Pyramid Real Estate Management using Salesforce

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Abstract: *PYRAMID Real Estate is a ultramodern real estate company. The organisation began with three full- time agents(Arnold, Betty, and Charlie), but has since grown to include dozens of full- time agents in multiple indigenous locales. The commission gained on the purchase and trade of parcels is paid to the agents who work for ABC. Tracking the quantum of commission each agent earns has been an entirely homemade procedure that has taken a long time. As the company grows, it becomes more delicate. pall computing is the furnishing of on- demand computing services through the internet and on a pay- as- you- go base, ranging from apps to storehouse and processing power. In this composition the Salesforce grounded CRM is developed for real estate establishment.*

Keywords: Cloud Computing, Salesforce, real estate, pall services, CRM, Internet**.**

I. INTRODUCTION

Cloud computing is on- demand access to calculating coffers — operations, waiters(physical and virtual), data storehouse, development tools, networking capabilities, and more — hosted at a remote data center controlled by a pall services provider and accessible via the internet(or CSP). The CSP charges a yearly subscription figure for these coffers or bills them grounded on operation. client relationship operation(CRM) is a tool for managing all of your company's client and implicit client connections and relations. The ideal is straightforward to ameliorate marketable connections. A client relationship operation system(CRM) aids business in staying in touch with guests, streamlining procedures, and adding profits.When people talk about CRM, they generally mean a CRM system, which is a tool that aids in contact operation, deals operation, productivity, and other tasks. A CRM result allows you to concentrate on your company's connections with individual people — similar as guests, service druggies, associates, or suppliers — throughout the relationship's lifecycle, which includes chancing new guests, winning their business, and furnishing support and fresh services**.**

II. OVERVIEW

In the Salesforce organization given, the data model has been established. We should not need to change the data model, lookup relationships, or master-detail connections between items, and should consider the data model to be a design constraint.
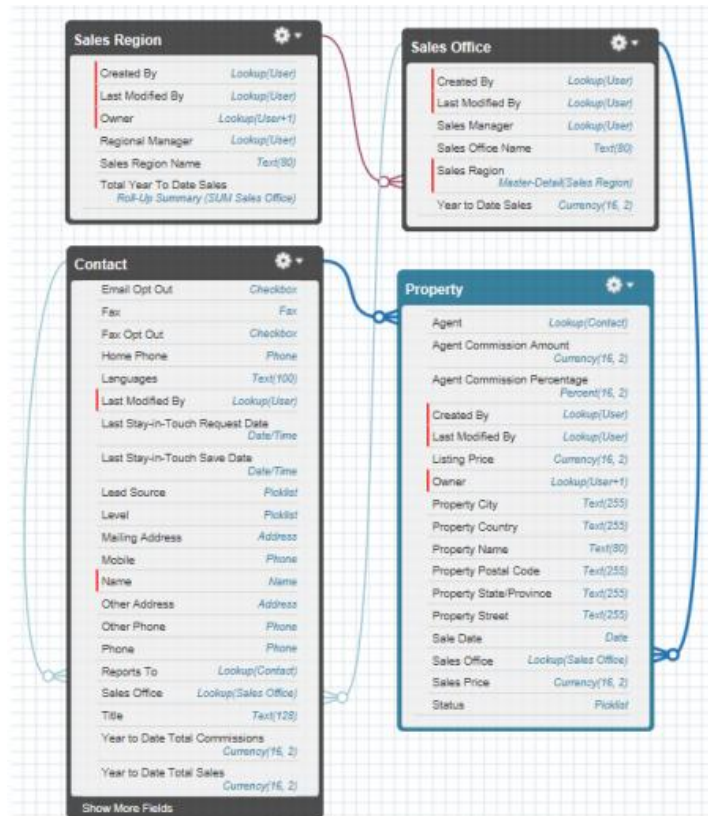
II. PROPOSED ARCHITECTURE

Figure 3.1: Detailed ER Diagram

The Entity Relationship Diagram (ERD) (Figure 3.1) for the application in development is shown below. The ERD represents all of the objects that play a key part in the application requirements and are required to comprehend them.

IV. PROPOSED WORK

4.1 Data Requirements

User:

All Agents are currently Salesforce users. ABC will develop a Salesforce Community in the future. Agents will be migrated away from being full Salesforce Users once this happens. An Agent will have a Contact record as well as a User record for this project. All DML should be done on the Contact record of the Agent.

