# 1. PROBLEM DOMAIN

## 1.1 Background to the Problem

- Chaldal, as a prominent online grocery delivery service in Bangladesh, operates within a dynamic and competitive market. Ensuring seamless customer interactions and efficient management of data related to customers, orders, and service providers is essential for Chaldal's success. Therefore, the implementation of a robust Customer Relationship Management (CRM) system becomes imperative.

- Challenges Faced: In the rapidly evolving e-commerce landscape, Chaldal encounters several challenges that necessitate an effective CRM system:

  - Customer Engagement: Maintaining consistent and personalized interactions with a diverse customer base.

  - Order Management: Handling a large volume of orders while ensuring accuracy and timely delivery.

  - Data Management: Managing vast amounts of customer data, including preferences, purchase history, and feedback.

  - Service Provider Coordination: Coordinating with delivery personnel and vendors to optimize delivery logistics.

## 1.2 Solution to the Problem

- Implementing a CRM system tailored to Chaldal's specific requirements offers numerous benefits, such as:
  - Enhanced Customer Engagement: Personalizing marketing campaigns, promotions, and communications based on customer preferences and behavior.

  - Efficient Order Processing: Streamlining order management processes, from placement to delivery, to ensure a seamless customer experience.

  - Data-driven Decision Making: Leveraging customer insights and analytics to make informed business decisions and identify growth opportunities.

  - Improved Service Provider Management: Optimizing scheduling, routing, and communication with delivery personnel to enhance service quality and efficiency.

Yes, conducting a feasibility study is essential to assess the viability and potential benefits of implementing a CRM system for Chaldal. By evaluating factors such as cost, resource requirements, and expected outcomes, Chaldal can determine the feasibility and ROI of CRM adoption. The feasibility study will provide insights into how CRM can improve customer satisfaction, retention, and overall business performance.

# 2. SOLUTION DESCRIPTION

## 2.1 System Features

**Requirements**
In our project we need Users. We breakdown the Users Category into four types.
They are:

- System Administrator

1. Customers
2. Delivery Agents
3. Support Staff

**System Features List**

Every user has different role and our system have some advance features. The features are:

- System Administrator

*– Role: Manage all aspects of the CRM system.*

- Login: Access the system securely.
- Create Users: Add new users to the system.
- Delete Users: Remove users from the system when necessary.
- Modify & Update Users: Edit user information as needed.
- Monitor and Visit Everything in Database: Access and oversee all data within the CRM.

- Customers

*– Role: Engage with Chaldal for purchasing goods and services.*

- Login: Access their accounts securely.
- Browse Products: Explore available items for purchase.
- Add to Cart: Select items for purchase.
- Checkout: Complete the purchase process.
- View Order History: Access past orders for reference.
- Provide Feedback: Share reviews and ratings for products and services.

- Contact Support: Reach out for assistance when needed. Cabin & Room Allocation

➢ Delivery Agents:

*– Role: Facilitate the delivery process for Chaldal orders.*

- Login
- Request for Appointment
- Cancel Appointment
- Visit Doctor Profile
- Schedule
- Medicine List
- Cabin & Room Allocation

➢ Support Staff

*– Role: Assist customers and address their queries and concerns.*

- Login: Access their accounts securely.
- View Customer Inquiries: See incoming messages and requests.
- Respond to Inquiries: Provide timely and helpful assistance to customers.
- Resolve Issues: Address customer complaints and resolve them efficiently.
- Escalate Complex Cases: Forward cases to higher-level support if needed.
- Access Knowledge Base: Utilize resources to provide accurate information and solutions.

