

A PROJECT REPORT  
on  
**ONLINE FEEDBACK EVALUATION SYSTEM**

Submitted for partial fulfillment of the requirements for the award of the diploma in

**COMPUTER SCIENCE & ENGINEERING**

BY

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2023-2024

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**CERTIFICATE**

Certified that this project report entitled "**ONLINE FEEDBACK EVALUATION SYSTEM**" which is being submitted by **Mr. Mohammed Adnan Shakeel, Reg.No 418CS21703**, a bonafide student of "**JSS POLYTECHNIC**" in partial fulfillment for the award of Diploma in Computer Science and Engineering during the year 2023-24 is record of the student's own work carried out under my/our guidance. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report and one copy of it being submitted to the respective department.

The project report has been approved as it satisfies the academic requirements with respect to the project work prescribed for the said diploma.

It is further understood that by this certificate the undersigned do not endorse or approve any statement made, opinion expressed or conclusion drawn there in but approve the project only for the purpose for which it is submitted.

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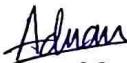
2. \_\_\_\_\_

### CANDIDATE'S DECLARATION

I **Mr. Mohammed Adnan Shakeel** the student of Diploma in Computer Science and Engineering Department bearing Register Number 418CS22703, of JSS Polytechnic, hereby declare that, I owe full responsibility for the information, results and conclusions provided in this project work titled "**ONLINE FEEDBACK EVALUATION SYSTEM**" submitted to Board of Technical Examinations, Government of Karnataka for the award of diploma Computer Science and Engineering. To the best of my knowledge, this project work has not been submitted in part or full elsewhere in any other institution/organization for the award of any certificate/diploma/degree. I have completely taken care in acknowledging the contribution of others in this academic work. I further declare that in case of any violation of intellectual property rights and particulars declared, found at any stage, I, as the candidate will be solely responsible for the same.

Date: 30/04/24

Place: Mysuru

  
Signature of Candidate

Name: Mohammed Adnan Shakeel

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## ACKNOWLEDGMENT

We are happy to state that the project of designing and developing the report on “**ONLINE FEEDBACK EVALUATION SYSTEM**” has successfully completed under the given constraints and with the expected outcome. We are very grateful to our Principal **K S Bhaktavatsala**, Principal of JSS Polytechnic, for his constant support for the project. We are highly obliged to our HOD **Mrs. Shinu Koshy** for providing us timely help and support throughout the project. We would like to express my deepest appreciation to all those who provided me the possibility to complete this report. A special gratitude to our guide **Mrs. Sowmyashree H G**, Lecturer Department of Computer Science and Engineering whose contribution in stimulating suggestions and encouragement, and guidance throughout the project. Also, we would like to thank the non-teaching staff and friends for their co-operation and constant support.

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# **Student Feedback Evaluation System**

## **ABSTRACT**

In order to maintain a good student records at college, the management does every possible aspect in maintaining the qualities. As this is the online era, where everything is online, we need to develop a system in online which is very useful to maintain feedback reports by the administrator.

The purpose of this project is to make the process of taking feedback from the students in online regarding the lecturer's teaching. With this, the institutes can access the feedback reports in a faster way and without any loss of data. As of now this task was done manually with the use of papers and pens. This has many drawbacks and evaluating this hand written forms is a difficult process.

Student needs to logging into the website of online feedback system and giving his/her feedback and can perform modifications too. But the restriction here is once the student submits the report then he cannot modify it later. With this the student can successfully submit feedback on lecturer's teaching in a very efficient manner without any loss of data. The administrator and the faculty members can access these feedbacks from the students and take appropriate actions

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## CHAPTER 1

### INTRODUCTION

The Online Student Feedback System is a management information system for education establishments to manage student data. Student Feedback Systems provide capabilities for selecting particular subject for feedback and generate the report automatically, build student details, student-related data needs in a college. An Online Student Feedback System is an automatic feedback generation system that provides the proper feedback to the teachers as per the categories like always, poor, usually, very often, sometimes. In the existing system students can give feedback about the lecturers by doing manually. By this process student can give feedback in online system without wasting his time in writing. After giving feedback by every student paper are collected by the faculty and calculated the overall grade for each subject and each lecturer. After that that all-grade report is viewed by the HOD which is given by the faculty. Hence estimating the performance of lecturers and giving feedback to college staff. So, the existing system carries more time to do a piece of work for this reason the online system feedback is implemented. This is the main disadvantage of the existing system for giving feedback about the lecturers and viewing report of lecturers manually. Student feedback on courses is an essential element in quality assurance. Questionnaires are of primary importance in the dialogue with students, since they are the best tool, we currently have for collecting objective, detailed and reasonably systematic information on a wide range of questions, which informs the teacher about student's perceptions of the course's strengths and weaknesses. Responses are collated on behalf of departments by the system, and will be used only for the purposes of quality enhancement. The aim of this is to save time for staff in academic departments and to allow a minimum level of statistical analysis of the data across the College. This recognizes that whilst the information remains the property of the College.

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## CHAPTER 2

### SCOPE OF CAPSTONE PROJECT

#### OVERVIEW

The goal of this project is to create online application which is useful to maintain feedback reports by the administrator. The project is to make the process of taking feedback from the students in online. With this, the institutes can access the feedback reports in a faster way and without any loss of data. As of now this task was done manually with the use of papers and Student needs to logging into the website of online feedback system and giving his/her feedback and can perform modifications too. But the restriction here is once the student submits the report then he cannot modify it later.

#### PROBLEM STATEMENT

Coming to the existing system the feedback is done by manual process. In the existing system students can give feedback about the lecturers by using paper and pen. By this process. Student can give feedback in online system without waste his time in writing. After giving feedback by every student. Papers are collected by the Hod's and calculate the overall grade for each subject and each lecturer. After that that all-grade report is viewed by the principal which is given by the Hod's. Hence estimating the performance of lecturers and giving counselling to college staff.

So, the existing system is carrying more time to do a piece of work for this reason the online system feedback is implemented. This is the major advantage of the existing system for giving feedback about the Lecturers and viewing report of lecturers.

#### OBJECTIVE

- ❖ System is computerized and it gives more facilities than the present system
- ❖ Reduce time for finding reports.
- ❖ Save Time in Communication.
- ❖ Efficiently Manage Multiple reports.
- ❖ System will provide all the information about the student feedback at one place
- ❖ Manage the entire process in easy and quick way
- ❖ Quick Report Generation
- ❖ Save man power

## DELIVERABLE

- ❖ A content management system (CMS) that allows the admin to easily update and maintain the application
- ❖ A responsive design that ensures the website can be accessed on any device, including desktops, tablets, and smartphones
- ❖ A user-friendly interface that makes it easy for students to navigate the application and find the information they need.

## CONSTRAINTS

- ❖ The application must be completed within a specified timeline and budget
- ❖ The application must be hosted on a reliable and secure platform
- ❖ The application must be tested for compatibility with different web browsers and devices

## ASSUMPTIONS

- ❖ The admin has basic knowledge of e-waste collection and is willing to learn how to update and maintain the application using the CMS
- ❖ The application will be designed using industry-standard tools and technologies, such as HTML, CSS, and JavaScript
- ❖ The application will be hosted on a reliable and secure web hosting service, such as AWS or Google Cloud

## CHAPTER 3

### WORK BREAKDOWN STRUCTURE (WBS)

A Work Breakdown Structure means dividing a large and complex project into simpler, manageable and independent tasks. The root of this tree (structure) is labelled by the Project name itself. For constructing a work breakdown structure, each node is recursively decomposed into smaller sub-activities (with the technologies used).

A work breakdown structure (WBS) is a visual, hierarchical and deliverable-oriented deconstruction of a project.

