

# **System Development Methods**

## **CT00046-3-2**



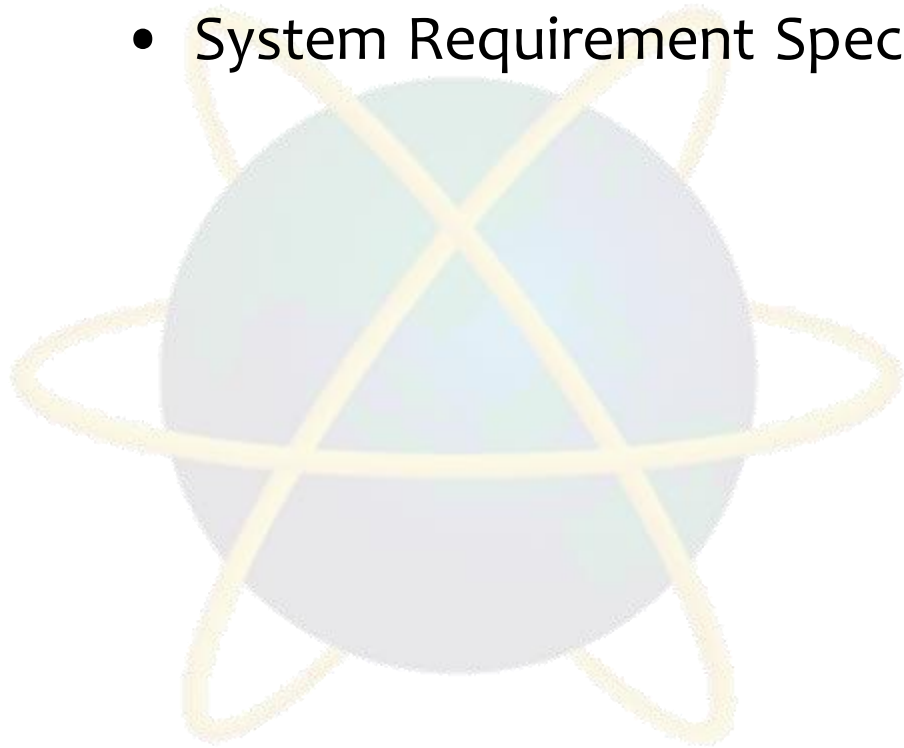
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# **System Development Planning**

## **Part 2**

# Topic & Structure of the Lesson

- Requirement Engineering
  - Stages
- Review Facts Finding Methods
- System Requirement Specifications (SRS)



# Learning Outcome

- At the end of the module, you should able to:
  - Explain the purpose, structure and scope of modern Information System Development Methodologies and select and justify appropriate methods of analysis, design and implementation for a particular component or application, be it traditional, multimedia or web based.



# Key Terms you must be able to use

- If you have mastered this topic, you should be able to use the following terms correctly in your assignments and exams:
  - Explain Requirement Engineering stages
  - Discuss the benefits and setbacks of various Facts Finding Methods
  - Create various System Requirement statements.
  - Risk Management

