Omumarking scheme comp 216

Quiz 1

define:

graphical user interface-a form of user interface that allows users to interact with electronic devices thru graphical icons and audio indicator

software metric-a measure of software xtics that are quantifiable and countable

application programming interface-a way of two or more computer programs to communicate with each other

distinguish

open source and proprietary software

open source is a code that's is designed to be publicly accessible while proprietary software is one that is owned individually or by an organization

five functions of an os

memory management

process management

error detection and handling

input and output handling

device management

security

file management

networking

Quiz 2

Explain two major mental models associated with a system

- . The first model is the design model. This is the model that the designers have of how the system should work. The design model is interpreted by the programmer to produce a system image. The user sees the system image and creates a user model of it in order to be able to work with it. This user model may sometimes be very different from the original design model, and may carry with it ideas from other designs that the designer never intended to be part of this one.

Explain 6 xtics of a good software

Usability

Efficiency

Reliability

Maintainability

Correct

Functional

Complete

Secure

Major types of software

System software- coordinates activities and functions of hardware and software

Like operating system

Application software- made to perform specific tasks like word processing

Quiz 3

Major types of software maintenance

Corrective

Preventative

Perfective

Adaptive

Stages/phases in sdlc

Project planning

Requirements and analysis

Design

Coding/implementation

Deployment

Maintenance

Quiz 4

Advantages of source software

No initial cost

Reliability

Security

Flexibility

No vendor lock in

Major types of software prototyping widely used

Throwaway/Rapid Prototyping- This type of prototyping uses very little efforts with minimum requirement analysis to build a prototype. Once the actual requirements are understood, the prototype is discarded and the actual system is developed with a much clear understanding of user requirements.

• Evolutionary Prototyping Evolutionary prototyping is based on building actual functional prototypes with minimal functionality in the beginning. The prototype developed forms the heart of the future prototypes on top of which the entire system is built. By using evolutionary prototyping, the well-understood requirements are included in the prototype and the requirements are added as and when they are understood

. • Incremental Prototyping Incremental prototyping refers to building multiple functional prototypes of the various sub systems and then integrating all the available prototypes to form a complete system.

• Extreme Prototyping Extreme prototyping is used in the web development domain. It consists of three sequential phases. First, a basic prototype with all the existing pages is presented in the HTML format. Then the data processing is simulated using a prototype services layer. Finally, the services are implemented and integrated to the final prototype. This process is called Extreme Prototyping used to draw attention to the second phase of the process, where a fully functional UI is developed with very little regard to the actual services.

Quiz 5

Iterative model diagram
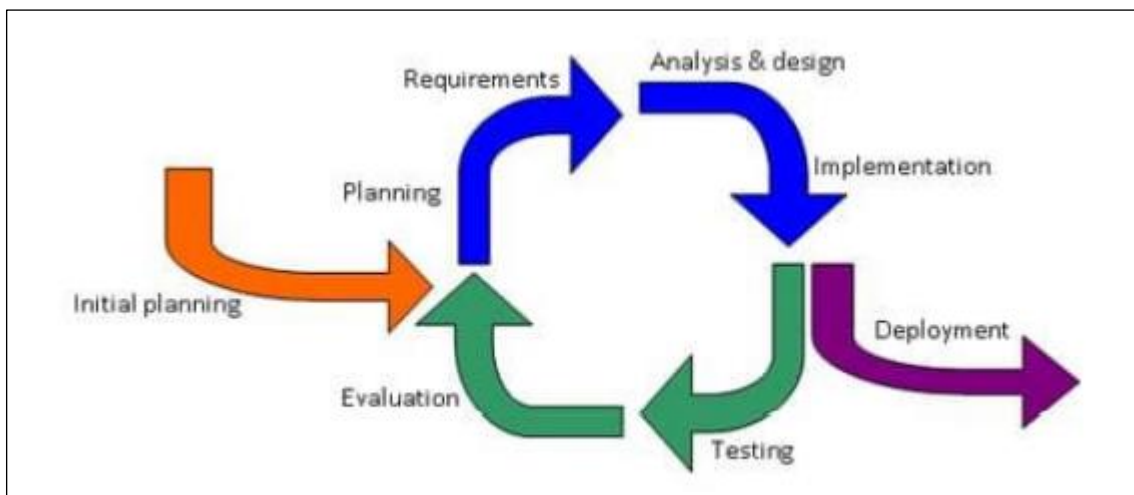
Situations where it is preferred

When requirements are clearly defined and understood

E.g. architecture and graphic design

Quiz 6

Explain why evaluation is an important part of any user centered design process

-To identify usability problems.

-To assess whether the GUI design satisfies usability requirements.

-To evaluate whether the GUI design will be usable in practice by its intended users.4

-To ensure it works for user needs and deliver positive impact

Assumptions of mental method theory

✓ Each model represents a possibility

✓ Models are iconic insofar as possible

✓ Models explain deduction, induction, and explanation

✓ The theory gives a 'dual process' account of reasoning

✓ The greater the number of alternative models needed, the harder it is.

Quiz 7

Discuss prototype model with aid of a diagram

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Quiz 2

Distinguish between following type of reasoning

- deductive reasoning and inductive reasoning

<u>Inductive reasoning</u> is a logical process in which multiple premises, all believed true or found true most of the times are combined to obtain a specific conclusion

<u>Deductive reasoning</u> starts with the assertion of general rule and proceeds from there to a guaranteed specific conclusion. In deductive reasoning, if the original assertions are true, then the conclusion must also be true.

If the premises are true then the conclusion must be true e.g., all human beings can walk therefore a man can walk since he is a human

Define the following terms

Gulf of execution-The gulf of execution refers to the conversion of the user's goals and intentions into actions that are required by the system.

Software engineering 1) The application of a systematic, disciplined, quantifiable approach to the development, operation and maintenance of software

Software engineering 2) is the establishment and use of sound engineering principles in order to obtain economically software that is reliable and work efficiently on real machines.

Gulf of evaluation -The gulf of evaluation signifies the problem of representing the system's concepts and operations in a form which can be interpreted by the user.

What are mental models-

Mental models are psychological representations of real, hypothetical, or imaginary situations.

Attributes of a good software engineer

Good communication skills

Positive attitude

Time and task management

Technical experience

Quick learning

Team work

End user focus