International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: 6.614
Available Online at www.journalijcar.org
Volume 10; Issue 03 (A); March 2021; Page No.24008-24013
DOI: http://dx.doi.org/10.24327/ijcar.2021.24013.4757

Research Article

E-ASSIGNMENT SYSTEM FOR COLLEGE AND UNIVERSITY DEPARTMENTS

Narendra M. Jathe

Department of Computer Science, Smt. Narsamma Arts Commerce and Science College Amravati, Maharashtra (India)

A R T I C L E I N F O

Article History:
Received 6th December, 2020
Received in revised form 15th January, 2021
Accepted 12th February, 2021
Published online 28th March, 2021

Key Words:
Communication, E-Learning, Learning tool, Virtual learning environment.

A B S T R A C T

Since the Internet was adopted and further developed as a means of communication by educational institutions in the 1970s, academics have been aware of its massive potential as a learning tool. In recent years, Governments of both developed and under-developed nations have become increasingly excited about the possibilities of online learning to deliver cost effective, easily accessible and ever-current education to all ages and social backgrounds, regardless of time and geography.

E-Learning exploits interactive technologies and communication systems to improve the learning experience. It has the potential to transform the way we teach and learn across the board. It can raise standards, and widen participation in lifelong learning. It cannot replace teachers and lecturers, but alongside existing methods it can enhance the quality and reach of their teaching, and reduce the time spent on administration. It can enable every learner to achieve his or her potential, and help to build an educational workforce empowered to change. It makes possible a truly ambitious education system for a future learning society. In this project student can submit assignments and activities online, posted by the professor.

INTRODUCTION

An online assignment handling is a system contained within the Module virtual learning environment. The functionality of the standard assignment handling module has been extended to cater for all the Department's needs in terms of receiving assignments from students, making them available to tutors to mark, returning grades, comments and marked work to students and keeping Registry and course administrators informed at all stages of the process. Extension requests are an integral part of the system.

Universities and Colleges of education 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. Breaks the process down into four stages: submission, recording, marking, and return.

Online assignment submission and management involves the use of the World-Wide Web, the Internet and computers to aid this process.

Corresponding author:* **Narendra M. Jathe
Department of Computer Science, Smt. Narsamma Arts Commerce and Science College Amravati, Maharashtra (India)

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.

Motivation

Informational challenges play a significant role in societal development since they contribute immensely in the proliferation of knowledge. Easy and effective proliferation of knowledge should be the main raison d'être of modern information technology.

Colleges and universities are considered the main provider of know-how in various fields. At these institutions, various courses of studies are taught, covering several fields including applied sciences, math and computer. Normally, a given course at College and University consists of the theoretical as well as practical subject matter. To evaluate the degree of

comprehension among students, assignments are given. However, evaluating and marking the assignments by instructors are a problematic and time-consuming process.

Statement of Problem

Many reported failures in courses thought in the tertiary institutions can be attributed to the careless of the course representative or the teaching assistant who failed to submit an assignment paper to the lecturer for marking. Such careless could lead to a zero mark for the victim whose paper was declared missing or simply not found. The manual method of submitting assignments to the course lecturer or directly to the lecturer in most of the universities is simply not effective as these papers could get damaged or get missing due to the carelessness of the course representative or the lecturer.

Moreover, assignments that are large in terms of pages or volume could easily discourage a student from submitting due to financial constraints brought about by high cost of printing an assignment. All these problems highlighted are the main reasons the researcher is developing an electronic assignment submission system to curtail these challenges and make studying more enjoyable in our tertiary institutions.

Paper Scope

The study will aid faculty to have a well-structured system for assignment submission. This will eliminate paper work in their offices and improve on their efficiency in managing students assignments. Unlike attaching files in a mailing system like yahoo mail and Gmail and sending to a lecturer, this system systematically arranges assignments with respect to courses, departments and students ID, creating a more user friendly environment for both the students and the faculty.

Objective of Paper

The main objective of the paper is to design and implement an online assignment submission system. Specific objectives of the study are:

- To develop a system for proper documentation of students' record in the College and University system.
- To create a database that will manage each student assignment submission and allow access by faculty to access those files submitted by the student.
- To Create a quick search and advance search that the student/faculty when sorting a file.
- This proposed system is geared towards providing a system to assure equal opportunity and impartial review of student assignment submission.
- The system to be developed will provide a full College and University system by that will take cares of faculty registration, course registration, department registration, admin registration, student registration, and article entry.

