# SOFTWARE REQUIREMENTS SPECIFICATION

## Assignment Submission Portal


**Prepared by IIT2017093**
**IIT2017068**
**IIT2017083**
**IIT2017039**
**IIT2017041**

**Prepared under guidance of**

**Prof. Abhishek Vaish**

**Prof. Sonali Agarwal**

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# 1 Abstract

This project is aimed at downloading and uploading online assignments for students; with each assignment having information about the instructions, description, deadline, and submission details. The challenges faced by students in meeting assignment deadlines and cost associated with printing hard copies of paper, necessitated the researcher to develop a user friendly system to tackle these challenges. The system allows students to submit assignments online to a particular course lecture, who have access to the system for grading purpose.

The system provides an interface for testing assignments such that they can be plugged in by the teachers. This will check the result or test for plagiarism, existence of certain documents or simply check the file type (extension).

The most obvious advantage offered by online assignment submission is that it offers faster transmission of assignments than using traditional way by using online system. The interface use to invoke different testing program by teachers, So Save the time and cost for teachers by enabling them to put up a fast response for students as well as increasing the quality of the feedback provided to students.

# 2 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, Polytechnics 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. Tregobov breaks the process down into four stages: submission, recording, marking, and return. Assignment submission and management involves the use of the World-Wide Web, the Internet and computers to aid this process.

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.

## 2.1 Purpose

The purpose of this document is to capture, in natural language and at a functional level, the description and requirements of an assignment portal for any University. The focus here is the University educational needs. This is a functional description of those features required to address current educational requirements. A short discussion accompanies each requirement, to add the background and framework necessary to explain the functionality. It also describes nonfunctional requirements and other factors necessary to provide a complete and comprehensive description of the requirements for the software.

## 2.2 Problems in earlier Methods

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 (Jones, 2003). 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 Nigerian 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.

## 2.3 Objectives

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

- The system to be developed will provide a full school system by that will take cares of faculty registration, lecturer registration, course registration, department registration, users registration, student registration, perform scores /grades registration, test scores assessment and article entry.
- This proposed system is geared towards providing a system to assure equal opportunity and impartial review of student assignment submission.
- To Create a database that will manage each student assignment submission and allow access by lecturer to access those files submitted by the student.
- To Create a quick search and advance search that the student/lecturer when sorting a file.

## 2.4 Intended Audience

The main advantage of the portal is provided to education institutes, school, universities, and colleges, where large committee of student , teachers and their assistants who would use the portal to check or evaluate assignment and project submitted by students to grade them.

