



## MCS-014

### Systems Analysis and Design

**Question [1].** Develop SRS for **Grade Card Generation System** for a University. SRS should be as per IEEE standard SRS template. Make necessary assumptions.

**Ans:-**

#### [1]Introduction

Grade card Generation System is very useful for University. It helps to prepare students grade card using an automated system.

#### 1.1 Purpose

The purpose of this SRS document is to specify software requirements of the proposed system. The main purpose of the system is to automate the task carried out by different peoples in the organization to perform the exam form submission.

#### 1.2 Project Scope

This project's aim is to automate the system by validating student's details. The data used by the system is stored in a database that will be the centre of all information held about students and exams.

- Manage large number of student details.
- Manage all details of student who registered for the course and send appropriate details about the course to the students account.
- View grades details of the students.

#### 1.3 Definitions, Acronyms and Abbreviations:

**Personal details:** Details of candidate such as name, qualification, phone number, address, e-mail address etc.

**HTML:** Hypertext Markup Language is a markup language used to design static web pages.

**JSP:** Java Server Page.

**SQL:** Structured Query Language

#### 1.4 References:

IEEE SRS Format  
<http://www.jnu.ac.in/>

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#### 1.5 Technologies used:

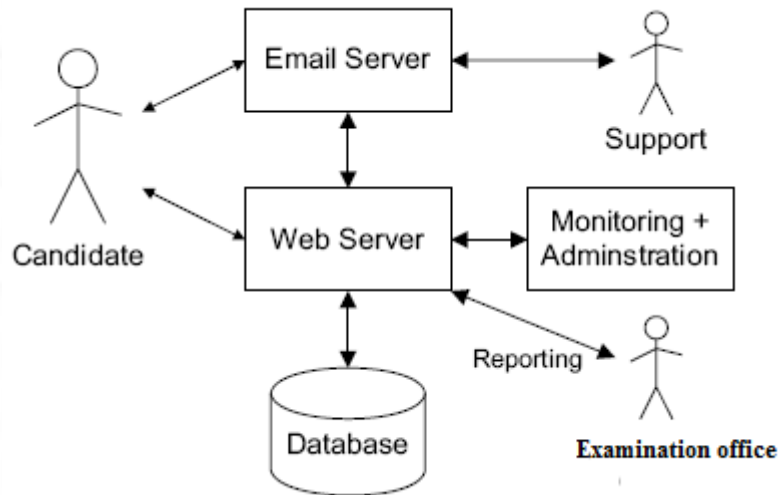
MySQL Server  
Web Server: Tomcat  
J2EE: Application Architecture (Sun Microsystems)

#### 1.6 Overall Description

It will describe major components of the system, interconnection and external interfaces.

### 2. Overall Description

#### 2.1 Product Perspective



**2.2 Software Interface:**

**Client on Internet:** Web Browser, Operating System

**Client on Intranet:** Client Software, Web Browser, Operating System (

**Web Server:** Tomcat, Operating System

**2.3 Hardware Interface:**

**Client Side**

**Processor : Pentium-IV**

**RAM : 512MB**

**Hard Disk : 80GB**

**Server Side**

**Processor : Pentium-IV**

**RAM : 2GB**

**Hard Disk : 320GB**

**2.4 Communication Interface:**

Client on Internet will be using HTTP/HTTPS protocol.

Client on Intranet will be using TCP/IP protocol.

**2.5 Product Function:**

**Candidate form Submission:** In this module candidate's exam's form details & payment details will be stored in database automatically.

**2.6 User Characteristics:**

**End User:** - Every user should be comfortable of working with computer and net browsing. She/he must have basic knowledge of English too.

**Administrators:** - Authorized by Institution to maintain Security.

**2.7 Constraints:**

- GUI is only in plain English.
- Login and password is used for identification of authorized persons.
- Examination City entered should be perfect.
- No checks of time line are being implemented.

