

Project Title: CRM Application for Laptop Rentals

1. Project Overview

Description:

This project focuses on developing a **Customer Relationship Management (CRM) application for Laptop Rentals**, designed to streamline and enhance the rental process by efficiently managing laptop bookings, tracking customer interactions, and automating essential processes such as notifications and data management. By leveraging Salesforce's cloud-based capabilities, the project provides a seamless user experience, improves operational efficiency, and supports business scalability. The primary challenge addressed by this project is the manual handling of customer data, which can lead to inaccuracies, inefficiencies, and delays in service. The goal is to automate and optimize customer interactions and record management, ensuring a smooth experience for both the business and the customers.

Goals:

- **Operational Efficiency:** Improve the efficiency of booking processes to reduce wait times and errors.
- **User Experience:** Create an intuitive interface that enhances the customer journey.
- **Data Accuracy:** Ensure that all booking data is recorded accurately for future analysis and reporting.

Benefits:

By implementing this CRM application, the organization can expect:

- Increased customer satisfaction through timely communication.
- Enhanced reporting capabilities to track rental trends.
- Better data management and accessibility across departments.

2. Objectives

Business Goals:

- **Reduce Booking Time:** Decrease the average time taken to complete a laptop rental booking by 30%.
- **Increase Customer Retention:** Enhance customer engagement through automated follow-ups and satisfaction surveys.

Specific Outcomes:

- **User-Friendly Interface:** Develop a booking interface that is easy to navigate.
- **Automated Notifications:** Implement a system for sending automated emails for booking confirmations and reminders.
- **Comprehensive Reporting:** Enable report generation to analyze bookings by type, customer demographics, and revenue trends.

3. Salesforce Key Features and Concepts Utilized

This Salesforce CRM project incorporates a variety of essential features:

- **Object Creation:** Custom objects like **Laptop_Bookings__c** to track rentals.
- **Tabs:** Custom tabs for easy access to different modules like "Laptop Bookings."
- **Lightning App:** Custom lightning app for an enhanced UI/UX for rental management.
- **Fields:** Custom fields for tracking key attributes like customer name, laptop type, core specifications, etc.
- **Validation Rules:** Ensure data integrity (e.g., ensuring correct data entry for laptop types or booking amounts).
- **Profiles, Roles, and Hierarchy:** Role-based access control ensuring users have the appropriate permissions.
- **Users:** Defined roles for admin, rental manager, and customer service representatives.
- **Flows:** Used for automating business processes, such as customer notifications and handling approval processes.
- **Apex Programming:** Apex triggers and classes for custom automation and advanced business logic.
- **Reports:** Generated reports on daily rentals, laptop types, and customer details.

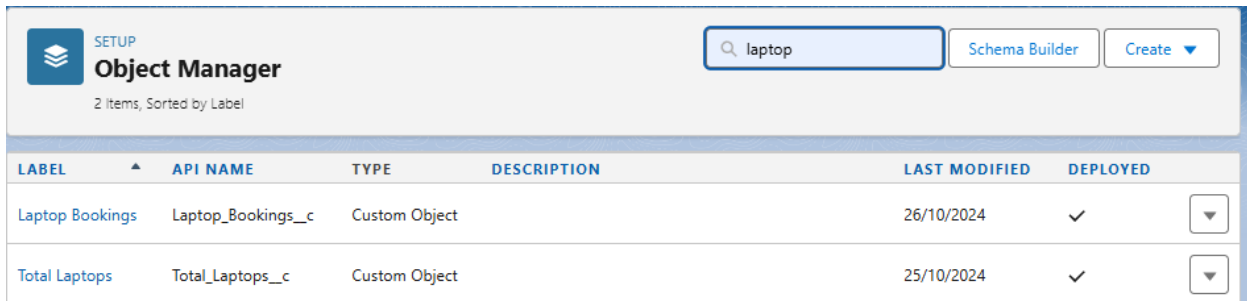
- **Dashboards:** Visual dashboards to monitor overall performance and critical metrics.

4. Detailed Steps to Solution Design

The following steps illustrate the approach taken to design the Salesforce CRM application for laptop rentals.

Step 1: Object Design and Data Models

- Created a custom object **Laptop_Bookings__c** to capture all relevant information related to laptop rentals.
- Defined relationships with standard objects like **Account** and **Contact** to maintain customer data.
- Email__c: Email address of the customer.
- Amount__c: Rental amount.
- Core__c: Type of processor in the laptop.
- Laptop_Type__c: Specific laptop model rented.



