JURUSAN
TEKNIK INFORMATIKA
POLIBATAM

PROGRAM STUDI
TEKNOLOGI REKAYASA
PERANGKAT LUNAK
POLIBATAM

RPL104 -Analisis dan spesifikasi kebutuhan perangkat lunak

Requirement Elicitation

Supardianto, M.Eng.

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Capaian Pembelajaran

Mahasiswa dapat menjelaskan mengenai dasar analisis dan rekayasa kebutuhan
Mahasiswa dapat menjelaskan mengenai Stakeholder
Mahasiswa dapat menjelaskan mengenai Business roles
Mahasiswa dapat menjelaskan mengenai tipe-tipe rekayasa kebutuhan
Mahasiswa dapat menjelaskan mengenai vision & scope
Mahasiswa dapat menjelaskan mengenai Elicitation dan Elicitation Indirect
Mahasiswa dapat menyajikan hasil analisis dari rekayasa kebutuhan
Mahasiswa mampu menyajikan hasil analisis dan rekayasa kebutuhan dalam bentuk dokumentasi

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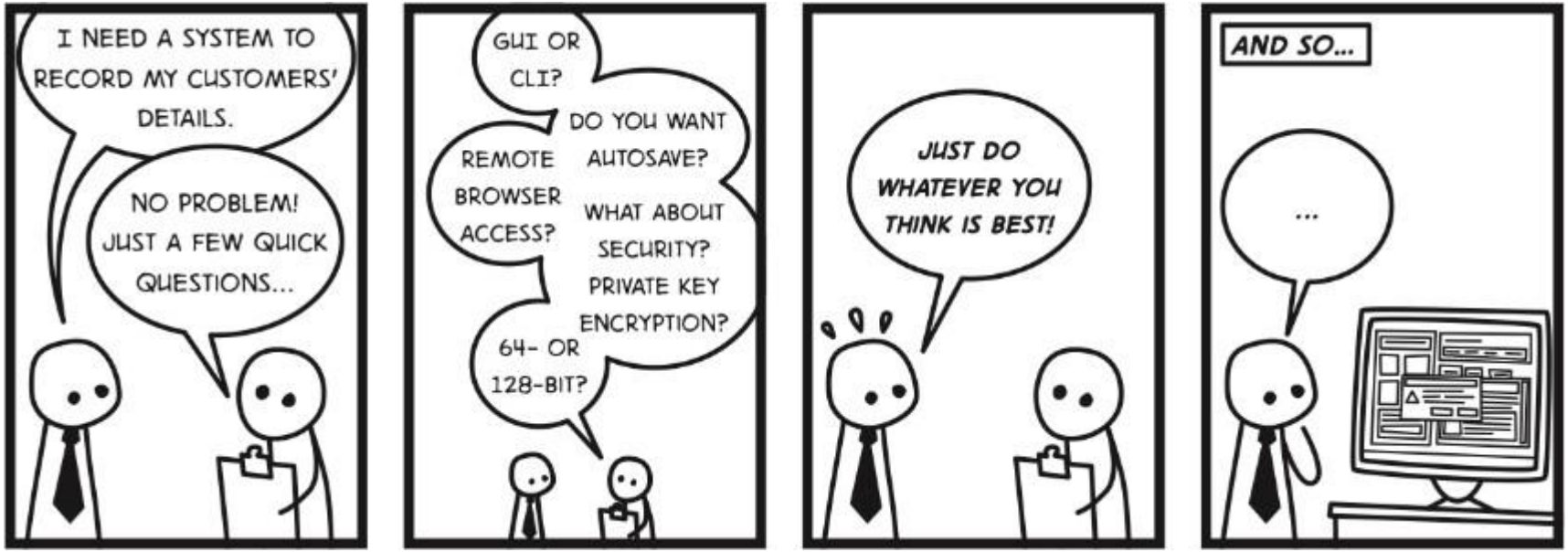
Outline

- Introduction
- Elicitation Technique
- Elicitation Workhop
- Classifying the Voice of Customer



"A project without clearly defined requirement will result in an expectation gap between the client and the product"

Why Elicitation?

