Cloud based CRM Application

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ABSTRACT

As with the Internet, on-demand applications have grown so ubiquitous that almost every business user interacts with at least one, whether it's an email service, a Web conferencing application, or a sales system [2]. This model is already quite common for consumer apps like email and photo sharing, and for certain business applications, like customer relationship management (CRM). Law firms stand to gain as much as anyone from the advances being made when it comes to CRM systems, and CRM software providers are keen to fill this potentially lucrative market niche[10]. This paper thus proposes the use of cloud to build a powerful, multifaceted CRM application for law firms. This would make tracking of customers and the various activities easier. It would help in better time management by streamlining CRM and by ensuring that leads are followed up on. It would also improve processes and win rate and make it easy to use and deploy.

Keywords

Cloud, Salesforce, hosting services

1   INTRODUCTION

Typically, applications have been developed using various coding languages, such as Java, .Net, Ajax, and others. With a variety of programming options, it's necessary to determine what tools will be most useful for a project. It's possible for application developers to utilize a number of different programming resources in the development process. When that happens, the challenge of ensuring that the languages are compatible and can be integrated arises. Even when the languages and programs are able to be integrated, there is still the potential for the integrations to be weak and incomplete. Newer programming options, supported by cloud computing services, are starting to address these challenges by offering improved coding options that run smoothly and reduce design and performance issues.

At the testing and implementation stage of application development, additional challenges can arise. Traditional methods of development often account for the failure of an application before it actually works. Addressing this challenge is beneficial to all involved in the application development process. [5]

After the implementation of the application, it needs to be hosted so that it is available to the end user.For this purpose various hosting services beside cloud that are available which are listed below.

2   TRADITIONAL HOSTING SERVICES[3]

- Free web hosting service: offered by different companies with limited services, sometimes supported by advertisements, and often limited when compared to paid hosting.

- Shared web hosting service: one's website is placed on the same server as many other sites, ranging from a few to hundreds or thousands. Typically, all domains may share a common pool of server resources, such as RAM and the CPU. The features available with this type of service can be quite extensive. A shared website may be hosted with a reseller.

- Reseller web hosting: allows clients to become web hosts themselves. Resellers could function, for individual domains, under any combination of these listed types of hosting, depending on who they are affiliated with as a reseller. Resellers' accounts may vary tremendously in size: they may have their own virtual dedicated server to a colocated server. Many resellers provide a nearly identical service to their provider's shared hosting plan and provide the technical support themselves.

- Virtual Dedicated Server: also known as a Virtual Private Server (VPS), divides server resources into virtual servers, where resources can be allocated in a way that does not directly reflect the underlying hardware. VPS will often be allocated resources based on a one server to many VPSs relationship, however virtualisation may be done for a number of reasons, including the ability to move a VPS container between servers. The users may have root access to their own virtual space. Customers are sometimes responsible for patching and maintaining the server.

- Dedicated hosting service: the user gets his or her own Web server and gains full control over it (user has root access for Linux/administrator access for Windows); however, the user typically does not own the server. Another type of Dedicated hosting is Self-Managed or Unmanaged. This is usually the least expensive for Dedicated plans. The user has full administrative access to the server, which means the client is responsible for the security and maintenance of his own dedicated server.

- Managed hosting service: the user gets his or her own Web server but is not allowed full control over it (user is denied root access for Linux/administrator access for Windows); however, they are allowed to manage their data via FTP or other remote management tools. The user is disallowed full control so that the provider can guarantee quality of service by not allowing the user to modify the server or potentially create configuration problems. The user typically does not own the server. The server is leased to the client.

- Colocation web hosting service: similar to the dedicated web hosting service, but the user owns the colo server; the hosting company provides physical space that the server takes up and takes care of the server. This is the most powerful and expensive type of web hosting service. In most cases, the colocation provider may provide little to no support directly for their client's machine, providing only the electrical, Internet access, and storage facilities for the server. In most cases for colo, the client would have his own administrator visit the data center on site to do any hardware upgrades or changes.

- Clustered hosting: having multiple servers hosting the same content for better resource utilization. Clustered Servers are a perfect solution for high-availability dedicated hosting, or creating a scalable web hosting solution. A cluster may separate web serving from database hosting capability. (Usually Web hosts use Clustered Hosting for their Shared hosting plans, as there are multiple benefits to the mass managing of clients)

- Grid hosting: this form of distributed hosting is when a server cluster acts like a grid and is composed of multiple nodes.

