



Cloud Based Assignment Submission System

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ABSTRACT

Submissions of assignments are very often a tedious affair. Assignments which are submitted goes through not only a complex and tedious process but often the scrutiny of many individuals of different roles. Hence, it is important that any automation envisaged goes through a meticulous exercise to achieve the same. Assignments Submission System aims to provide cloud-based assignments submission mechanism, improving the traditional and physical methods of submission. Such system allows assignment submission to be more efficient and greater rigor. Online submission provides electronic copy of assignments, which has many benefits over traditional physical copy submission of assignments. With the implementation of cloud based Assignment management System, one can be subjected to the same rigor as traditional means without compromising on quality whilst adhering to the same process workflow.

Keywords: Assignment Management System, Remote Cloud Storage, Notification alert.



CHAPTER 1

1.1 INTRODUCTION

The problem arises from manual system used by colleges is that it has no record about the time or marks of student assignment. Some of the student hand over their assignment after the due date. Some of the assignments can be lost by students as well as faculty and as we do not have any record about it students have to write the assignment once again. As there is no record of assignment faculty would find it difficult to check whether the student have submitted the assignment or not. After the faculty correct the assignment and return it back, some student does not get their assignment back as anyone can take it or misplace it, to avoid this we are creating an online assignment system. The main motive of this project is to create a paperless environment by developing online assignment submission.

This project also reduces the unnecessary workload of lecturers and student. The scope for the Online Assignment System is that student can submit their assignment anytime and anywhere there is no need of the presences of lecturer as the student is submitting the assignment online. The collection of the assignments will be kept by the lecturer and the student can view their marks anytime they want. This system is very useful as well as innovative because there is no paper involved and even this system is user friendly. Student and Faculty can use this system anytime anywhere. The answer is corrected automatically with the help of automated search engine and the keyword provided by the faculty. Faculty does not need to check the assignment answer manually as all the checking will be done through key word matching.

The best answer will be highlighted as the most rated answer and that answer will be referred as notes by the student. This system generated question paper from the assignment question which student can referred or their examination. The generation of question paper is done by faculty and the faculty has to select the question from assignment question which he/she is going to add in the question paper.

Traditional paper based submission had introduced various problems to academic staff and students. Online submission provides flexibility for submission regardless of physical location, save up physical space by using electronic copy of submission and ease evaluation process of academic staffs. Email provides a solution towards proposal and other documents' submission online. However, organizing submissions in email system is time consuming and inefficient. An online web content management approach to handle the activities of creation, submission and approval will be more beneficial.

Proposals are widely in use under various occasions. Type of assignments includes project assignment, internal assignment, research assignments, business proposals, etc. In academic field, academic assignments are the first step in producing research papers, thesis, or major projects. A content management system is a database of information and a way to change and display that information without spending a lot of time dealing with the technical details of presentation.

1.2 PROBLEM DEFINATION

Traditional assignment management is becoming obsolete due to its inconvenience, inefficiency, and low accuracy. Currently, web-based management systems have been widely implemented due to the development of Web and CGI technologies. This paper introduces a new web-based Assignment Management System, which combines all useful features in other commercial systems and implements new functions that are practical in assignment management. Its powerful features and friendly user interfaces allow instructors and students to handle their assignments in a convenient, efficient, and systematic way. In addition, this system also has very good portability and extensibility, and the system security has been strongly enhanced by multiple security strategies



CHAPTER 2 LITERATURE SURVEY

It is noted that technology has made a significant impact on assessment, and, in some universities, it is used to automate assignment submission and grade retrieval [1]. As more university programs include on-line elements, it is not surprising that assessment, and in particular assignment submission and return, are to be found moving on-line. In addition to being part of the general move toward on-line delivery of education, a key reason cited for adopting on-line submission and return of assignments is the decrease in the assessment turn-around time leading to the more timely provision of feedback to students [2-4]. Other benefits noted for the on-line handling of assignment submissions include: facilitating more frequent smaller assignments, rather than few larger assignments [5]; assignments can be marked anywhere the marker has Internet access [3, 5]; students can view assignment progress [3]; assignment tracking/auditing information is automatically produced [3, 4]; the reduction in paper use; and the creation of a permanent electronic archive of student assignment submissions [4].

Once the use of on-line assignment management has been decided upon, those implementing the system can choose between a commercially available system and a custom-developed in-house solution. Arguments can be made for both options; if a centrally maintained course management system (CMS) that supports assignment submission is already in place, then there may be benefits in using the existing system with which students are already familiar, rather than making students learn and use yet another special system [6]; however, custom-built systems are able to provide specifically required functions and be modified in response to unique local conditions [3].

The adoption of on-line submission and return of assignments opens up the possibility of automated marking of assignments. For simple multi-choice tests, it is feasible to use completely automated submission, marking, and return. For highly structured types of student problems, such as computer programming exercises, partial automatic marking is possible [7]. For more complex assessment types, such as essays and projects, where expert assessor judgment is required, the marking phase must still be performed manually [8], although, if the student work is submitted in electronic form, it may be possible to use computer-based tools to annotate a student's submission and return to them a marked copy of their file incorporating feedback [4].

“A Case Study of an Online Assignment Submission at UOMV. Ramnarain-Seetohul, J.Abdool Karim,A. Amir”- This paper explains that how the assignments given to the students can be managed online. This system also shows the graph of the feedback given to that system that how friendly it proved by the students as well as the teachers [9].

“Project Communication in Functions, Process and Projectoriented Industrial Companies- Jana Samakova, Kristina Koltnerova, Rudolf Rybansky”- This article is focused on the project communication management. This article describes that how much the communication in project is essential. It also describes that the process-oriented and project-oriented companies have better project communication management during the project life cycle [10].

“Project management theory and the management of research projects”- This paper discusses about the research done on the previous projects and the interpersonal dynamics of a research team. This article gave us the idea about maintaining all of the previous year projects in one single page so that there will be no conflicts in choosing the project topics. “Web Based Student Information Management SystemS.R. Bharamagoudar, Geeta R.B., S.G.Totad”- [11] this article describes that how the maintenance of the record of the student's information can be done easily at one place. Thus it gave us the idea about maintaining all of the project related tasks at one single page. Also it tells about maintaining the progress report of the students based on their work performance.



“A Multi-Objective Approach for the Project Allocation Problem”- The article describes that the system performs allocation of the project as well as allows academics to rate the projects. The system captures the preferences of examiners as well as students and allocates projects to them in order to maximize the number of students who gets their first choice in their preference list [12]. “An Evaluation of On-Line Assignment Submission, marking and Return”-The article describes about the online submission of assignments, marking and return. This article also reports on a formal evaluation to assess student perceptions of this new development.

