
- Assigning and monitoring tasks among faculty and counsellors.
- Ensuring communication between students, faculty, and administration is properly logged.
- Providing stakeholders with relevant, role-specific information dashboards.

Existing tools are either too generic, expensive, or not customized for the education sector. There is a lack of a lightweight, easy-to-deploy CRM system that focuses on the needs of students, faculty, counsellors, and administrators in one integrated platform.

1.3 Objectives

The primary objectives of *CLIENTSYNC CRM* are:

- To develop a role-based CRM system for educational institutions.
- To provide Admin functionalities such as user, institution, and system-wide data management.
- To enable Faculty to manage student data, academic programs, and advisor notes.
- To allow Counsellors to manage leads, follow-ups, and interactions efficiently.
- To integrate task management for all stakeholders, ensuring deadlines and status tracking.

- To build dashboards with personalized analytics, reminders, and follow-up notifications.
- To ensure secure login, password management, and role-based access control.
- To create a scalable, responsive, and user-friendly system using modern web technologies.

1.4 Scope of the Project

The scope of *CLIENTSYNC CRM* includes:

- Development of a multi-user role-based CRM platform.
- Implementation of CRUD operations (Create, Read, Update, Delete) for students, leads, institutions, contacts, tasks, and interactions.
- Integration of task scheduling and follow-up tracking for better productivity.
- Secure authentication and authorization mechanisms.
- A web-based responsive frontend accessible through any modern browser.
- A SQLite database backend, ensuring portability and simplicity for educational environments.

The project is designed as a minor project for academic purposes but is extendable to support enterprise-level features such as reporting, advanced analytics, and integration with external systems like email and SMS gateways.

CHAPTER 2

LITERATURE SURVEY

2.1 Introduction

A literature survey is essential to understand the existing solutions, tools, and technologies related to Customer Relationship Management (CRM) systems, particularly in the context of educational institutions. It provides insights into the challenges faced by existing approaches, the limitations of current tools, and how CLIENTSYNC CRM aims to overcome these limitations.

2.2 Existing Systems

1. Generic CRM Tools (e.g., Salesforce, Zoho CRM, HubSpot):

Widely used across industries, these platforms offer robust features for customer relationship management, including lead tracking, interaction logging, and reporting. However, they are costly, complex, and not tailored for educational workflows such as student–faculty–counsellor interactions.

2. Institution-Specific-Portals:

Many universities and colleges use customized student information systems (SIS) or ERP solutions. While these platforms manage student enrollment, exams, and records, they lack role-specific CRM functionalities like follow-ups, lead management, and counsellor dashboards.

1. Manual-Record-Keeping-(Spreadsheets/Offline-Records):

A majority of smaller institutions still rely on Excel sheets or manual registers to manage student and lead data. This leads to duplication of records, lack of accountability, and difficulty in tracking tasks or follow-ups.

2.3 Limitations of Existing Systems

- High cost of implementation for commercial CRMs.

- Lack of specialization for education-specific workflows (advisor–student relationships, counsellor follow-ups).

- Scalability issues with manual or spreadsheet-based systems.

- Limited customization in off-the-shelf ERP or SIS solutions.

- No centralized dashboard tailored to different roles (Admin, Faculty, Counsellor).

2.4 Need for CLIENTSYNC CRM

To address the limitations of existing systems, CLIENTSYNC CRM introduces:

- A lightweight, role-based CRM focusing on Admin, Faculty, and Counsellor workflows.
- Centralized data storage using SQLite to ensure integrity and reduce redundancy.
- Web-based access with HTML, CSS, and JavaScript frontend for usability.
- Role-specific dashboards:
  - **Admin** → user, institution, and global task management.
  - **Faculty** → student management and advisor notes.
  - **Counsellor** → lead and follow-up tracking.
- Task and follow-up reminders for improved accountability.
- Secure authentication and password management using Flask's session handling.

2.5 Summary

The literature survey highlights that while existing CRMs and ERP systems address some aspects of data management, they fall short in providing a dedicated, education-focused CRM. CLIENTSYNC CRM fills this gap by combining student management, lead tracking, task scheduling, and interaction logging into a unified, role-based system that is cost-effective, simple to deploy, and tailored for educational institutions.

CHAPTER 3

BACKGROUND / OVERVIEW OF METHODOLOGY

3.1 Introduction

The design and development of CLIENTSYNC CRM followed a structured methodology to ensure that the system meets the requirements of educational institutions while remaining simple, scalable, and user-friendly. The methodology encompasses requirement gathering, system design, technology selection, database structuring, and implementation of role-based modules.

3.2 Development Methodology

The project was developed using the **Waterfall Model**, a widely adopted software development methodology where progress flows sequentially through well-defined phases. The major phases applied in CLIENTSYNC CRM are:

STEP 1. Requirement-Analysis:

Requirements were gathered from the problem domain (student management, lead tracking, counsellor tasks, faculty-student relationships, and administrative oversight). Role-based needs were identified for Admin, Faculty, and Counsellor.

STEP 2. System-Design:

The database schema and entity-relationship model were designed to represent users, institutions, students, leads, tasks, and interactions. User interface wireframes were created to ensure usability.

STEP 3. Implementation:

The backend was implemented in Python Flask, the frontend using HTML, CSS, and JavaScript, and data was stored in SQLite. Role-specific modules (Admin, Faculty, Counsellor) were coded with CRUD operations, dashboards, and task management.

STEP 4. Testing:

Unit testing and functional testing were performed to validate user login, data consistency, task assignments, and follow-up reminders. Manual testing ensured the application behaved correctly across different roles.

STEP 5. Deployment:

The application was deployed locally as a web-based system, with potential to be hosted on cloud platforms for scalability.

STEP 6. Maintenance:

After deployment, the product is maintained, updated, and supported to ensure it remains functional and addresses any issues that arise.

3.3 Technology Stack

- **Frontend**: HTML, CSS, JavaScript (for interactive and responsive UI).
- **Backend**: Flask (Python micro-framework providing routing, templates, and session handling).
- **Database:** SQLite (lightweight relational database for persistent storage).
- **Security:** Password hashing using Werkzeug, session management with Flask, token-based password reset.
- **Environment:** Developed and tested on a local server environment with the option for cloud deployment.

3.4 Database Design Approach

The database design followed normalization principles to reduce redundancy and maintain integrity.

Key tables include:

- users (manages system roles and authentication)
- institutions and contacts (store institutional and contact data)
- students (faculty-advised students)
- leads (managed by counsellors with follow-ups)
- tasks (role-based assignments)
- interactions (records of communication)
- seen_followups and seen_tasks (tracking user notifications)

Entity-Relationship (ER) diagrams and data dictionaries were prepared to visualize and document the schema.

3.5 Justification of Methodology

- The chosen methodology and tools were selected because:
- The Waterfall Model provides a systematic approach for academic project development.
- Flask with SQLite ensures simplicity, portability, and faster development.
- HTML, CSS, and JavaScript provide flexibility for responsive web interfaces.
- The modular approach ensures Admin, Faculty, and Counsellor roles are clearly separated.

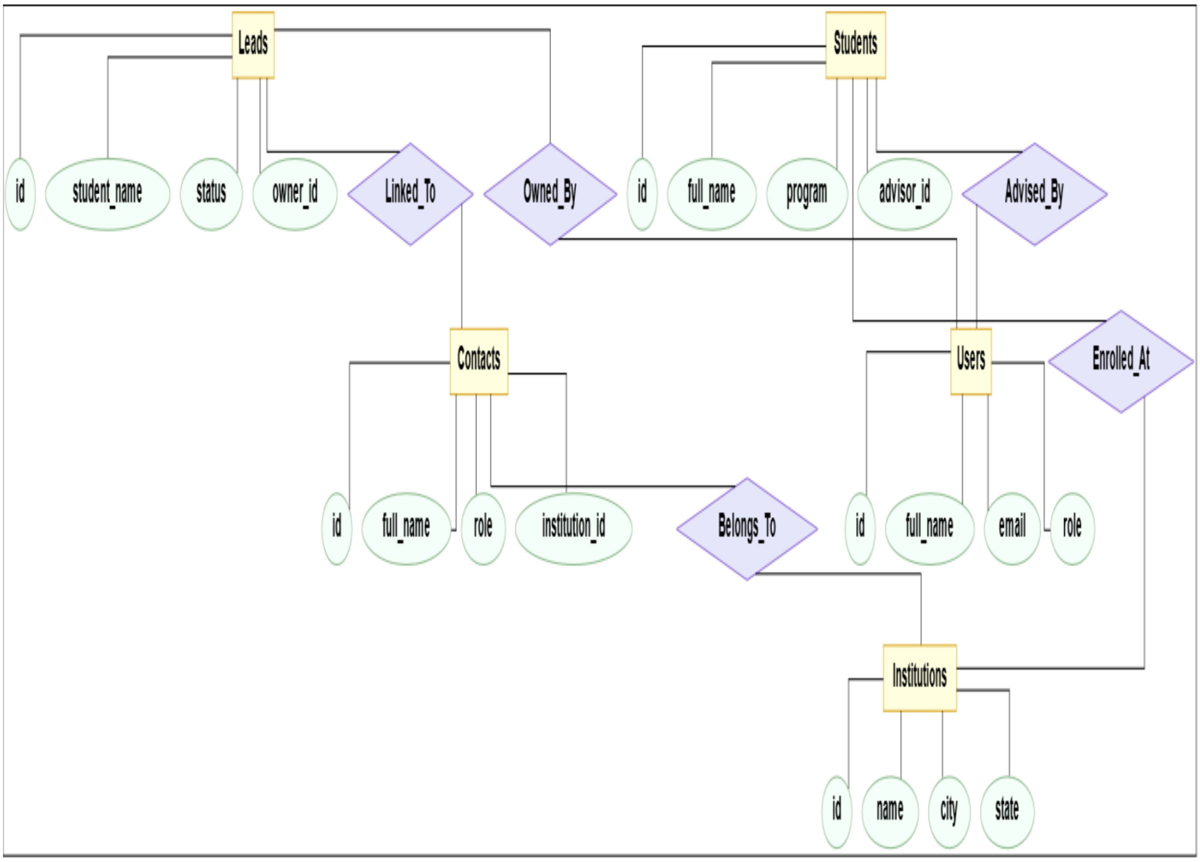
3.6 Summary

This chapter presented the methodology used for developing CLIENTSYNC CRM. The project followed a step-by-step approach beginning with requirement gathering and ending with testing and deployment. The chosen technologies provided a lightweight yet powerful foundation to build an education-focused CRM system with role-specific functionalities.

CHAPTER 4

DIAGRAMS

1. ER DIAGRAM



2. DATA DICTIONARY

2.1 USER DD:

users		
Column	**Type**	**Description**
id	INTEGER PK	Unique user ID
full_name	TEXT	User full name
email	TEXT UNIQUE	Login email
password_hash	TEXT	Hashed password
institution_name	TEXT	Institution name of user
university_name	TEXT	University name of user
role	TEXT	Role: Admin / Faculty / Counsellor
active	INTEGER	Active flag (1=active)
created_at	DATETIME	Account creation timestamp

2.2 INSTITUTIONS DD

institutions		
Column	**Type**	**Description**
id	INTEGER PK	Institution ID
name	TEXT	Institution name
city	TEXT	City
state	TEXT	State
contact_email	TEXT	Contact email
contact_phone	TEXT	Contact phone
created_at	DATETIME	Created timestamp

2.3 CONTACTS DD

contacts		
Column	**Type**	**Description**
id	INTEGER PK	Contact ID
full_name	TEXT	Contact name
role	TEXT	Role in institution
email	TEXT	Contact email
phone	TEXT	Contact phone
institution_id	INTEGER FK	Institution ID
created_at	DATETIME	Created timestamp

2.4 STUDENTS DD

students		
Column	**Type**	**Description**
id	INTEGER PK	Student ID
full_name	TEXT	Student name
email	TEXT	Student email
phone	TEXT	Student phone
program	TEXT	Program name
institution_id	INTEGER FK	Institution ID
advisor_id	INTEGER FK	Faculty advisor user ID
enrolled_at	DATETIME	Enrollment timestamp
notes	TEXT	Notes

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2.5 LEADS DD

leads		
Column	**Type**	**Description**
id	INTEGER PK	Lead ID
contact_id	INTEGER FK	Contact ID
institution_id	INTEGER FK	Institution ID
source	TEXT	Source of lead
status	TEXT	Status: New/Qualified/Converted/Lost
owner_id	INTEGER FK	Lead owner (user)
created_at	DATETIME	Created timestamp
updated_at	DATETIME	Updated timestamp
student_name	TEXT	Student name
student_email	TEXT	Student email
student_phone	TEXT	Student phone
program	TEXT	Program applied for
notes	TEXT	Lead notes
follow_up_date	DATETIME	Follow-up date
next_step	TEXT	Next action step

2.6 INTERACTIONS DD

interactions		
Column	**Type**	**Description**
id	INTEGER PK	Interaction ID
lead_id	INTEGER FK	Lead ID
contact_id	INTEGER FK	Contact ID
institution_id	INTEGER FK	Institution ID
kind	TEXT	Interaction type (note/call/email
body	TEXT	Details of interaction
user_id	INTEGER FK	User who created interaction
created_at	DATETIME	Timestamp

2.7 TASKS DD

tasks		
Column	**Type**	**Description**
id	INTEGER PK	Task ID
title	TEXT	Task title
description	TEXT	Task description
due_at	DATETIME	Due date/time
owner_id	INTEGER FK	Owner (user) ID
lead_id	INTEGER FK	Linked lead ID
status	TEXT	Task status (open/in-progress/done)
created_at	DATETIME	Created timestamp

