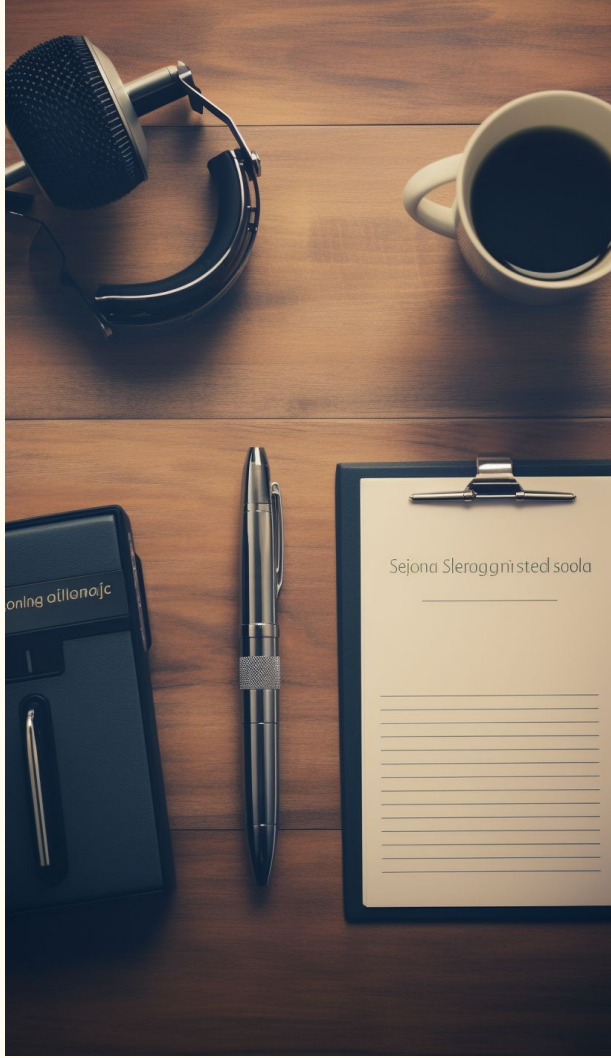
Lesson 2 - Requirement Gathering and Analysis

Exploring Effective Techniques for Capturing Software Requirements

Techniques for Eliciting Requirements

- Techniques: Interviews, surveys, workshops, observation, prototyping.
- Each technique tailored for different situations and stakeholders.



Documenting Software Requirements

- Requirements need to be captured, organized, and documented.
- Documentation formats: use cases, user stories, functional specifications.

Requirements Validation and Verification

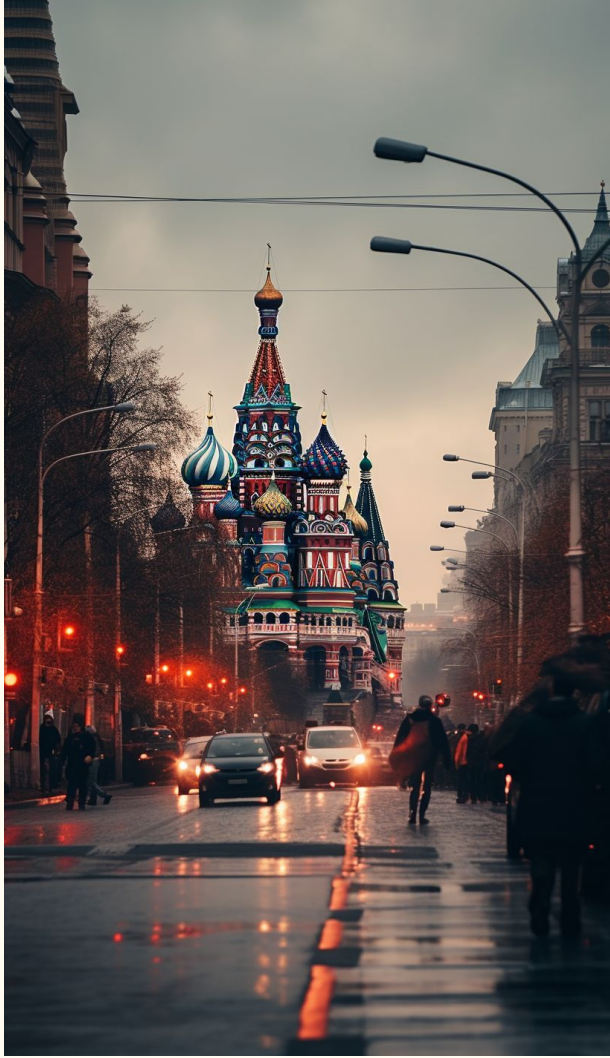
- Validation checks if requirements address stakeholder needs.
- Verification confirms whether requirements are consistent and achievable.

Prioritizing Requirements

- Not all requirements are equal; some are more critical than others.
- Prioritization techniques: MoSCoW method, Kano model, cost-benefit analysis.

MoSCoW method

- Help stakeholders to categorize and prioritize requirements based on their importance and urgency.
- The acronym “MoSCoW” stands for:
  - Must Have.
  - Should Have.
  - Could Have.
  - Won’t Have.



Kano Model

- Customer satisfaction framework that categorizes features and attributes based on their impact on customer.
- Kano model classifies attributes into five categories:
  - Basic Needs (Must Have).
  - Performance Needs (One-Dimensional).
  - Excitement Needs (Attractive).
  - Indifferent Needs (Neutral).
  - Reverse Needs (Dissatisfiers).

Managing Requirement Changes

- Change is inevitable; requirements may evolve over time.
- Implementing a change management process ensures controlled updates.

Traceability Matrix

- Traceability matrix links requirements to their sources and outcomes.
- Enhances transparency and aids impact analysis.

Case Study: Online Shopping App

A retail company wants to develop a new online shopping app to enhance its customer experience and increase sales. The project aims to provide a user-friendly interface for browsing products, making purchases, and tracking orders.

Identification and Scopes

1. Stakeholder Identification:
    - Stakeholders include customers, marketing team, developers, UX designers, and customer support.
    - Each stakeholder group has unique expectations and requirements.
2. Defining Scope and Objectives:
    - Scope: The app should allow users to browse products, add them to cart, complete purchases, and track orders.
    - Objectives: Improve user engagement, increase sales, provide seamless shopping experience.

Requirement Document

3. Requirement Elicitation Techniques:
    - Interviews: Conducted with potential users to understand their needs and preferences.
    - Surveys: Distributed to existing customers to gather feedback on their online shopping habits.
    - Workshops: Held with the marketing team and developers to discuss features and technical constraints.
4. Documenting Requirements:
    - User Stories: "As a user, I want to browse products by category so that I can find items easily."
    - Use Cases: "User places an order and selects a preferred payment method."

Validation and Prioritizing

5. Requirements Validation and Verification:
    - Validation: Stakeholders review requirements to ensure they align with business goals.
    - Verification: Developers and UX designers confirm that requirements are technically feasible and consistent.
6. Prioritizing Requirements:
    - Must-Have: Seamless product browsing, secure payment processing.
    - Should-Have: User reviews and ratings, order history.
    - Could-Have: Social media integration, personalized recommendations.

Managing Changes

7. Managing Requirement Changes:
    - As the project progresses, stakeholders request additional features like live chat support and integration with loyalty programs.
    - Change management process is implemented to evaluate the impact of these changes on timeline and resources.

Traceability Matrix:

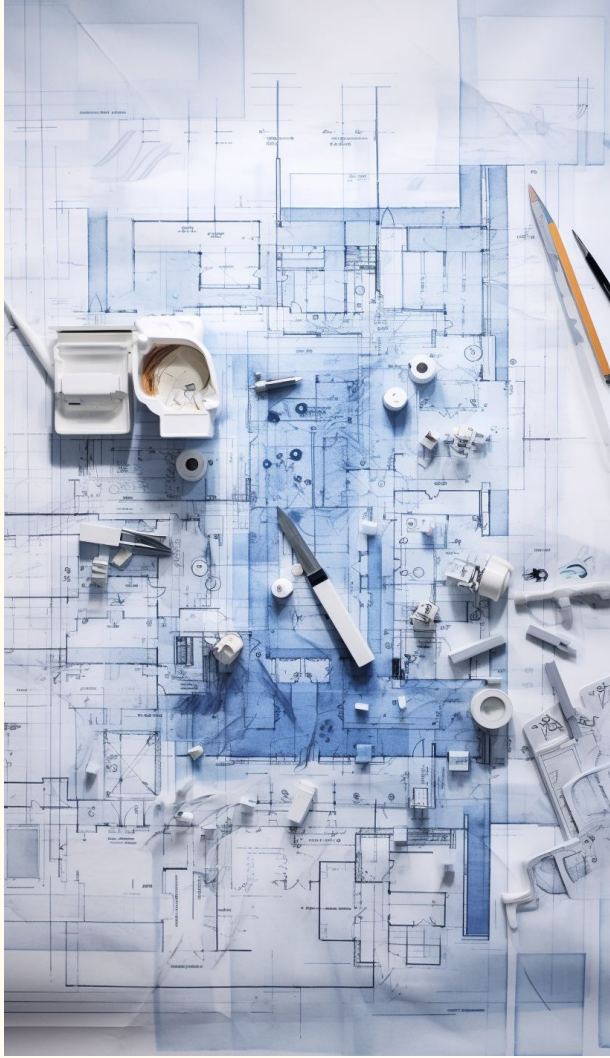
- Each requirement is traced back to its source (interviews, surveys, workshops) and linked to specific user stories and use cases.

Traceability Matrix Example

Requirement ID	Requirement Description	Source	User Story	Use Case
REQ001	Browse products by category	Interviews	User Story 1	Use Case 2
REQ002	Add products to cart	Surveys	User Story 2	Use Case 3
REQ003	Complete purchases	Workshops	User Story 3	Use Case 4
REQ004	Track order status	Interviews	User Story 4	Use Case 5
REQ005	Provide user reviews and ratings	Surveys	User Story 5	Use Case 6

Conclusion

- Requirement gathering and analysis are critical project phases.
- Effective techniques lead to accurate, achievable, and valuable results.



Question?