CHAPTER 3

SCOPE OF THE PROJECT

Scope of Student Mentoring System is explained below

3.1 Student Assignment Management System

Assignments are an essential part of academic life. It carries the capability of impacting significant differences in students' internal grades. If your teachers or supporting staff are worried about how to handle these valuable assignments for every subject, class, student, then relieve them by offering the featured Vidyalaya's student assignment management system.

If your teachers are stressed as assignments are frequently held, then bust their stress by providing an ultimate solution for the management of assignments. During the changed learning method, the focus has already shifted to the online form. So, the shift from manual to an automated system for efficient management of assignments is the need of the hour.

Improve the internal grading system of your school with the student assignment management system as better management will eliminate the risks of loss, tamper, and alteration of assignments. The organized view of student's grades for each subject will help the teachers to focus on weak subjects.

If you are a teacher, then you have the pain of creating so many assignments for various subjects across different classes. Remove the burden with an easy assignment creation feature. The file attachment feature will allow the students to attach the files of various formats including images, slides, text.

It is a common complaint of many parents that assignments are not evaluated by the subject teachers as they run out of time. But defuse this complaint by providing a solution that has role-based access to the assignments submitted. Increase the level of trust and transparency in your school's internal processes by implementing Vidyalaya's student assignment management system.

Encourage your teachers to evaluate the students with a better student assignment management system. Let the best results and accurate management shape the bright future of the students.

Ref URL: <https://www.vidyalayaschoolsoftware.com/features/student-assignment-management-system>

CHAPTER 4

METHODOLOGY

The methodology for Interactive Student assignment management system through Cloud is developed under waterfall model architecture as shown in the below figure 1.

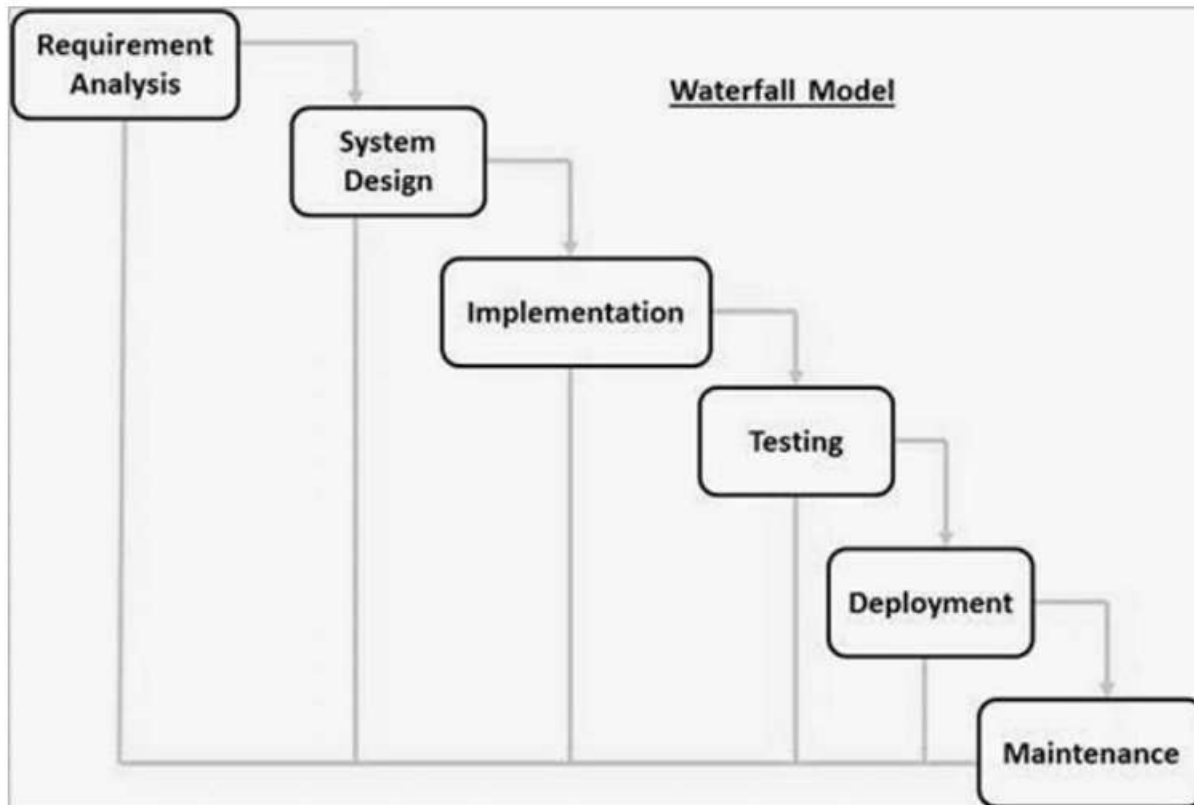


Fig 1 : Water fall model Architecture

The sequence phases in water fall model according to our project are mentioned below.

4.1 Requirement Analysis – Here requirement analysis are done based on following points

- ✓ Base paper for Interactive Student assignment management system through Cloud
- ✓ Studying on MySQL Database
- ✓ Knowledge on querying and handling of staff, student and Admin logins.

4.2 System Design: The System of Interactive Student assignment management system through Cloud is designed by using the following hardware and software

Minimum Hardware Specification:

- CPU : Core i5
- RAM : 8 GB
- HDD : 500 GB

Software Specification:

- Coding Language :Java



- Development Kit : JDK 1.8
- Front End : Swing Framework
- Development IDE : , NetBeans 8.2

4.3 Implementation:

Proposed system is designed by using the following modules

4.3.1 Module A: Uploading Assignments and Notes by the staff

- DB Integration
- DB Key Setting
- DB Connection
- Uploading assignments to cloud

4.3.2 Module B: Data Accessing by the students

- DB Connection
- Viewing notifications
- Accessing notes and Assignments by the students

4.3.3 Module C: Uploading assignments by the students

- Cloud API Integration
- API Key Setting
- Cloud Connection
- Uploading assignments to cloud
- Get notifications

4.5 Deployment of the system:

The developed software is deployed in the laptop of above mentioned configuration with the help of the mentioned software.

4.6 Maintenance of the system:

As this software is tested for the quick recovery, so maintenance of the system is not a challenging task. This is because the tools and the software used are open source, so there is no question of licensing the required software.