The screenshot shows the Salesforce Object Manager interface. At the top, there is a search bar with the text "laptop" and buttons for "Schema Builder" and "Create". Below the search bar, the text "2 Items, Sorted by Label" is displayed. The main table lists two custom objects:

LABEL	API NAME	TYPE	DESCRIPTION	LAST MODIFIED	DEPLOYED	
Laptop Bookings	Laptop_Bookings__c	Custom Object		26/10/2024	✓	▼
Total Laptops	Total_Laptops__c	Custom Object		25/10/2024	✓	▼

Step 2: User Interface (UI) Design

- Developed a custom Lightning app that serves as a central hub for managing laptop rentals.
- Tabs were created for easy navigation between different sections like Laptop Bookings, Reports, and Dashboards.

Lightning App Builder

App Settings

Pages

LAPTOP RENTALS

Help

App Settings

App Details & Branding

App Options

Utility Items (Desktop Only)

Navigation Items

User Profiles

App Details & Branding

Give your Lightning app a name and description. Upload an image and choose the highlight color for its navigation bar.

App Details

* App Name ⓘ

LAPTOP RENTALS

* Developer Name ⓘ

LAPTOP_RENTALS

Description ⓘ

Enter a description...

App Branding

Image ⓘ

Primary Color Hex Value ⓘ

#0070D2

Clear

Org Theme Options

☐ Use the app's image and color instead of the org's custom theme

App Launcher Preview

Step 3: Validation Rules

- Implemented validation rules to ensure data accuracy, such as preventing incorrect booking amounts or invalid laptop types.

SETUP > OBJECT MANAGER

consumer

Details

Fields & Relationships

Page Layouts

Lightning Record Pages

Buttons, Links, and Actions

Compact Layouts

Field Sets

Object Limits

consumer Validation Rule

Back to consumer

Validation Rule Detail

Edit

Clone

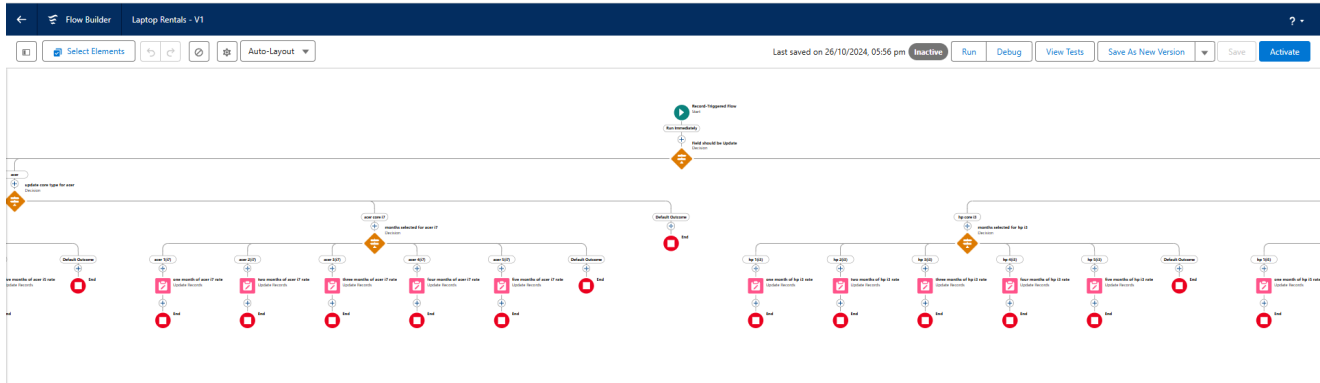
Rule Name	Phonenumberoremailblankrule	Active	✓
Error Condition Formula	OR(ISBLANK(Phone_number__c) , ISBLANK(Email__c))		
Error Message	Please fill the phone number and email id	Error Location	Top of Page
Description	phone number and email number should not be blank		
Created By	Gudimetla Sri Lakshmi Satya Navya, 26/10/2024, 12:49 am	Modified By	Gudimetla Sri Lakshmi Satya Navya, 26/10/2024, 12:49 am

Edit

Clone

Step 4: Flows

Implemented for automating various business processes related to bookings.



Step 4: Apex Programming for automation

- Developed Apex classes and triggers to automate business processes.
For example, the **LaptopBookingHandler** class sends automated email notifications when a booking is confirmed.
- Triggers:** Implement a trigger (`LaptopBooking`) to send notifications after a booking is created or updated.
- Handler Classes:** Define the `LaptopBookingHandler` class to manage email notifications.

