

Session-3

Fact Finding Techniques



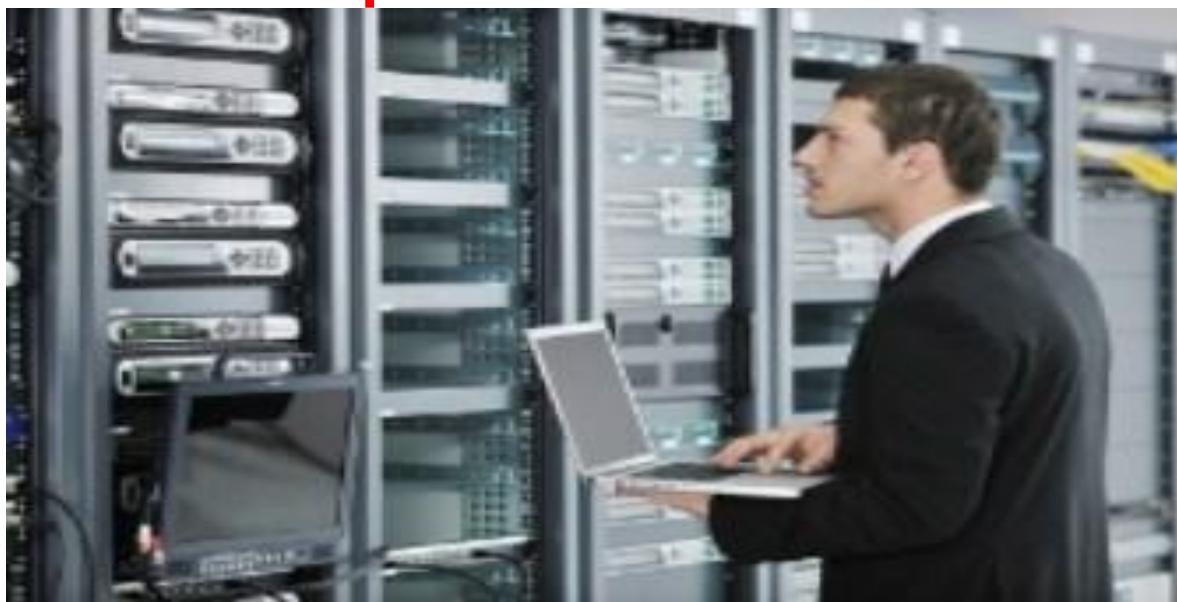
Dr. Bharati Wukkadada

“

Collecting Information

- Fact Finding Techniques

”



System analyst: definition

- “A Person who conducts a methodical study and evaluation of an activity such as a business to identify its desired objectives in order to determine procedures by which these objectives can be gained”
- “ the task of the systems analyst is to elicit needs and resources constraints and to translate these into viable operation”
- to manage to get information, facts, a reaction, etc. from somebody

**Analysts are professionals, who are analysing,
designing the information systems**

**Analyzing and
designing
information
systems**



Roles

Role of a systems analyst:
Researches problems
Plans solutions
Recommends software and
systems
Coordinates development



Systems analysis



**1 Examination
of the business
problem**

**Gather information
to determine
requirements**

**3 Set of system
requirements**

**4 Specific
requirements**

**5 User
requirements**

System design stage

**Variety of programming
languages**

**Actual hardware or
software
development**

**Technical
specifications**

**Bridge between
business and
information
technology
professionals**

System Analyst

- A *systems analyst* is a person who uses *System Analysis and Design techniques to solve system/business problems.*
- A *system analyst analyzes, designs and implements system to fulfill organizational needs.*
- *System Analyst conducts system study, identifies requirements & determines the procedures to achieve system objectives.*
- *System Analyst designs and implements the system to suit organizational requirements for effective results.*

System Analyst

- *System analysts carry the responsibilities of researching problems, finding solutions, recommending courses of actions and coordinating with other members in order to meet specified requirements.*
- *In the IT industry, System Analyst figures out how to solve a problem by linking different computers and by specifying what platform, protocols, software, hardware and communications medium can be used to solve a problem.*
- *System Analyst is responsible for the system from its birth to death.*

Role And Responsibilities of System Analyst

- Research and evaluate new technologies*
- Identify the organizational needs*
- Analyze costs and benefits*
- Add new functionality to systems*
- System Analysis*
- System Design*
- System Upgradation*
- System Implementation*
- System Maintenance*

- Meaning of cost benefit analysis
- A cost benefit analysis (also known as a benefit cost analysis) is a process by which organizations can analyze decisions, systems or projects, or determine a value for intangibles. The model is built by identifying the benefits of an action as well as the associated costs, and subtracting the costs from benefits. When completed, a cost benefit analysis will yield concrete results that can be used to develop reasonable conclusions around the feasibility and/or advisability of a decision or situation.

System Analyst is also a

- Change Agent : System Analyst evaluates the current system and as well as researches for new future updates for better System Development.
- Architect : System Analyst is the architect of the system.
- Motivator : System Analyst is a motivator who motivates his team to work properly and do their best.
- Monitor : System Analyst monitors the complete system.

Psychologist
Politician

Salesperson

Qualities/Attributes of System Analyst

- *Knowledge of the Organization*
- *Knowledge of computer hardware and software*
- *Problem-solving and critical thinking*
- *Analytical skills*
- *Adaptability*
- *Motivator Skill*
- *Good understanding, communication and teaching abilities.*

* **Critical thinking** is the analysis of facts to form a judgment
Analytical skills are the abilities which allow you to collect, organize, visualize, and assimilate data.

Critical Thinking Skills



1

Observation

The ability to notice and predict opportunities, problems and solutions.

2

Analysis

The gathering, understanding and interpreting of data and other information.

3

Inference

Drawing conclusions based on relevant data, information and personal knowledge and experience.

4

Communication

Sharing and receiving information with others verbally, nonverbally and in writing.

5

Problem solving

The process of gathering, analyzing and communicating information to identify and troubleshoot solutions.



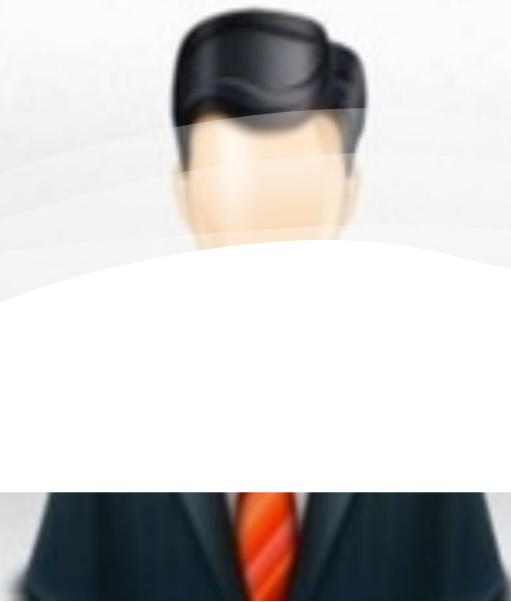
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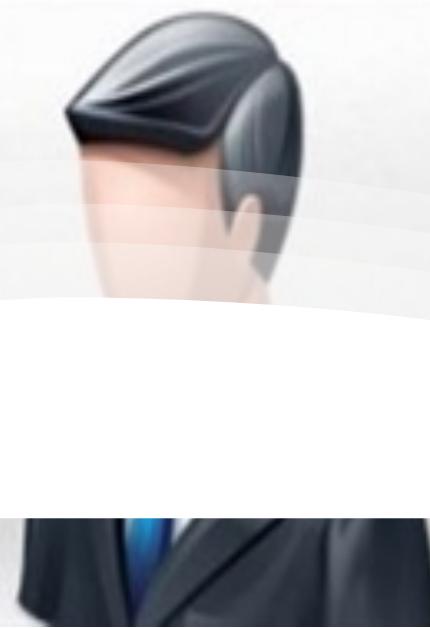
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The **Business Analyst**
provides an input information for the
System Analyst

The Business Analyst gathers and
documents the business requirements



The **System Analyst** writes
technical requirements from the
business requirements



Elicitation

Business Knowledge

Presentation

Leadership

Communication

Research

Data Analysis

Creative Problem Solving

Technical

Systems Analyst

Business Analyst

Business skills

Systems skills

ELICITATION: In requirements engineering, **requirements elicitation** is the practice of researching and discovering the requirements of a system from users, customers, and other stakeholders. The practice is also sometimes referred to as "**requirement gathering**"

Systems Analyst

- This person is tasked with analysing the current system to see if it is suitable for upgrading.
- They must then use their findings to develop a plan for developing the proposed system including:
 - What procedures will be involved
 - What data needs to be inputted
 - What software and hardware is needed
 - How data will be outputted
 - Training methods
- The analyst is the first person to really liaise with the end-user.

