



PLACEMENT TEST – INTERN BA

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Important Instructions

- ✦ Please fill the above table of your details accurately.
- ✦ Answer all the questions given (1-6).
- ✦ Provide all the answers in the extra papers given.
- ✦ You will be given 1 hour only.
- ✦ Usage of internet and any other helping materials including calculators is prohibited.
- ✦ **Marks will be allocated out of 100.**

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Answer all the questions provided.

- I. What is "Story Points" in Agile?
(5 marks)
- II. Write a user story to schedule a Medical Appointment in an Online Channeling App.
(15 marks)
- III. "The teams following the Agile Methodology can always perform better than the teams following other Software Development Methodologies." State your arguments about this statement whether you accept it or not.
(15 marks)
- IV. List down the UML Diagrams widely in use. Briefly explain the listed diagrams and give one example of any of them.
(20 marks)
- V. Draw wireframe for the user journey of Shopping Cart functionality to use in an online shopping mobile app consisting all needed functionalities. Also, briefly explain the functional elements of the wireframe.
(20 marks)
- VI. *"Mr. Groot is the son of a farmer who lives in Taluhnia. He observed that the farmers live in Taluhnia facing difficulties in bringing their agro-products on time to the nearby towns. Since Mr. Groot is a Software Engineer and interested in Entrepreneurship, he has an idea to develop a mobile app to connect the farmers with vehicle owners who own delivery vehicles in nearby areas to deliver the agro products to the needed places as expected."*
Suggest a suitable business model with the most required features/modules to consider with the mobile app. State some unique features separately to simplify and enhance the end-user experience to facilitate them to use this app without much struggles.
(25 marks)

i) Story points are units of measurement used to determine how much effort is required to complete a product backlog item or any other piece of work. The team assigns story points based on the work's risk, Repetition, complexity.

Risk - Risk is the amount of total risk or uncertainty associated with the task.

Repetition - Repetition is the team's experience with similar tasks.

complexity - Complexity is the task's level of difficulty.

following are the steps to estimate story points.

- 1.Introduce story points to your team.
- 2.Determine your story point sequence.
- 3.Create a story point matrix.
- 4.Hold a planning poker meeting.
- 5.Plan and execute your sprint.
- 6.Improve your story point estimations based on previous estimations.

ii)

Title: Online Medical Appointment	Priority:	Estimate:
<p>User story</p> <p>As an Undergraduate</p> <p>I want to schedule a medical appointment in an online channeling app</p> <p>So that I can make medical appointments from home without physically attending the channeling center.</p>		
<p>Acceptance critérié</p> <p>The list of available doctors and their specialty should be shown.</p> <p>The doctors should be filtered out using the hospital they are present.</p> <p>The payment method should be specific</p>		

iii) The Agile methodology divides a project into many parts and uses these phases to manage the project. Continuous improvement at every stage and ongoing collaboration with stakeholders are required. Teams cycle through a process of planning, executing out, and evaluating once the project has begun. Collaboration between team members and project stakeholders must always be active.

There are four main values in Agile methodology

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Agile is always compared with Waterfall Method. There are many distinct differences both approaches. Some of the main differences are as follows.

Agile	Waterfall
Separate the project development life cycle into Sprints.	Process is divided in to distinct phases.
Follows an incremental approach	Sequential design process
Flexible	Rigid
Testing is performed concurrently with software development	Testing phase comes after build phase

The Agile methodology was created for projects where the significant constraints are not well defined or understood. If the project involves developing a new product, it is difficult to determine and predict the timeline & scope prior. Agile being flexible, enables to plan the project in sprints to evolve as the work progresses.

Waterfall is best for projects with concrete timelines and well-defined deliverables. If your major project constraints are well understood and documented, Waterfall is likely the best approach.

Hence there is no definite answer in discussing what's the best approach in software development or that the agile methodology performs better. It differs according to the context and requirement.

iv)

1. Class diagram.
2. Use case diagram.
3. Activity diagram.
4. Sequence diagram.
5. Component diagram.

1. Class diagram - Class diagram is a static diagram. It represents the static view of an application. Class diagram is not only used for visualizing, describing, and documenting different aspects of a system but also for constructing executable code of the software application.

The purpose of the Activity diagram are as follows –

1. Analysis and design of the static view of an application.
2. Describe responsibilities of a system.
3. Base for component and deployment diagrams.

2. Use Case diagram - In the Unified Modeling Language (UML), a use case diagram can summarize the details of your system's users (also known as actors) and their interactions with the system.

The purpose of the use case diagram are as follows –

1. Used to gather the requirements of a system.
2. Used to get an outside view of a system.
3. Identify the external and internal factors influencing the system.
4. Show the interaction among the requirements and actors.