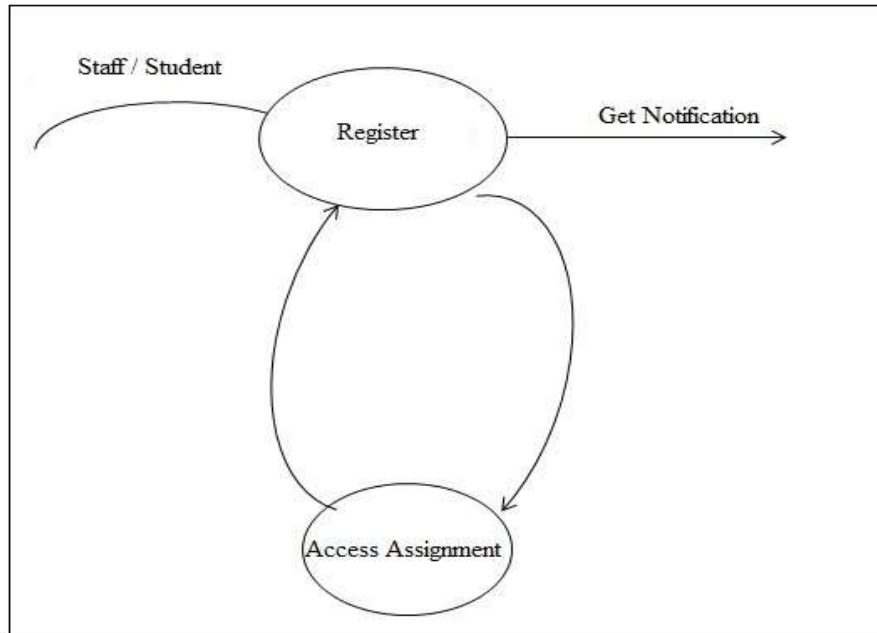


CHAPTER 5

DETAILS OF DESIGN, WORKING AND PROCESSES

5.1 DETAILS OF DESIGN

5.1.1 Data Flow Diagrams



5.1.1.1 DFD level 0

Fig 2: DFD level 0

The DFD 0 diagram for the data flow diagrams describes the flow of the approach. The DFD diagram provides the simplest flow where in the staff/student registers on the system and access the assignment to get the notification.

5.1.1.2 DFD level 1

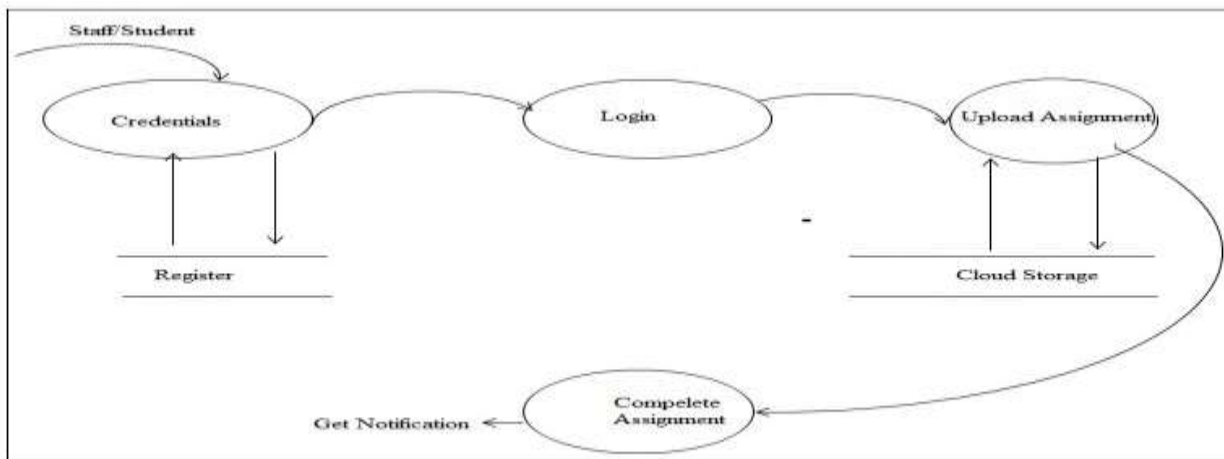
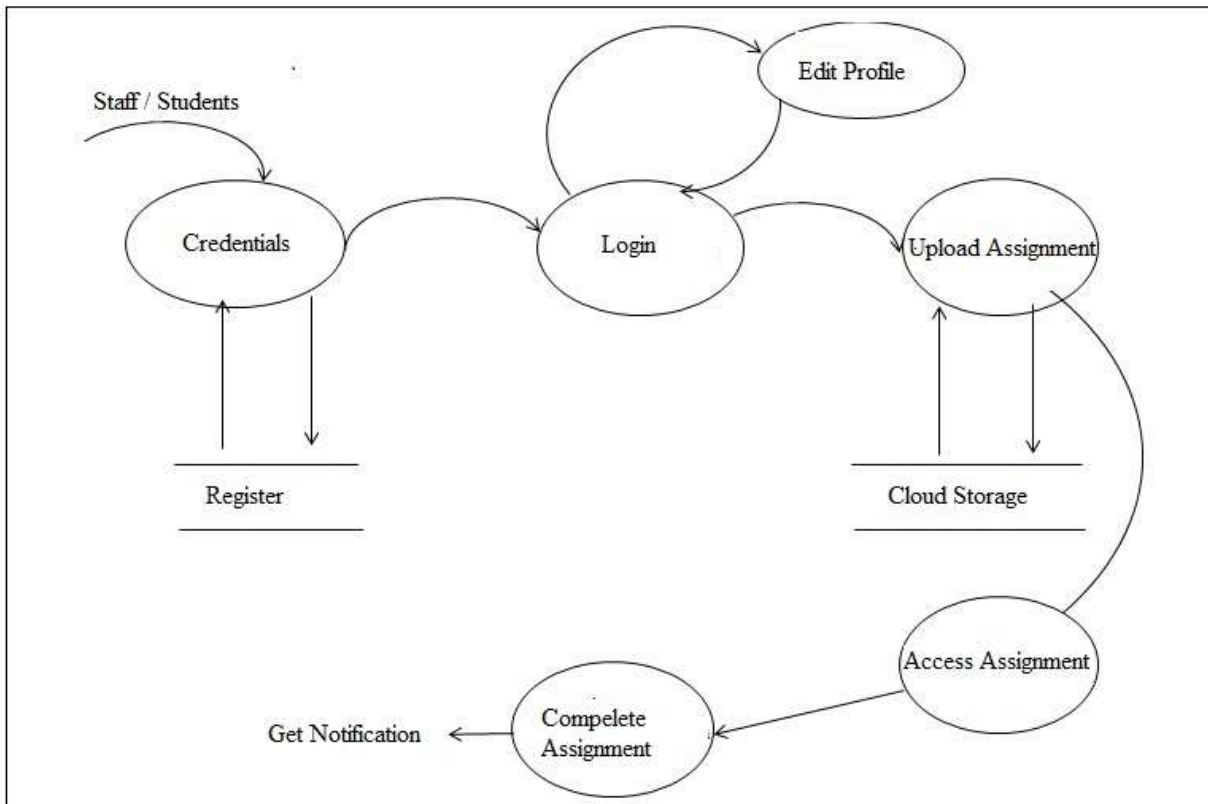


Fig 3: DFD level 1



The DFD 1 diagram provides even more details wherein the staff/student provides the credentials for registration. After successful registration the staff/student can login into the system to upload the assignment. The uploaded assignment is stored on the cloud storage and the complete the assignment to get the notification.