- The heart of engineering is elicitation. As to know the user need we have to elicit it.
- Eliciting is the process of identifying the need and constraint of various stakeholders.
- Elicitation is an active effort to extract information.
- Elicitation is not a step or a task you do at certain point, it a set of techniques to apply appropriately during requirement phase.

Requirement Gathering vs Elicitation

Like collecting sea shells

Take what we see

More reactive than proactive

Gathering

Like archeology

Planned deliberate search

More proactive than reactive

Elicitation

Common Problem in Eliciting Information

Scope: Too much or too little

Understanding: Users and developers

- Users have an incomplete understanding of their needs
- Analyst and SE have poor knowledge on the problem domain

Different Ways to Elicit Information

- **Direct** → Directly involving user/client
- **Indirect** → Does not directly involving user/client

The expected properties of the outcome would be:

- Unambiguous
- Complete
- Verifiable
- Consistent
- Modifiable
- Traceable

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Direct Elicitation Technique

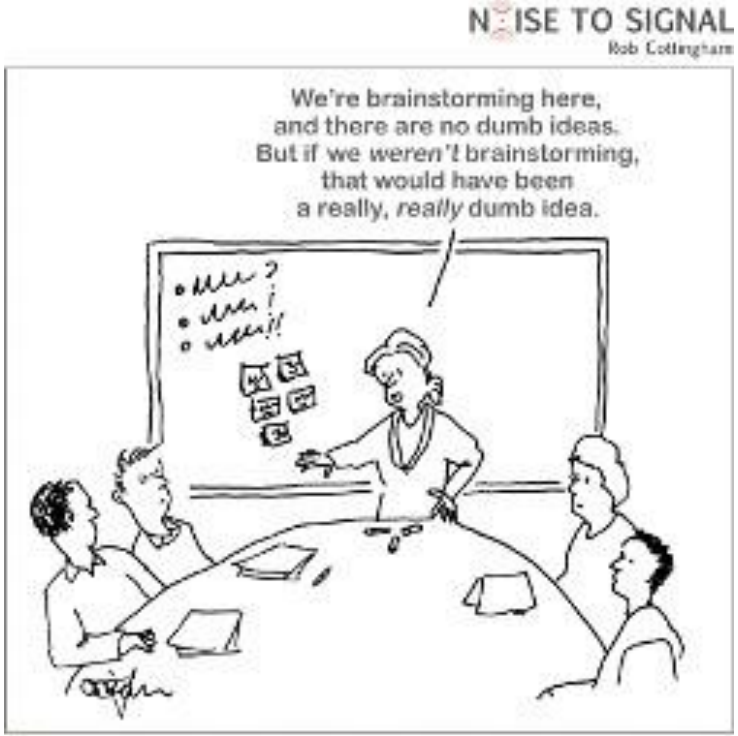
- Brainstorm
- Interview
- Focus Group Discussion
- Observation
- Survey & Questionnaire
- Requirement Workshop

Brainstorm

- The idea is to gather and produce numerous ideas together
- Can be motivating and productive

Tips:

- Set a time limit
- Make it visual (use cards, images)
- Must have a facilitator/moderator
- Keep the group size small (6-8 max)
- Determine a criteria to evaluate ideas

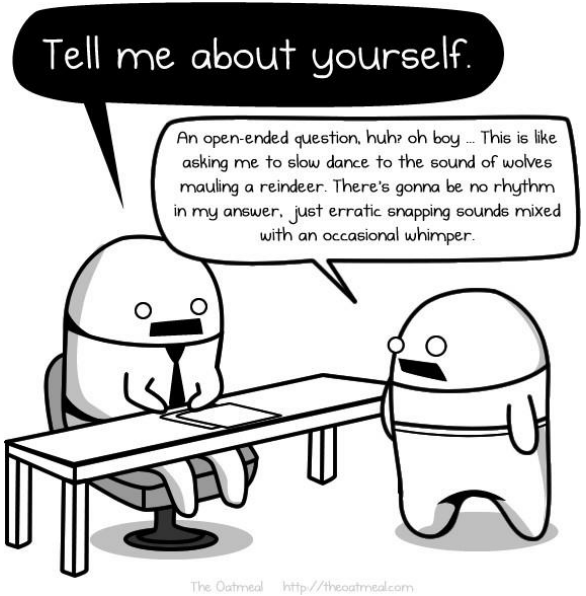


Interview

- Ask question 1-1 person to uncover informations
- Not really good for reaching a consensus

