Call Center Management

Mr. H. Shamsheer Nazim [1], Mrs. R. Vijayalakshmi[2]
[1]Dept of Computer Application
[2]Associate Professor
[1, 2] Krishnasamy College of Engineering and Technology

Abstract- *The project "Call Center Management" automates the operations of a call center by giving replies to the customer's queries. By adding more entries to the database store, the application can respond to more number of queries from the customers. The importance is given to giving correct replies to the input queries.The process of the call center management can be easily explained by means of the Data Flow Diagram. The project gets the queries from the various customers and stores them in a centralized data store. When there are a number of queries the queries are stored up in a queue and then the queries are processed one by one. There are separate blocks called data recognizers for recognizing the data, i.e. queries, and data interpreters for interpreting those queries. The input query from the customer is first recognized by the data recognizer by comparing with the entries in the database store. In the database the solution for each and every query is stored and maintained. Then it is interpreted as what type of query it is and how it should respond to the query. The input query is compared with the queries in the database store. The solution for the input query is founded. The information service switch switches the application between different types of distributed services. The final result, the reply to the customer's query is obtained at the end.The project is developed in the environment of PHP. The server side scripting for the website is done through PHP, client presentations do net through HTML and VB Script with data stored in SQL SERVER database.*

I. INTRODUCTION

A call center is a centralized office used for the purpose of receiving and transmitting a large volume of requests by telephone. A call center is operated by an organization to administer incoming product support or information inquiries from consumers. Outgoing calls for telemarketing, clientele, product services, and debt collections are also made. In addition to the call center, collective handling of social media feeds, live chats, and e-mails at one location to be known as a contact center.In a typical call center, the arriving calls are classified in different types, according to the required technical skill to answer the call, the language, importance of the call, etc. Call Centers Agents are also classified in skill groups according to the subset of call types they can handle.Calls arrive at random according to

some stochastic process. When a call arrives, it may be assigned immediately to a Call Center agent that can handle it (if there is one available) or it may be put in a queue (usually one queue per call type). When a Call Center agent becomes available, the agent may be assigned a call from one of the queues, or may remain idle (e.g., waiting for more important calls). All these assignments are made according to some routing policy that often incorporates priority rules for the calls and Call Center agents. Calls waiting in a queue may be abandoned after a random patience time. Those subscribers who abandon waiting may call again later, although those retrials are rarely modelled in practice, usually because of lack of sufficient data. Callers who received service may also call again for a number of reasons; these are called returns. In the (degenerate) special case where each Call Center agent has a single skill, we have several single queues in parallel. If each Call Center agent has all skills, then we have a single skill set and a single queue. The system is obviously easier to analyse in these extreme cases. With all Call Center agents having all skills, the system is also more efficient (smaller waiting times, fewer abandonment). Call Center Agents with more skills are also more expensive; their salaries depend on their skill sets. Thus, for large volume of call types, it makes sense to select a number of single-skill Call Center agents (specialists) to handle most of the load. A small number of agents with two or more skills can cover the fluctuations in the proportion of calls of each type in the arriving load.A call center is often operated through an extensive open work space for call center employee, with workstations that include a computer for each call center agent; telephone set / handset is connected to a telecommunication switch, and one or more supervisor stations.

II. METHODOLOGY

In my work here, the research work was aimed at carrying out a detailed study of the present call center management system by identifying, analyzing and providing a solution to the challenges that are currently affecting the call center management system at Zambia Telecommunication Company Limited (Zamtel). The main sources of information were done with Telcos which have call center management systems like MTN- Zambia which has the call center managed by ISO BPO, Airtel- Zambia which has it call center managed

by Tech mahindra and further comparison was done with the call center at the ministry of labour and also a power utility company Zambia Electricity Supply Corporation (Zesco) which also has a call center
management system.

The other sources of data comprised of published textbooks, call centers journals,policy documents on call centers and call center management systems, academic journals, articles and the International Journal of Multidisciplinary Research ISSN: 3471-71025 Paper-ID: CFP/358/2017 www.ijmdr.net reports on call centers. The challenges were identified from the data collected from the detailed study carried out on the present call center management system from different Telcos, the ministry of Labour and the energy utility company and the challenges that were identified were

as follows;

- Lack of multi- skill call center agents to handle call center management systems.
- The existing system is a manual system, here the employee's need to save their work and
- information on the Microsoft excel sheets or external pens and disk drives.
- The manual system gives us very less security for saving data; some data maybe lost due to mismanagement.
- It is a limited system and it is not user friendly.
- Searching for particular information which is critical takes a lot of time.
- It is very critical to maintain call records in the call center, but it becomes difficult to maintain call records when you use a manual system. Because a call center receives huge number of calls per day.
- It is a tedious job to maintain different customer service, who are asking for different service details, normally to solve this type of queries is not possible. That is why an an automated system is needed.
- Every employee having different roasters, different shifts timings, manually to handle
- This roaster is tough work.
- Searching for an employee roaster in call center system is a tedious job.

