

3) Explain Requirement Engineering and its Stages.

Requirement Engineering (RE) is the process of identifying, analyzing, documenting, validating, and managing the requirements of a software system. It ensures that the software will meet the needs of users and stakeholders.

Stages:-

1. Requirement Elicitation: Gathering requirements from stakeholders.

2. Requirement Analysis: Analyzing and refining the gathered requirements.

3. Requirement Specification: Documenting the requirements in a structured format.

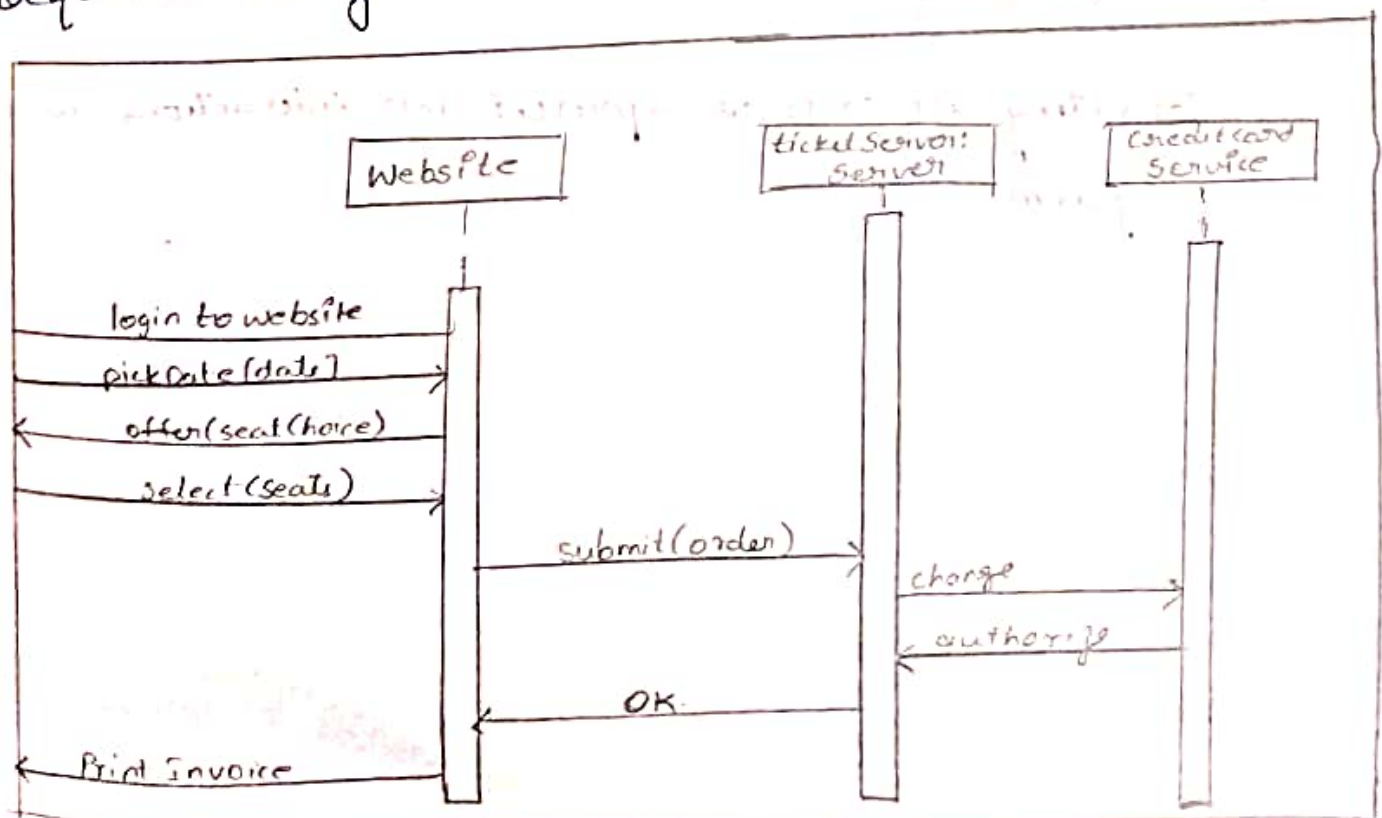
4. Requirement Validation: Ensuring requirements are complete, correct and feasible.

5. Requirement Management: Handling changes to requirements throughout the project lifecycle.

2) Different phases of Requirement Engineering

Phase	Description
1. Elicitation	Collecting requirements using interviews, surveys, observations, etc.
2. Analysis	Resolving conflicts, prioritizing needs, and checking feasibility.
3. Specification	Writing requirements in Software Requirement Specification (RS) document.
4. Validation.	Verifying accuracy and completeness of requirements via reviews, prototyping.
5. Management	Tracking changes, maintaining version control, and impact analysis.

③ Sequence Diagram for Online Reservation System.



4) Explain Different Approaches for Requirement Elicitation:

1) Interviews:

Direct conversation with stakeholders to understand needs.

2) Questionnaires/Surveys:

Used for collecting data from a large audience.

3) Observations:

Analyst observes users performing tasks to identify requirements.

4) Workshop:

Group sessions involving stakeholders and developers.

5) Brainstorming:

Generating ideas through group discussions.

6) Prototyping:

Building mock-ups or partial systems to clarify requirements.

7) Use Case Modelling:

Creating use cases to represent user interactions with the system.