## 2.2 UML Diagrams

**Three Diagrams have been added below:**

- **Class Diagram**
- **Use Case Diagram**
- **Activity Diagram**

- **Class Diagram:**

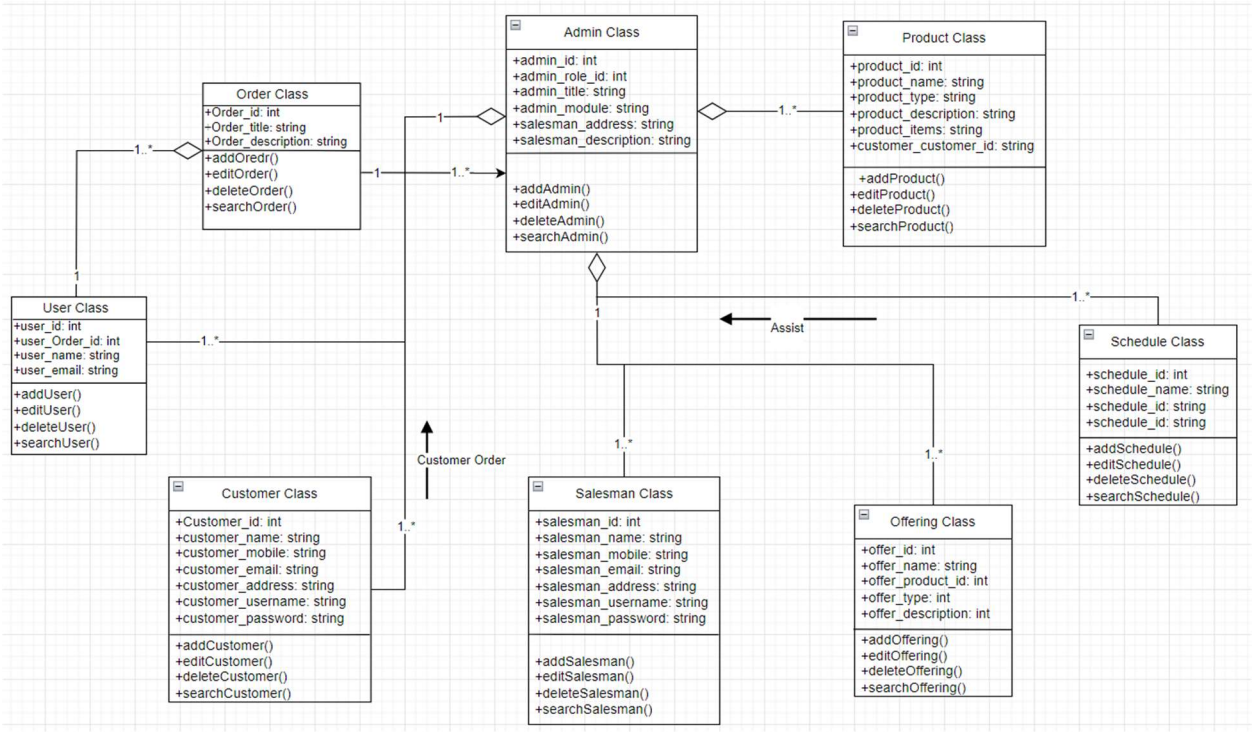


*Figure 1: Class Diagram of Chaldal CRM System*

Class diagram defines the structure of a system by showing the system's classes, attributes and methods, and the relationships between different classes. It is a static structure diagram. It is used in software engineering to describe the structure of a system.

- **Use Case Diagram:**

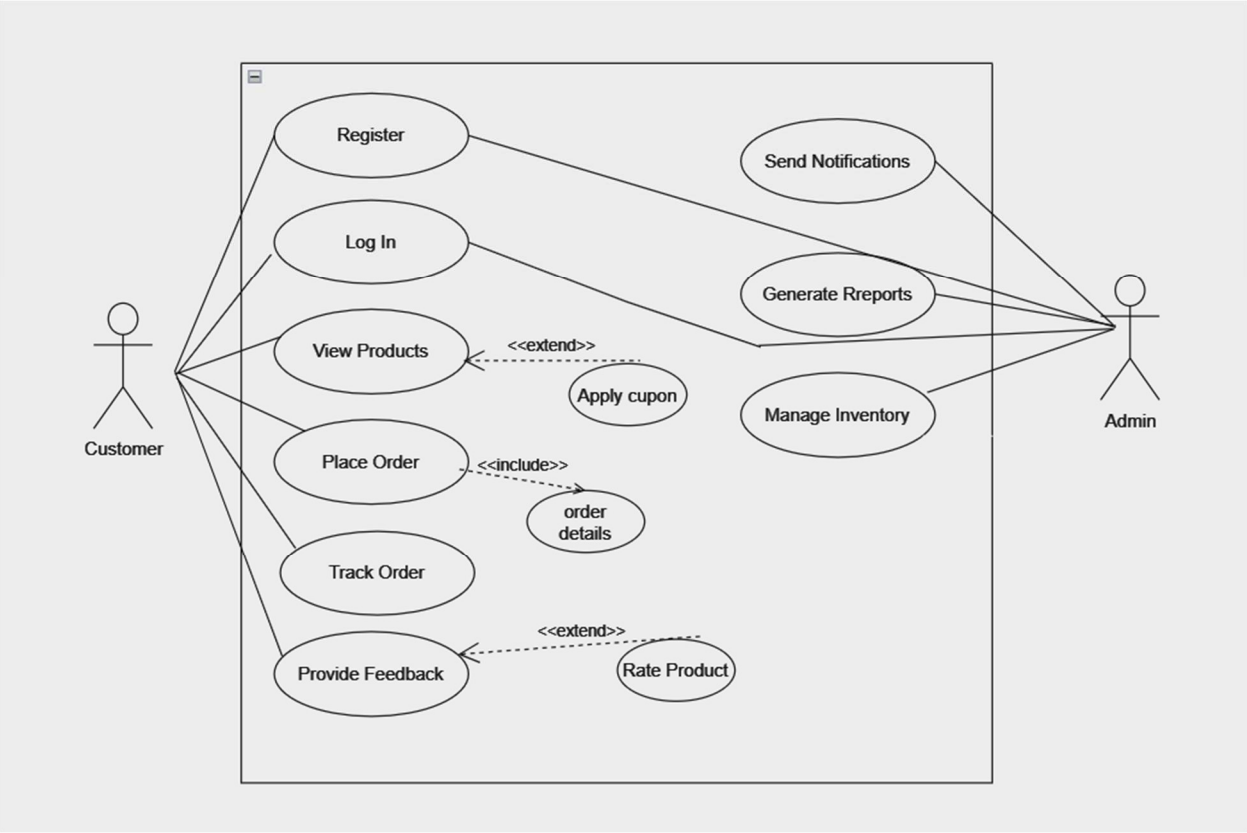


*Figure 2: Use Case Diagram of Chaldal CRM System*

Use-case diagrams describe a system's high-level functions and scope. These diagrams also show how the system, and its actors interact with one another. In use-case diagrams, the use cases and actors describe what the system does and how the actors interact with it, but not how the system operates internally.

- **Activity Diagram:**

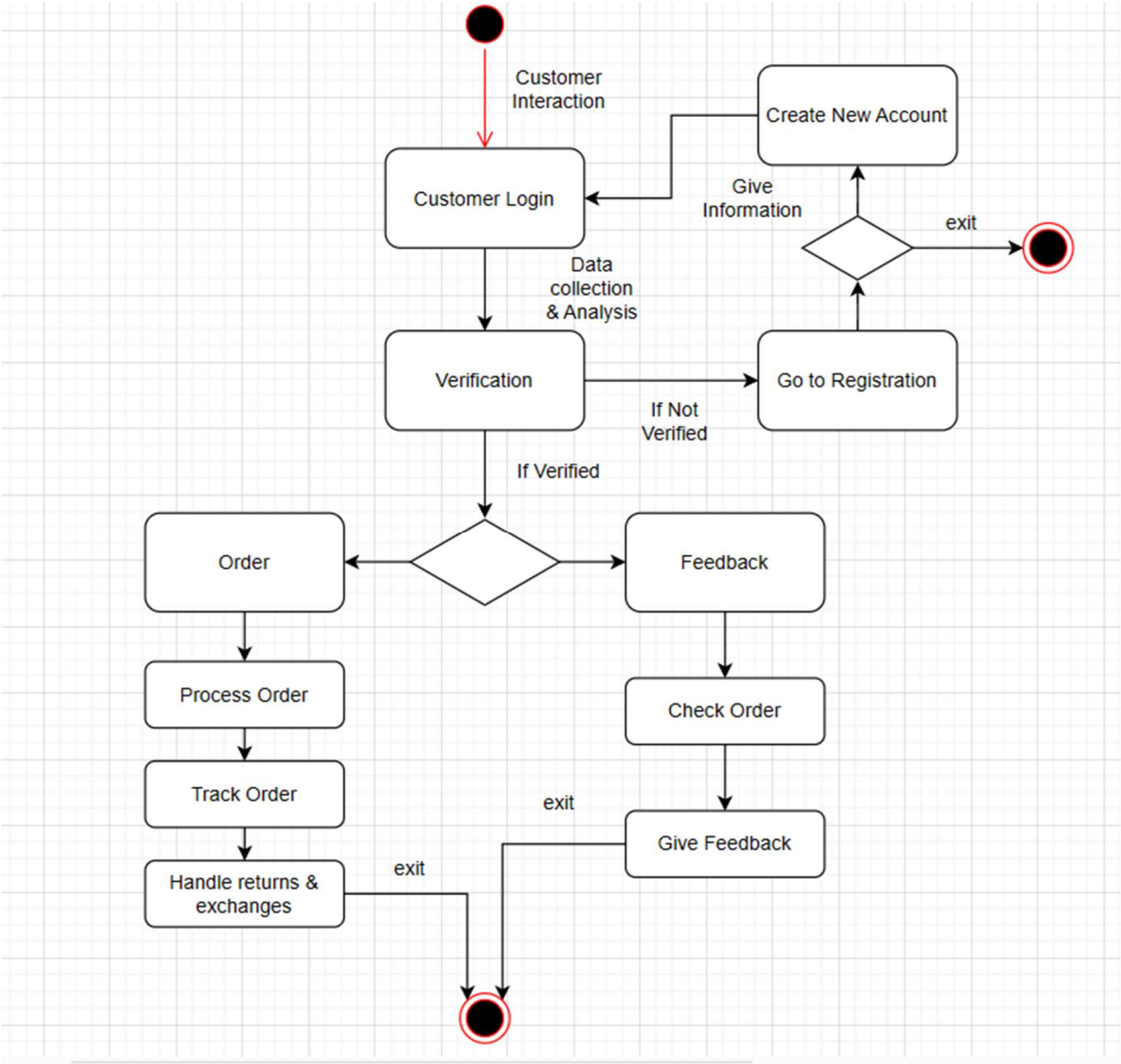


*Figure 3: Activity Diagram of Chaldal CRM System*

Activity Diagrams explain how activities are coordinated to provide a service at various levels of abstraction. Typically, an event must be accomplished by some operations, particularly when the operation is intended to accomplish a number of different things that necessitate coordination, or how the events in a single use case relate to one another, particularly in use cases where activities may overlap and necessitate coordination.

## 3. Social Impact

The creation of a CRM system for Chaldal has the potential to have a substantial beneficial social influence on a number of different aspects of society. The system will provide timely access to necessary groceries and household supplies for citizens throughout Bangladesh by optimizing operations and improving efficiency, especially in helping those residing in distant or neglected areas. Additionally, Chaldal's online platform gives suppliers, farmers, and small-scale producers access to a larger market, enabling them to grow their companies and enhance their standard of living. The CRM system's ability to boost e-commerce will boost economic growth and job creation while encouraging investment in the digital economy and entrepreneurship. The adoption of technological solutions additionally encourages digital inclusion since it opens up online services to a larger audience, including people with lower levels of language or digital skills. Chaldal shows its dedication to environmental sustainability by minimizing carbon emissions and promoting a better future through user-friendly interfaces and sustainable practices including eco-friendly packaging and effective delivery routes. Overall, by facilitating better access to commodities, empowering local producers, generating employment opportunities, encouraging digital inclusion, and advancing environmental sustainability, the CRM system not only improves corporate operations but also generates real social impact.

## 4. Development Plan with Project Schedule

### 1. Requirements Gathering and Analysis

- Conduct stakeholder interviews and workshops to gather requirements.
- Analyze existing systems, processes, and data structures.
- Define project scope, objectives, and success criteria.
- Deliverable: Requirement’s documentation, project scope statement.

### 2. Design and Prototyping

- Develop wireframes, user interface designs, and prototypes.
- Finalize system architecture, database schema, and technical specifications.
- Review and iterate on design based on stakeholder feedback.
- Deliverable: Design documents, prototype/mockups.

### 3. Development and Testing

- Implement core features and functionality in iterative development sprints.
- Conduct unit testing, integration testing, and system testing.
- Address any bugs or issues identified during testing.
- Deliverable: Functional CRM system with basic features.

4. **Deployment and Rollout**

- Deploy the CRM system to production environments in a phased manner.
- Conduct pilot testing with a subset of users to validate functionality.
- Provide training and support to users and stakeholders.
- Deliverable: Deployed CRM system with user training materials.

5. **Maintenance and Support**

- Monitor system performance, security, and stability post-deployment.
- Address any issues, bugs, or enhancement requests through ongoing maintenance.
- Provide ongoing support and troubleshooting to users and stakeholders.

