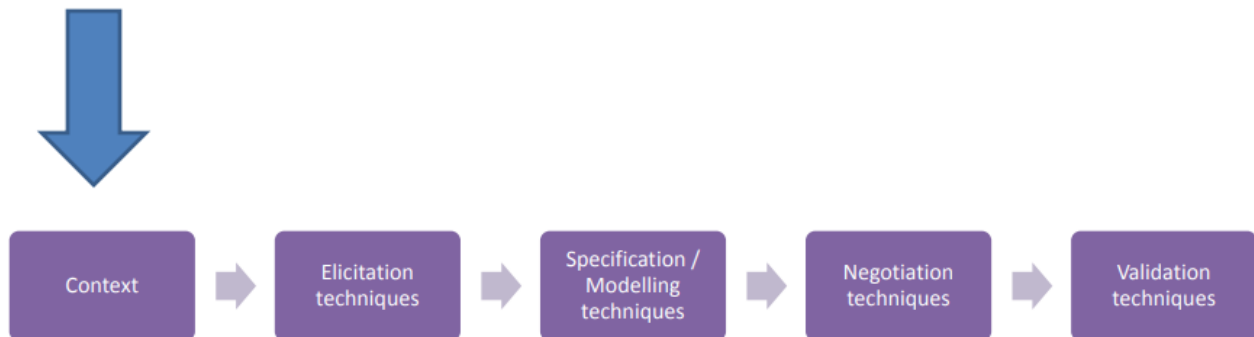


Week 2:

Part 1: Software Processes



Building a System:

- Define boundaries of software system
- What are the goals
- Scope creep: When the scope of a project changes. Occurs when the scope of a project is not properly defined, documented, or controlled.

Requirements Engineering:

- Repeatable process of gathering and refining requirements
- What does the client want?
 - o Client might not know, or they think they know
- Unfamiliar domain
- Not every stakeholder has the whole picture
- Requirements change over time

Classic Requirements Engineering Process:

Inception: Understand the problem, identify solution and people who want it

Elicitation: What is to be accomplished, business needs, how system will be used

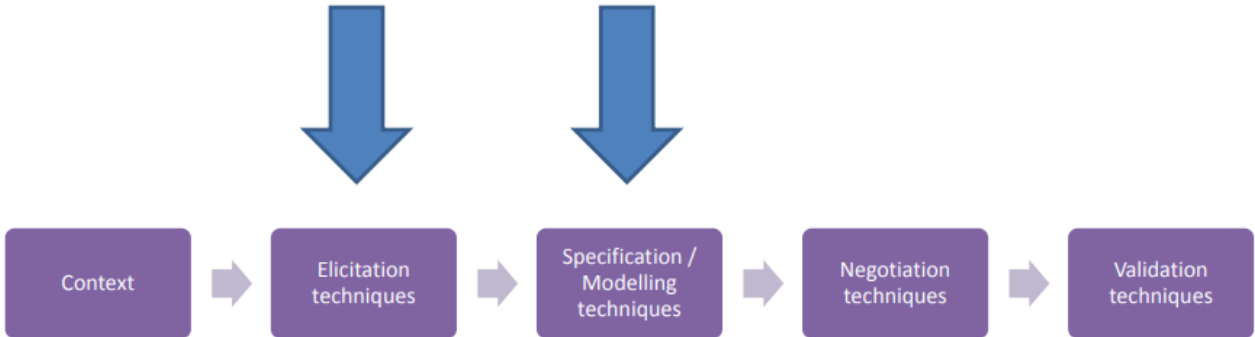
Specification/Modelling: Refine elicited data as requirements models

Negotiation: Scoping with client, combining viewpoints, priorities requirements

Validation: Ensure specification is correct + consistent, validate with client

Requirements management: Maintain changes in requirements through lifecycle

Part 2: Goal Modelling



Helps with:

- Get the big picture, motivate the project, describe general aspects
- How to communicate with stakeholders, share understanding
- Visual representation of goals and actors

Do, be, feel lists:

- Efficient way of eliciting requirements
- Structured brainstorming involves stakeholders
- **Do:** What should the system **do**? **Functional goals**
- **Be:** How should it **be** done? Constraints on features **Quality goals**
- **Feel:** How do you **feel**? **Emotional goals**, considerations on features
- Who: Roles

Elements of a Goal Model

- Functional goals: High level functional requirements, Parallelograms
- Quality goals: Non-functional requirements (Clouds)
- Emotional goals: Social issues, personal values, feelings (Hearts)
- Concerns: Risks, conflicting views (Spades/inverted hearts)
- Roles: Actors involved in goals

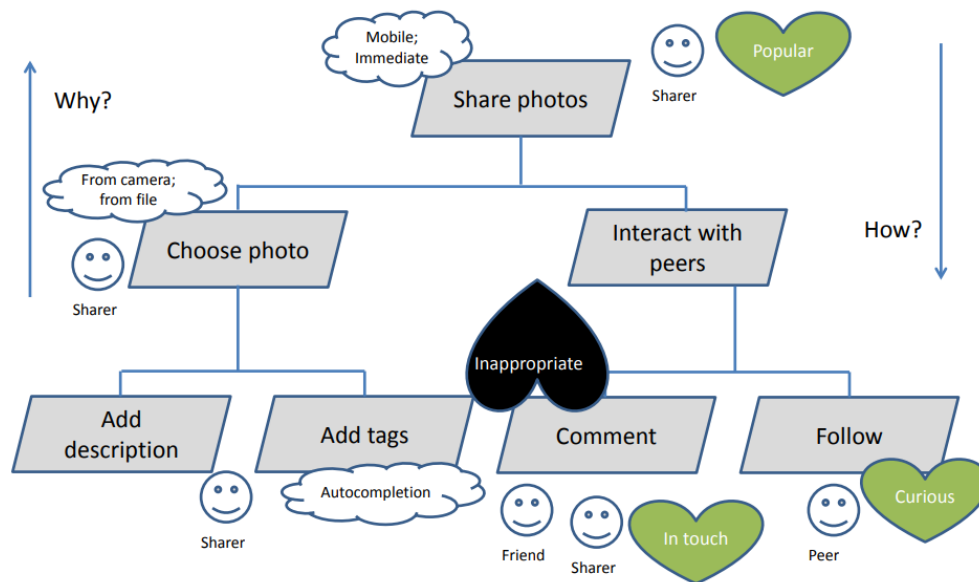
Goal Model Approaches:

1. Top-down

- More general to more specific
- Answer how the super-goal will be achieved/decomposed

2. Bottom-up

- Specific to general
- Answer why is the sub-goal done



Starting point:

- Collection of key concepts in the domain from elicitations such as interview and do, be, feel list
- Reviews as a team for ambiguity or redundancy

Creating the Hierarchy:

Clustering: Group all concepts that have some relation

Hierarchy of clusters: How to achieve this question -> to build hierarchy

Adding Quality and Emotions: Qualities and emotions go with functionality. Some apply to the whole model and sit at the root. Some are specific to sub goals.

Feedback from the client: Agree on common understanding/goal model with client. Get feedback and iterate/improve model.