So, our project “Feedback Evaluation System, the work breakdown structure would start from the process of literature survey and end with Deployment process.

**Literature survey** – In this particular phase we will be surveying the previse research made over our project, as no one has made any sort of research over our project, so we have done one more kind of survey which is “observation survey” where we have also included the requirement gathering.

**Higher level design** – In this particular phase we will be dealing with objective, and designing the Wireframes, Sitemaps, Architecture, Functionality, System designing.

**Database designing** – In this stage we will be discussing all about the database, what are the information to be stored in the particular database, which databases should we use (MySQL) and so on.

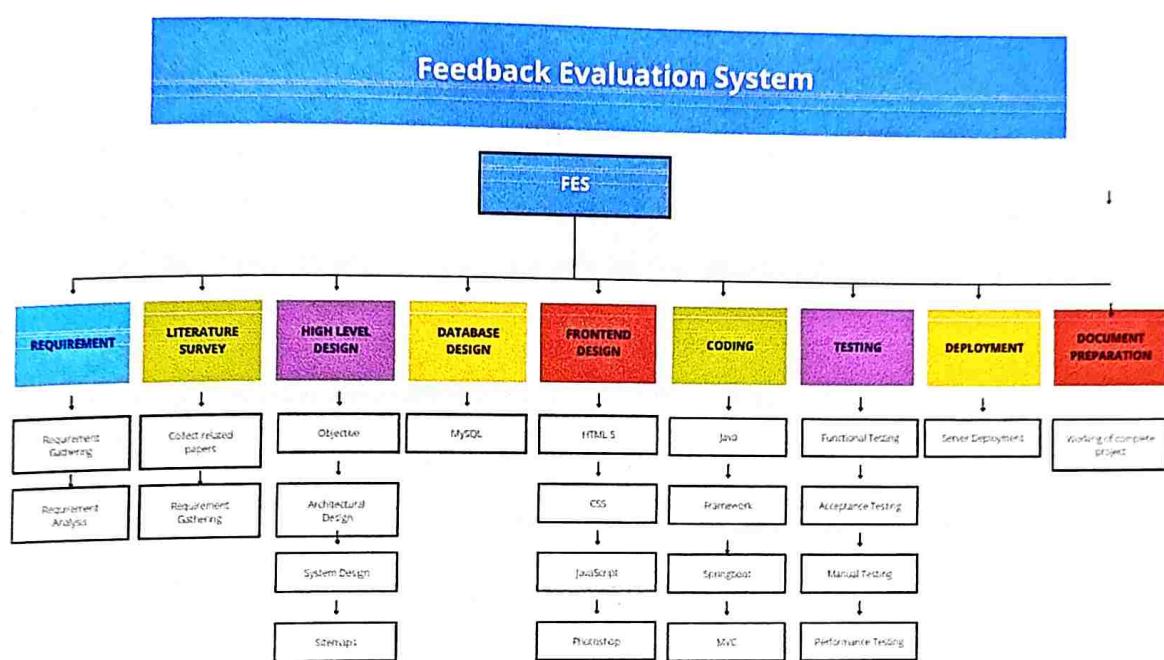
**Front-end designing** – In this part we will be designing the visual part of our application with the help of front-end technologies.

**Coding** – In this part we will be designing the logical part of the application with the help of frameworks.

**Document preparing** - In this stage we will be preparing the document which includes all the detailed structural working of our project

**Testing** – In this phase we move on with the process of different testing, which helps out project to be error and bug free project. In this we will be doing the Unit testing, Integration testing, Functional testing, Performance testing, Acceptance testing, System testing.

**Deployment** – At the last for deploying our project to the end user we may be following the server deployment process.



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## CHAPTER 4

### TIME – LINE DEVELOPMENT

A project timeline is a visual list of tasks or activities placed in chronological order. Where each task is given a name and a corresponding start and end date. A project timeline provides an in-depth overview of the entire project from start to finish. So, our project title is “Feedback Evaluation”, so in our project we have scheduled our time according to the work structure of our project.

Our work for this project has started from the month of January and we may wrap it up at the month of May.

- ❖ In the month of January from 16<sup>th</sup> to 20<sup>th</sup> we have gathered project requirement and done the requirement analysis.
- ❖ In the month of January from 21<sup>th</sup> to 25<sup>th</sup> we have done the literature survey (observation survey) regarding to our project
- ❖ And in the month of march, we have been doing with two of the tasks, so from January 26th to February 15<sup>th</sup> we will be uplifting the Designing of the project with wireframes, sitemaps, Architecture designing, system designing etc.
- ❖ And in the same month of march, we will be Designing the database from February 16<sup>th</sup> to March 31<sup>st</sup> (MySQL).
- ❖ And in the month of April, we will be doing the main part of our project, the life of the project which is Front and Backend Designing, from April 1st to April 12th, we will be doing our visual part, which is our front end designing. From April 13th to April 30th, we will be done with the logical part of the project which is our backend Designing.
- ❖ And the overall Working Document of our project will be starting in the month of May, from 1st to 10th of the month.
- ❖ And the last phase of our project where this project will be publicized to the users, after the testing is done, if not any bugs or errors, it would be passed out to the deployment

process. So, our project Testing and Deployment would be in the month of May from 11th to 18th of the month.

## PROJECT PLAN

	FEB	MAR	APR	MAY
REQUIREMENT ANALYSIS		16 JAN - 20 JAN		
LITERATURE SURVEY		21 JAN - 25 JAN		
HIGHER LEVEL DESIGN			JAN 26 - FEB 15	
DATABASE DESIGN			FEB 16 - MARCH 31	
FRONTEND DESIGN				1 APRIL - 15 APRIL
CODING				16 APRIL - 30 APRIL
DOCUMENT PREPARING				1 MAY - 10 MAY
TESTING & DEPLOYMENT				11 MAY - 18 MAY

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## CHAPTER 5

### COST BREAKDOWN STRUCTURE

- Cost breakdown structure is a financial counterpart to the breakdown structure (WBS).
- Cost breakdown structure is multi-level financial hierarch.
- It is used to continuously compare the actual costs with the budget, and integrate to the cost control system.

When you have a solid structure in place, you can have better control of your project costs to avoid going over budget.

#### Some of the main points in CBS

**Cost control:** A CBS allows project managers and other stakeholders to see the breakdown of costs and identify areas where costs are higher than expected, so they can take steps to control or reduce those costs.

**Budget management:** A CBS helps project managers to understand the total cost of a project and to manage the project budget more effectively.

**Communication:** A CBS can be used to communicate the cost of a project to stakeholders, such as project sponsors and other key decision-makers, in a clear and understandable way.

**Identifying cost savings:** A CBS allows us to identify areas of cost savings by comparing the actual costs with the estimated costs and identifying the variances.

**Identifying cost drivers:** A CBS allows us to identify the cost drivers and the impact of changes on the cost.

PHASES in Feedback Evaluation System	Cost distribution
Phase1: Strategy Document preparing	3k
Phase2: Higher level design and specification	4k
Phase3: Front end, UI &UX	4k
Phase4: Coding	7k
Phase5: Database designing	4k
Phase6: Testing and maintenance	4k
Phase7: Deployment	7k
Total amount	33k

Here is a breakdown of some measures to prevent unnecessary cost usages for Feedback Evaluation

#### **Plan and set budget**

Before starting the project, plan and set a budget to ensure that the expenses are kept under control.

#### **Choose the right platform**

Selecting the appropriate platform for building the application

#### **Regular maintenance**

Regularly maintain the application to prevent issues that can lead to expensive repairs or security breaches.

#### **Analytics and monitoring**

Using application analytics and monitoring tools to identify issues and opportunities for improvement.

By implementing these measures, we have reduced the unnecessary expenses so that the cost of maintaining Online Library Management is kept in minimum.

