

UNIVERSITI TEKNOLOGI MARA

**EDUCATIONAL LEARNING: E-JAVA
CHATBOT USING RULE-BASED
TECHNIQUE**

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SUPERVISOR APPROVAL

EDUCATIONAL LEARNING: E-JAVA CHATBOT USING RULE-BASED TECHNIQUE

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This thesis was prepared under the supervision of the project supervisor, Noor Hasimah Binti Ibrahim Teo. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment 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 acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

A chatbot is a tool that helps learners by means of online or personal tutoring helpers. It has been created for various subject areas. A chatbot is normally used by organizations on websites, applications, and instant messaging platforms to promote products or services and as conversation agents to learn languages. However, there are many questions about the potential and the limits of the use of chatbots for learning a programming language. Nowadays education is learning towards education 4.0 learning, therefore education in general as a system must simply adapt to new circumstances and changes in roles. The use of the chatbot or virtual personal tutor as a substitution in the process of learning may act as a learning coach to fulfill the need of education towards education 4.0. This project deployed a rule-based technique, to generates answers for users learning modules and text matching is deployed to automatically give immediate responses to the users based on templates-based questions such as greetings and general theoretical questions. The initial purpose of this project is to develop a personal tutoring tool that provides support to students on java programming language problems. The aim of this project is to identify questions and use of rule-based and text-matching techniques to manages communications and gives the right answers to students. Finally, testing is conducted in order to test its efficiency. In this project, the objective of the project to identify a computer science problem that can be solved using a control structure, develop a system of personal tutoring tools using the ruled-based and AIML technique and lastly able to identify and test the element of the functionality of the E-Java Chatbot is successfully achieved. The limitation that occurred during the development of this project and the recommendation for the future works are discussed.

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