

**Universiti Teknologi MARA**

**Development of User Interface Agent in  
Multimedia Courseware**

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## **DECLARATION**

I certify that this thesis and the research to which it refers are the product of my own work and that any ideas 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**

### **Development of User Interface Agent in Multimedia Courseware**

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Recent years have witnessed the birth of a new paradigm for learning environments: animated interface agents. These lifelike autonomous characters inhabit learning environments with students to create rich, face-to-face learning interactions. This opens up exciting new possibilities; for example, agents can demonstrate complex tasks, employ gesture to focus student's attention on the most significant aspect of the task at hand and express emotional responses to the tutorial situation. Animated interface agents offer great promise for broadening the bandwidth of tutorial communication and increasing learning environment's ability to engage and motivate students. This project develops an animated pedagogical interface agent for multimedia courseware entitled KOMSAS. The introduction of a pedagogical interface agent to KOMSAS courseware enables it to provide higher motivational support to the students and enhances their quality of learning.

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

Eventhough multimedia courseware could provides a more flexible, individually-paced approach compared to traditional classroom based learning materials; it can still be impersonal, confusing and thus de-motivating to a lot of students. Moreover, in both computer-based and conventional learning environments, students often experience frustration of their perceived need in learning in order to keep up with other students, they also reluctance to ask questions, delays in getting feedback of their work from their teacher, difficult to get along with peers who are struggling with similar problems, and uncertainty to use the best methods of structuring their own learning process.

This research describes the research of an interface agent technology as a tool to solve some constant problems in learning environments. It is integrated with conventional multimedia courseware, which leads to not only flexible and interactive way of learning, but also personalized, emotionally responsive, and adaptive to a student's unique needs during their learning process.