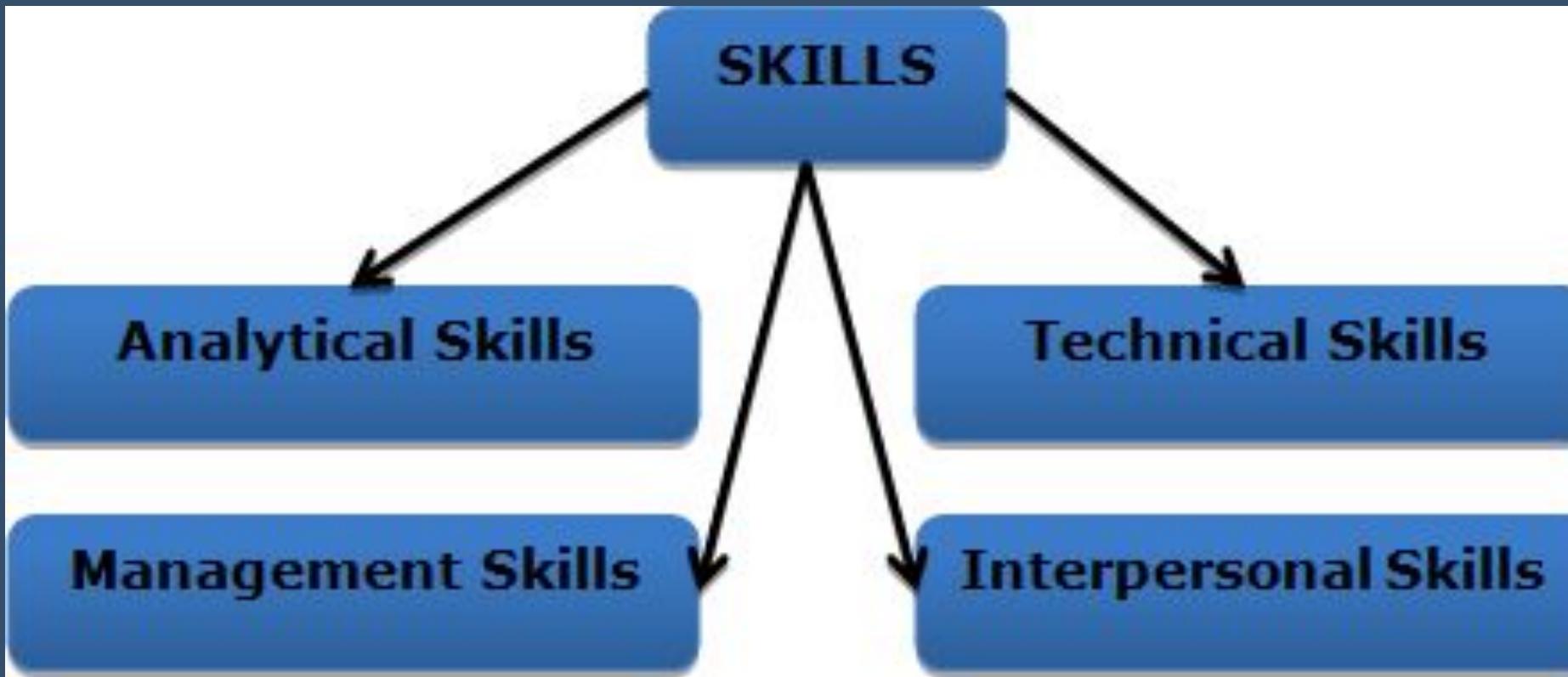
To **liaise means** “to form a liaison,” that is, “to communicate and maintain contact with another person or organization.”





Duties of a System Analyst:

- **Prioritizing Requirements by Consensus**
- **Defining Requirements**
- **Solving Problems**
 - Identify the problem
 - Analyze and understand the problem
 - Identify alternative solutions and select the best solution.
- **Analysis and Evaluation**
- **Drawing up Functional Specifications**
- **Designing Systems**
- **Evaluating Systems**

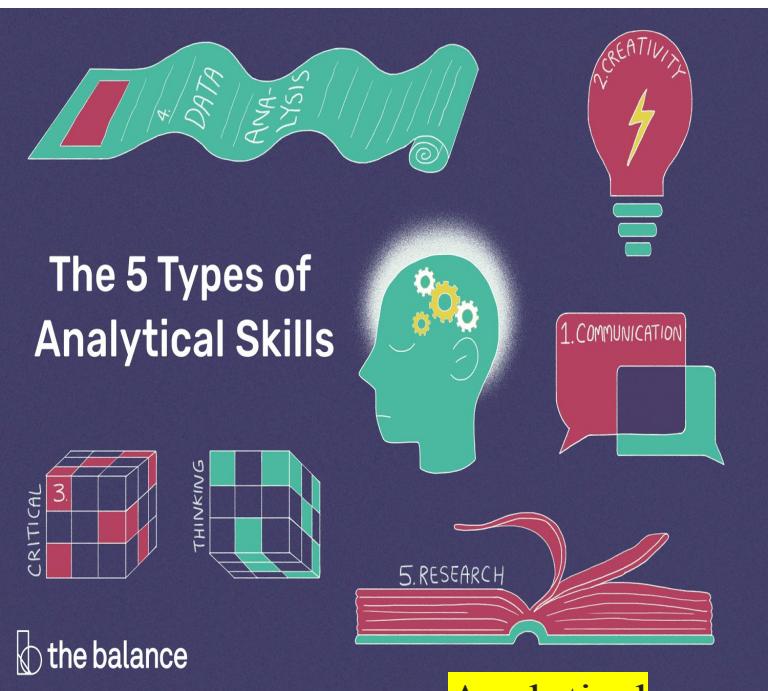


System Analyst – Skill set

Analytical Skills

Analytical skills refer to the **ability** to collect and analyze information, problem-solve, and make decisions. Employees who possess these **skills** can help solve a company's problems and improve its overall productivity and success.

- 
- System study
 - Organizational knowledge
 - Problem identification
 - Problem analysis and problem solving.



- Analytical skills**
- Budgeting
 - Brainstorming
 - Collaboration
 - Optimization
 - Predictive modeling
 - Restructuring
 - Strategic planning
 - Integration
- Creativity skills**
- Problem sensitivity
 - Active listening
 - Reporting
 - Surveying
 - Teamwork
 - Oral communication
 - Written communication
 - Conducting presentations
- the balance**

- **data analysis skills**
 - Strengths, weaknesses, opportunities, and threats (SWOT) analysis
 - Cost analysis
 - Credit analysis
 - Critical analysis
 - Descriptive analysis
 - Financial analysis
 - Industry research
 - Policy analysis
 - Predictive analytics
 - Prescriptive analytics
 - Process analysis
 - Qualitative analysis
 - Quantitative analysis
 - Return on investment (ROI) analysis
- Critical skills**
- Process management
 - Auditing
 - Benchmarking
 - Big data analytics
 - **Business intelligence**
 - Case analysis
 - Causal relationships
 - Classifying
 - Comparative analysis
 - Correlation
 - **Decision-making**
 - **Deductive reasoning**
 - Inductive reasoning
 - Diagnostics
 - Dissecting
 - Evaluating
 - Data interpretation
 - Judgment
 - Prioritization
 - Troubleshooting
- Research skills**
- Investigation
 - Metrics
 - Data collection
 - Prioritization
 - Clustering

System Study

- *How work officially gets done in a particular organization:*
 - Policies
 - Job description
 - Standards and procedures
 - Formal organization structure
 - Terminology, abbreviations and acronyms
- *Understanding the organization's internal politics:*
 - Influence and inclinations of key personnel
 - Finding the experts in different concerned subject areas
 - Critical events in the organization's history
 - Informal organization structure
 - Association membership and power structures

System Study

- **Understanding the organization's competitive and regulatory environment:**
 - Government regulations
 - Competitors from domestic and international fronts
 - Products, services and markets
 - Role of technology
- **Understanding the organization's strategies and tactics:**
 - Short as well as long term strategy and plans
 - Values and missions.

