

**Universiti Teknologi MARA**

**A Chatbot Application for Stress  
Management with Dua  
Recommendation based on Emotions**

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**Thesis submitted in fulfilment of the requirements  
for Bachelor of Computer Science (Hons.)  
Computer Science Faculty of Computer and  
Mathematical Science**

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# **SUPERVISOR APPROVAL**

## **A CHATBOT APPLICATION FOR STRESS MANAGEMENT WITH DUA RECOMMENDATION BASED ON EMOTIONS**


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This thesis was prepared under the supervision of the project supervisor, Fadzlin Binti Ahmadon. It was submitted to the Faculty of Computer Science and Mathematics and accepted in partial fulfillment of the requirements for the degree of Bachelor of Computer Science (Hons.)

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## STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my own and that any idea or quotation from the work of other people, published or otherwise are fully acknowledge in accordance with the standard referring practices of the discipline.



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## **ABSTRACT**

Stress is a hindrance to the students' daily production and performance. Students who are facing a lot of stress and sometimes do not know how to manage their stress. Students are also reluctant to visit counselors when they are facing stress. Insight of this chatbot system has been developed to simulate a conversation with human users through text messages integrated into a Telegram platform for stress management by recommending dua based on emotions. In this project, the Dialogflow platform is used to develop the chatbot implementing rule-based technique to catch the matching intents and in recommending dua. Two psychology techniques are implemented in the system which are emotion identification technique and motivational interviewing technique. Both techniques are positive coping techniques that may help in managing stress when the users can identify their feelings and what they can do to solve their problems independently. The system's usability has been tested by tens of university students. Based on the usability testing analysis, majority of the respondents claimed that they are satisfied with the chatbot's features and want to repeat the session next time. On top of that, most of them feel that the chatbot helps manage their stress and wanted to recommend the dua to others. In conclusion, this project has successfully achieved all three objectives that have been identified at the beginning of the process. However, there are further future works that can be done to make the chatbot more user-friendly in the context of training the user's expressions in another form such as voice or image including animated images to fully utilize the Telegram functionality that can also include positive emotions.

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