

Developing Real Time Predictive Techniques for Real Estate Web Application

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ABSTRACT: This paper identifies problems in real estate development, property buying and selling. Identifying customers' needs and based on the requirement web application is developed. Features in the web application is made user friendly for the buyer or seller of the property. This web application is developed using open source J2EE technologies. This has helped the property developer to meet the market requirements and contribute to countries economy. The developed real estate web application is studied and predictive analytics techniques are explored for the collected data.

KEYWORDS: J2EE application, real estate web application, predictive analytics.

I. INTRODUCTION

Residential and commercial real estate professionals face unique challenges when it comes to choosing a customer relationship management (CRM) system software that manages clients, showings, open houses, closings and other activities in the property buying and selling process. Depending on the kind of properties sold or the business size, buyers might require everything from sales and marketing automation to property listing management features. In this proposal we created the requirement guide which helps buyers to find the best real estate CRM for their needs. Some of Real estate business web applications - Magicbrick.com and 99acers.com have been studied as case study and problem identification is done.

Problem Identification:

Though several technical solution real estate developers exists, which is the effective CRM for successful business. What all the CRM software should contain to make it a successful software solution for real estate business.

II. LITERATURE SURVEY

Traditionally, various strategies that marketing agents can select to convey their services include personal selling, sales promotions, public relations, and word of mouth among others. However, the tools and strategies for communication with customers have changed significantly with the emergence of the phenomenon known as social media, also referred to as customer-generated media Marketers had depended on broadcast or print media and press releases and these have been found expensive and assure minimal success. At present, there is paradigm shift from this traditional approach to the use of internet and the World Wide Web which provides tremendous opportunity to marketers in reaching buyers directly with targeted information within a fraction of their initial budget on advertising costs (Scott, 2013). Neti (2011) opined that no business or individual can escape the use of social media these days, as the platform has become inseparable from the online world.

The survey indicated that virtually all home buyers use internet in the home buying process. Although home search through agent increased in 2013, the percentage of home searchers via online platforms also doubled from the initial 16 percent in 2012 to 37 percent in 2013 and social media use in the home buying process continued to increase with three-quarters of buyers now using it and 91 percent being receptive to receiving information 65 Assessment of Use of

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Social Media in Real Estate Transactions in Lagos Property Market about the process through it. The real estate industry with its diverse activities has also been seen participating in this new trend; but with diverse responses from practitioners. In Nigeria, the adoption of information technology for real estate transactions began with property website where property information was published; however challenges such as failure of the sites to effectively meet the customer's need, unfulfilled promises on services, links to pages that are non-functional or nonexistent, has discredited this medium before their clients. Myriad social networks are readily available online and are being explored when renting or buying apartments.

CRM can support more than the sales function. Business relationships are managed throughout the organization across functional departments. Look to implement a system that can support and manage all business relationships. Some organizations have shied away from CRM because the high number of initiatives that have ended up in the project graveyard. Simply put, these projects were not well executed and did not consider key success criteria, which contributed to their failure. Also, given the host of technology challenges in this ever changing environment, CRM projects do not get top priority and sponsorship from senior executives. There remains confusion about what CRM systems can do and what they can't do. When you need to manage contacts, relationships and touch points with your customers, no other system is specifically designed to do this and CRM is the answer. CRM projects should identify and quantify the value proposition and success criteria in the implementation of a system to support the sales effort. The convergence of access to information, cloud computing, younger sales forces, mobility and social media are creating new paradigms and "pulling" organizations to reconsider how they manage their business relationships.

III. RELATED WORK

Real Estate is a field that has widely expanded and has provided a huge ground for scope to many users for finding desirable properties and for entrepreneurs. The users need appropriate properties and the entrepreneurs who contain this information help the users for correct selection of properties. With the immense amount of profitability this concept holds for both the sides of the parties involved, the idea has caught fire. Initially, the overall real estate process was manual. But due to increasing facilities of Internet and due to the popularity of the concept, many web sites have come up which provide real-estate information to the users. These web sites guide the user through various properties and help the user to find the needed and available estates as per his/her requirements.

Example of traditional web sites

1. www.99acres.com
2. www.makaan.com
3. www.indiaproperties.com
4. www.realestateindia.com
5. www.realestateonline.in

These websites provide features like search property, add property and gives different offer which will be beneficial to user. But even with these features there are certain required aspects which make these sites limited. They are:

1. No search gives correct information about basic services available from chosen location like displaying the distance of nearest bus stop, railway station, hospital etc.
2. No flexibility in information retrieval for e.g. listing houses that is within the 2Km radius of a location.

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IV. PROPOSED TECHNICAL SOLUTIONS

Developing CRM application for real estate developers and understanding effective predictive techniques for successful business. Here's what we'll cover

What Is Real Estate CRM
Software? Market Trends to
Understand Benefits of Real Estate
CRM Pricing: Web based vs. On
Premise

What Is Real Estate CRM Software?

At its core, CRM software for the real estate industry manages client data, tracks interactions and automates workflows. This increases efficiency and organization and enables buying and selling agents to close more deals, faster. Here's a scenario of how CRM can help a selling agent. Let's say a homebuyer fills out an online form requesting to see a property listed on your website. With a real estate CRM system, this lead might show up in the user dashboard for the corresponding agent, then automatically convert the form data into a contact profile for that buyer. A manager might at the same time be automatically alerted that an agent opened a new lead.



