

A Case Study of an Online Assignment Submission System at UOM

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Abstract—Almost all universities include some form of assignment in their courses. The assignments are either carried out in either in groups or individually. To effectively manage these submitted assignments, a well-designed assignment submission system is needed, hence the need for an online assignment submission system to facilitate the distribution, and collection of assignments on due dates. The objective of such system is to facilitate interaction of lecturers and students for assessment and grading purposes. The aim of this study was to create a web based online assignment submission system for University of Mauritius. The system was created to eliminate the traditional process of giving an assignment and collecting the answers for the assignment. Lecturers can also create automated assessment to assess the students online. Moreover, the online submission system consists of an automatic mailing system which acts as a reminder for students about the deadlines of the posted assignments. System was tested to measure its acceptance rate among both student and lecturers.

Keywords—Assignment, assessment, online, submission

I. INTRODUCTION

COLLEGES and universities are considered the main provider of knowledge in various fields. Various courses of studies are taught in institutions, covering several fields including applied Sciences, Math, Computer, Human Resource, and Accounting. Most courses at universities consist of theoretical as well as practical subject matter. To evaluate the level of understanding and degree of comprehension among students, assignments are often given.

Assignments are submitted by students either individually or in groups. Assignment management involves collecting, marking, and redistributing to students. Tregobov [1] breaks the process down into four stages: submission, recording, marking, and return. Online assignment submission and management (OASM) involves the use of the World-Wide Web, the Internet and computers to aid this process [2]. With traditional assignment submission system, lots of problems arise especially when the students have to submit the answers of the assignment to the lecturer. There may be problems due to distance, time, or format of the assignment (written or printed). Also every learning process requires administrative support. Much of this administrative support is to some degree transparent but if the latter is not well organized it could disrupt the flow of learning between students and the staff.

As the educational world is moving faster and becoming more competitive, almost every university started to use an online submission system, or newer technologies to facilitate their task, to have more time, and to be in pace with this fast moving IT world.

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Thus, an online assignment submission system will be able to cater for a wide range of requirements either for students or lecturers at UOM.

II. RELATED WORK

Many submission systems, which have alleviated the tasks of lecturers in several ways, exist. However, most of them could not meet all required criteria for an ideal submission system. The inherent problem with an email based submission system [3] lies in its security and its capacity for attaching files. Most existing submission system do not allow for structuring of files, automatic correction of automated assessment [4]. Also, some [5] cater only for one type of assignment while others [6] do not put emphasis on due dates and students can submit assignments even after submission date is over. All these problems have led to the development of an online submission system with desirable features.

In this study, a web-based online submission system for submitting assignments on due date will be introduced. The system provides benefits to students and lecturers and it allows students to submit their assignment any time and from anywhere (home, cybercafé) before due date.

III. PROPOSED SYSTEM

In the revolution of the digital era where information can be accessed anywhere and at any time, a web based online submission system has been developed. According to research done, Sam Hsu [7] proposed a web based Automated Homework Submission System with three modules namely a User Interface Module, Submission Acceptance Module and Grader interface Module. Based on this proposed architecture and recommendations given, the online submission system was modeled. The new system will allow the tutors to upload files, export marks to an excel sheet, students to download files, participate in online assessment and system to send reminders about deadlines to students.

The web based online submission system is considered as an enhancement of the previous online submission systems and solves the below listed problems:

1. When doing group assignment, each student has to submit same copy
2. Students forgetting due dates
3. Students are not notified when there is an assignment uploaded, hence tutors have to send an email to whole class or put a note on the notice board.
4. File size limit for uploading, students cannot upload their assignment if they are greater than some assigned size
5. Unorganized files uploaded by students leading to cumbersome task of reorganizing the files by lecturer

Modeling of the system required several design considerations in term of:

Portability–The assignment submission system shall operate on different OS platforms and browsers.

Maintainability–The assignment submission system can be enhanced without disrupting the existing system.

Robustness–The assignment submission system shall be able to bear unpredictable inputs and response to these inputs without crashing.

Performance–Performance deals with how fast the assignment submission system will respond to the user inputs. The system will be accessed concurrently and it is important for it to response quickly to various loads.

Security–The system will be accessed by both lecturers and students, hence different levels of security measures have to be applied.

Availability–System availability is of utmost importance as students could miss to submit their assignment on due dates

The architecture of the proposed system consists of database server, a web server, a graphical front end user interface module and web administration site. The web server is connected to the database server and it hosts the web administration site. Through the web administration site, lecturers upload their assignment into the database. Students can download the assignments from the database via the web administration site and upload their answers back. After submission of assignments, the online system will organize the files received from different students into respective folders sorted by Student ID.