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## CHAPTER 6

### RISKS ASSESSMENT

Risk analysis is a technique used to identify and assess factors that may achieve the goal of the project.

Two basic types of risk analysis to consider are:

- ❖ Quantitative Risk Analysis
- ❖ Qualitative Risk Analysis.

Quantitative Risk Analysis attempts to assign independently objective monetary values to the components of the risk assessment and to the assessment of the potential loss.

Conversely, a Qualitative Risk Analysis is scenario oriented.

In risk analysis, it is necessary to develop a value rational for information worth. This is not always an easy task but it is critical in the analysis process.

This information is used in cost benefit analyses for countermeasures and as a basis for possible risk in our college portfolio website project.

Here is a risk analysis for an Feedback Evaluation System:

### TECHNICAL RISK

Technical risks are associated with application functionality, such as errors, bugs and crashes, that may cause the application to become unavailable or lead to data loss in this Online Library Management.

### MITIGATION

Regular application maintenance, testing's, and updating can prevent technical risks. Implementing strong security measures, such as using SSL certificates, firewalls, and security plugins can protect the application from security risks.

### SECURITY RISK

Security risks include hacking, malware, phishing and other types of cyber-attacks that can compromise sensitive information or damage the application reputation.

## **COST RISK ANALYSIS**

The cost risk may be referred to using terms such as risk fund, risk reserve, or risk contingency. This should be differentiated from any contingency provisioned for the effects of unidentified risk (or unknown), often referred to as management contingency.

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## CHAPTER 7

### REQUIREMENT SPECIFICATION

In this phase, all the requirements are gathered and requirements are prepared as a formal document called SRS (software requirement specification document) which includes:  
Functional Requirements and Non-Functional Requirements

### FUNCTIONAL REQUIREMENTS

The functional requirements describe the interactions between the system and its environment independent of its implementation. In software engineering, a functional requirement defines a function of a software system or its component. A function is described as a set of inputs, the behaviour, and outputs.

The following are the various functional specifications identified in the system

It has been modularized into following modules

- ❖ Student Module
- ❖ Administrator Module

#### Student Module

- ✓ Can select the marking criteria.
- ✓ Can give the comments/compliments to the respective staff members

#### Administrator Module

- ✓ Create Feedback Category
- ✓ Add Feedback questions
- ✓ Update questions
- ✓ View questions
- ✓ Create Faculty
- ✓ Assign Faculty to the Respective semester and subjects
- ✓ Create Students
- ✓ Generate report
- ✓ Individual Student Report
- ✓ Consolidate Students Report

Add questions:

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In this module the administrator can add questions if he is interested to add another question to database to rate the lecturers.

**Update questions:**

In this module the administrator can update questions.

**View questions:**

In this module administrator can view all questions in the database to give feedback about the lecturers

**View report:**

After giving feedback by the students; can view Individual and Consolidate reports

## **NON-FUNCTIONAL REQUIREMENTS**

Non-Functional Requirements describe the aspect of the system that is not directly related to its functional behaviour. The different Non-functional requirements for our project are

**Performance Requirements:**

Since the software is online, therefore much of the performance of the system depends on the traffic that is present online and the speed of the Internet. We are trying to give an improved performance by setting cookies to the functions so that when the user submits something for the second time, the processing is done much quicker.

**Security Requirements:**

In order to provide security, we are providing a login authentication to each of the Users within who are going to use the system.

**Usability Requirement:**

The Navigation for the various operations is arranged in an orderly fashion based on the requirements. The interface also must provide a soothing look to the eye for the user.

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### **Reliability Requirements:**

The Reliability of the system must be checked on extreme conditions, such as any server failures, or network failures. If any data is lost then the system should be able to recover the data through some backup measures.

### **Portability Requirements:**

The system should be portable and should be able to switch any environment changes such as change of database within a very short period of time.

### **Easy to Operate:**

The system should be easy to operate and should be such that it can be developed within a short period of time and fit in the limited budget of the user

- ❖ Secure access of confidential data.
- ❖ 24 X 7 availability
- ❖ Flexible service-based architecture will be highly desirable for future extension

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## **SOFTWARE REQUIREMENTS:**

Operating System	: Windows 8/10/11
User Interface	: HTML, CSS, JavaScript
Programming Language	: Java
Framework	: Spring Boot
Database	: MySQL

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## **HARDWARE REQUIREMENTS:**

Processor	: Pentium IV
Hard Disk	: 80GB or more
RAM	: 4GB or more

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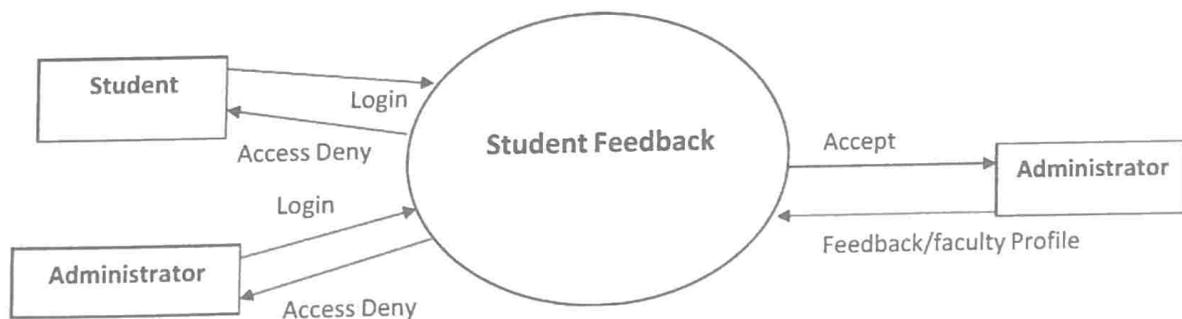
## CHAPTER 8

### SYSTEM DESIGNS

#### CONTEXT DIAGRAM

A context diagram gives an overview and it is the highest level in a data flow diagram, containing only one process representing the entire system. It should be split into major processes which give greater detail and each major process may further split to give more detail.