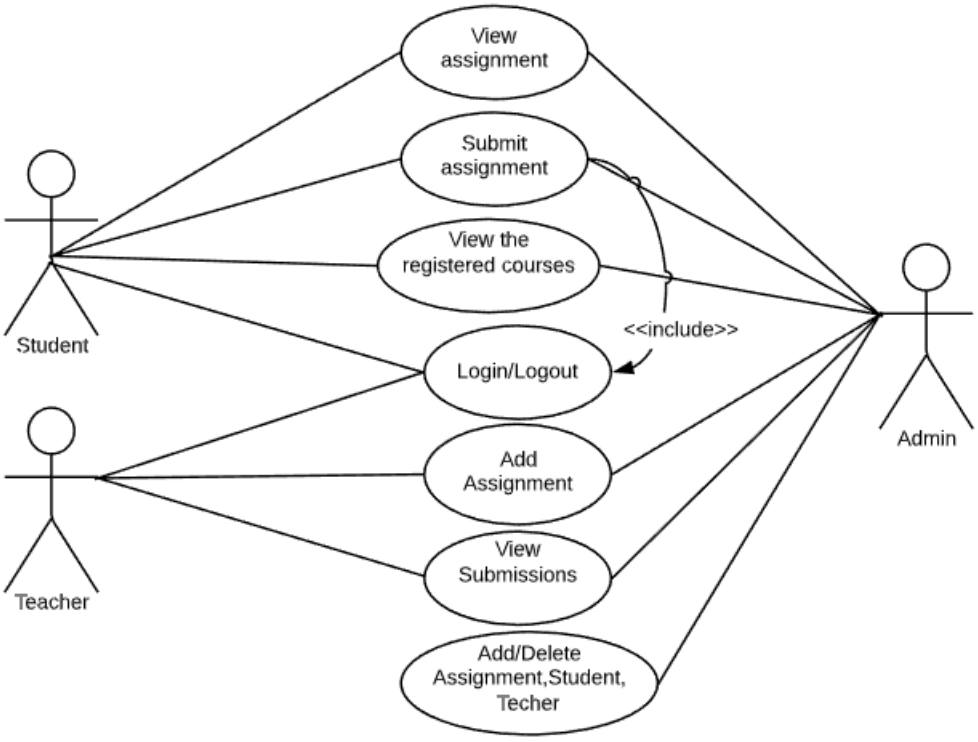
## 2.5 Project Scope

This software system will be an online assignment portal for any university wishing to manage their assignments online more easily. More specifically to design and develop

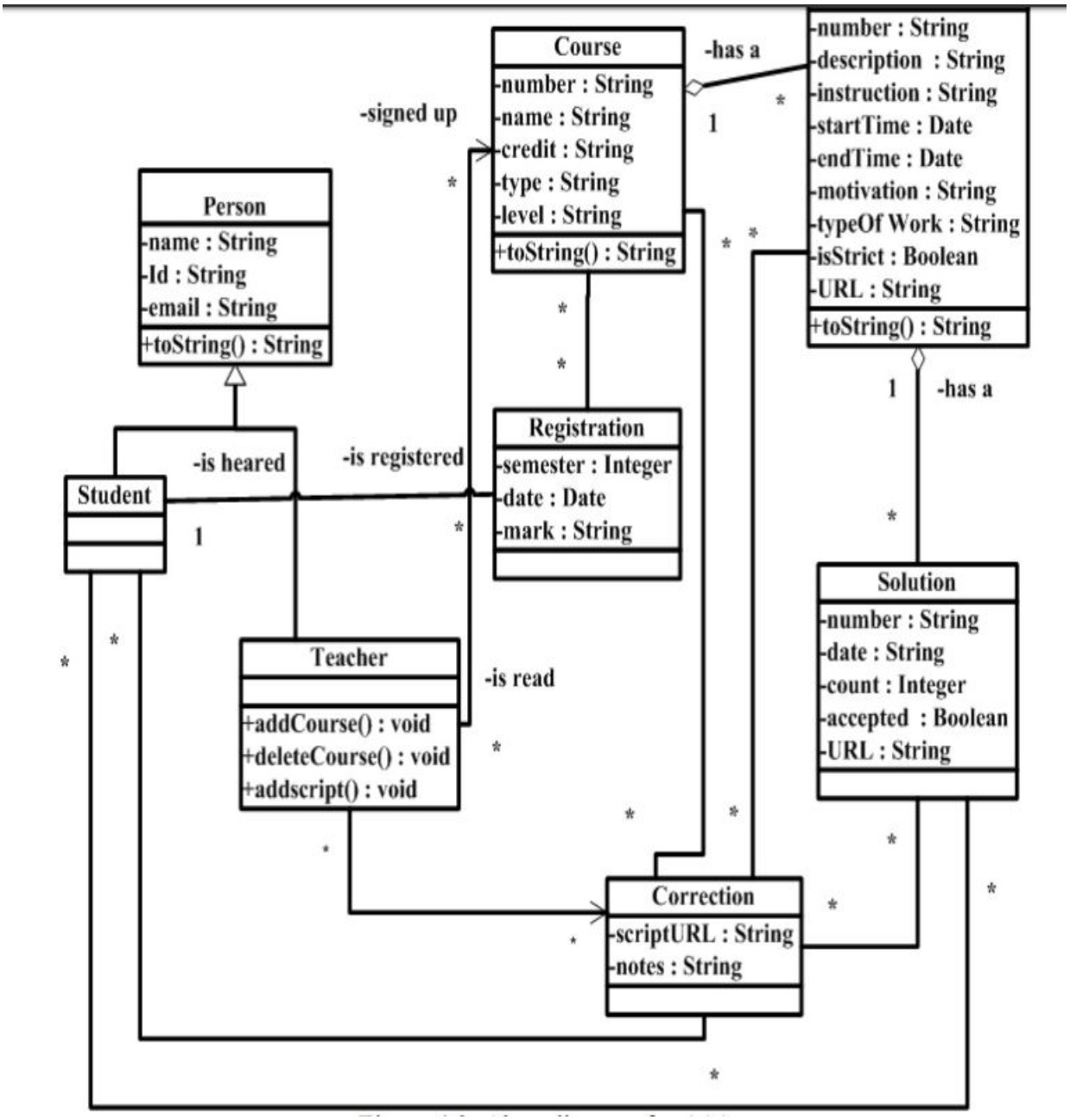
a simple and intuitive system which shall cater the assignment management of any institute. The system shall provide features to the students to submit their assignment securely and completely and provide a feedback confirmation of successful submission. The system shall provide features to the faculty to register the courses, manages assignments and helps in evaluation process and manages marking for each student and display of results, thus helping the students and faculties to manages submissions easily.