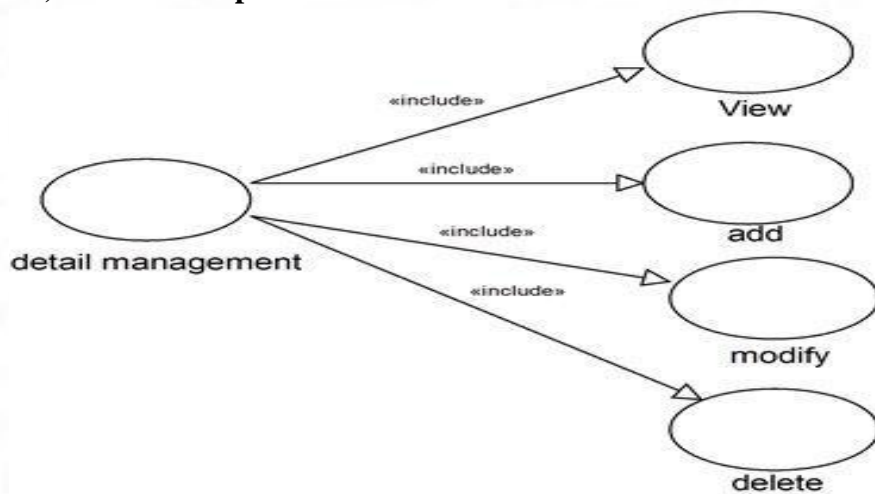
**2.8 Assumptions and Dependencies:**

- Exam Centres are already created and information's available for use.

- Roles and responsibilities are already established.
- Administrator is already created.

### 3. Specific Requirements:

#### 3.1) Use-Case Reports:-



#### 3.2 User Interface

The user interface for this system will have to be simple and clear. Most importantly, the pages must be easy to read, easy to understand and accessible. The color scheme should be appropriate to provide familiarity with the university and there should be no contrast issues.

**Application System:** The application process will be as straightforward as possible, using an intuitive form layout, with the necessary information being completed in stages. When regarding supplementary documentation, such as degree transcripts, these could be uploaded through the form in digital format, upon which it will be saved to the database and associated with the application, being accessible by both the admissions office staff and tutors.

### 4. Other Non-functional Requirements

#### 4.1 Performance Requirements

Some Performance requirements identified is listed below:

- The database shall be able to accommodate a minimum of 10,000 records of students.
- The software shall support use of multiple users at a time.

There are no other specific performance requirements that will affect development.

#### 4.2 Security Requirements

- Utilize certain cryptographic techniques
- Keep specific log or history data sets
- Assign certain functions to different modules
- Restrict communications between some areas of the program
- Check data integrity for critical variables

#### 4.3 Portability Requirements

Some of the attributes of software that relate to the ease of porting the software to other host machines and/or operating systems. This may include:



- Java is used to develop the product. So it is easiest to port the software in any environment.

#### 4.4 Maintainability

The user will be able to reset all options and all stored user variables to default settings.

#### 4.5 Reliability

Some of the attributes identified for the reliability is listed below:

- All data storage for user variables will be committed to the database at the time of entry.
- Data corruption is prevented by applying the possible backup procedures and techniques.

#### 4.6 Usability requirements

Some of the usability requirements identified for this system are listed below:

- A logical interface is essential to an easy to use system, speeding up common tasks.
- Error prevention is integral to the system and is provided in a number of formats from sanity checks to limiting free-text input.