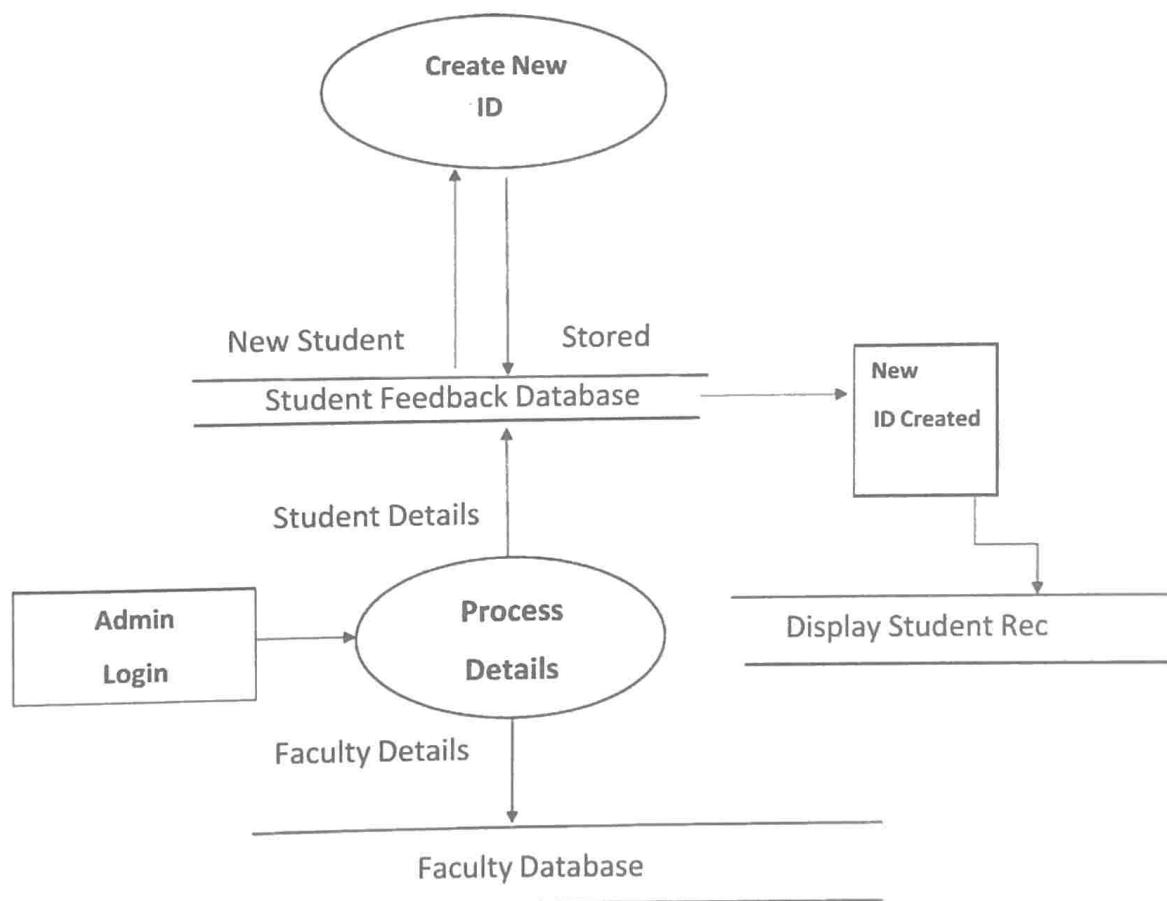
- All external entities are shown on the context diagram as well as major data flow to and from them.
- The diagram does not contain any data storage.
- The single process in the context-level diagram, representing the entire system, can be exploded to include the major processes of the system in the next level diagram, which is termed as diagram 0.



## DATA FLOW DIAGRAM

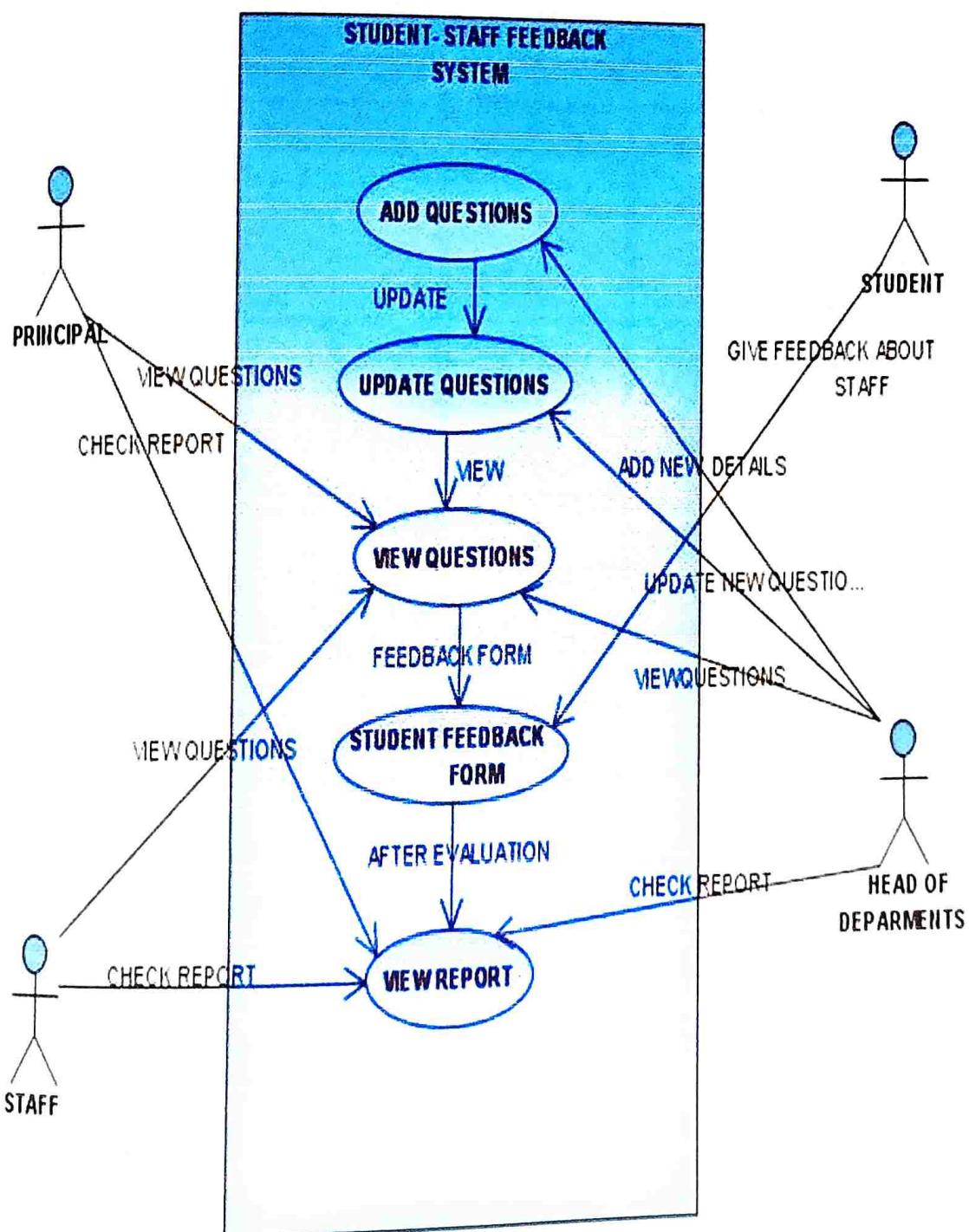
The DFD is also called as bubble chart. It is a simple graphical formalism that can be used to represent a system in terms of input data to the system, various processing carried out on this data, and the output data is generated by this system.

The data flow diagram (DFD) is one of the most important modelling tools. It is used to model the system components. These components are the system process, the data used by the process, an external entity that interacts with the system and the information flows in the system.



## USECASE DIAGRAM

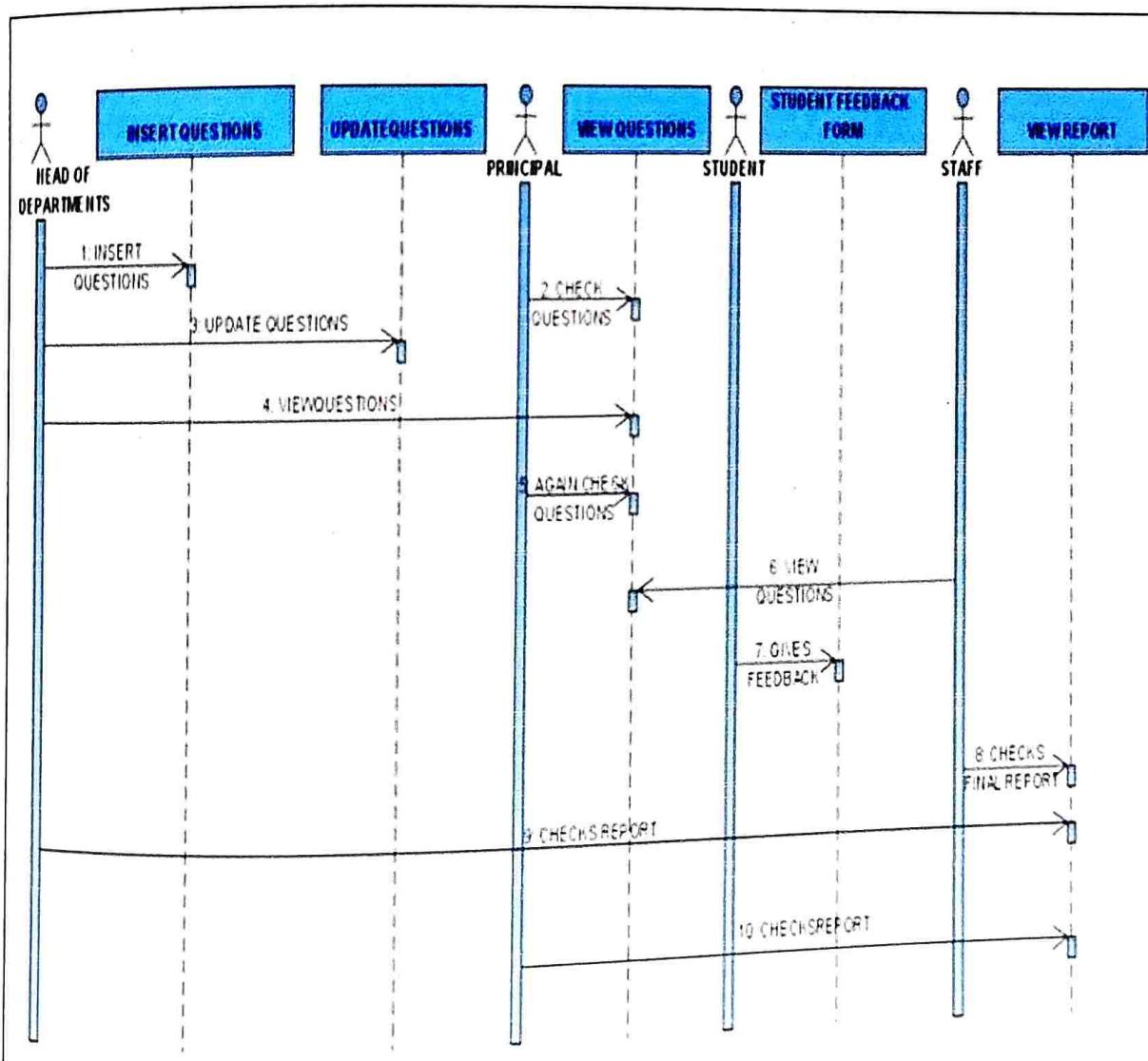
A use case diagram in the Unified Modeling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases. The main purpose of a use case diagram is to show what system functions are performed for which actor. Roles of the actors in the system can be depicted.



## SEQUENCE DIAGRAM

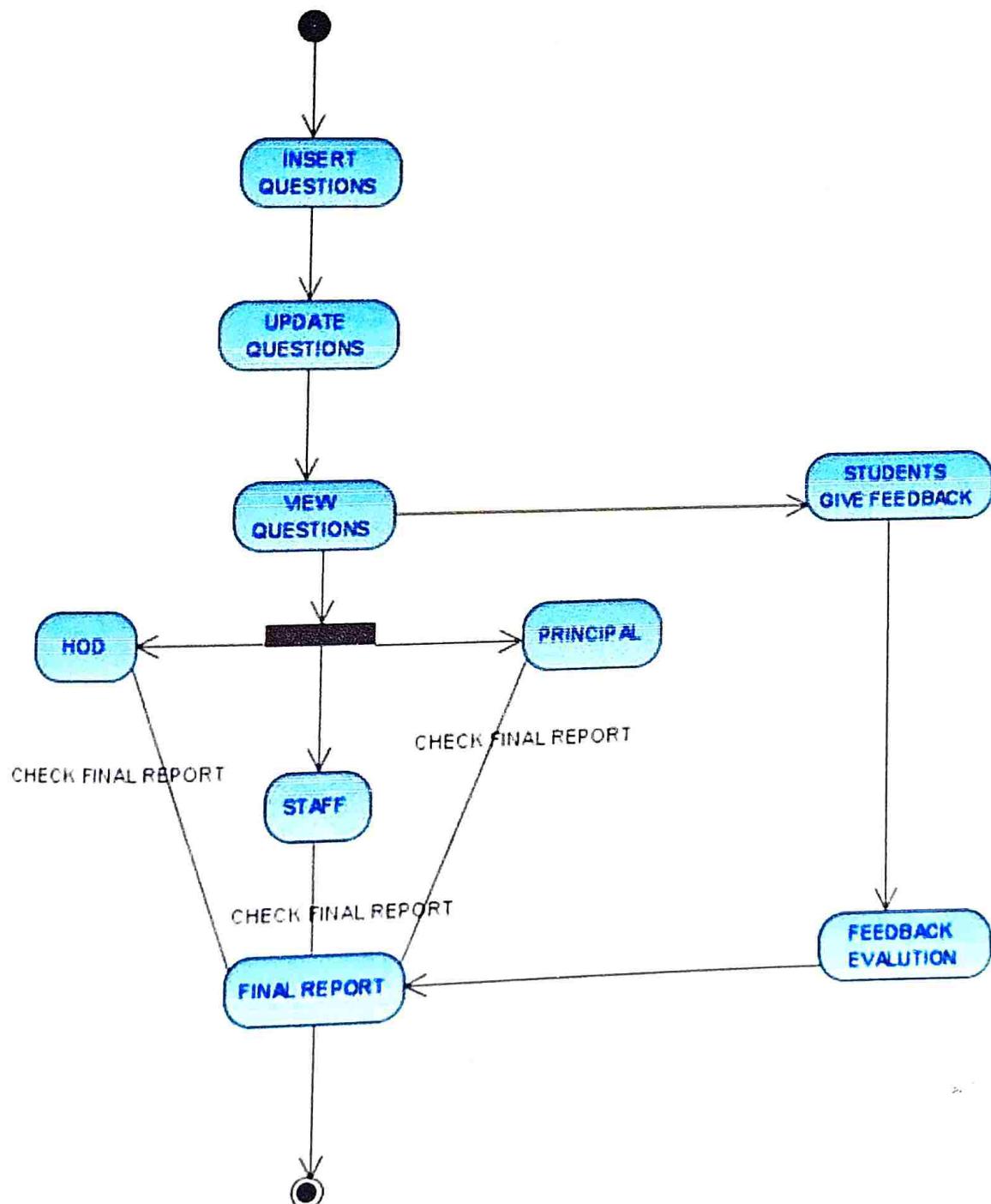
Sequence diagram and collaboration diagram are called INTERACTION DIAGRAMS. An interaction diagram shows an interaction, consisting of set of objects and their relationship including the messages that may be dispatched among them.

A sequence diagram is an introduction that empathizes the time ordering of messages. Graphically a sequence diagram is a table that shows objects arranged along the X-axis and messages ordered in increasing time along the Y-axis.



## ACTIVITY DIAGRAM

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modelling Language, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system. An activity diagram shows the overall flow of control.



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## CHAPTER 9

### TECHNOLOGY USED

- ❖ HTML 5
- ❖ CSS
- ❖ JAVASCRIPT
- ❖ JSP
- ❖ PHOTOSHOP
- ❖ MYSQL
- ❖ SPRING BOOT
- ❖ JAVA

#### HTML5

HTML stands for Hyper Text Markup Language. It is a standard markup language for web page creation. It allows the creation and structure of sections, paragraphs, and links using HTML elements (the building blocks of a web page) such as tags and attributes.

#### HTML has a lot of use cases, namely:

- ❖ Web development. Developers use HTML code to design how a browser displays web page elements, such as text, hyperlinks, and media files.
- ❖ Internet navigation. Users can easily navigate and insert links between related pages and websites as HTML is heavily used to embed hyperlinks.
- ❖ Web documentation. HTML makes it possible to organize and format documents, similarly to Microsoft Word.

