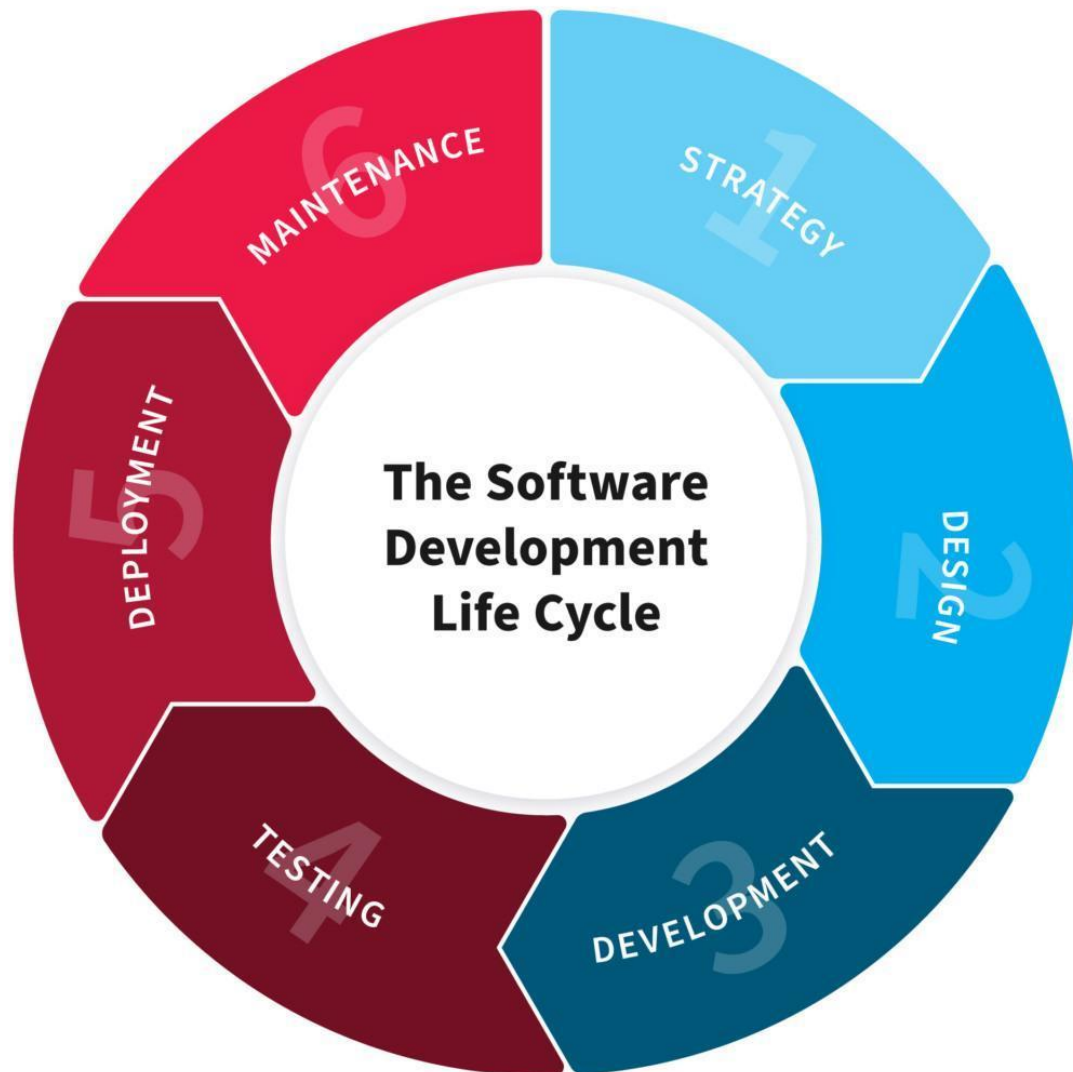


NAMES: UWONKUNDA MIREILLE
REGNO: 221018336
CLASS NO:
PROJECT NAME: STUDENT MANAGEMENT SYSTEM



OUR PROJECT NAMED STUDENT MANAGEMENT APPLICATION IS MADE UP OF DIFFERENT NECESSITIES FOR A USER TO KNOW ENOUGH INFORMATION ABOUT THE STUDENT, AND THESE INCLUDE: STUDENT PERSONAL INFORMATION, COURSES AND SCORES OF THE STUDENT. THIS WILL COMMONLY BE USED BY THE LEADERS OF THE SCHOOL AS THE ADMINS OF THIS APP.

