Using Intelligent User Interfaces to Support Contact Centre Operations

Work-in-progress paper

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Abstract – Seventeen percent of all calls received by contact centres are not resolved on the first call. Resolution of customer queries and transactions forms a pivotal role in the daily operations of most contact centres. The focus of this research is to develop a model that employs an intelligent user interface in order to improve the operations of a contact centre. Utilising a multimodal intelligent user interface will provide agents with an intuitive interface that can improve the effectiveness and efficiency of contact centre operations.

Keywords- Contact centres, intelligent user interfaces, contact centre operations, work process flow, knowledge retrieval and representation

I. INTRODUCTION

Contact centres are regarded as an integral force in establishing and maintaining customer relationships [1]. Their sole purpose is to provide a value-added service to a company's customers [2]. A contact centre is considered as an intermediary in the communication process between the customer and the respective organisation [3]. Their role as intermediaries or communication mediums ranges from logging and solving customer queries and transactions to broadcasting marketing propaganda.

Merchant SA's benchmarking report [1], revealed that only 71% of customer queries were resolved on the first call by the agent who answered; 10% of the calls answered were escalated to second and third tier agents. This report also revealed that 17% of all customer queries were not resolved on the first call. The inability to solve these queries and the necessity to escalate the problems reside in the effectiveness of the agent to diagnose the problem and find an adequate solution to meet the customer's needs. Thus, there is a need for a solution that allows agents to describe the problem in a naturalistic manner and to obtain information from the system based on the description provided.

Intelligent user interfaces (IUIs) are considered to be the next wave of interfaces [4], and can be viewed as a means to amplify the interaction and the rate of information flow between humans and computers [5]. IUIs aim to enhance and support the efficiency, effectiveness and naturalness of interaction between the users and computers [6]. Ultimately, the application of IUIs to the domain of contact centres may improve the efficiency and effectiveness of call resolution.

The problem statement for this research can be thus formulated as, to develop a model that employs an IUI in order to improve contact centre operations. The scope is limited to a service desk and its operations to that of diagnosing customer queries and generating information in order to solve those queries.

II. FIELD STUDY

A field study of three South African contact centres was conducted in May 2006 to determine the cause of the problems experienced by contact centre agents. This study consisted of an observation of the agents in their natural working environment followed by an interview with them after a call was answered. The observation of the agents was done in a discrete manner in order to reduce the risk of interpreting incorrect actions and drawing incorrect conclusions as to the nature and severity of the perceived problem. The questionnaire issued to the agents was designed to obtain information relating to the role of the agent at the particular contact centre; the use of information systems and how these influenced their everyday activities; the types of information that the contact centre deals with on a daily basis; problems experienced and how these are solved and what improvements would they like in a contact centre information system.

III. PRELIMINARY FINDINGS

The observations and the interviews conducted revealed the need for an integrated contact centre solution. Presently, agents find themselves switching between third-party calling software and in-house knowledge based software. Figure 1 contains a model of current contact centre operations. Figure 1 also demonstrates that one of the factors influencing call resolution rates is the number of systems with which the agent needs to interact to complete a task. The interviews with the agents revealed that some of them work with up to 13 different systems. The purpose of these different systems is to log and verify customer details as well as to find relevant information required to solve the customer's problems. Customer verification is done, on average, twice using two separate systems with the same data. Knowledge retrieval is typically done in systems that are different from those containing the customer's details. This study also revealed the lack of a customer profile in terms of support received and the availability of the steps followed to resolve a similar issue previously.

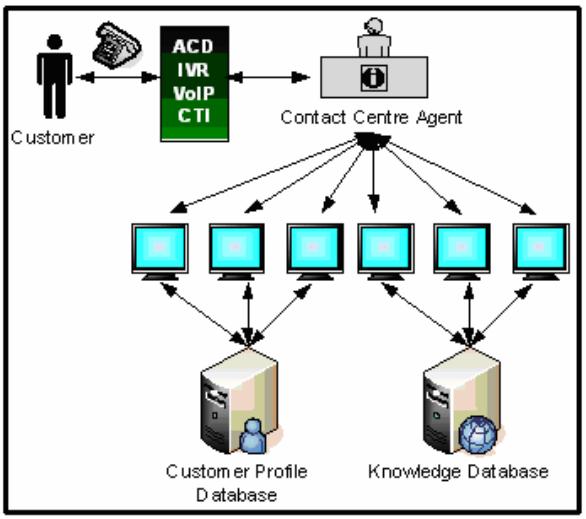

Figure 1 : Model of Contact Centre Operations

Switching through all these applications and the waiting period involved for verifying and retrieving the relevant information contributes to the delay and / or failed response of customer queries on the first call. The next section presents a provisional model for alleviating the current problems experienced by contact centre agents.

IV. Proposed Solution

IUIs can be used to reduce the number of disparate systems used by agents to a single system. This concept is illustrated in Figure 2. Figure 2 shows that although the interaction mode between the agent and the customer remains the same; the manner in which information is queried, validated and retrieved is done through an integrated IUI as opposed to several systems.

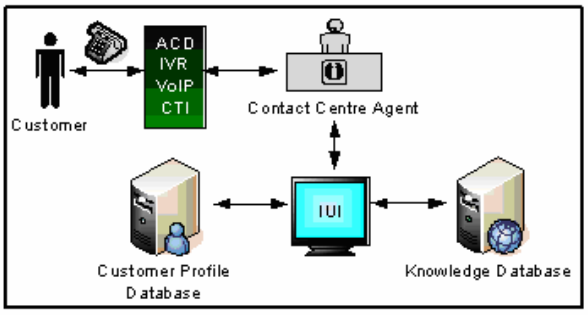

Figure 2 : Extended Contact Centre Model using an IUI

The benefits of employing an IUI should not be limited to its ability to provide an environment that is more efficient. Implementing an IUI would also allow for the detection and correction of user errors and provide a robust sense of multimodal communication [7]. IUIs generally provide the ability to complete a task with a minimal amount of complexity and time as opposed to traditional interfaces [6]. One of the major factors in harnessing the computational power of IUIs is their ability to process and generate natural language input and output [6]. This would allow for the diagnosing of customer queries to be explained in a manner which is understood by the agent but is also comprehensible by the system. The dynamic user modelling capabilities of IUIs would also allow for output to be generated that would be presented in a format that is easily comprehensible by the agent.

V. Conclusions and Future Work

This paper has identified the need to perform research in the field of IUIs and contact centres. The goal of this research is to deliver information through an intelligent interface by enhancing process and information flow.

The envisaged benefits from this research would be an efficient and effective interface in terms of information retrieval and presentation. An IUI would be required to exhibit a dynamic and natural nature with respect to a particular agent. The inclusion of process flow diagrams would eliminate the need to solve a similar type of problem more than once.

The next stage of this research is to design a detailed model specifying the various components of the IUI. This would be followed by the development of a prototype to determine whether the model supports the research goals and objectives. An evaluation of this prototype would determine whether these requirements are met.

VI. Acknowledgement

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VII. References

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