- Home server: usually a single machine placed in a private residence can be used to host one or more web sites from a usually consumer-grade broadband connection. These can be purpose-built machines or more commonly old PCs. Some ISPs actively attempt to block home servers by disallowing incoming requests to TCP port 80 of the user's connection and by refusing to provide static IP addresses. A common way to attain a reliable DNS hostname is by creating an account with a dynamic DNS service. A dynamic DNS service will automatically change the IP address that a URL points to when the IP address changes.

3   CHALLENGES IN THESE HOSTING SERVICES

- The traditional CRM installation can be highly complex, especially the integration of many different internal applications under a single system.

- Compatibility with hardware, other software, and operating systems is required in the traditional hosting services.

- Licensing and compliance problems (unauthorized copies with the software program boating the organization) .

- Maintenance, support, and patch revision processes.

4   ADVANTAGES OF CLOUD AS SOLUTION[11]

- Saves time. Businesses that utilize software programs for their management needs are disadvantaged, because of the time needed to get new programs to operate at functional levels. By turning to cloud computing, you avoid these hassles. You simply need access to a computer with Internet to view the information you need.

- Less glitches. Applications serviced through cloud computing require fewer versions. Upgrades are needed less frequently and are typically managed by data centers. Often, businesses experience problems with software because they are not designed to be used with similar applications. Departments cannot share data because they use different applications. Cloud computing enables users to integrate various types of applications including management systems, word processors, and e-mail. The fewer glitches, the more productivity expected from employees.

- Going green. On average, individual personal computers are only used at approximately 10 to 20 percent of their capacity. Similarly, computers are left idle for hours at a times soaking up energy. Pooling resources into a cloud consolidates energy use. Essentially, you save on costs by paying for what you use and extending the life of your PC.

- Fancy technology. Cloud computing offers customers more access to power. This power is not ordinarily accessible through a standard PC. Applications now use virtual power. Users can even build virtual assistants, which automate tasks such as ordering, managing dates, and offering reminders for upcoming meetings.

- Mobilization. From just about anywhere in the world, services that you need are available. Sales are conducted over the phone and leads are tracked by using a cell phone. Cloud computing opens users up to a whole new world of wireless devices, all of which can be used to access any applications. Companies are taking sales productivity to a whole new level, while at the same time, providing their sales representatives with high quality, professional devices to motivate them to do their jobs well.

- Consumer trends. Business practices that are most successful are the ones that reflect consumer trends. Currently, over 69 percent of Americans with internet access use a source of cloud computing. Whether it is Web e-mail, data storage, or software, this number continues to grow. Consumers are looking to conduct business with a modern approach.

- Customize. All to often, companies purchase the latest software in hopes that it will improve their sales. Sometimes, programs do not quite meet the needs of a company. Some businesses require a personalized touch, that ordinary software cannot provide. Cloud computing gives the user the opportunity to build custom applications on a user-friendly interface. In a competitive world, your business needs to stand out from the rest. Customization is the solution for this problem.

- No need for hardware hiccups.

- IT staff cuts. When all the services you need are maintained by experts outside your business, there is not need to hire new ones.

5   CLOUD BASED CRM FOR LAWYERS

If lawyers want a cloud based CRM, it's important to choose the right one. The right software could help in numerous areas and choosing the right tool will make implementation and integration an easy transition, too

5.1   Track Customers and Activities

When you use a cloud based CRM for lawyers it helps you better track every customer and every project that you're working on. A dashboard provides an overview with the ability to drill down to specific details. You can also prioritize workload, set task reminders, share information with team members, and centralize data related to every client and every project. A cloud based CRM for lawyers can also make it easier to make sure more deals get from a quote stage to an order stage as well as help you walk things seamlessly through every phase from start to finish. It's not always easy to track everything happening when you work manually and when you manage multiple projects but a simple CRM can help in a big way.

5.2　Improve Processes and Win Rate

If lawyers are looking for a CRM that can help things run more smoothly, a cloud based CRM for lawyers can be highly effective. You can measure wins and losses and pinpoint specific areas that could be enhanced. You can analyze client activities to gage customer loyalty as well. This could help you proactively retain more customers.

5.3　Ease in development and use

A cloud based CRM for lawyers that's Easy to Deploy and Easy to Use. Base is a cloud based CRM for lawyers that requires no software to install. You can access it from the internet securely. It's a simple CRM tool that offers numerous features and benefits and that won't require down time or training to get it up and running. Any new tool requires a bit of effort to get accustomed to but the features and benefits of Base are well worth it.

6　SAMPLE RECRUITING APPLICATION DEVELOPED TO UNDERSTAD THE FORCE.COM PLATFROM (EXAMPLE OF A BOOK[8])

In order to understand the platform that will be used for our project, a sample application was created.

6.1　Requirements

The application needs to:

- Track positions in all stages of the process, from those that are open to those that have been filled or cancelled.

- Track all of the candidates who apply for a particular position, including the status of their application (whether they've had a phone screen, are scheduled for interviews, have been rejected or hired, or have passed on an offer that was presented).

- Allow employees to post reviews for candidates whom they've interviewed.

- Provide security for the recruiting data so that it's not mistakenly viewed, edited, or deleted by employees who shouldn't have access.

- Automatically inform the relevant recruiter about the next steps that should be taken when a decision has been made about an applicant.

- Automatically inform all employees of new positions that have been posted.

- Make sure that a new job opening has executive approval before it becomes active.

- Include reports that give users an overview of recruiting status.

- Allow recruiters to map the locations of all candidates who are applying for a position, to better understand relocation expenses.

6.2　Design

As application developers, our job now is to figure out which platform components are going to allow us to build all of these features.

One way to split up the work is to look at which requirements can be implemented by using just the point-and-click tools of

the platform and which requirements must be implemented by leveraging other Web applications. The former method, which uses native components, is typically fast and simple to use, requiring only point-and-click setup rather than more traditional coding. The latter method, which uses composite components, give us more control and flexibility in what we do but requires more work.

The following diagram shows how features implemented with each method are created, split out by their user interface layer, business logic, and data model.
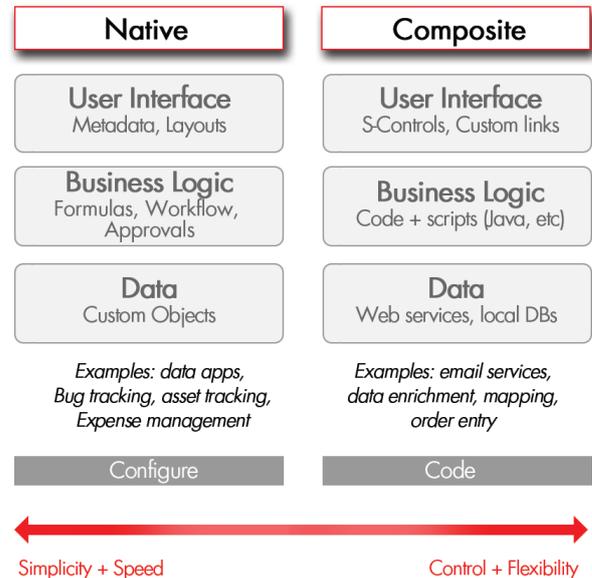

Fig 1: Native Versus Composite Components (fig as in[8])

Fortunately, all but one of this Recruiting application's requirements can be implemented using the native component method—an example of why the platform is such a powerful development environment! Now let's go into a little more detail about what developer going to build.

Native Components

Natively, there are several platform components that are going to help us implement this Recruiting app requirements. These include:

- Custom objects

- Security and sharing rules

- Workflow and approval processes

- Custom reports and dashboards

6.3　Custom Objects

Custom objects are the native components that model the data developers need to store in this Recruiting application. Similar to a database table, a custom object is composed of several fields that store information such as a job applicant's name, or the maximum salary for a particular position.

However, unlike traditional database tables, we don't need to write any SQL in order to create custom objects. We can simply point and click in the platform to create as many objects as developer need.

For this Recruiting app, developer will be creating four custom objects to track recruiting-related data:

- Position

- Candidate

- Job Application

- Review

Three of these objects, Candidate, Position, and Job Application, will be displayed as tabs in this application. When a user clicks one of the tabs, he or she will have access to individual instances of that particular object, as shown in the following screenshot.
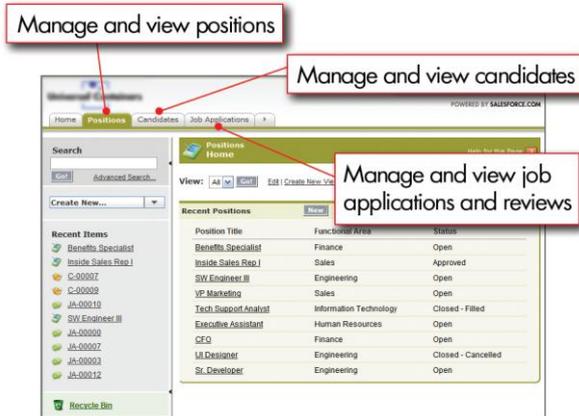
Fig 2: Recruiting App Tabs (figure as in[8])

One of the powerful features of a custom object is the fact that it can have relationships with other objects in the system. For example, for every review written by an interviewer and entered into the system, we'll want to associate it with the job application of the candidate who was being interviewed. Again, we won't need to write any SQL to make this happen—thanks to the platform, defining a relationship will be as simple as a few clicks of the mouse.

6.4   Security and Sharing Rules

Another important function that developer will need to build into this app is the ability to restrict access to data that particular users shouldn't see, without preventing other users from performing their jobs effectively. Developer is going to implement this requirement with a group of components that we've grouped under a single term: security and sharing rules.

With security and sharing rules, we'll first specify which custom objects a particular user should be allowed to create, view, or edit (for example, Candidate and Position), and then which instances of those objects should be accessible (for example, the records for candidate John Smith or the Senior Sales Manager position). Controlling our data either with the wide brush of object-level security or with the more detailed brush of record-level security will give us a lot of power and flexibility in controlling what users can and can't see.

6.5   Workflow and Approval Processes

Three of our requirements involve automating business processes, such as triggering an alert email to a recruiter whenever a job application's status has changed, and submitting new job openings for executive approval. Once again, the Force.com platform makes these requirements easy for us to implement natively with the built-in workflow and approval process components.

Workflow and approval processes allow developers to create business logic based on rules:

- Workflow rules can assign tasks to users, update fields, or send email alerts

- Approval processes allow users to submit sensitive records like new contracts or purchase orders to other users for approval. For example, in this Recruiting application, developers can create a workflow rule that triggers an event whenever the status of a job application has changed to Reject or Extend an Offer, as illustrated below.
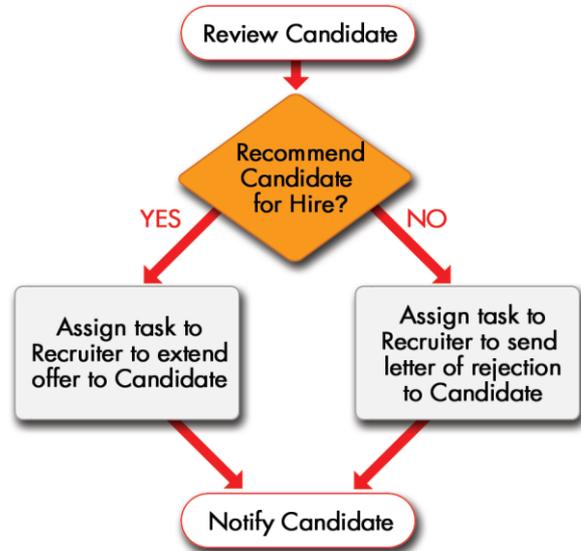

Fig3: Workflow When a Job Application's Status Has Changed (figure as in [8])

When a hiring manager makes a decision to either extend an offer to or reject the candidate, changing the status of the application triggers the appropriate task to be assigned to the recruiter for that position. Based upon the hiring manager's decision, the recruiter performs the appropriate follow-up task.

Similarly, developer can define an automatic approval process that sends all new positions to the appropriate management for approval. If the position is approved, its status automatically changes to Open - Approved and recruiters can start the hiring process. If the position is rejected, its status automatically changes to Closed - Not Approved and the position won't be filled.

Custom Reports and Dashboards

Finally, developer need to give users a way to inspect the status of all positions and job applicants in the Universal Containers recruiting program. Managers need to delve into the intricate details of how each recruiter is performing, while executives just want a high-level overview of how departments are doing with staffing goals.

Developer can meet these requirements with the custom report wizard and dashboards. The wizard allows developer to create detailed reports with filters, conditional highlighting, custom subtotals, and charts, while dashboards allow developer to display a group of up to different report charts on a single page.

6.6   Composite Components

Although developer will be able to use native platform functionality to satisfy most of this Recruiting application use cases, there's still one use case that won't be so easy to

implement: the ability to map the locations of all candidates who are applying for a particular position.

At this point, we'll need to leave the relative comfort of the platform's native components and cover the gap by building a composite component, leveraging functionality from another website like Yahoo! Maps. Although we'll have to write a little code to make this work, the integrated component lives in a tab and looks just like any other part of this custom application.

7   ACKNOWLEDGMENTS

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