Technical Skills

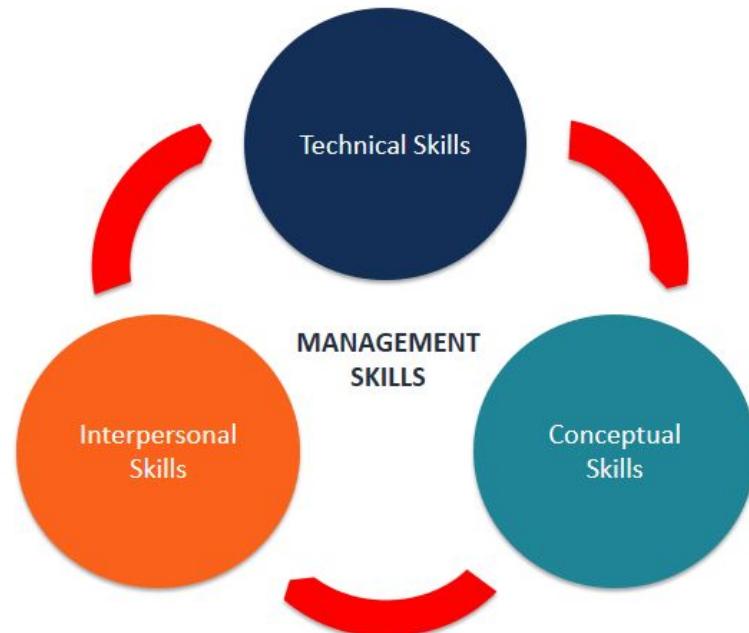
TECHNICAL SKILLS

- **Microcomputers, workstations, minicomputers, and mainframe computers,**
- **Computer networks** (LAN, WAN, VPNs, administration, security, etc.)
- **Operating systems** (UNIX, Mac/OS, Windows)
- **Data Exchange Protocols** (ftp, http, etc.)
- **Programming languages** (C++, Java, XML, etc.)
- **Software applications** (Office, project managements, etc.)
- **Information systems** (databases, MISs, decision support systems)
- **System development tools and environments** (such as report generators, office automation tools, etc.)

Management Skills

- Resource management
- Project management
- Risk management
- Change management.

- Interpersonal skills.
- Communication and motivation.
- Organisation and delegation.
- Forward planning and strategic thinking.
- Problem solving and decision-making.
- Commercial awareness.
- Mentoring.



Interpersonal Skills

- Communication skills
- Working alone as well as in a team
- Facilitating groups
- Managing expectations.

Interpersonal skills are the behaviors and tactics a person uses to interact with others effectively. In the business world, the term refers to an employee's ability to work well with others. **Interpersonal skills** range from communication and listening to attitude and deportment.





Fact-Finding Strategy



Meaning

- **General** -A fact-finding mission or visit is one whose purpose is to get information about a particular situation, especially for an official group.
- **In SE** -Fact finding is process of collection of data and information based on techniques which contain sampling of existing documents, research, observation, questionnaires, interviews, prototyping and joint requirements planning.

A Fact-Finding Strategy

1. Learn from existing documents, forms, reports, and files.
2. If appropriate, observe the system in action.
3. Design and distribute questionnaires to clear up things that aren't fully understood.
4. Conduct interviews (or group work sessions).
5. *(Build discovery prototypes for any functional requirements that are not understood or for requirements that need to be validated.)***
6. Follow up to verify facts.



** Optional and not always possible

Fact-Finding Ethics

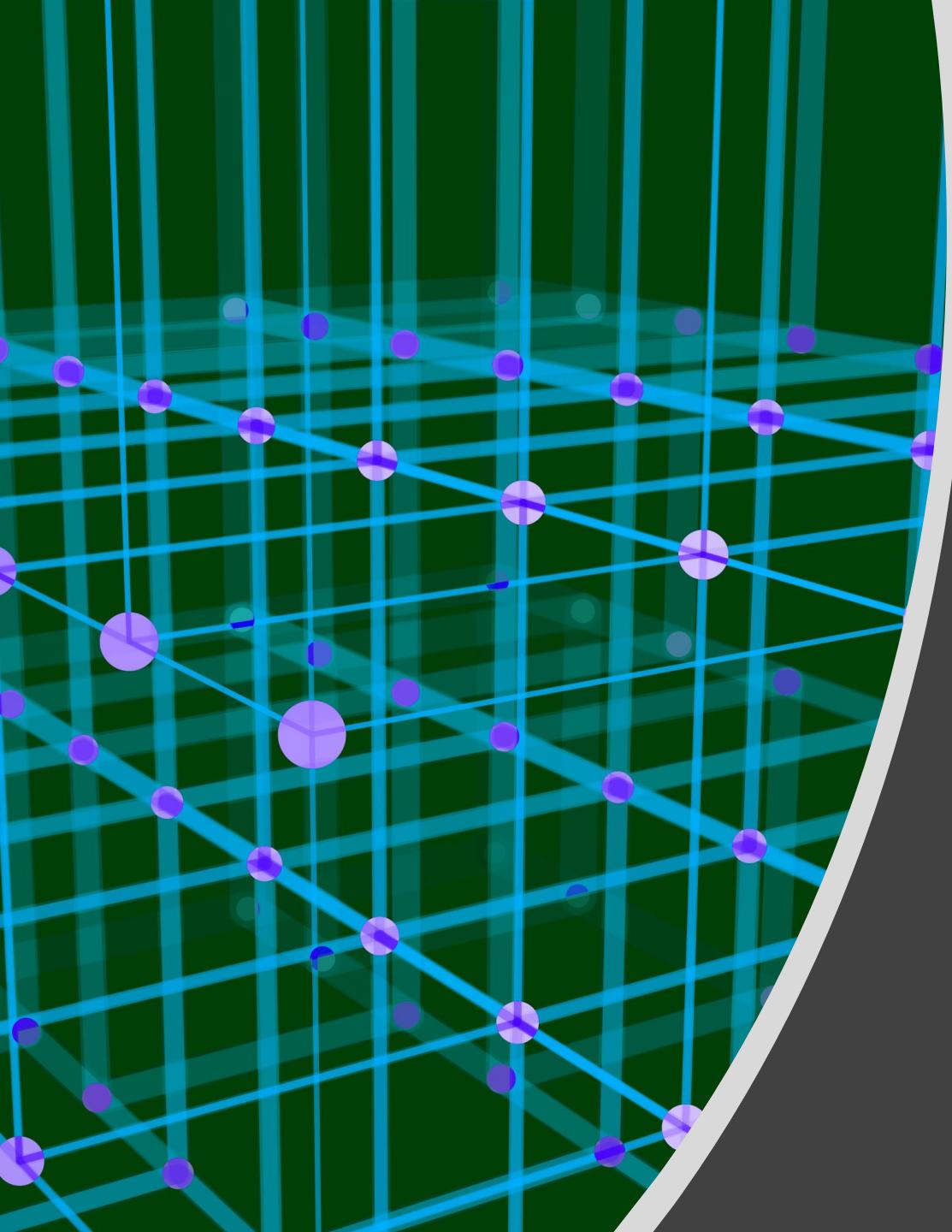
the discipline dealing with what is good and bad and with moral duty and obligation

- Fact-Finding often brings systems analysts into contact with sensitive information.
 - Company plans
 - Employee salaries or medical history
 - Customer credit card, social security, or other information
- Ethical behavior
 - Systems analysts must not misuse information.
 - Systems analysts must protect information from people who would misuse it.
- Otherwise
 - Systems analyst loses respect, credibility, and confidence of users and management, impairing(weaking) ability to do job
 - Organization and systems analyst could have legal liability
 - Systems analyst could lose job



Seven Fact-Finding Methods

- Sampling of existing documentation, forms, and databases.
- Research and site visits.
- Observation of the work environment.
- Questionnaires.
- Interviews.
- Prototyping.
- Joint requirements planning (JRP).