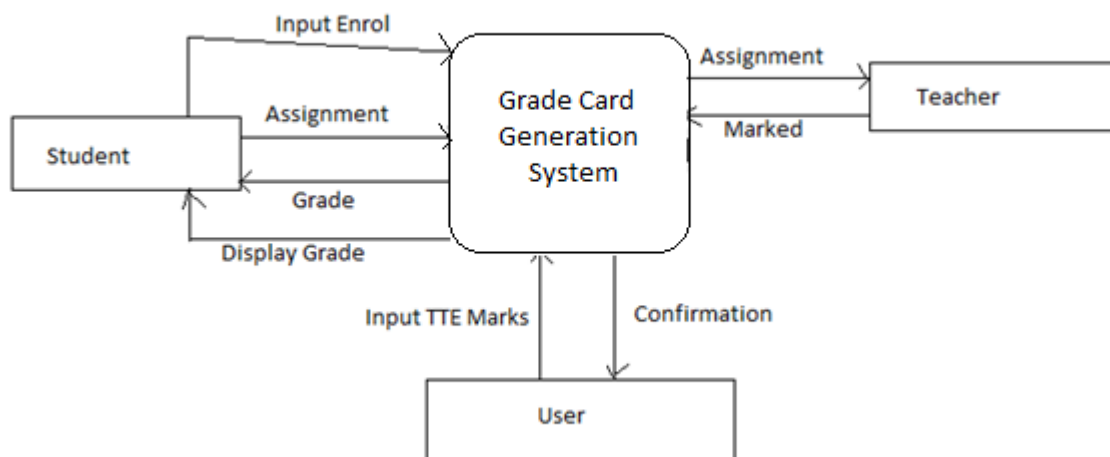
#### 4.7 Availability

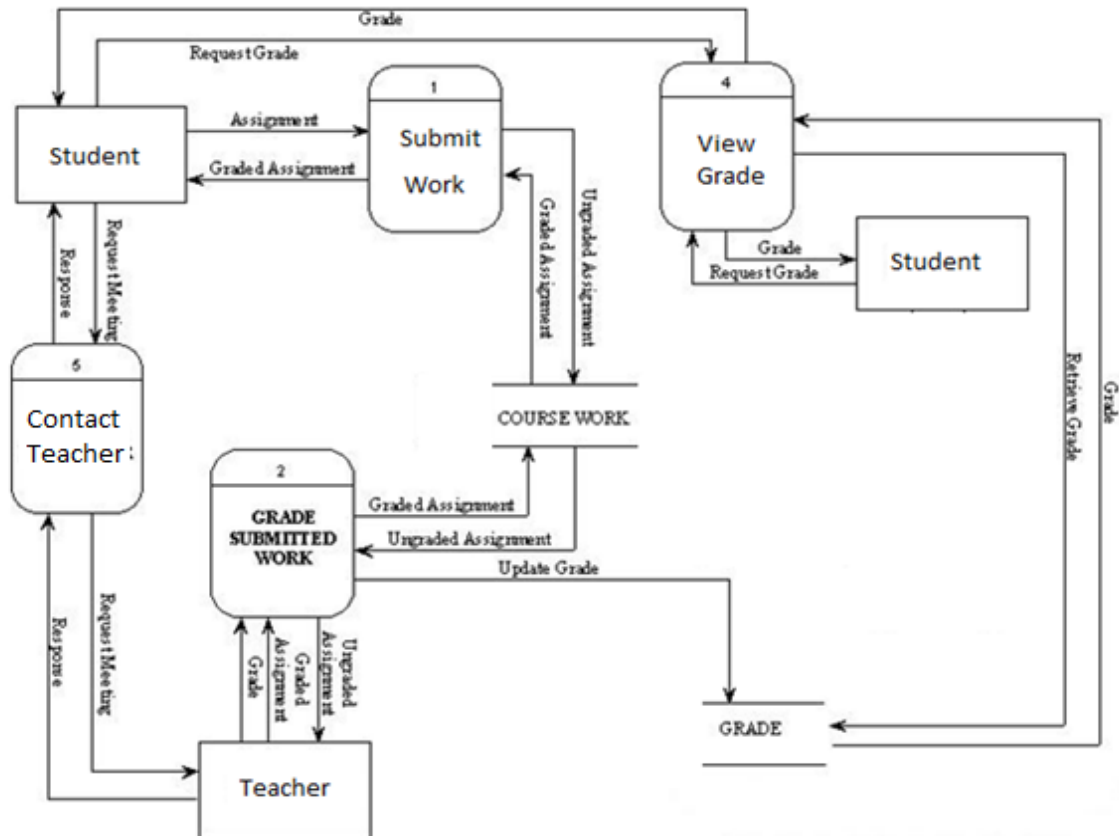
- All cached data will be rebuilt during every start-up. There is no recovery of user data if it is lost. Default values of system data will be assigned when necessary.

#### 5. Glossary

- **Exam Centre** – List of pre-defined exam centres, from which user can select respective exam centre.
- **AP** – Accounts Payable module within the People Soft Finance System. Will be used

Question [2] Draw the DFDs upto 3<sup>rd</sup> level for Grade Card Generation System.





Question [3] Draw ERD for Grade Card Generation System. Make necessary assumptions.