**Gantt Chart**

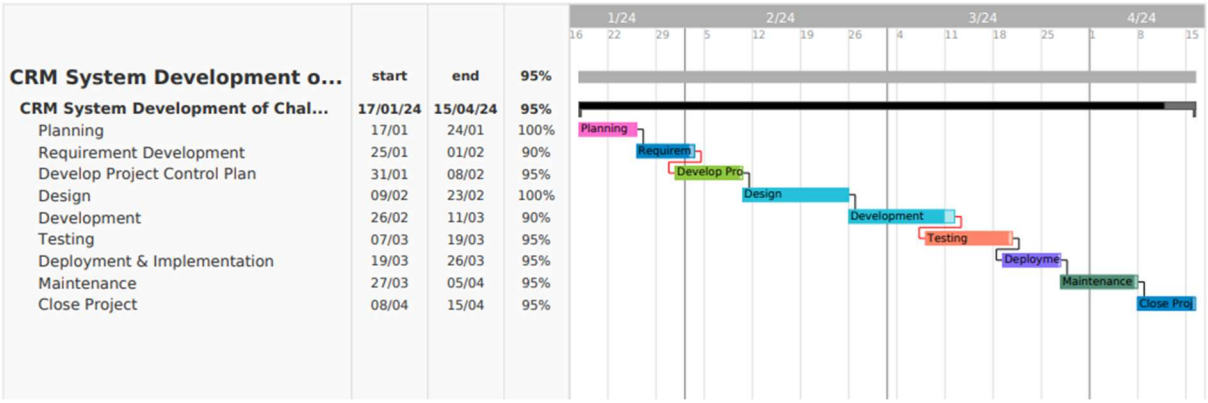


*Figure 4: Gantt Chart of Chaldal CRM System*

One of the most well-liked and practical programs for tracking activities (tasks or events) across time is the Team Gantt Chart, which is extensively utilized in Trello project management. A time scale runs along the top of the chart, with a list of activities on the left. Every action is represented by a bar, and the start, duration, and finish dates of each activity are indicated by the location and length of the bar.

# 5. Marketing Plan

Our primary goal is to enhance customer satisfaction and loyalty by implementing an effective CRM system to Chaldal's needs. We aim to improve the overall customer experience, foster long-term relationships with customers, and attract new users to the platform. Additionally, we seek to optimize operational efficiency and reduce costs through customer management processes.

## ➢ Strategies

1. **Social Media**
   By utilizing social media platforms to promote Chaldal's CRM system and its benefits to both existing and potential customers. Highlights the features such as personalized

recommendations, and responsive customer support. Engage with users through interactive content, customer testimonials, and behind-the-scenes insights into how the CRM system enhances their shopping experience.

2. **Campaigning**
   By launching targeted advertising campaigns across various digital and traditional channels to raise awareness about Chaldal's CRM system. Tailor messaging to showcase how the CRM system improves customer satisfaction, order accuracy, and delivery efficiency.

3. **Google Ads**
   By utilizing Google Ads to reach users actively searching for online grocery delivery services and CRM solutions. Create targeted ads that highlight Chaldal's CRM system as a key differentiator in the market.

4. **Billboard and Poster Advertising**
   By deploying billboard and poster advertising in high-traffic areas to raise awareness about Chaldal's CRM system among local communities. Design visually appealing creatives that convey the benefits of the CRM system in a clear and compelling manner. Include QR codes on posters to Chaldal's website or app for more information.

5. **Promotions**
   By Offering promotions and incentives to encourage users to sign up for Chaldal's CRM system. Providing exclusive discounts, loyalty rewards, or free trial periods to incentivize adoption and usage. Also, by highlighting the value proposition of the CRM system in promotional materials to show how it simplifies the shopping experience for customers.

## 6. Cost and Profit Analysis

| **Employee Cost Estimate** | **NO. Of Employee** | **Salary** | **Total Salary (BDT)** |
|---|---|---|---|
| Junior Developer | 3 | 20,000 | 60,000 |
| Senior Developer | 2 | 50,000 | 100,000 |
| Marketing | 2 | 10,000 | 20,000 |
| UI/UX Designer | 2 | 15,000 | 30,000 |
| **Total Employee Cost** | | | **210,000** |

This system initially has 5-month contract. Salary of 5 month will be:
= (210,000*5) BDT
= 10,50,000 BDT

So, employee cost estimation for the project will be 10,50,000 BDT

**Total Cost Estimate:**

| Cost List | Cost (BDT) |
|---|---|
| Development Cost | 300,000 |
| Maintenance Cost | 200,000 |
| Hardware | 250,000 |
| Database Services | 90,000 |
| Connectivity | 80,000 |
| Training | 50,000 |
| Utility | 90,000 |
| **Total Cost** | **10,60,000** |

So total cost estimation for the project will be **10,60,000 BDT**.

## Benefit Estimate:

We assume that,

- If 30% increase the revenue,
  Our total cost estimation for the project will be = 10,60,000*30% or about 3,18,000 BDT in revenue gains within a year.
- The additional hiring cost is estimated to be 30,000 BDT, hardware and software needed will cost about 20,000 BDT in total and worker salary will reach 210,000 BDT.

So,

Total benefit from the project = 3,18,000 BDT
Total Cost = (Salary of employees + Cost of hiring + Cost of additional hardware and software)
Total Cost = (210,000 + 30,000 + 20,000) BDT = 260000 BDT
Cost-Benefit Ratio = (3,18,000 / 2,60,000) = 1.20

As a result, the system has a about 30% profitable return on investment over the following three years, and the profit comes close to covering the development cost in the first year, according to the cost profit analysis estimates provided below. In the second year, the true profit could be computed.

# 7. Reference


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