CHAPTER I

INTRODUCTION

1.1 Background

Schedule is very important in our daily lives, one of them is the schedule courses. Schedule courses designed to help the lecturers determine when the lecturers will teach and where the class is. Otherwise, the lecturers also have a second job in addition to being a lecturer, which can only make the lecturers teaching on certain days and at certain hours. In addition there are still some requirements in the course schedule, such as max credits per day in each class, and max lecturers teach in a day.

Because the reasons above, scheduling courses will be difficult at the beginning. Therefore this project develop an application to scheduling courses using particle swarm optimization. This application can give suggestions in the form of a schedule optimization so that making a schedule course would be more better schedule without being confused. This application also can save schedule optimization into text, so when the schedule optimization is needed, the schedule optimization can be loaded again.

1.2 Scope

This application is created with PHP language programming, using array and tree as data structure. Particle Swarm Optimization algorithm is used as the main algorithm.

Advantages of this application is:

1. It can make schedule optimization which can help people to make a better and faster schedule courses.

2. There are 2 types of courses: courses with fixed position and courses which can changes positions.

3. The schedule optimization can be saved into an text file and can be loaded again into timetable schedule.

1.3 Objective

This application was made to give suggestion to make a scheduling courses in a form schedule optimization. This application can save the schedule optimization / suggestion into a text file and load it again.