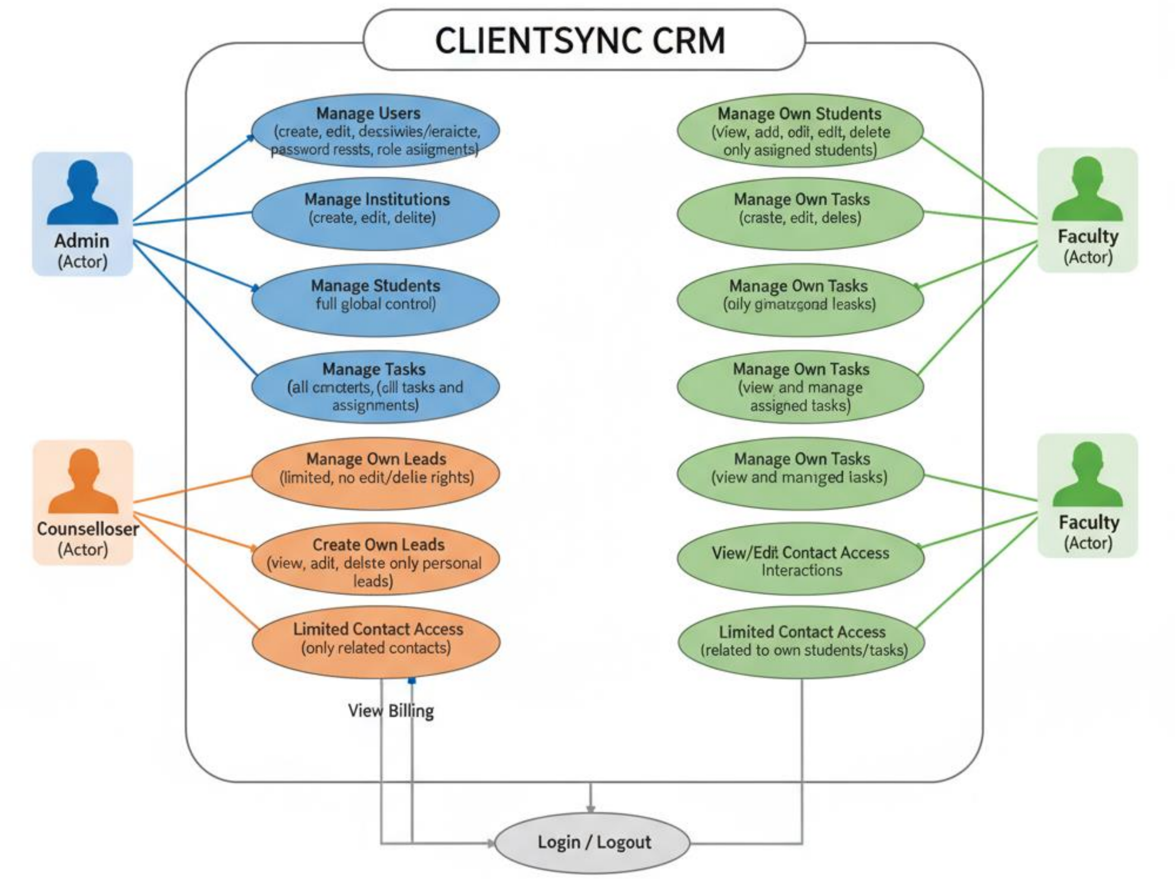
2.8 SEEN_FOLLOWUPS DD

seen_followups		
Column	**Type**	**Description**
id	INTEGER PK	Row ID
user_id	INTEGER FK	User who saw followup
lead_id	INTEGER FK	Lead seen
seen_at	DATETIME	When seen
UNIQUE(user_id,lead_id)	-	Ensures unique record

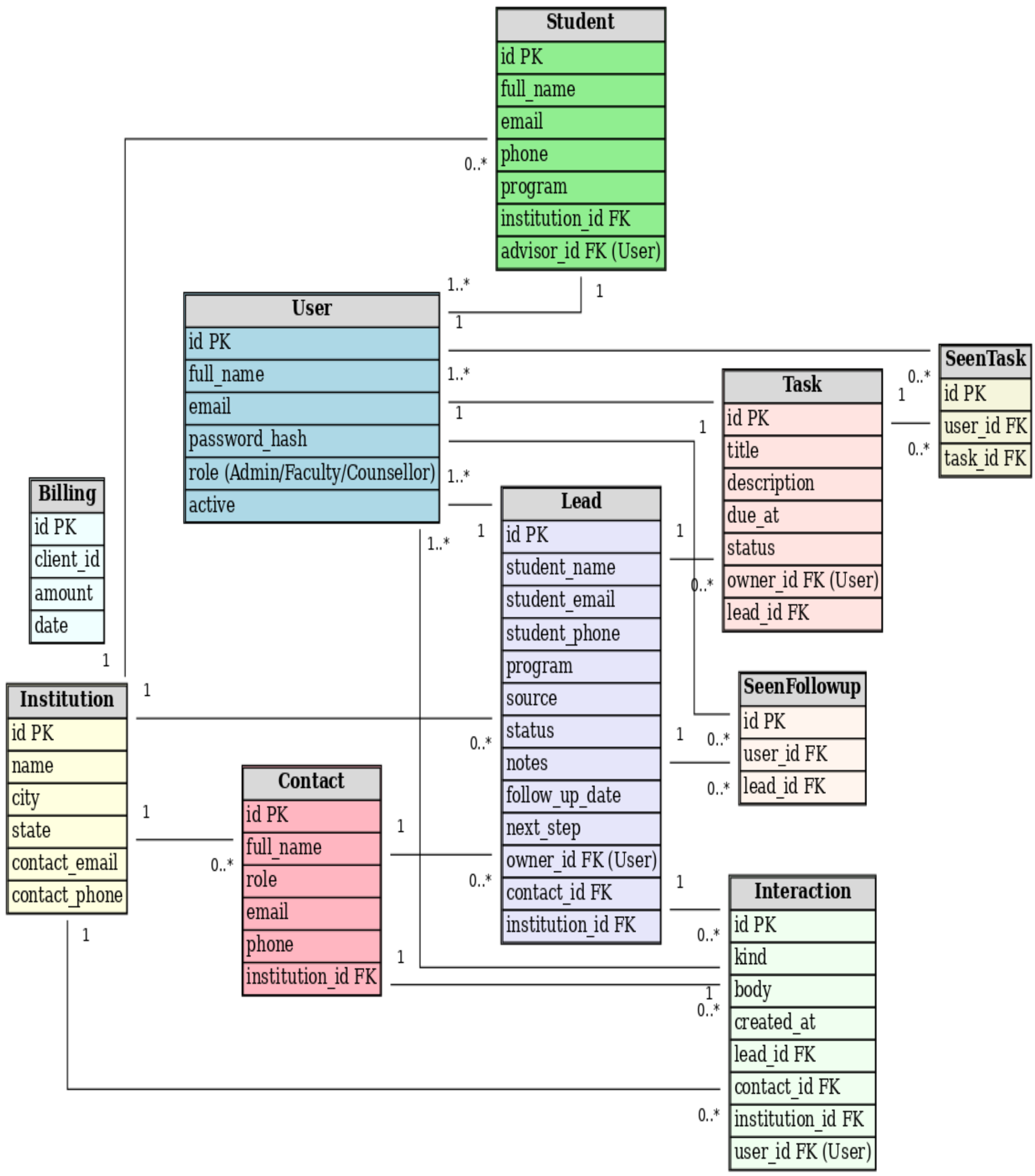
2.9 SEEN_TASKS DD

seen_tasks		
Column	**Type**	**Description**
id	INTEGER PK	Row ID
user_id	INTEGER FK	User who saw task
task_id	INTEGER FK	Task seen
seen_at	DATETIME	When seen
UNIQUE(user_id,task_id)	-	Ensures unique record

