CRM APPLICATION TO ENGINEERING WORKS

PROJECT CREATED BY

B.TECH-IT [V Semester]

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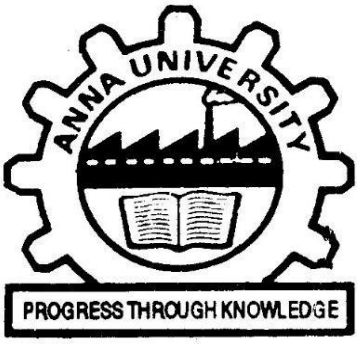

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Project Title: A CRM APPLICATION TO ENGINEERING WORKS

1. Project Overview

This project involves the development and implementation of a Customer Relationship Management (CRM) system tailored specifically for engineering works. The goal of the project is to streamline client management, enhance customer engagement, and optimize operational processes through Salesforce. By leveraging Salesforce's comprehensive CRM platform, engineering firms can efficiently manage customer data, track interactions, and improve the client experience from project initiation to completion.

2. Project Objectives (Points only)

1. Enhance Client Relationship Management

- Personalized Customer Interactions:
  The CRM system allows firms to store detailed client profiles, including their preferences, past interactions, and project requirements. This enables personalized communication, fostering trust and loyalty.
- Automated Follow-Ups:
  By automating reminders and follow-ups, the CRM ensures timely communication, making clients feel valued and prioritized.

- Customer Portals:

  Provide clients with access to their project updates, invoices, and documents, ensuring transparency and building stronger relationships.

2 Optimize Project Tracking and Workflow Management

- **Real-Time Project Dashboards**:

  Engineering teams can track project progress, identify bottlenecks, and monitor deadlines in real-time, ensuring projects are completed efficiently.

- **Task Management**:

  Assign tasks to specific team members, set priorities, and track progress, ensuring accountability and smooth workflows.

- **Integrated Tools**:

  Link engineering software (e.g., CAD tools) with the CRM to align technical work with project management, reducing errors and saving time.

3 Improve Data Accessibility and Integration

- **Centralized Data Storage:**

  Store all customer and project data in one location, accessible to authorized team members anytime, anywhere. This eliminates the need for manual data searching and reduces delays.

- **System Integration:**

  Connect the CRM with existing tools like email, calendars, and financial software, creating a unified platform where information flows seamlessly across systems.

- **Mobile Accessibility:**

  Enable on-the-go access to critical data, ensuring that teams working in the field or remotely can stay updated and make informed decisions.

4. **Boost Decision-Making with Real-Time Insights**

- **Analytics and Reporting:**

  Use Salesforce's analytics tools to generate reports on project performance, client trends, and revenue forecasts. This helps in identifying growth opportunities and potential risks.

- **Custom Dashboards:**

  Display key performance indicators (KPIs) in an easy-to-understand format, providing stakeholders with a clear view of progress and metrics.

- **Predictive Insights:**

  Leverage AI-powered tools to predict customer needs, optimize resource allocation, and improve project outcomes.

5. **Increase Efficiency in Lead Management and Follow-Up**

- **Lead Tracking:**

  Track all incoming leads, from initial inquiries to project confirmation, ensuring no potential client is overlooked.

- **Automated Lead Scoring:**

  Rank leads based on factors like project size, urgency, and potential revenue, helping the sales team prioritize high-value opportunities.

- **Efficient Follow-Up Process:**

  Automate follow-up emails or calls for potential clients, ensuring timely responses that increase the chances of conversion.

3. Key Features and Concepts Utilized

1. Creation

This milestone involves setting up the Salesforce environment, including the creation of a new application. The purpose is to establish the foundation for the CRM system by defining the basic structure and settings. This step ensures that all future components, such as objects, fields, and workflows, are built upon a well-organized framework.

2. **Objects**

- **Standard Objects**: Pre-built objects provided by Salesforce, such as Accounts, Contacts, and Opportunities, used for core CRM functionalities.
- **Custom Objects**: User-defined objects that store information specific to the needs of the business. For engineering works, custom objects may include "Projects," "Equipment," or "Client Requirements." Objects are fundamental to data management within Salesforce, as they determine how data is stored and organized.

3. Tabs

Tabs are the interface elements that allow users to interact with objects and other functionalities. They provide quick access to:

- Data stored in objects (e.g., Project details or Client information).
- Visualforce pages, dashboards, or reports relevant to engineering workflows. Customized tabs enhance user experience by providing direct navigation to frequently accessed data.

4. The Lightning App

Salesforce Lightning is a modern framework designed to build dynamic and responsive applications.

- The Lightning App enables the creation of tailored user experiences with easy-to-use components like dashboards, workflows, and navigation tools.
- Engineering firms can use Lightning Apps to manage projects, track client interactions, and monitor team performance in real-time, all from a single interface.

5. Fields

Fields are the specific data points stored within an object. Salesforce supports:

- **Standard Fields**: Default fields like Name, Created Date, or Status.

- **Custom Fields**: User-defined fields such as "Project Deadline," "Engineering Type," or "Client Feedback." Fields are essential for capturing and organizing information. Custom fields ensure that the CRM system aligns with the unique data requirements of engineering projects.

6. Creation of Page Layouts

Page layouts determine how data is presented to users when viewing or editing a record.

- Allows customization of fields, sections, buttons, and related lists for better organization.
- Tailored layouts ensure that users see only relevant information based on their roles (e.g., engineers may view technical data, while managers focus on budgets). This feature enhances usability and reduces information overload.

7. Creation of Record Types

Record types allow businesses to define different processes within the same object.

- For engineering works, record types could represent categories like "Civil Engineering Projects," "Mechanical Engineering Projects," and "Electrical Engineering Projects."
- Each record type can have unique workflows, picklist values, and page layouts. This ensures that the CRM accommodates diverse requirements without cluttering the data.

