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A FRAMEWORK FOR SMALL SIZE BUSINESS THROUGH THE MODEL VIEW CONTROLLER

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Abstract: - Cloud services are gaining ground in all segments but small and medium sized business present a unique opportunity. Half of SMB cloud service purchases now directly from the cloud service provider. This shift toward self-service has made resellers less necessary in the eyes of SMBs. SMBs need a greater customization and more servicing than consumers, but have limited resources compared with enterprises. Cloud services are severely challenging traditional channels i.e. communication messaging, line of business apps, communication voice. In SMBs there are different strategy will be used in the cloud computing.

In this paper, we are trying to acquire a better understand in business benefits from software deployment to mobility. The research indicates the cloud applications and platforms will be at the forefront of IT spending. The advantages of traditional CRM software are well known. 1. Tracking sales 2. Increase the profits 3. More personalized experience for the customer.

The internet has redefined business in too many ways to count, but most importantly it has given every consumer a much louder voice than ever before enjoyed. For any business that want success our aim is all about the customer experience. While the traditional CRM building the online relationship have a major advantage. The Online CRM understands the need of their customers by embracing the innovation, risk taking and saving the time management and fearless drive toward self-improvement. It is important to recognize and understand that compliance requirements should not upstage the customer experience but rather be effectively integrated in to that experience.

The online customer compliance system to implement more standardized and therefore effective and efficient systems of service provision through compliance across all types of customer interfaces. The online CRM customer compliance system is ensuring that accurate and up –to-date information to the customers. The online CRM customer compliance system to reduce the cost of service provision.

Key words: Customer Relationship Management, CRM as a Service, CRM compliance, Cloud computing, MVC architecture.

I. Introduction

CRM stands for Customer Relationship Management. Mainly, the CRM Software allows businesses to manage business relationships, the data and the information associated with them. Successful CRM software solutions are

built around the people and relationships as in any business, which need to establish strong relationships with their customers. Any one as a business owner connect with the people who need his/her products or services. [1-3]

CRM is a strategy and technology that is used to build stronger relationships between organizations and their clients. An organization will store information that is related to their clients, and employees will analyze it to use it in forecasting and making reports. Some of the strategies of CRM software are planning for targeted marketing campaigns towards specific clients. The strategies used will be relying on the information that is coming from the CRM system. CRM software solution is commonly used by all kind of corporations that focusing on maintaining a strong relationship with their customers.

This CRM introduction aims to explain what the CRM is in a nutshell and making it easier to realize the tremendous benefits of purchasing a Customer Relationship Management software that will help to drive more customers thus more profit. The Customer support cycle is an internal part of CRM system. Rather than praises complaints are the backbone of business development. Hence when clients send complaints; they must be handled efficiently and in a timely manner. The corporation should also seek to make sure that those mistakes are not repeated. When sales are complete, they should be tracked so that the corporation can analyze them from various aspects and produce reports. The analytical aspect of CRM system deals with analyzing client's information and using it for business intelligence purposes.

There are many things the ideal Cloud Based CRM Software should have; it should enable the organization to find the factors that interest their clients the most. Any corporation must realize that it is impossible for them to succeed if they do not cater to their client's desires and needs. Online CRM software solution is a powerful system that will enable them to do this

With CRM strategy, the customer is always right, and they are the core factor in the success of the company.

1.1 Cloud Computing

Cloud computing is a technology that uses the internet and central remote servers to maintain data and applications. Cloud computing allows consumers and businesses to applications without installations and access their personal files at any computer with internet access [4-5].

Types of Deployment in cloud computing:

1. Private Clouds: Typically owned by the respective enterprise and or leased. Functionalities are not directly exposed to the customer, though in some cases services with cloud enhanced features may be offered this is similar to cloud software as a service from the customer point of view. Example: eBay.
2. Public cloud: Enterprises may use cloud functionality from others respectively offer their own services to users outside of the company. Providing the user with the actual capability to exploit the cloud features for his /her own purposes also allows to other enterprises to outsource their services to such cloud providers thus reducing the cost and effort to build up their own infrastructure. Example: Amazon, Google Apps
3. Community Cloud: Typically cloud systems are restricted to the local infrastructure, i.e. providers of public clouds offer their own infrastructure to customers. Though the provider could actually resell the infrastructure of another provider, clouds do not aggregate infrastructures to build up larger, cross-boundary structures. In particular smaller SMEs could profit from community clouds to which different entities contribute with their respective (smaller) infrastructure. Community clouds can either aggregate public clouds or dedicated resource infrastructures.