5.1.1.3 DFD level 2

Fig 4: DFD level 2

The DFD 2 diagram is the most detailed wherein the staff/student provides the credentials which used for the registration. After successful registration the staff/student can login into the system to upload the assignment. The uploaded assignment is stored on the cloud storage and the staff can access the complete the assignment to evaluate and finally get the notification.

5.1.2 Activity Diagram

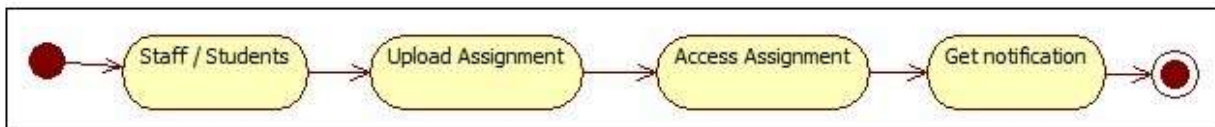


Fig 5: Activity Diagram

The activity diagram lists the various activities that are performed in the proposed methodology. The start state is initiated and the staff/student uploads the assignment, access the assignment, and get notification which leads to the stop state.



5.1.3 Usecase Diagram

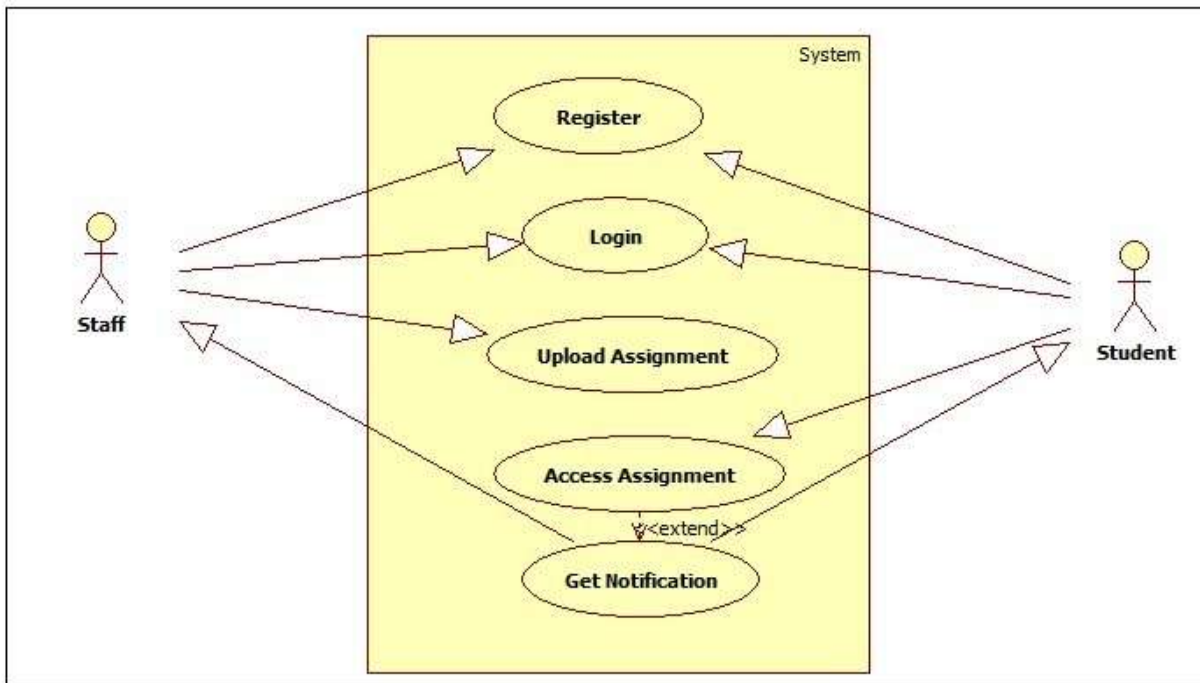


Fig 6: Usecase Diagram

The Use case Diagram depicts the various use cases that are performed by the staff and the student in the proposed model. The use cases for the staff include feeding the registration, login, upload assignment and get the notification. The usecases for the student includes registration, login, and access to the assignment and finally get the notification.

5.1.4 Sequence Diagram

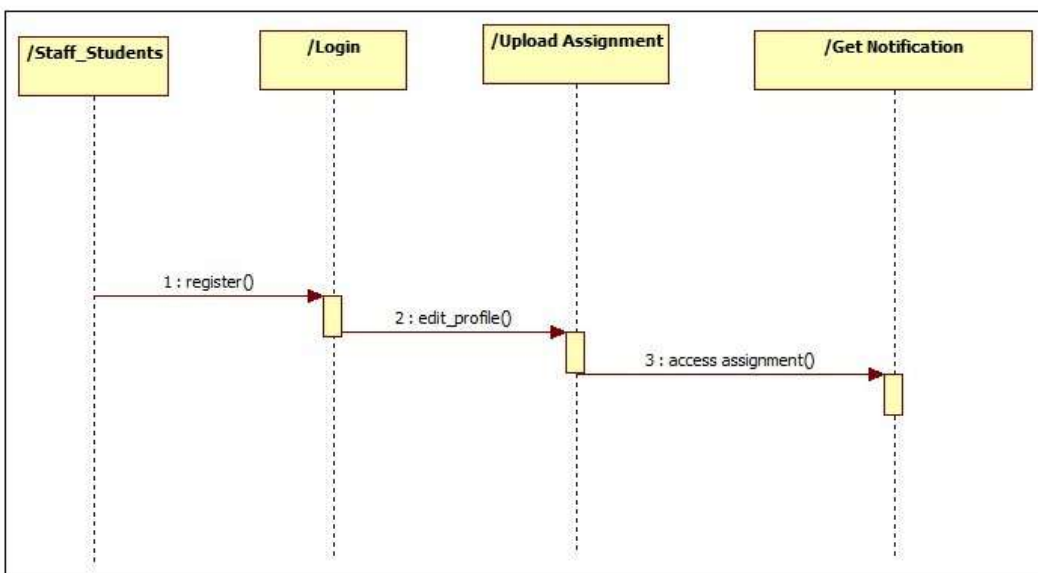


Fig 7: Sequence Diagram



The sequence role diagram provides a sequence of the approaches as well as the various roles performed in the intermediate. In this approach the staff and students successfully login and has the ability to edit the profile and upload the assignment on the cloud which is accessed by the staff and a notification is generated.

