



System Analysis and Design

Module Code- K72T001M06

NVQ-05 in ICT



Ministry of Youth Affairs
& Skills Development



Vocational Training Authority of Sri Lanka



Topic

- **Requirement gathering and fact finding techniques**
 - **What is a Requirement**
 - **Requirement-gathering Techniques**
 - **Interviewing**
 - **Questionnaires**
 - **Observations**
 - **Record reviews**

Objectives

- **Explain what is a Requirement**
- **Identify the Requirement-gathering Techniques and How to use.**
- **Effective methods for gathering essential information during system analysis**

What is a Requirement

- A statement of what the system must do
- A statement of characteristics the system must have
- Focus is on business user needs during analysis phase
- Requirements will change over time as project moves from analysis to design to implementation

- **Fact-Finding Methods**
- To study any system the analyst needs to do collect facts and all relevant information. the facts when expressed in quantitative form are termed as data. The success of any project is depended upon the accuracy of available data Accurate information can be collected with help of certain methods/ techniques. These specific methods for finding information of the system are termed as fact finding techniques.

Requirement-gathering Techniques(Fact-Finding Methods)

- Interviewing
- Questionnaires
- Observations
- Record reviews etc.....

- **Interviewing**

- Most commonly used technique
- Interviewing is an important method for collecting data on information system requirements

- **Basic steps:**

1. Selecting Interviewees
2. Designing Interview Questions
3. Preparing for the Interview
4. Conducting the Interview
5. Post-Interview Follow-up

Guide Lines

- Selecting Interviewees
 - Based on information needs
 - Best to get different perspectives
 - Managers
 - Users
 - Ideally, all key stakeholders
 - Keep organizational politics in mind

- **Designing Interview Questions**

- Unstructured interview useful early in information gathering
(Goal is broad, roughly defined information)
- Structured interview useful later in process
(Goal is very specific information)

• Types of Questions

Types of Questions	Examples
Closed-Ended Questions	<ul style="list-style-type: none">• How many telephone orders are received per day?• How do customers place orders?• What information is missing from the monthly sales report?
Open-Ended Questions	<ul style="list-style-type: none">• What do you think about the way invoices are currently processed?• What are some of the problems you face on a daily basis?• What are some of the improvements you would like to see in the way invoices are processed?
Probing Questions	<ul style="list-style-type: none">• Why?• Can you give me an example?• Can you explain that in a bit more detail?

- **Preparing for the Interview**
 - Prepare general interview plan
 - List of question
 - Anticipated answers and follow-ups
 - Confirm areas of knowledge
 - Set priorities in case of time shortage
 - Prepare the interviewee
 - Schedule
 - Inform of reason for interview
 - Inform of areas of discussion

- **Conducting the Interview**
 - Appear professional and unbiased
 - Record all information
 - Check on organizational policy regarding tape recording
 - Be sure you understand all issues and terms
 - Separate facts from opinions
 - Give interviewee time to ask questions
 - Be sure to thank the interviewee
 - End on time

- **Post-Interview Follow-Up**

- Prepare interview notes
- Prepare interview report
- Have interviewee review and confirm interview report
- Look for gaps and new questions

- **Questionnaires**

- A set of written questions, often sent to a large number of people
- May be paper-based or electronic
- Select participants using samples of the population
- Design the questions for clarity and ease of analysis
- Administer the questionnaire and take steps to get a good response rate
- A questionnaire is a document containing a number of standard questions

- **Good Questionnaire Design**
- **Some guidelines for designing questionnaire are**
 - Brief and user-friendly
 - Clear instructions
 - Ask questions related to the requirement
 - Questions in logical order
 - Avoid leading questions
 - Test the questionnaire in Advance

- **Advantages and Disadvantages of Interview and Questionnaire**
- **Interview**
 - Interview is a good tool to collect detailed information.
 - It allows exploration and follow-up questions.
 - Interviews build rapport between the users and the systems analyst.
 - Interviews are time-extensive and expensive.
 - Interviews cannot be performed with many people in a short time

- **Questionnaire**

- Questionnaires are most useful when used for specific purposes rather than for more general information gathering
- Questionnaires can be given to many people at a time, whereas interviews can be performed on a single person at a time
- They are most useful for closed-end questions, although some open-ended questions can be included for information gathering.
- Questionnaires are less expensive and less time-consuming.
- Questionnaires can be performed on paper, over the telephone and electronically.
- Questionnaires are a rigidly structured means to obtain answers to pre-selected
- inquiries.

- **Observations**
- **The observation of current operating procedures of the system is another fact-finding technique**
 - A system can be understood better and faster through observation than other techniques.
 - It also allows opportunities to verify statements and answers gathered through interviews and questionnaires
 - It also allows opportunities to build relationships with the users.
 - Watch processes being performed
 - Check validity of information gathered other ways
 - Be aware that behaviours change when people are watched

- A successful observation should be planned. In preparing a checklist for observation, consider the following:
 - Ask questions to obtain a good understanding of the system operation procedure.
 - Observe all steps in the processing cycle and note the output from each procedural step.
 - Examine each form, record, and report. Determine the purpose of each item on the documents.
 - Consider observing each person working with the system to complete a process
 - Talk to people who receive current reports to see whether the reports are complete, timely, accurate, and in a useful form.

- **Record View**

- The information related to the system is published in the sources like newspapers, magazines, journals, documents etc. This record review helps the analyst to get valuable information about the system and the organization.
- If an analyst is employed within the organization that is the subject of the fact gathering exercise, then it is likely that he or she will already have a good understanding of the organization and its business objectives.
- The kind of documents that are suitable sources of information include the following although reading company reports may provide the analyst with information about the organization's mission, and so possibly some indication of future requirements, this technique mainly provides information about the current system.

Questions

- What is a Requirement
- Why we use fact finding methods
- What are the various fact finding techniques? Explain questionnaire and interview.
- Write short note on the following and discuss advantage and disadvantage
 - **Observations**
 - **Record View**
- Select any company you prefer and Design 10 interview questions and questionnaire paper