

# BEFORE WE START... LET'S TALK ABOUT YOU

IT5004 > Quizzes > Quiz Lecture 1 Survey

[2320] 2023/2024 Semester...

[Home](#)

[Announcements](#)

[Assignments](#)

[Discussions](#)

[Grades](#)

[People](#)

[Pages](#)

[Files](#)

[Syllabus](#)

[Outcomes](#)

[Rubrics](#)

[Quizzes](#)

[Modules](#)

[Collaborations](#)

[New Analytics](#)

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[Preview](#)

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## Quiz Lecture 1 Survey

Quiz type Ungraded survey

Points

Shuffle answers No

Time limit No time limit

Multiple attempts No

View responses Always

Show correct answers No

One question at a time No

Anonymous submissions No

Due	For	Available from	Until
-	Everyone	18 Jan at 0:00	25 Jan at 23:59

[Preview](#)

# **LECTURE 1**

# **INTRODUCTION**

**LEK HSIANG HUI**

# LEARNING OBJECTIVES

**At the end of this lecture, you should understand:**

- What an information system is
- The role of (IT) business analyst
- What methodologies, models, tools, and techniques are
- Stages in building information systems



# **WHAT IS AN INFORMATION SYSTEM?**

What is an  
information  
system?

Role of (IT)  
Business  
Analyst

Methodologies,  
Models , Tools  
and Techniques

SDLC

Successful  
System  
Development



**Systems are built  
to make the  
business more  
competitive**

A group of six diverse business professionals in suits are cheering with their fists raised, set against a white background.

Crucial to the  
success of  
modern business  
organizations

# INFORMATION SYSTEMS



# **TYPES OF INFORMATION SYSTEMS**

**DECISION SUPPORT  
SYSTEM (DSS)**

**EXECUTIVE  
INFORMATION  
SYSTEM (EIS)**

**ECONOMIC AND  
COMPETITIVE  
DATA**

**DOCUMENTS**

**MANAGEMENT  
INFORMATION  
SYSTEM (MIS)**

**TRANSACTION  
DATA**

**COMMUNICATION  
AND OFFICE SUPPORT  
SYSTEM**

**TRANSACTION  
PROCESSING  
SYSTEM (TPS)**



Collection of  
inter-related  
components

Use to complete  
a business task



## GROUP DISCUSSION

Suppose we are designing the information system that powers the Grab business

1. Discuss with fellow classmates seated around you and come up with a list of the key IT components that powers the Grab Information System
2. Post your list onto Canvas discussion forum

# **ROLE OF (IT) BUSINESS ANALYST**

What is an  
information  
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SDLC

Successful  
System  
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Your Job (System  
Analyst/IT Business  
Analyst)

=

Solve Problems



**problem?**

# **TYPES OF PROBLEMS**

Company wants  
to sell their  
products online

What are the category  
of products?

How to take payment  
online?

How to account for  
inventory stock level?

# **TYPES OF PROBLEMS**

Production  
needs to plan  
how much to  
produce each  
week

How to estimate  
demand and suggest a  
production plan?

What sorts of  
forecasting mechanism  
will be helpful?

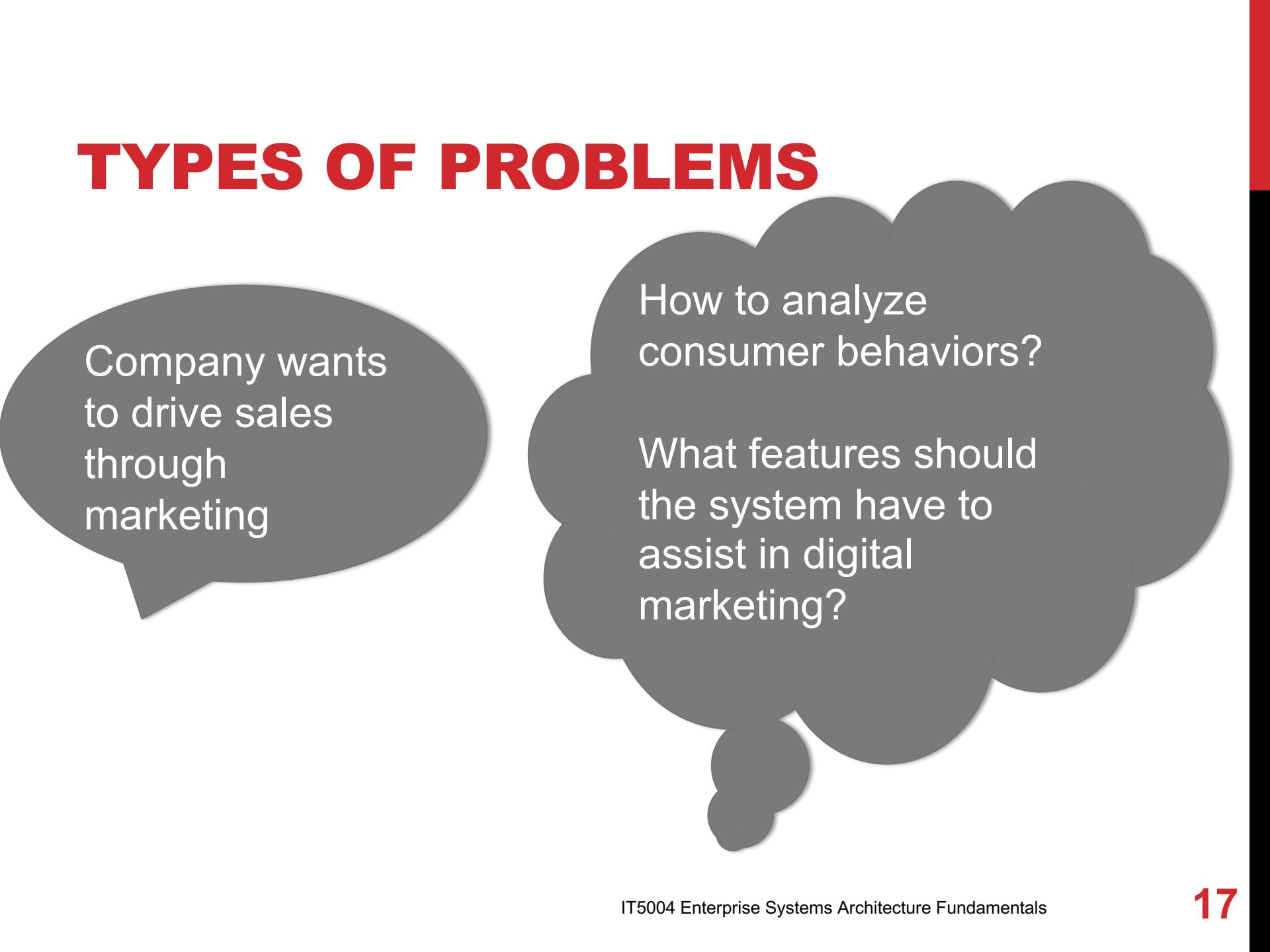
# **TYPES OF PROBLEMS**

Company wants  
to reduce  
operating cost  
and optimize  
productivity

What IT solution can  
be used to automate  
processes?