1. PLANNING

Before creating the student management system, we brainstormed different ideas as a group about how this app could be very essential to the daily life of both a student and the school. This app was found to be more crucial than we thought due to certain problems/difficulties that it was going to overcome. We ought to recommend the use of this app in keeping the student records instead of using the traditional and manual way.

Considering the challenge of losing some information of a particular student because it was not kept well or it was kept in a poor condition like, printed papers or manuscripts. The app provides a large platform and a huge memory to keep different records at any time and retrieve it at any time and it provides a lasting library to keep the documents in so that in more years ahead you can search it and get it with a quick response from the computer. This digital way to keep the records will be more effective and efficient due to there will be low accuracy of loss of data since you can save it on an internet and other hard drives which are portable.

2. DESIGN

Our system was designed by using Java NetBeans 15 which was used in designing the labels, figures and the coding session. For the database MySQL Workbench 8.0 CE was used. As viewed when you open the system the first page you see is the login page, and this works mainly as the gate page where the admin has to first input his email address and his password to enter the system.

After the confirmation that the user is known in the system database then the admin can interact with the system and if he/she is unknown in the system database then there would be no confirmation that he/she could interact with the system.

After passing the login page, the user may reach the following page where the student data is being inserted, and these include personal information like names, date of birth, gender, email and the student image, etc. In this system there are multiple choices in editing the student data like update option, delete and clear option. There is also the option of adding a new student and print the information as the saved ones have been published in a table on the right side panel of the page. As you can also search the student in a database and if the student searched for does not exist you get a pop up message to inform you that there are no results matching the need of the user and refresh the searching engine.

After filling the student personal information, you can go to another tab called courses where you insert different course data such as student ID, semester and the courses which are being studied, after finishing to insert the data you can save, print or clear it as options provided by the system.

The following step is to insert the information of the score of students where you provide data of scores gained in different courses by a particular student identified by a particular ID. After the provision of score data the user is given the option to add new, update, delete, print, clear and search the inserted data in the table. Then there is the final tab which is the marksheet which shows the whole information about a particular student, this level is given the option to print or clear the marksheet. At the end of each tab of this system there is a logout option that takes you out of this system, for this logout stage the system comes up with a pop up message asking the user if he/she really needs to leave so the user responds yes or no. If yes the user quits and if no the user stays in the system.

3. DEVELOPMENT

Development steps in Apache NetBeans and MySQL are as following:

For the development of the project in Apache NetBeans

- *Open the apache netbeans.*
- *Develop user interface of the app using java swing.*
- *Develop the system and implement the necessary methods to handle insertion of information,data manipulation and validation.*
- *Handling the communication between the application and the database.*
- *Implementing a login system to ensure the confidentiality and security of the student data.*
- *Ensure that data is being stored ,retrieved and manipulated correctly.*

Development of the project in MySQL for DBMS(Database Management System)

- *Building database schemas and data models that align with the system's functional requirements(admin,student,course and score schemas).*
- *Connecting to MySQL using (mysql-connector-java 8.0.26)driver.*
- *Creating the admin,student,courses and score tables and fields in database using SQL codes.*
- *Defining relationship between tables.*

4.TESTING

At this stage of testing the system,I began on the first page which is the login page where I put the username and the password to login as to reach another following page.At first without connecting this page with the database you could input whatever you want and click on a login option and nothing appears .But after using a connector to connect the information entered by the user with those in database then th login button give the expected result,For those who can enter some data on the login page which do not match with the one in the database then the login button does no work.

Considering the student personal information page ,it could only work if the attributes of the student entity are being declared in mySQL as some colons to be filled by characters or integers if not then this page coulda not work poperly and the same goes to the course and score page.

For the challenge of facing some bugs being introduced like syntax error bugs and logic errors were also determined during the testing process and this was easily handled due to writing correctly the codes.The testing process was also conducted by collecting some feedback from different users to see if the design and functionality of the application meet their needs.

5.DEPLOYMENT

Installation,testing ,deployment and performance monitoring was conducted as follows:

- *Download and install java development kit(jdk)19,Apache Netbeans IDE 15 and MySQL workbench 8.0 CE for database.*
- *Start to code and design the product from scratch or Clone the project from github.*
- *Open the project in Apache NetBeans and write necessary database codes in MySQL workbench and MySQL java connector driver.*
- *Run your project on the local computer.*

6. MAINTENANCE

- Regularly conduction of testing on this application for a better use.
- Provision of user support for any challenge that may arise.
- Collection of feedback from users and use it for improvements.
- Continuously fix any defects or bugs that are identified.