

Collecting requirements

Lecture 02



IDENTIFYING BUSINESS NEEDS



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About your clients

- May not have technical skills
- May be not clear about what they want at the beginning
- May not know the real problem



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What's the problem ?



<https://www.youtube.com/watch?v=BKorP55Aqvg>



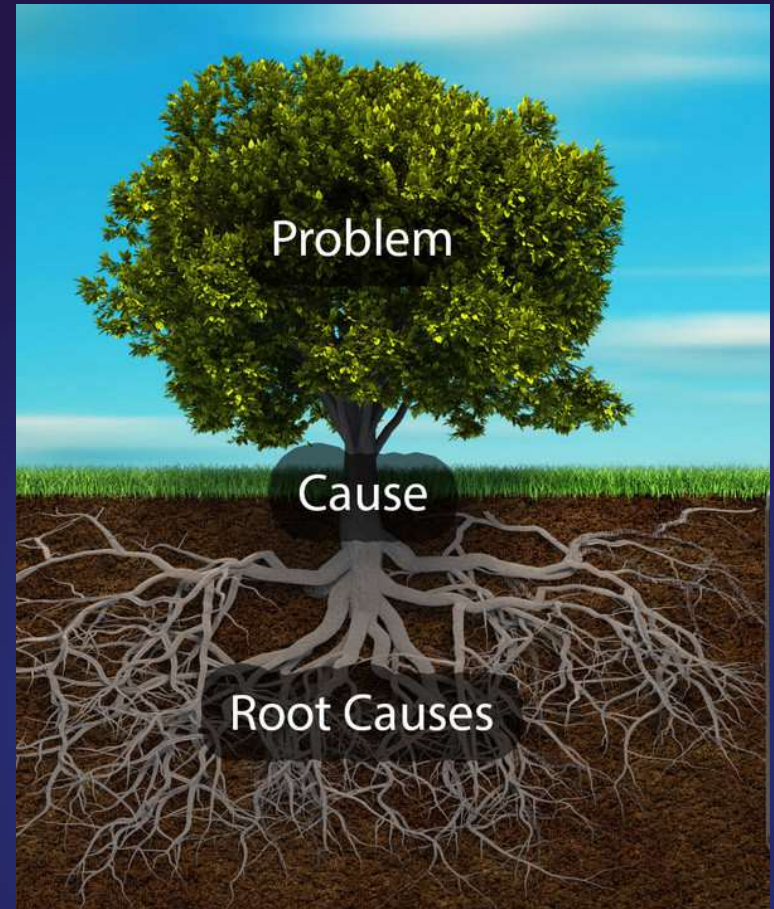
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What's the problem ?

- Sometimes the thing we think is a problem is not the real problem, so to get at the real problem, probing is necessary

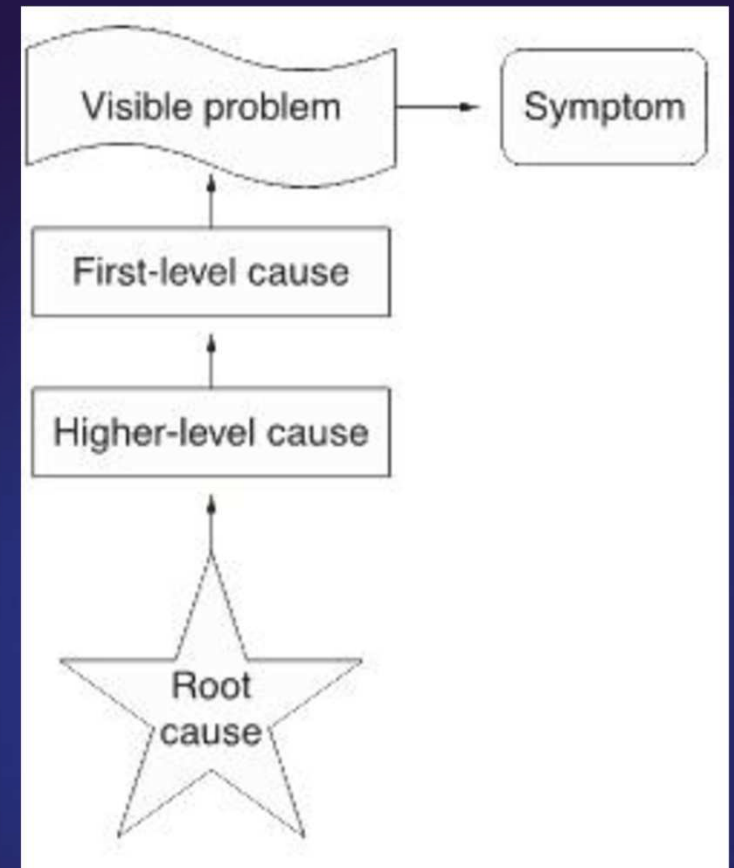
Ex:

- Problem: Develop a new Customer Relationship Management (CRM) system
- Root Cause: Poor customer service leading to complaints

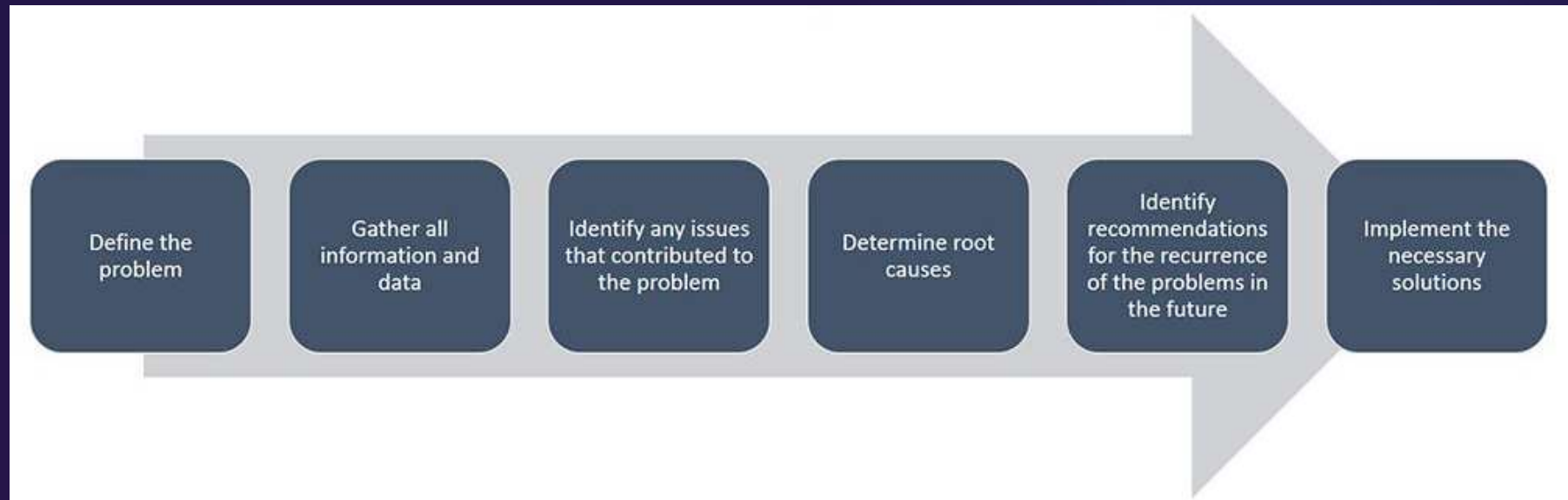


What's the problem ?