How can we measure  
cost/productivity?

# **TYPES OF PROBLEMS**



Company wants  
to drive sales  
through  
marketing

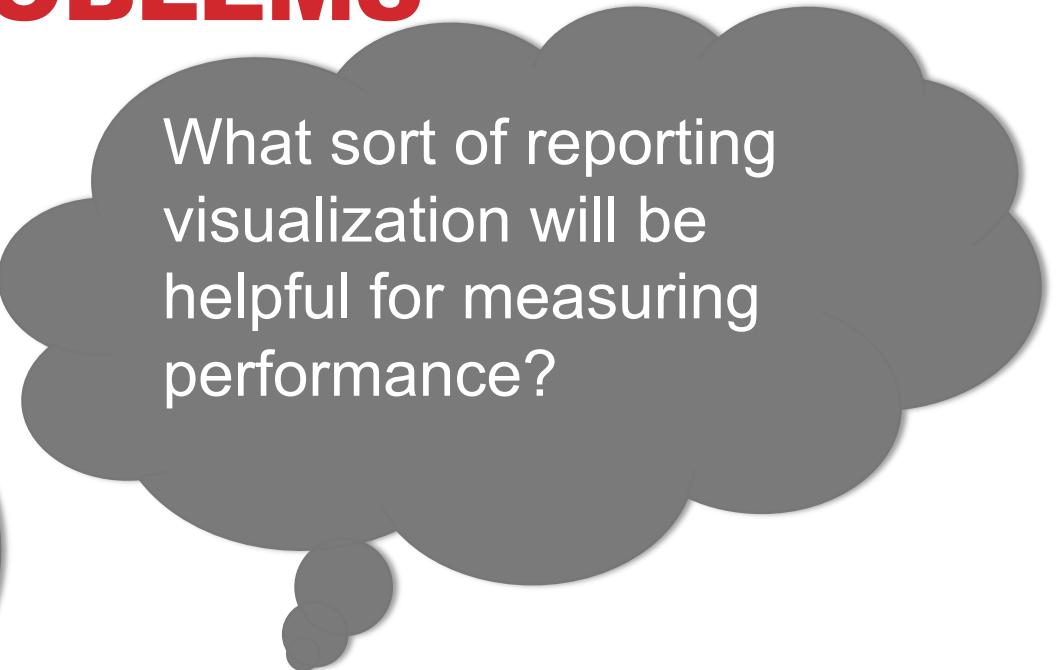
How to analyze  
consumer behaviors?

What features should  
the system have to  
assist in digital  
marketing?

# **TYPES OF PROBLEMS**



Management wants to know the financial status of the company

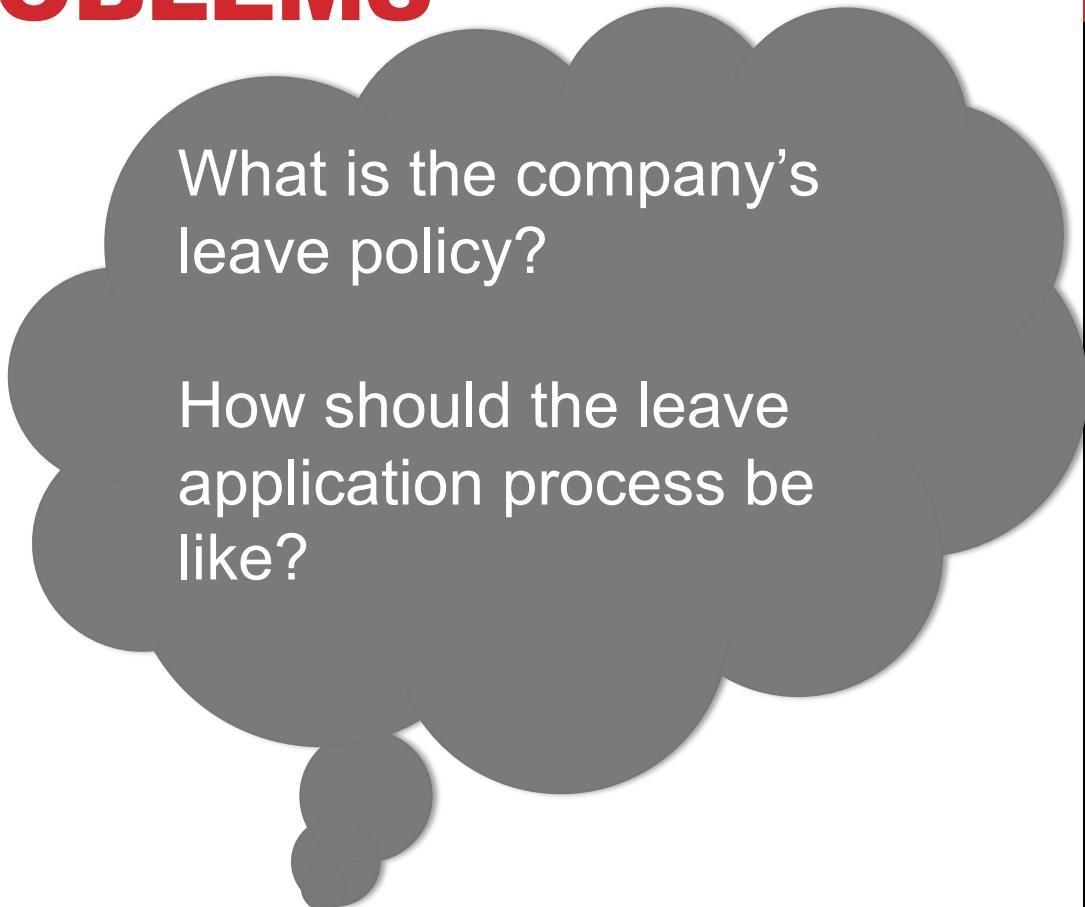


What sort of reporting visualization will be helpful for measuring performance?

# **TYPES OF PROBLEMS**



HR needs to process employee leave/MC/etc requests



What is the company's leave policy?

How should the leave application process be like?

