



INF2009F -- 2024

Problems in Software Development & Software Development Methodologies

Exercise 1 ---- 15 Marks

Student Name	
Student Number	
Marks	/15

IMPORTANT NOTE:

- Copied or Plagiarised answers will get 0 and student will be referred to Maureen Tanner and Ayanda Pekane for further actions
- Please upload your completed exercise on Amathuba by the 19th February 2024 at 9:00am

1. Explain in your own words, why IT Projects fail

(3 marks)

There are many reasons that an IT project could fail, including lack of clear and precise communication, lack of flexibility in the development process, projects being too complicated, not noticing and not taking actions to address risks (such as budget, operational, technical, etc).

2. What are the disadvantages of using a plan-based approach (Traditional SDLC) to software development? (Describe each disadvantage in your own words)

(3 marks)

The main issue with traditional SDLC (e.g. the waterfall approach) is the excessively rigid structures of the methodology. The inflexible sequential approach often fails to adapt to changes in the real world. This is worsened by the fact that software developed with this methodology is only tested right at the end of the development process, sometimes a long time after the project has begun – and as a result, outdated (for example, not meeting the standards of the industry anymore, business model has changed, etc).

3. Give a summary of the Agile manifesto
(Hint – do some research on this)

(3 marks)

A flexible methodology that emphasises practicality and quick response to changes. For example: adapting to changes rather than sticking to the plan, addressing clients' needs rather than blindly abiding by contracts, a software that works over a software that has extensive documentations (which can take up loads of precious time), individuals works and team interactions over tools and methodologies.

4. Use (in your opinion) 3 of the most significant of the 12 principles of Agile development to motivate why agile software development methodologies can resolve the problems introduced by plan-based (traditional SDLC) approaches? (6 marks)

Development methodologies—Mike Chapple:

<https://www.linkedin.com/learning/search?keywords=Systems%20development%20methodologies%20&u=70295562>

The traditional plan-based approaches often lack flexibility and communication. Due to the fact that everything is planned out sequentially, changes in the real world during the development process cannot be addressed.

Agile development methodologies, on the other hand, promotes flexibility (Principle 1: *Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.*) and better communications between parties and within the organisation (Principle 5: *Business people and developers must work together daily throughout the project.* and Principle 6: *The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.*). Hence, enhances productivity, clients' satisfaction level, and reduces development time (less cost, therefore). This ultimately leads to more profit

Source: <https://www.agilealliance.org/agile101/12-principles-behind-the-agile-manifesto/>