A 3D wireframe cube is shown on the left side of the slide. The cube is defined by a grid of blue lines forming its edges. Purple spheres are placed at each of the 8 vertices and at the center of each of the 12 edges. The background behind the cube is dark green.

System Requirements

Criteria for System Requirements

- **Consistent** –[steady] not conflicting or ambiguous.
- **Complete** – describe all possible system inputs and responses.
- **Feasible** – [possible] can be satisfied based on the available resources and constraints.
- **Required** – truly needed and fulfill the purpose of the system.
- **Accurate** – stated correctly.
- **Traceable** – [visible] directly map to functions and features of system.
- **Verifiable** – [provable] defined so can be demonstrated during testing.

Why Fact Finding is important?



Rapidly changing environment of organizations.



Classifies data in 3 categories:

- Functional Requirements
- Non-Functional Requirements
- Usability Requirements.

Functional vs. Nonfunctional Requirements

Functional requirement - something the information system must do

Nonfunctional requirement - a property or quality the system must have

Performance

Security

cost

Results of Incorrect Requirements

- The system may cost more than projected.
- The system may be delivered later than promised.
- The system may not meet the users' expectations and they may not use it.
- Once in production, costs of maintaining and enhancing system may be excessively high.
- The system may be unreliable and prone to errors and downtime.
- Reputation of IT staff is tarnished[discolored] as failure will be perceived as a mistake by the team.

Functional Requirements

Describes **what a system is expected to do (*Functionality*)**.

Describes the **processes** that system will carry out.

Details of the inputs

Details of the output



Functional requirements

Functionality or services that the system is expected to provide.

Example:

Some functional requirements of a university library system

1. The user should be able to search for a library item by specifying a key word.
2. The library staff member should be able to issue a library item by scanning the bar codes of the library item and the student card.
3. Students can reserve a library item on line.

Non Functional Requirements

Describes the quality parameters

Performance criteria

Ability of the system to cope with multi using at multi levels.

Security parameters: resistance and detection of attacks.

Stud can check

NONFUNCTIONAL REQUIREMENT EXAMPLES

OPERATION GROUP

Describes the user needs for using the functionality. The user perceives the system as an electronic tool that helps to automate what would otherwise be done manually. From this point of view, the user is concerned with how well the system operates.

ACCESS SECURITY

The extent to which the system is safeguarded against deliberate and intrusive faults from internal and external sources.

Examples

- a. Employees shall be forced to change their password the next time they log in if they have not changed it within the length of time established as “password expiration duration.”
- b. Users must change the initially assigned login authentication information (password) immediately after the first successful login. The initial password may never be reused.
- c. The payroll system shall ensure that the employee salary data can be accessed only by authorized users. The payroll system shall distinguish between authorized and non-authorized users.
- d. Employees shall not be allowed to update their own salary information, and any such attempt shall be reported to the security administrator.
- e. Only holders of current security clearance can enter the national headquarters building.
- f. The access permissions for system data may only be changed by the system’s data administrator.
- g. Passwords shall never be viewable at the point of entry or at any other time.
- h. Each unsuccessful attempt by a user to access an item of data shall be recorded on an audit trail.
- i. Users shall receive notification of profile changes via preferred communication method of record when profile information is modified.



Basic Differences in Functional and Nonfunctional Requirements

Functional Requirements	Non Functional Requirements
<ul style="list-style-type: none">• Product features	<ul style="list-style-type: none">• Product property
<ul style="list-style-type: none">• Describe the actions with which the user work is concerned	<ul style="list-style-type: none">• Describe the experience of the user while doing the work
<ul style="list-style-type: none">• A functions that can be captured in use cases	<ul style="list-style-type: none">• Non-functional requirements are global constraints on a software system that results in development costs, operational costs
<ul style="list-style-type: none">• A behaviors that can be analyzed by drawing sequence diagrams, state charts, etc	<ul style="list-style-type: none">• Often known as software qualities
<ul style="list-style-type: none">• Can be traced to individual set of a program	<ul style="list-style-type: none">• Usually cannot be implemented in a single module of a program

Fact finding tech

Review - Existing Reports, Forms,
and Procedure Descriptions

Interviews and Discussions with Users

Observation

Questionnaire

Build Prototypes

Joint Requirements Planning [JRP]



1. Review - Existing Reports, Forms, and Procedure Descriptions

1. Review - Existing Reports, Forms, and Procedure Descriptions
2. **Interviews and Discussions with Users**
3. **Observation**
4. Questionnaire
5. **Build Prototypes**
6. **Joint Requirements Planning [JRP]**

1. Review - Existing Reports, Forms, and Procedure Descriptions



Review Existing Reports, Forms, and Procedure Descriptions

- **Source:** External industry wide professional organizations and trade publications
- **Source:** Existing business documents and procedure descriptions within organization
 - Identify **business rules, discrepancies, and redundancies**
 - Be cautious of **outdated material**
 - Obtain **preliminary understanding of processes**
 - **Use as guidelines / visual cues[hints] to guide interviews**

Reviewing existing documentation

- **Most beneficial to new employees or consultants hired to work on a project**
- **Types of documentation that is reviewed:**
 - Company reports
 - Organization charts
 - Policy and Procedures manuals
 - Job Descriptions
 - Documentation of existing systems

Different types of reviews

Code review

Pair programming

Inspection (well defined process)

Walkthrough

Technical review

Code review (sometimes referred to as [peer review](#)) is a [software quality assurance](#) activity in which one or more people examine the [source code](#) of a [computer program](#), either after implementation or during the development process.

- **Pair programming** is a technique in which two programmers work together at one workstation.
 - The **driver**, writes code while the other, the **observer** or **navigator**
 - Reviews each line of code as it is typed in. The two programmers switch roles frequently.
-
- **Inspection** in [software engineering](#) refers to [peer review](#) of any work product by trained individuals who look for defects using a well defined process. An inspection might also be referred to as a [Fagan inspection](#) after Michael Fagan, the creator of a very popular software inspection process.
 - A walkthrough may be quite informal, or may follow the process detailed in IEEE 1028 and outlined in the article on [software reviews](#). to gain feedback about the technical quality or content of the document;
 - A **software technical review** is a form of [peer review](#) in which "a team of qualified personnel ... examines the suitability of the software product for its intended use and identifies discrepancies from specifications and standards. Technical reviews may also provide recommendations of alternatives and examination of various alternatives" ([IEEE](#) Std. 1028-1997, *IEEE Standard for Software Reviews*, clause 3.7).





2. Interviews

1. Review - Existing Reports, Forms, and Procedure Descriptions
2. **Interviews and Discussions with Users**
3. **Observation**
4. Questionnaire
5. **Build Prototypes**
6. **Joint Requirements Planning [JRP]**

Interviews and Discussions with Users



Conduct Interviews and Discussions with Users

Effective way to understand business functions and rules

Time-consuming and resource-expensive

May require multiple sessions to:

- Meet all users
- Understand all processing requirements

Can meet with individuals or groups of users

List of detailed questions prepared

Interviews

Interview - a fact-finding technique whereby the systems analysts collect information from individuals through face-to-face interaction.

