Capital University of Science and Technology
Department of Electrical and Computer Engineering

CPE4523/CY4523: Software Engineering, Fall-2026
Assignment No. 2

Instructor: Dr. Muhammad Riaz **Date:** 10/11/2026

Total Marks: 10 **Due Date:** 13/11/2026

Instructions:

- **Assignment submission should be on A4 size sheet.**
- **Late submission is not allowed.**
- **Copied Assignment will get zero credit.**
- **Avoid unnecessary details and arguments.**

Name: _____ **Reg. No.** _____

CLO-2

Question No. 1: Examine how an iterative development process facilitates change management, differentiate between iterative and non-iterative agile processes, and determine whether a project completed in a single iteration can still be considered agile. Justify your answers.

Question No. 2: Investigate the challenges associated with geographical separation among software team members and customers in agile development, and identify effective strategies for overcoming communication barriers.

Question No. 3: Analyze the functional requirements and system components to develop a preliminary architectural design for the first prototype of a mobile application that enables users to create and save shopping lists locally on their devices.

Question No. 4: Analyze the key data points required to determine whether an evolutionary prototype should proceed (go) or be discontinued (no-go) during the assessment process.

Question No. 5: Examine the personality characteristics commonly demonstrated by excellent software developers and identify three traits that contribute to their success.

Question No. 6: Consider a software project where the requirements change frequently. Which software process model would best handle this scenario? How can prototyping help reduce project risks and improve user satisfaction?

Question No. 7:

i. Compare use-case modeling and data-flow modeling. When is each more effective?

ii. Identify two potential risks in requirements gathering and suggest how to mitigate them.

iii. Examine how behavioral models help analysts understand system responses to external events.

Question No. 8: A client wants a Hospital Appointment Booking System but is unsure about the exact requirements.

i. Demonstrate how the Prototyping Process Model can be used to develop this system with steps.

ii. Draw a diagram showing the steps and explain how client feedback is incorporated in each iteration.

Question No. 9: Apply the concept of a process model to outline how you would start developing a student result management system.

Question No. 10: A software firm is building an online event-booking app with rapidly changing customer requirements.

- Apply Agile development principles to describe how the project team should manage changing requirements.
- Explain how this approach differs in practice from the traditional Waterfall model for the same project.

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