Contact: Public Read/Write Sharing Model

The Real Estate Agents who work for ABC are represented by Contacts. Multiple Record Types will be added in the future, as well as a Salesforce Community Cloud. However, this is not part of the current project's scope.

Key Fields:

- Agent User: Salesforce User record for this agent. Lookup field (User).
- Account: The Salesforce account (e.g., "ABC Real Estate") to which the Contact is associated
- Sales Office: Sales Office where this agent works. Lookup field (Sales Office).
- Year to Date Total Commissions: The total amount of commissions earned by this Agent during the current year. Currency field
- Year to Date Total Sales: The total amount of sales closed by the Agent during the current year. Currency field

- Default Commission Split: The default commission percentage earned by the Agent each time a Property is closed. Default value is 40%. Percentage field.

Properties

The term "property" refers to the actual real estate being bought and sold. Each property is allocated to an agent and a sales office that keeps track of it. Only commissions made on property sales will be the focus of this initiative. The complexities of sharing commissions when buying houses will be addressed in a future effort.

Key Field

- Agent: Agent who handles this Property. Lookup field (Contact).
- Agent Commission Amount: Holds the amount of commission to be paid to the agent. NOTE: This cannot be a formula, since the flat commission rate (currently 3%) can change, and would therefore affect previously closed Properties. Currency field.
- Agent Commission Percentage: The percentage of the total commission received by the agent. When an agent first claims a property, this should equal the percentage in the Default Commission Split on the agent's Contact record. Percentage field
- Sale Date: The date the property was closed. Date field
- Sales Price: The actual sales price of the property. Currency field
- Sales Office: Sales Office that handles this Property. Lookup field (Sales_Office__c).
- Status: The status of the Property. Picklist field.

Sales Office (Sales_Office__c): Controlled by Parent

Key Fields:

- Year to Date Sales: The total amount of sales by agents assigned to this sales office during the current year.
- Currency field. Sales Region: Sales Region to which this office is assigned. The sales office is a child record in a Master/Detail relationship to Sales Region. Master/Detail field (Sales_Region__c).

Sales Region (Sales_Region__c): Public Read/Write Sharing Model

These are organizational units run by a Regional Manager. Each region will have one or more local Sales Offices.

Key Fields:

- Regional Manager: Salesforce User who runs an office. Lookup field (User)

Access and Permissions Overview:

This section of the document outlines the application's access and permissions for our reference. Where relevant, the Salesforce organization's organization-wide defaults (OWD), role hierarchy, and field-level security settings have previously been adjusted to enable the application's visibility requirements. For this application, we should not need to change their OWD, role hierarchy, or field-level security.

The application caters to two distinct user groups:

- Agents: They are Real Estate Agents who assist clients in the purchase and sale of real estate. A percentage of the commission collected on properties is paid to them. The sales office keeps the remainder of the commission.
- Sales Managers: Employees of ABC who supervise a sales territory are known as sales managers. They go over all of the closed properties and approve the commission split in the end.

Profile:

In the Salesforce organization given, profiles have been configured with the required visibility and CRUD (create, read, update, delete) settings.

Wes should not need to make any changes to their profiles unless they need to add or remove Visual force Page and/or Apex Class access.

Logic Requirements:

This section of the document details the automation that we are required to implement programmatically.

Claiming and Closing Properties

Any new, unassigned property listed with a sales office may be claimed by an agent. However, an agent can have only 5 open properties at any time (defined as Property__c.Status__c = "Working" saved in the database).

When a property is claimed Property__c, Agent_Commission_Percentage__c should be updated with the default amount from the agent's Contact record (Contact. Default_Commission_Split__c).

When Property__c, Status__c is set to "Closed Pending Approval" Property__c.

Sales_Price__c should be added to Contact. Year_To_Date_Total_Sales__c for the Agent's Contact record. Property__c, Sales_Price__c should also be added to Sales_Office__c, Year_To_Date_Sales__c of the property's sales office.

To determine whether a property should be included in the current year totals ABC uses Property__c, Sale_Date__c. Ideally, roll-up summary fields would be used to calculate totals. However, Properties are often created without an Agent or Sales Office assigned, so therefore cannot exist in a Master/Detail relationship.

DO NOT change any fields to Master/Detail.

Approving Commissions

After an agent has sold the property and marked Property__c, Status__c as "Closed Pending Approval," a sales manager must review the property, optionally increase the commission percentage, and approve the commission split for the agent. A property is considered approved when Property__c, Status__c is changed to "Closed Approved." When approved, Property__c, Agent_Commission_Amount__c should be computed.

