

Class: BIT Year 2

Group 3, subgroup 11

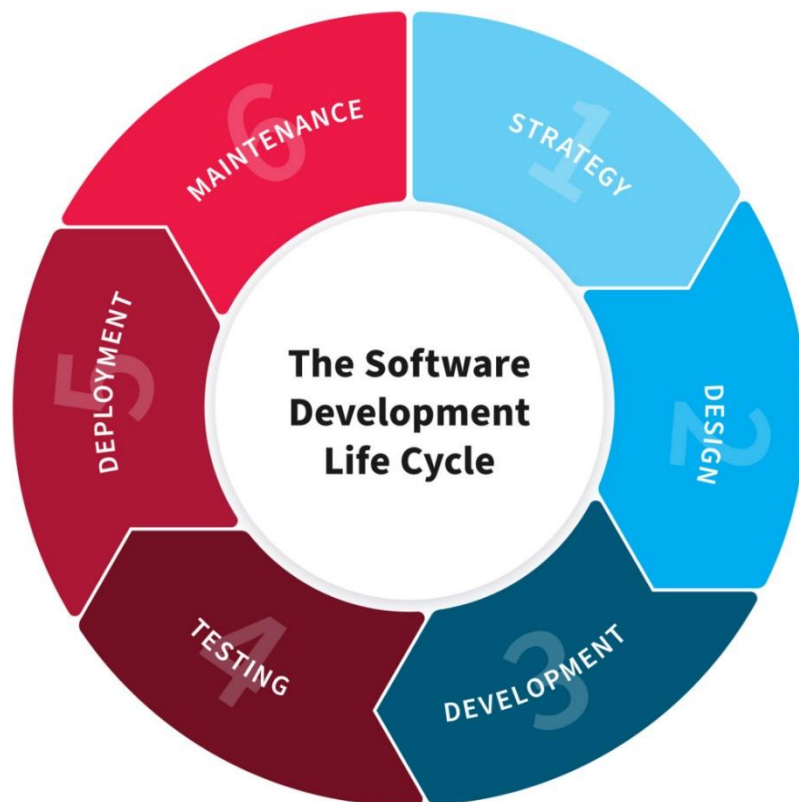
Names: UWASE Beatrice

Registration no: 221011926

Class no: 53

JAVA PROJECT DESCRIPTION

PROJECT NAME: BUS MANAGEMENT SYSTEM



PLANNING

Bus management is the system that has the purpose of digitalizing ways of transport for a company.

The software will provide access to the passengers to information about buses such as directions, prices, available buses and journeys time. It will also give the access to administrators to monitor the progress of everything going on.

There are some goals of this system:

1. Digitalizing the process of booking a ticket
2. Facilitate the management of buses and passengers records and information
3. Providing easy access for admins and passengers
4. Reducing data duplication and increase of accuracy

Objectives of bus management system project are as follow:

- To develop a software that allows input, access, retrieve, store and update the information about buses and passengers.
- To create user friendly interface program for the passengers to access and use it without complications.
- Ensuring security and data integrity.
- Monitoring progress going on.

Problems that the business management will solve are the following:

1. Inefficiency in manual system
2. Ineffectiveness of other systems
3. Lack of accessibility on information
4. Duplication of data in manual system
5. Loss of passengers information
6. Hardships in management and monitoring the process
7. Wastage of time

DESIGN

TECHNICAL REQUIREMENTS:

- The system was developed as Java project using Apache NetBeans IDE.
- MySQL workbench was used as the database management system to store and manage buses and passengers records.

FUNCTIONAL REQUIREMENTS:

- Software will allow administrator to access and detect passengers and buses data for better service provision.
- System will allow the passengers to access buses information.
- System will allow the passengers for inputting and storing their information.

- It will allow passengers and admin to access and make change on information stored like updating, editing and canceling as options in system.

USER INTERACTION:

- Passengers will create accounts that will allow them to login and have access to the information provided in the system.
- Users will easily explore or navigate the system because the interface will be user-friendly and simple to understand.
- The system will have authentication to ensure data security and integrity.

DEVELOPMENT

Development of bus management system project was done using tools like Apache NetBeans IDE and MySQL database.

DATABASE DESIGN AND SETUP:

MySQL was used as database management system (DBMS).

- Creating database framework and data models that line up with system functional requirements.
- Connecting to MySQL using “mysql-connector-java 5.1.23-bin.jar” driver.
- Creating tables using SQL scripts.
- Defining relationship between tables.

PROJECT DEVELOPMENT:

- Open Apache NetBeans IDE and create a new java project named bus management
- Develop the interface using Java swings.
- Develop the system and implementing methods for insert of information and data manipulation and authentication.
- Controlling the communication between the application and database.
- Developing a login system to guarantee confidentiality and security.
- Ensure that data is stored and be viewed, accessed and manipulated.

TESTING

Testing plan for bus management system is as follow:

- Testing if components of the system are working properly and correctly.
- Develop integration tests for the whole system to check if components are working together properly.
- Testing the system to ensure that functional and technical requirements are met.
- Fixing defects and bugs identified in testing.

DEPLOYMENT

The project is uploaded to GitHub for easy access and maintenance.

Project link: <https://github.com/beahuwase/bus-management-system>.

Installation, testing and performance of bus management system was conducted on local computer as:

Extracting project from one computer to another using external device (flash drive); save the copied database file and project file on desktop and NetBeans documents after you open WAMP server you search “localhost” import database by creating database with the same name as the original created one.

Installation:

- Tools such as Apache NetBeans IDE, MySQL, WAMP or XAMP, Java Development Kit (JDK) were installed as they are necessary for java project development.
- Download and configure the necessary settings for the system such as setting up MySQL workbench and mysql-java-connector driver, jcalendar-1.4.jar and beansbinding-1.2.1.jar tools.
- Open Apache NetBeans and develop a project after ensuring that all dependencies or necessities are installed.
- Run the project on local computer to confirm that it is working as expected.

MAINTENANCE

- ❖ Regularly watch over the system for any issue or bug.
- ❖ Conduct test on system to confirm it didn't break and still working.
- ❖ Provide user support and troubleshoot in case there is issue arise.
- ❖ Collect the feedback from users for improvement.
- ❖ Continuously fix defects and bugs that are identified.

As a conclusion, Bus management system is better solution for discovered problems in bus transport management accessibility of how services are provided such as how people spends more time on manually ticket getting and booking, unfair treatment and other issues.

The project follow standards of development process as planning, design, development, testing, deployment and maintenance.

END