#### CSS

CSS stands for Cascading Style Sheets. It is a style sheet language which is used to describe the look and formatting of a document written in markup language. It provides an additional feature to HTML. It is generally used with HTML to change the style of web pages and user interfaces.

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CSS is used along with HTML and JavaScript in most websites to create user interfaces for web applications and user interfaces for many mobile applications.

### What does CSS do

- ❖ You can add new looks to your old HTML documents.
- ❖ You can completely change the look of your website with only a few changes in CSS code.

### Why use CSS

- ❖ Solves a big problem
- ❖ Saves a lot of time
- ❖ Provide more attributes

## JAVASCRIPT

JavaScript (js) is a light-weight object-oriented programming language which is used by several websites for scripting the webpages. It is an interpreted, full-fledged programming language that enables dynamic interactivity on websites when applied to an HTML document. it has been adopted by all other graphical web browsers. With JavaScript, users can build modern web applications to interact directly without reloading the page every time. The traditional website uses js to provide several forms of interactivity and simplicity.

### Features of JavaScript

- ❖ All popular web browsers support JavaScript as they provide built-in execution environments.
- ❖ JavaScript is an object-oriented programming language that uses prototypes rather than using classes for inheritance.
- ❖ It is a light-weighted and interpreted language.
- ❖ It is a case-sensitive language.
- ❖ JavaScript is supportable in several operating systems including, Windows, macOS.
- ❖ It provides good control to the users over the web browsers.

## JSP

JSP technology is used to create web application just like Servlet technology. It can be thought of as an extension to Servlet because it provides more functionality than servlet such as expression language, JSTL, etc.

A JSP page consists of HTML tags and JSP tags. The JSP pages are easier to maintain than Servlet because we can separate designing and development. It provides some additional features such as Expression Language, Custom Tags, etc.

### Advantages of JSP

- ❖ Easy to maintain
- ❖ Fast Development: No need to recompile and redeploy
- ❖ Less code

## PHOTOSHOP

Adobe Photoshop is an extremely powerful application that's used by many professional photographers and designers. You can use Photoshop for almost any type of image editing, from touching up photos to creating high-quality graphics. In fact, Photoshop has so many features that it may actually be too powerful for many users. It's also very expensive, so unless you need to edit photos or graphics professionally

## MYSQL

MySQL is a relational database management system based on the Structured Query Language, which is the popular language for accessing and managing the records in the database. MySQL is open-source and free software. It is fast, scalable, and easy to use database management system in comparison with Microsoft SQL Server and Oracle Database.

### MySQL Features

- ❖ Relational Database Management System (RDBMS)
- ❖ Easy to use
- ❖ It is secure
- ❖ Client/ Server Architecture
- ❖ Free to download

- ❖ It is scalable
- ❖ Speed
- ❖ High Flexibility
- ❖ Compatible on many operating systems
- ❖ Allows roll-back
- ❖ Platform Independent
- ❖ GUI Support

## PROGRAMMING LANGUAGE

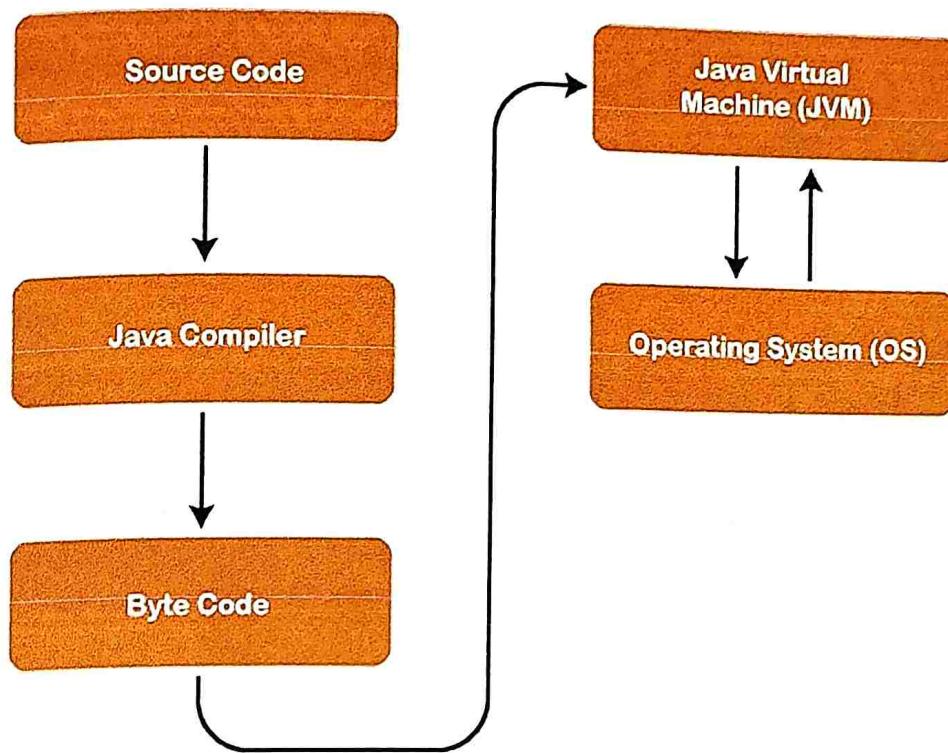
Java is a programming language and a platform. Java is a high level, robust, object-oriented and secure programming language. The primary objective of Java programming language creation was to make it portable, simple and secure programming language. Apart from this, there are also some excellent features which play an important role in the popularity of this language.

## JAVA ARCHITECTURE

Java Architecture is a collection of components, i.e., JVM, JRE, and JDK. It integrates the process of interpretation and compilation. It defines all the processes involved in creating a Java program.

Java Architecture can be explained by using the following steps:

- ❖ There is a process of compilation and interpretation in Java.
- ❖ Java compiler converts the Java code into byte code.
- ❖ After that, the JVM converts the byte code into machine code.
- ❖ The machine code is then executed by the machine.



**The Java architecture includes the three main components:**

- ❖ Java Virtual Machine (JVM)
- ❖ Java Runtime Environment (JRE)
- ❖ Java Development Kit (JDK)

#### **Java Virtual Machine (JVM):**

JVM's main task is to convert byte code into machine code.

#### **Java Runtime Environment (JRE):**

It provides an environment in which Java programs are executed. JRE takes our Java code, integrates it with the required libraries, and then starts the JVM to execute it.

#### **Java Development Kit (JDK):**

Java Development Kit holds JRE, a compiler, an interpreter or loader, and several development tools in it

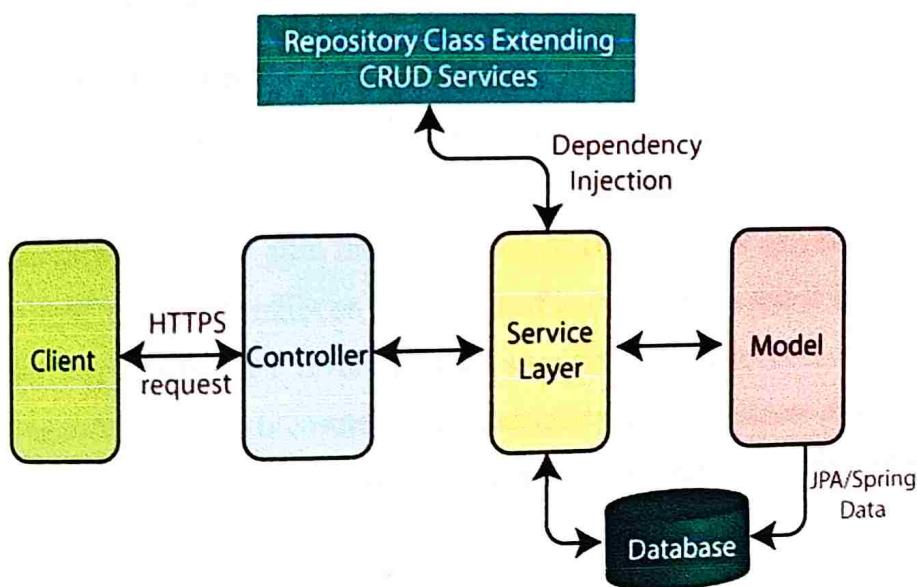
### **FEATURES OF JAVA LANGUAGE**

- ❖ Simple
- ❖ Object-Oriented

## Why should we use Spring Boot Framework?

- ❖ The dependency injection approach is used in Spring Boot.
- ❖ It contains powerful database transaction management capabilities.
- ❖ It simplifies integration with other Java frameworks like JPA/Hibernate ORM, Struts, etc.
- ❖ It reduces the cost and development time of the application.