8. Validation Rules

Validation rules enforce data quality by defining conditions that must be met before a record can be saved.

- Example: Ensuring that "Project Budget" is entered before saving a project record.
- Reduces errors and ensures consistency by validating critical fields during data entry. Validation rules are key to maintaining accurate and reliable data in the CRM system.

9. Email Templates

Email templates provide standardized formats for communication with clients and team members.

- Templates can include dynamic fields like the client's name, project status, or due date for personalization.
- Common uses include sending project updates, follow-ups, or reminders. This feature ensures professional, consistent, and efficient communication across all interactions.

10. Flows

Salesforce Flows are powerful tools for automating business processes without coding.

- Example: Automatically sending an email to the client when a project status changes or creating tasks for the team when a new lead is added.
- Flows save time and reduce manual effort by streamlining repetitive tasks and ensuring process consistency

4. Detailed Steps to solution Design

Milestone 1: Creation

Goal Definition

The CRM system is designed to enhance the management of engineering projects, streamline client communications, and provide tools for effective project tracking and reporting. The main functionalities include:

- Project database management
- Client feedback and communication
- Task tracking and assignment
- Reporting and analytics for project status and performance

Planning

Features Identified:

- Project and task tracking modules
- Client communication and feedback management
- Resource allocation dashboard
- Reports for project progress and productivity metrics

Salesforce Tools: Selected Salesforce Lightning tools such as Flow Builder, App Builder, and Lightning Email Templates for application development.

Milestone 2: Object Creation

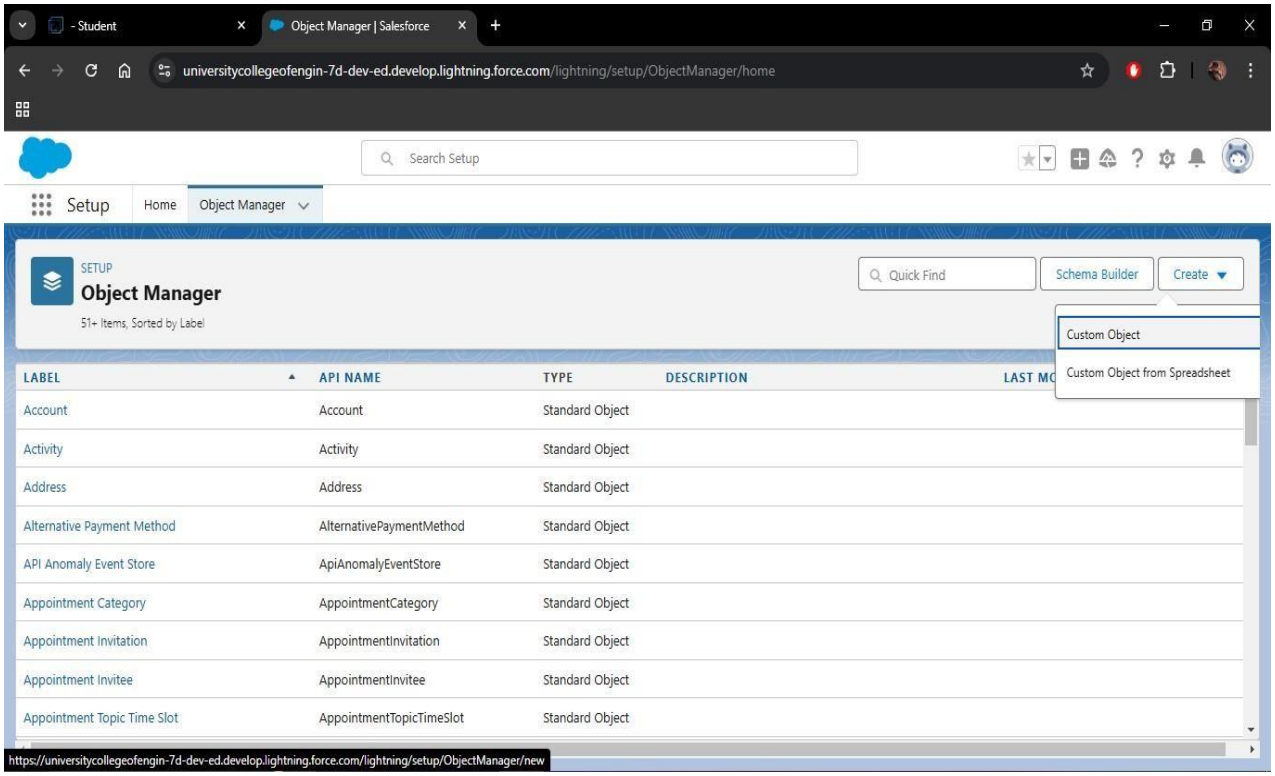
Custom Objects

- **Projects**: Stores details like "Project Name," "Start Date," "Deadline," and "Status."
- **Clients**: Tracks client data, including contact details, feedback, and project association.
- **Tasks**: Manages task-specific details such as "Task Owner," "Priority," and "Completion Percentage."

Standard Objects

Extended Salesforce's **Contact** and **Account** objects to store client related data and associate it with engineering projects.