1.3 Customer Relationship Management

Customer management software systems are focused on managing the interaction with customer accounts or companies. Customer manager software typically stores company name, multiple locations or addresses (such as a branch location), multiple phone numbers, e-mail addresses, notes and historical information. In addition, the customer record is used to organize all the contacts within the account and show all related information and

interactions across the different customer contacts. Commence delivers a robust Business to business offering and includes SFA/sales automation, database marketing, and customer service applications along consulting services.

Recently, a company called Software Advice conducted its CRM Buyer View Report. The report looked at businesses with revenues of \$100 million per year or less in Australia, the US and UK that were buying CRM software for the first time. It showed that 55% Australian of small businesses buying a CRM system were upgrading from manual methods for tracking customers, compared to 47% in the US. Overwhelmingly, these customers are also turning to cloud-based CRM options. The survey shows 75% of buyers are looking for a cloud-based package, 29% aren't sure, and only one respondent wanted on-premises CRM software.

Breaking those first-time buyer figures down, 31% of small businesses were upgrading from using spreadsheets to track customer information and 22% who were using paper. By contrast, 22% were upgrading from another CRM package. Other common methods included email clients (such as Gmail or Outlook) at 8%, email marketing software (including Mail Chimp) at 5%, proprietary software at 5% and industry-specific software at 3%. According to figures published in Forbes, as of 2012 the largest CRM platform companies by market share were Salesforce, SAP, Oracle, Microsoft Dynamics CRM and IBM, followed by a range of smaller vendors. [6-10]

This system is totally web based creating an open source application and software. This system is created in apache web server and database is my sql. And it support and compatible with each and every web browser and operating system. The remaining part of this paper is organized as follows: section II comprises of related works done in CRM with cloud computing. Section III describes the approach and design of our software. The processing of data is explained in Section IV. The various modules used to handle customer requests are explained in this section. We conclude this paper finally with the possible enhancements in future.

II. Related Work Done

Before getting in the cloud for CRM software, we were more focused on describing theoretically the different concept. The following items are the literature that has been reviewed to reach our purpose.

In [11], the article highlights the implementation of CRM initiatives and programs have faced with failure over different industries and business. It suggests an important step before the implementation of CRM programs/Systems which is the creation and communication of customer oriented culture within the organization.

In [12], Atulparvatiyar had presented the CRM Marketing and strategic decisions. The CRM has the potential to emerge as the predominant perspective of marketing. Also, there is a growing and interesting body of knowledge on cooperation, collaboration, and co-competition that have direct application to CRM and relationship marketing.

Muhammad KursadOzlen, [13], had presented that it appears that the level of implementation of CRM and in Bosnian Small and Medium Enterprises (SMEs) by employing a developed survey questionnaire through the employers of Bosnian SMEs. They are moderately considering their customers and therefore a customer centric consideration. However, they can fairly consider and detect supply chain related risks.

In [14], the author to create an effective tool kit for the analysis of customer relationship, a combination of relational database. The toolkit reduces the complexity of customer data and extracts valuable hidden information through a fuzzy classification

III. APPROACH

3.1 SaaS for CRM in SMBs

The benefits of cloud computing for SMBs can be understood from two perspectives. First from a capability stand point cloud computing allows SMBs to gain access technologies that they might otherwise need sophisticated IT support to obtain [15].

In short leveraging cloud solutions in a service-oriented manner allows SMBs to focus on their efforts on the most important aspects of running their business and it allows technology to simply one of many actors that support the company [16]. Second we can build on the argument related to capabilities and translate into a financial

argument. For many SMBs the ability to outsource large portions of the company's IT needs to the cloud leads to significant cost savings.

3.2 Web Development Concern

MVC is popular as it isolates the application logic from the user interface layer and supports separation of concerns. Here the controller receives all requests for the application and then works with the model to prepare any data needed by the view. Then view then uses the data prepared by the controller to generate a final presentable response. Due to the limitation of the scope of this paper, Model View ControllerFramework (MVC) is chosen for the application development. That is, this paper will concentrate on using Model view controller framework to develop a web oriented application that would suit the context of home delivery business operation in all the city and towns, even though some methodologies and tools used during systemanalysis and design can and will be used for other types of development patterns, mobile services for example, in the future.

3.2.1 Availability

The second reason for choosing Model view controller framework is made up of the following three parts:
1. Model layer 2. View layer 3. Control layer

Model layer: The lowest level of the pattern which is responsible for maintaining data

View layer: This is responsible for displaying all or a portion of the data to the user

Control layer: Software code that controls the interaction between the model and view.