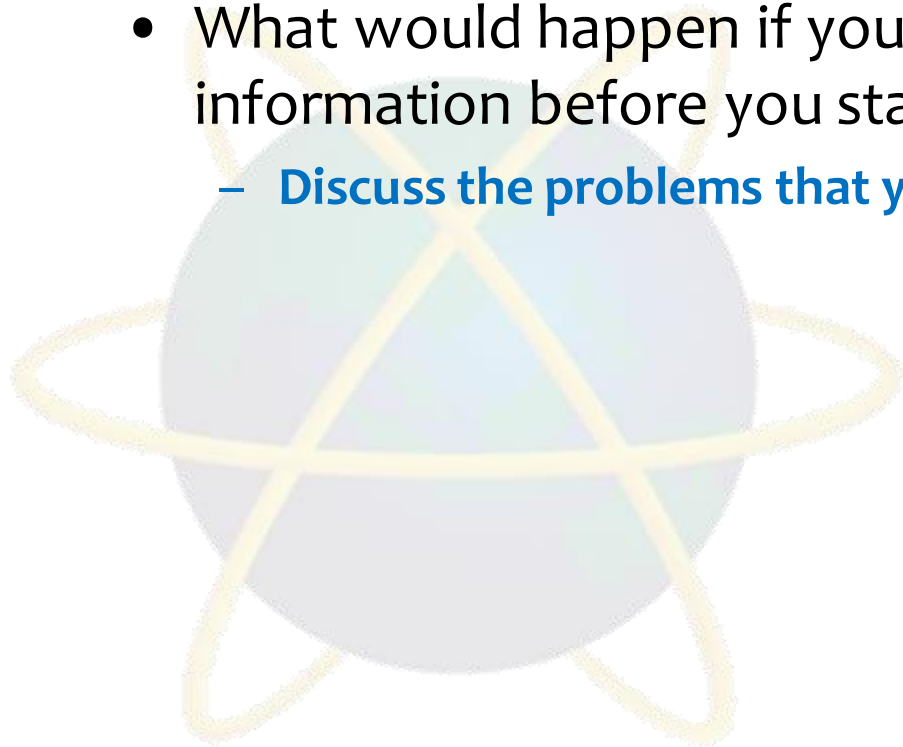
# Information System Requirements

- Requirements
  - A guideline of what the new IS should do to archive its objectives.
- High Level Requirement.
  - Overall goal of the system.
  - Determined at initial planning stage by the analyst
- Low Level Requirements
  - More detailed functions
  - Determined by gathering requirements from varies sources.
  - Later tuned into **Systems Requirement Specifications (SRS)**



# Quick Quiz

- What would happen if you don't collect enough / accurate information before you start your project?
  - **Discuss the problems that you would face later.**



# Requirement Engineering

## Main Activities ... a review

- RE - Process of gathering, analyzing and finalizing requirements for the project.
  - AKA; **Requirement Gathering, System Investigation.**
- Requirement Elicitation (Requirement gathering)
  - Collect data about the old system and the new system to be built
- Requirement Compilation
  - Gathering / merging the collected data into one location
- Requirement Validation and Analysis
  - Narrowing / filtering, keeping only important and achievable requirements.
- Output
  - **System Requirement Specification (SRS)**





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# Requirement Engineering (RE)

- Basically asking the following questions to gather facts, WHO, WHAT, WHERE, WHEN, HOW, WHY.

- Popular RE Techniques;

- Interview
- Questionnaires / Survey
- Observation
- Document Review
- Data Mining
- Brainstorming
- Focus Group

- A focus group is a group interview involving demographically similar people or people with common traits/experiences.

- etc

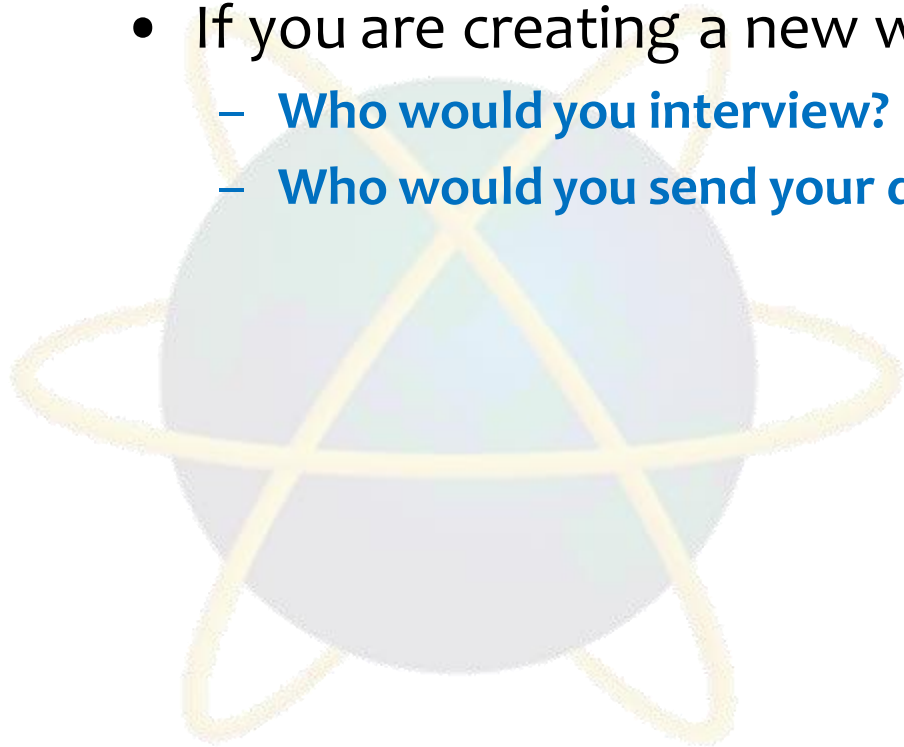


“One accurate  
measurement  
is worth a thousand  
expert opinions.”  
(Utlich's Law)



# Quick Quiz

- If you are creating a new website for APU;
  - Who would you interview?
  - Who would you send your questionnaires?