Figure 1: Microsoft CRM showing client details

The selling agent will then call the prospective buyer to learn more about their interests, timelines, financing situation and other pertinent information. The agent will capture all of these details, plus the contact information for their buyer's agent, in the CRM system. The date and times for both the phone call and the subsequent email to the buyer's agent are also recorded. Next, the agent might set a task to follow up the next day if they haven't heard from the buyer's agent about arranging a showing. The agent ends up hearing back within the hour, so they set a date for the showing and share the calendar appointment with the property seller, buyer and their agent all at once. Finally, they set a new task to follow up the next afternoon after the showing to see if they've submitted an offer. In this scenario, management can see immediately where the lead is in the buying process without having to call, email or set a meeting with the agent. They can also see how the team performed that day overall (how many properties were sold, for example, or the number of showings the team conducted).

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Figure 2: Real Estate Application Showing Charts and Graphs

In addition to the core functionality described above, CRM software for the real estate industry might have some or all of the following differentiating capabilities:

Email marketing: This module allows agents to automate news, letters and other email marketing to leads and existing clients. This includes daily emails to buyers with new listings. These can be customized with logos, headshots, email address and other details.

Listings management/Multiple Listing Service (MLS) integration: Some real estate management software provide a plugin or integration that links the software to REALTOR.com, Zillow, Trulia and other Multiple Listing Service(MLS) data. These modules can automatically import listing for email marketing, client portals and buyer /seller presentation.

Web lead management: These module capture leads from the user's website, a listing service and email marketing campaigns. These lead might be distributed directly to an agent, or fed into a queue in the CRM dashboard.

Commission/payment tracking: These modules can calculate or track agent commissions and other payments against predefined schemes and negotiated payment plan. This functionality is sometimes provided through integrations with commission tracking and payment software.

Client access portal: This module provides an online portal for clients to log on and view their property matches, upcoming showings, contracts and other files. These are often password protector and can be customized with the broker's logos and other branding elements.

Benefits of Real Estate CRM

Better client tracking and organization. Realtor CRM systems increase organization by providing a single repository for agents to store leads, client information and documents. The software also automates workflows with task lists, dashboards and alerts. Together, this functionality ensures that agents stay organized, on task and that nothing falls through the cracks. In addition, being able to see at a glance where a particular client is in the buying or selling process helps agents focus their time on the warmest prospects, while others are nurtured with email marketing tools.

Improved oversight:

Reporting tools give managers insight into the sales pipeline. If they see key metrics moving in the wrong direction, they can use the software's reporting tools to drill into possible causes. For instance, average numbers of day's properties spend on the market, or average price per square foot of active listings. Market Trends to Understand

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Mobile CRM capabilities have become critical to the real estate business. From showings to inspections, agents spend a lot of time in the field. They depend on tablets, smart phones and laptops to stay on top of work while they're out of the office. For this reason, many software developers have created robust mobile applications. Users can perform many of the same activities they would in the office, but from a mobile friendly interface. Some products also offer GPS powered features, such as a report showing neighbourhood trends for the area where the agent happened to be at that time. Social media integration is becoming increasingly important. Many products integrate directly with facebook, Twitter and other social media platforms so agents can automate sending updates and tweets about new listings. Some vendors also allow agents to reply to their clients' social media updates. If a client posts a facebook update about their birthday, for example, the agent could see this from their CRM system and instantly reply. Some real estate contact management software offer social listening capabilities. Agents use these features to mine for conversations that mention their brand, neighbourhood of interest or other keywords that might signify a potential business opportunity.

Pricing: Web based vs. On Premise

In most cases, real estate CRM software is priced according to the deployment models described here: Larger organizations might incur additional costs to integrate with standalone property management (<http://www.softwareadvice.com/property/>),ERP(<http://www.softwareadvice.com/erp/>),HR(<http://www.softwareadvice.com/hr/>). Further we propose to use Cloud based software, also called Software as a Service (SaaS), is typically priced on a subscription basis determined by the number of "seats" (brokers and managers who need to access the software). This type of software is housed offsite on servers managed by the software company.

On premise (Desktop)

Software usually requires purchasing a perpetual license upfront, with no recurring subscription cost. But users might also pay additionally for upgrades, customizations and maintenance. This type of real estate office software is housed on the buyers' servers.

Approach

Open Source Java Application Interface and libraries are made used for developing the proposed business Application. The proposed application is developed both web and desktop. Further proposed to integrate and move on cloud depending on the requirement.

V. CONCLUSION

The CRM application enables company to reduce time and help to maintain records in a database for future reference. In real estate predictive analytics techniques customer buy and sell property, also identifying customer's needs and web application is developed based on the requirements. This developed application is used for the study purpose. Experimentally it is studied and after increased productivity of the application it will be deployed.

REFERENCES

- [1] Complete Real Estate Investing Guide Book, David Crook.
- [2] www.realestatebook.com
- [3] www.magicbricks.com
- [4] Aman Gupta and Gaurav Dubey, "Identifying Buying Preferences of Customers in Real Estate Industry Using Data Mining Techniques", CPMR-IJT Vol. 2, No. 1, June 2012
- [5] www.99acres.com
- [6] Shashi Shekhar & Sanjay Chawala "Spatial Database ATour" Pearson Educaitions, 2003.
- [7] SugarCRM, <http://www.sugarcrm.com/crm/>
- [8] Fisher, T. (2009). ROI in social media: A look at the arguments. Journal of Database Marketing & Customer Strategy Management. (2009) 16, 189-195
- [9] Free CRM, <http://www.freecrm.com/>