Then Property__c, Agent_Commission_Amount__c should then be added to Contact.

Year_to_Date_Total_Commissions__c on the agent's Contact record.

NOTE: PYRAMID currently charges their clients a flat 3% agency commission for all properties sold, but this percentage may change in the future. The amount of commission earned by an agent would be the product of multiplying Property__c. Sales_Price__c by the agency commission rate (3%), and then multiplying that by Property__c, Agent_Commission_Percentage__c.

Example:

- Sales Price: $100,000
- Agency Commission: 3%
- Agent Commission Split: 40%
- This would yield $1,200 in commission for the Agent (100000 * .03 * .40).

When to Update

Automated update logic requirements must handle all data changes made by PYRAMID Employees using the Claim Properties and Approve Commission screens.

In addition, there are times when a property must be updated outside of these screens due to travel schedules of sales managers and agents. When these happen, an PYRAMID System administrator must be able to make bulk changes via a data loading tool. Updates can include closing properties for agents, overriding commission splits, and approving properties. Occasionally, an administrator will need to delete and undelete properties. We are expected to handle these cases in their automated update logic.

In all cases, automated update logic must occur in real time. If any errors occur while performing automated update logic, then we are expected to handle them so that data integrity is preserved.

Claiming and Closing Properties

ABC would like Agents to have the ability to quickly claim multiple Properties. They need a screen that will allow them access to all open properties for their assigned sales office. They should be able to select multiple properties at a time and

mark those selected as being "claimed." They should also be able to cancel out of the page. To prevent hoarding of properties, agents are not allowed to have more than 5 properties with a status of "Working" at any time.

Due to the competitive nature of the agency, it is possible for another agent to claim a property while the current agent is working. If a property was claimed by another agent between the time the page was rendered and the selected properties claimed, the property should not be saved. An error message should be displayed if a property was claimed by someone else.

Approving Commissions

ABC would like Sales Managers to have the ability to quickly approve multiple commissions. Sales managers need a screen that will allow them access to all open properties for their assigned sales region. They should be able to select multiple properties at a time, and mark all selected as being "approved."

Sales managers should be able to increase the commission split for selected properties from this screen (the commission may be increased as a performance incentive, to reward agents for repeat customers). Managers should also be able to cancel out of the page. Agents should not be allowed to approve commissions via this screen.
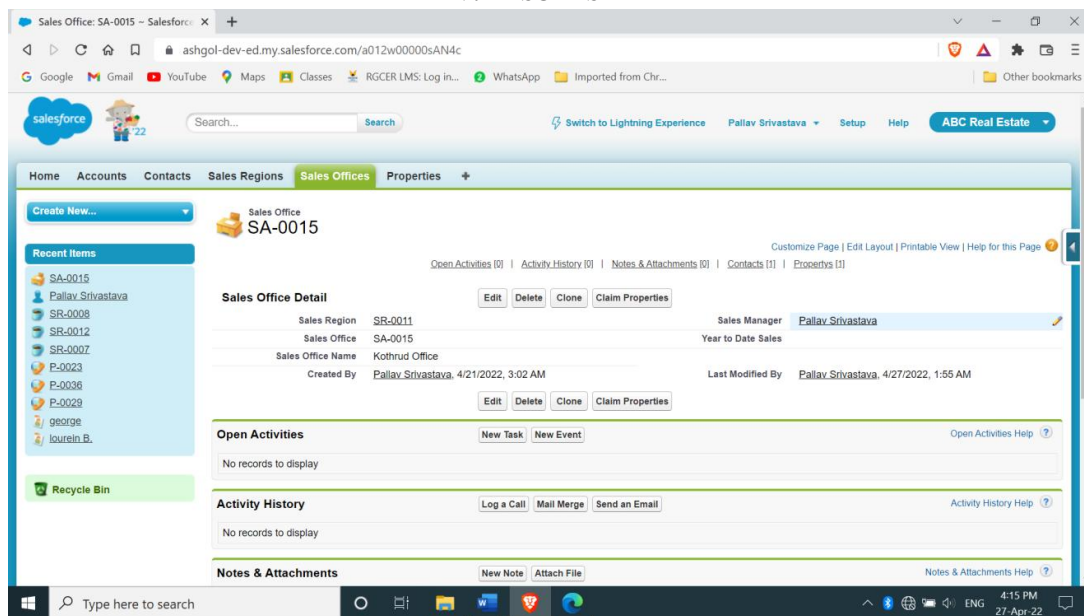
V. RESULTS

