

# Conclusion and Further Works

### 8.1 Introduction

In the previous chapter the evaluation of the system was described. This chapter discusses the overall achievement quantitatively. Also stated the achievement of each objective. Finally describe the limitations and some further works which can be done for this system.

### 8.2 Conclusion

The curriculum design system has taken an integrated holistic approach to curriculum design and maintenance. To achieve the goals this report has reviewed state of the art of computer based design approaches in curriculum. Upon identified few major issues in the area of curriculum design such as higher time consuming, many parties involve in design in design curriculum, always changing needs in curriculum and Curriculum Design is cater for diversification. Among all these issue we identified that the curriculum design through the negotiation among different parties was not address properly with the already available solutions. Therefore as a solution to the above issue this report proposed multi agent based curriculum design system. And it was proposed to use curriculum ontology to provide domain knowledge to the resource agents. Agents were created using JADE and the Ontology has been created using Protégé.

I encourage using this system by the people who involve in designing the curriculums such as academic members. The system will be able to run on an ordinary PC. The system has achieved the specified requirements and has met its objectives and these are discussed below.

The objectives of the project are as follows;

- To critically study about curriculum design process
- To critically study about current software solution for curriculum design
- To study about Multi Agent technology
- To design and develop a Multi Agent system for curriculum design
- To evaluate the proposed Multi Agent solution for curriculum design
- To document the final dissertation

I was able to achieve above objectives successfully to large extent. Lot of research was done to identify the issues in curriculum designing process, where I studied several existing applications in the area of curriculum design, their features, functionalities, etc., to gain knowledge about the problem domain and also the importance of my solutions. Relevant studies and readings about Multi agent systems and Ontologies paved the way for me to acquire a good knowledge on these technologies which were very useful to develop the ontology and multi agent system. This project gave me a good exposure to various techniques in designing curriculums.

Multi agent systems offer several advantages in curriculum design despite the complex environment. Using Multi Agent System with the ontology to design curriculums was very successful. Most of the participant agreed on using Multi Agent technology to solve this kind of problems. The system was tested using the curriculums in the faculty of information technology. The rate of credit balancing was very high and the satisfactory in content checking was in a middle position and satisfactory in prerequisites checking and equivalent module checking was in moderate position. Therefore the entire system has been able to produce around 70% successful solution.

### **8.3 Further Improvements**

The implemented curriculum design system can be further developed by adding more functionality for this system. Then we are able to increase the functionalities and well as quality of the system. As the foundation of Multi Agent based curriculum design system, we consider some main fact to get an output. But when further develop this system; there are many things to do with that in different ways.

Further improvements to the systems will be done as per improvement of the content management of the system. Currently the content has been tested for only one external curriculum. Therefore system can give results comparing only one curriculum. But if there are many curriculums it can produce more generalized and accurate content for a particular module.

In this system we only did the keyword checking for the content. If it can search the word with the meaning in mind then this system will be more comprehensive. Then it will search not only the same keyword but also same content in different wording. Also this system only searches the module content from different curriculum which can be similar to the given content. But it does not check whether there is similar learning outcomes within the different module same curriculum. Therefore as a further improvement one can do the above task.

### **8.4 Summary**

Within this chapter we stated, brief description about achievements of our objectives related to the autonomous solution for curriculum design. And also describes problem encountered within the implementation and limitations of implemented system. Finally describe some further developments which can be used to improve the performance of the system.