## 2.6 UML diagrams

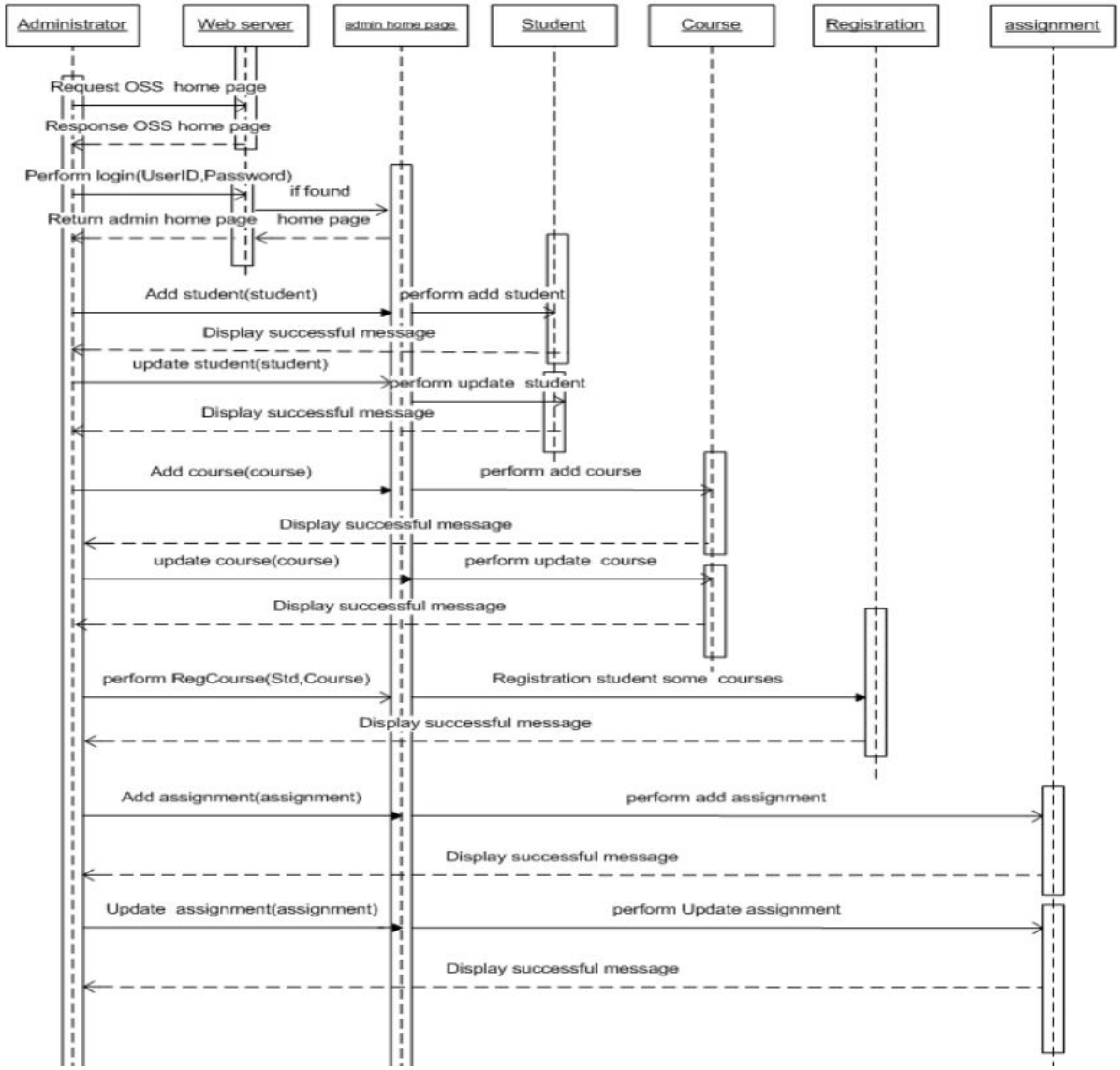
### 2.6.1 Use-Case diagrams



### 2.6.2 Class diagrams



### 2.6.3 Sequence diagrams



# 3 Overall Description

## 3.1 Product Perspective

This project is aimed at downloading and uploading online assignments for students with each assignment having information about the instructions, description, deadline, and submission details. The challenges faced by students in meeting assignment dead lines and cost associated with printing hard copies of paper, necessitated the researcher to develop a user friendly system to tackle these challenges. The system allows students to submit assignments online to a particular course lecture, who have access to the system for grading purpose.

### 3.1.1 System Interface

Apache will be used as web server. The user inputs data via the web server using HTML forms. The actual program that will perform the operations is written in Django.

### 3.1.2 User interface

The new system shall provide a very intuitive and simple interface to the student and the instructor, so that the user can easily navigate through pages, assignments, upload assignments and the instructor can easily manage assignments and revoke user permissions.

### 3.1.3 Hardware Interface

(a) Server side

The web application will be hosted on a web server which is listening on the web standard port, port 80.

(b) Client side

Monitor screen – the software shall display information to the user via the monitor screen Mouse – the software shall interact with the movement of the mouse and the mouse buttons. The mouse shall activate areas for data input, command buttons and select options from menus. Keyboard – the software shall interact with the keystrokes of the keyboard. The keyboard will input data into the active area of the database.

### 3.1.4 Software Interface

(a) Server side

An Apache web server will accept all requests from the client and forward it accordingly. A database will be hosted centrally using MySQL and SQLite.

(b) Client side

An OS which is capable of running a modern web browser which supports JavaScript and HTML5.

### 3.1.5 Communication Interfaces

The HTPP or HTTPS protocol(s) will be used to facilitate communication between the client and server.

## 3.2 Product Functions

## 3.3 User Characteristics

### 3.3.1 Student

- Every student will have a unique login ID to log in to the portal.
- The student requests the site from web server using internet browser.
- The student inserts his username and password at log in area in the login Page.
- If the student inserts a valid username and password he or she will see the main menu that contains the following items:
  1. Name information.
  2. Personal information: personal number, name, email and password.
  3. Course information: course name, number, point, semester and related assignments for each course.