III. PROPOSED APPROACH

To debug the existing system, remove procedures that cause data redundancy, make navigational sequence proper. To provide information about users on a different level and also to reflect the current work status

depending on organization. To build a strong password mechanism.

IV. NUMBER OF MODULES

i. Administration:

Administration is the chief of the Call Center System. He can have all the privileges to do anything in this system. Administrators can register new employees, departments into the system. Admin can keep track team employees and their performance. For every call the administration takes a feedback report. New services are introduced by the administrator into the call center system. Call activity done by the administrator. For every call the admin capture the information of call id, date, time, attended employee id, his roster id, customer information, and recording voice etc.,

ii. Call Center Employees

Here a team of employees means they are maintaining the Call Center.The major responsibility for the employees is they have to receive the call from the customer and process the customer queries. The challenging issue here is that he can give necessary answers to customer queries, because different customers are posting various service queries.

iii. Customers

Customers in the sense of service holders. While using the services the customers have to face any problem then they automatically call the call center and find a solution.

iv. Services

Customer service also known as Client Service is the provision of service to customers before, during and after purchase. Customer service is a series of activities designed to enhance the level of customer satisfaction. Here customer services are provided by a call center person. Customer service is an integral part of a company's customer value proportions. Servicer in the sense of
· Clarifying the customer doubts
· Process the customer queries
· Assign new services to customers

v. Employee Rosters

The maintenance of employee rosters in a call center is a tough job. Every roster has three shifts. Roster has a starting date and ending date and an in charge will be there for

every roster. Call center employees need to follow their roster and shift. Every roster has a holiday also. Admin Can keep track employees rosters and shifts means employees login date and time, log off date and time etc.,

V. FUTURE ENHANCEMENT

This System being web-based and an undertaking of the Cyber Security Division, needs to be thoroughly tested to find out any security gaps. A console for the data centre may be made available to allow the personnel to monitor on the sites which were cleared for hosting during a particular period. Moreover, it is just a beginning; further the system may be utilized in various other types of auditing operation viz. Network auditing or similar process/workflow based applications.

VI. CONCLUSION

It has been a great pleasure for me to work on this exciting and challenging project. This project proved good for me as it provided practical knowledge of not only programming in PHP and PHP web based applications and to some extent Windows Application and SQL Server, but also about all handling procedures related with **"Call Center Executer".** It also provides knowledge about the latest technology used in developing web enabled applications and client server technology that will be in great demand in future. This will provide better opportunities and guidance in future in developing projects independently.

REFERENCES

[1] Bocklund, L. & Bengston, D. (2002). Call Centre Technology Demystified. Call Centre Press ICMI, Maryland.

[2] Gans N., Koole G., and Mandelbaum A. Telephone call centers: tutorial, review, and research prospects. Manufacturing and Service Operations Management, 5: 79–141, 2003.

[3] Dawson, K. (2004). The Call Centre Handbook. CMP Books, San Francisco, USA.
Brown, L. Grans, N. Mandelbaum, A. Sakov, A. Zetlyn, S. Zhao, L. & Haipeng, S. (2005).,

[4] Arivia. Kom (2006). Virtual Contact Center Solution. Accessed 6th April, 2017 from WorldWideWeb:http://www.arivia.co.za/main/ser_sol/31 6565%20VCC.pdf

[5] Bailer, C. (2006). Contact Centers, Model Maturity. CRM Magazine, Vol. 10, Issue 8, pp.13-13.

[6] Bhulai, S. Koole, G. & Pot, A. (2007). Simple Methods for shift scheduling in Multi – Skill Call Centres. To appear in Manufacturing and Service Operation Management. Accessed 15 April, 2017 from the World Wide Web: http://www.math.vu.nl/obp/callcentres/

[7] Schneps-Schneppe M., and Sedols J. Multi-Skill Call Center as a Grading from "Old" telephony. In S. Balandin et al. (Eds) Smart Spaces Wirelessnet-working. LNCS 5764, pp. 154-167, 2009.

[8] Bhulai S. Dynamic routing policies for multi-skill call centers. Prob in Eng and Inf Sc 23 (1),75–99, 2009.