Figure 4.1

As shown in Figure 4.1, the we must create a custom button on the Sales Office Page called "Claim Properties." This will launch the custom User Interface to claim properties by the agent.
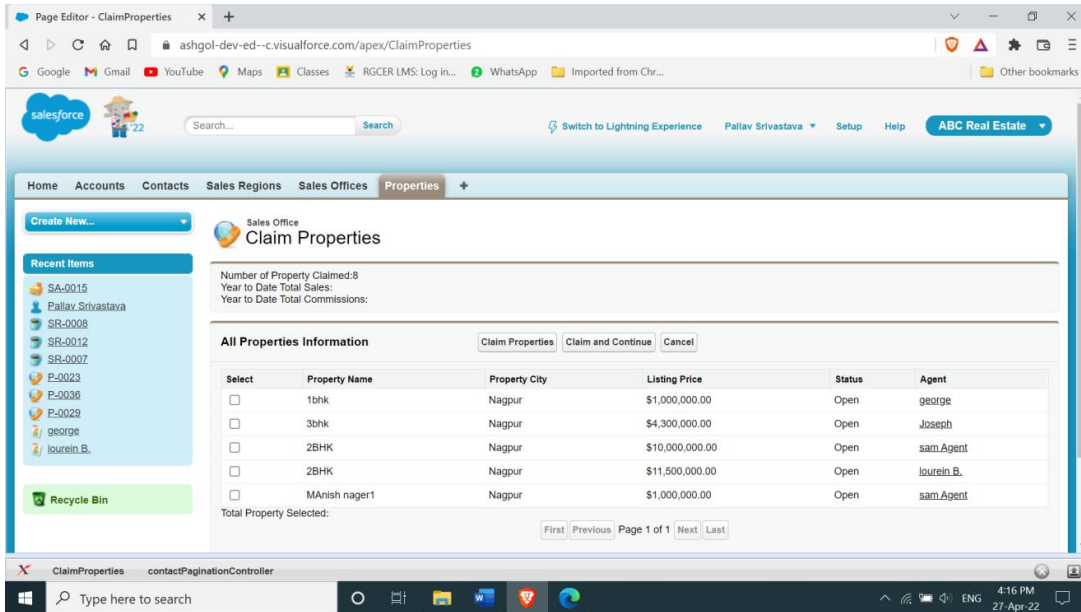
Figure 4.2

As shown in Figure 4.2, when the page first loads, all Open properties should be displayed for the agent's sales office.

1. The name of the Sales Office should be displayed.
2. Only properties with a status of "Open" that are assigned to the agent's sales office and NOT claimed by an agent should be displayed.
3. Properties are sorted by Property Street.
4. The Properties should appear 5 rows at a time, and should display the current page number, the total number of pages, and provide links to the first, last, next, and previous pages. Pagination buttons/links should only appear if relevant (ex: "First" and "Previous" links should be omitted or disabled from the first page of results).
5. Contact, Year_to_Date_Total_Sales__c and Contact.
6. Year_to_Date_Total_Commissions__c should be displayed.

Figure 4.3

As shown in Figure 4.3, an agent can claim multiple properties at a time.