This MVC framework will be useful for the back-end framework benefits both IT project managers and service end users.

3.2.3 Flexibility

Model View controller Framework is relatively developer-friendly. Besides, it is more powerful to scale up massive distributed websites, which perfectly suits the requirements SaaS and cloud computing ask for. The developer cannot create own methods instead the developer can override the methods which was defined inside the framework.

3.3 Design

This paper will focus strictly on Customer Relationship Management and enhance of such management work by using SaaS application services. The entire process will be helpful for the customers as well as the on field and the off field technician. The customer can track the status of the product as well as the whether the technicians have required skills to resolve the issue. So that the customer can get the product with more accurate and error free deliverables, we particularly cares about issues of making this work easier. It includes:

1. Reducing customer attrition;
2. Solutions will be given temporarily or permanently
3. Increasing the loyalty of profitable customer;
4. Provision of single point of contact to the customer;
5. Improving the cost efficiency

Online business operation is more about Customer Relationship Management than any of our client benefit from our focus on designing and implementing complex, secure and robust enterprise information systems that improve their business and customer experience performance.

The importance of working out these problems is to improve online business. Online business flow is very simple. In online delivery location addresses need to be determined and agreed so that the product can be delivered

with the right person at the right time. Hence, phone number and location address would be two musts when collecting customer information. Thus, for Issue 1) mentioned in the above, when tracking the status of the product, product ID field to be taken and recorded while other parameters are optional fields.

As mentioned previously, locally installed softwares and packages have several disadvantages such as less mobility and overdue deployment. Online tracking business operation is not handled in the past, and a number of problems are derived from this old system. Such problems include:

1. The customer goes to the shop and purchased a product. Sometimes the customer has lost the bill they cannot able to get the required product. The main drawback is the customers are wasting money as well as the valuable time.
2. The customer has found some fault in the product then it is tough to resolve the issue. It will take at least 30 days. But now days if they found any fault in the system the customers are only needed to register their complaints online with the required fields. The customers can also track the status of the product as well when the issue the can be resolved.
3. Once the users are registered their complaints they will get the compliant ID and the registration number of the Product ID. The complaints are displayed in the Technical head page then the technical head send all the complaints to the corresponding technical person. After the issue is fixed he will update the status through the online.

3.4 Design Evaluation

In essence, the functionality, completeness, consistency, accuracy, performance, reliability and usability of this application would define the overall design evaluation of itself. Specifically, this research will study the applicability of the application for a purpose of effective and efficient way of working. To achieve a good result of design evaluation, modeling and design of the application should meet business needs in home delivery business operation.

3.5 Database Design Diagram

To formulate a Database design diagram in Online Customer Compliance System (OCCS), objects that are considered important are User ID (uid), Name (N), and Password (P).

Table	Rows	Type	Size	Comments	
registration	17	InnoDB	16 KiB	Creation:	Jun 25, 2015 at 03:35 PM
user	35	InnoDB	16 KiB	Creation:	Jun 26, 2015 at 07:34 PM
2 tables	52	--	32 KiB		

FIGURE 1. Table Design Diagram

Figure 1, presents the information about the database creation as well as the table information i.e. (rows, type, size)

registration

Column	Type	Null	Default	
sno	int(11)	No		
uid	varchar(30)	No		
name	varchar(30)	No		
pass	varchar(30)	No		
Security_Ques	varchar(50)	No		
Answer	varchar(50)	No		
type	varchar(30)	No		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	sno	17	A	No	

FIGURE 2. Registration Table Details

Figure 2, presents the information about the registration details of the user as well as the user name and password. Security details of the user will be available in the table while the registration table diagram is only performed as generalization of registration details. The User table has a primary key, while the registration table has foreign keys to refer all attributes.

user

Column	Type	Null	Default	
sno	int(11)	No		
productid	int(11)	No		
pcata	varchar(50)	No		
query	varchar(50)	No		
solution	varchar(100)	No		
QueryStatus	varchar(50)	No		
feedback	varchar(50)	No		
uid	varchar(50)	No		
TH	varchar(20)	No		
TP	varchar(20)	No		
Date	varchar(50)	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	sno	35	A	No	

FIGURE 3. Description of User Table

Figure3 presents the information about the user detail and the status of the product and feedback of the product as well as the query raised date also available (whether the corresponding issue is fixed with temporary/permanent solution).