3. USE CASE DIAGRAM

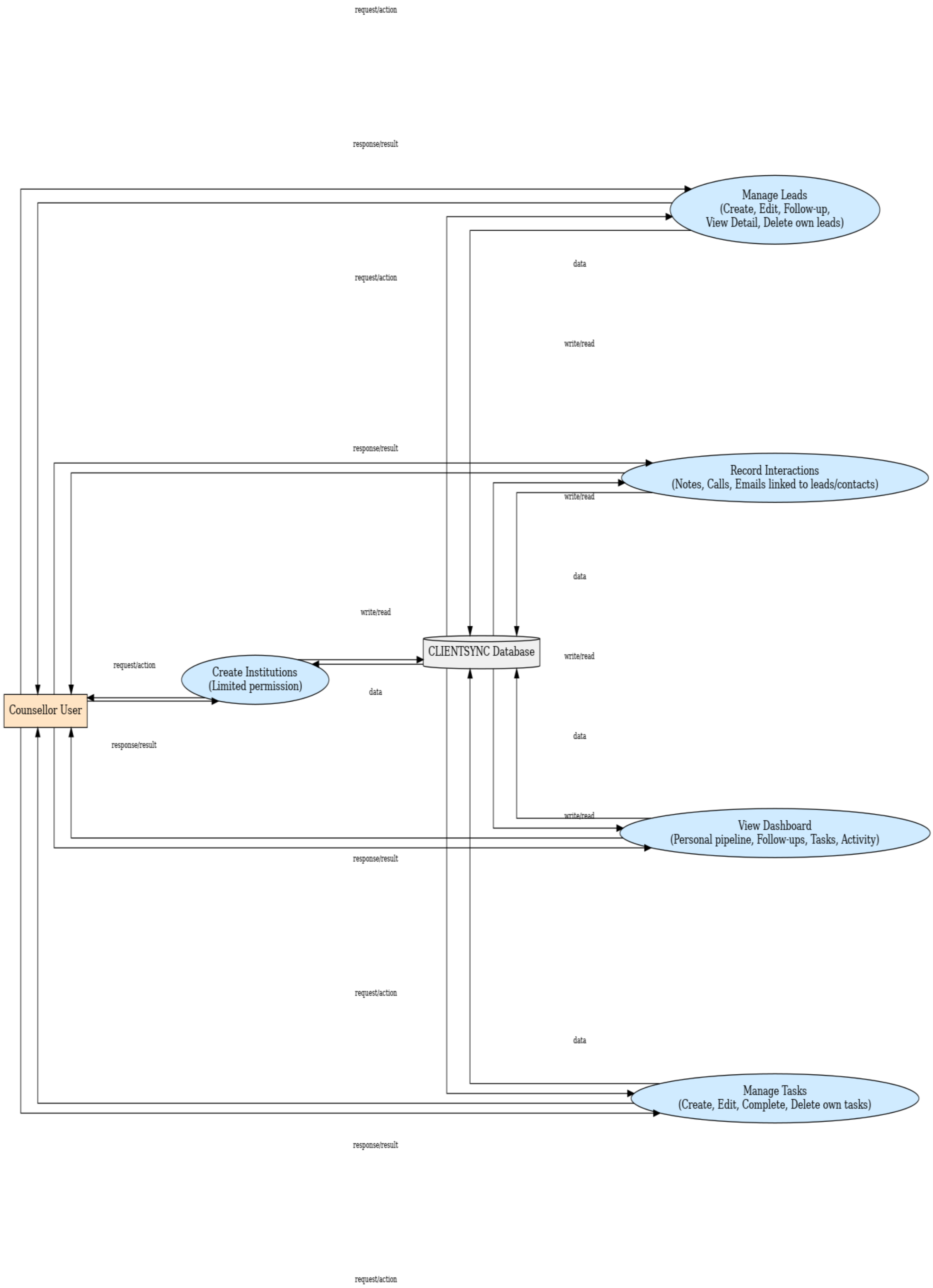


4. CLASS DIAGRAM

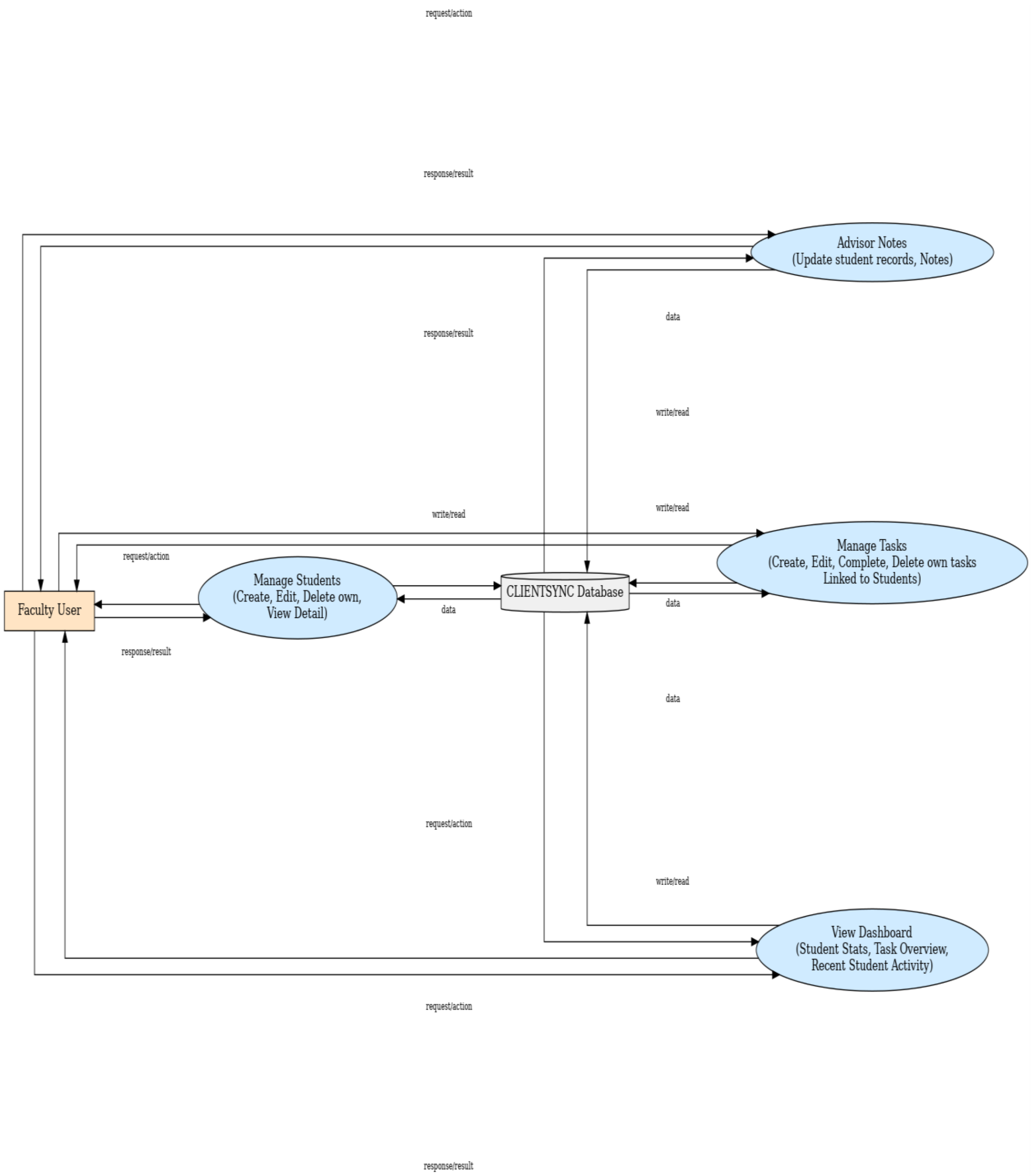


5. DATA FLOW DIAGRAM:

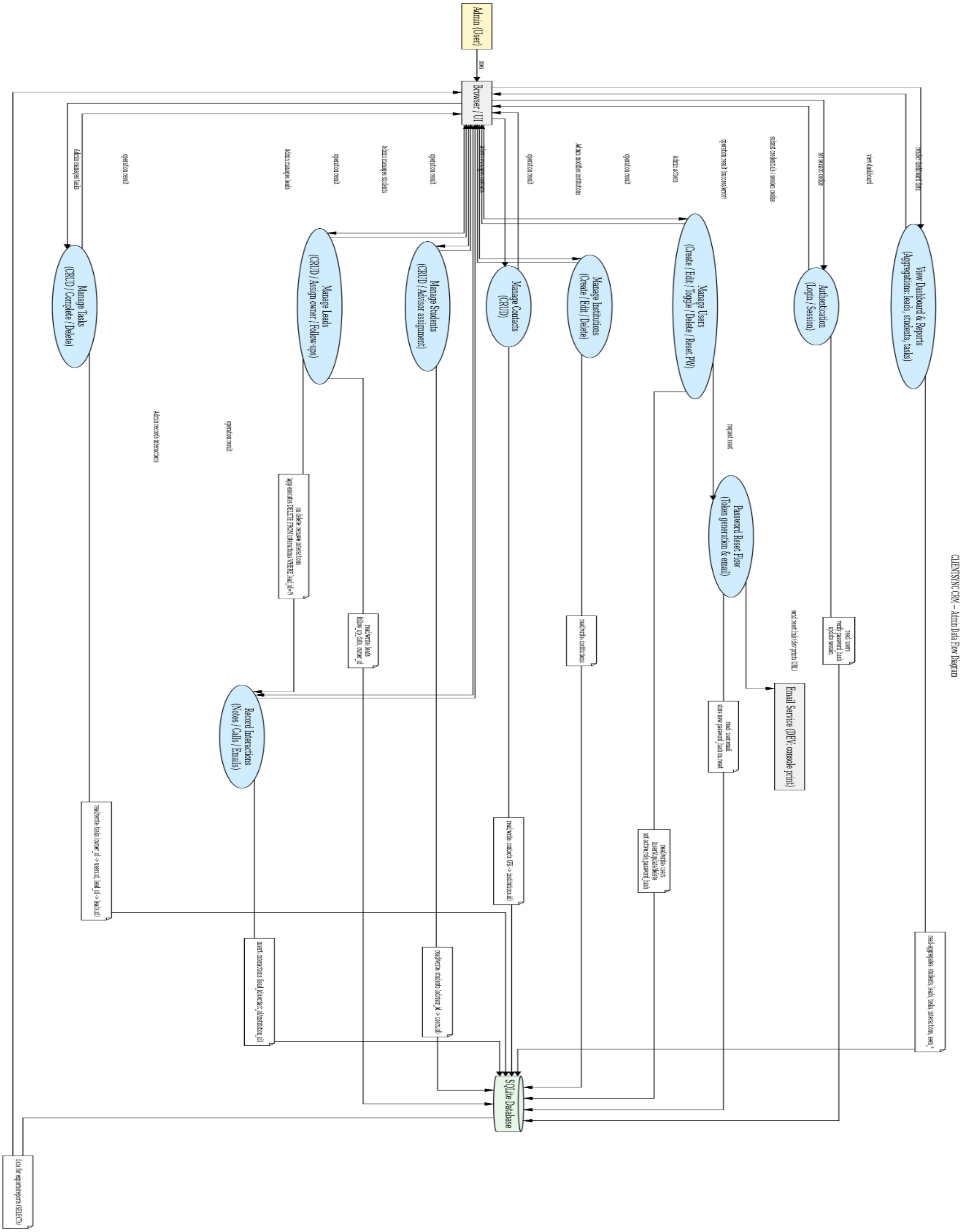
5.1 COUNSELLOR DFD



5.2 FACULTY DFD



5.3 ADMIN DFD


Admin (User)
uses
Browser / UI
Manage Tasks
(CRUD / Complete / Delete)
Manage Leads
(CRUD / Assign owner / Follow-ups)
Manage Students
(CRUD / Advisor assignment)
Manage Contacts
(CRUD)
Manage Institutions
(Create / Edit / Delete)
Manage Users
(Create / Edit / Toggle / Delete / Reset PW)
Authentication
(Login / Session)
View Dashboard & Reports
(Aggregations: leads, students, tasks)
Password Reset Flow
(Token generation & email)
Email Service (DEV: console print)
Record Interactions
(Notes / Calls / Emails)
SQLite Database
CLIENTSYNC CRM – Admin Data Flow Diagram

CHAPTER 5

SYSTEM REQUIREMENTS

5.1 Introduction

System requirements define the resources and specifications needed to design, develop, and deploy the CLIENTSYNC CRM. These requirements ensure that the application runs efficiently and provides a smooth user experience across all roles — Admin, Faculty, and Counsellor. Requirements are categorized into hardware requirements, software requirements, and functional/non-functional requirements.

5.2 Hardware Requirements

5.2.1 Minimum Requirements

- Processor: Intel Core i3 or equivalent
- RAM: 4 GB
- Storage: 2 GB free disk space
- Display: 1024 × 768 resolution
- Network: Internet connectivity for web access
- 5.2.2 Recommended Requirements
- Processor: Intel Core i5 or higher
- RAM: 8 GB or above
- Storage: 10 GB free disk space
- Display: Full HD (1920 × 1080) resolution
- Network: Broadband/High-speed internet connection

5.2.2 Recommended Requirements

- Processor: Intel Core i5 or higher
- RAM: 8 GB or above
- Storage: 10 GB free disk space
- Display: Full HD (1920 × 1080) resolution
- Network: Broadband/High-speed internet connection

5.3 Software Requirements

- Operating System: Windows 10 / Linux Ubuntu / macOS
- Frontend: HTML, CSS, JavaScript
- Backend: Python Flask framework
- Database: SQLite (lightweight RDBMS)
- Server Environment: Localhost (Flask built-in server) or cloud deployment (Heroku/AWS optional)

- Browser Compatibility: Google Chrome, Mozilla Firefox, Microsoft Edge
- Development Tools:

  - Python 3.x
  - Code Editor (VS Code / PyCharm)
  - Git for version control

5.4 Functional Requirements

1. User Authentication: Secure login and session management for Admin, Faculty, and Counsellor roles.

2. Admin Functions:

- Manage users (create, edit, assign roles, deactivate).
- Manage institutions and contacts.
- View system-wide tasks, leads, and reports.

3. Faculty Functions:

- Manage students and advisor notes.
- Assign and track tasks related to students.
- Access faculty dashboard with reminders and analytics.

4. Counsellor Functions:

- Manage leads and follow-ups.
- Record interactions with students/institutions.
- Access counsellor dashboard with upcoming tasks.

5. Task Management: Create, edit, assign, and complete tasks linked to leads or students.

6. Interaction Management: Record notes, calls, and meetings for leads and contacts.

7. Dashboard: Role-based dashboards providing upcoming follow-ups, task status, and statistics

5.5 Non-Functional Requirements

1. Security:

- Passwords stored with hashing.
- Role-based access control.

2. Usability:

- Simple, responsive user interface.
- Intuitive navigation for all user roles.

3. Performance:

- Lightweight application with fast database operations using SQLite.

4. Scalability:

- Extendable to larger databases or cloud-hosted environments.

5. Reliability:

- Consistent data storage and retrieval.
- Backup-friendly due to single-file SQLite database.

6. Portability:

- Platform-independent (runs on Windows, Linux, and macOS).

5.6 Summary

The system requirements defined above ensure that CLIENTSYNC CRM operates effectively within an academic environment while being extendable for larger deployments. With minimal hardware and open-source software tools, the system is cost-effective, easy to deploy, and accessible for institutions of all sizes.

CHAPTER 6

EXPECTED OUTCOMES (WITH GUI)

6.1 Introduction

The CLIENTSYNC CRM is designed to streamline academic client and student relationship management. Upon successful implementation, the system is expected to deliver improved efficiency, transparency, and role-based collaboration among administrators, faculty, and counsellors. This chapter highlights the key expected outcomes of the system.

6.2 Academic and Institutional Outcomes

1. Centralized-Data-Management:

All records related to institutions, contacts, students, and leads are maintained in one centralized database, ensuring consistency and easy access.

2. Improved-Institutional-Tracking:

Admins and counsellors can monitor multiple institutions and their associated contacts, enhancing partnership management.

3. Efficient-Student-Management:

Faculty members can manage student details, enrollment, and advisories more effectively, improving academic guidance.

6.3 Functional Outcomes

1. User-Role-Management:

The system supports Admin, Faculty, and Counsellor roles with secure authentication and role-based dashboards.

2. Lead-and-Follow-Up-Tracking:

Counsellors can track leads, schedule follow-ups, and record interactions, ensuring no opportunity is missed.

3. Task-Management:

Tasks can be created, assigned, and tracked, improving accountability and productivity across roles.

4. Interaction-Logging:

Notes, calls, and meetings are stored for future reference, enabling transparency in communications.

5. Role-based Dashboards:

- Admin Dashboard: Global overview of institutions, leads, users, and follow-ups.
- Faculty Dashboard: Student-focused view with tasks, progress tracking, and at-risk indicators.

- Counsellor Dashboard: Lead-focused view with upcoming follow-ups and pipeline analytics.

6.4 Technical Outcomes

1. Lightweight-Deployment:

Implemented using Flask and SQLite, the system is lightweight and runs efficiently on minimal hardware.

2. Secure-Data-Handling:

Passwords are hashed, and role-based access ensures only authorized users can perform sensitive actions.

3. Scalability:

While starting with SQLite, the design can easily scale to more robust databases (e.g., PostgreSQL, MySQL) or cloud platforms.

4. Cross-Platform Access:

Built on web technologies (HTML, CSS, JavaScript), the system can be accessed across devices using modern browsers.

6.5 Organizational Benefits

1. Enhanced-Productivity:

Automation of repetitive tasks such as follow-ups and record-keeping reduces manual work.

2. Transparency-and-Accountability:

Logs, role-based access, and task assignments ensure clear responsibilities and activity tracking.

3. Better-Decision-Making:

Dashboards provide actionable insights through statistics and summaries of ongoing tasks, student data, and institutional engagements.