3. Activity Diagram - Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system.

The purpose of the class diagram are as follows –

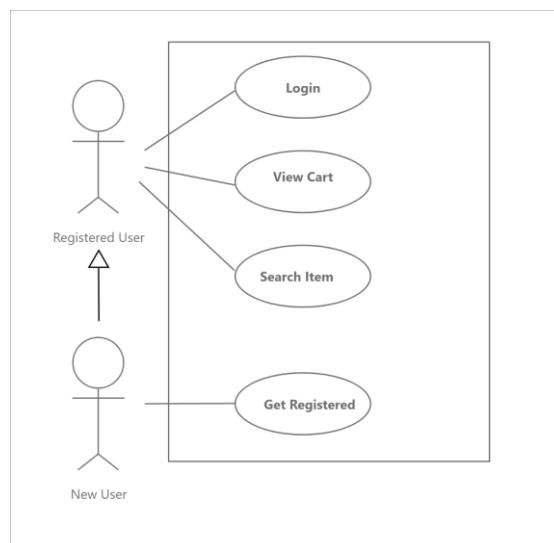
1. Draw the activity flow of a system.
2. Describe the sequence from one activity to another.
3. Describe the parallel, branched and concurrent flow of the system.

4. Component diagrams are used in modeling the physical aspects of object-oriented systems that are used for visualizing, specifying, and documenting component-based systems and also for constructing executable systems through forward and reverse engineering. Component diagrams are essentially class diagrams that focus on a system's components that often used to model the static implementation view of a system.

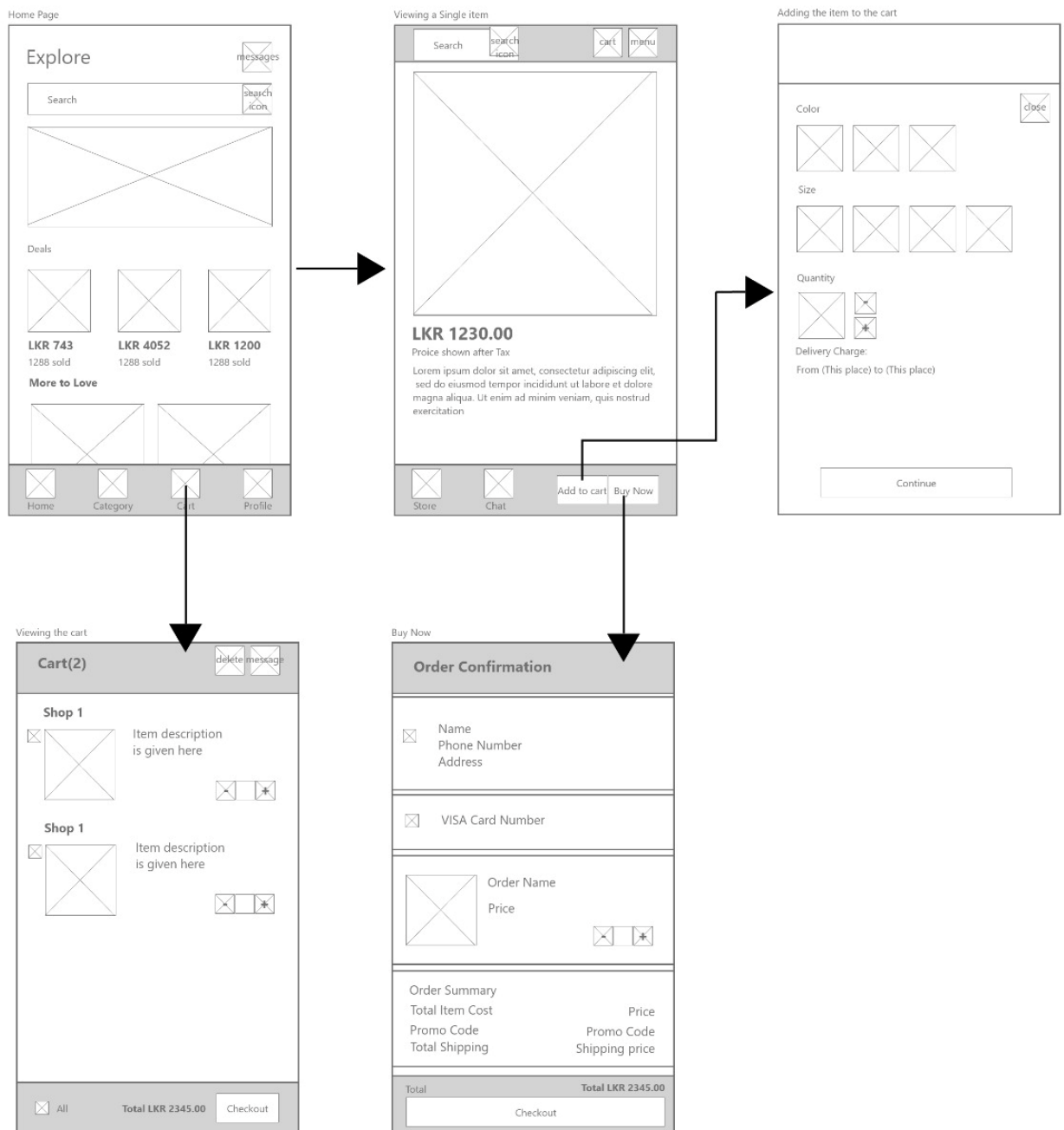
5. Sequence Diagram - Sequence Diagrams are time focus and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what messages are sent and when.

The purpose of the sequence diagram are as follows –

1. Model high-level interaction between active objects in a system
2. Model the interaction between object instances within a collaboration that realizes a use case
3. Model the interaction between objects within a collaboration that realizes an operation



v)



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