

LEARNING PATH TRACKING SYSTEM

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Dedicated to my family and my best friend. Thank you very much being supportive and understanding. Truly appreciate it.

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ABSTRACT

Learning Path Tracking System (LPTS) is a system that will be used to produce student's learning paths based on their result in every semester. The Learning Path Diagram is used to guide students clearly on subjects that have to be taken in every semester in order to complete their Masters program. LPTS consists of several modules that can be used as a mechanism to manage overall M.Sc. programme conducted by Advanced IT Institute (AITI). It varies from managing student and lecturer profiles up to managing subject registration and results. Reports generated not only useful for management but for all LPTS users. The absolute aim is to improve on student's performance, as the Learning Path Diagram was developed to accelerate student's progress so that they can complete their Masters program thoughtfully, systematically and quickly. Hopefully the LPTS will be successfully implemented and can be fully utilize not only by AITI but also UTM intentionally.

ABSTRACT

Learning Path Tracking System (LPTS) adalah sebuah sistem yang akan digunakan untuk menghasilkan Gambarajah Laluan Pembelajaran bagi setiap pelajar berdasarkan keputusan peperiksaan setiap semester. Gambarajah ini amat berguna sebagai panduan kepada pelajar untuk menunjukkan mata pelajaran yang perlu diambil pada setiap semester untuk melengkapkan program Sarjana mereka. LPTS mengandungi pelbagai modul yang boleh digunakan sebagai alat untuk mengurus keseluruhan program Sarjana Sains yang dikendalikan oleh Advanced IT Institute (AITI). Pelbagai modul telah disediakan dari pengurusan profil pelajar dan pensyarah sehingga kepada pengurusan pendaftaran mata pelajaran dan keputusan peperiksaan. Laporan yang boleh dijana bukan sahaja berguna untuk pihak pengurusan malahan untuk semua pengguna LPTS juga. Tujuan utama adalah untuk memperbaiki pencapaian pelajar, selaras dengan tujuan penghasilan Gambarajah Laluan Pembelajaran iaitu untuk melancarkan pencapaian pelajar supaya program Sarjana dapat diselesaikan dengan penuh dedikasi, sistematik dan tepat pada masanya. Harapan agar LPTS akan berjaya dilaksanakan dan akan digunakan sepenuhnya bukan sahaja oleh AITI tetapi oleh UTM juga.

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CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

Learning Path Tracking System is a system that will be used to produce student's learning paths based on their result in every semester. The Learning Path Diagram is used to guide students clearly on subjects that have to be taken in every semester in order to complete their Masters program. Some of the subjects have pre-requisite subjects that must be taken and passed before they can proceed with that particular subject.

The learning path was developed to accelerate student's progress so that they can complete their Masters program thoughtfully, systematically and quickly. A Learning Path Diagram will outline the subjects that a student need to take and the order in which they ought to take them. The learning path must be updated on every end of semester based on the student's result in that particular semester. The system will update the learning path based on the grades obtained. The system will propose subjects to be taken next semester. The system will also highlight other subjects that can be taken for the next semester. The students can than choose either to stay with the proposed learning path or modify and arrange according to their demand and capabilities.

The system will be develop as flexible as possible. It will allow the AITI's staff to arrange and modify the learning path according to student's demand and capabilities. Students can also set their study duration by arranging and modifying the learning path themselves that later will be approved by the coordinator.

1.2 Background of Problem

A learning path diagram will be given to every student on the first day of registration for the Masters program. From the diagram, the student will get a brief and clear picture of all subjects that must be taken in order to complete the program. They will also get the suggested duration of completion planned for them.

At every end of semester, AITI will receive examination results from Sekolah Pengajian Siswazah (SPS). The staff will later key in the grades into the AITI Examination System. The system will produce the CPA and GPA for every student. The system will also highlight on grades that failed and did not meet the minimum passing grade.

The problem is there is no mechanism to relate the grades with the learning path. The grades should reflect on the learning path that later will determine subjects to be taken next semester. If a student failed a subject, the Learning Path Diagram from Learning Path Tracking System will duplicate the subject into next semester indicating that the student has to re-take the subject. Sometimes, if the CPA and GPA achieved are over 3.0, the staff oversees that there are subjects that did not meet the minimum passing grade.

Problems in arranging and modifying learning path into desired duration of completion should also be managed by this system.

1.3 Statement of the Problem

- No mechanism relates the grades and learning path
- Overseeing subject that did not meet the minimum passing grades
- No mechanism in arranging and modifying according to desired duration of completion

1.4 Statement of Purpose

The purpose of this study is to implement and introduce new improved method in producing student's learning path diagram for AITI. It will help the coordinator to closely monitor each student's performance in every semester.

1.5 Project Objective

- To study and analyze current method of producing a learning path for every post-graduate student
- To design and develop Learning Path Tracking System
- To improve the efficiency and effectiveness of students performance and monitoring
- To formulate organizational strategies for the implementation of the system

1.6 Project Scope

- To involve actual data from Advanced Information Technology Institute (AITI), UTM City Campus
- To provide at least the following functionalities:
 - Integration with AITI Examination System
 - Provide analysis on subjects offered (its pre-requisite condition)
 - Tracking of student's results
 - Provide analysis of student's performance in every semester
 - Provide learning path for student based on duration of completion
 - Provide an updated learning path diagram for every student based on their results every semester
 - Provide management reports

1.7 Project Importance

This project will produce two important reports, which are:

- Management Report – The coordinator and management may use the results from the Management Report to augment other sources about the student. The report will confirm or clarify the coordinator and management about student's performance in every semester. The report can also be used to alert them to new considerations in improving student's performance and monitoring.
- Student Report – Students can learn more about their performance and subjects offered by the program. This report will help them to create and modify custom learning path to match their capabilities and required duration of completion.

1.8 Chapter Summary

Learning Path Tracking System is a system that all Academic Center should have implemented. This system will make tracking and monitoring process easier for Coordinator, Lecturer and also Student.

The Learning Path Diagram produced will give student a brief and clear picture of all subjects that must be taken in order to complete the program. They will also get the suggested duration of completion planned for them.

Examination Results obtained by students every semester will be integrated to this proposed system to produce more meaningful diagram. The updated Learning Path Diagram will be used in performance evaluation.

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