Paper Deliverables

The main deliverables of this application of paper will be the complete software system and the software engineering document that include:

- Software Requirement and Specification
- Software Design Document
- The Software engineering document will be constructed.

LITERATURE REVIEW

Faez, Poorya *et. al* [1] reviewing several similar system and technologies that going to be used in developing the prototype. The system design for assignment and project submission process is being discussed. The working prototype was developed and some functionality is highlighted. The impact of the system to students, lecturers and University are discussed. The proposed system helps reducing and minimizing human error, capable to assist supervisors in process controlling and managing students. Supervisors can check the student projects' statuses, the uploaded files online and assist them while they are working in the project if necessary. The proposed system decreases the complexity of managing projects for student by providing them with the current status of their projects and the progresses with their supervisors. Moreover, the proposed system allows supervisors to share documents and files with their students and communicate with them through video call and text chat.

Hasan, Syed [2] proposed system will save our students time as they won't need to wait on queue on submitting their assignments and also can give feedback which is not available in our current system. At the same time the current system doesn't have the functionality for the lectures to give feedback but our proposed system will have. Although there are some advantages in our proposed system, we are also concern about the limitations. Limitation in our proposed system will be not allowing students to upload their assignments multiple times and submit. Each student will have only one time access for each module will submitting assignments through thus system.
Quteishat *et. al*. [3] systems that give the ability to submit an assignment online, in an easy method for the student and the lecturer who will receive and evaluate the student work; also it gives the ability for the student to submit the assignment from different locations served by internet. The proposed model is based on identifying the user functionality that must exist in the OAS. The expected result from this model is to show the result of function test from the teacher side in e-learning process. Assignment management involves many tasks starting with assignment gathering, date stamping, and redistribution to tutor for marking, collation of results, and return it to students. It is common nowadays to use software to facilitate and add value to the process of assignments submission, facilitated by the ubiquity of Internet access, and the relative affordability of computing equipment.

Cheng, T.L. [4] Web-based Online Assignment Submission (OAS) system is a robust web-based online assignment submission system for students and tutors at Wawasan Open University. With respect to the demands of its fairly diverse and mobile student population and to the constraints of submission of students' assignments, the first in house built OAS was developed in late 2007. It was created especially to facilitate students' online assignment submission anywhere, anytime and make it for possible tutors to download students' Tutor-Marked Assignment (TMA) and upload marked assignments together with online feedback to individual students. The OAS has been through developmental changes several times since it first debuted in July 2008. Such developmental changes have yet to be evaluated from the end-user perspective. The intention of the system was to better facilitate end-users experiences compared to previous or existing systems. This study looks into students' and tutors' responses regarding perceived efficiency, helpfulness, control

and learnability of in-house built OAS. A survey questionnaire was distributed to students and tutors to obtain data. The findings of this study suggest both that participants were generally quite positive in their overall impression of the four tested components. Tutors responses were found to be more positive than students in terms of the efficiency component. This study also verified the perceived positive features of OAS and identified some concerns about features that need to be further improved such as inflexibility to revise mistakes and length of time it takes to upload files. Findings of this study can help to provide guidelines for similar future system development to an OAS in an e-learning institution.

V. Ramnarain-Seetohul *et. al*. [5] 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.

FEASIBILITY STUDY

NP-hard (non-deterministic polynomial-time hard), in computational complexity theory, is a class of problems that are, informally, "at least as hard as the hardest problems in NP". A problem H is NP-hard if and only if there is an NP-complete problem L that is polynomial time Turing-reducible to H (i.e., $L \leq TH$). In other words, L can be solved in polynomial time by a machine for H. Informally, we can think of an algorithm that can call such a machine as a subroutine for solving H, and solves L in polynomial time, if the subroutine call takes only one step to compute. NP-hard problems may be of any type: decision problems, search problems, or optimization problems.

As this application falls in the decision problem type, for each folder we calculate the probability for going in each label. Here we cannot process the Natural Language Problem (NLP). So, in general text classification problem is NP-hard.