Figure 1



Milestone 3: Tabs

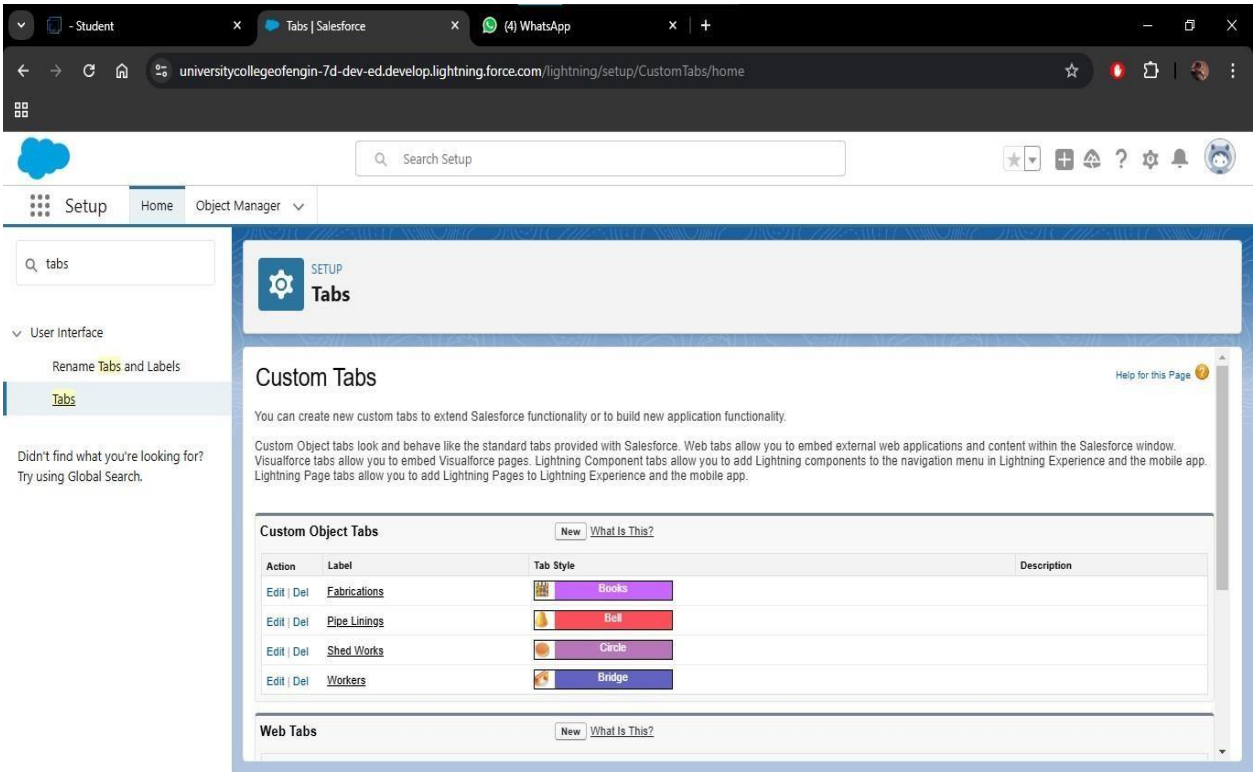
Tab Creation

- Tabs added: **Project Management**, **Client Communication**, **Task Tracking**, **Reports**.
- Organized for easy navigation and usability.

App Visibility

Tabs configured for visibility within the **Engineering Works CRM Lightning App** and restricted by user roles for secure access.

Figure 2



Milestone 4: The Lightning App

App Design

Using **App Builder**, created a customized app that includes:

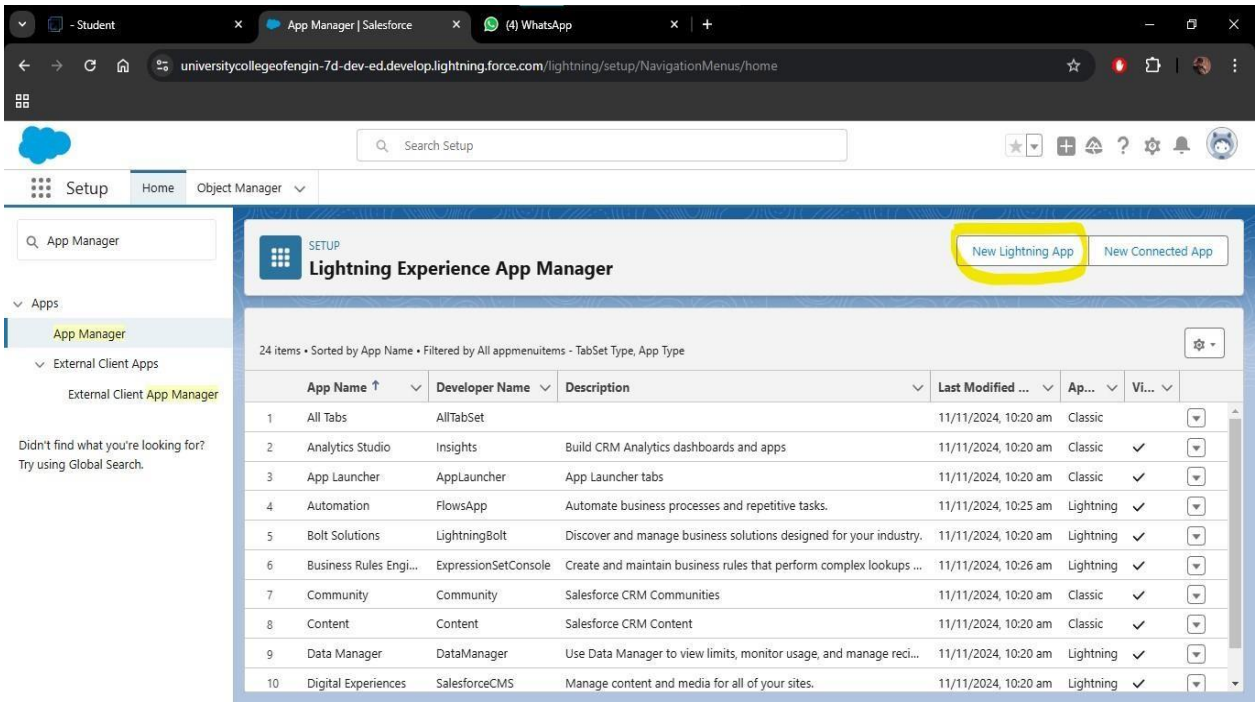
- Record pages for projects and clients
- Dashboards showing key performance indicators
- Tabs for quick access to tasks and reports

