Assignment (Module – 1)

SE – Overview of IT Industry

1 : What is software? What is software engineering?

Ans: **Software :** Software is basically a set of instructions or commands that tell a computer what to do. The software is a computer program that provides a set of instructions to execute a user's commands and tell the computer what to do.

Software engineering: It is the process of designing and building something that serves a particular purpose and finds a cost-effective solution to problems. It is an engineering based approach to software development.

2 : Explain types of software.

Ans : There are two types of software.

(1) System software

(2) Application software

(1) **System software :** System software is software that directly operates the computer hardware and provide basically functionality to the users as well as to the other software to operate smoothly. It is like an interface between hardware and user applications, it helps them to communicate with each other because hardware understands machine language(i.e. 1 or 0) whereas user applications are work in human-readable languages like English, Hindi, German, etc.

- There are three types of system software.

(a) Operating system

(b) Language processor

(c) Device driver

(a) Operating system : It is the main program of computer system. When the computer system ON it is the first software that loads into computer memory. Basically it manages all resources such as computer memory, CPU, printer, hard disk, etc... and provides an interface to the users, which helps the users to interact with the computer system.

Ex: Linux, Microsoft windows…

(b) Language processor : As we know that system software converts human languages into Machine languages and vice versa. So the conversion is done by language processor.
Ex : C++, java, python.

(c) Device driver : The device driver is a program or software the controls a device to performs its functions.
Ex : printers, mouse, etc.

(2) **Application software :** software that performs special functions or provides functions that are much more than the basic operation of the computer us known as application software. It is a product or program that is designed only fulfill end-user's requirements.
Ex : spreadsheet, word processor, etc.

- There three types of application software.

(a) General purpose software
(b) Customized software
(c) Utility software
(a) General purpose software : This types of software is used for a variety of tasks and it is not limited to performing a specific tasks only.
Ex: MS-word, MS-excel, power point.

(b) Customized software : It is used or designed to perform specific task or functions or designed for specific organizations.
Ex: railway reservation system, air reservation system, etc.

(c) Utility software : This type of application software is used to support the computer infrastructure. It is designed to analyze, configure, optimize and maintain the system and take care of its requirements as well.
Ex: disk repair, disk cleaner, disk space analyzer, etc.

3 : What is SDLC ? Explain each phase of SDLC.
Ans : SDLC is a Software Development Life Cycle. It is process to followed for software building within a software organization. SDLC consists of a precise plan that describes how to develop, maintain, replace and enhance specific software. The life cycle defines a method for improving the quality of software and the all-around development process.

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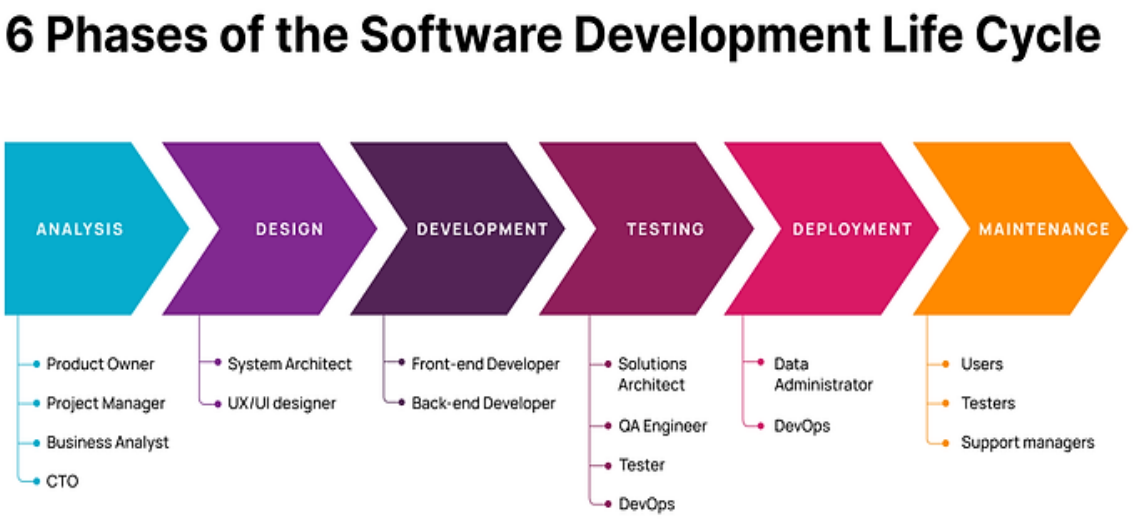


- The SDLC model involves six phases or stages while developing any software. The stages of SDLC are as follows:

(1) Analysis : In this stage requirement analysis is performed by the developers of the organization. The information from this analysis forms the building b locks of a basic project. The quality of the project is a result of planning. Thus, in this step the basic project is designed with all the available information.

