CROWD-SOURCED USER EXPERIENCE EVALUATION AND ADAPTATION FOR A PERSONALIZED USER INTERFACE

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Thesis submitted in partial fulfillment of the requirements for the Degree Master of Science in Computer Science specializing in Software Architecture

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DECLARATION

I declare that this is my own work and this thesis does not incorporate without acknowledgment to any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgment is made in the text.

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The above candidate has carried out research for the Masters thesis under my supervision.

Name of the Supervisor: Dr. Indika Perera

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Signature of the Supervisor   Date

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ABSTRACT

We have been using a vast array of software products which provide different services. Even there are many products which fulfill the same requirement some software products stand out from the rest. Providing a strong user experience has been the driving factor for the success of a software product. The goal of the user experience design is to improve user satisfaction, loyalty, and ease of use. To maintain constant user satisfaction throughout the product lifetime, conducting user experience evaluations are desirable however these evaluations tend to be short-term evaluations only focusing on initial product designs. This research aims to promote crowdsourcing mechanisms to gather user feedback on the user experience of any website. These evaluations would be carried out through conversations based questionnaires and capture users perspective of the product. The system can be integrated into any website and it will gather users' answers and their sentiment through conversation-based questionnaires. These user evaluations are analyzed to determine what the user desire and user configuration will be saved as personalized content. These personalized content in the user interface are again to be used to represent the website based on the majority perspective. This research aims to provide insight on how conversational chat-bots are capable of capturing personas of the feedback providers and increasing the feedback rate than questionnaires. Based on the feedback gathered through the Chatbot users 73.1% of the users rated that they choose Chatbot over filling online forms. On how Chatbot is capable of mimicking a human being 12% of the users thought they were actually talking to a real human being while 68% thought it was a computer-based program. The application consists of an admin dashboard which represents demographic data, overall sentiment and sentiment score variation over time, which would be an immense help to the usability evaluation of a particular website.

Keywords: usability evaluation, crowdsourcing, conversational interfaces, sentiment analysis

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LIST OF ABBREVIATIONS

Abbreviation   **Description**

UX   -   User Experience

UI   -   User Interface

EM   -   Expectation Maximization

NLP   -   Natural Language Processing

NLU   -   Natural Language Understanding

UUID   -   Universal Unique Identifier

API   -   Application Programming Interface

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