Custom Branding

Integrated branding aligned with the engineering firm's identity, including:

- Custom logo
- Professional color scheme

Figure 3



Milestone 5: Fields

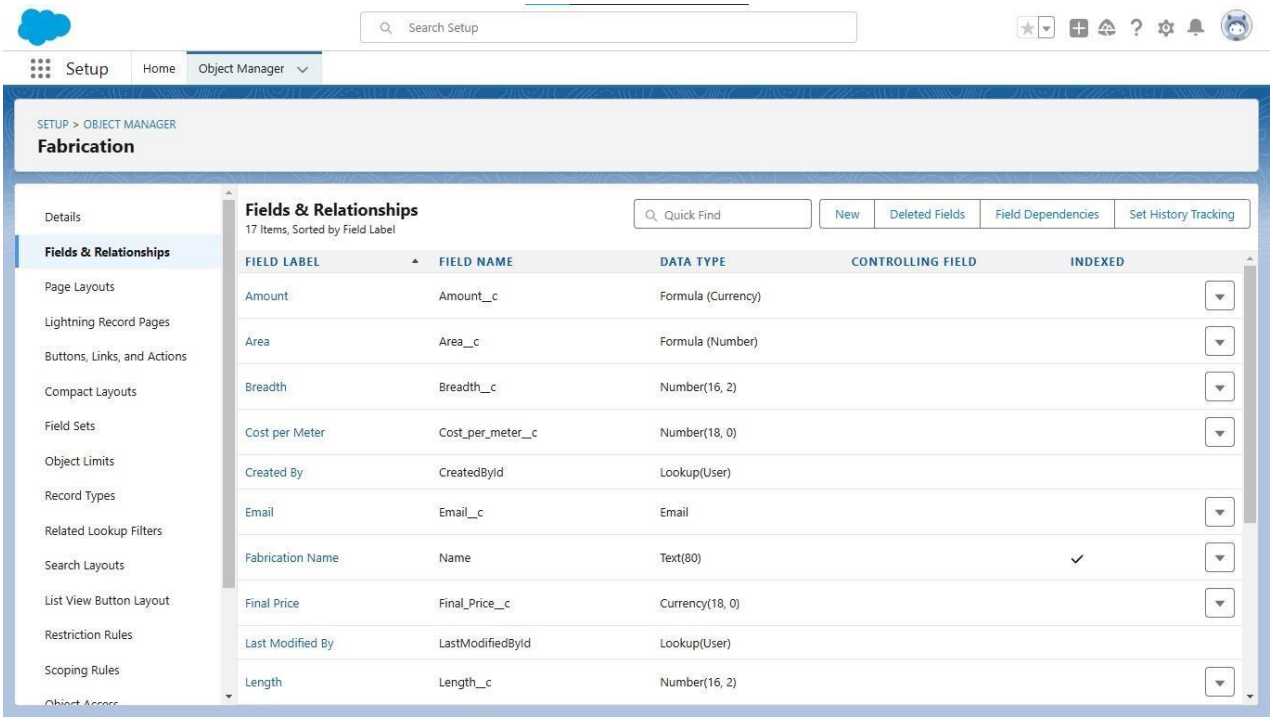
Field Definition

- **Projects**: "Budget," "Deadline," "Milestone Progress."
- **Clients**: "Feedback Rating," "Email," "Associated Projects."
- **Tasks**: "Priority," "Due Date," "Task Owner." **Validation Rules**

Examples:

- Mandatory fields such as "Project Deadline" and "Budget."
- Restrictions to ensure completion percentage does not exceed 100%.

Figure 4



Milestone 6: Page Layouts

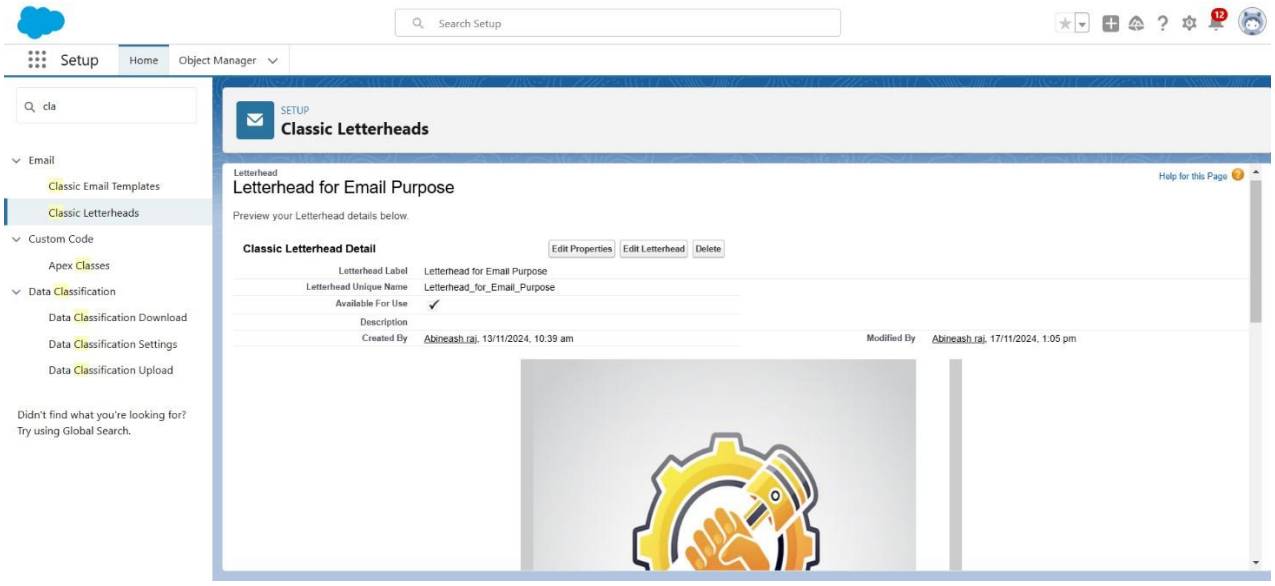
Custom Layouts

- Designed layouts for different roles:
  - **Project Managers**: Full access to project and task details.
  - **Team Members**: Limited access focused on assigned tasks.
- Segmented layouts into sections such as "Project Details," "Budget Information." **Mobile**

Layouts

Tested and optimized layouts for mobile use, ensuring seamless access on the go.