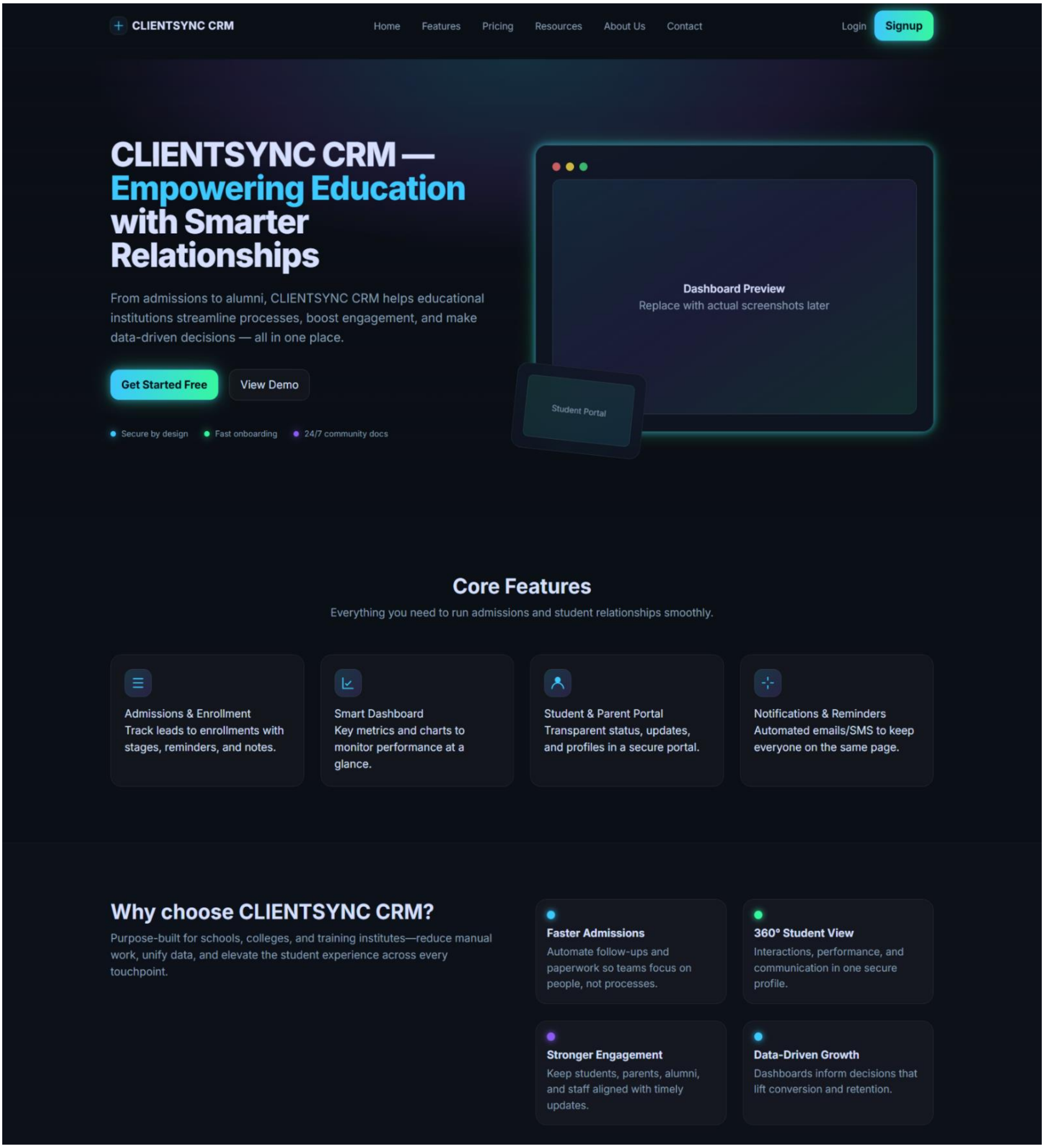
4. Cost-Effectiveness:

Being open-source and lightweight, CLIENTSYNC CRM reduces licensing and infrastructure costs.

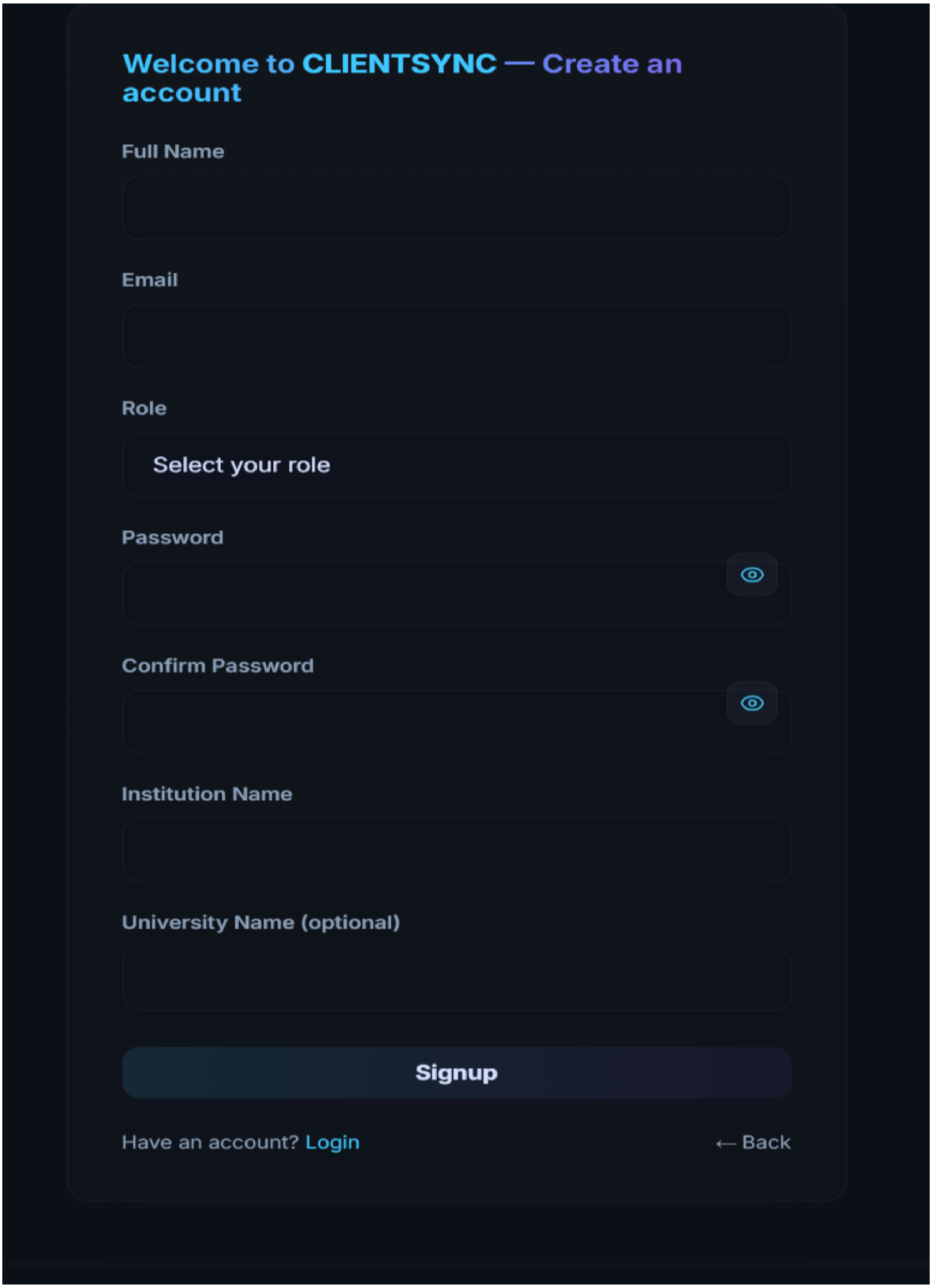
6.6 Summary

The CLIENTSYNC CRM will provide a reliable, secure, and user-friendly solution for managing institutional and student relationships. By fulfilling academic, functional, and organizational needs, the system is expected to significantly enhance collaboration, efficiency, and effectiveness in academic CRM process.

HOME PAGE:

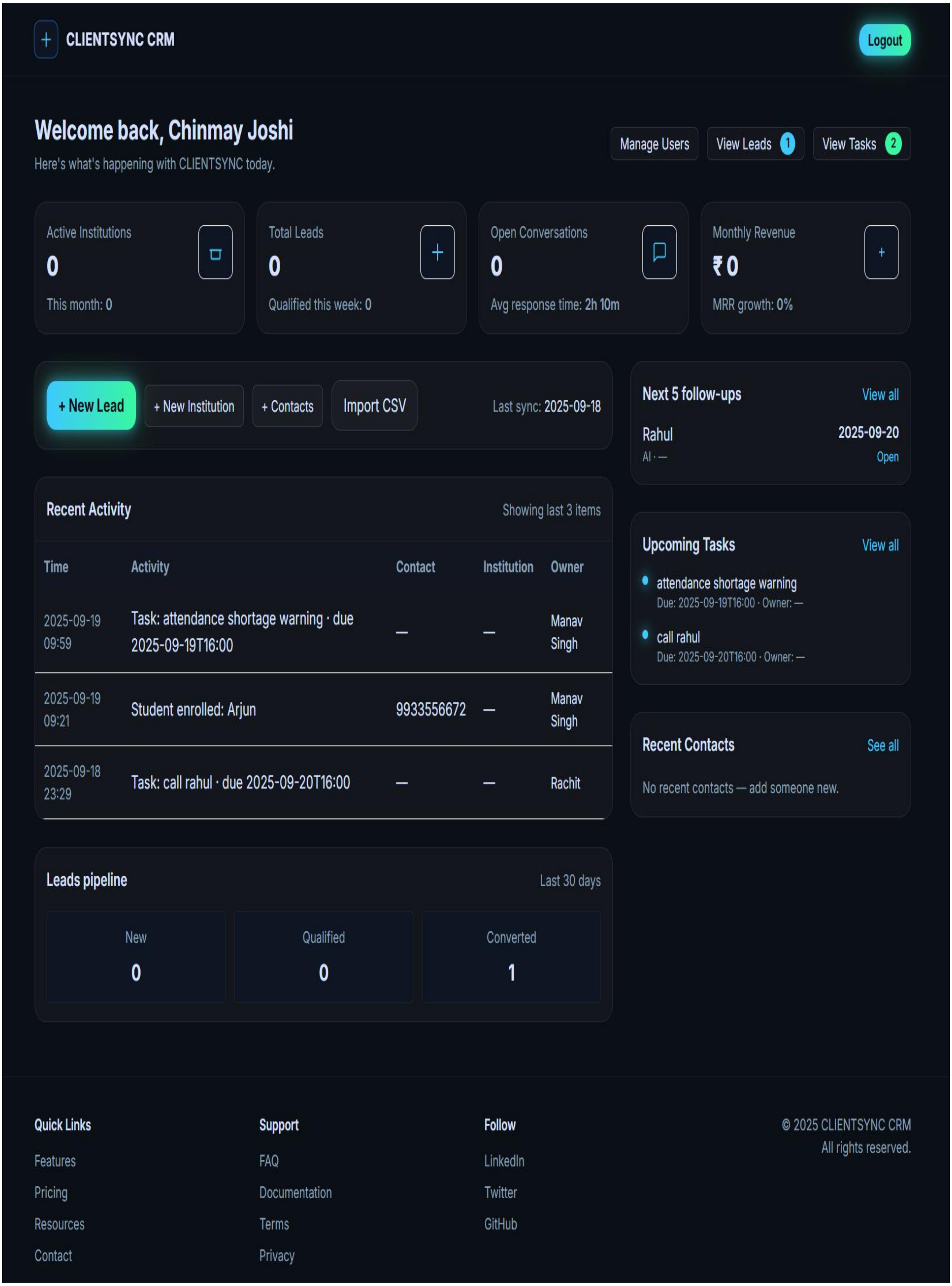

CLIENTSYNC CRM
Home
Features
Pricing
Resources
About Us
Contact
Login
Signup
CLIENTSYNC CRM — Empowering Education with Smarter Relationships
From admissions to alumni, CLIENTSYNC CRM helps educational institutions streamline processes, boost engagement, and make data-driven decisions — all in one place.
Get Started Free
View Demo
Secure by design
Fast onboarding
24/7 community docs
Dashboard Preview
Replace with actual screenshots later
Student Portal
Core Features
Everything you need to run admissions and student relationships smoothly.
Admissions & Enrollment
Track leads to enrollments with stages, reminders, and notes.
Smart Dashboard
Key metrics and charts to monitor performance at a glance.
Student & Parent Portal
Transparent status, updates, and profiles in a secure portal.
Notifications & Reminders
Automated emails/SMS to keep everyone on the same page.
Why choose CLIENTSYNC CRM?
Purpose-built for schools, colleges, and training institutes—reduce manual work, unify data, and elevate the student experience across every touchpoint.
Faster Admissions
Automate follow-ups and paperwork so teams focus on people, not processes.
360° Student View
Interactions, performance, and communication in one secure profile.
Stronger Engagement
Keep students, parents, alumni, and staff aligned with timely updates.
Data-Driven Growth
Dashboards inform decisions that lift conversion and retention.

