

Quiz 5 - No Silver Bullet - Results



Attempt 1 of 2

Written Feb 9, 2024 6:04 AM - Feb 9, 2024 6:12 AM

Attempt Score 4.08 / 5 - 81.68 %

Overall Grade (Highest Attempt) 4.08 / 5 - 81.68 %

Question 1

1 / 1 point

According to the author (Fred Brooks), the essential difficulties with software development are related to some reasons. Mark all the options that contain those reasons.

Select 4 correct answer(s)

- ☐ Software is made of separate artifacts such as requirements specifications, graphical models, software designs and source code, leading to usual inconsistencies.
- ☒ Software is malleable (i.e., easy to change), which drives pressures from stakeholders for frequent changes.
- ☒ Software is more complex than most human constructs because usually no two software parts are alike.
- ☒ Software is an abstract construct that is hard to be visualized.
- ☒ Human institutions and existing systems demand software to conform to their existence.
- ☐ Software is complex because the number of possible states in a program is limited and small.

Question 2

0.75 / 1 point

According to the author (Fred Brooks), software complexity leads to some consequences. Mark all the options that describe those consequences.

Select 4 correct answer(s)

- ☐ Difficulty to understand application interfaces.
- ☒ Difficulty to understand all the possible states of a program.
- ☒ Difficulty to extend programs with new functions without adding side effects.
- ☐ Difficulty to manage a large number of team members.
- ☒ Difficulty of communication among team members.
- ☐ Difficulty to invoke software functions.
- ☒ Difficulty to separate interface from implementation.

Question 3

1 / 1 point

According to the author (Fred Brooks), at the time of the writing of the paper, some accidental difficulties had already been solved. Mark all the options that describe those solved difficulties.

Select 3 correct answer(s)

- ☒ Unified programming environments.
- ☐ Unified Modelling Language (UML).
- ☒ High-level languages.
- ☐ Expert systems.
- ☒ Time-sharing.
- ☐ Object-oriented programming.

Question 4**0.667 / 1 point**

According to the author (Fred Brooks), some techniques, at the time of writing, were handling software difficulties by attacking the accidental complexity of software. Mark all the options that describe those techniques.

Select 3 correct answer(s)

- ☒ An effort to add practices and techniques to prove that software implementations meet specifications.
- ☐ Generative programming approaches such as model-driven architecture and development.
- ☐ The use of systems based on a generalized inference engine and a rule base to advise on software tasks such as testing strategies and interface rules.
- ☒ The development of design patterns and frameworks to facilitate software reuse.
- ☒ The use of programming languages that reinforce software design such as abstract data types, modularization and hierarchical structuring.

Question 5**0.667 / 1 point**

According to the author (Fred Brooks), at the time of writing some techniques were promising attacks on essential software difficulties. Mark all the options that describe those techniques.

Select 3 correct answer(s)

- ☒ The use of object-oriented programming languages to reinforce software design by means of abstract data types, encapsulation and hierarchical types.
- ☐ An effort to add practices and techniques to prove that software implementations meet specifications.
- ☒ The development of tools and approaches for rapid prototyping of systems as part of the iterative specification of requirements.
- ☐ The generalization of software reuse by means of building a market for selling off-the-shelf software instead of depending on internal development.
- ☒ Developing ways to identify and grow excellent software designers.

Done