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**Universiti Teknologi MARA**

**Synthesizing Agent for  
Wumpus World**

**Ainul Azlinda binti Abu Bakar**

**Thesis submitted in fulfillment of the requirements for  
Bachelor of Science (Hons) Intelligent Systems  
Faculty of Information Technology And  
Quantitative Science**

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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

OCTOBER 11, 2004

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## **APPROVAL**

### **SYNTHESIZING AGENT FOR WUMPUS WORLD**

**BY**

**AINUL AZLINDA BINTI ABU BAKAR**

This thesis was prepared under the direction of thesis advisor, Assoc. Prof. Dr. Azlinah Hj Mohamed, Department of Intelligent System. It was submitted to the Faculty of Information Technology and Quantitative Sciences and was accepted in partial fulfillment of the requirements for the degree of Bachelor of Science (Hons.)(Intelligent Systems).

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بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

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## **ABSTRACT**

The developing of intelligent agent has become a major research for many researchers currently. However, a little had focused on developing an agent synthesis. The domain of this thesis is traditional wumpus world that is enhanced and modified to be the synthesizing agent wumpus world. Therefore, this thesis objective is 'to identify the enhancement and modification needed and to create synthesizing agent algorithm that is sound for the synthesizing agent wumpus world. Agent synthesis is an automatic programming that will automatically deliver an agent into an environment, and will do the task given successfully in that particular environment. The major enhancement and modification have been made to the rules, actuators, and sensors of the traditional wumpus world. This thesis used a few approach in developing agent synthesis such as depth-first search and synthesis scheme. This technique is used by the agent synthesis to ensure that it will be synthesize into a right square and at the right time. As a result, the agents are able to achieve its goal in a shorter time and more accurately. This thesis would give ideas for future work in producing more quality agent syntheses. In conclusion, synthesizing agent could be a great solution to overcome the problem in an environment.