(2) Designing the software : The next phase is about to bring down all the knowledge of requirements, analysis, and design of the software project. This phase is the product of the last two, like inputs from the customer and requirement gathering.

(3) Devlopement : In this stage, the actual development begins, and the programming is built. Developers have to follow the coding guidelines described by their management and programming tools like compilers, interpreters, debugged, etc. are used to develop and implement the code.

(4) Testing : After the code is generated, it is tested against the requirements to make sure that the products are solving the needs addressed and gathered during the requirements stage. During this stage, unit testing, integration testing, system testing, acceptance testing are done.

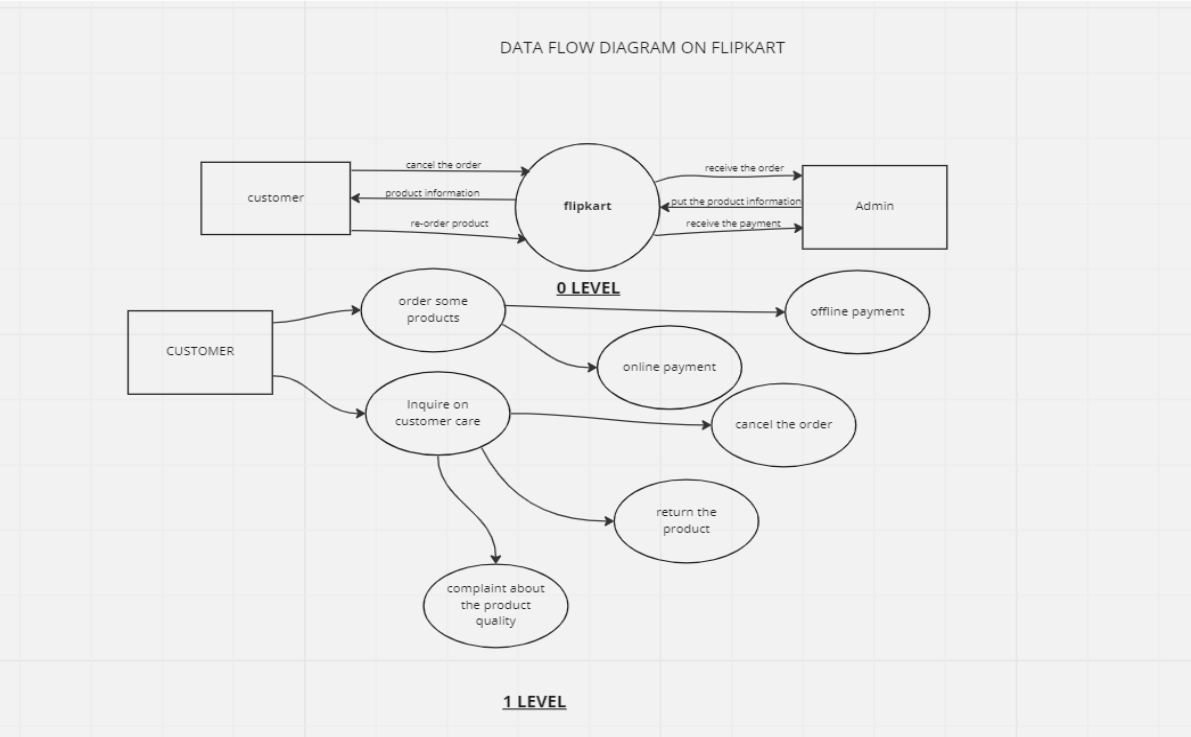
(5) Deployment : The software is certified, and no bugs or errors are stated, then it is deployed. After the software is deployed, then its maintenance begins.

