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Testing

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SOFTWARE DEVELOPMENT LIFE CYCLE

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Software development sdlc is a step-by-step procedure for software development. It is used to design and develop software of good quality.

Steps:

1.planning.

2.defining

3.Designing

4.Building/developing

5.Testing

6.Deployment.

These steps are step by step process to deliver high Maintenace with low-cost project with in given time frame.

Planning and Requirement Analysis

The planning face is mainly used to outline the project. It helps to know the project value timeframe etc... The developers will create this planning and requirement phase.

Planning -> Define project scope -> set objectives and goals -> Resource planning.

Defining Requirements

In this phase we check whether all the necessary requirements are there for software development. These requirements should be approved by the customer, market analyst and stack holder.

Defining ->Functional requirement -> Technical requirement -> requirement approved and reviews.

The entire project cycle work is documented in this phase.

Designing Architecture

Srs is the best architecture created by the team to build the software.

Dds-design document specification.it is referred by market analyst then evaluate the project with most practical and logical design to proceed further.

Design -> Low level design ->high level design.

Developing Product

At this phase the development of the product starts. We choose the correct programming languages to choose for developing the project. Conventional programming tools like compilers, interpreters, debuggers, etc. are also put into use at this stage.

Some popular languages like c++,java, python etc...

Development -> Coding standard ->scalable code ->Version control _> code review.

Product Testing

After completion for development, we must test the software to smooth execution. Also, minimal testing takes place in all the stages.

Unit testing:

 The process of isolating individual components or units of code.The developers themselves often perform it and help ensure that each unit functions as expected.

For example, when working on a web application project, I used unit testing to validate the functionality of various API endpoints and ensure they returned the expected data.

Integration Testing:

ensures that a system's different components work together as expected.

This is important because even if individual units of code function correctly, they might not interact well with each other.

In one of my projects, integration testing helped us identify issues with data exchange between different modules, which we were able to fix before the final release.

System Testing:

evaluates the complete software system to verify it meets functional, performance, and security requirements.

It involves testing various scenarios and edge cases to ensure the software handles real-world conditions effectively.

Documentation, Training, and Support:

Software development is an essential part of the software development life cycle. A well-written document acts as a tool and means to information repository necessary to know about software processes, functions, and maintenance.

Deployment:
Automated DevSecOps tools are used to improve application security. To ensure the software is deployed securely, firewalls, access controls, and security settings are configured.

Maintenance: Security continues after deployment is an important phase. The team must continuously monitor the software for security vulnerabilities and user reviews. The team would also update the software with security patches and updates as necessary.