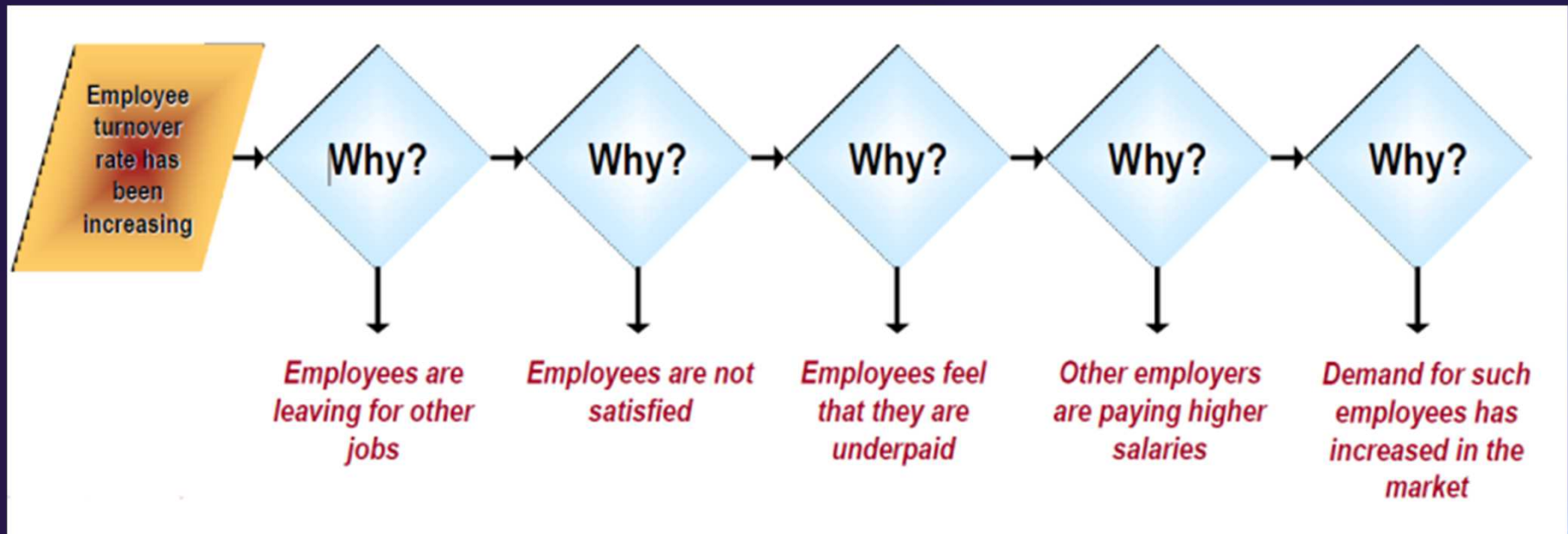
- Root Cause Analysis is an effective method of probing – it helps identify what, how and why something happened
- Definition of root cause:
 - Specific underlying cause
 - Those that can reasonably be identified
 - Those that management has control to fix



Root Cause Analysis Technique – Steps



Root Cause Analysis Technique - Example



5 Whys

- The **5 Whys** is a question-asking method used to explore the cause/effect relationships underlying to a particular problem.
- Ultimately, the goal of applying the 5 Whys method is to discover the big picture

Ex: I want a website (a requirement)

- Why 1: I like websites
- Why 2: Other people like websites
- Why 3: You can look at a company before buying
- Why 4: A lot of people just window-shop
- Why 5 (*Root cause*): I can attract new customers



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What you think about these statements ?

1. I can make assumption to the problem and what is required, there is no need to ask
2. A business problem/opportunity can be solved 100% with a technology solution
3. People are stupid because they do not like your technology solution
4. There is only one right answer



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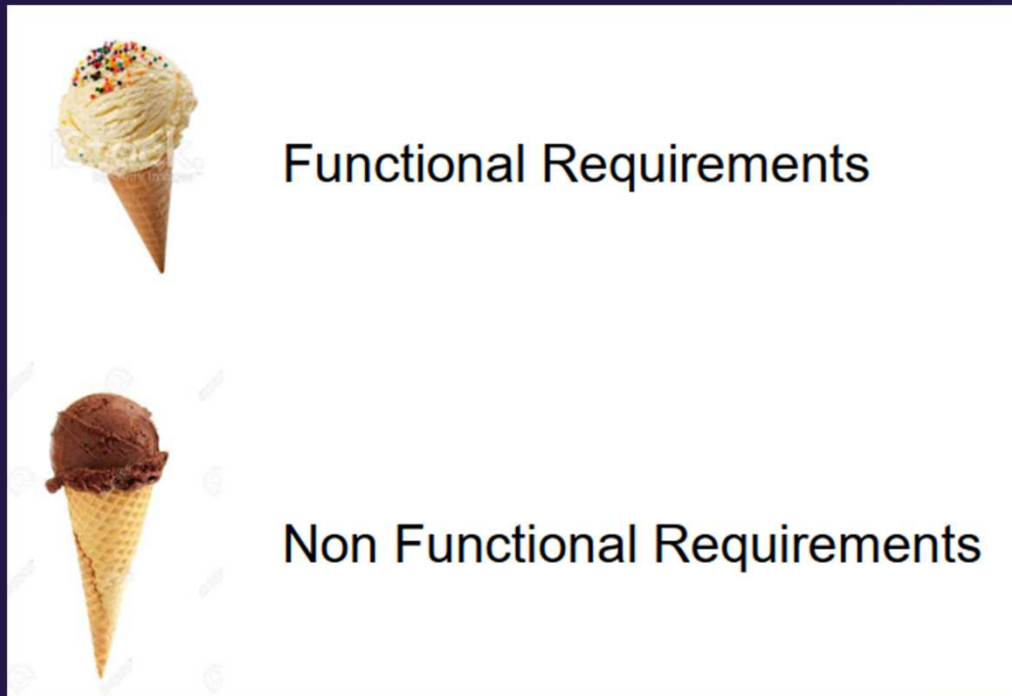
THINKING ABOUT REQUIREMENT ANALYSIS



