Annexure -1

# Synopsis for Minor Project-I

| Roll No | Regd. No | Name of the Student |
|---|---|---|
| 23CSE514 | 23UG010597 | SUBRAT PANDEY |
| 23CSE535 | 23UG010618 | SONALI SUBHADARSHINI SAHOO |
| 23CSE578 | 23UG010657 | PRAGNYA SAMAL |

**Title Of Project:**

## Synopsis:

CruxCRM – Simplify Customer Success

**1. Introduction**

In the contemporary internet economy, effective customer relationship management is a key driver of business growth and success. Traditional CRM solutions are often single-tenant, rigid, and lack the capabilities needed for seamless multi-organization deployment. CruxCRM addresses these limitations by offering a secure, scalable, and reliable multi-tenant CRM solution for modern teams and evolving business needs.

**2. Problem Statement**

Current CRM platforms are typically designed for single-tenant deployment, which limits their flexibility across different businesses or startups. These solutions do not support secure, isolated, yet centralized data management. They also lack the adaptability to support collaboration and role-based access across multiple, independently operating organizations.

**3. Objectives**

The primary objectives of the CruxCRM project are to:

- Develop and deploy a multi-tenant CRM web application
- Implement data segregation using schema-based multi-tenancy
- Provide role-based access control (RBAC) for Admins, Sales Representatives, and Support Staff
- Support essential CRM functionalities, including:
  - Lead management
  - Contact management
  - Deal management
  - Activity tracking
  - Notes
- Use JWT-based authentication for secure communication and session management
- Create a modular, responsive front-end to enhance the user experience
- Prepare for future enhancements, including email integration and data analytics

**4. Methodology**

Technology Stack

- **Backend:** Spring Boot (multi-tenancy, JWT authentication, business logic, RESTful APIs)
- **Frontend:** ReactJS (responsive user interface, modular structure, dynamic rendering)
- **Database:** PostgreSQL with multi-schema support for tenant data isolation
- **Security:** JWT (JSON Web Tokens), Spring Security, Role-Based Access Control (RBAC)

Architecture
Modular MVC architecture that promotes scalability and separation of concerns
Schema-based multi-tenancy to ensure complete data isolation for each tenant
Real-time features include:

- Live status updates
- Activity tracking
- Interactive dashboards

**5. Expected Outcomes**

Upon successful implementation, CruxCRM will deliver:

- A robust and secure multi-tenant CRM solution
- Improved coordination and collaboration across tenant organizations
- Streamlined onboarding process for new tenants
- Role-based workflows that enhance internal efficiency
- Scalable, cloud-based infrastructure supporting future integrations (email, analytics)
- Lower operating costs through shared platform deployment rather than isolated installations.

**6. Resources**

Staffing Requirements

- 1 Project Manager
- 1 Backend Developer (Spring Boot)
- 1 Frontend Developer (ReactJS)

Technology Stack

- Java, Spring Boot, Hibernate
- ReactJS, HTML5, CSS3
- PostgreSQL
- JWT, Spring Security

Development and Deployment Tools

- Version control: GitHub
- API testing: Postman
- Hosting: Cloud infrastructure (e.g., AWS or Azure)
- CI/CD: GitHub Actions

Estimated Budget

- Cloud hosting: Free tier
- Development tools: Open-source

| **Group No:** | |
|---|---|
| **Name of the Supervisor:**<br>Mr. Murali Kr. Senapaty | **Name of the Class Teacher:**<br>Mr. Bani Prasad Nayak |

**Supervisor** **Project Coordinator, 3rd Year**