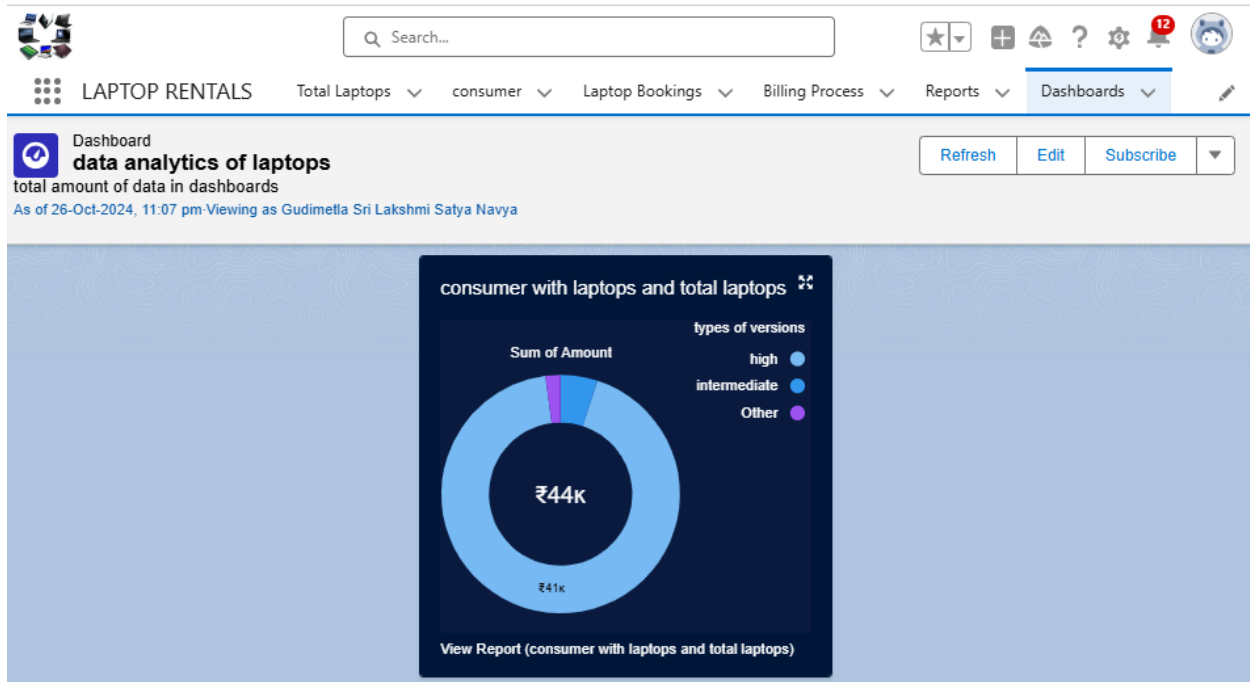
```

LaptopBooking.appt | LaptopBookingHandler.apxc
Code Coverage: None | API Version: 62
1 public class LaptopBookingHandler {
2
3     public static void sendEmailNotification(List<Laptop_Bookings__c> lapList){
4
5         for(Laptop_Bookings__c lap:lapList)
6
7         {
8
9             Messaging.SingleEmailMessage email = new Messaging.SingleEmailMessage();
10
11             email.setToAddresses( new List<String>{lap.Email__c});
12
13             email.setSubject('Welcome to our company');
14
15             string body = 'Dear ' +lap.Name +', \n';
16
17             body += 'Welcome to Laptop Rentals! You have been seen as a valuable customer to us.\n Please continue your journey with us, while we
18
19             email.setPlainTextBody(body);

```

Step 5: Reports and Dashboards

- Created a report type “Consumers with Laptop Bookings” to provide detailed insights into rental patterns and customer preferences.
- Dashboards were built to visualize key business metrics, like the total number of laptops rented and the most popular laptop types.



5. Testing and Validation

To ensure the application performs as expected, various testing approaches were applied:

- **Unit Testing:** All Apex classes and triggers were tested with unit tests, achieving at least 75% code coverage.
- **User Interface Testing:** UI elements such as the flow of booking laptops, navigation between tabs, and form validations were tested manually and via test scripts.

6. Key Scenarios Addressed by Salesforce in the Implementation Project

This project addresses the following key business scenarios:

- **Automated Customer Notifications:** Sending automatic confirmation emails whenever a laptop booking is created or updated.
- **Data Integrity and Validation:** Ensuring correct data is entered through validation rules (e.g., valid laptop models).
- **Role-Based Access:** Different levels of access for managers, customer service reps, and other users, ensuring data security and privacy.
- **Reporting and Analysis:** Providing detailed insights into customer behavior and laptop

rental trends using customized reports.

- **Real-time Dashboards:** Business managers can easily visualize rental performance and inventory metrics through intuitive dashboards.

7. Conclusion

Summary of Achievements:

This Salesforce CRM application for laptop rentals has achieved the following:

- Streamlined the laptop booking process, providing customers with an easy and efficient way to rent laptops.
- Automated critical business processes like sending email notifications and handling customer data.
- Provided business insights with custom reports and dashboards, enabling data-driven decision-making.
- Ensured data integrity and security through validation rules, profiles, and roles.

The solution significantly improves operational efficiency, enhances user experience, and equips the business with the tools it needs to manage laptop rentals effectively.

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