Tips:

- Open ended question to find information & gaps
- Close ended information only to validate
- Record and take notes
- Success depend on how knowledgeable is the interviewee and how well they can articulate information



Focus Group Discussion

- Elicit information for selected attendees in a group by a moderator
- Good to save time from conducting many individual interviews
- Requires a skilled moderator/facilitator to direct the group and keep it focused
- Some participant may be more dominant, and some may be reluctant to say out loud their ideas in public

Tips

- Ask open ended question
- Engage all members, not just the more vocal / dominant ones

Observation

- Study and observe how stakeholder works in their environment
- Sometimes also called contextual analysis
- Might be disruptive, time consuming and costly
- Might not capture all of the process

Survey & Questionnaire

- Elicit information from many people in a short time
- Can be conducted remotely via online
- Be selective as the responses are very prone to bias

Tips:

- Follow up with interview to support the data

Requirement Workshop

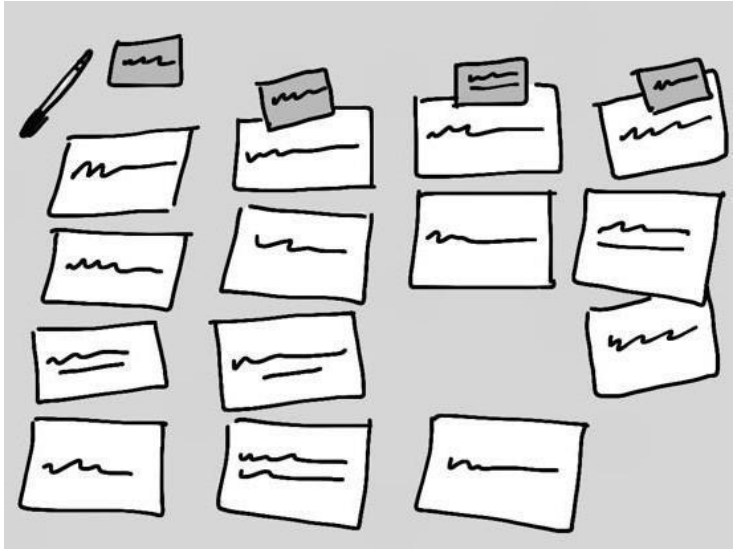
- A workshop where participant gather together to solve a problem and develop a requirement
- One of the most effective technique

Tips:

- Have an agenda
- Carefully select participant and keep it small, too few cause gaps, too many slows it down
- Combine with other techniques (prototyping for clarity, process modelling for understanding)

Extra: Card Sorting

- A workshop where we ask participant to organize a set of information in a way that it will make sense to them
- Good to help us organize the information architecture
- Good for project with a lot of information that needed to be organized
- There are 2 types:
  - Closed Card Sorting
  - Open Card Sorting



Summary: Directly Involving User

Technique	(+) Positive	(-) Negative	Description
Brainstorm	- Can be motivating	- If not directed and unfocused can slow things down	
Interview	- Can develop a deep understanding of user need	- Time consuming	
Forum Group Discussion	- Can gather input from many parties, enhance discussion in participant	- Some people may be more dominant, some may too shy	
Observation	- Can see how user actually work / use	- Costly & time consuming	
Questionnaire	- Can gather data from a lot of user	- Very prone to bias - Weak to capture qualitative data	
Card Sorting	- Can understand how user understand how information is organized	- Cannot be used alone to elicit information from user	Good for creating an information architecture, or for a project with a lot of information to organize

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Case Study: Course Schedul ing System

- Goal: We want to understand the process of the manual scheduling system to translate it into an automated system

  Method used: Observation, Interview.

- Goal: We want to understand what is the user's problem, what they are trying to solve, where they have difficulties. So we can build a system that their needs.

  Method used: Interview, Brainstorm, FGD

Summary

- Eliciting is the process of identifying the need and constraint of various stakeholders.
- Elicitation is not a step or a task you do at certain point, it a set of techniques to apply appropriately during requirement phase.
- There are 2 way to elicit information:
  - Direct → Direcly involving user / client
  - Indirect → Indirectly involving user / client