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# THE MULTITENANT APPLICATION BASED ON SALESFORCE.COM

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## ABSTRACT

*On-demand computing has transformed enterprise software, lowering risk and cost while increasing user adoption and customer success. Using cloud storage, users can remotely store their data and enjoy the on-demand high quality applications and services from a shared pool of configurable computing resources, without the burden of local data storage and maintenance. Salesforce is a cloud based multitenant application which would be leveraged to generate multiple reports for large inventory systems. The application which we would be developed on a software as a service based platform, would be developed for various enterprises and organizations to manage the large quantity of products. By integrating multiple charting libraries on Salesforce platform, we can generate the interactive reports, so that data visualization is easier and with the help of cloud platform it will be best example of on demand application service. This reporting tool can be of great help to management for driving productivity and getting big results with small budget. With mobile friendly Salesforce application, these reports would be accessible anywhere, anytime.*

**KEYWORDS:** *cloud, charting libraries, multitenant application, Salesforce platform, software as a service*

## I. INTRODUCTION

To be successful, an application must be designed for on-demand from the ground-up, including core architectural elements such as multitenancy, availability, performance, security, metadata customization, integration via web services, etc. With the Apex platform, salesforce.com has delivered the first on-demand platform, allowing developers to easily develop and deliver the next generation of on-demand applications.

### A. What is Salesforce.com?

Salesforce.com is a software that manages to give the customer an easy to use and extremely effective CRM solution. Salesforce CRM solution offers the chance to customize and integrate CRM with other applications and provides a wide range of services and solutions that help the buyer immensely. Salesforce.com provides solutions that are individual and unique to each enterprise. It allows companies to manage and share information and also get the highest benefits from sales automation, marketing automation etc. One more important aspect of Salesforce is the database security. Here we

are introducing the concept of multilevel security to the database build upon the multitenant architecture.

### B. What is inventory management tool?

In product-based industries it is critical to maintain the right inventory levels. Ordering too much of a product leads to excess storage and/or overstock costs, while ordering too little or the wrong product can result in losing a sale, a customer or valuable production time. It allows us to instantly determine on-hand inventory balances, track raw materials and stocked items, sort different and similar products, record works in progress and finished products, manage lots and more.

### C. Data visualization with multitenant architecture on salesforce.com

This application supports multitenancy where single huge database is logically divided into number of tenants that can be accessible to number of end users. Integrating multiple charting libraries we can generate reports more precisely so that calculations regarding the quantity and the selling-purchasing level can be easily done.

## II. LITERATURE REVIEW AND RELATED WORK

As a developer we can build a lot of custom views in lists and can create web part pages with a bunch of creative solutions to make it as pretty as possible to suit requests. Also can export the data to Excel and massage the data into a nice looking report. But lots of trial and errors are involved. We can natively send queries from Report Builder to a variety of databases. Power View is very limited in terms of accepted data sources, and Excel can be somewhat limited. Traditionally, software runs locally, installed on computers or servers within an organization. With SaaS, software is stored on a provider's server and then accessed via a web browser, through Microsoft Remote Desktop Connection, using Citrix or other remote desktop software over the Internet. This type of access to world-class software systems is an alternative worth considering for companies that face the high implementation costs of the latest business ICT solutions.

In particular, small companies often do not have the financial resources to purchase on-site systems which require significant investment in packaged software and dedicated hardware together with staffing or the external resources needed to manage them. With SaaS, the immediate costs associated with on-site installation are replaced by a simple, often per-user cost, for access to the hosted software. Larger companies with extensive installations are also beginning to consider SaaS as a cost cutting measure.

Using salesforce.com data visualization is easier, the use of a security model in reports, and report automation is also done. We can still do a lot with the tabular, summary, and matrix reports. For any business that deals with large numbers of physical products, whether assembling them into their final form, transporting them from one location to another or selling them in a wholesale or retail environment, effectively controlling inventory is crucial to success. But with hundreds of inventory management solutions on the market, selecting the right one can be a challenge.

One more part of this platform is Chatter. On top of all of this, we can make the report and dashboard part of the social conversation in our organization.

## III. ANALYSIS OF PROBLEM

Nowadays there are number of report builders are available in the market to generate the desired reports of the objects and data registered in database. Data visualization is easily done when the

reports generated with the help of one filter. But sometimes there are some requests which need the data mining over number of various sources at that time use of different filters may be complex so that lots of errors may arise.