# System Requirement Specifications (SRS)

- Structured collection of information that contains the finalized requirements of a system
- Contains finalized requirement for System Design
- Popular Requirement groups;
  - Functional Requirements
  - Non-Functional Requirements
  - Architecture Requirements
  - Business Requirements
  - System / Technical Requirements
  - User / Stakeholders Requirements
  - Security Requirements
  - User Interface Requirements, etc



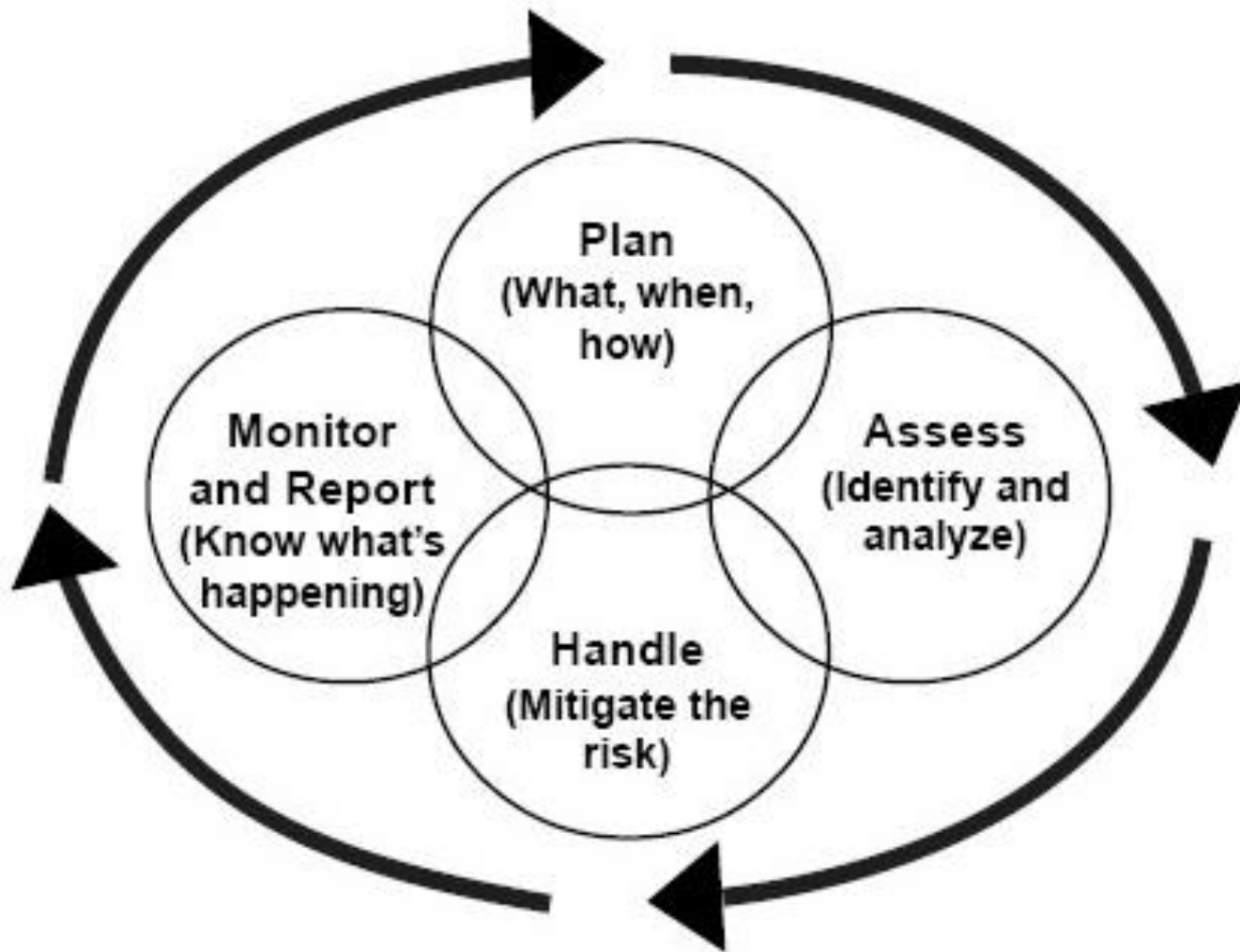
# Risk Management

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- Process of identifying potential risk to the project / products and getting prepared for it.
- Many projects failed due to;
  - Developer did not identifying all risks
  - Developer Ignoring risks
  - Developer did not prepare ‘backup plan’ for risk
  - Developer did not monitor risk.