- Find facts
- Verify facts
- Clarify facts
- Generate enthusiasm
- Get the end-user involved
- Identify requirements
- Solicit ideas and opinions

The personal interview is generally recognized as the most important and most often used fact-finding technique.

Types of Interviews and Questions

Unstructured interview—conducted with only a general goal or subject in mind and with few, if any, specific questions. The interviewer counts on the interviewee to provide a framework and direct the conversation.

- Much **more casual and unrehearsed**.
- Questions about **skills** and **strengths** can be asked and should be answered as formally.

Structured interview—interviewer has a specific set of questions to ask of the interviewee.

- **Similar questions in a predetermined format to all candidates.**
- **Emphasis tends to be on your past experience and assets you can bring to company**

Open-ended question—question that allows the interviewee to respond in any way.

Closed-ended question—a question that restricts answers to either specific choices or short, direct responses.



Interviews

Advantages



Give analyst opportunity to motivate interviewee to respond freely and openly



Allow analyst to probe for more feedback



Permit analyst to adapt or rework questions for each individual



Can observe nonverbal communication

Disadvantages

- Time-consuming
- Success highly dependent on analyst's human relations skills
- May be impractical due to location of interviewees

Procedure to Conduct an Interview



Select Interviewees

End users
Learn about individual prior to the interview



Prepare for the Interview

interview guide



Conduct the Interview

Summarize the problem
Offer an incentive for participation
Ask the interviewee for assistance



Follow Up on the Interview

Memo that summarizes the interview

Sample Interview Guide

<p>Interviewee: Jeff Bentley, Accounts Receivable Manager Date: January 19, 2003 Time: 1:30 P.M. Place: Room 223, Admin. Bldg. Subject: Current Credit-Checking Policy</p>		
Time Allocated	Interviewer Question or Objective	Interviewee Response
1 to 2 min.	Objective Open the interview: <ul style="list-style-type: none">• Introduce ourselves• Thank Mr. Bentley for his valuable time.• State the purpose of the interview — to obtain an understanding of the existing credit-checking policies.	
5 min.	Question 1 What conditions determine whether a customer's order is approved for credit? Follow-up	
5 min.	Question 2 What are the possible decisions or actions that might be taken once these conditions have been evaluated? Follow-up	
3 min.	Question 3 How are customers notified when credit is not approved for their order? Follow-up	

(continued)

Sample Interview Guide (concluded)

1 min.	<p>Question 4 After a new order is approved for credit and placed in the file containing orders that can be filled, a customer might request that a modification be made to the order. Would the order have to go through credit approval again if the new total order cost exceeds the original cost?</p> <p>Follow-up</p>	
1 min.	<p>Question 5 Who are the individuals who perform the credit checks?</p> <p>Follow-up</p>	
1 to 3 min.	<p>Question 6 May I have permission to talk to those individuals to learn specifically how they carry out the credit-checking process?</p> <p>Follow-up If so: When would be an appropriate time to meet with each of them?</p>	
1 min.	<p>Objective Conclude the interview:</p> <ul style="list-style-type: none">• Thank Mr. Bentley for his cooperation and assure him that he will be receiving a copy of what transpired during the interview.	
21 minutes	Time allotted for questions and objectives	
9 minutes	Time allotted for follow-up questions and redirection	
30 minutes	Time allotted for interview (1:30 p.m. - 2:00 p.m.)	
<p>General Comments and Notes:</p>		

Prepare for the Interview



Types of Questions to Avoid

- Loaded/ burdened questions
- Leading/important questions
- Biased/ unfair questions



Interview Question Guidelines

- Use clear and concise language.
- Don't include your opinion as part of the question.
- Avoid long or complex questions.
- Avoid threatening questions.
- Don't use "you" when you mean a group of people.

Conduct the Interview

1

Dress to match interviewee

2

Arrive on time
•Or early if need to confirm room setup

3

Open interview by thanking interviewee

4

State purpose and length of interview and how data will be used

5

Monitor the time

6

Ask follow-up questions
•Probe until you understand
•Ask about exception conditions ("what if...")

Interviewing Do's and Don'ts

Do

- Dress appropriately
- Be courteous
- Listen carefully
- Maintain control of the interview
- Probe/investigate
- Observe mannerisms and nonverbal communication
- Be patient
- Keep interviewee at ease
- Maintain self-control
- Finish on time

Don't

- Assume an answer is finished or leading nowhere
- Reveal verbal and nonverbal clues
- Use jargon
- Reveal personal biases
- Talk more than listen
- Assume anything about the topic or the interviewee
- Tape record (take notes instead)

Body Language and Proxemics

Body language – the nonverbal information we communicate.

- Facial disclosure
- Eye contact
- Posture

Proxemics – the relationship between people and the space around them.

- Intimate zone—closer than 1.5 feet
- Personal zone—from 1.5 feet to 4 feet
- Social zone—from 4 feet to 12 feet
- Public zone—beyond 12 feet

Preparation is the key to success

Review own skills, experiences and qualities

Research organisation

- Websites, reports, articles, company literature, etc

Research job and occupational area

- Job description – or similar
- Current issues

Prepare your questions

Practice

After the Interview



Review own performance

what went well
what went badly
what you wished you had said
prepare for next stage



Invitation to second / final round interviews

assessment centre
psychometric testing
panel interview



Rejection letter / email

if you can request feedback - use it



3. Observation

1. Review - Existing Reports, Forms, and Procedure Descriptions
2. **Interviews and Discussions with Users**
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6. **Joint Requirements Planning [JRP]**

3. Observation



It is the process of **recognizing** and **noting** **people**, **objects** and **occurrences** to obtain **information**

Analyst need

- to observe how documents are actually handled &
- how processes are carried out

Objective: to get as close as possible to the real system being studied

It can obtain **First Hand Information**

As an observer , analyst follow a set of rules

They should be more interested in listening than talking

They should listen with a sympathetic and genuine interest

They should not argue with the persons being observed

- When human observers are used four alternative methods are used

1. **Natural or contrived (sense of artificiality):**

Natural observation occurs in a setting such as employees place of work.

Contrived [unnatural] is set by the observer[viewer] in a place like laboratory

2. **Obtrusive [Noticeable] or Unobtrusive:**

Obtrusive take place when **respondent knows he is being observed.**

Unobtrusive takes place in a contrived way such as behind a one-way mirror

3. Direct or Indirect:

Direct takes place when the analyst observes the system at work.