SQL result

Host: mysql wampserver
 Database: crm
 Generation Time: Jul 10, 2015 at 03:11 PM
 Generated by: phpMyAdmin 4.1.14 / MySQL 5.6.17
 SQL query: SELECT * FROM `registration` LIMIT 0, 25 ;
 Rows: 20

sno	uid	name	pass	Security_Ques	Answer	type
1	shivamsharma099@gmail.com	shivam	shivam123	Your pet name	sunny	user
2	satish03@gmail.co	satish	satish12	Your pet name	satish	user
3	fame@gmail.com	fame	fame	0		admin
5	th1	Saurabh	th1	0		technicalhead
6	th2	santosh	th2	0		technicalhead
7	th3	shruti	th3	0		technicalhead
8	tp1	skjhkh	tp1	0		technicalperson
9	tp2	jhjh	tp2	0		technicalperson
10	tp3	kjkj	tp3	0		technicalperson

FIGURE 4. Registration Table with sample data

Figure 4, presents the information about the user registration detail i.e. (User id, User name, password, security question) as well as the database deployment details which are available in the table. Using this table one can get the details of host name, database name, and creation date of database.

IV Implementation

4 Implementation

After all systems investigation, analysis and design have been done, the following text describes implementation of such a system. As mentioned before, The Model View Controller Framework is used for the OCCS implementation. However, this paper is not a how-to tutorial, thus the author is not going to introduce how to program with Model view Controller Framework. Instead, the following text tries to provide two most crucial modules that have developed and added to fulfill the system requirements in order to meet business needs, though; there can be millions of possible ones to be made.

4.1 User information

Once the user entered the user name and password details he/she will be redirected into user home page. This page will display information about the query details and product details as well as the account details.

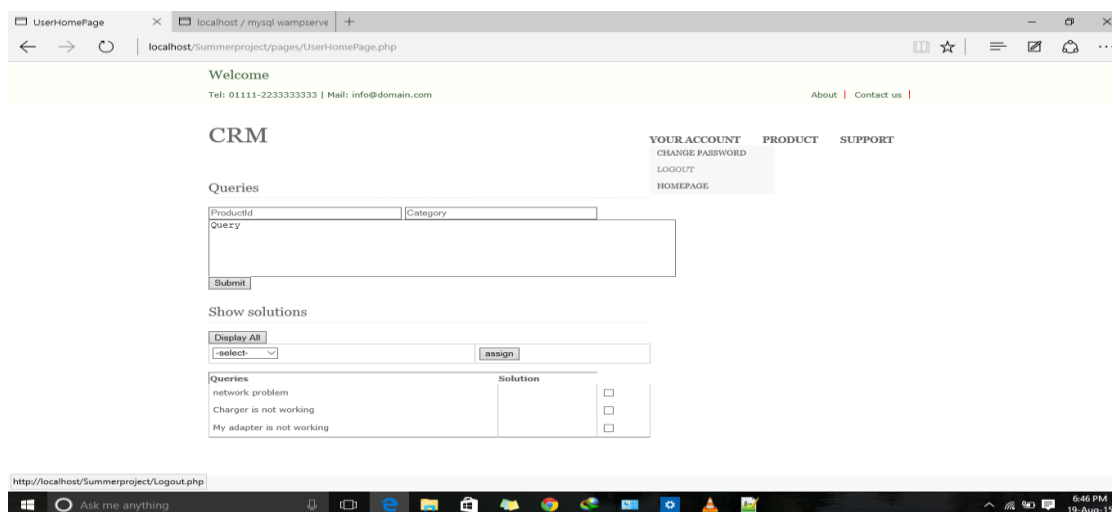


FIGURE 5. User Home Page.