# Risk Management Process



# Risk Management Model

- Risk is the product of **Probability vs impact**  
(Risk = Probability X Impact)

		Probability		
		Low	Medium	High
Impact	Severe/Critical	Substantial management required	Must monitor and manage risks	Extensive management crucial
	Moderate	May accept risks but monitor them	Management effort useful	Management effort required
	Limited/Minor	Accept risks	Accept risks but monitor them	Monitor and manage risks

# Risk Management Strategies

- Risk Transfers
  - Accept that the risk **MAY** happen. Transferring the risk to a vendor or customer (who are aware of the risk but willing to face it if it comes).
- Risk Avoidance
  - Accept that the risk **MAY** happen and taking alternative path to avoid the risk from happening.
  - Original design may change.
- Risk Reduction
  - Accept that the risk **WILL** happen and taking additional steps to reduce the risk form occurring.
  - May increase cost and delay in delivery time.
- Risk Acceptance
  - Accept that the risk **WILL** happen and implement total solution.
  - Costly and time consuming.



# Summary of Main Teaching Points

- RE Stages
- Fact-finding techniques
- SRS
- IT Risk Management



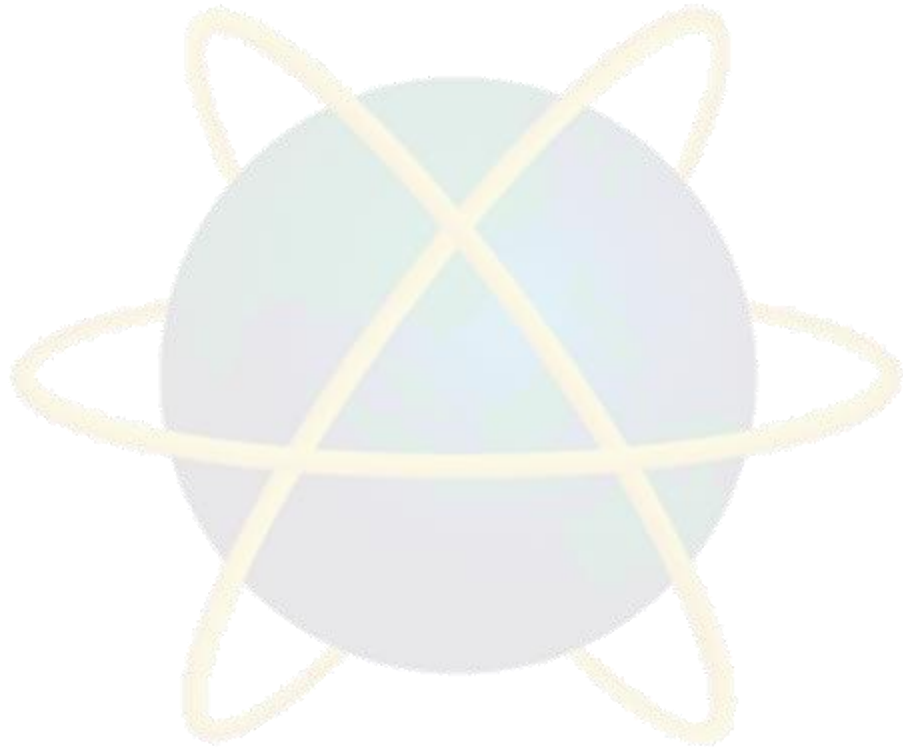


# Question & Answer



# Next Session

- System Analysis – Methods and Tools



# Tutorial

## 1. Individual Work;

- a) For EACH Requirement Gathering Methods, explain a situation where it CAN BE USED and NOT SUITABLE TO BE USED.
- b) Design a simple **questionnaire** (using the Likert-scale format) to find out the effectiveness of Webspace-2 in APU.

## 2. Group work;

Webspace-2 was built on various requirements.

- a) Write 2 requirement statements for each TYPES you studied here, for Webspace-2
- b) Identify the RISKS involved if you are given a project to upgrade Webspace-2. Show the risk in the Risk Analysis Table.