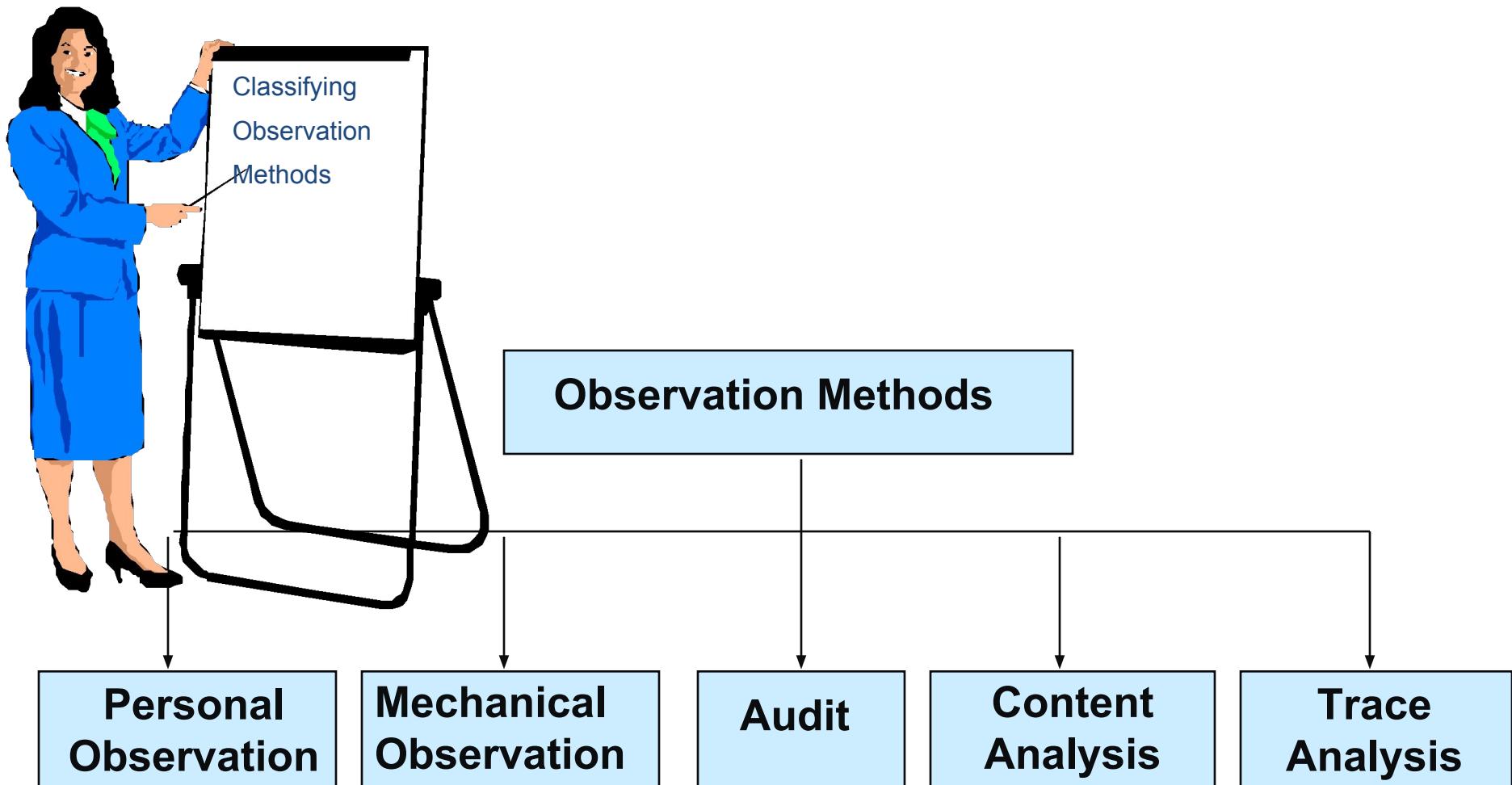
Indirect analyst uses mechanical devices such as camera and videotapes to capture information

4. Structured or unstructured:

In structured observer looks for and records specific action.

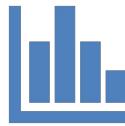
Unstructured place the observer in a situation to observe whatever might be pertinent[Relevant] at the time

A Classification of Observation Methods



Observation

Advantages



Data gathered can be very reliable



Can see exactly what is being done in complex tasks



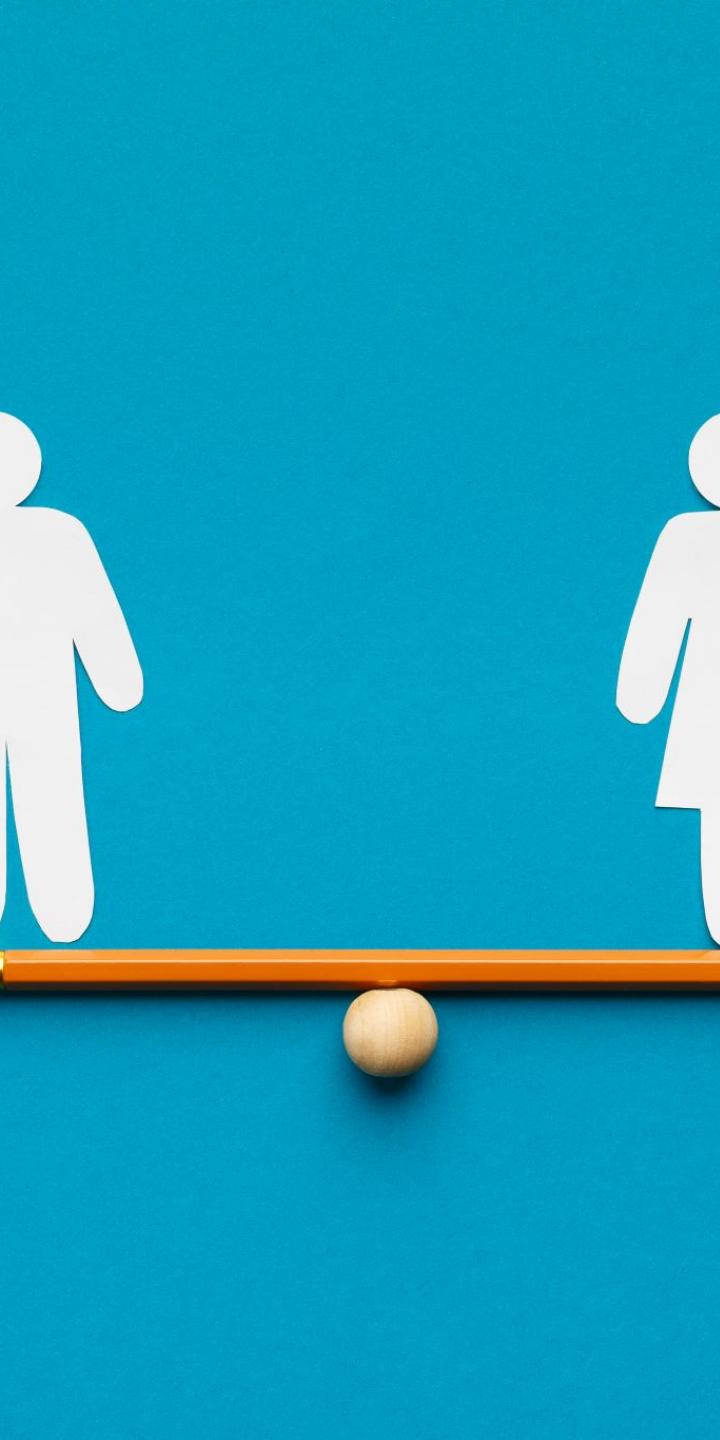
Relatively inexpensive compared with other techniques



Can do work measurements

Disadvantages

- People may perform differently when being observed
- Work observed may not be representative of normal conditions
- Timing can be inconvenient
- Interruptions
- Some tasks not always performed the same way
- May observe wrong way of doing things



Observation Guidelines

- Determine the who, what, where, when, why, and how of the observation.
- Obtain permission from appropriate supervisors.
- Inform those who will be observed of the purpose of the observation.
- Keep a low profile.
- Take notes.
- Review observation notes with appropriate individuals.
- Don't interrupt the individuals at work.
- Don't focus heavily on trivial[un-imp] activities.
- Don't make assumptions.



Observation



4. Questionnaire

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Questionnaire

- It allows analyst to collect information about various aspects of a system from a large number of persons
- Use of standardized question format can yield more data
- It does not allow analyst to observe the expressions of respondent



How Healthy Is Your Lifestyle?

Instructions: Take this Lifestyle Assessment to determine your lifestyle score. Mark the box that best describes your current health practice or status for each item below.

	Column A	Column B	Column C
1 Smoking Do you smoke?	<input type="checkbox"/> Currently smoke	<input type="checkbox"/> Ex-smoker	<input type="checkbox"/> Never smoked
2 Weight Pounds overweight	<input type="checkbox"/> Excessively overweight 20+ excess pounds		<input type="checkbox"/> Not overweight
3 Physical Activity No. of active days/wk (30+ min/day)	<input type="checkbox"/> No regular physical activity program		
4 Fruits and Vegetables No. of servings/day	<input type="checkbox"/> Less than 5 servings fruits and vegetables each day		
5 Breads and Cereals Type eaten	<input type="checkbox"/> Eat mostly white bread & refined cereals		
6 Animal Fat/High Cholesterol Foods Typical intake	<input type="checkbox"/> Regularly eat high fat (steak, hamburger, / bacon, hot dogs, chicken), eggs, w/ cheese, ice cream		
7 Sleep/Rest Hours sleep/night Feel rested or tired?	<input type="checkbox"/> Usually get less than 7 hours sleep/night		
8 Alcohol Typical number of drinks in a day	<input type="checkbox"/> Men 3 or fewer, women 1 or fewer, drink		
9 Regular Meals Do you eat breakfast?	<input type="checkbox"/> S		
10 Happiness/Life Satisfaction Happy with life?	<input type="checkbox"/> N		
11 Social Support/Interaction With family and friends?			
12 Spiritual Connection Do you spend time developing your spiritual life?			
Add # of checked boxes			
Name _____			
Personal Goals Write out your personal wellness goals below. Start with those likely to change. 1. _____ 2. _____ 3. _____			

Scoring Instructions

1. Add number of checked boxes in columns B or C in first 4 rows.
2. Add number of checked boxes in column C in rows 1-12 and "The Big Four".
3. Add number of checked boxes in column C in rows 1-12 and "Minimum Plus".

Recording Scores—After adding up your scores, record them with the following standards.

Standards	1. % of checks in col. B or C, rows 1-4 "The Big Four"	2. % of checks in col. B or C, rows 1-12 "Minimum Plus"
Ideal score:	100%	100%
Doing well:	80+	80+
Needs improving:	60+	60+
Caution, major change needed:	40+	40+

Lifestyle Scores

Your lifestyle scores (write in) →

Standards	1. % of checks in col. B or C, rows 1-4 "The Big Four"	2. % of checks in col. B or C, rows 1-12 "Minimum Plus"
Ideal score:	100%	100%
Doing well:	80+	80+
Needs improving:	60+	60+
Caution, major change needed:	40+	40+

Recommendations: Mark any lifestyle practice below that you need to improve.

- Stop smoking.
- Achieve and maintain a healthy weight.
- Get 30+ minutes of moderately intense physical activity most (preferably all) days of the week.
- Eat 5-9 servings of fruits and vegetables every day.
- Choose whole-grain breads and cereals.
- Limit intake of animal fats and cholesterol.
- Get adequate sleep, 7-8+ hours daily, and take time to relax each day.
- Avoid alcohol.
- Eat regular meals, breakfast each day, and snacking.
- Get help, if needed, to resolve problems and happier life.
- Nurture supportive relationships with family and friends.
- Interact frequently.
- Develop a spiritual life that provides direction, strength, growth, and encouragement.

Personal Goals
 Write out your personal wellness goals below. Start with those likely to change.
 1. _____
 2. _____
 3. _____

What is a Questionnaire?

A set of Questions designed to generate the statistical information from a specific demographic need to accomplish the research objectives

study of a population based on factors such as age, race, and sex. ...
 Governments, corporations, and nongovernment organizations

- 
- Surveys are more than a collection of unambiguous[clear cut] questions
 - How questions are specified and put together will influence the respondents' willingness to participate & the responses they provide

The Major Decisions in Questionnaire Design

- 1. Content** - What should be asked?
- 2. Wording** - How should each question be phrased?
- 3. Sequence** - In what order should the questions be presented?
- 4. Layout** - What layout will best serve the research objectives?

The most difficult step is specifying exactly what information is to be collected from each respondent

Advantages of questionnaire



It is economical



It can be administered to a large number of individuals simultaneously



Respondents feel greater confidence



It places less pressure on subjects for immediate responses

Disadvantages of questionnaire

1. Low percentage of returns
2. Many people have difficulty expressing themselves in writing
3. Many dislike writing

so interview is superior to questionnaire

Two types of questionnaire are there

1. Open-ended questionnaire

2. Closed-ended questionnaire

Open-ended questionnaire

Open-ended question – question that allows the interviewee to respond in any way.

- It requires no response direction or specific response
- They are used to learn about **feelings, opinions, and general experiences**
- It is used **to explore a process or problem**
- Main drawback is the difficulty of interpreting subjective answers and tedious responses

Closed-ended questionnaire

- **Closed-ended question** – a question that restricts answers to either specific choices or short, direct responses.
- In this responses are presented as a set of alternatives
- It is appropriate **for securing factual[accurate] information**
- **They are quick to analyze**
- There are five major varieties of closed questions

1. Fill-in-the blanks
2. Dichotomous[division or contrast]
3. Priority/Rank based questions
4. Multiple choice questions
5. Rating scale questions

Types of Fixed-Format Questions

- dichotomous questions
- Rating questions
- Ranking questions

Examples:

Rank the following transactions according to the amount of time you spend processing them.

- % new customer orders
- % order cancellations
- % order modifications
- % payments

The implementation of quality discounts would cause an increase in customer orders.**rating**

- Strongly agree
- Agree
- No opinion
- Disagree
- Strongly disagree

Is the current accounts receivable report that you receive useful?