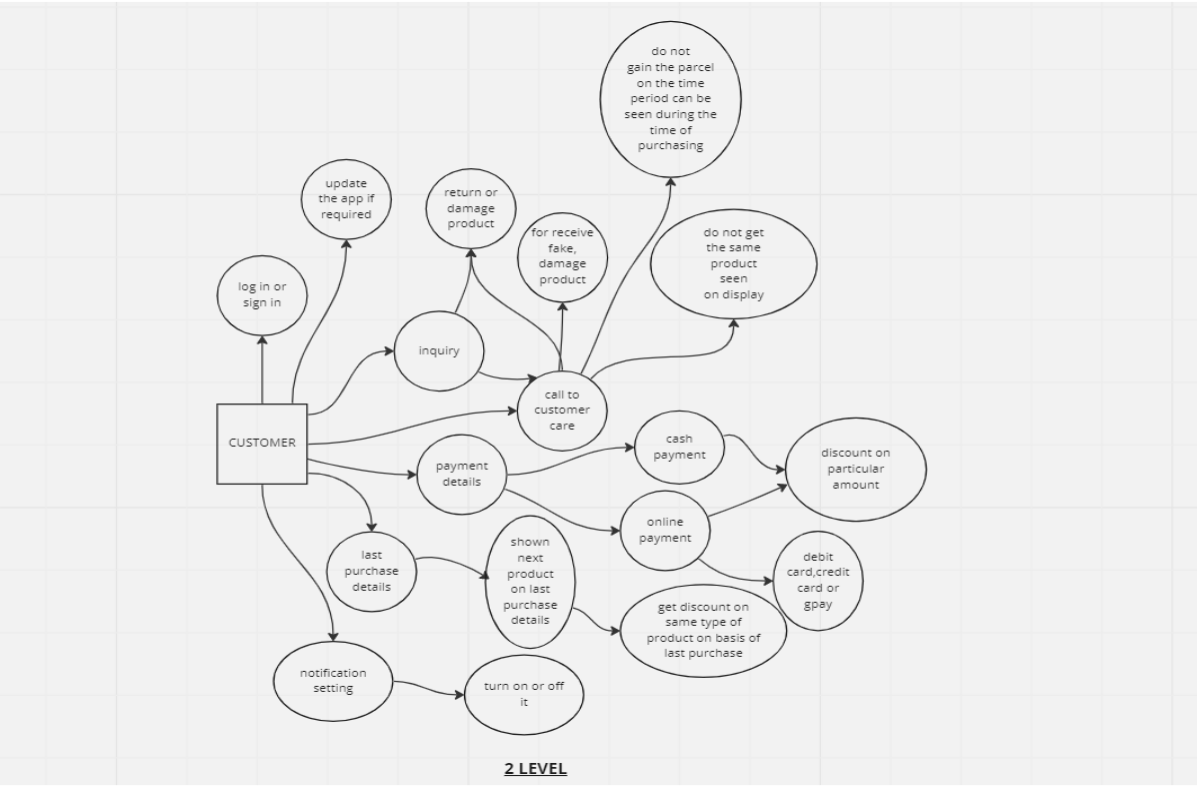
(6) Maintenance : once when the client starts using the developed systems, then the real issues come up and requirements to be solved from time to time. This procedure where the care is taken for the developed product is known as maintenance.

4 : What is DFD ? Create a DFD diagram on flipkart.

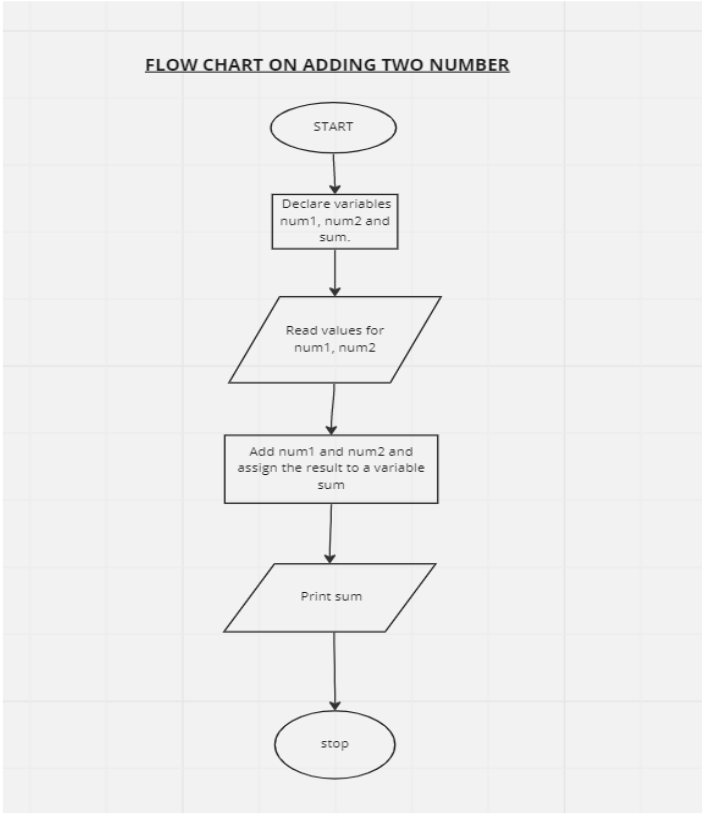
Ans: DFD is a Data flow Diagram. The flow of data of a system or a process is represented by DFD. It also give insight into the inputs and outputs of each entity and the process itself.

The DFD belongs to structured analysis modeling tools. DFD are very popular because they helps us to visualize the major steps and data involved in software system processes.





5 : What is flow chart ? Create a flow chart to make addition of two numbers.
Ans : a flow chart is a type of diagram that represent a workflow or process. A flowchart can also be defined as a diagrammatic representation of an algorithm, a step-by-step approach to solving a task.



6 : What is use case diagram ? Create a use-case on bill payment on paytm.
Ans: An use case diagram is a list of actions or event steps, typically defining the interactions between a role and system, to achieve a goal.