1. The agent should be able to select records on multiple pages, and have all records across all pages saved at one time when either the "Claim Properties" or "Claim and Continue" buttons are clicked. No changes should be committed when paginating.
2. Only selected rows will be saved.
3. The numbers for Properties Claimed, Contact, Year_to_Date_Total_Sales__c, and Contact. Year_to_Date_Total_Commissions__c should always reflect the most current data saved in the database.
4. As the agent selects properties, a counter should display the number of properties currently selected across all pages.
5. Any time a property is claimed by clicking the "Claim Properties" or "Claim and Continue" buttons:
   a. Property__c, Status__c should be updated to "Working."
   b. Property__c, Agent__c field should be updated with the current user's Agent (Contact) record.
   c. Property__c, Agent_Commission_Percentage__c should be updated with the default percentage from the agent's Contact record.
   d. The numbers for Contact. Year_to_Date_Total_Sales__c and Contact. Year_to_Date_Total_Commissions__c should be computed.
   e. The numbers for Sales_Office__c. Year_to_Date_Sales__c should be computed.
6. If the agent clicks "Claim Properties," the screen should return to the Sales Office.
7. If the agent clicks "Claim and Continue," the screen should remain on the Claim Property screen and the most current numbers should be displayed for Number of Properties Claimed, My Year-to-Date Sales, and My Year-to-Date Commissions.
8. Clicking the "Cancel" button will return to the Sales Office page, and will not commit changes to the database.
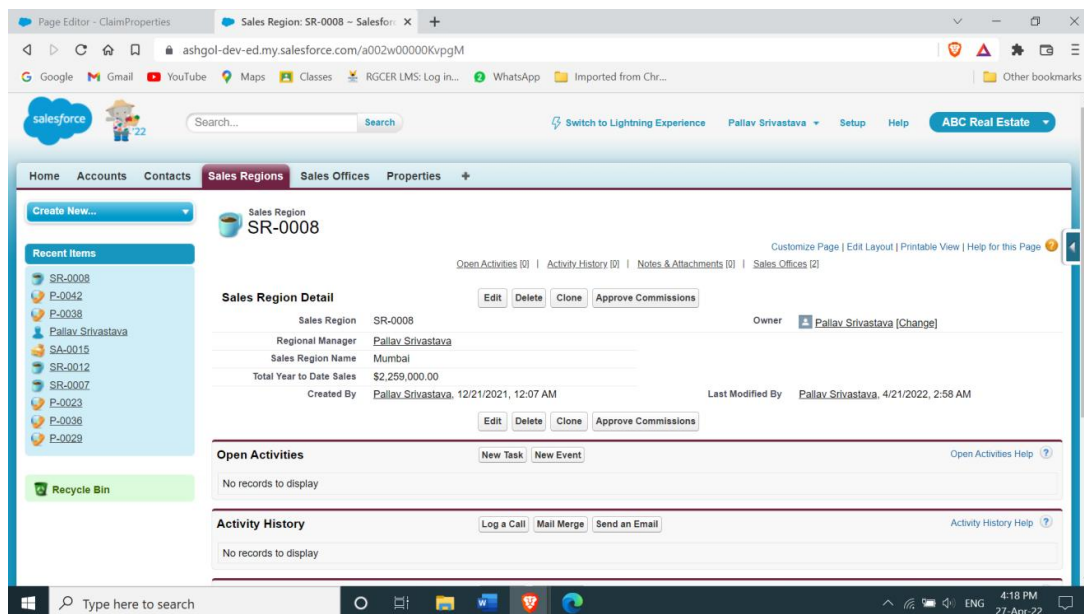

Figure 4.4

As shown in Figure 4.4, the we must create a custom button on the Sales Region Page called "Approve Commissions." This will launch the custom User Interface to approve the commission amount and override the default commission. A Sales Manager should only be able to view properties for his or her region.
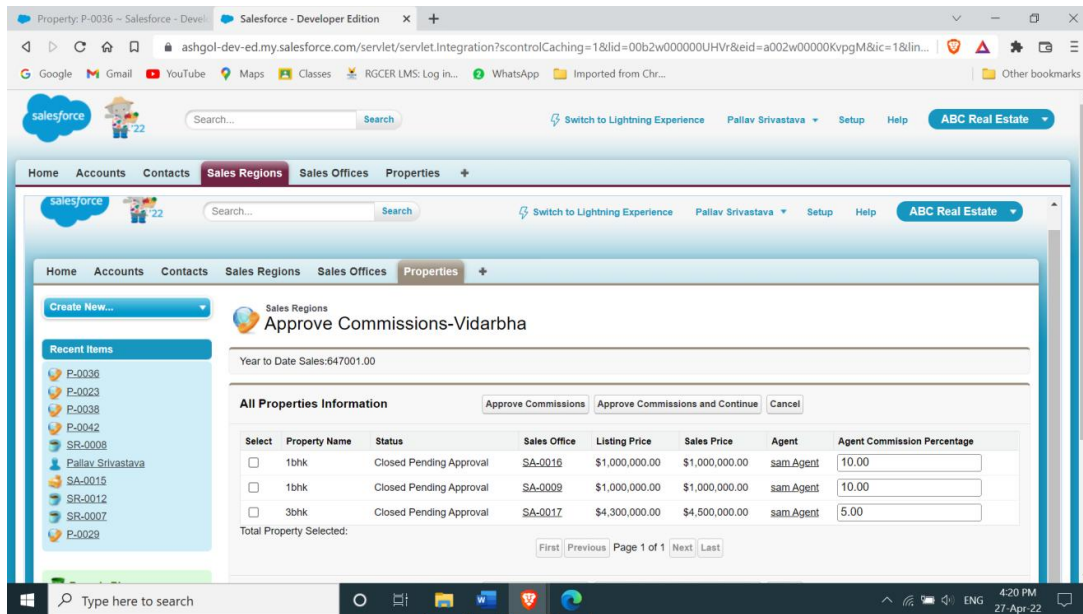
Figure 4.5

As show in Figure 4.5, when the page first loads, all properties that are "Closed Pending Approval" for the sales region are displayed.

