

ASSESSMENT_2_PART_B_TASK_2

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SDLC (SOFTWARE DEVELOPMENT LIFE CYCLE):-

- The Software Development Life cycle is the process to used by the software industry to design, develop and test high quality software's.
- SDLC is a framework that outlines the stages involved in developing software, from planning to deployment.
- It includes several key phases, each important for the successful completion of a software project.
- This stages describes the how they can be used to develop a program.
- There are Six main stages of SDLC.
 1. Planning
 2. Analysis
 3. Design
 4. Implementation
 5. Testing
 6. Maintenance

1. Planning :-

- Planning is most important step and initial part for the software development.
- The first step is to gathering information to understand the project's Objectives. In this stage, my aim was to create a booking system and in this system to record the general information like Name, Form type, ID Number, items list and calculate the total cost.
- I identified the primary goals of the software : to allow users to information.

2. Analysis :-

- After the Planning phase, the next step is to the requirements analysis.
- In this phase, involves detailing the functional and non-functional requirements of the software.

- The main role of analysis phase is to analysing the requirements gathered from the planning phase to generate a clear specification.
- In the **Booking system**, to generate the status as per the criteria, approval reference number.
- The **__init__** method in the **booking system** class attributes such as **id**, **ticket_id**, **name**, **status** and **service requests**.

3. Design :-

- In the design phase, I structured the program to utilize classes effectively. The **'Booking system'** class was created to encapsulate all relevant data and functionality for each book.
- The methods I designed enabled the program to handle core functionalities, allowing for easy extensions in the future.
- I designed methods to enter the **item name** and **item price**. Which would allow for user experience and future modifications.
- The **ferry_service_details** method in the booking system class is an example of design decision, where the service request are stored in a list.

4. Implementation :-

- Implementation known as Coding part.
- The main part of software development life cycle is to Implementation.
- I created the **'booking system'** class with its methods. This phase required careful practices to ensure the functionality was achieved correctly.
- **Booking_approval** method in the booking system class is an example of Implementation, where the approval status is updated based on the user input.

5. Testing :-

- In the booking system class, **display_booking_info** method is an example of the testing phase because the booking information is displayed to the user.
- Testing phase is the ensure that it meets the requirements and works will be as a expected.

6. Maintenance :-

- When the software is passed from testing and implementation stage then updated for the improvements, bug fixes or additional features.
- Updated and maintained to fix bugs, add new features and ensure that it continues to meet the changing needs of the users.
- In the **Bookingsystem**, **Booking_statistic** method is an example of maintenance, where the booking statistics are updated and displayed to the user.

In conclusion, SDLC is a crucial process that ensures the creation of high-quality software products. the Software Development Life Cycle helped me to develop the Booking System systematically. Each phase contributed to a better understanding of software development. I learned the importance of planning, gathering requirements, designing efficiently, coding. Testing and maintenance practices enhance the reliability of the final product.