Figure 5



Milestone 7: Record Types

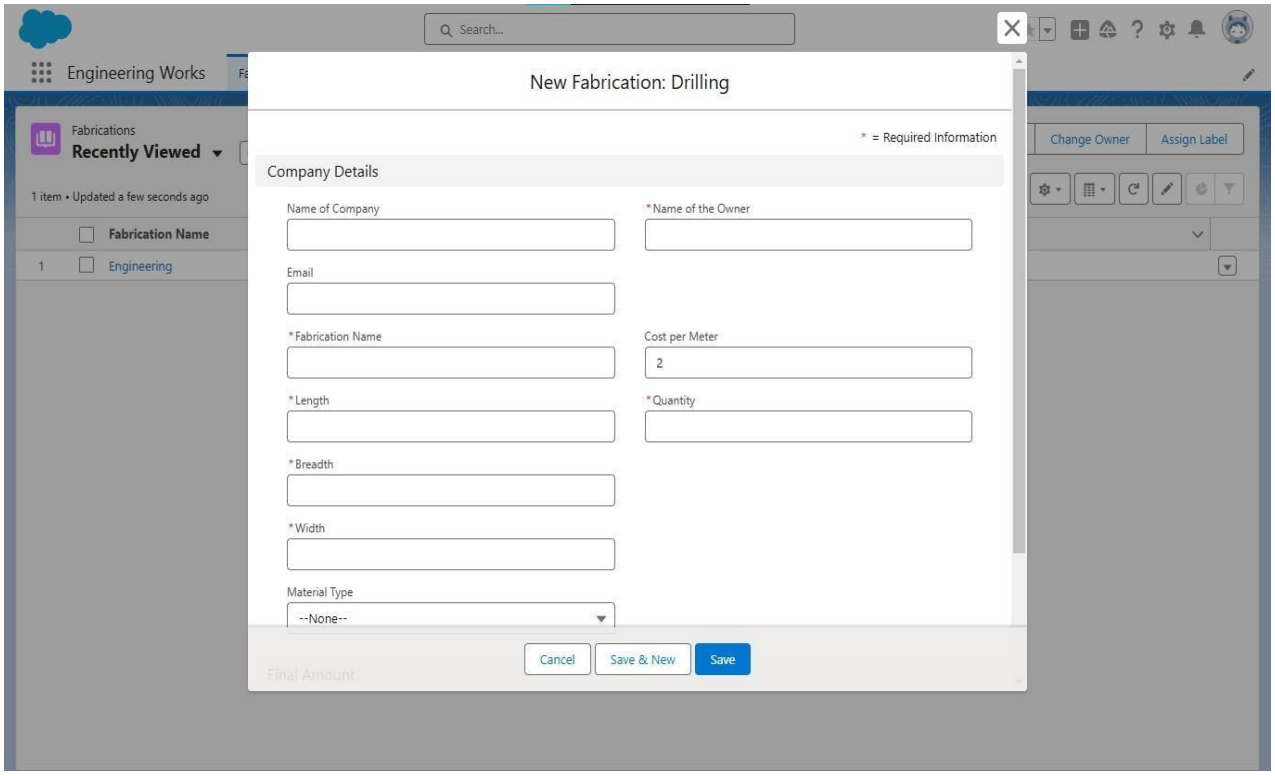
Use Cases

- **Construction Projects**: Specific record type for large-scale construction work.
- **Consulting Projects**: Focused on advisory and consultancy work.

Custom Layouts

Associated record types with tailored layouts displaying relevant fields.

Figure 6

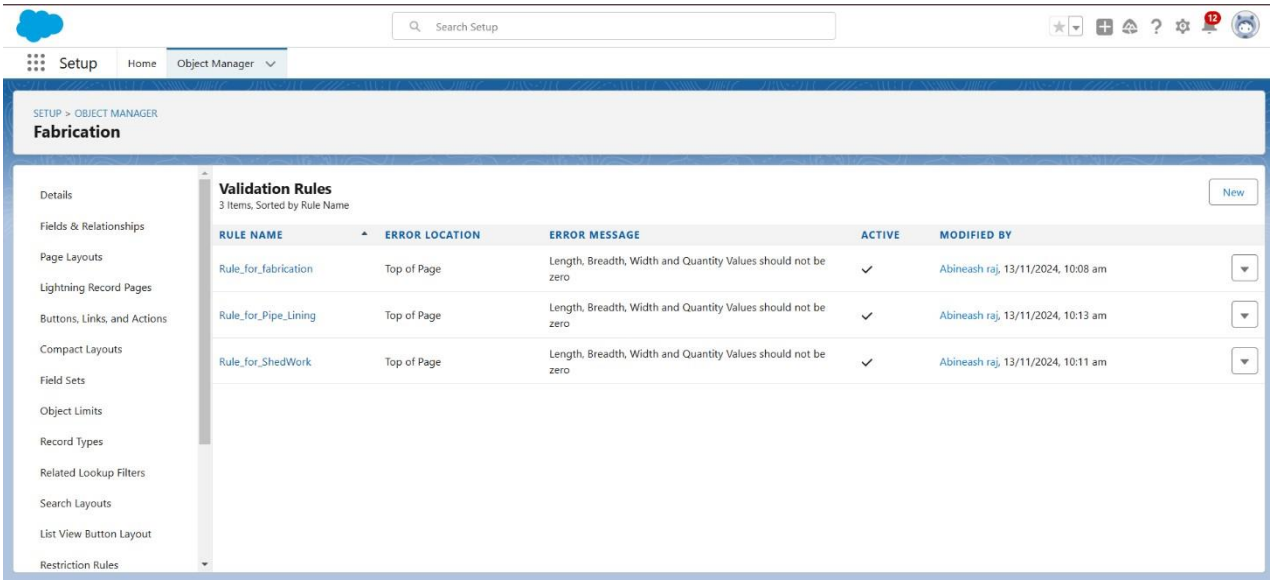


Milestone 8: Validation Rules

Implemented Rules

- Budget validation: Ensures that budget figures are positive.
- Feedback validation: Requires a feedback score to be within the range of 1 to 5.
- Deadline validation: The project deadline cannot be earlier than the start date.

