INTRODUCTION

System is a broad and a general term. A computer system consists of hardware components that have been carefully chosen so that they work well together and software components or programs that run in the computer.

SDLC stands for System Development Lifecycle. It is a systematic process for building system that ensures the quality and correctness of the system built. System Development Life Cycle (SDLC) is a conceptual model which includes policies and procedures for developing or altering systems throughout their life cycles. SDLC is used by analysts to develop an information system.

System development starts when management or sometimes system development personnel feel that a new system or an improvement in the existing system is required.

System Development Life Cycle (SDLC)

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The systems development life cycle (SDLC), also referred to as the application development life-cycle, is a process for planning, creating, testing, and deploying an information system. The systems development life cycle concept applies to a range of hardware and software configurations, as a system can be composed of hardware only, software only, or a combination of both.

It aims to produce a high-quality system that meets or exceeds customer expectations, works effectively and efficiently in the current and planned information technology infrastructure, and is inexpensive to maintain and cost-effective to enhance.

SDLC Objectives include the following:

1.To reduce the risk of project failure
2.To consider system and data requirements throughout the entire life of the system
3.To identify technical and management issues early

4.To disclose all life cycle costs to guide business decisions
5.To Provides a framework for a standard set of activities and deliverables

6. To provide a basis for project planning, scheduling, and estimating

7. To encourage periodic evaluations to identify systems that are no longer effective
8.To measure progress and status for effective corrective action
9.To support effective resource management and budget planning

10. To consider meeting current and future business requirements

PHASES OF THE SYSTEM DEVELOPMENT LIFE CYCLE

System development life cycle is a process by which a system is conceived, developed and implemented. The system development life cycle consist of the following phases:

1. Planning

2. Feasibility study

3. System analysis and requirements

4. System Design

5. Development of software

6. System testing

7. Implementation

8. Maintenance

1. Planning

This is the first phase of the SDLC. In this phase senior team members determine that whether there is a need for a new system or not or identify the problem in case of existing system to improve business operations. Once the need has been

determined (or the problem in case of existing system identified), solutions need to be found.

All the planning about cost, resources, time, etc is done in this phase.

2. Feasibility study

When the planning phase is complete, the next step is the feasibility. A feasibility study is a test of system proposal according to its Workability, impact on the organization, ability to meet users needs, effective use of resources and profitability.

The feasibility study is concerned with these aspects:

Economic feasibility- In this we evaluate the financial aspect of developing system by performing cost-benefit analysis.

Technical feasibility- Technical feasibility determines that whether proposed system can be build with existing technology or whether it requires new technology.

Operational feasibility- operational feasibility determines that whether there is any problem in implementation or functionality of the system or not.

3. System analysis and requirements

This is where the proposed solutions are examined until one is found that best matches the overall strategy and goals of the company.

It is the stage where the IT experts and business representatives must work together to understand each other's points of view. This stage focuses on gathering all relevant information that will help the IT team deliver a final product that meets all the business's requirements and expectations.

4. System design

In this phase, software design and documents are prepared according to software requirements. Design of the system helps to define the architecture of the

system. The System Design phase often involved prototyping to help the team find the best solutions for the system they will create.

5. Software development

This is the phase where the system or software product gets created. In most cases, you would divide the work into units and have teams working on them. The development team uses all the information gathered at the previous stages to start producing the software depending on the requirements of the business. Once the product is crafted by the team, the business representatives must get involved to determine whether the product meets their expectations or not.

6. System testing

The testing team tests all the function of the software. Testing is done to verify the entire system works. In this phase, the QA and testing is done to find some bugs/errors. The developer team fixes these bugs. This process continues until all errors and bugs are removed from the system.

7. Implementation

In this phase the new system is implemented into normal business operations. The IT specialists need to move data and components which existed in the old system to the new one. The implementation phase allows the team of IT experts to receive feedback from the users and to determine the effectiveness of the product.

8. Maintenance

Maintenance is the final stage where you will perform system upgrades as well as bug fixes. New requirements which come up as a result of business growth will also be handled at this stage.