**1.3 General Objective**

The main aim objective of developing this system is creating a platform for Strathmore University students, lecturers and faculty administrators to better view and manage the lecture rooms as a resource which mainly includes remote capability to easily reserve rooms as well have an instant view of vacant rooms in the campus at any given time for the users’ convenience.

**1.3.1 Specific Objectives**

1. To identify key components of a Lecture Room Resource Management System
2. To review the integrated software development platform to be used in development of the system i.e. Eclipse ide
3. To review MySQL database management system which will be used in the development of the system
4. To develop a Lecture Room Management System
5. To test the system’s functionality

**1.4 Justification**

The Lecture room management system used currently by the university (<http://timetable.strathmore.edu/>) does not implement the functionality of allowing students to have an instant view of the campus’ vacant lecture rooms at a given point in time. An implementation of a system that has this capability would be of high value to empower the average Strathmore University student.

Despite, having room reservation functionality, this can only be done with intervention from the different faculty administrators i.e. a given lecturer cannot conveniently reserve a vacant room without consulting the administrator. The proposed system will enable this function to be done directly by the lecturer from any terminal or personal computer within the campus.

The final crucial characteristic of the proposed system focuses on simplicity. The current system in use in very complex and difficult to interpret the information displayed pertaining the campus’ lecture rooms. The proposed system will focus on user-friendliness to enable any student or lecturer to understand the functionality of the system and to enable them to easily interpret data displayed.

**1.5 Scope**

The prosed system will be limited to offer the services to fulltime students i.e. it will display daily information on the campus’ lecture rooms between 8.15 a.m. and 5.15 p.m. The reason for this is the continuous nature of evening classes done by part time students in relation to the main aim of the proposed system. Since a part time student has only one class at any given day in school, they do not experience “slack time” in between classes for that given day. The system would thus be ideally irrelevant in their case and implementation of a similar functionality for evening classes would not be economical.

Administration privileges which include vacant room reservation and engaged room clearance (e.g. in cases of cancelled classes) will be limited to university lecturers, class representatives, module leaders and faculty administrators. Other users which include students will only be allowed a view-only mode of access.

**Chapter Two: Literature Review**

**2.0 Introduction**

This chapter will give a summary of the current state of lecture room resource management systems. Its main aim is to identify and explain concepts specific to components used in the development of the system. A literature review is a summary of a subject field that supports the identification of specific research questions – it distills the existing literature in a subject field; its objective is to summarize the state of the art in that subject field (J Rowley, 2004).

**2.1 Components of Lecture Room Resource Management System**

To enable security of a Lecture Room Resource Management System, access control is implemented by use of a log in module that prompts users for a pre-defined username and password. These parameters, should they be authorized, allow a user to access the system as well as identify the type of privileges they have. In the proposed system, access control will be in the criteria of faculty administrator, lecturer, class representative, module leader and student, each having a set of unique privileges.

Other components of a Lecture Room Resource Management System are as follows:

1. Database
2. Remote Server Connection
3. Program
4. Access List Controllers

**2.2 Eclipse IDE**

Eclipse is one of many integrated development environments (IDE). IDEs are software applications that provide comprehensive tools for software development. Though not necessary for use in software development, they are highly useful for this specific purpose and result in greater efficiency and convenience for programmers.

Eclipse is an open-source cross platform IDE. Though supporting several programming languages, it is mainly used for development of software applications using Java. Other IDEs that support development of Java applications include NetBeans, BlueJ, JCreator and several others. The main advantages of Eclipse over other IDEs include the following:

1. It has a more efficient syntax checker which help in auto completion of code as well as detecting errors promptly
2. The development environment is can be better standardized to suite the programmer’s needs
3. Eclipse needs significantly less storage requirements as compared to an IDE such as NetBeans
4. It is simpler to use as compared to other IDEs

**2.3 MySQL Database Management System**

A database management system (DBMS) is a collection of programs that enables you to store, modify, and extract information from a database (Vangie, 2010). MySQL is an open source database management system that uses Structured Query Language (SQL) for extracting database information and is one of the leading relational database management systems commonly used by businesses (Giacomo, 2005).

Other common Relational Database Management Systems (RDBMS) used include PostgreSQL, Oracle, MS SQL Server and Informix. Illustrated below is a general comparison of these RDBMs’ advantages and drawbacks.

|  |  |  |
| --- | --- | --- |
| **RDBMS** | **Advantages** | **Drawbacks** |
| Oracle | Versatile, stable, and secure | Potentially high Total Cost of Ownership(TCO) |
| MS SQL Server | Stable and secure; Microsoft offers excellent support | Relatively high TCO; proprietary. |
| PostgreSQL | Up-and-coming database with low TCO | Has yet to be widely implemented in large-scale business use. |
| Informix | Stable; has good support available. | Generally higher TCO |
| MySQL | Offers a best-case-scenario database in many ways; low TCO; high stability; high security and excellent support. | Not all available versions can offer the full range of MySQL capabilities. |

MySQL is the Relational Database Management System that will be used in the proposed system.

**References**

Rowley, J., & Slack, F. (2004). CONDUCTING A LITERATURE REVIEW. *Management Research News*, *27*(6), 31-39.

Giacomo, M. D. (2005). MySQL: Lessons learned on a digital library. *Software, IEEE*, *22*(3), 10-13.

MySQL, A. B. (2001). MySQL.