Figure 7



Milestone 9: Email Templates

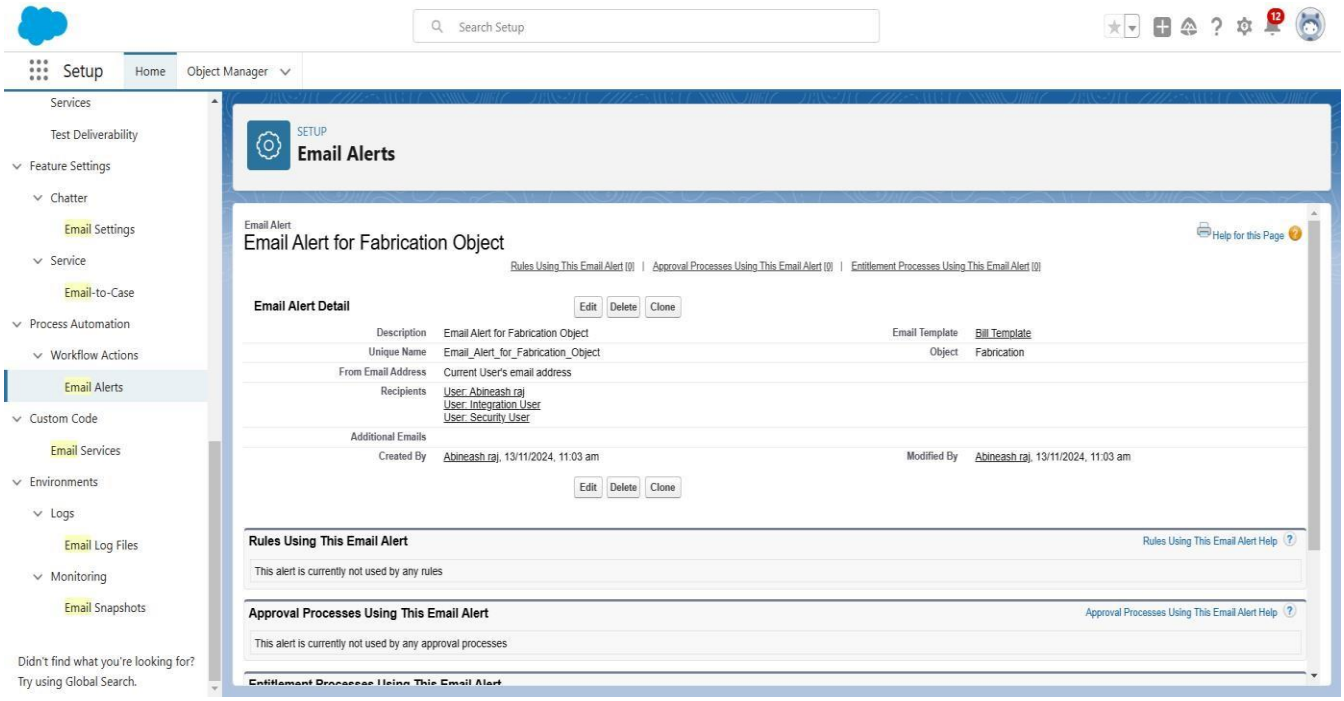
Templates Created

- **Project Updates**: Automated emails for project progress and status reports.
- **Client Communication**: Standardized emails for feedback collection and updates.
- **Task Assignments**: Notifications for assigned tasks.

Automation

Integrated email templates into workflows to automate routine communications.