### A. Drawback of Report Builder

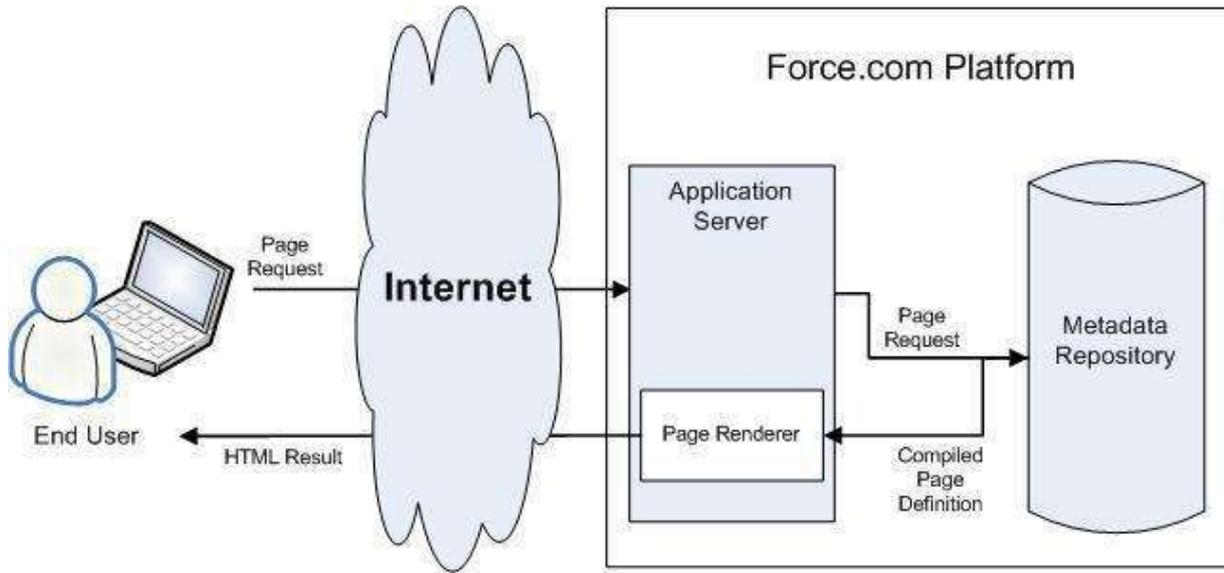
- 1) **Limited Interactivity: Report Builder isn't dynamically interactive like Power View or even Excel – rather, Report Builder is far more suitable for fully formatted reporting needs.**

During product categorization, many businesses need to track inventory for dozens or hundreds of very similar products, and need an easy way to, for example, distinguish between a hundred different types of screws, or identify whether your retail store carries this pair of jeans but in a different size or color. This is an essential function of an inventory systems for almost all users. For this, it may be too complex to generate the reports using standard report builder in Salesforce. By customizing reports using Google chart library, we can project a number of filters over various databases of the vast inventory.

## IV. PROPOSED WORK

In this application Salesforce.com cloud platform would be used which provides on demand services to the customers. As it is cloud based, it is the big advantage related with the security of the data. We will generate customize reports which are based on some applications like Google charts and Google heat maps. These reports are dynamically interactive. Second important thing is multitenant architecture of the salesforce.com where database is single but can be accessible to number of end users. We can provide the security to the data according to the sensitivity level of the end user introducing the concept of multilevel security. With the Apex platform, salesforce.com has delivered the first on-demand platform, allowing developers to easily develop and deliver the next generation of on-demand applications.

This application software is developed using the Visualforce framework which allows developers to build sophisticated, custom user interfaces that can be hosted natively on the Force.com platform. The Visualforce framework includes a tag-based markup language.



**Fig.1 System Architecture - Standard User Mode**

Fig.1 exhibits the rough overview of our application whereas end user easily works on the on demand service provider platform. Visualforce charting gives an easy way to create customized business charts, based on data sets we create directly from queries, or by building the data set in our own Apex code. By combining and configuring individual data series, we can compose charts that display our data in ways meaningful to our organization.

**V. CONCLUSION**

This application is a software as a service on the cloud oriented platform. It will help to generate the dynamic reports of the huge data of any organization.

New service delivery platforms will become an important channel for software distribution in the near future. The application development process over these platforms should considerate several factors not present in the common software delivery methods. This work also makes some recommendations for developing software in Software-as-a-Service business environments

This reporting tool can be of great help to management for driving productivity and getting big results with small budget. With mobile friendly Salesforce application, these reports would be accessible anywhere, anytime.

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