1. The name of the Sales Region should be displayed.
2. Only properties with a status of "Closed Pending Approval" and in the currently selected sales region should be displayed.
3. Properties are sorted by Property__c, Sales_Office__c and then by Property__c. Agent__c.
4. The Agent Commission Percentage is populated with the value from the Property record.
5. The properties should appear 5 rows at a time, and should display the current page number, the total number of pages, and provide links to the first, last, next, and previous pages. Pagination buttons/links should only appear if relevant (ex: "First" and "Previous" links should be omitted or disabled from the first page of results).
6. The numbers for Sales_Office__c, Year_to_Date_Sales__c should be displayed and should always reflect the most current data saved in the database.
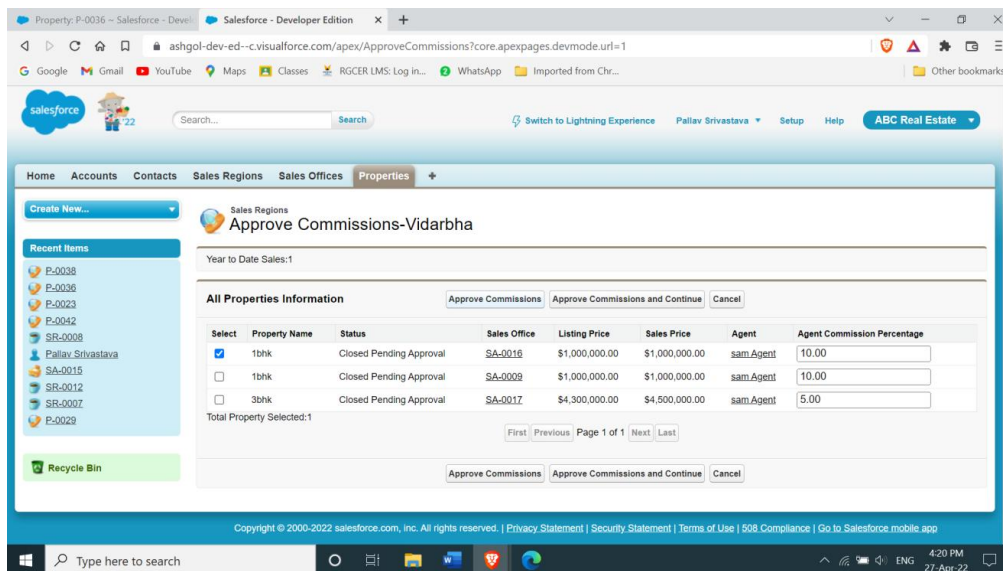

Figure 4.6

As shown in Figure 4.6, a sales manager may select individual rows to approve.

1. The manager should be able to select records on multiple pages, and have all records across all pages saved at one time when either the "Approve Commissions" or "Approve Commissions and Continue" buttons are clicked. No changes should be committed when paginating.
2. For any selected row, the sales manager may override the default Agent Commission Percentage.
3. Only selected rows will be saved.
4. The manager may check the "Select All" checkbox to select every row on the current page.
5. When the manager clicks "Approve Commissions" or "Approve Commissions and Continue," for each selected property:
   a. Property__c, Status__c will be updated to "Closed Approved."
   b. Property__c, Agent_Commission_Percentage__c will be saved. If the manager overrides this field, the new value will be saved.
   c. Property__c, Agent_Commission_Amount__c will be calculated on the property.
   d. Contact, Year_to_Date_Total_Commissions__c will be computed on the agent's Contact record.
6. If the manager clicks "Approve Commissions," the screen should return to the Sales Region.
7. If the manager clicks "Approve Commissions and Continue," the screen should remain on the Approve Commissions screen and the most current numbers should be displayed for Total Year to Date Sales. The previously approved properties should not appear on the page.
8. If an error prevents a successful save, including current validation rules, future validation rules, and unexpected Apex exceptions, all changes should be rolled back.
9. Clicking the "Cancel" button will return to the Sales Region page, and will not commit changes to the database.

V. CONCLUSION

It has been observed that the Salesforce CRM is the most beneficial tool these days. Cloud computing is the backbone of today's computing. It needs to develop good customer relationships for more profit in the real estate business.

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