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Different kinds of requirements

- Two Flavours



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Different kinds of requirements

□ Two Flavours

1. Functional Requirements

- *What is needed ?* Our clients need to be able to book appointment through the website

2. Non Functional Requirements

- *How ?* Our clients expect their data to be maintained in a secure environment



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Examples of functional requirements

- ❖ A gallery to display the photos to customers
- ❖ CRM to manage members
- ❖ Online payment
- ❖ Shopping cart
- ❖ Login/logout
- ❖ Email/SMS confirmation
- ❖ AI assistant
- ❖ Register new account
- ❖ Admin dashboard



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Examples of non functional requirements

- ❖ Performance: good response time, availability, reliability
- ❖ Security: e.g., only the data administrator change data in the website
- ❖ Extensibility: can add new features and upgrade the system
- ❖ Capacity: how many transactions at peak time
- ❖ Testability: easy of testing
- ❖ Software constraints: e.g., language may be limited to English or Chinese, Operating System (Win or Mac)
- ❖ Interoperability: work in different devices
- ❖ Maintainability: easy to maintain
- ❖ Usability: easy to use



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Functional or non functional requirements ?

1. Send email when new customer signs up
2. Create a booking system
3. Easy to maintain
4. Include articles on current trend
5. The website can be used in both PC and mobile
6. Social network integration
7. The website should look professional
8. Easy to learn how to use
9. Include newsletter
10. The website must be secure



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Functional or non functional requirements ?

FUNCTIONAL REQUIREMENTS	NON-FUNCTIONAL REQUIREMENTS
Send email when new customer signs up	Easy to maintain
Create a booking system	Easy to learn how to use
Include articles on current trend	The website can be work in both PC and mobile
Social network integration	The website should look professional
Include newsletter	The website must be secure



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WHAT ARE THE CRITERIA OF A GOOD REQUIREMENT LIST ?



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Characteristics of Quality Requirement Statements

○ Correctness

- ★ Is the requirement aligned with the client's expectations ?
 - Each requirement must accurately describe the functionality to be delivered
 - The reference for correctness is the source of the requirement, such as the client, user or higher-level system requirements specification,...



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Characteristics of Quality Requirement Statements

○ Prioritisation

- ✦ Can we prioritize this requirement based on client needs ?
 - Assign an implementation priority to each requirement, feature, or use case to indicate how essential it is
 - Clients or their representatives are essentially responsible for establishing priorities.
 - If all the requirements are regarded as equally important, you will be unable to make good decisions when comparing different possible solutions or when compromises have to be made
 - Priority is a function of the value provided to the customer, the relative cost of implementation, and the relative technical risk associated with implementation.



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Characteristics of Quality Requirement Statements

○ **Completeness**

★ Are all system functionalities covered in the requirements ?

- No requirements or necessary information should be missing
- Completeness is also a desired characteristic of an individual requirement
- Set boundaries/scope



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**WHERE CAN YOU FIND
THE REQUIREMENTS ?**



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Ideas for discovering requirements

- Identify who has an interest in the project
 - Anyone else I should/could be dealing with ?
 - Identify primary, secondary and tertiary users
- What are your users' tasks and goals ?
- Decide what you need to discover and identify who/where you can obtain the information you require
- Prototype for requirements
 - Sample screen shots from existing software may help
- Work backwards from existing software
 - Review capabilities of existing products and see if these interest the client



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Requirement list

- Introduction: what is this report about, a general description of the project
- Constraints, Assumptions and Dependencies for the success of the solution
- List specific requirements for this project
 - Functional Requirements
 - Non Functional Requirements
- Should give each requirement a brief explanation



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Requirement list

- Appendices (optional): supplementary documents
- Glossary (optional): defining difficult or unusual words
- References (optional): cites the sources
- Index (optional)



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Requirement list

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THANK YOU