## Spring Boot Architecture



- ❖ Creates a data access layer and performs CRUD operation.
- ❖ The client makes the HTTP requests (PUT or GET).
- ❖ The request goes to the controller, and the controller maps that request and handles it. After that, it calls the service logic if required.
- ❖ In the service layer, all the business logic performs. It performs the logic on the data that is mapped to JPA with model classes.
- ❖ A JSP page is returned to the user if no error occurred

## CHAPTER 10

### TESTING AND VALIDATION

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub-assemblies, assemblies and/or a finished product. It is the process of exercising software with the intent of ensuring that the

Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

#### UNIT TESTING:

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application. It is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

#### INTEGRATION TESTING:

Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfactory, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

## FUNCTIONAL TESTING:

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals.

Functional testing is centered on the following items:

Valid Input : identified classes of valid input must be accepted.

Invalid Input : identified classes of invalid input must be rejected.

Functions : identified functions must be exercised.

Output : identified classes of application outputs must be exercised.

Systems/Procedures: interfacing systems or procedures must be invoked.

Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.

## SYSTEM TESTING:

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration-oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

## WHITE BOX TESTING:

White Box Testing is a testing in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is used to test areas that cannot be reached from a black box level.

## BLACK BOX TESTING:

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a testing in which the software

under test is treated as a black box. You cannot "see" into it. The test provides inputs and responds to outputs without considering how the software works.

## UNIT TESTING:

Unit testing is usually conducted as part of a combined code and unit test phase of the software lifecycle, although it is not uncommon for coding and unit testing to be conducted as two distinct phases.

### Test strategy and approach

Field testing will be performed manually and functional tests will be written in detail.

### Test objectives

- ❖ All field entries must work properly.
- ❖ Pages must be activated from the identified link.
- ❖ The entry screen, messages and responses must not be delayed.

### Features to be tested

- ❖ Verify that the entries are of the correct format
- ❖ No duplicate entries should be allowed
- ❖ All links should take the user to the correct page.

## ACCEPTANCE TESTING:

User Acceptance Testing is a critical phase of any project and requires significant participation by the end user. It also ensures that the system meets the functional requirements.