Once scope has been identified (with the concurrence of the customer), it is reasonable to ask: “Can we build software to meet this scope? Is the project feasible?” All too often, software engineers rush past this questions (or are pushed past them by impatient managers or customers), only to become mired in a project that is doomed from the onset.

When we are developing the system (software), we must know the proposed system will be feasible or i.e. practically implemented or not it may possible the proposed (candidate) system may not implemented due to many reasons like it may take long time in development than the specified time limit ,cost may increase than proposed one etc. Therefore we must analyze the feasibility of the system.

Feasibility is the analysis of risks, costs & benefits relating to economics, technology & user operation. There are several types of feasibility depending on the aspect they covers. Some important feasibility is as follows

Technical Feasibility

A large part of determining resource has to do with assessing technical feasibility. The analyst must find out whether current technical resources can be upgraded or added to in a manner that fulfills the request under consideration. Sometimes “add-ons” to existing systems are costly and not worthwhile, because they meet needs inefficiently. If existing systems cannot be added onto, the next question becomes whether there is technology in existence that meets the specifications. The project is analyzed along with the technical resources which are required for developing the proposed system. The technical resources are found to be feasible.

Economic Feasibility

Economic feasibility is the second part of resource determination. The basic resources to consider are the time and the cost of doing a full systems study including the estimated cost of hardware, and the estimated cost of software. The concerned business must be able to see the value of the investment it is pondering before committing to an entire systems study. If short- term costs are not overshadowed by long-term gains or produce no intermediate reduction in operating costs, the system is not economically feasible and the project should not proceed any further. The resources required for developing the system are identified such as software and hardware. The requirement of software and hardware are found to be economical.

Operational Feasibility

Consider for a moment that technical and economic resources are both judged adequate. The systems analyst must still consider the operational Feasibility of the requested project. Operational feasibility is dependent on human resources available for project and involves projecting whether the system will operate and used once it is installed. The proposed project is analyzed along with the resources needed. From the theoretical study of the proposed system, it is found that the system will supports data sets to perform extracting informative contents from database.

PROPOSED SYSTEM

Requirement analysis for web applications encompasses three major tasks: formulation, requirements gathering and analysis modeling. During formulation, the basic motivation and goals for the web application are identified, and the categories of users are defined. In the requirements gathering phase, the content and functional requirements are listed and interaction scenarios written from end-user’s point-of-view are developed. This intent is to establish a basic understanding of why the web application is built, who will use it, and what problems it will solve for its users.

Proposed System Features

- Assignment: a task or piece of work allocated to someone as part of a job or course of study.
- Student: A student or pupil is a learner, or someone who attends an educational institution.
- Online: online” indicates a state of connectivity.
- Lecturer: A lecture is an oral presentation intended to present information or teaches people about a

particular subject, for example by a University or College teacher.

- Submission: the action of presenting a proposal, application, or other document for consideration or judgment. Proposed System

The main objective of the application of the paper is to provide the class test and common test result to the student in a simple way. This project is useful for students and institutions for getting the results in simple manner. By a result analyzer with subject status and marks is an application tool for displaying the results in secure way.

The system is intended for the student. And the privileges that are provided to student are to read and see the result. The whole result analyzer will be under the control of the administrator and the admin as the full privileges to read, write and execute the result. And admin gives the privileges to the Teacher.

