Automating e-Channelling in Mobile Platform using Multi-Agent Technology

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Thesis submitted to the Faculty of Information Technology, University of Moratuwa, Sri Lanka for the partial fulfilment of the requirements of the Degree of MSc in Artificial Intelligence

November 2014

Declaration

I declare that this thesis does not incorporate, without acknowledgment, any material previously submitted for a Degree or a Diploma in any University and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my thesis, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organization.

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Date:

Acknowledgements

I will be failing my duty if I do not thank the people who have given me remarkable support and help to make my project a successful one. At the outset, I wish to thank my father for giving me the idea to come out a project of this nature. Also I wish to offer my humble gratitude to Prof. Asoka S. Karunananda for the guidance and encouragement given to me. Also I take this opportunity to thank all my friends inside the campus and outside the campus who have shared their knowledge and helped me in several ways to complete this process. At last but not least, I wish to offer my sincere thanks to management of Epic Lanka (especially Mr. Shantha Yapa – Head of HR), my mother, sister and Pavithra Madhushani for their support.

Abstract

All human beings wish to lead a healthy life irrespectively of their race, religion, age or social status. Accordingly they temp to seek medical advice or treatment for immediate relief when they feel or sense that they suffer from any kind of illness. They need to consult a doctor in this regard. There are many ways to consult a doctor. The e-channelling has become the most popular way among the patients. Nevertheless, those approaches are time consuming and costly. In these approaches, the process iscomplicated, as the patient or the user has to find out more information from various sources and synthesize them manually tocomplete the e-Channelling process. The main objective of this research is to overcome those identified issues by using the multi agent technology and the mobile technology. i.e., giving more autonomy and reducing the human intervention using the multi agent approach.

Sincethe intelligent agents have the feature of autonomy, the human intervention will be reduced and as a result system will become more efficient. Presently, the mobile phone is a very common device andthe majority of the population use the mobile phones. Therefore, if we can introduce the mobile phonesalso to this system, the process will be more effective and with the few taps on the mobile phones, the answer will be displayed. The proposed system has nine agents. They are, the Message Space Agent, the Hospital Location Agent, the Disease Agent, the Data Agent, the Appointment Managing Agent, the Hospital Checking Agent, the Best Doctor Selection Agent, the Mobile Interfacing Agent and finally the agent that resides on the user's mobile device. The usercan use the doctor's name, the hospital, the category and the disease as inputs. However all the above inputs are not mandatory. If the user wants to search a doctor via disease, only the disease name is required. This same theory will be applicable for the category as well. The salient feature of this system is, that it is able to determine the recommended doctor for the particular category or the disease. Therefore, the user does not require to have any idea or knowledge about the best doctor or the recommended doctor for the particular category or the disease. The core agents in the proposed system are developed by using the JADE. The mobile part of the system is developed by using the JADE-LEAP. The proposed system is evaluated by thirty participants and the results were gathered. The results show that the proposed system is more automated than the current system. Furthermore, it shows that the time and the cost are reduced. Accordingly, the new system will address most of the issues relating to the current system.

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