### 3.3.2 Teacher

- The teacher requests the site from web server using internet browser.
- The teacher inserts his username and password at login area in the login Page.
- If the teacher inserts a valid username and password he will see the teacher main menu that contains the following items:
  · His courses.
  · View submissions for a particular assignment.
  · Name details.
  · Address information: personal number, name, and email

## 3.4 Design and Implementation Constraints

### 3.4.1 User Interface Constraints

Using this system is fairly simple and intuitive. A user familiar with basic browser navigation skills should be able to understand all functionality provided by the system.

### 3.4.2 Hardware Constraints

The system should work on most home desktop and laptop computers which support JavaScript and HTML5.

### 3.4.3 Software Constraints

The system will be intended to run on Firefox 4 and above, Google Chrome 10 and above and Internet Explorer 8 and above.

### 3.4.4 Data Management Constraints

System shall be able to interface with other components according to their specifications.

### 3.4.5 Operational Constraints

The system is limited by its operating server in terms of the maximum number of users it can support at a given time.

### 3.4.6 Site Adaptation Constraints

The component will be adapted to the overarching system at the conclusion of the system creation.

### 3.4.7 Design Standards Compliance

The system shall be implemented in Django.

Most of the academic portals have a lot of redundant features which are rarely used in an academic sessions. Our new system focuses on the features which are most important to the users of an academic institute along with introduction of some new features which other portals lacks.

# 4 External Interface Requirements

## 4.1 User Interfaces

- Using this system is fairly simple and intuitive. A user familiar with basic browser navigation skills should be able to understand all functionality provided by the system.

## 4.2 Hardware Interfaces

- The system should work on most home desktop and laptop computers which support JavaScript and HTML5.

## 4.3 Software Interfaces

The system will be intended to run on Firefox 4 and above, Google Chrome 10 and above and Internet Explorer 8 and above.

**1. Web Server**

- Apache will be used as web server:
- The user inputs data via the web server using HTML forms
- The django-based server takes the input, makes a query on the sql database and returns the relevant log.
- The web server embeds the dynamic content returned by the database into static HTML pages.

**2. Django Application**

- The actual program that will perform the operations is written in Django. All data will be stored in a database.

**3. MySQL Database**

- It's an open source SQL database to store all data which communicates with the application on the server.

# 5 Requirement analysis and Functional requirement

## 5.1 Student

- Every student will have a unique login ID to log in to the portal.
- The student requests the site from web server using internet browser.
- The student inserts his username and password at log in area in the login Page.
- If the student inserts a valid username and password he or she will see the main menu that contains the following items:
  1. Name information.
  2. Personal information: personal number, name, email and password.
  3. Course information: course name, number, point, semester and related assignments for each course.

### 5.1.1 Functional Requirements

- Student can upload the solution of any of his assignments before the deadline (if strict).
- Student will receive a message from the system after uploading the solution (accept or reject).
- Student can see the information about the assignment (description and instruction, start-time, end-time, motivation, how to download and upload the assignment and type of work: individually or as groups).

## 5.2 Teacher

- The teacher requests the site from web server using internet browser.
- The teacher inserts his username and password at login area in the login Page.
- If the teacher inserts a valid username and password he will see the teacher main menu that contains the following items:
  · His courses.
  · View submissions for a particular assignment.

· Name details.
· Address information: personal number, name, and email

### 5.2.1 Functional Requirements

- Teacher can administer (add, delete, and update) courses and oversee students using a simple XML (Extensible Markup Language) file.
- Teacher can see the assignments submitted by students. He can assess the students by browsing a report of the assignments and students.
- Teacher can manually send feedback, marks and notes to students.
- Accept or reject an assignment submission after deadline.

# 6 Non Functional Requirements

- Safety, the system must have the ability to prevent illegal or incorrect operations from teachers or students by using certain tools such as validation control.
- Understandability, which makes it easy for students to use and deal with, user friendly by developing good interface and data accessibility, must be easy.
- Secure and private.
- The system developed for the purpose of supporting integration between existing and future systems.
- Accessibility, the system is available via the Internet and can be accessed any time and any place by the internet.
- Performance, the system must be fast.