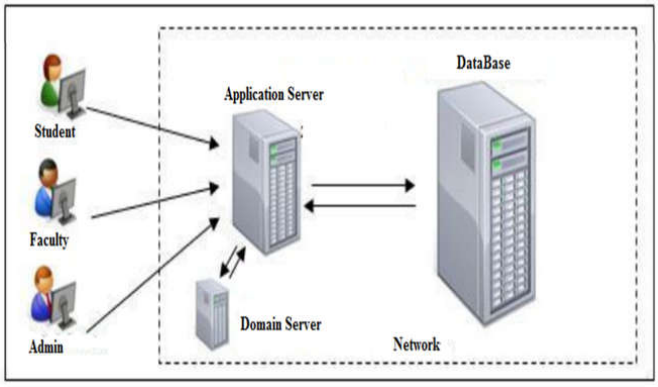

Figure 1 Architecture of Proposed system

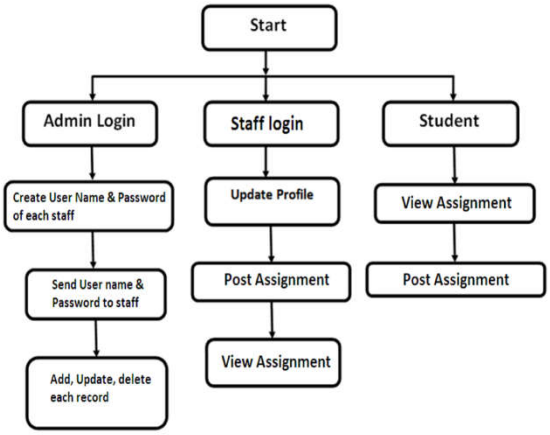

Figure 2 Flowchart of Proposed System

System Design and Sequence Diagram

Class diagram

A class diagram represents the structure of the system. It shows set of classes, interfaces, and relationships between them.

Sequence Diagram

An interaction diagram shows an interaction, consisting of a set of objects and their relationships, including the messages that may be dispatched among them. A sequence diagram is an interaction diagram that emphasizes the time ordering of messages. Graphically, a sequence diagram is a table that shows objects arranged along x- axis and messages, ordered in increasing time, along the y-axis.

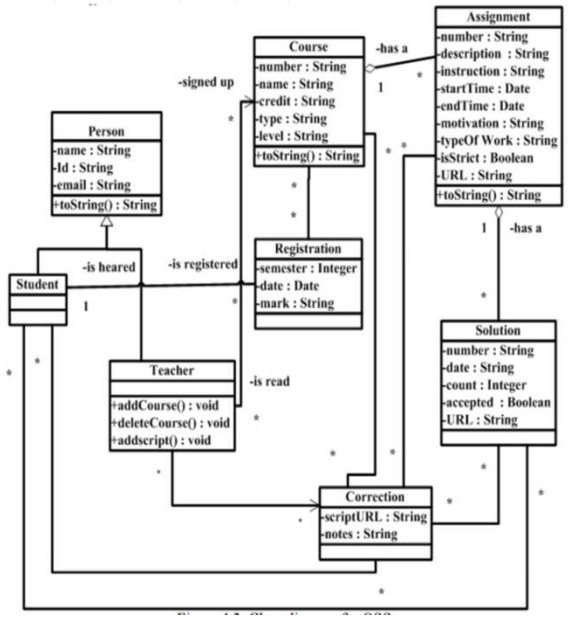

Figure 3 Class diagram

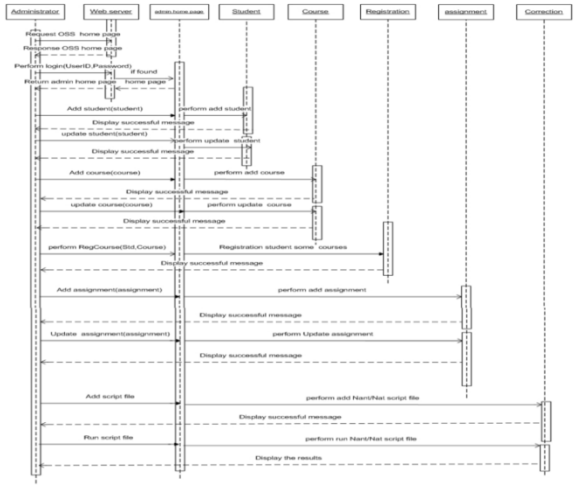

Figure 4 Sequence diagram

Component diagram

Component is a physical Part of a system that conforms to and provides realization of set of interfaces. A component is a self-contained unit that encapsulates state and behavior of various set of classifiers. A component provides set of classes and interfaces with some functionality and GUI interfaces which may be required to in several services.