5.1.5 Component Diagram

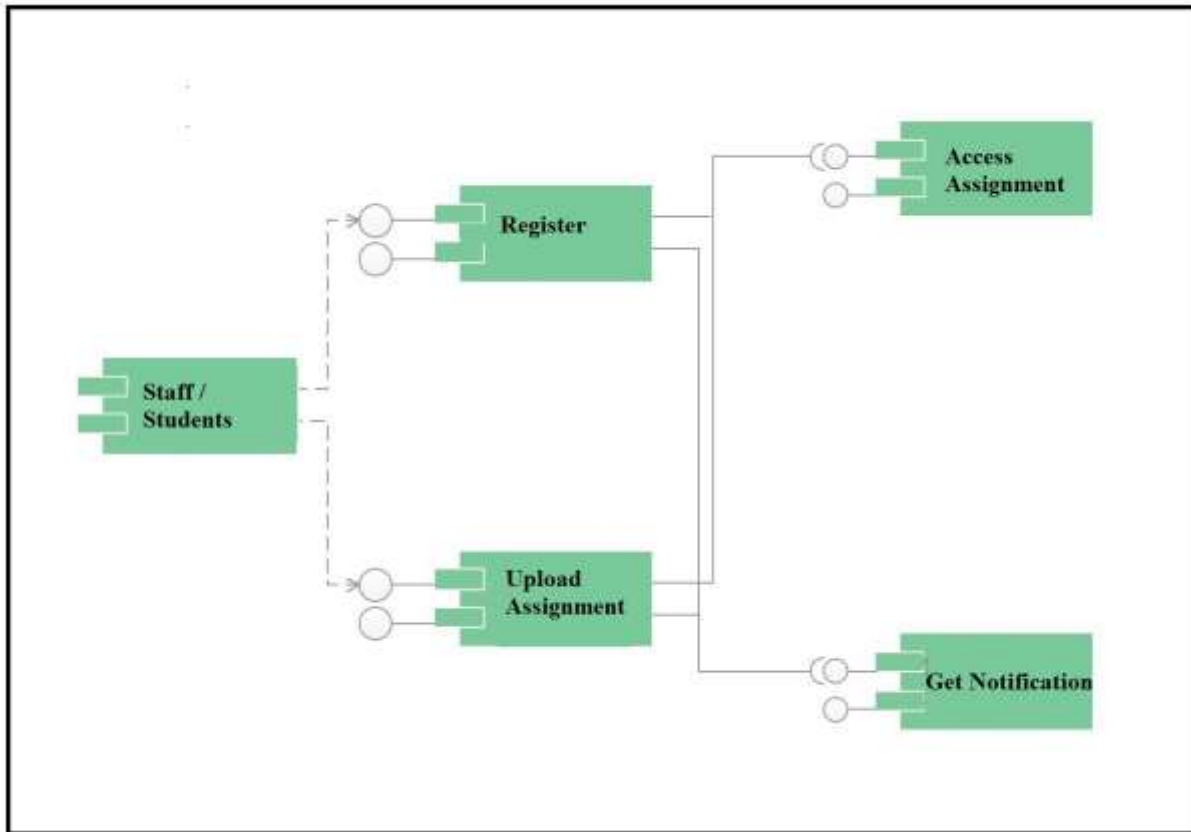


Fig 8: Component Diagram

The component diagram illustrates the important components in the proposed system. In our approach the important components consist of the Staff/Students which is interlinked with register and upload Assignment, these two modules are further linked to the access assignment and Get notification.



5.1.6 Deployment Diagram

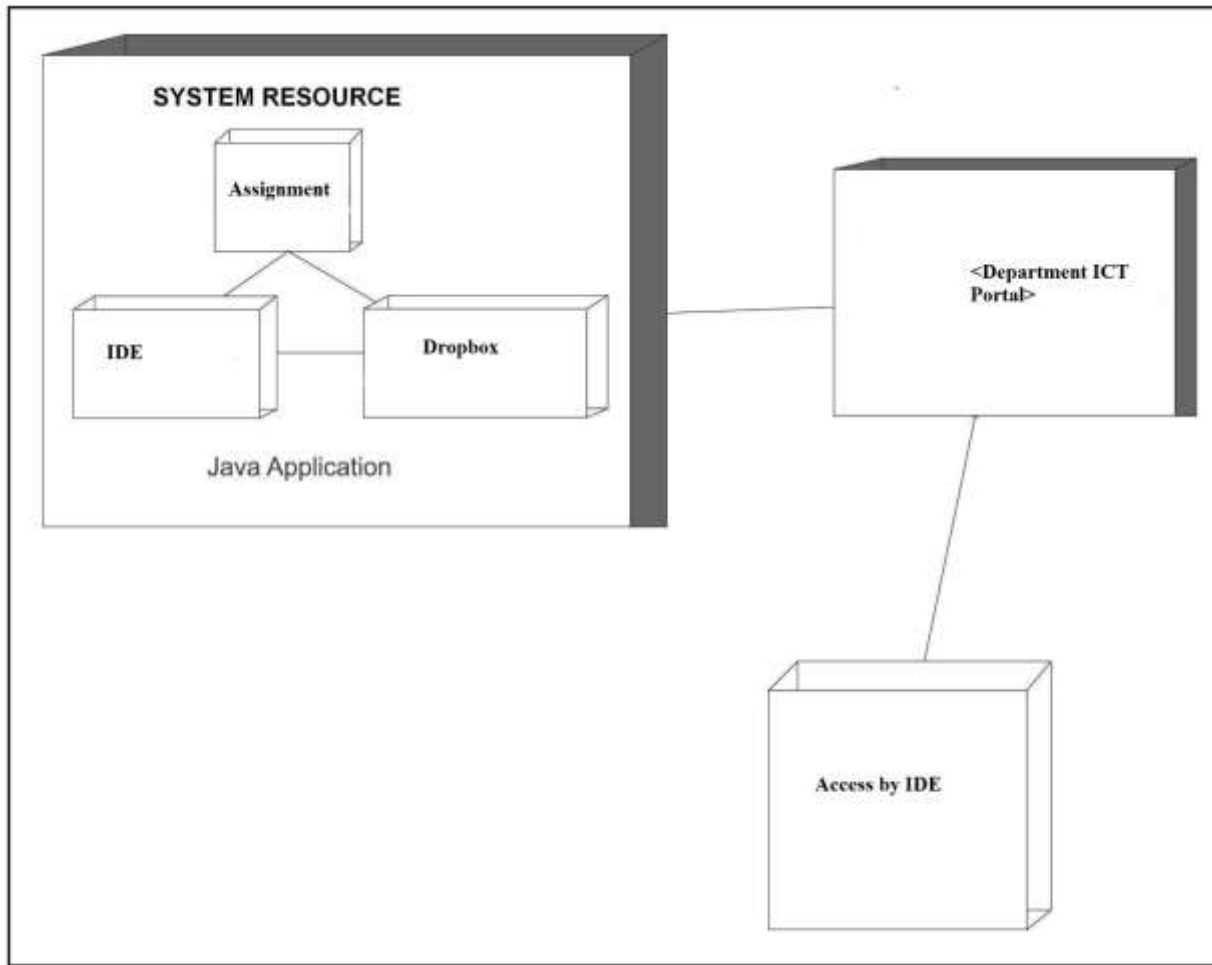


Fig 9: Deployment Diagram

The deployment diagram illustrates the important resources that are utilized for the deployment purposes. In our approach the system resources consist of Assignment, IDE and the DropBox along with the Department ICT portal system and the access to the system using the IDE.