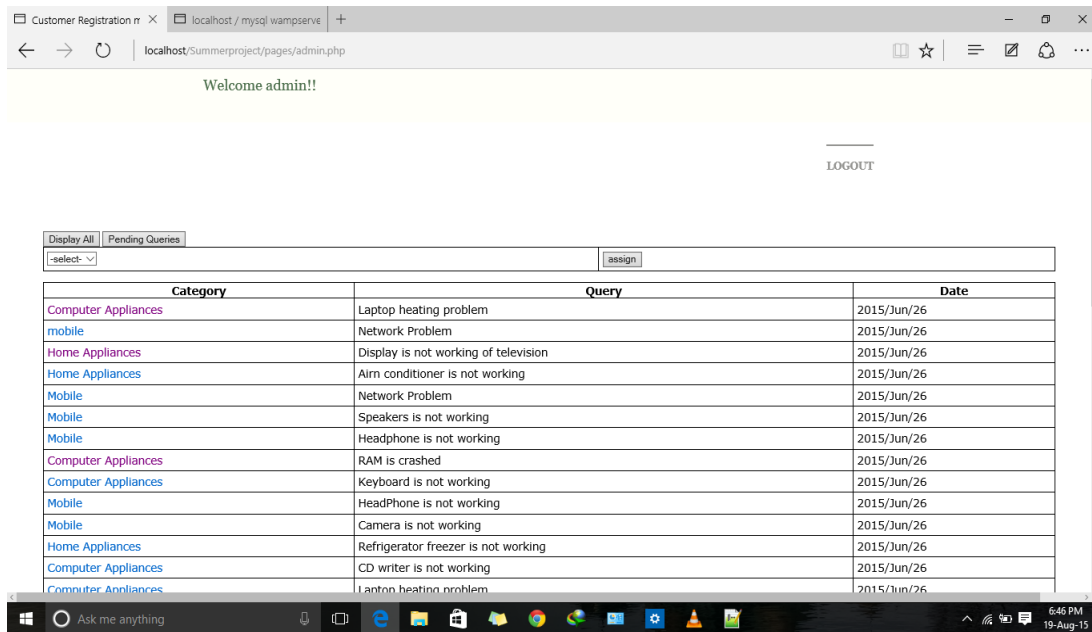


FIGURE 6. Admin Home page.

4.1.1 Technical Head information

The administrator forwards all the queries to the technical head. Once the technical head logs in to the screen he will separate the queries technical wise. The technical head assigns the work to the corresponding technical persons. Once the issue is fixed with the technical persons they will update the status to the online.

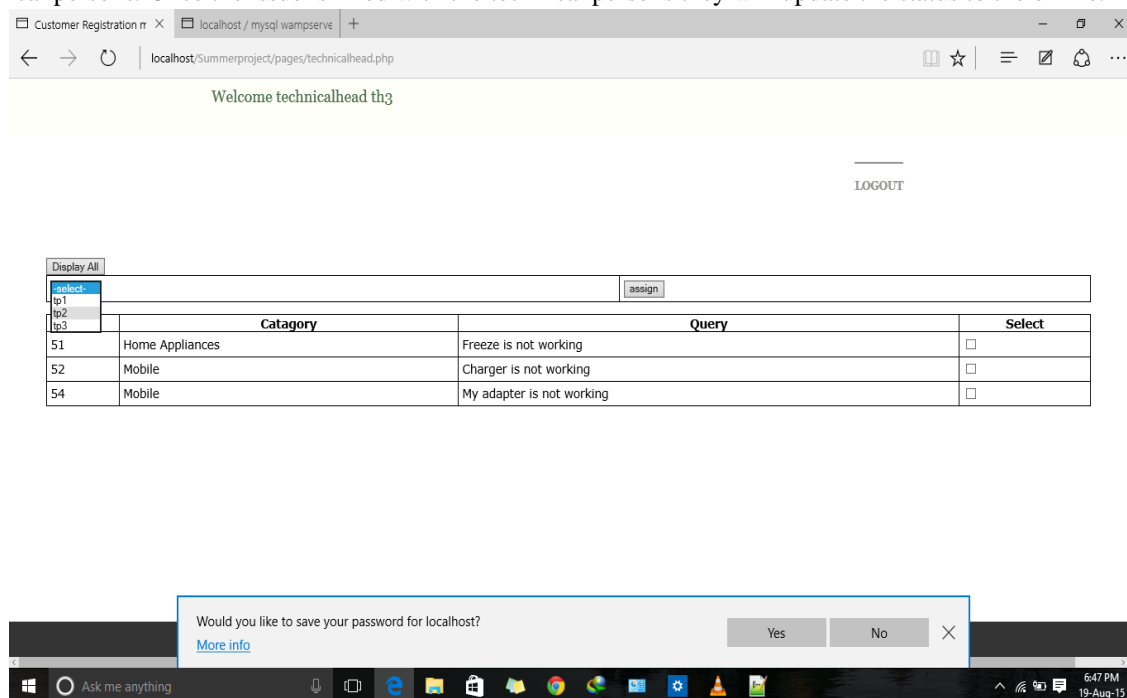


FIGURE 7. Technical Head Home page

Results and Discussion

Customer Relationship Management is especially needed to be take care of the business. There is no existing system in the current CRM. The proposed system reduces the customer valuable time as well as the cost of dealing with the complaints. We are acting as the third party to reduce the customer tensions. We are sending the email to the client as well as giving the alert to the customer. We are storing the entire customers query to the archive folder which can be used for further reference. This can be enhanced further as an automation system which can analyze the compliances and make a report on which type of items are dealt with more compliances and which regions are dealt with more compliances. From this we may be able to resolve why it happens so.

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