SIGNUP PAGE:

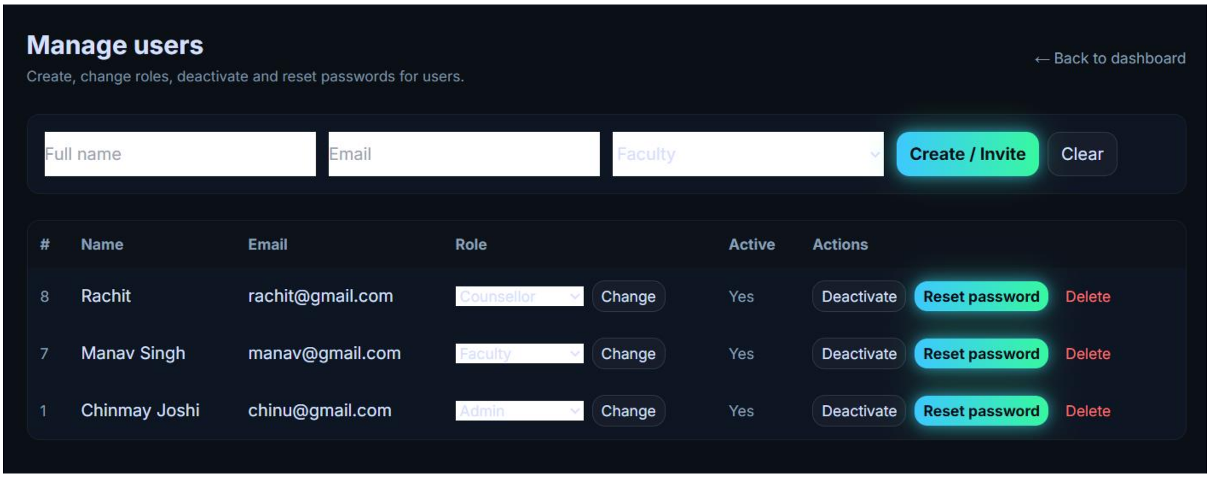


Welcome to CLIENTSYNC — Create an account
Full Name
Email
Role
Select your role
Password
Confirm Password
Institution Name
University Name (optional)
Signup
Have an account? Login
← Back

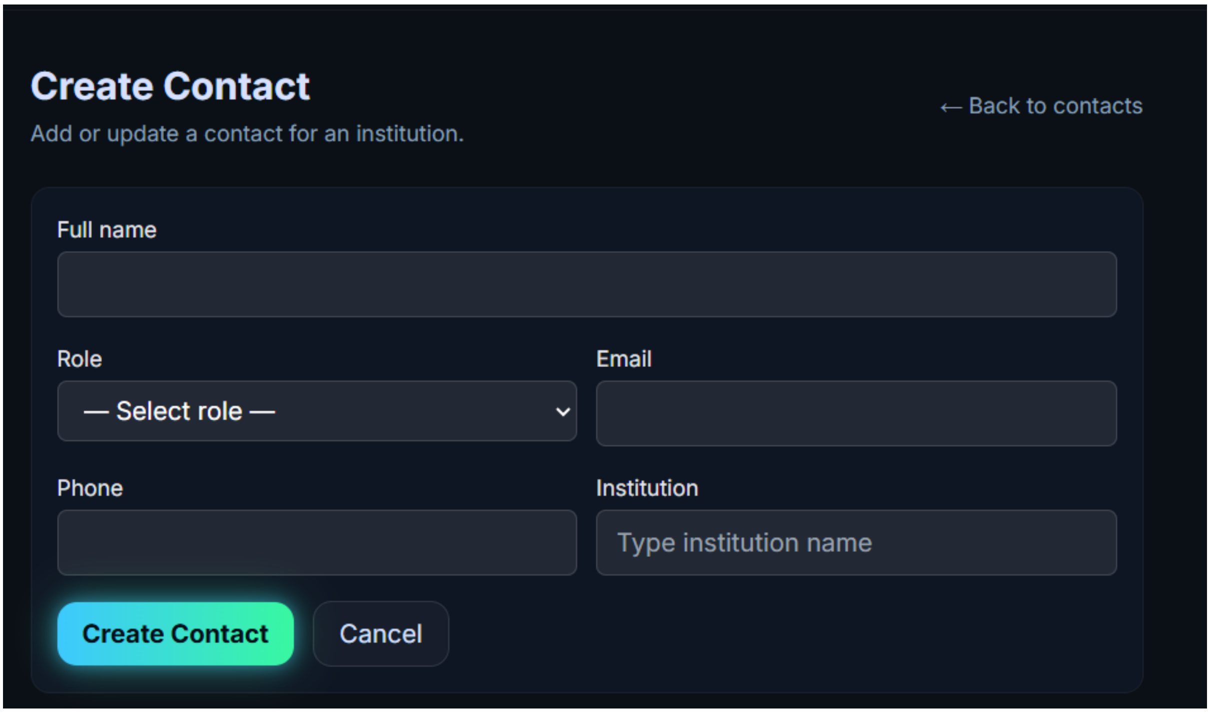
ADMIN DASHBOARD:



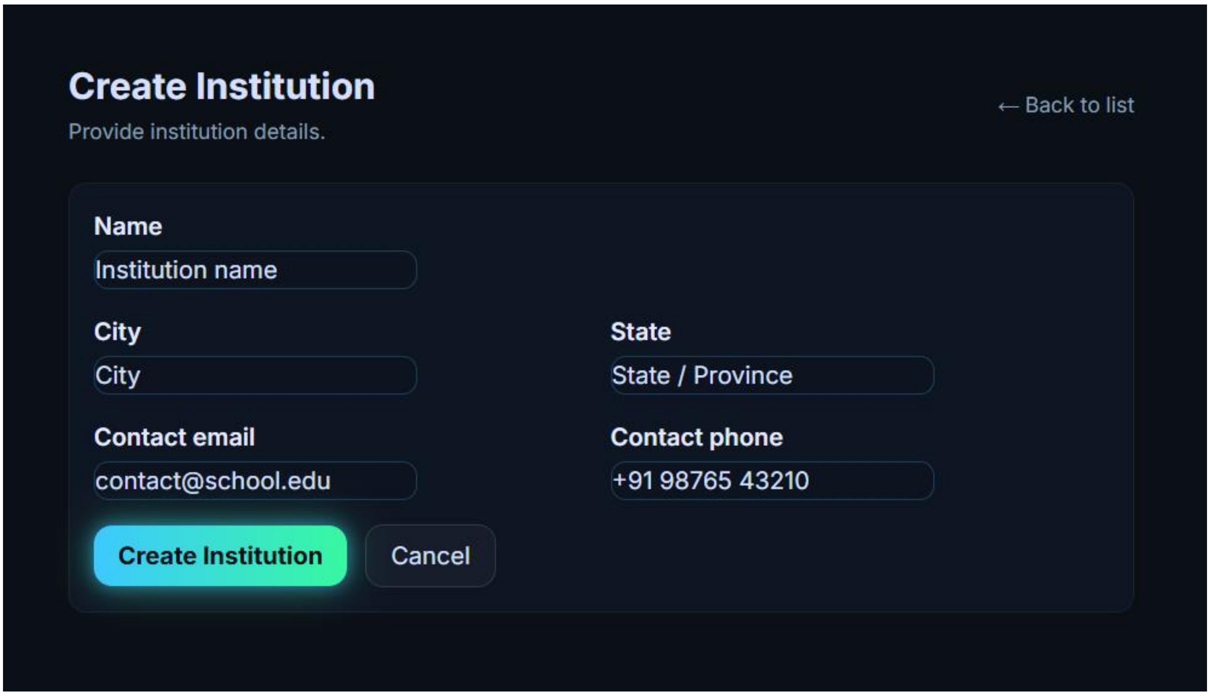
ADMIN - MANAGE USERS PAGE:



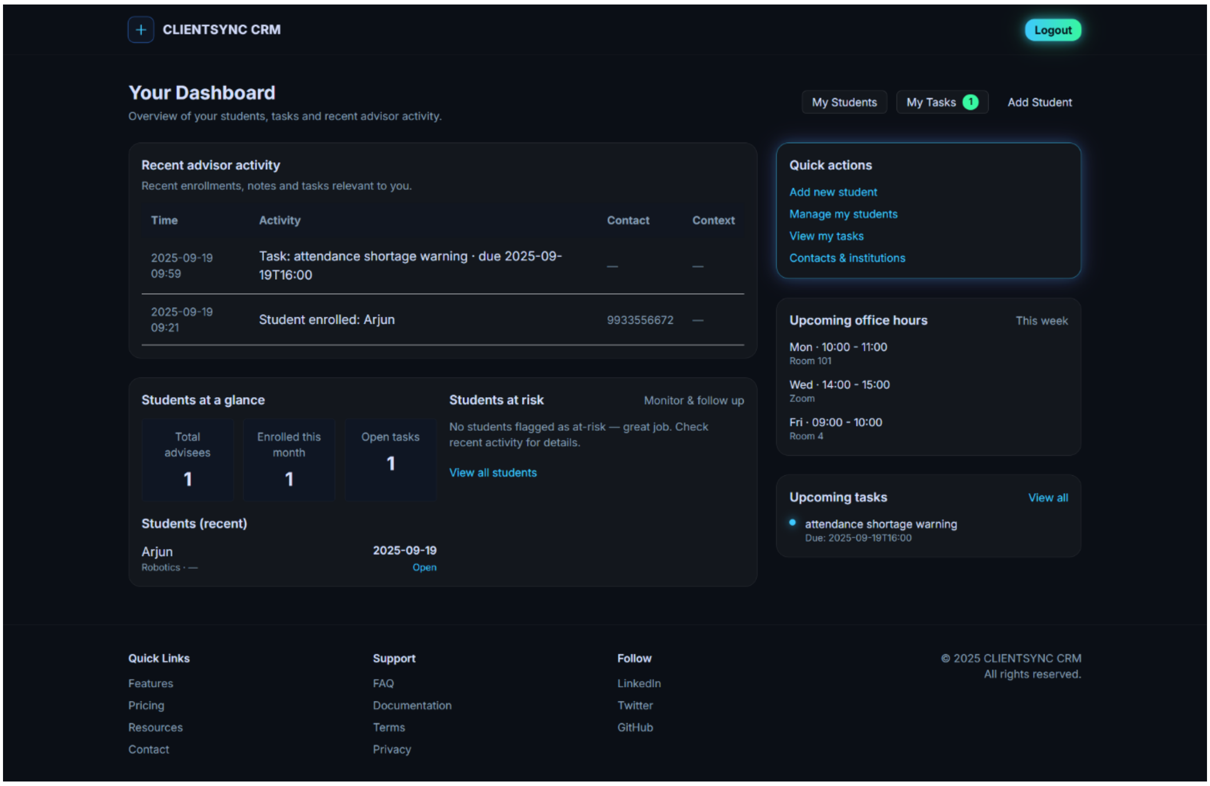
ADMIN - CREATE CONTACT PAGE:



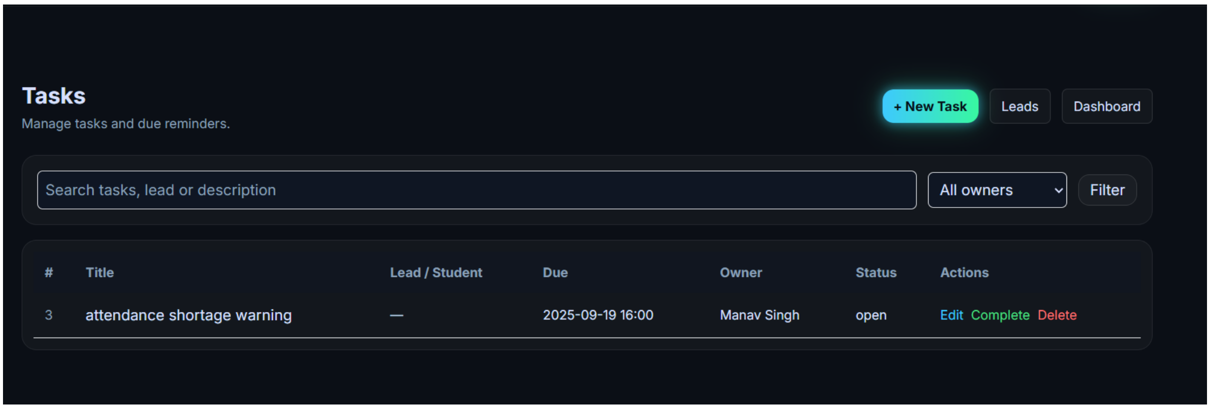
ADMIN - CREATE INSTITUTION PAGE:



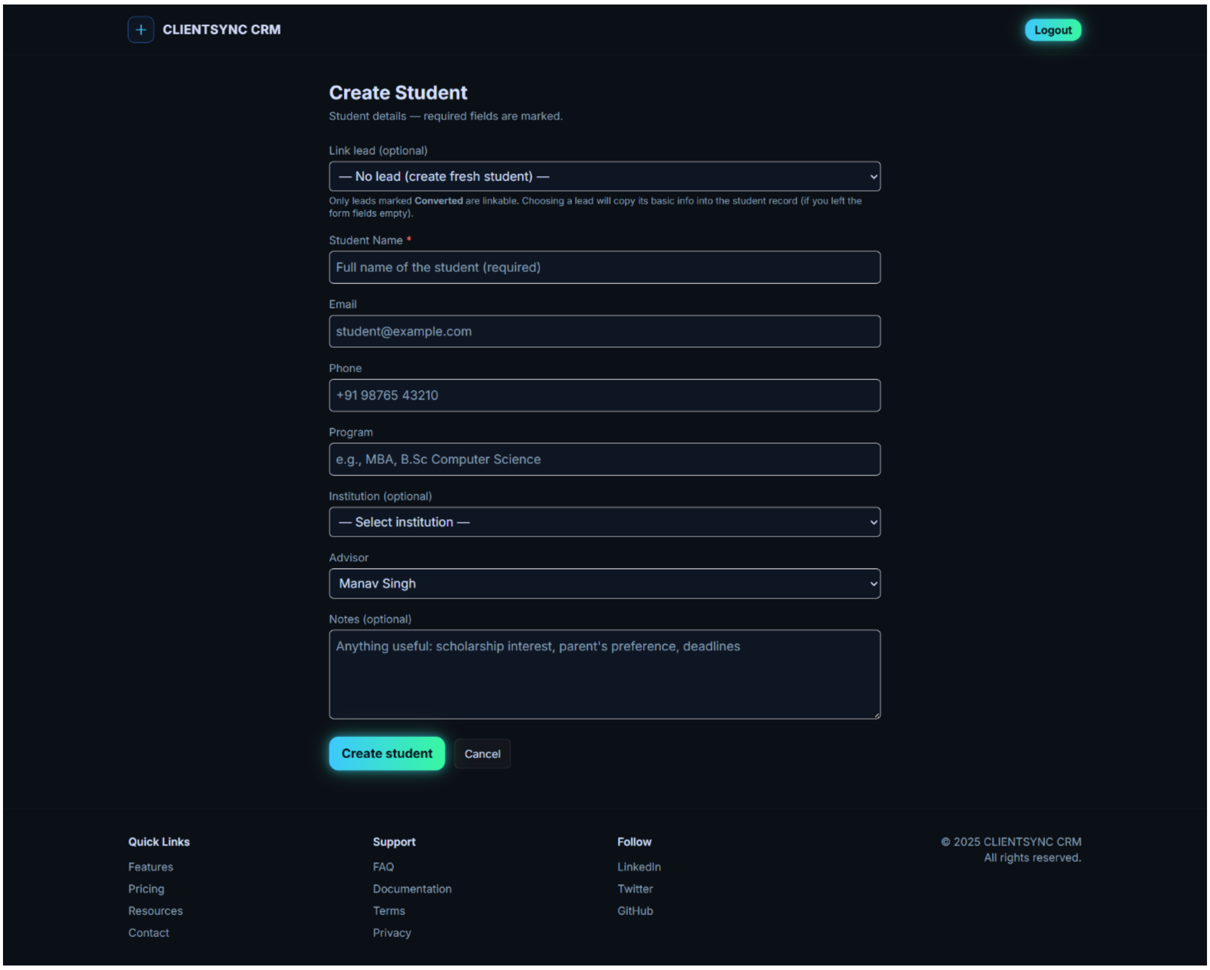
FACULTY DASHBOARD:



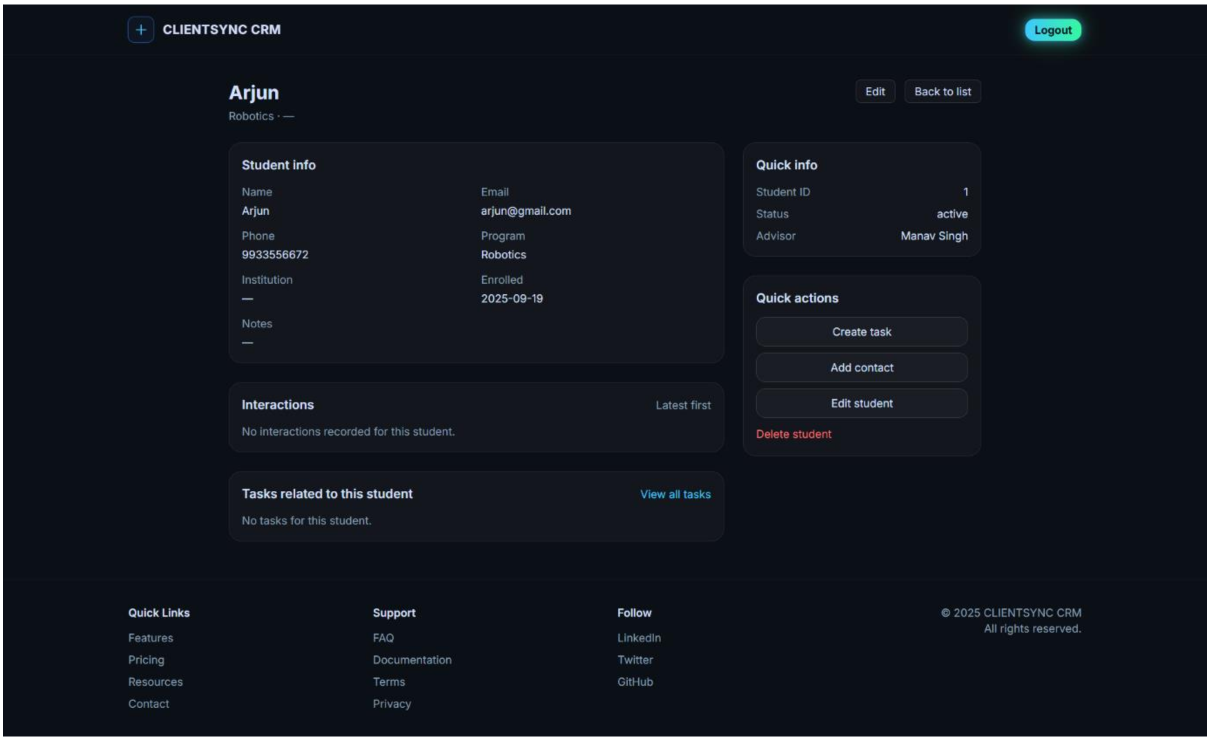
FACULTY TASKS PAGE:



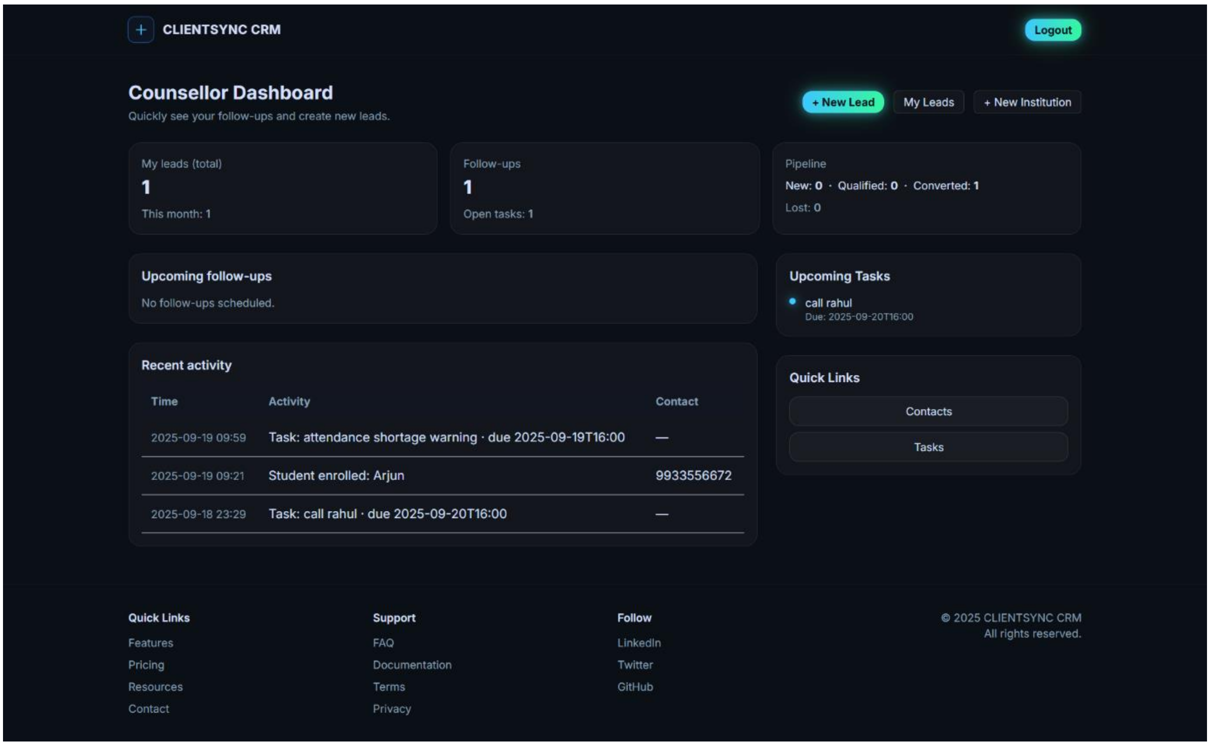
FACULTY CREATE STUDENT PAGE:



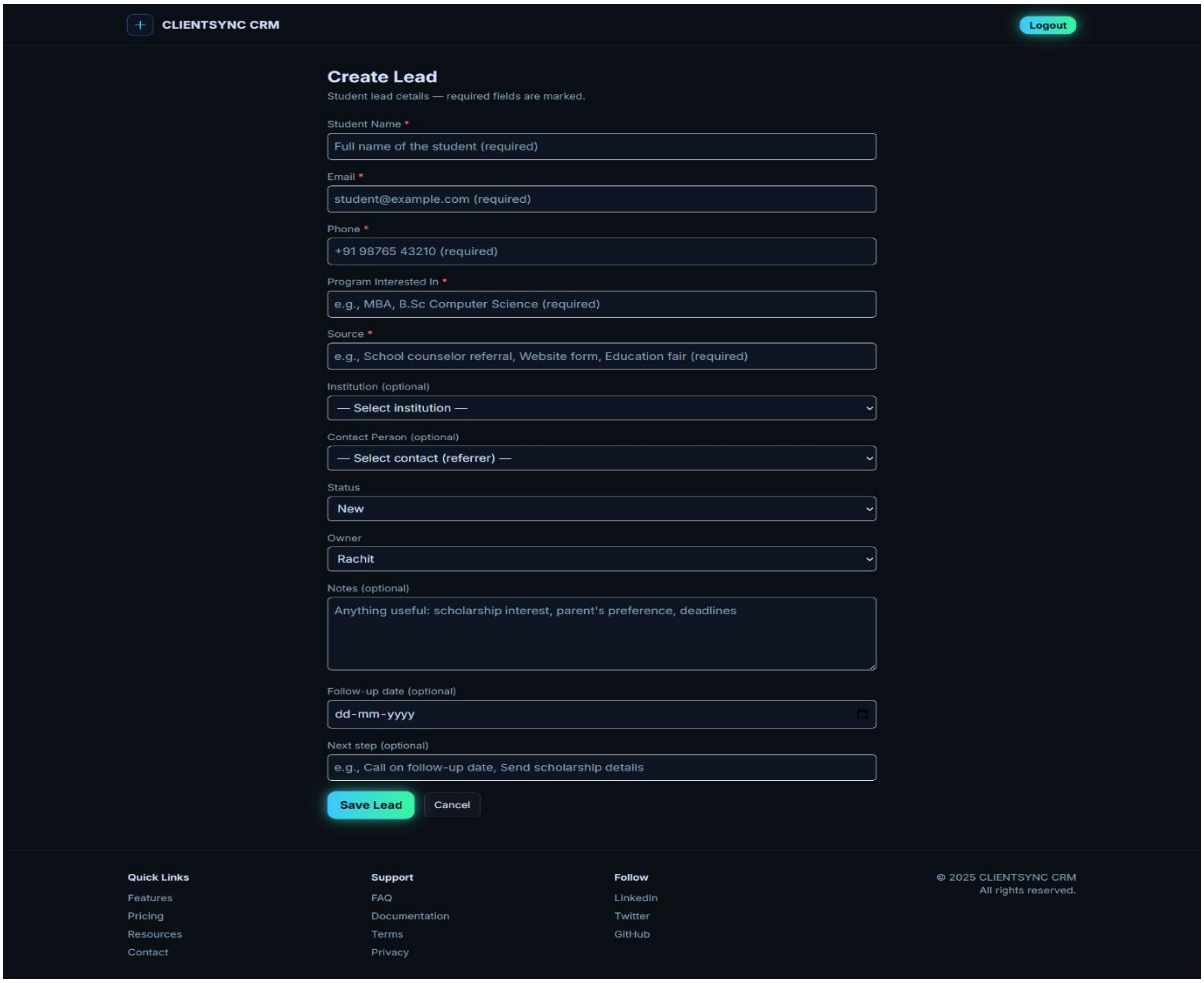
FACULTY STUDENT DETAIL PAGE:



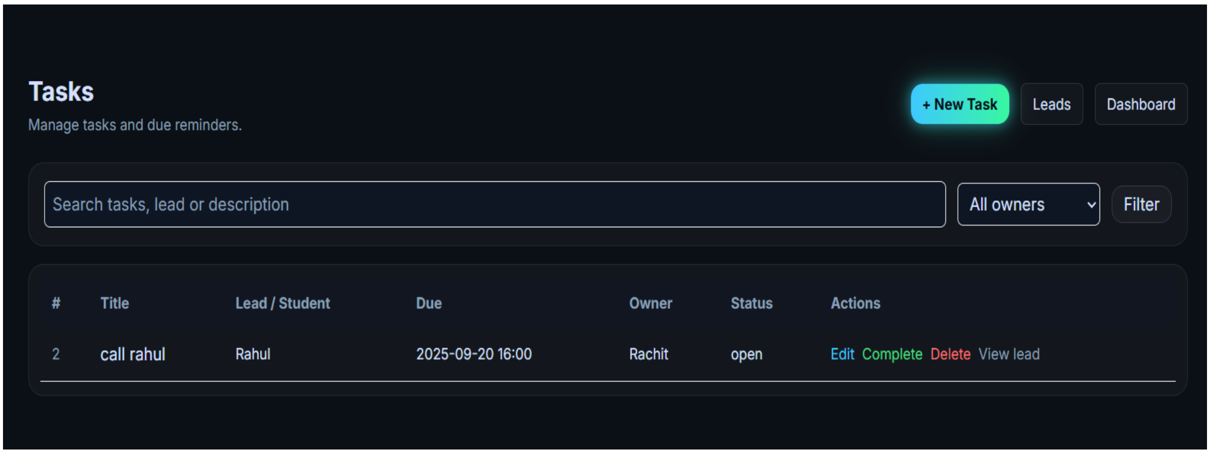
COUNSELLOR DASHBOARD:



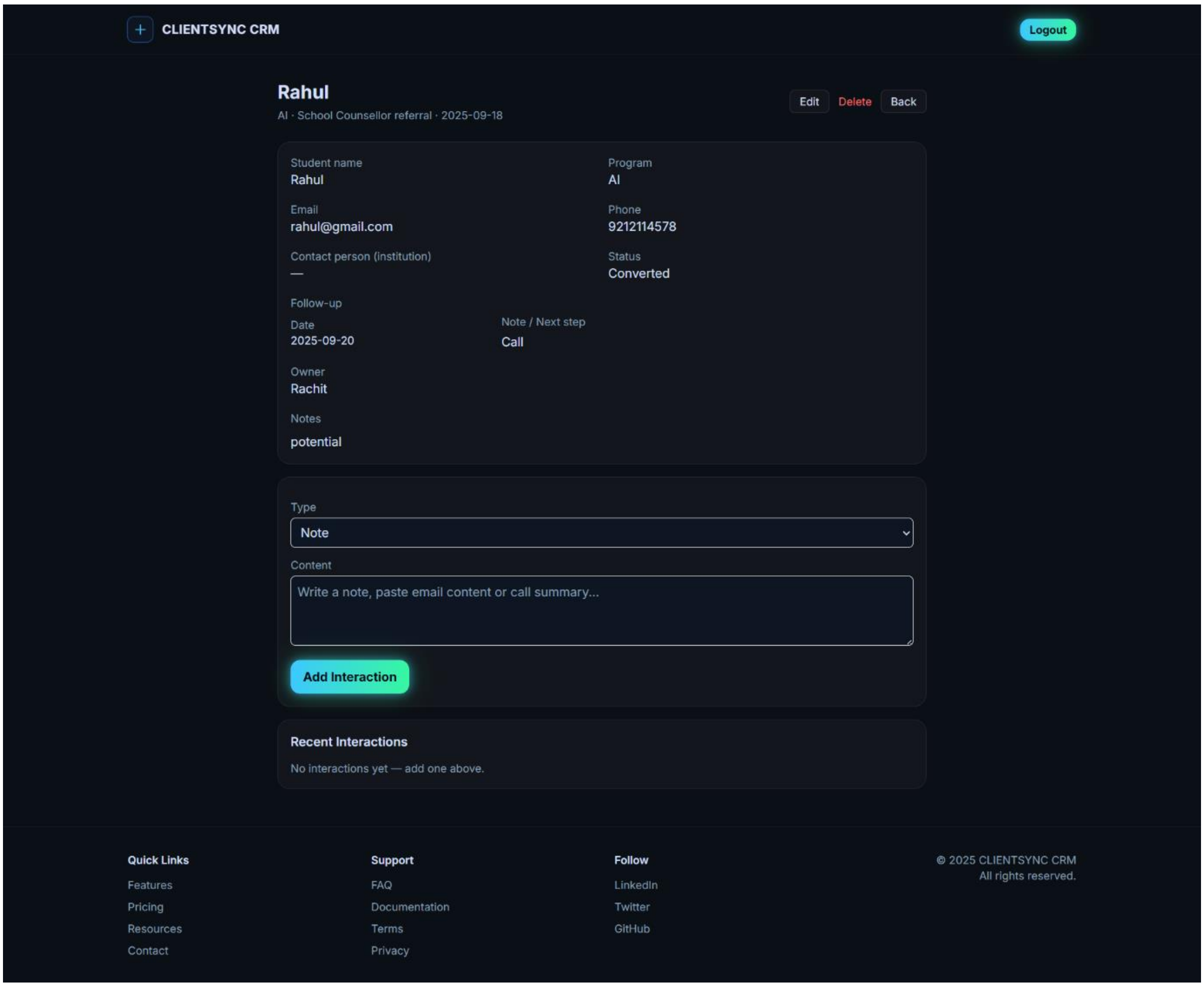
COUNSELLOR CREATE LEAD PAGE:



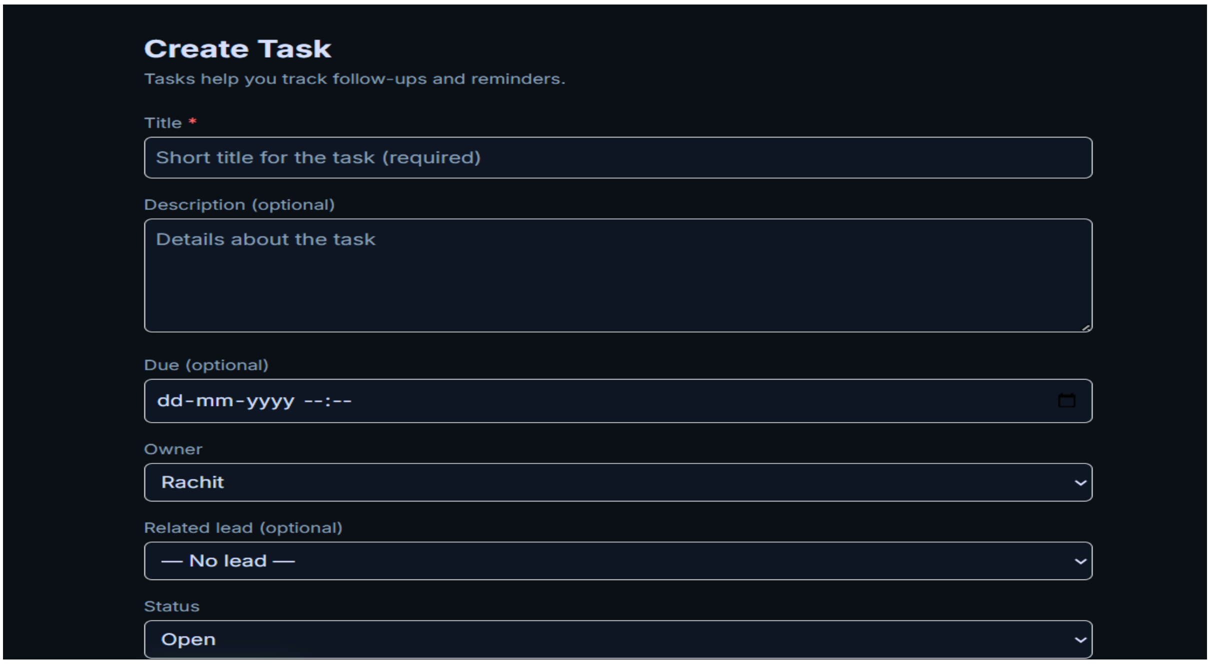
COUNSELLOR TASKS PAGE:



COUNSELLOR VIEW LEAD PAGE:



COUNSELLOR CREATE TASK PAGE:

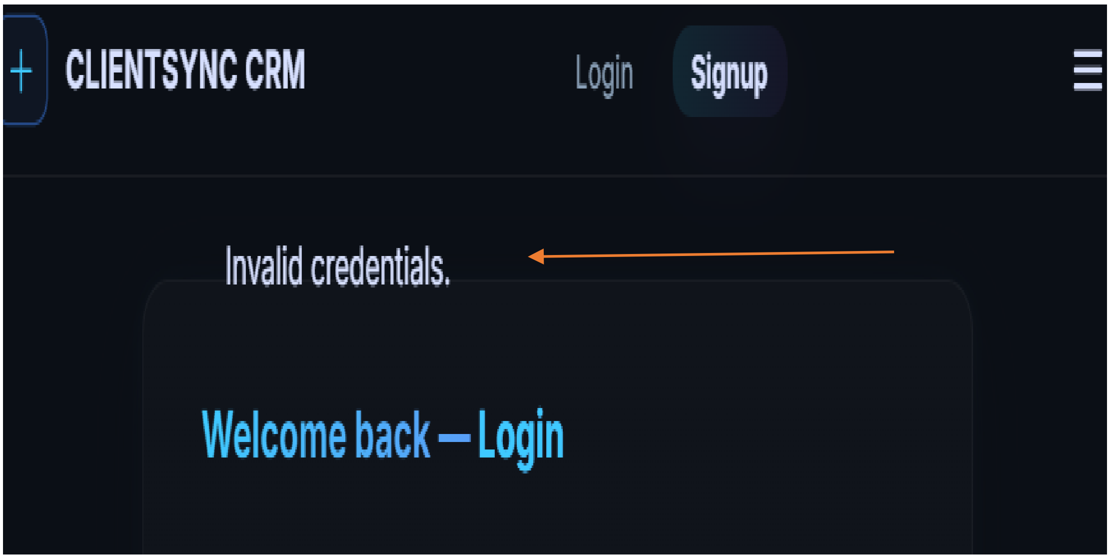


CHAPTER 7
RESULTS

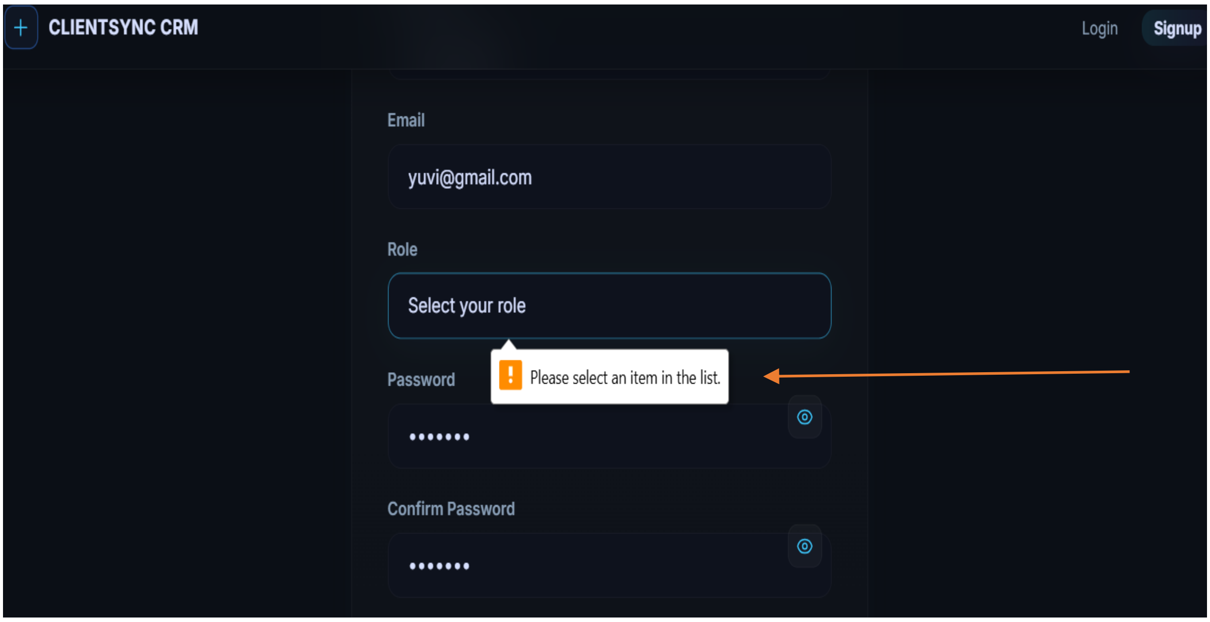
Test ID	Test Case	Steps	Expected Result	Actual Results	Status
TC- 01	Authentication Failure (Wrong Password)	1. Insert user (test@example.com, password = correct_password). 2. Try login with same email but wrong_password. 3. Attempt to access /dashboard	Login attempt rejected with flash ***Invalid credentials.*** Dashboard redirects back to /login.	Login attempt rejected successfully, flash message **"Invalid credentials"** displayed. Dashboard access redirected to login page.	**Pass**
TC - 02	Signup With Missing Fields	1. Submit /signup with empty name, email, password, role.	Signup rejected with error message like ***Please fill all required fields*** and remain on signup page.	App rejected signup. Flash message **"Please fill all required fields."** displayed, user not created in DB.	**Pass**
TC - 03	Role Restriction (Faculty Accessing Admin Page)	1. Login as Faculty. 2. Try accessing /manage-users.	Access denied → redirected or error message.	Faculty redirected to /dashboard, not allowed to view admin page.	**Pass**
TC - 04	Institution Creation (Admin Role)	1. Login as Admin. 2. Create a new institution.	Institution successfully saved in DB.	Institution created successfully, listed on Institutions page.	**Pass**
TC - 05	Student Creation (Faculty Role)	1. Login as Faculty. 2. Add a student linked to self.	Student record created, linked to Faculty ID.	Student created, listed under Faculty's students.	**Pass**
TC - 06	Lead Creation (Counsellor Role)	1. Create lead linked only to a contact with institution.	Lead should infer institution from contact.	Lead created successfully with institution auto-linked.	**Pass**

TC - 07	Task Completion Workflow	1. Faculty creates a task. 2. Mark it as complete.	Task status updated to complete, visible in dashboard.	Task marked complete, appears under completed tasks.	**Pass**

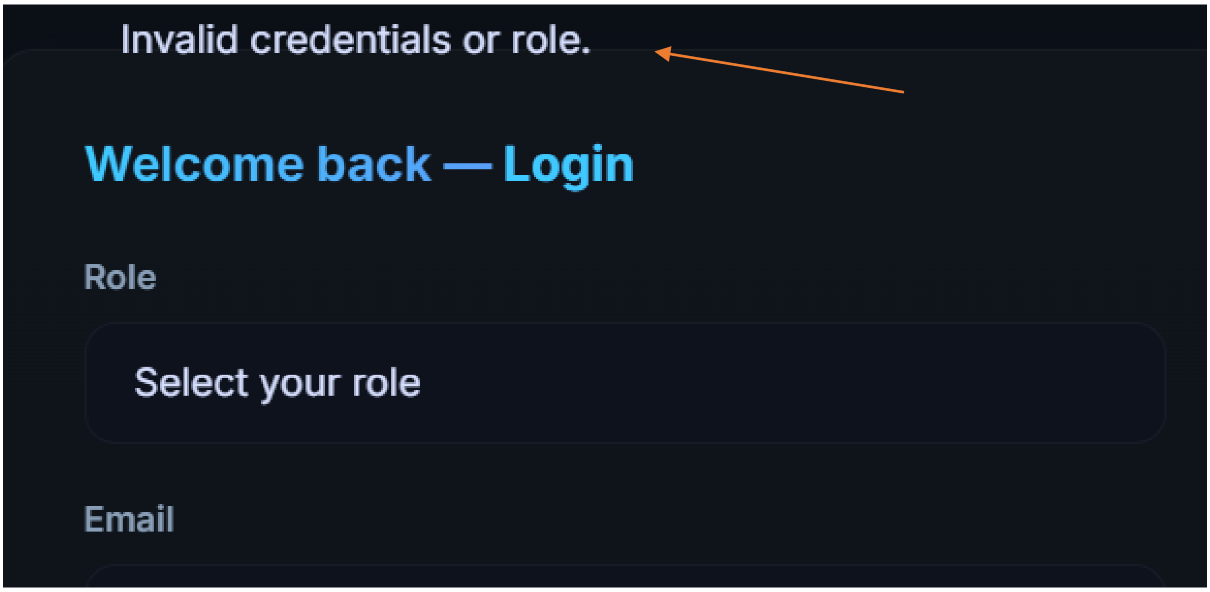
TC – 01: (wrong username/password)