Figure 8



Milestone 10: Flows

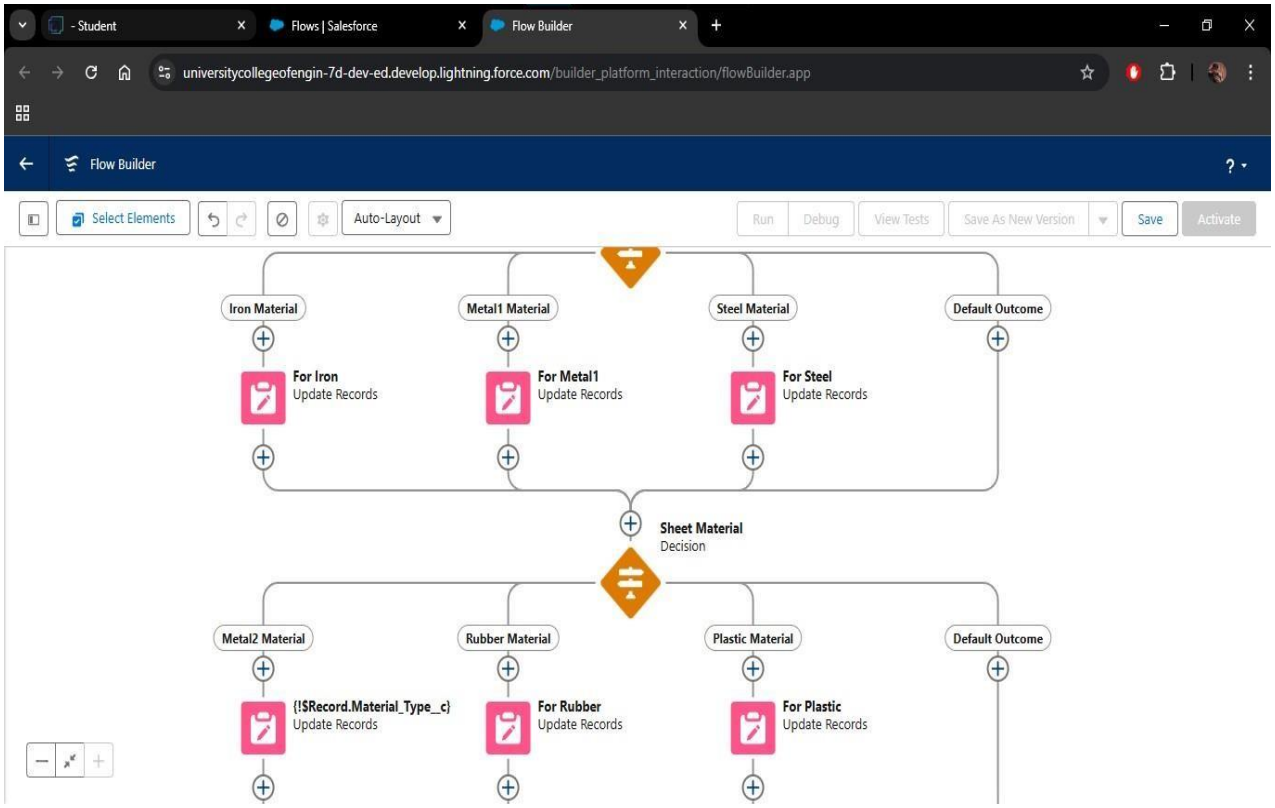
Defined Flows

- **Client Onboarding**: Automates the process of adding new clients and linking them to projects.
- **Task Assignment**: Automatically assigns tasks based on team member availability and expertise.

Testing

Flows were rigorously tested to ensure they function as intended.

Figure 9



Milestone 11: Conclusion

Summary

The CRM system successfully implemented features to address key challenges in engineering works management, including:

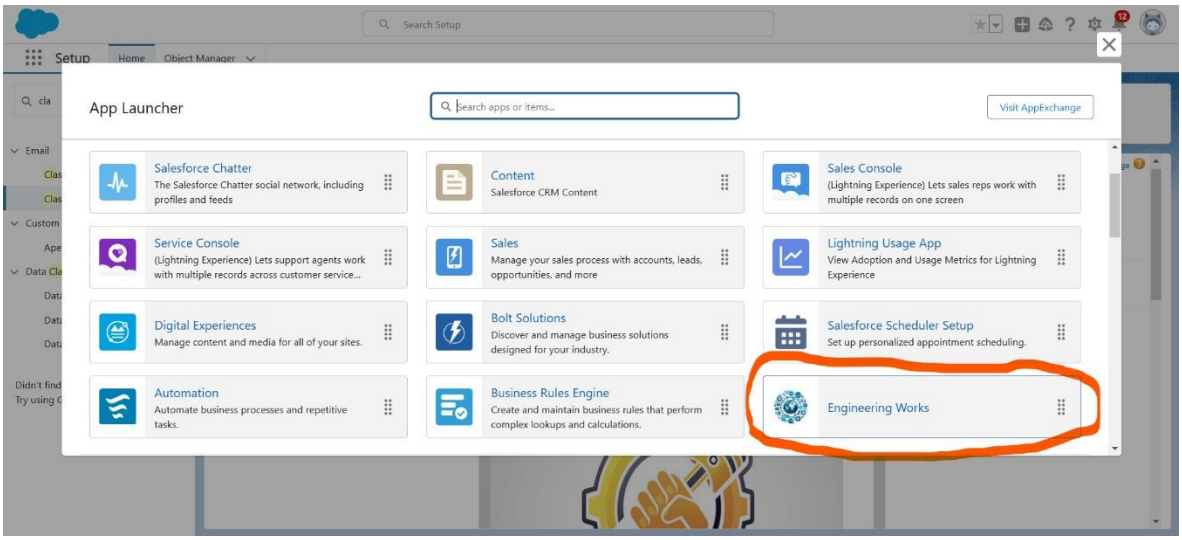
- Streamlined project tracking
- Automated task assignments
- Efficient client communication

Feedback

Initial feedback from stakeholders indicates satisfaction with the system's functionality and ease of use.