# **ROLE OF (IT) BUSINESS ANALYST**

**Perform Business Analysis**

Identify the  
business  
needs

Develop  
/Implement  
solutions



# IT BA

Works in the context of IT projects

Requirement analysis and designing systems

Liaises with business and technical stakeholders



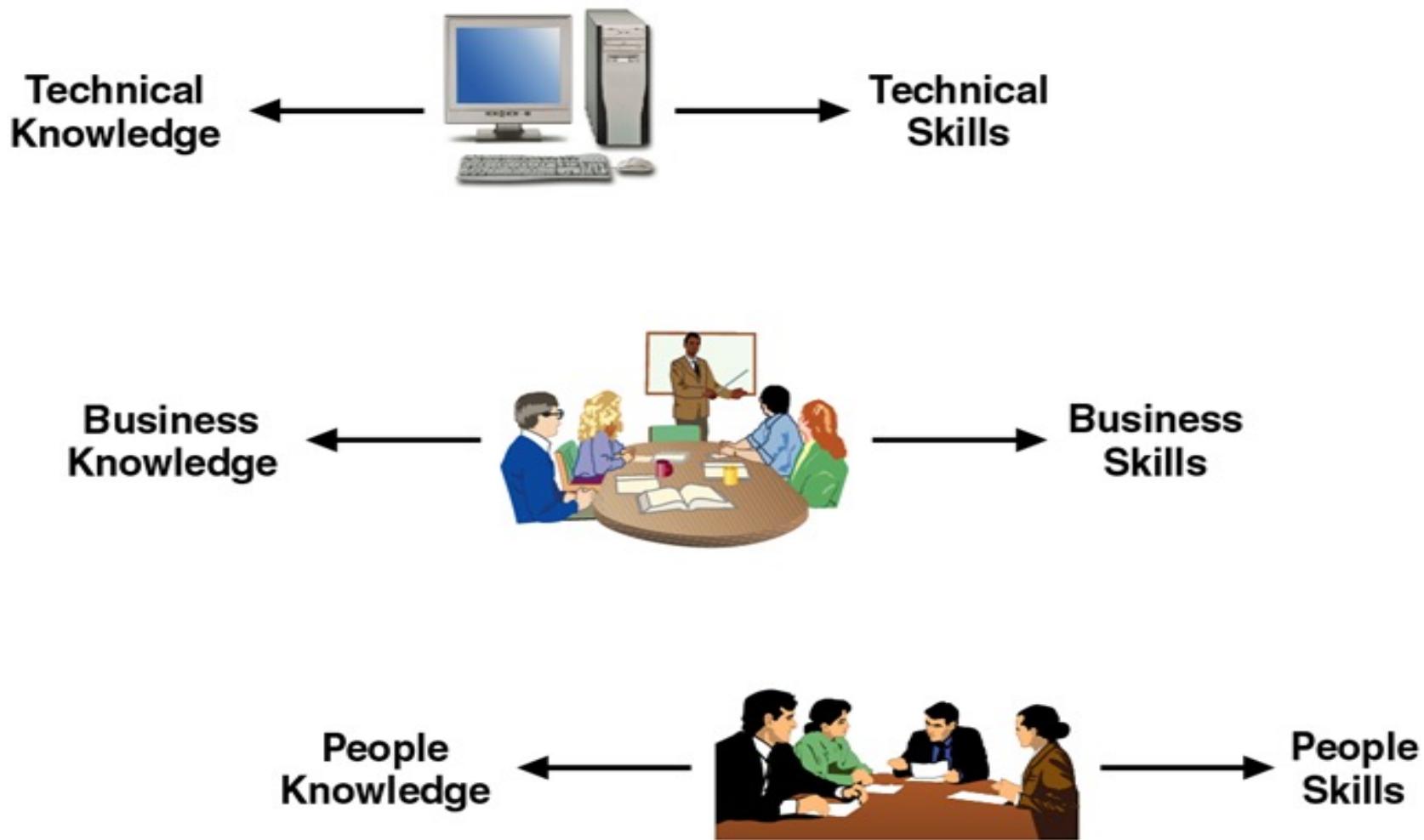
# STAKEHOLDERS

Person or organization affected by a project

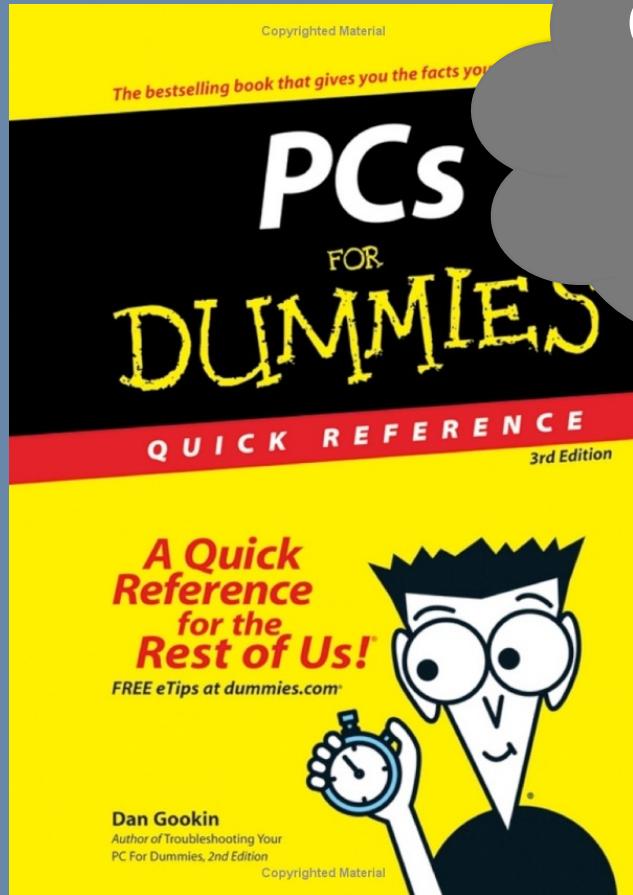
Can be users, customers  
(who do not use the system directly)



# **KNOWLEDGE AND SKILLS REQUIRED OF AN IT BUSINESS ANALYST**



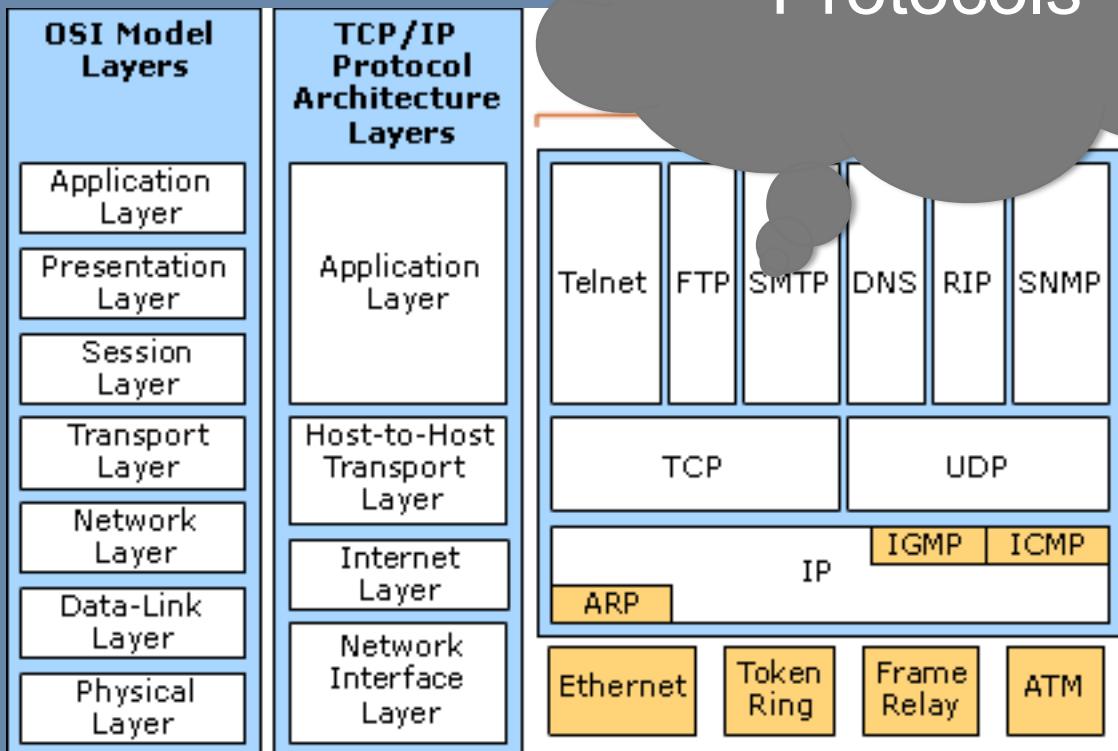
# TECHNICAL KNOWLEDGE AND SKILLS



Computers and  
How it works  
-DUH?!



# TECHNICAL KNOWLEDGE AND SKILLS



Networks and  
Protocols



# TECHNICAL KNOWLEDGE AND SKILLS

Database and  
database  
management  
system

Y U NO TAKE



DATABASE COURSE?



# TECHNICAL KNOWLEDGE AND SKILLS

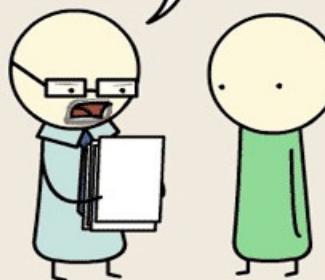
## PYTHON

## JAVA

## C++

## UNIX SHELL

THIS IS PLAGIARISM.  
YOU CAN'T JUST "IMPORT ESSAY."



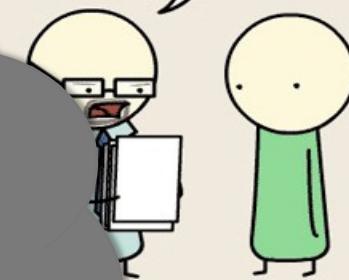
I'M TWO PAGES IN AND I STILL  
HAVE NO IDEA WHAT YOU'RE SAYING.



I ASKED FOR ONE COPY,  
NOT FOUR HUNDRED.

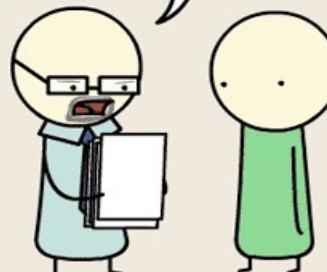


I DON'T HAVE PERMISSION TO  
READ THIS.



## ASSEMBLY

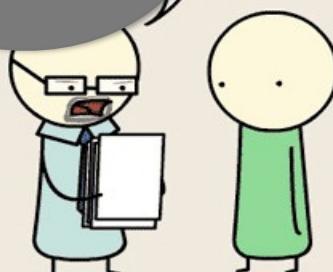
DID YOU REALLY HAVE TO REDEFINE EVERY  
WORD IN THE ENGLISH LANGUAGE?



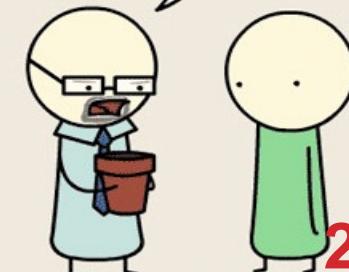
A NULL TERM



END ELSE



THIS IS A FLOWER POT.



# TECHNICAL KNOWLEDGE AND SKILLS

Operating  
Systems and  
Utilities



# **BUSINESS KNOWLEDGE AND SKILLS**

What are the business functions the organization perform?

How is the organization structured?

How is it managed?

# BUSINESS KNOWLEDGE AND SKILLS



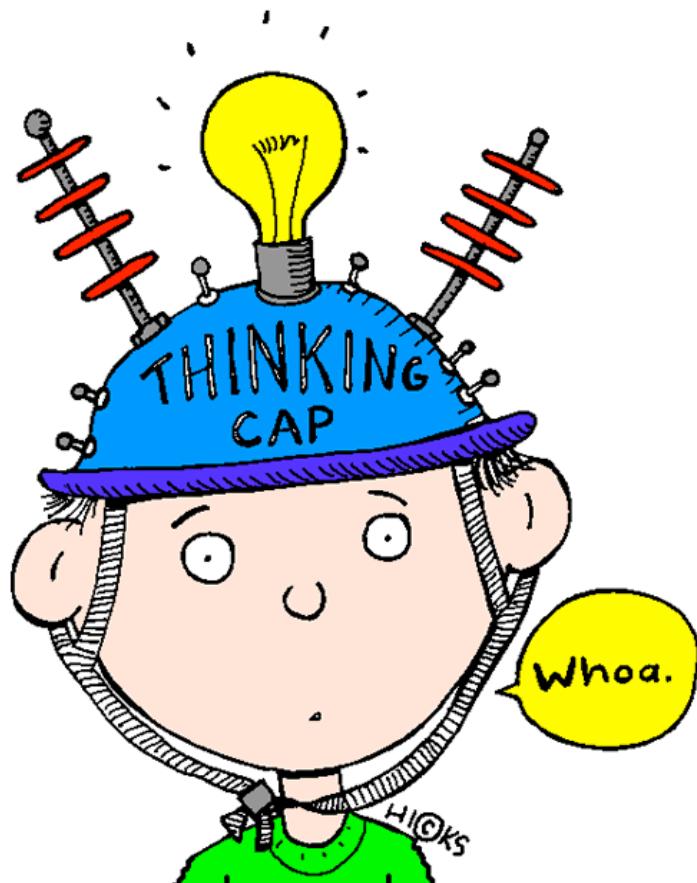
Need to understand:

- the organization
- its culture
- its mission
- its objectives

# PEOPLE KNOWLEDGE AND SKILLS



# PEOPLE KNOWLEDGE AND SKILLS



Need to understand  
how people think

# PEOPLE KNOWLEDGE AND SKILLS

# LEARN

Need to  
understand how  
people learn

# PEOPLE KNOWLEDGE AND SKILLS

Need to understand how  
people react to change



# PEOPLE KNOWLEDGE AND SKILLS

A photograph of three business professionals in a meeting. A man in a white shirt is on the left, a man in a dark suit is in the center, and a woman in a brown pinstripe suit is on the right. They are seated around a table with a laptop and papers. A large, semi-transparent gray speech bubble is positioned over the center of the group, containing the text "Communicate: Interviewing Techniques".

Communicate:  
Interviewing  
Techniques

# **METHODOLOGIES, MODELS, TOOLS AND TECHNIQUES**

What is an  
information  
system?

Role of (IT)  
Business  
Analyst

Methodologies,  
Models , Tools  
and Techniques

SDLC

Successful  
System  
Development

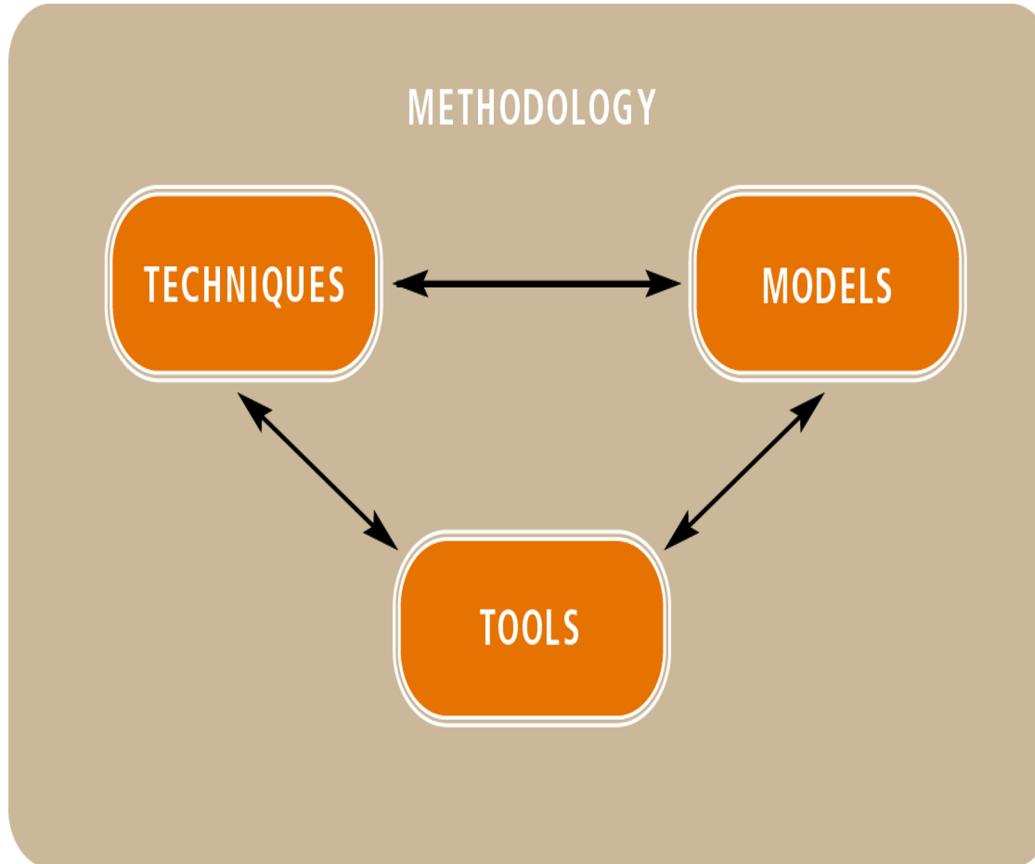
# METHODOLOGY



## System Development Methodology:

- System development is not just coding only
- Need to gather the requirements, design the system, coding, testing, etc
- Set of guidelines to follow for completing every activity in the development process

# METHODOLOGY

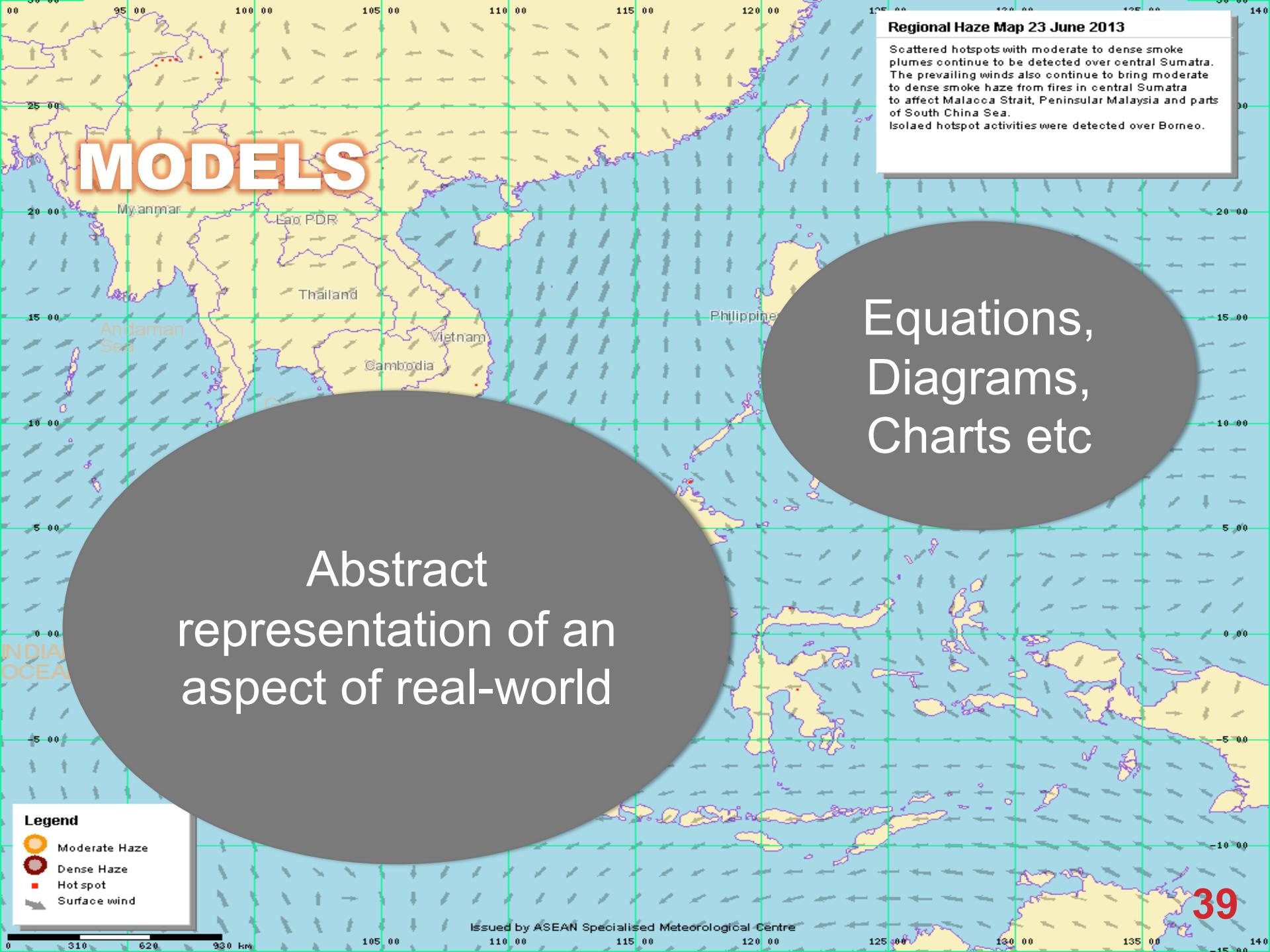


Consists of  
Models,  
Tools &  
Techniques

# MODELS

Abstract representation of an aspect of real-world

Equations,  
Diagrams,  
Charts etc



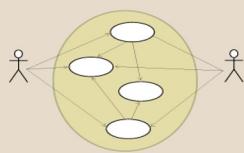
# MODELS USE IN SYSTEM DEVELOPMENT



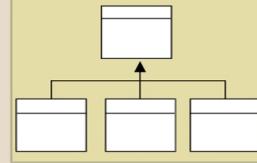
## Unified Modeling Language (UML)

- Standard set of model constructs
- Designed for Object-Oriented development

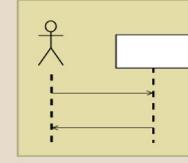
# UML DIAGRAMS USED FOR MODELING



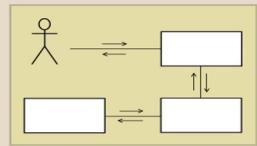
Use case  
diagram



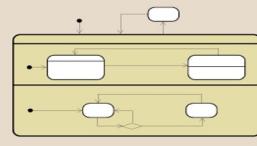
Class  
diagram



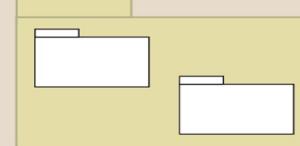
Sequence  
diagram



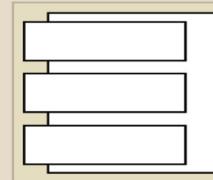
Communication  
diagram



Statechart  
diagram



Package  
diagram



Deployment  
diagram

# TOOLS



Integrated  
Development  
Environment (IDE)



Microsoft®  
**Visual Studio®**



# TOOLS

Computer Aided System  
Engineering (CASE)

Rational® software

- Store information about system specification
- Aid in various aspects of system development
- Modeling, code generator, documentation tools

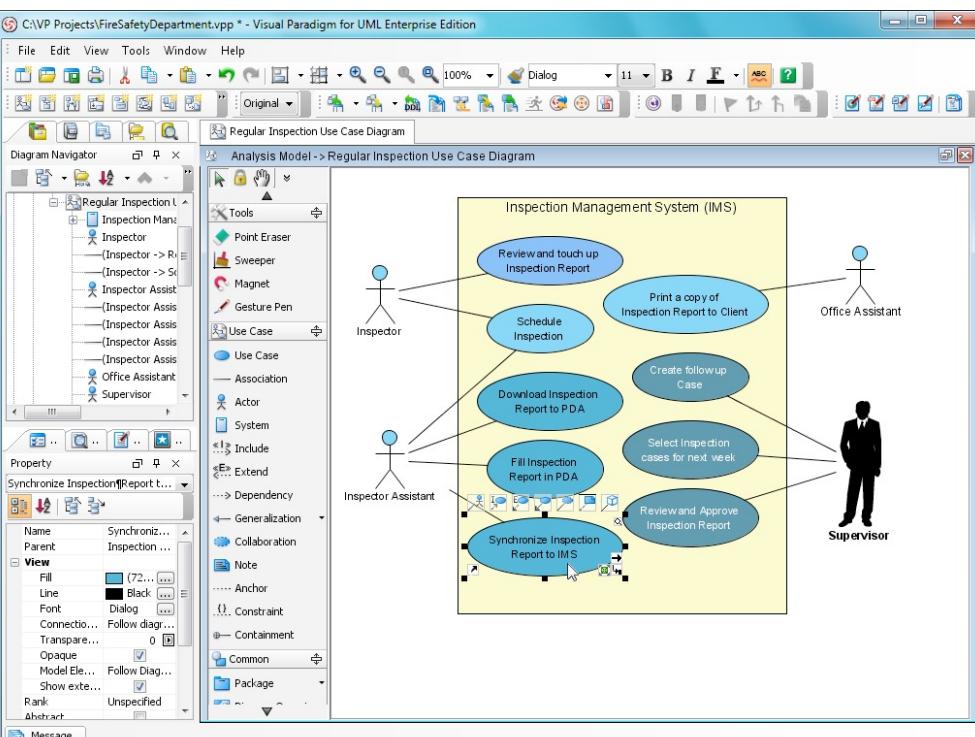


# UML Drawing Tool

## TOOLS

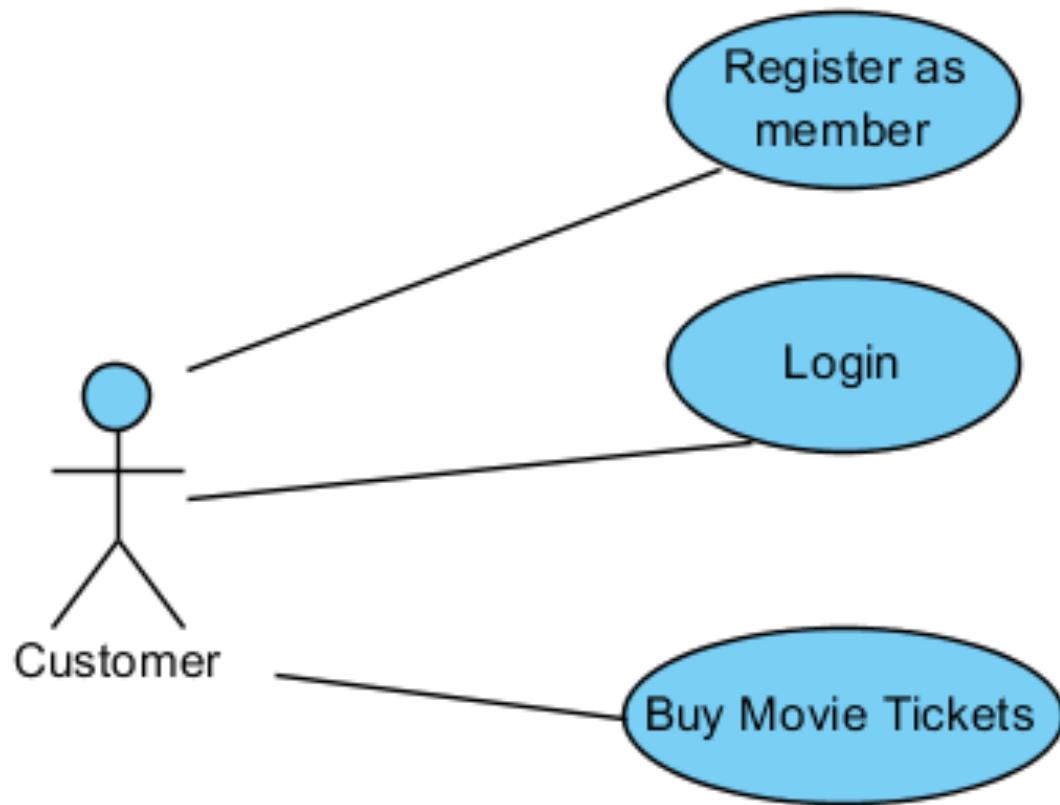


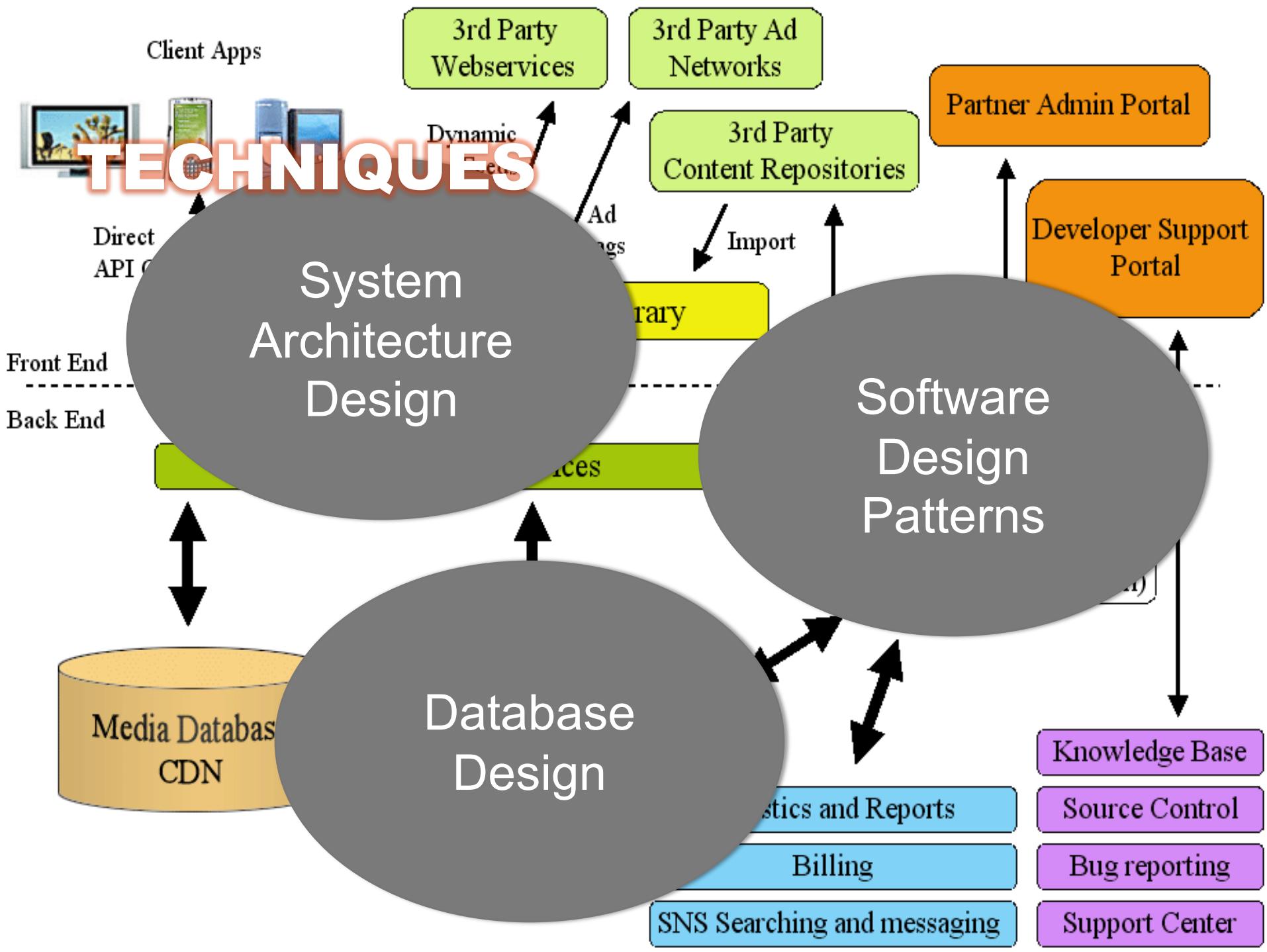
Visual Paradigm  
for UML



# TECHNIQUES

Requirements  
Modeling  
Techniques\*





# TECHNIQUES

## Project Planning Techniques

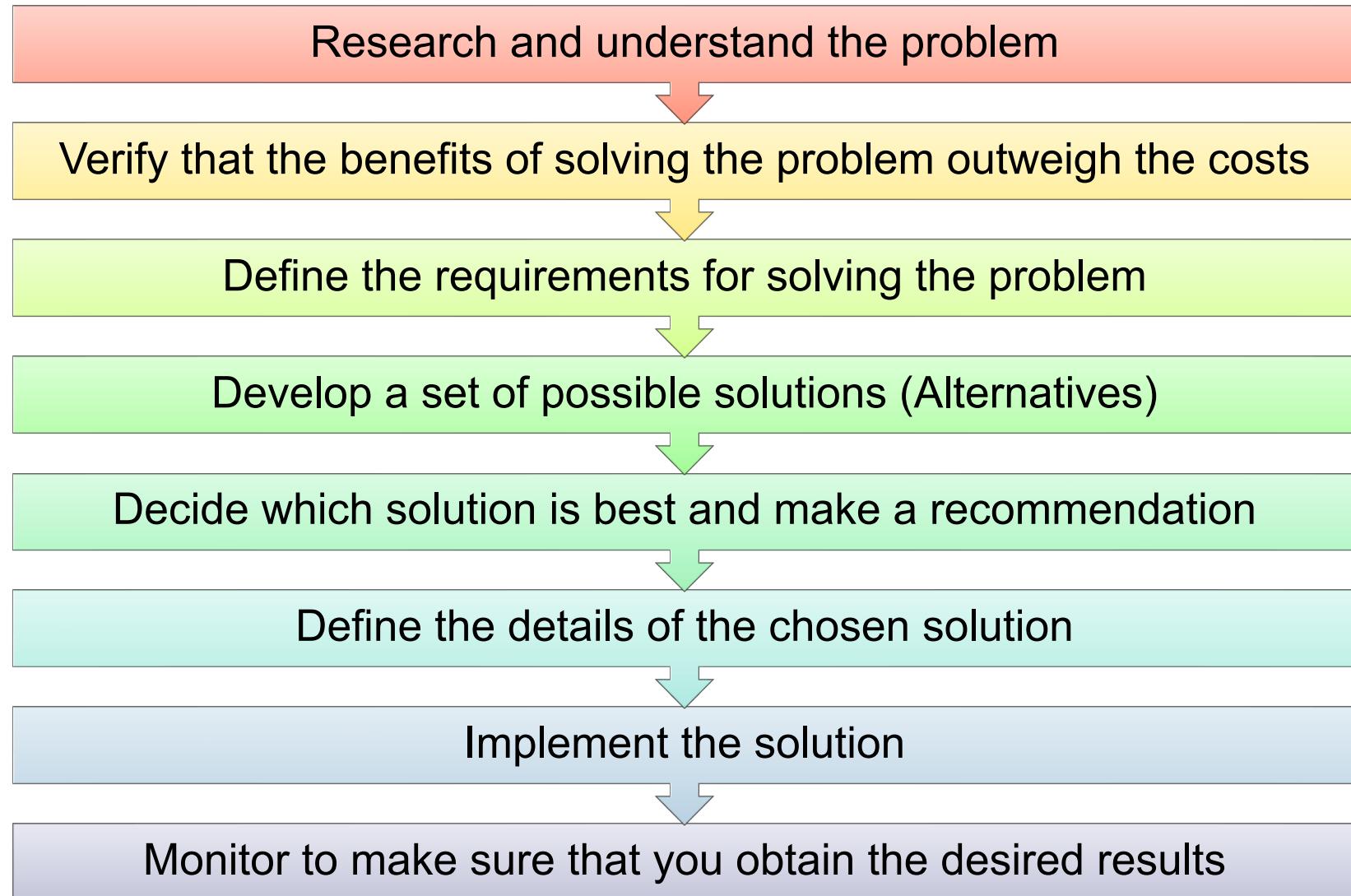
## Cost/Benefits Analysis

# TECHNIQUES

- Set of guidelines for completing an activity
- Examples:
  - Domain-modeling, use case modeling, software-testing, etc



# A GENERAL PROBLEM-SOLVING APPROACH



# **SYSTEMS DEVELOPMENT LIFE CYCLE**

What is an  
information  
system?

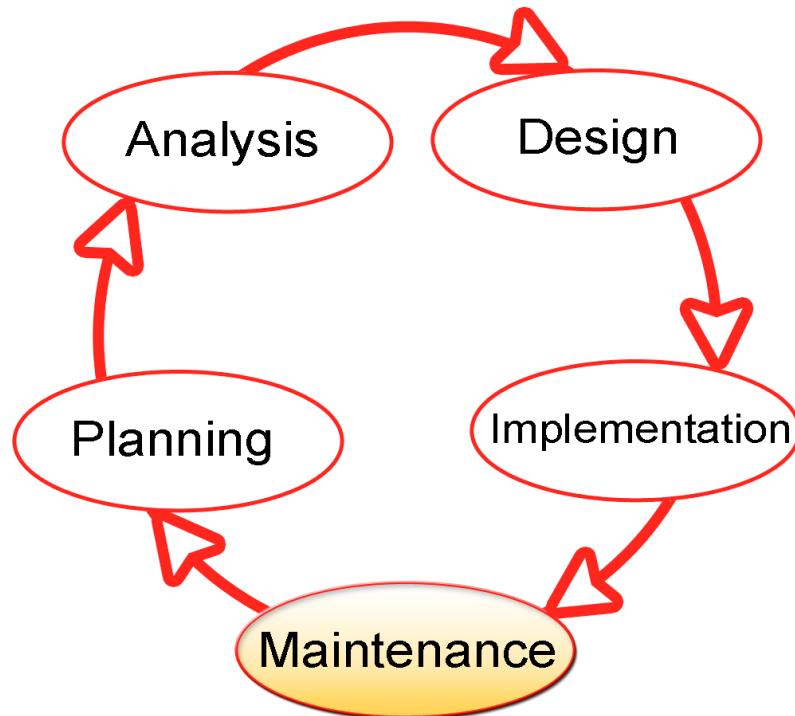
Role of (IT)  
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Successful  
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Development

# SYSTEMS DEVELOPMENT LIFE CYCLE



Entire process of developing a system

Not just about programming!

# PROJECT PLANNING PHASE



- Ensure that the project is feasible
- Identify scope of new system
- Develop schedule, resource plan, budget etc

# ANALYSIS PHASE



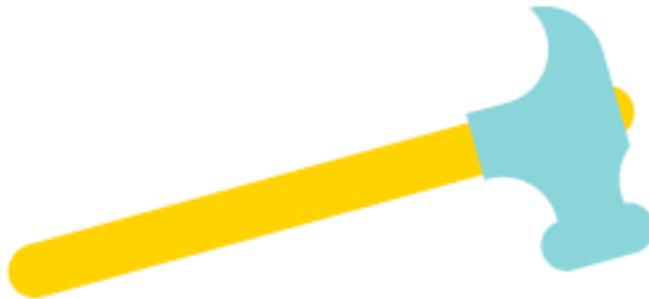
- Understand the document in detail
- Process requirements of the new system

# DESIGN PHASE



- Design system based on the requirements

# IMPLEMENTATION PHASE



## Implementation

- