**P P SAVANI UNIVERSITY**
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**TUTORIAL NO. - 4**
ON
**SOFTWARE ENGINEERING(SSCS3010)**

# TITLE: To identify the various requirement development activities viz. Elicitation, analysis, specification and verification for the given scenarios.

**BACHLEOR OF SCIENCE IN INFORMATION TECHNOLOGY (BSC-IT)**


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**Aim**: To identify the various requirement development activities viz. elicitation,analysis, specification and verification for the given scenarios.

Requirement development is a crucial phase in the software development life cycle (SDLC). It ensures that the final product aligns with stakeholder needs and business goals. The process involves:

1. **Requirement Elicitation**
2. **Requirement Analysis**
3. **Requirement Specification**
4. **Requirement Verification**

Each activity plays a significant role in understanding, documenting, and validating what is to be built.

**Requirement Development Activities Explained:**

**1. Requirement Elicitation:**

The process of gathering requirements from stakeholders using techniques such as:

- Interviews
- Surveys/Questionnaires
- Observation
- Brainstorming
- Document analysis

**2. Requirement Analysis:**

Interpreting and organizing the elicited data to identify conflicts, overlaps, and dependencies. This helps in:

- Prioritizing requirements
- Resolving inconsistencies
- Understanding technical feasibility

**3. Requirement Specification:**

Documenting the analyzed requirements in a structured format such as:

- Software Requirement Specification (SRS)

- Use Case documents
- User stories (Agile)

**4. Requirement Verification:**

Ensuring that the documented requirements are complete, correct, consistent, and testable. Verification techniques include:

- Reviews
- Walkthroughs
- Prototyping
- Validation with stakeholders

**Example Scenario:**

**Scenario:**
A university wants to develop an online attendance management system that allows faculty to mark attendance, view reports, and students to check their own attendance status.

**Identifying Requirement Development Activities for the Scenario:**

**➤ 1. Requirement Elicitation:**

- Conduct interviews with faculty, students, and administrative staff.
- Use questionnaires to understand user expectations (e.g., should it show subject-wise attendance?).
- Analyze existing manual attendance sheets and current software (if any).

**➤ 2. Requirement Analysis:**

- Group and prioritize needs:
  - Must-have: Mark attendance, view daily/monthly reports
  - Nice-to-have: Notification for low attendance
- Identify conflicts:
  - Students want to see attendance in real time, but faculty prefer manual approval before release.

**➤ 3. Requirement Specification:**

- Document functional requirements:
  - "The system shall allow faculty to mark attendance for each subject."
  - "The system shall allow students to view their attendance summary."

- Document non-functional requirements:
    - "System should be accessible on mobile devices."
    - "System response time should be under 3 seconds."

➤ **4. Requirement Verification:**

- Conduct a requirement review session with stakeholders.
- Create a prototype/mockup for approval.
- Ensure all functional requirements are testable and traceable.

**Conclusion:**

By following the structured approach of requirement development activities—elicitation, analysis, specification, and verification—we can ensure that the developed software meets user needs effectively and efficiently.