Lecturers can upload automated assessment in the form of Multiple Choice Questions; fill in the blanks and matching questions on the web administration site. For the automated assessment, automatic marking will be done for each student and results will be sent to the tutor to keep track. After marking the assignment, lecturers can export all marks related to a particular student to an excel sheet where the course mark can be calculated. The Online system also sends a text message to students notifying them that new assignments have recently been uploaded. Furthermore, reminders are sent to students by email when due dates are near.

IV. IMPLEMENTATION AND TESTING

The Online submission system was developed by using PHP as server scripting language, MySQL as database, Apache as web server and NuSphere PhpED 5.6 [8] as developing tool. XAMPP/LITE [9] is a complete web, database package that is ready to use and it consists of an integrated server package of MySQL and Apache where PHP also can be run. Hence XAMPP/LITE has been used for developing this system. The web administration site which is designed for the instructors is mainly use to publish assignments. The graphical front end user interface is used by students to answer the automated assessment created by lecturers.

The system was tested in UOM with eighty five students. The online system was made available on the server at UOM. Several assignments were uploaded by six lecturers for six different modules in a particular course. Students enrolled in respective modules downloaded assignment, worked on them and finally submitted on due date. Students also take part in automated assessment in the form of Multiple Choice Questions. The system was tested for concurrency in order to allow both lecturers and students to use the system at the same time. A first survey was then carried out among the students involved in the testing of the system. A questionnaire was designed and consisted of the following questions: Was the system user friendly, did you get any problem for using the system, did the system take time to respond, did you like the automated assessment, are you satisfied with such a system. Fig. 1 displays all results obtained.

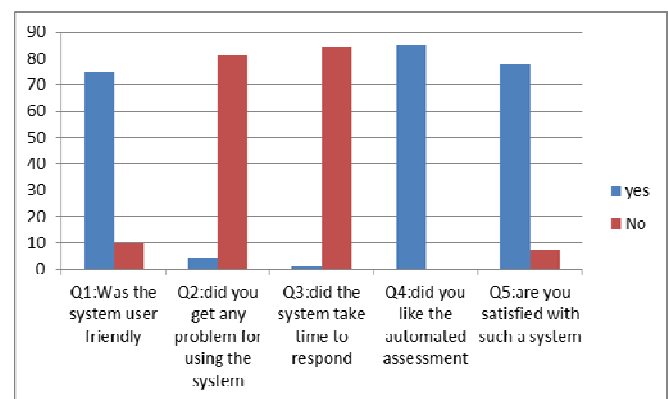


Fig. 1 Evaluation of Online Submission System based on students responses

From the results it can be deduced that 88% of the students found that system was user friendly, while the rest does not. Also, it was observed that only about 5% of the students get problem while using the system and 1% said that system take time to respond. All of the respondents, i.e. 100 % liked the automated assessment and 91 % are satisfied with the system. A second questionnaire was designed and distributed among the lecturers involved in the testing phase. Questionnaire included questions as: was the system helpful to upload assignment, was the task for correcting the assessment alleviated using by the automated exercises, did such system prove to be helpful. The results are displayed in Fig. 2. It was observed that 66% found that the system is user friendly; all the lecturers found the task for correcting assignment alleviated by use of automated assessment and 83% found the system helpful.

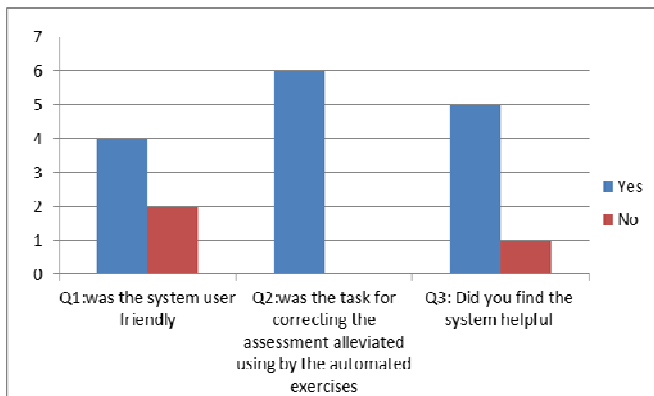


Fig. 2 Evaluation of Online Submission System based on lecturers responses

V.CONCLUSION

A web based online submission system which facilitated submission of assignments by students has been presented. The system was implemented using XAMPP/LITE. System consisted of modules where students could download assignment, participated in automated assessment created by lecturers and upload their assignment on due dates. Notifications are sent to students when new assignment is available and upon submission system organized the assignment into respective folders sorted by Student ID. Evaluation of the web based online submission system was done through survey among University students and lecturers. Test results showed that system most of the users (lecturer and students) concluded that system is very user friendly and would be very helpful to UOM.

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