

Assignment 1

Instructions:

1. Assignment should be in handwritten form.
 2. Make sure your assignment is complete and includes any required information, such as your name, date, seat.no and course information.
 3. Provide a thorough answer that is supported with relevant and credible information.
 4. Make sure that you submit your assignment on time.
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Question 1: Explain why change is inevitable in complex systems and give examples (apart from prototyping and incremental delivery) of software process activities that help predict changes and make the software being developed more resilient to change.

Question 2: Describe the main activities in the software design process and the outputs of these activities. Using a diagram, show possible relationships between the outputs of these activities

Question 3: Giving reasons for your answer based on the type of system being developed, suggest the most appropriate generic software process model that might be used as a basis for managing the development of the following systems:

1. A system to control anti-lock braking in a car
2. A virtual reality system to support software maintenance
3. A university accounting system that replaces an existing system
4. An interactive travel planning system that helps users plan journeys with the lowest environmental impact.

Question 4: Simform is a company that develops software for the education sector. They have recently won a contract to develop a new software product for a school district. As a software process engineer, you have been tasked with selecting an appropriate software process model for the development of this new product. Provide a detailed report outlining the factors that you would consider when selecting a software process model for this project, and justify your selection of the chosen software process model.

Question 5: Cubix Software Development Company is planning to develop a new mobile application for a client in the healthcare industry. The project requires a high degree of flexibility and adaptability due to the rapidly changing requirements and user needs. As a project manager, recommend a software process model that is suitable for this type of project. Explain why you recommend the model and how it can address the unique needs of the project.

Question 6: Apart from the challenges of heterogeneity, business and social change and trust and security, identify other problems and challenges that software engineering is likely to face in the 21st century (**hint:** think about the environment).