## CHAPTER 11

### RESULTS AND INFERENCE



Fig: 11.1 User Login Page

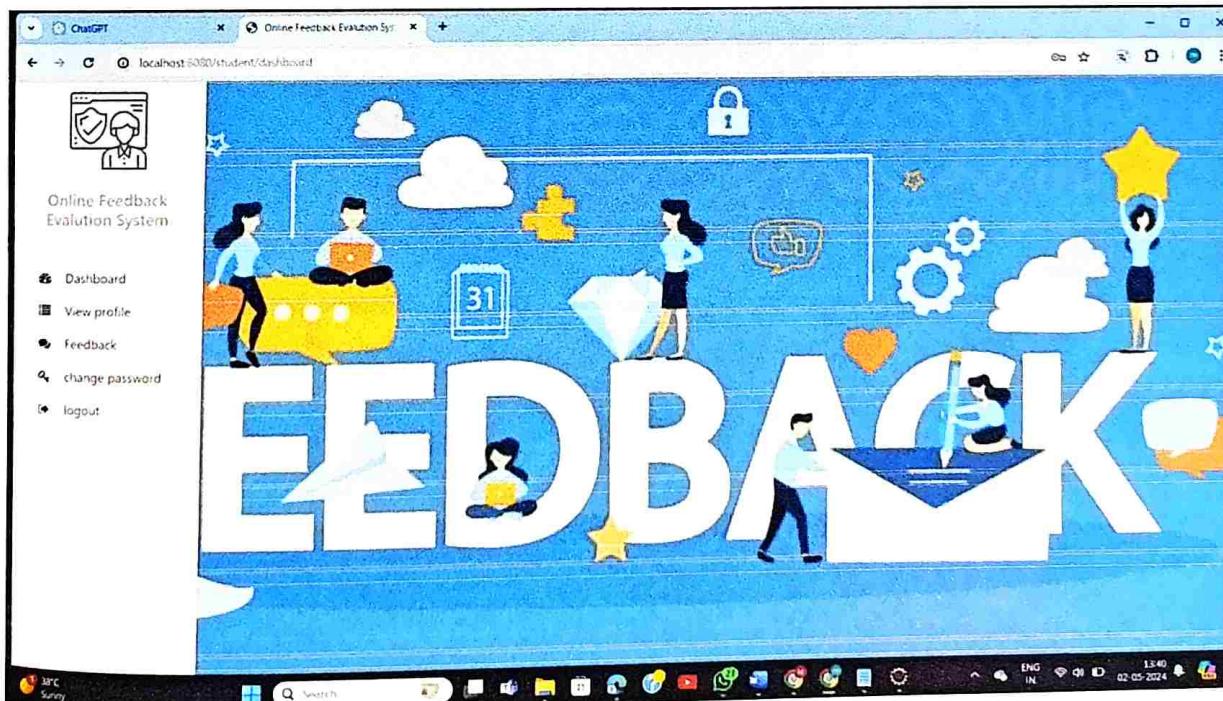


Fig: 11.2 User Page

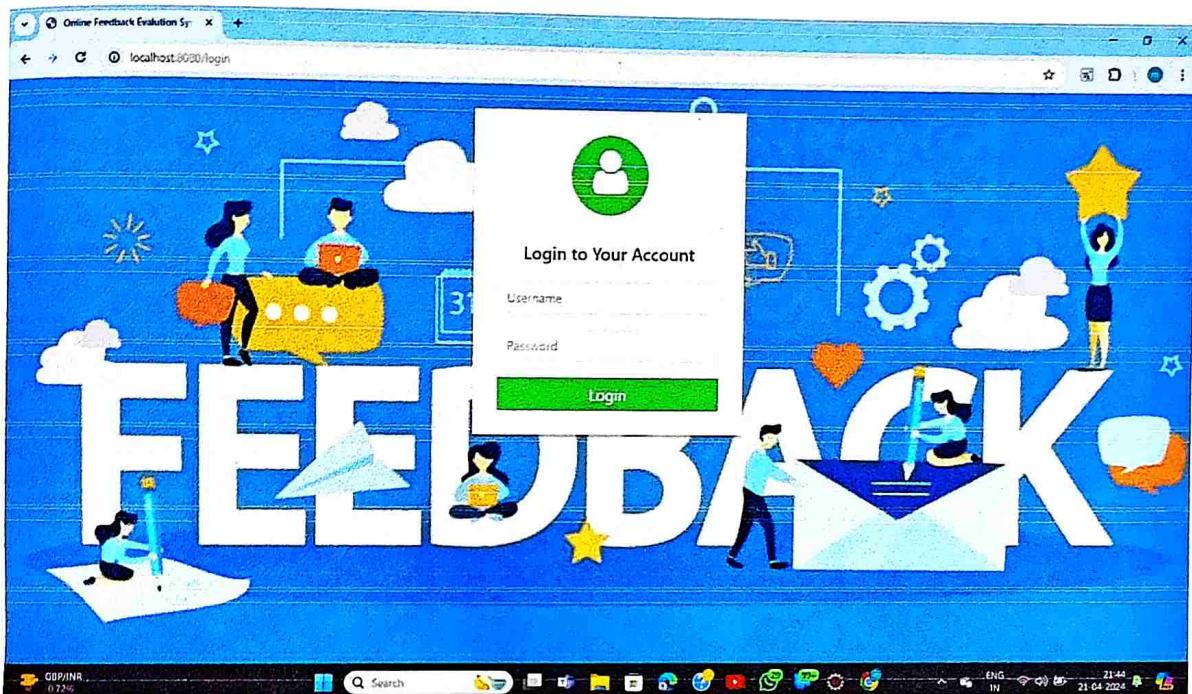


Fig: 11.3 Admin Login Page

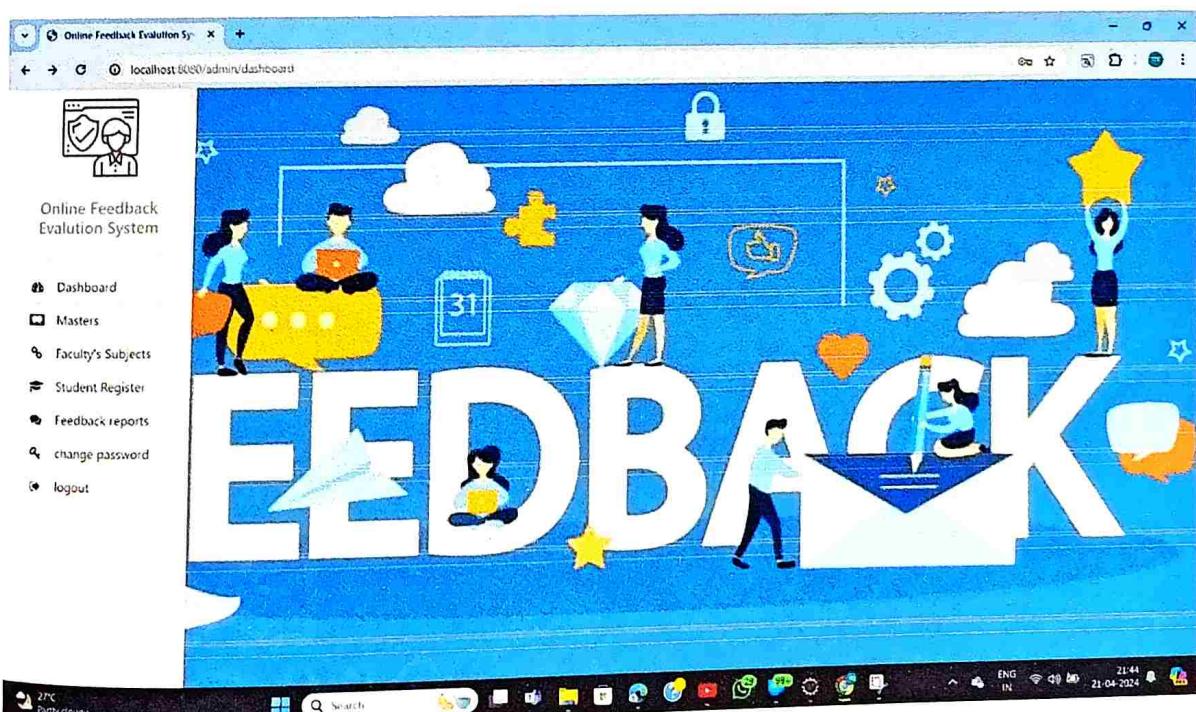


Fig: 11.4 Admin Page

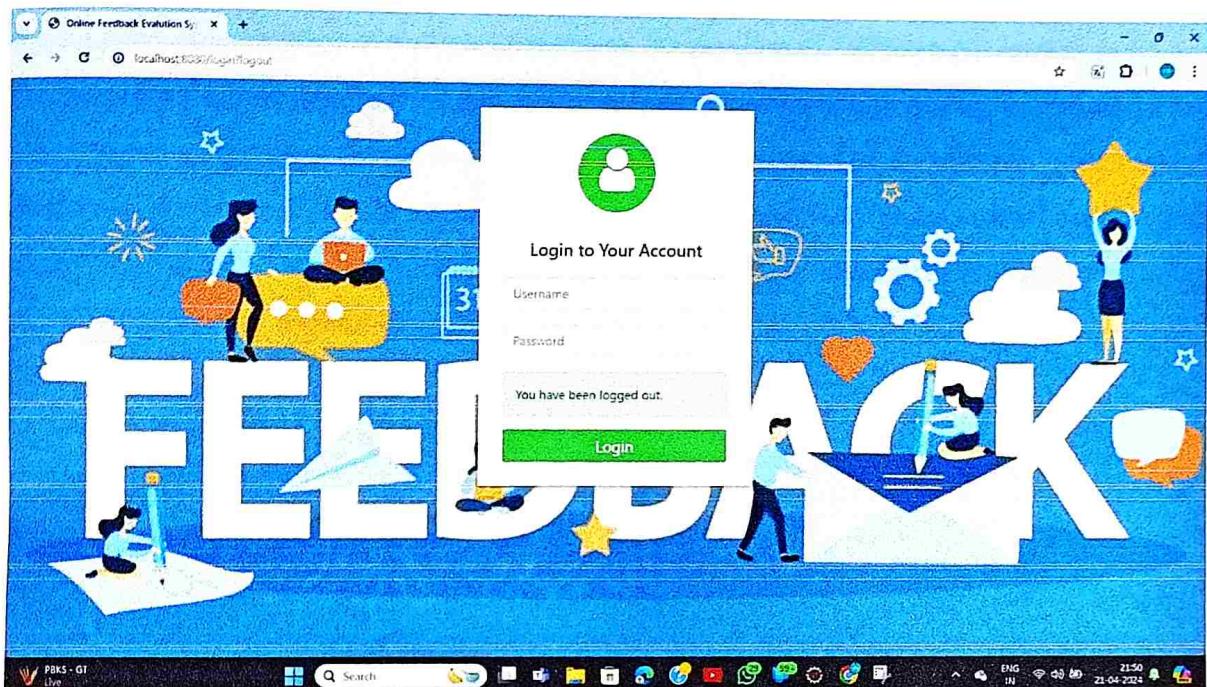


Fig: 11.5 Logout Page

## CHAPTER 12

### CONCLUSION

This project is design for the purpose to reduce the lecturer's time and to reduce the burden of maintaining huge number of records of students. At the time of feedback generation, it applies formulae for generate feedback of particular subject. After that it will display the whole record sheet to the staff, when the staff will login in the system. As the comparison with Manuel feedback or existing feedback system the new system is easier way to manage whole things in a particular manner. As per the existing system it is very easy process to save each and every record of individual student by the use of database.

## CHAPTER 13

### FUTURE ENHANCEMENT

In the future, the Online Feedback Evaluation System could see significant enhancements to its functionality and user experience. This may include the implementation of advanced analytics tools for insightful feedback analysis, customizable forms to tailor feedback collection, and seamless integration with Learning Management Systems. Additionally, features like anonymous feedback submission, automated reminders, and real-time notifications could further improve user engagement and system efficiency. Machine learning algorithms for sentiment analysis, multi-language support, and the development of a mobile application could also enhance accessibility and inclusivity. Moreover, introducing gamification elements could incentivize feedback participation and foster a more interactive feedback culture within educational institutions. These enhancements aim to continually refine and optimize the feedback evaluation process, ultimately enhancing the system's effectiveness in gathering and utilizing valuable feedback.

## CHAPTER 14

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