5.1.7 Package Diagram

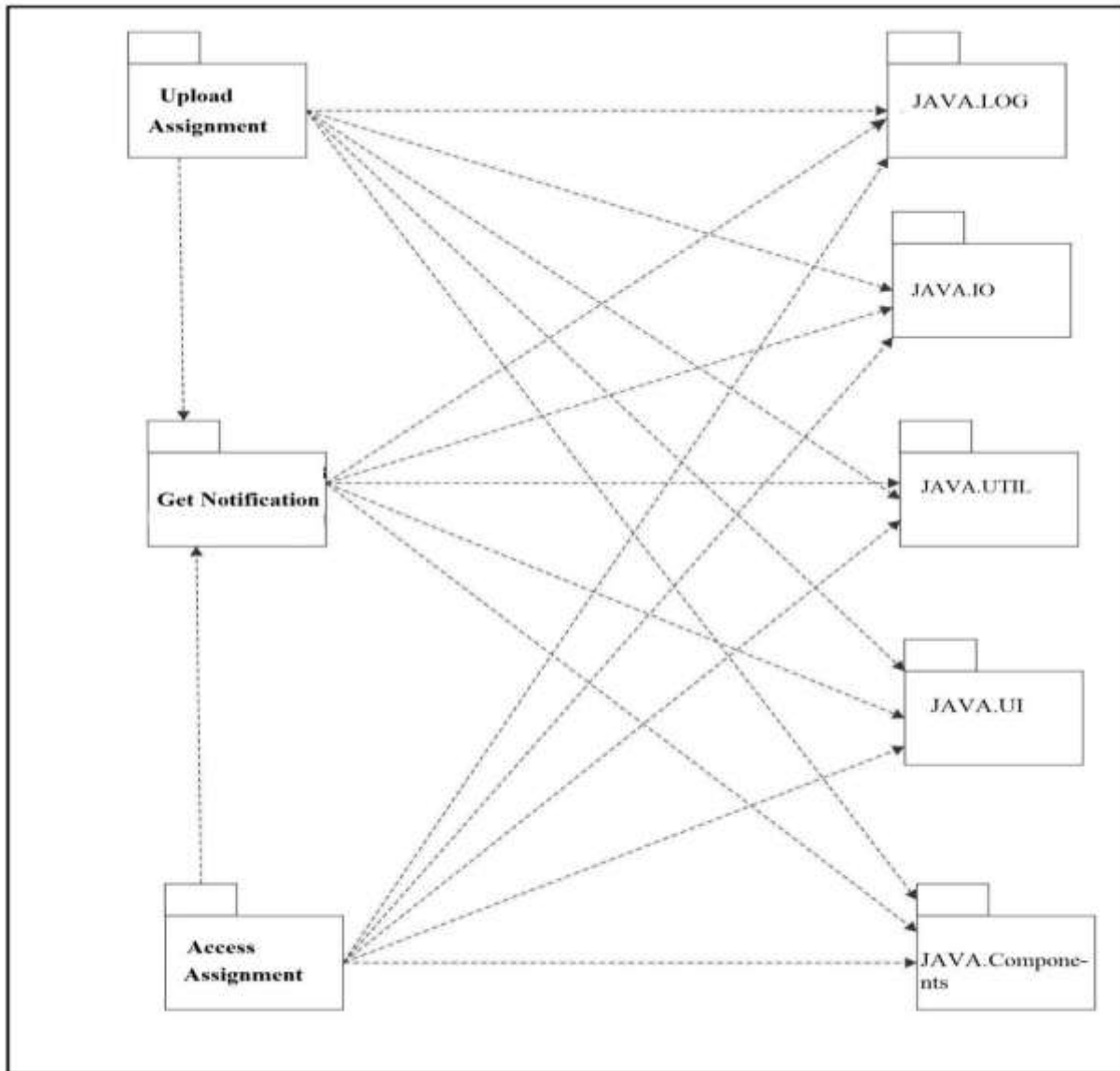


Fig 10: Package Diagram

The package diagram lists the important modules and the relevant packages that are interconnected with each other. The important modules include, upload, get notification and access assignment and the packages include java.log, java.io, java.util, java.ui and java.components.



