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Qstn-01

(i) As a user I want to login securily so that I can access my account.

1. Design Login page
2. Backend Authentication System
3. Session management
4. Error handling & validation
5. write Unit test.
6. Security feature.

(ii) As a user I want to search for products by category to find items easily.

Tasks:

1. Design Search interface
2. Backend Search functionality

3. category Database Integration
4. filter products by category
5. Test · Search functionality
6. optimization & performance

(III) Scrum Board Layout

Step	To-Do	in-progress	Done
Log-in functio-nality	Design Log-in page	Backend Authintication System	Design Login page
	Backend Authintication System	Session Management	Backend Authintication System
	Error Handling and Validation	Write unit test and Login	Error Handling and Validation.
Search functionality	Design Search interface	Backend Search functionality	Design Search interface
	Backend Search functionality	Filter product by category	Backend Search functionality

Question : 02

1. Spiral Methadology : The spiral model is specifically design to address risk. Where each cycle focus on risk assessment, prototyping and planning.

How it address risk management and adaptability:

Risk-Management : Spiral placers a strong emphasis on continuous risk assesment. At the beging of each cycle potential risk are evaluted and mitigation strategies are created.

Adaptability : The iterative nature allows for adjustment based on feedback. It can be costly due to the detailed planning and ongoing assesment requires for each cycle.

2. Agile Methodology

Agile is an iterative and flexible methodology that focuses on delivering working software in small frequent increments.

How it addresses risk management:

In Agile, risks are addressed through frequent deliveries and feedback loops. By regularly showing progress and reviewing work, potential risks are identified early.

Additionally, Agile practices such as continuous integration, automated testing, and constant collaboration with the client help mitigate technical and operational risks.

3. Extreme programming

Risk management: Extreme programming addresses risk primarily through continuous, iterative development cycles.

pair programming: Two developers work together on the same task to improve code quality. These practice help identify bugs and issues early, reducing the risk.

Question - 3

Project A would benefit from waterfall for its structured and predicatble approach, ensuring that well defined requirements are met within the strict deadline. Alternatively, Spiral could be considered if risk management is a concern

Project B: with its evolving requirements and uncertain timeline, would best suit Agile due to its adaptability and customer collaboration Extreme programming could be a good choice if the focus is on high technical quality rapid iteration and customer feedback

waterfall model:

Best for project A: project A has well-defined requirements and a strict deadline. Waterfall Structured and sequential approach works well When the project scope is clear and unlikely to change.

Agile Model

This model best for project B. project B has evolving requirements uncertain timelines and requires continous customer feedback.

Agile is flexibility makes it ideal for such a project.

3. Extreme Programming

It is an Agile methodology that focus on technology, technical excellence, rapid iterations and collaboration between developers and customers. emphasizes practices like pair programming

4. Spiral Model

The spiral model is a risk driven development process that combines elements of both the waterfall an Agile models. It involves repeated iterations that including plan, risk analysis, engineering, and customer evaluation.