ADVANCED JAVA PROGRAMMING PROJECTS

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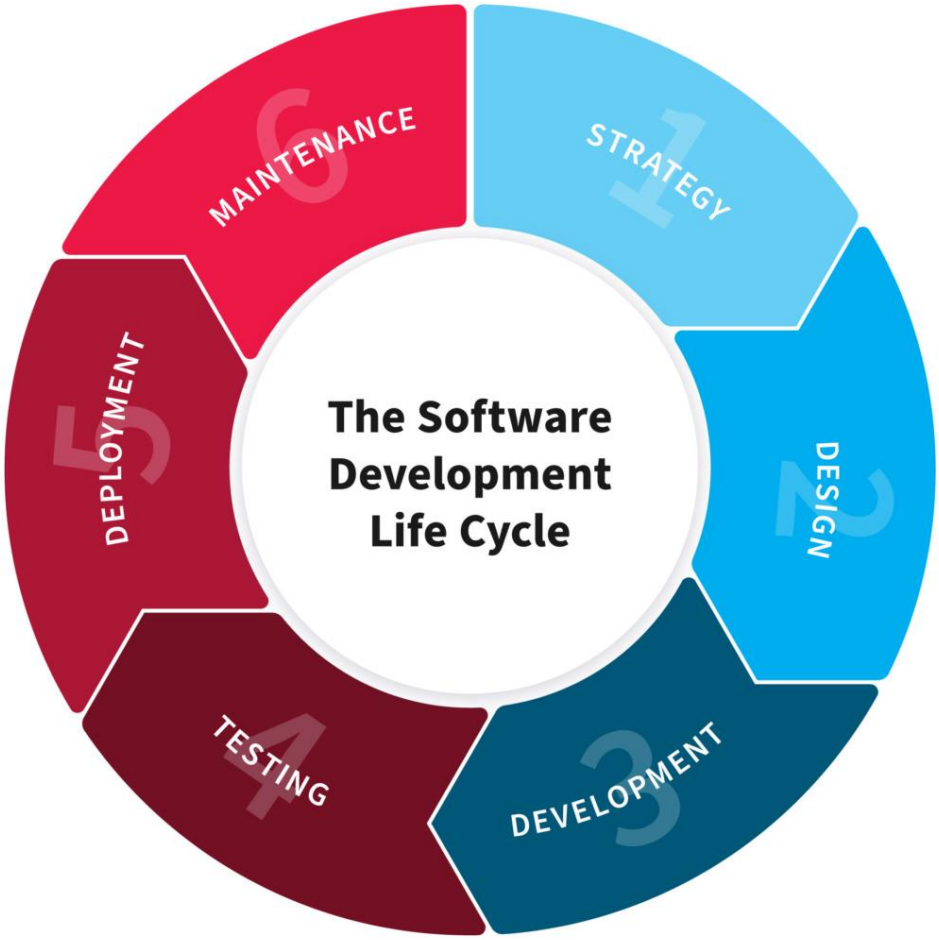
Software development life cycle (SDLC)



1. PLANNING

This project is designed with the aim of helping company's manager to manage their employees' information and helping employees to make attendances online. Also it will be used by the manager to record and store information of employees and the company's information, to verify the Employees' attendances and adding a new employee. And also, it will help the employees to assign their attendance with out wasting working time by going to make attendance physically.

Goals and objectives of this project:

Keeping employee's information and helping managers to manage them by adding a new employee in company's employees, employee's attendances verification and updating employees' information and making their information be retrieved easily.

Another goal is to reduce paper-based workings in management of employees, Reduction of time, making information available every time, making the searching process easy, making the efficient and effective management and make the report making process easily.

The problem to be solved:

Paper based system or manual system are likely to be un efficient system to many companies, so this system will solve problems caused by the manual system like these following:

- Poor data security: There will be no more loss of data due to different reasons like loosing papers, fire outbreaks, raining and other natural disasters because the system will keep them electronically.
- Time consuming: this system will reduce time taken by employees by making attendances and time taken by manager to record information manually.
- Difficulties of accessing employees' data
- Difficulties of searching one employee in a big number of employees.

- The difficulties in providing reports manually

2. DESIGN

During this system development we have used different requirements like Functional requirements and technical requirements. So, let me show you some of them:

Functional requirements:

- Log in: manager and employee will start by logging in in their account.
- After logging in as a manager he/she will be able to add a new employee,
- Update employee's information,
- Delete information where required,
- Making reports and
- Search and view an information
- After logging in as an employee they will be able to make attendance
- User log out

Technical requirements:

- User friendly: This system is easy to use because of how actually it is designed and the familiar icons to guide the user
- Scalability: This system allows multiple users to use it at the same time
- Security: The system users need to use their user authentications to use the system and un authorized users are not allowed
- Accessibility: The system is accessible any time and everywhere someone is located
- Maintainability: This system can be maintainable and updatable whenever the developer wants
- Performance: The system works faster and clean because user does not need to wait too long loadings
- Availability: It works 24/24hours and everywhere you are
- Serviceability: It produce the desired services

How the system interacts with Its users:

This system if you log in as a manager or admin by using the username and password it checks if they are valid if not it will notify you requesting you to use valid username and password. And after it will let you add a new employee, update, retrieve employee's information, delete where necessary and verify employee's attendance. And if you log in as an employee by using username and password, it will also check if they are valid or invalid. When they are valid the system will let you make an attendance.

3. DEVELOPMENT

We used different techniques in building this system like some platforms, libraries, databases and tables… These follows are some of them:

- We have used java and Apache NetBeans for developing both back-end and front-end pars of the Employee's information management system.
- We used MySQL as database management system and XAMMP server.
- We used MySQL –connector-java-5.1.15-bin.jar as a library for connecting java pages with database.
- We used JCalendar-1.4.jar and rs2xml.jar for allowing our application to accept dates and time format.
- It was developed by using computer and running in window operating system as a platform.
- Data are stored in data base which is called **employeemgt** our database has 3 tables (employee info, users table, and attendance table).
- We used laptop with Windows 10

How system built:

We started by installing java NetBeans and JDK. After we use them by opening a new project called **employee**. And we used **jframe** for interface and java swing and by creating a front end part of a project. Like creating fields to enter user information and the tables to retrieve data from database in.

4. TESTING

- We made unit testing by testing every single unit of the system to see if it matches the user's needs and wants
- We tested also the system's functional requirements if are effective or not or if they meet with our desire we had during the development
- We tried also integration testing to see if the whole parts of the system are free from errors and those founded errors are well corrected and fixed well
- And we seated together as a group and use a system as we are users and we tried to found which errors are in that can disturb the user and if the user will meet the desire of the users
- And we tried to use it like users we tried to found if the system is user friendly and easy to use
- We tested if wrong username and password can be accepted by the system and we found that it cannot be possible. Here we was about to test the authentication or security of the user's information.
- We have found that the system matches with our desired output and itdoes what we expected it to do

5. DEPLOYMENT

We have uploaded this system called Employees' information management system on our GitHub accounts. And we are supposing to upload it on a web server to make it available to every user and can access it whenever on online.

Installation:

- Whenever you want to run this system offline you have to download and install JDK, WAMMP/XAMMP, and Apache NetBeans.
- Download the projects on my GitHub account and open the project employee in java NetBeans then you can run it on your computer offline.

Maintenance

After the feedback from our system users we will talk to them and they will give us ideas according to the conversations about what to add in our system and what to make greater. Also we will try to maintain the good performance of our system to meet the user’s needs and wants.