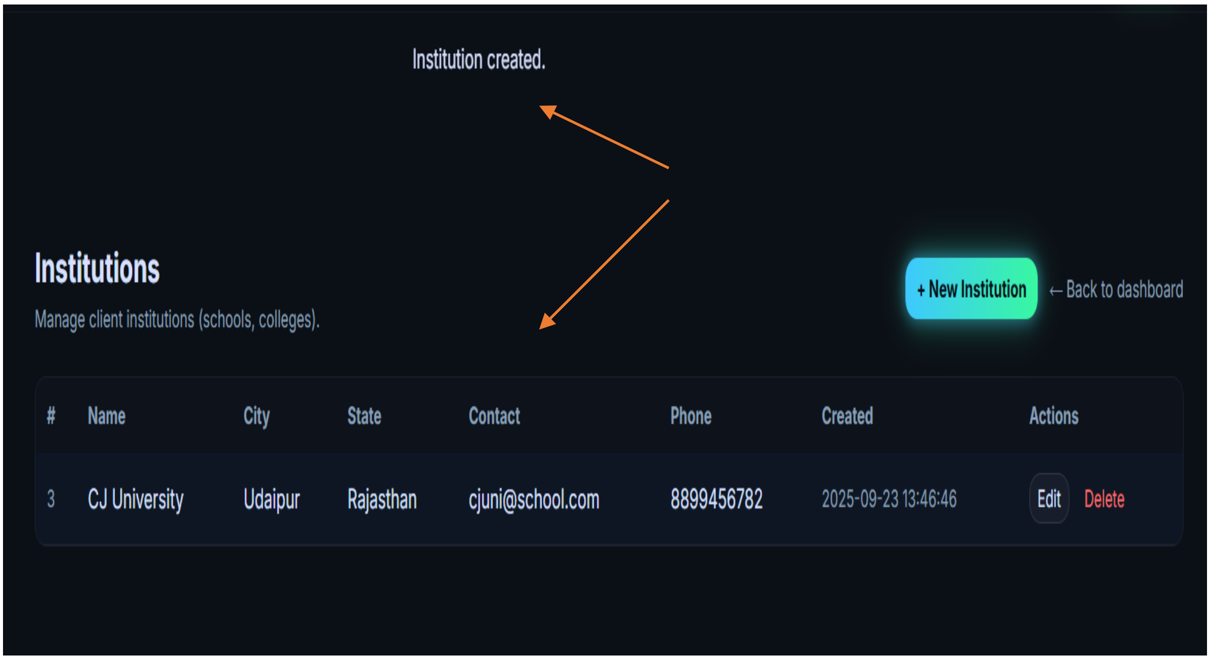
TC – 02: (missing field while logging in)



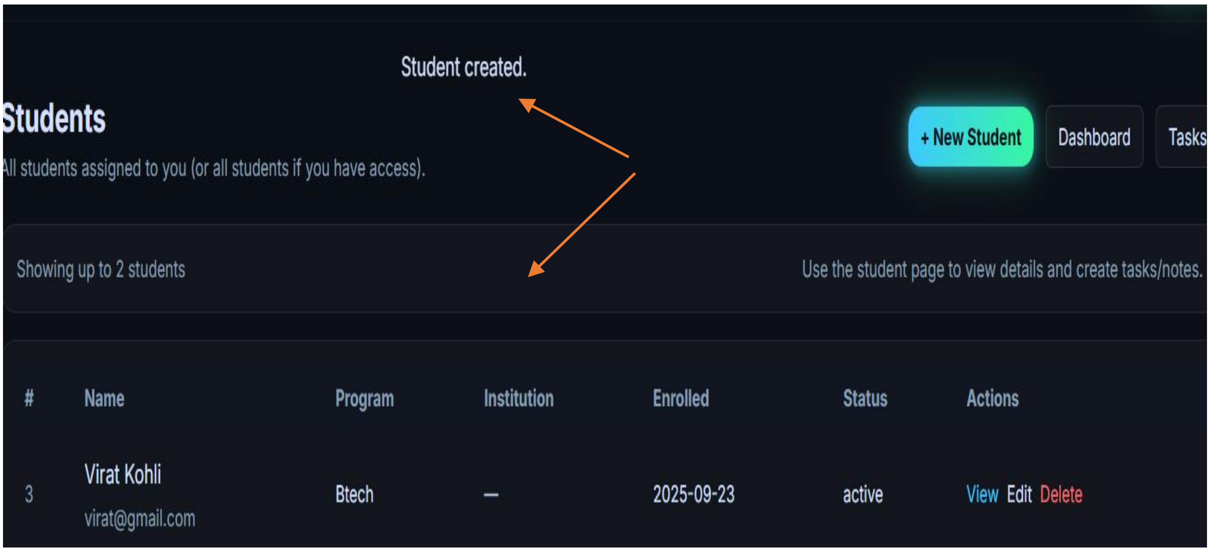
TC – 03: (Faculty trying to login with invalid role)



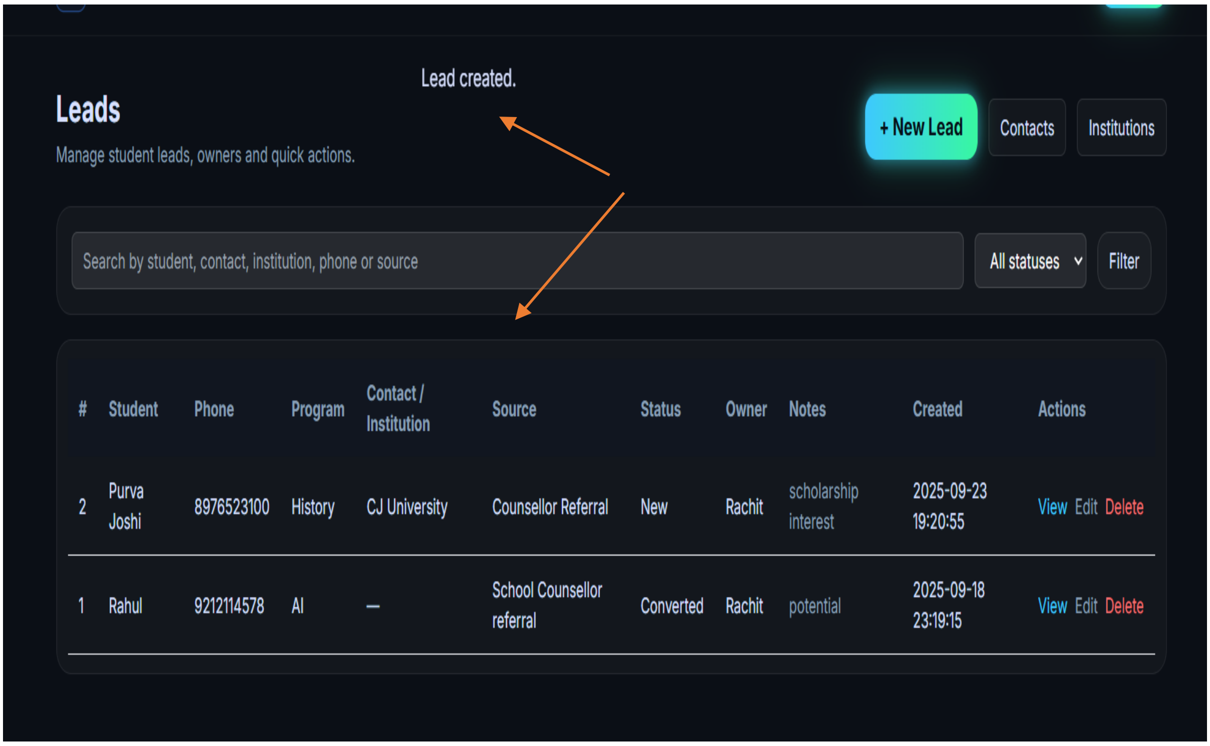
TC – 04: (new institution created – CJ University)



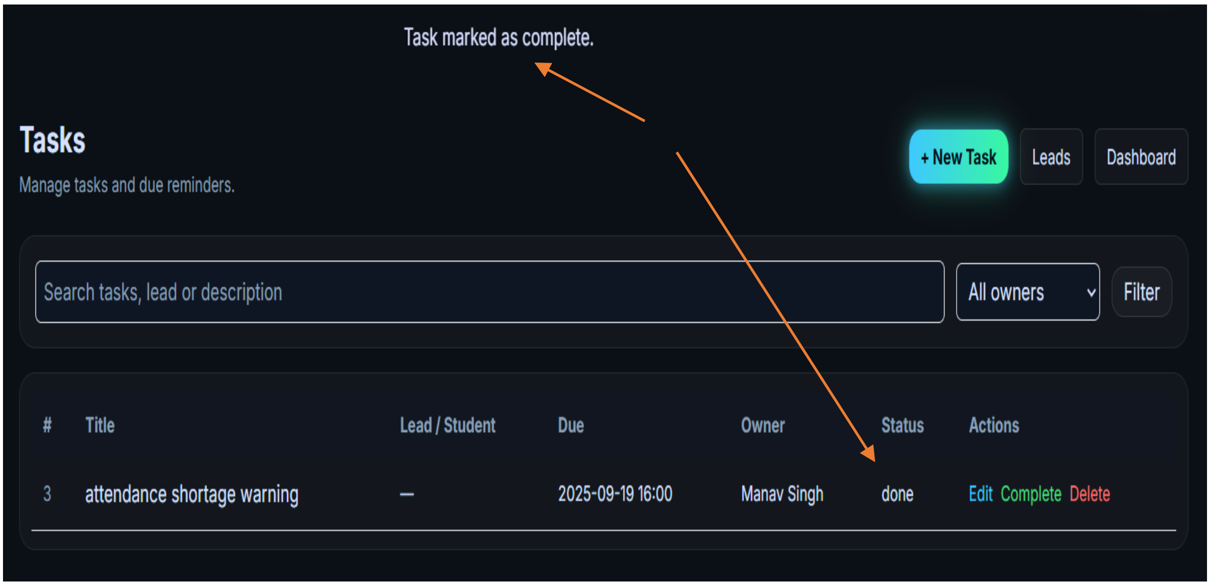
TC-05: (new student created named – Virat)



TC – 06: (New Lead Created named – Purva)



TC-07: (Task Status updated to 'Done' when marked Completed)



TEST RESULTS SUMMARY:

1) Authentication & Validation:

Incorrect login attempts and incomplete signup were correctly rejected.

2) Access Control:

Faculty could not access admin-only pages, confirming role-based restrictions work.

3) Core CRM Modules:

Admin successfully created institutions; Faculty created students; Counsellors created leads; and tasks were created and completed successfully.

Overall Outcome:

All 7 selected test cases passed successfully, demonstrating correct functionality across key modules of *CLIENTSYNC CRM*.

CHAPTER 8

CONCLUSION

8.1 Summary of Work

The CLIENTSYNC CRM project was developed to address the growing need for an efficient and lightweight Customer Relationship Management solution tailored for educational institutions. By integrating modules for Users, Institutions, Contacts, Students, Leads, Tasks, and Interactions, the system provides a unified platform for administrators, faculty, and counsellors.

The design followed a structured methodology, beginning with requirement gathering, database schema design, and diagrammatic representation (ERD, DFDs, Data Dictionary), followed by implementation using Flask (Python) for backend and HTML, CSS, JavaScript for frontend, with SQLite as the database.

8.2 Key Achievements

1. Role-Based-Access-Control:

Ensured distinct dashboards and privileges for Admin, Faculty, and Counsellor users.

2. Comprehensive-Data-Management:

Unified handling of institutions, students, leads, and tasks in a single platform.

3. Automation-and-Productivity:

Streamlined task tracking, follow-ups, and student advisories.

4. Scalable-and-Lightweight-Architecture:

Designed to run efficiently on local setups while remaining adaptable to larger deployments.

5. **User-Friendly-Frontend:**

Implemented with modern web technologies to ensure accessibility and responsiveness.

8.3 Limitations

- The system currently relies on SQLite, which may not be optimal for very large datasets.
- Limited reporting and analytics features compared to enterprise CRMs.
- Notification/alert mechanisms are minimal and can be enhanced in future.

8.4 Future Scope

1. **Database-Upgrade:**
   - Migrating to PostgreSQL/MySQL for better scalability and concurrency.

2. **Enhanced-Analytics:**
   - Adding dashboards for predictive insights, lead conversion rates, and student performance trends.

3. **Integration-Features:**
   - APIs for integration with third-party systems such as email, SMS, or ERP platforms.

4. **Mobile-Application:**
   - Developing an Android/iOS app for on-the-go CRM access.

5. **Advanced-Security**:
   - Implementation of multi-factor authentication and data encryption for enhanced security.

8.5 Final Conclusion

The CLIENTSYNC CRM successfully demonstrates how modern technologies can be applied to academic relationship management. It achieves its objectives of streamlining institutional, student, and lead management while maintaining simplicity and efficiency. With further enhancements, CLIENTSYNC CRM can evolve into a robust enterprise-grade solution for educational institutions worldwide.

CHAPTER 9

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