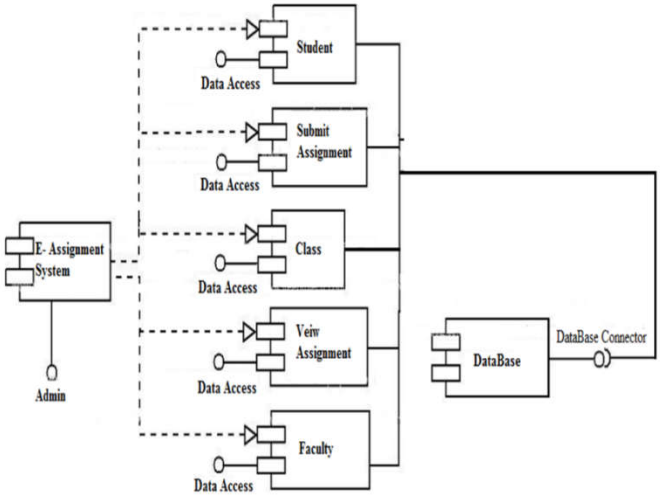

Figure 5 Component diagram

TEST SPECIFICATION

Test Plan

This section describes the overall testing strategy and the project management issues that are required to properly execute effective tests.

Software to be tested

We are testing the application of the paper "E- Assignment System for College and University Departments" which aims are to build an interaction between admin, and the user. A system that will be web based application for students to learn the various subjects and various subject materials also available on application. We are performing testing for different forms.

- Registration form
- Search result

Testing Strategy

Unit Testing Strategy*:* Each component is tested separately. A bottom up approach is used for testing.

Components for unit testing*:* This involves testing of individual modules. Here we have tested individual modules written for various operations like:

- Admin Module
- User Module

Integration Testing

The system as a whole is tested here. The system is said to be operating correctly if it passes these tests. After the different modules have been individually tested, we have to integrate them and tackle the issues during the integration.

After integration testing is complete and the errors detected are fixed, regression testing is required to ensure that the changes made to the software have not introduced new errors.

Validation testing

The Validation testing is performed for all the components of the software. The accuracy of the result and the performance benchmarks are checked for all the components that are tested. The components are all stripped so that the testing can be done without the linking of other components.

High Order Testing

High order testing will be performed on the complete, integrated system. Software will be stress tested and performance tested:

Testing resources and staffing

Resources used for testing are:

- Machine with minimum 4GB RAM
- Testing tools

RESULTS

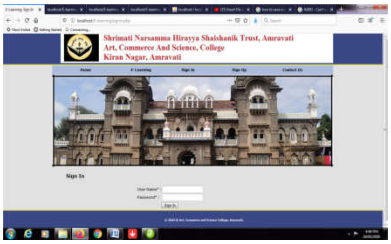

Figure 6 Login Page

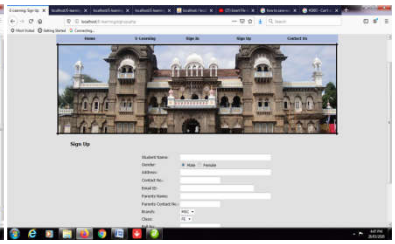

Figure 7 Registration form

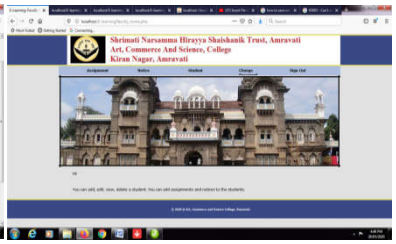

Figure 8 Home Page for Staff

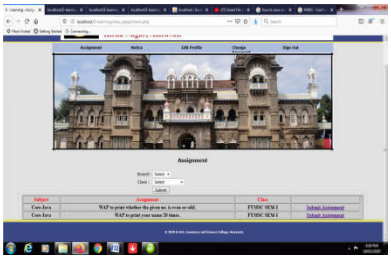

Figure 9 View & Submit assignment by student

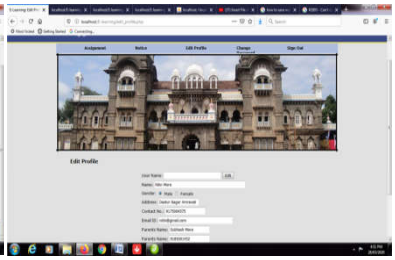

Figure 10 Edit profile of student

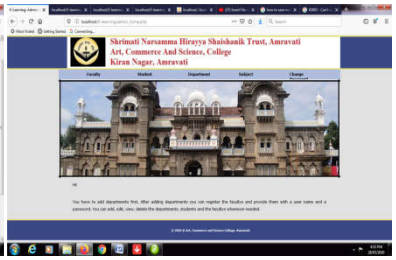

Figure 11 Admin page

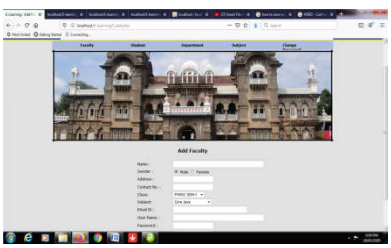

Figure 12 Add Faculty

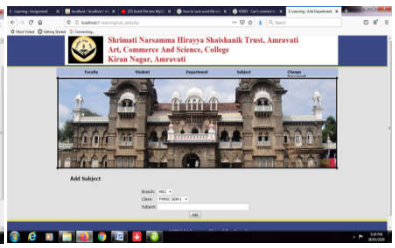

Figure 13 Add Subject

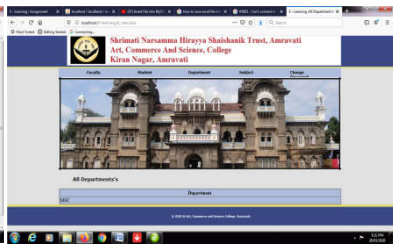

Figure 14 View All department

CONCLUSION AND FUTURE SCOPE

This proposed system will save our students time as they won't need to wait on queue on submitting their assignments. E-Assignment System becomes an important technique for any educational institution to improve its self between other competitors. The student is able to understand and accept the online assignment submission because, it gives them the ability to work and submit their assignment in anytime and anywhere.

One of the limitations in our proposed system will be not allowing students to upload their assignments multiple times and submit. Each student will have only one time access for each module will submitting assignments through thus system. As for example: if any of the students submit their assignments before due date they won't be able to submit again the same assignments. So in future we will add some extra features in this system. We will program the system for the students so that they will be able to resubmit their assignments. To be added we will add real time Chabot where students and lectures can contact through real time message. It will be easier for the lectures to give urgent feedback whenever needed.

References

1. Faez, Poorya & Abd Rahman, Nor & Harun, Khalida. (2014). Online Project and Assignment Submission, Management and Progress Monitoring System (OPAS).
2. Hasan, Syed. (2016). Online Assignment Submission & Feedback System. 10.13140/RG.2.2.32238.00323.
3. Quteishat, Anas & Anwar, Al-Mofleh & Al-Mefleh, Mutaz & Al-Batah, Mohammad. (2011). Module for online assignment submission. 10.1109/ICMSAO. 2011.5775475.
4. Cheng, T.L. (2014). Evaluating in-house Online Assignment Submission System (OAS) in an e-learning environment: a case study.
5. V. Ramnarain-Seetohul, J. Abdool Karim, A. Amir "A Case Study of an Online Assignment Submission System at UOM" World Academy of Science, Engineering and Technology *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering* Vol:6, No:8, 2012
6. A.Tregobov, "The Web-Based Assignment Submission Systems", presented at NAWeb'98, University of New Brunswick, Canada, 1998.
7. David Jones, Sandy Behrens, "Online Assignment Management: An Evolutionary Tale," Hawaii International Conference on System Sciences, vol. 5, no. 5, pp. 156c, Track 5, 2003.
8. Godfrey B (1997) .Problems with Email Assignments, Department of Information Systems, University of Tasmania [online] Available at :http:// www.infosys.utas.edu.au/people/individuals/ bob_godfrey/seminars/dec97/emailagn.html
9. Bancroft, P, Hynd, J, Reye, J & Dal Santo, F. (2003). Web-based assignment submission and electronic marking. In Proceedings of the HERDSA Annual Conference. Christchurch, New Zealand. Retrieved on December 10, 2011 from http://citeseerx.ist.psu.edu
10. Heng, P.S., Joy, M., Boyatt, R., and Griffiths, N. (2005). Evaluation of the BOSS Online Submission and Assessment System, Research Report RR-415, Department of Computer Science, University of Warwick, Coventry, United Kingdom. Retrieved December 17, 2011 from http://eprints.dcs. warwick.ac.uk/1528/

How to cite this article:

Narendra M. Jathe (2021) 'E-Assignment System For College And University Departments', *International Journal of Current Advanced Research,* 10(03), pp. 24008-24013. DOI: http://dx.doi.org/10.24327/ijcar.2021. 24013.4757

****