5.1.8 State Transition Diagram

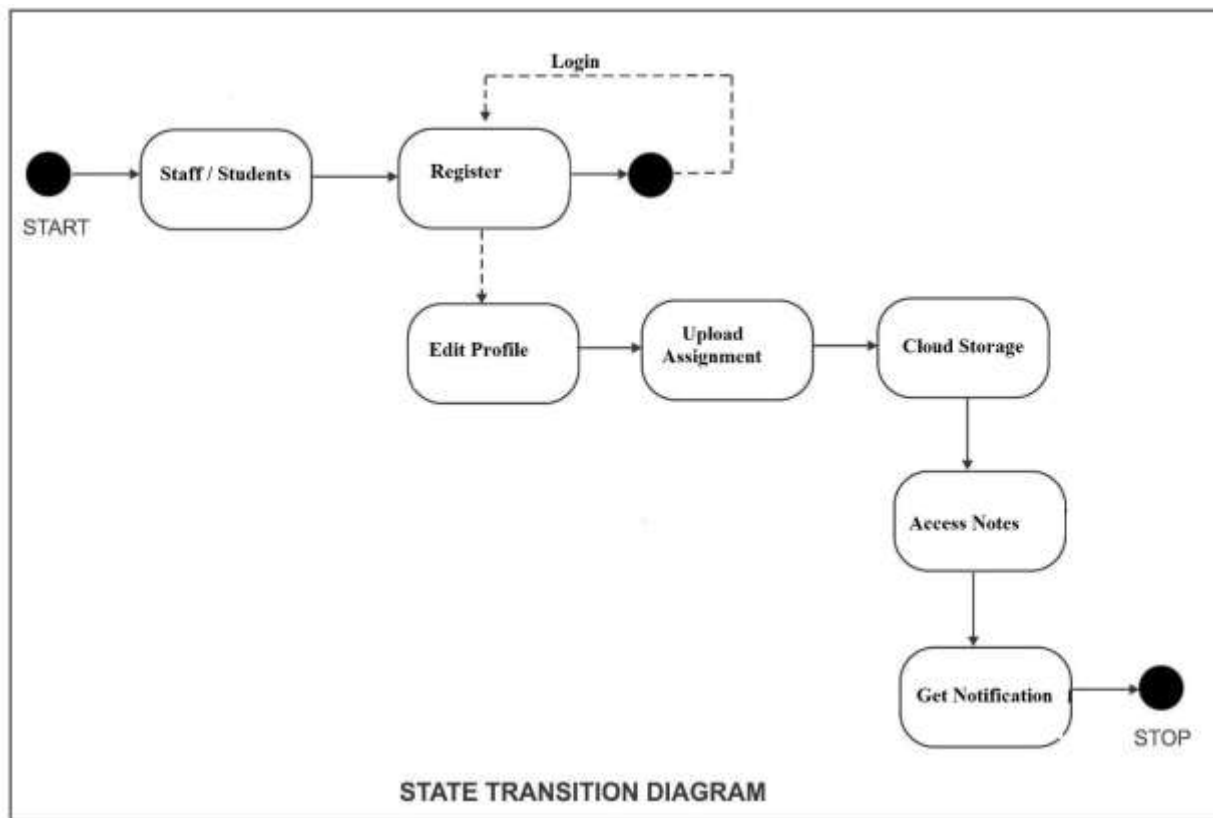


Fig 11: State Transition Diagram

The state transition diagram provides the various states that the proposed system goes through. Initially the start state wherein the staff/student provides the credentials which used for the registration. After successful registration the staff/student can login into the system to upload the assignment. The uploaded assignment is stored on the cloud storage and the staff can access the complete the assignment to evaluate and finally get the notification and then reaches the stop state.

5.1.9 Action Plan

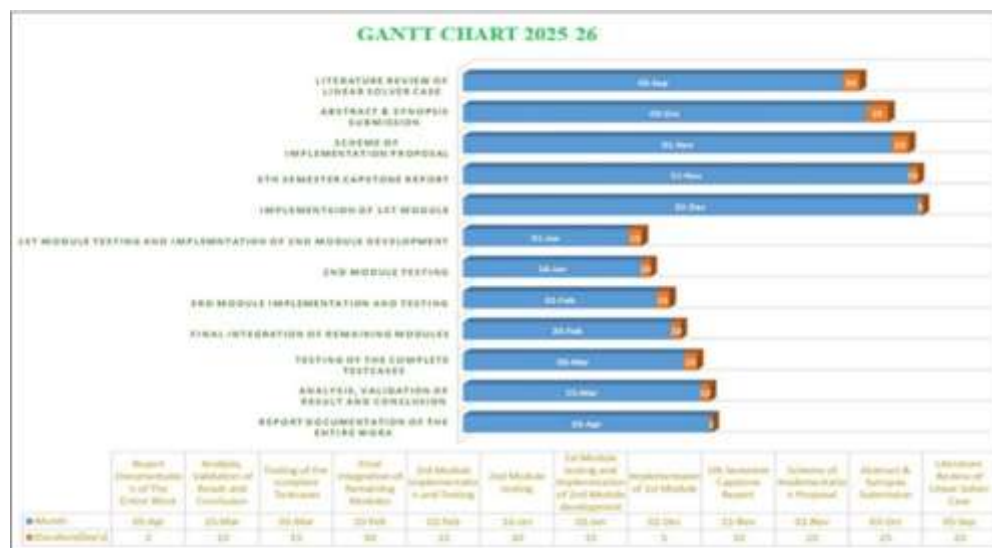


Fig 12: Action Plan

5.2 WORKING AND PROCESSES

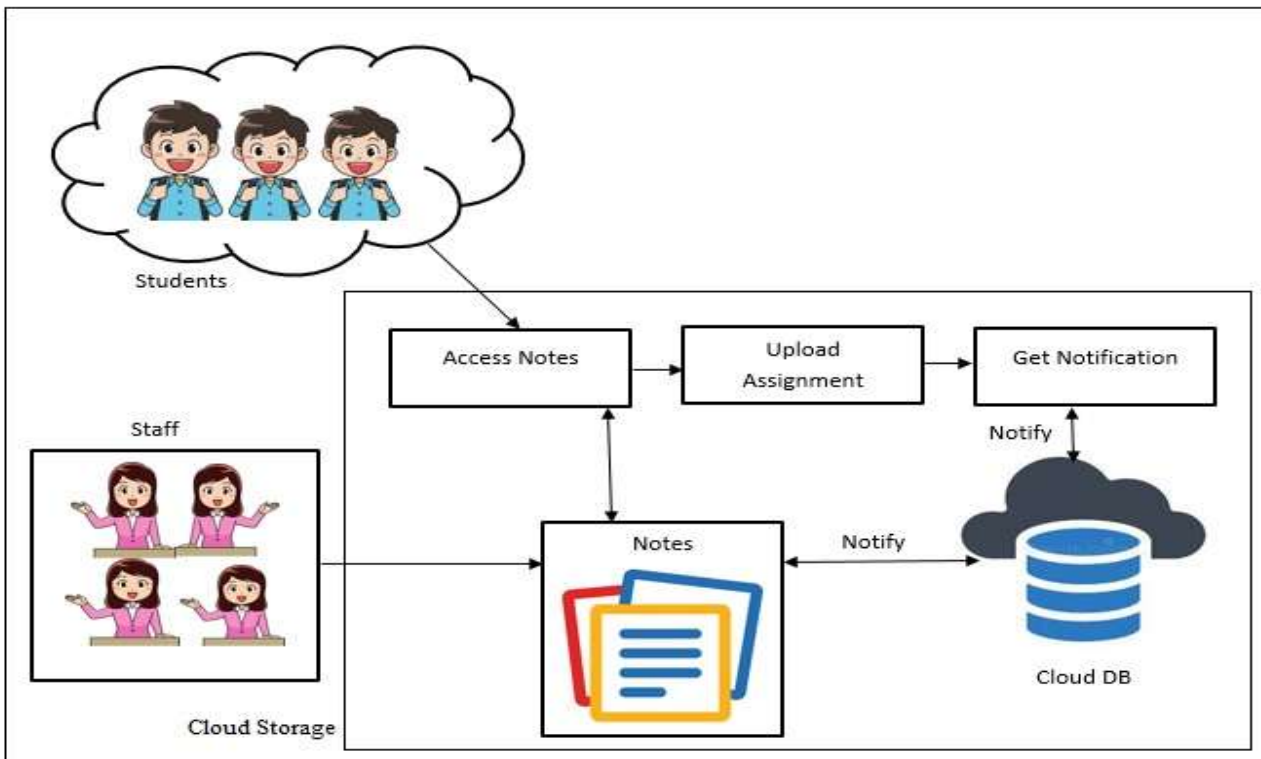


Figure 13: Proposed work for Interactive Student assignment management system through Cloud

Step 1: Admin Access: System is initiated by the sender creating a login ID through providing various attributes such as username, password, and email address. After successful registration the admin can login to the system by providing the proper authentication through username and password. Once the admin is logged in, the admin can edit their profile attributes along with other functionalities such as registration of the staff and adding the student data.

