PROJECT REPORT
Customer Relationship Management (CRM) Using Agile Methodology

1. Introduction

Customer Relationship Management (CRM) is a strategy used by organizations to manage interactions with existing and potential customers. The main objective of CRM is to improve customer satisfaction, retention, and business growth by organizing customer data, tracking interactions, and automating business processes such as sales, marketing, and customer support.

With rapidly changing customer expectations, traditional development methods often fail to deliver flexible and timely solutions. To overcome this challenge, **Agile methodology** is used in CRM system development. Agile enables continuous improvement, fast delivery, and better alignment with customer needs.

This project focuses on understanding how Agile methodology can be effectively applied to the development and implementation of a CRM system.

2. Objectives of the Project

The main objectives of this project are:

- To understand the concept of Customer Relationship Management

- To study Agile methodology and its principles

- To analyse how Agile improves CRM development

- To identify benefits of using Agile in CRM projects

- To design a basic CRM workflow using Agile practices

3. Overview of Customer Relationship Management (CRM)

3.1 What is CRM?

Customer Relationship Management (CRM) is a combination of **people, processes, and technology** used by organizations to manage customer interactions throughout the customer lifecycle.

3.2 Key Components of CRM

- Customer Data Management

- Sales Management

- Marketing Automation

- Customer Support and Service

- Reporting and Analytics

3.3 Importance of CRM

- Improves customer satisfaction

- Enhances customer retention

- Increases sales and profitability

- Provides better customer insights

4. Agile Methodology Overview

4.1 What is Agile?

Agile is a **modern software development methodology** that focuses on iterative development, collaboration, customer feedback, and flexibility. Instead of delivering the whole system at once, Agile delivers the product in small, usable parts called **iterations or sprints**.

4.2 Agile Principles

- Customer satisfaction through continuous delivery

- Welcome changing requirements

- Frequent delivery of working software

- Close collaboration between business and development teams

- Continuous improvement

5. System Requirements

5.1. Hardware Requirements

The minimum hardware requirements for the CRM system are:

- **Processor:** Intel Core i3 or higher

- **RAM:** 4 GB minimum (8 GB recommended)

- **Hard Disk:** 250 GB or above

- **Display:** 14-inch monitor or higher

- **Keyboard & Mouse:** Standard input devices

5.2. Software Requirements

The software requirements required for CRM development using Agile are:

- **Operating System:**

  o Windows 10 / Windows 11

  o Linux (Ubuntu or equivalent)

- **Programming Language:**

  o Java / Python / PHP (depending on implementation)

- **Database:**

  o MySQL / PostgreSQL / Oracle

- **Web Technologies:**

  o HTML, CSS, JavaScript

6. System Architecture

Three-Tier Architecture of CRM System -

The CRM system is divided into the following three layers:

1. Presentation Layer (User Interface Layer)

Description:
This is the **front-end layer** through which users interact with the CRM system.

Technologies Used: HTML, CSS, JavaScript

Functions:

- User login and authentication

- Customer data input

- Display customer details

- Generate reports and dashboards

Users:

- Admin

- Sales Executive

- Customer Support Executive

2. Application Layer (Business Logic Layer)

Description:
This layer contains the **business logic** and core functionalities of the CRM system.

Technologies Used:

- Java / Python / PHP

- Frameworks like Spring Boot or Django (optional)

Functions:

- Customer data processing

- Lead management

- Sales tracking

- Complaint handling

- Role-based access control

- Data validation

This layer ensures that business rules are applied before data is sent to or retrieved from the database.

3. Data Layer (Database Layer)

Description:
This layer stores and manages all CRM-related data.

Database Used: MySQL, PostgreSQL, Oracle

Stored Data:

- Customer information

- Sales records

- Support tickets

- User credentials

- Reports and logs

This layer ensures data consistency, security, and backup.

7. Functional Modules

The CRM system consists of the following functional modules, developed using Agile methodology to ensure flexibility and continuous improvement.

1. User Management

Manages user registration, login, authentication, and role-based access such as Admin, Sales, and Support users.

2. Customer Management

Stores and manages customer details, contact information, and interaction history in a centralized system.

3. Sales Management

Handles lead management, sales tracking, and monitoring of sales performance.

4. Support & Feedback

Manages customer complaints, support tickets, and collects customer feedback to improve service quality.

5. Reports & Analytics

Generates reports and dashboards to analyze sales, customer activity, and overall system performance.

8. Sprint-wise Implementation:

Sprint No.	Sprint Name	Duration	Modules Covered	Outcome
Sprint 1	Planning & Login	1 Week	Requirement analysis, User login, Authentication	Basic system setup with secure login
Sprint 2	Customer & Sales	1 Week	Customer Management, Sales Management	Customer records and sales tracking
Sprint 3	Support & Reports	1 Week	Support tickets, Feedback, Reports	Customer support and reporting features
Sprint 4	Testing & Deployment	1 Week	Testing, Bug fixing, Deployment	Stable CRM system ready for use

9. Testing Strategy

Testing is performed at different levels to ensure the quality and reliability of the CRM system developed using Agile methodology.

- **Unit Testing**
  Individual modules such as login, customer management, and sales functions are tested separately to verify correct functionality.

- **Integration Testing**
  Interaction between different modules like user management, sales, and support modules is tested to ensure smooth data flow.

- **System Testing**
  The complete CRM system is tested as a whole to verify all functional and non-functional requirements.

- **User Acceptance Testing (UAT)**
  End users validate the system to confirm that it meets business requirements and is ready for deployment.

10. Future Enhancements

The CRM system can be enhanced further to improve efficiency and user experience.

- **AI Integration:**
  Artificial Intelligence can be used for predictive analytics, customer behavior analysis, and personalized recommendations.

- **Chatbots:**
  AI-powered chatbots can be integrated to provide 24/7 customer support and quick query resolution.

- **Mobile Application:**
  A mobile CRM application can be developed to allow users to access CRM features anytime and anywhere.

11. Conclusion

The Customer Relationship Management (CRM) system developed using Agile methodology plays a vital role in strengthening customer relationships and improving overall business efficiency. CRM helps organizations manage customer data, track sales activities, handle customer support, and analyze business performance in a structured manner. By using Agile methodology, the development process becomes more flexible, iterative, and adaptable to changing business requirements.

Agile allows the CRM system to be developed in small, manageable sprints, enabling continuous feedback from stakeholders and users. This approach ensures early identification of issues, faster delivery of functional modules, and improved software quality. Agile practices also promote collaboration among development teams, customers, and management, leading to a more user-centric CRM solution.

The implementation of various CRM modules such as user management, customer management, sales management, support and feedback, and reporting ensures a comprehensive and integrated system. Effective testing strategies further enhance system reliability and performance. Overall, using Agile methodology in CRM development results in better customer satisfaction, increased productivity, improved decision-making, and sustainable business growth.

Thus, CRM using Agile methodology proves to be an efficient, scalable, and future-ready solution for modern organizations.