Dichotomous

- Yes
- No

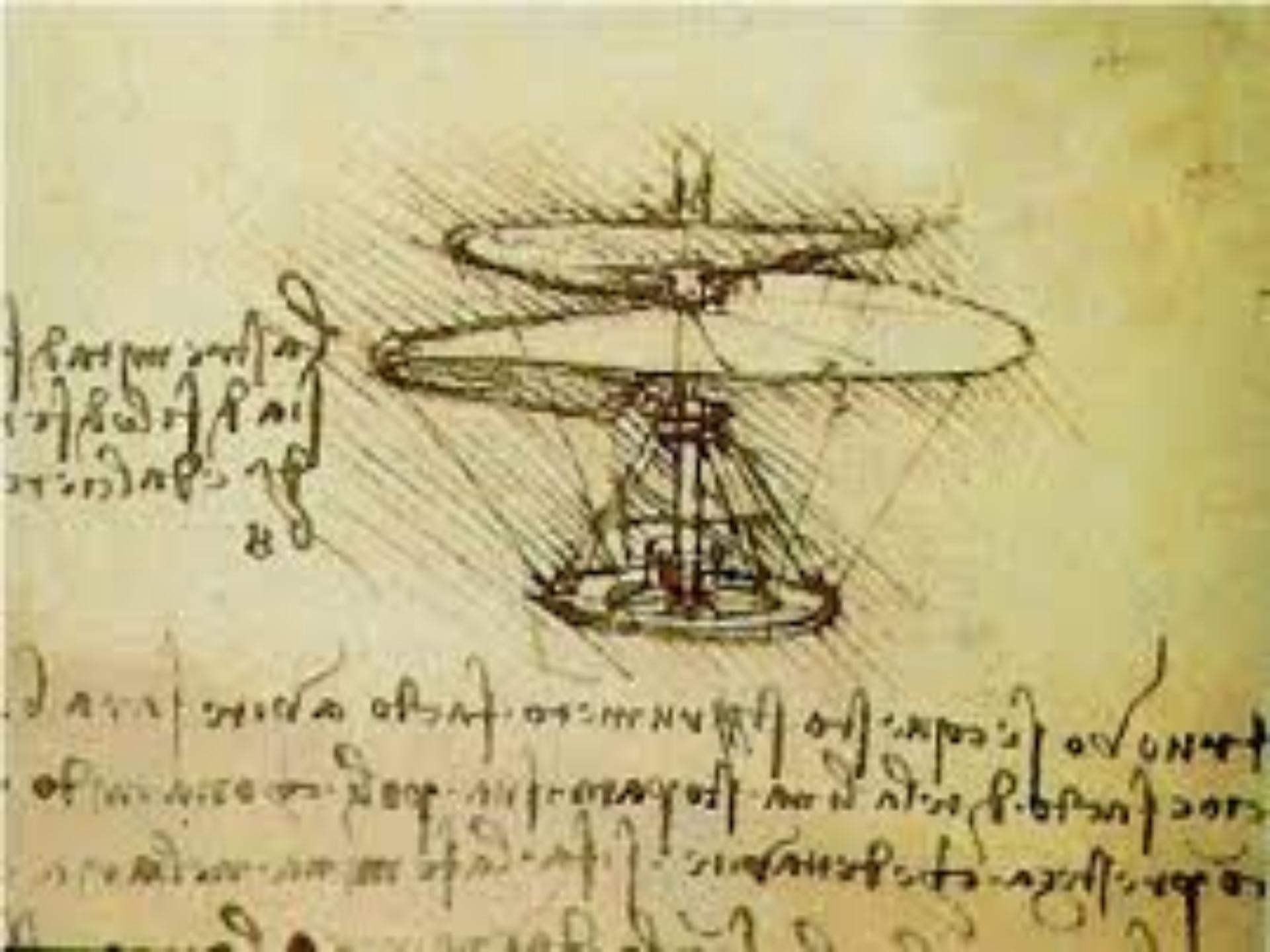


5. Prototypes

1. Review - Existing Reports, Forms, and Procedure Descriptions
2. **Interviews and Discussions with Users**
3. **Observation**
4. Questionnaire
5. **Build Prototypes**
6. **Joint Requirements Planning [JRP]**



6. Build Prototypes



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prototyping – the act of building a small-scale, representative or working model of the users' requirements in order to discover or verify those requirements.

- Preliminary working model of a larger, more complex system
Discovery, design, evolving prototypes
- Operative
Working model to provide “look and feel”
- Focused to **accomplish single objective**
- **Quick**

Build prototypes

- Prototyping is the process of quickly putting together a prototype in order to test various aspects of a design.
- Treated as an integral part of the system design process



Prototype strategies

Three strategies are used in the development of application prototypes. They are:

- **Prototype the screens only**
- **Prototype the processing procedures only**
- **Prototype the mainline functions only**

Discovery Prototyping

Advantages

Can experiment to develop understanding of how system might work

Aids in determining feasibility and usefulness of system before development

Serves as training mechanism

Aids[assist] in building test plans and scenarios

May minimize time spent on fact-finding

Disadvantages

- Developers may need to be trained in prototyping
- Users may develop unrealistic expectations
- Could extend development schedule



6. Joint Requirements Planning [JRP]

- 1. Review - Existing Reports, Forms, and Procedure Descriptions**
- 2. Interviews and Discussions with Users**
- 3. Observation**
- 4. Questionnaire**
- 5. Build Prototypes**
- 6. Joint Requirements Planning [JRP]**

6. Joint Requirements Planning

Joint requirements planning (JRP) – a process whereby highly structured group meetings are conducted for the purpose of analyzing problems and defining requirements.

JRP is a subset of a more comprehensive **joint application development** or **JAD** technique that encompasses the entire systems development process.

JRP Participants

Sponsor

Facilitator

Users and Managers

Scribes

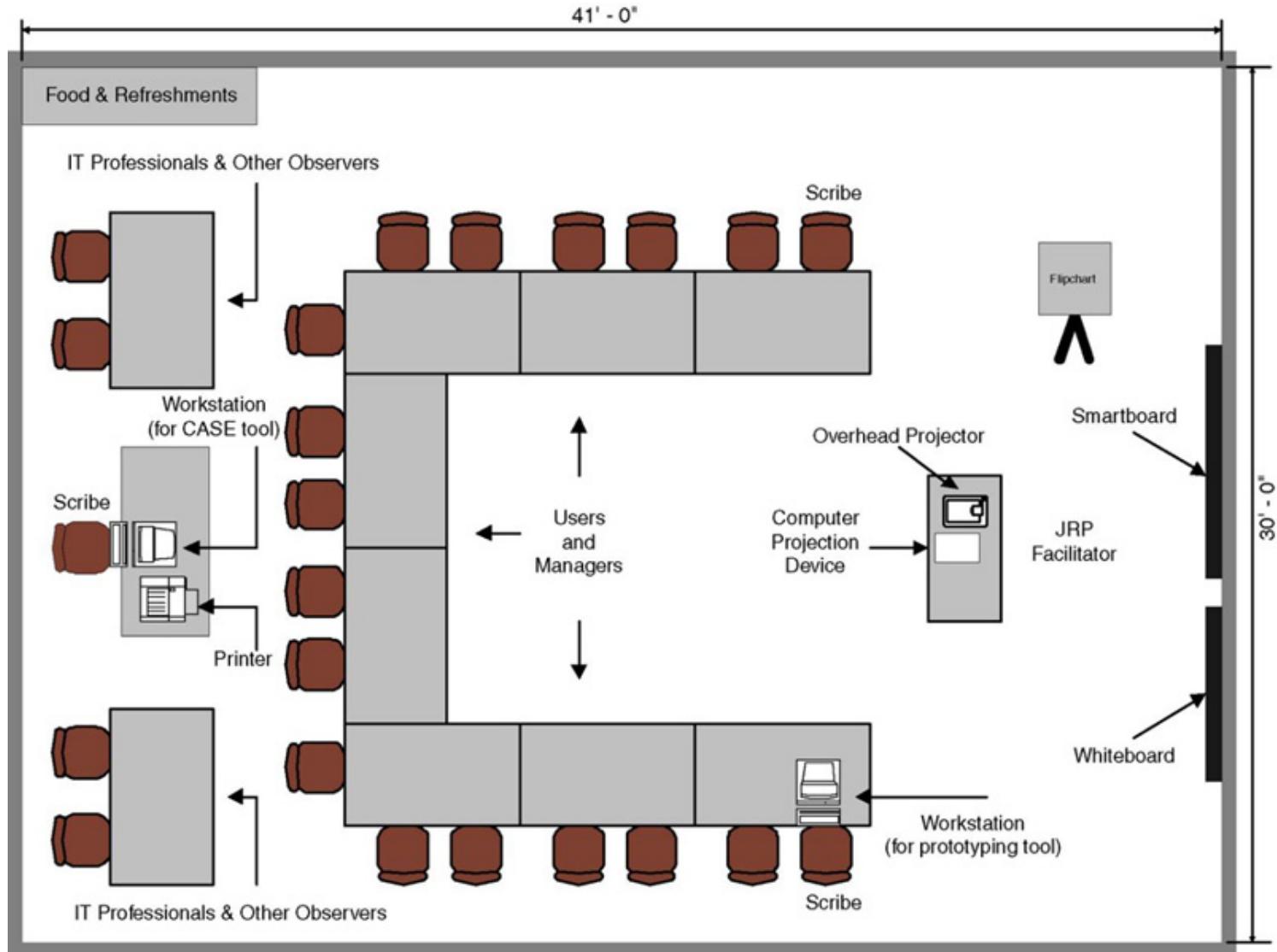
IT Staff



Steps to Plan a JRP Session

1. Selecting a location
 - Away from workplace when possible
 - Requires several rooms
 - Equipped with tables, chairs, whiteboard, overhead projectors
 - Needed computer equipment
2. Selecting the participants
 - Each needs release from regular duties
3. Preparing the agenda
 - Briefing documentation
 - Agenda distributed before each session

Typical Room Layout for JRP session



scribe



Guidelines for Conducting a JRP Session

Do	Do not unreasonably deviate from the agenda
Stay on	Stay on schedule
Ensure	Ensure that the scribe is able to take notes
Avoid	Avoid the use of technical jargon
Apply	Apply conflict resolution skills
Allow	Allow for ample breaks
Encourage	Encourage group consensus
Encourage	Encourage user and management participation without allowing individuals to dominate the session
Make	Make sure that attendees abide by the established ground rules for the session

Benefits of JRP

JRP actively **involves** users and management in the development project (encouraging them to take “ownership” in the project).

JRP **reduces** the amount of time required to develop systems.

When JRP **incorporates** prototyping as a means for confirming requirements and obtaining design approvals, the benefits of prototyping are realized



Questions??

- guesssssss



Thank you !!!