The student data is added by the admin by providing the year, department and then providing the student data in the form of an excel sheet. The excel sheet is read using the JXL jar file that provides the functionality of the reading the worksheet. The data is read in the form of a list and then stored in the database effectively. The worksheet contains a number of different attributes of the student, such as, name, email address and mobile number.

Step 2: Staff Access – The staff also gains an access to the Student Assignment Management system for which the valid credentials are generated through the registration process. The staff can do the registration on their own, exactly as the Head of the Department where the attributes of the staff are provided and generate the login credentials for the staff by entering their respective details. Using the generated credentials provided the staff gains access into the system after successful authentication. The staff can perform a number of different tasks after gaining the access.

The staff can edit the attributes associated to their profile through the edit profile option. The main task of the staff is the upload of the assignment. The staff utilizes the interactive user interface to upload the assignment to the students based on their year and the department. As soon as the assignment is uploaded all the students get an email notification about the same. The staff can also check what students have revived, viewed and downloaded the assignment along with the data and time for the same. The staff can also perform search on the list to locate the students and understand the status of the assignments.



Step 3: Student Access – The student can access the system through effective registration by providing their parameters and then utilizing these login credentials to gain access into the system. Once the student is logged into the system, they have a set of options that can be used, such as managing their profiles and editing them, viewing the assignment being uploaded by the staff, downloading the assignment and uploading the completed assignment. The student has the ability to view the assignment, when the student clicks on the download button, the respective file will get downloaded into the Google Drive through effective integration of their API. Once the student has completed the assignment, the student can then upload the completed assignment which can be accessed by the staff and the status of the assignment is changed to submit.

CHAPTER 6

RESULT AND APPLICATIONS

6.1 RESULTS

PLEASE PUT THE SCREENSHOTS OF YOUR PROJECT HERE AND CONTINUE THE FIGURE NUMBERS

(PUT AS MUCH AS CAN)

6.2 Applications

- ✓ Schools
- ✓ Colleges
- ✓ Universities

6.3 TEST CASES

6.3.1 Performance Testing:

The performance of the system is measured by the whole process of Interactive Student assignment management system through Cloud.

6.3.2 System testing:

Checked the steadiness of the space provided by the system for the maximum number of rows in the Mysql Database. This is done by feeding the maximum number of rows in the database to the system to analyze the Interactive Student assignment management system through Cloud and so that set the threshold can be set by the Virtual machine option of the Netbeans IDE.

6.3.3 Recovery System

Our system can be recovered in span of 1 hour after crashing. Within one hour we can install all the Software and deploy our system to work as in the past.

6.3.4 Security Testing

6.3.4.1 Stress Testing:

The System is well equipped to stand against the breakdown point of maximum number of the data in the database that is decided by the IDE's virtual machine settings, beyond that the memory overflow exception may arise.

6.3.4.2 Unit Testing:

All the modules are independently handled developed and ran to get proper output and finally they are integrated to get the whole output.

6.3.4.3 Black Box Testing:

Compatibility analysis is done by passing the output of one module to another and checking for estimated output of Interactive Student assignment management system through Cloud.

6.3.5 Integration Testing:

When all the individual modules are integrated into our system that yields a proper system of Interactive Student assignment management system through Cloud that is cross examined for the desired output.



6.3.6 Test Cases for the HOD

ID	TEST CASE	INPUT	PASS CRITERIA
H_REG	HOD Registration	HOD Details	All the Details are correctly filled and registration successful
H_LOGIN	HOD Login	HOD Username and Login	Successful login when valid credentials entered
H_UPDATE	HOD Profile Updating	HOD updates the details in the system.	Correct details are updated in the Database
H_UPLOAD	HOD Uploads student data	HOD enters the student data	System takes the input data for upload
H_STAFF_REG	HOD staff Registration	HOD enters the staff details	All the Details are correctly filled and registration successful

6.3.7 Test Cases for the Staff

ID	TEST CASE	INPUT	PASS CRITERIA
S_REG	Staff Registration	Staff Details	All the Details are correctly filled and registration successful
S_LOGIN	Staff login	Staff username and login	Successful login when valid credentials entered
S_UPDATE	Staff profile updating	Staff updates the details in the system.	Correct details are updated in the Database
S_UPLOAD	Staff uploads assignment	Assignment data	System takes the input data for upload

6.3.8 Test Cases for the Student

ID	TEST CASE	INPUT	PASS CRITERIA
S_REG	Student Registration	Student Details	All the Details are correctly filled and registration successful
S_LOGIN	Student login	Student username and login	Successful login when valid credentials entered



S_UPDATE	Student profile updating	Student updates the details in the system.	Correct details are updated in the Database
S_UPLOAD	Student Uploads Completed assignment	Student uploads the completed assignment	System takes the input data for upload

CHAPTER 7

CONCLUSION AND FUTURE SCOPE

The Proposal Submission System has opened up vast amount of possibilities in providing better and more flexible solution with regards to submission of assignments in comparison to traditional approaches. The assignment Submission System as described in this article uses an assignment management system approach. The system is adorned with a centralized and seamless console with an array and options for users to maneuver within the system. The system has benefits in store for both academics and students alike. The system has proven to be highly intuitive and seamless among others to withstand the demands of assignments and its related issues. The developers have put together a well-thought out application which not only automates the manual process but is highly scalable to suit future requirements and other challenges which may arise. It is worth mentioning that the system is not merely automation of manual tasks per se but it addressed concerns plaguing most other manual submission mechanism with regards to compliance with process workflow which is one of the major hallmarks of the system.

The future research directions can be deployed for use in various scenarios and achieve improved accessibility through the conversion of this approach into a Mobile application.

CHAPTER 8

APPENDIX

8.1 Assignment Management System

- ✓ <https://www.vidyalayaschoolsoftware.com/features/student-assignment-management-system>
- ✓ <https://www.myeducomm.com/blog/assignment-management-system-how-is-it-beneficial-for-schools/>
- ✓ <https://www.skolaro.com/academic-2/assignment-management-system/>
- ✓ <https://h3turing.cs.hbg.psu.edu/mspapers/sources/xiaoyu-sun.pdf>



CHAPTER 9

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