Future Scope

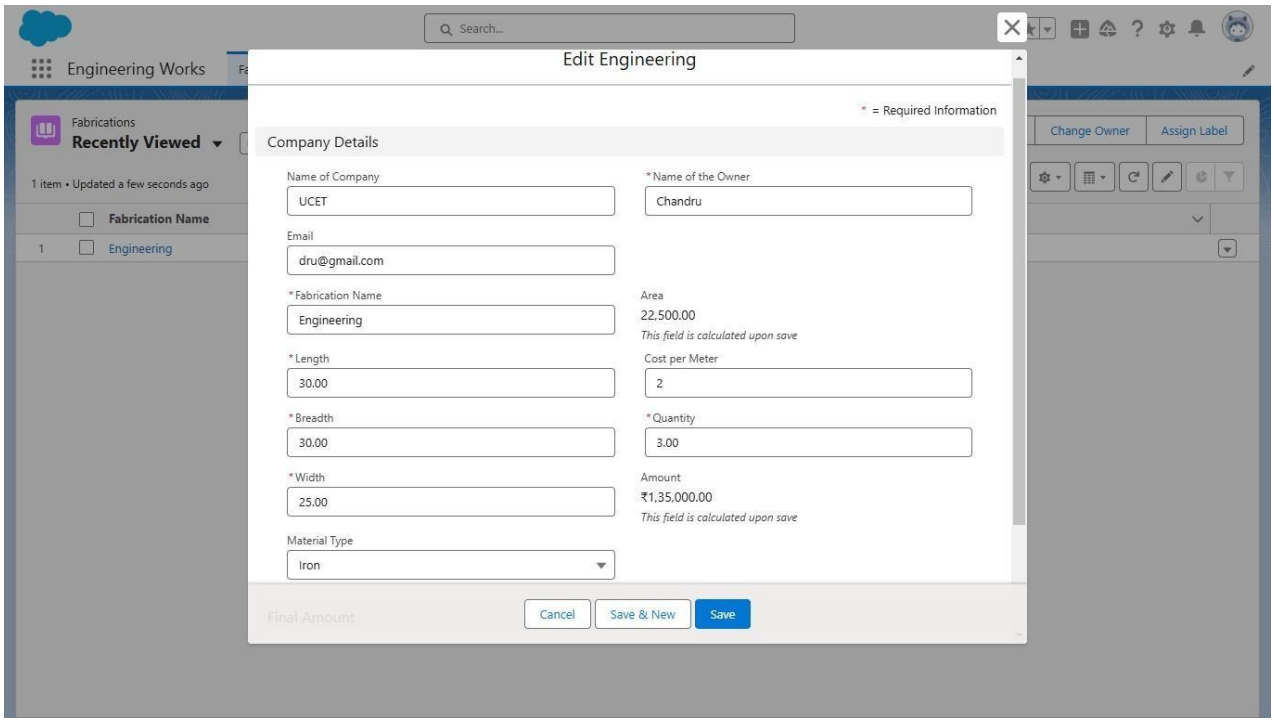
- Integration of advanced analytics for predictive project outcomes
- Addition of AI-powered tools for resource optimization
- Integration with third-party tools for real-time collaboration **Figure 10**



5. Testing and Validation

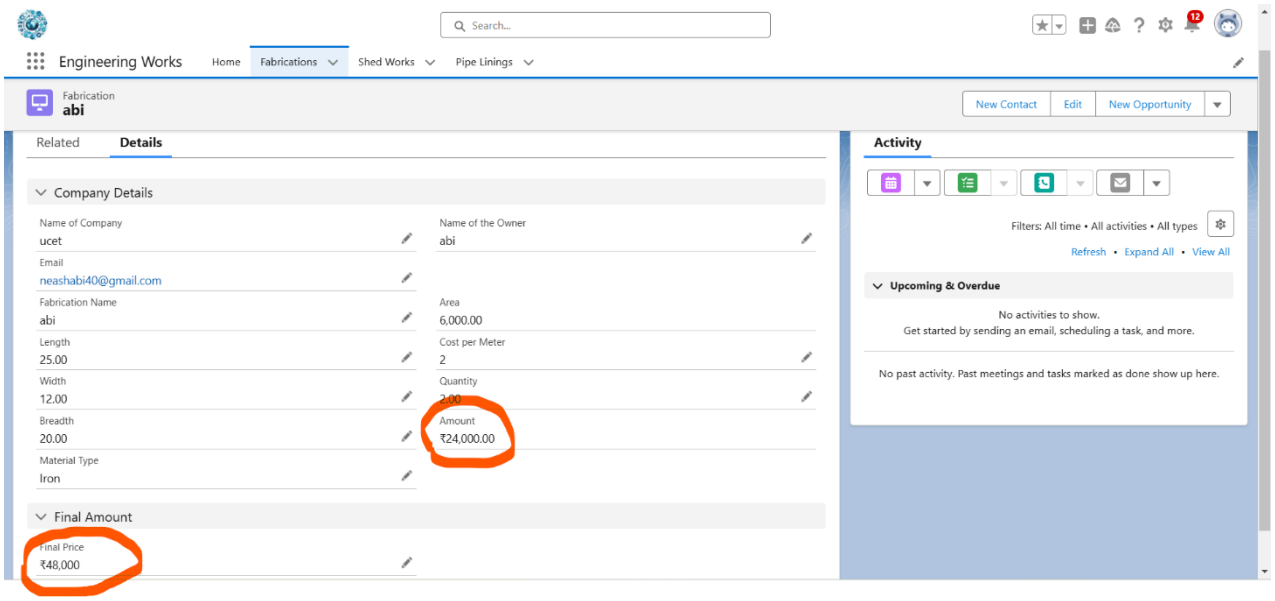
- **Unit Testing**: Validated each module of the CRM application for engineering workflows independently.
- **System Testing:** Ensured all Salesforce features, including custom objects, workflows, and integrations, functioned cohesively.

Figure 11



- **User Acceptance Testing (UAT):** Conducted with stakeholders to confirm that the CRM solution met business requirements.
- **Load Testing**: Tested system performance under different loads to ensure stability during peak usage times.

Figure 12



6. Key Scenarios Addressed by Salesforce in this Implementation Process

- **Lead Management**: Automated lead assignment to sales engineers, ensuring prompt follow-ups and reducing the chances of losing potential clients.
- **Project Lifecycle Tracking**: Allowed teams to track the status of each engineering project, from design and approval to implementation and delivery.
- **Client Communication and Documentation**: Centralized client communications and engineering documents within Salesforce for easy access and retrieval.
- **Forecasting and Budget Management:** Provided accurate forecasting of project costs and timelines to help engineers and managers make informed decisions.
- **Customer Feedback and Follow-Up**: Enabled tracking of customer satisfaction and automated reminders for post-project feedback collection.

7. Conclusion

The CRM application for engineering works successfully streamlined client relationship management, project tracking, and communication processes within engineering teams. By utilizing Salesforce's extensive CRM capabilities, the application provided a unified platform that improved efficiency, boosted client satisfaction, and enabled more informed decisionmaking across engineering projects. This implementation highlights Salesforce's adaptability in addressingthe unique needs of engineering workflows, offering an agile, data-driven solution for customer management and project oversight.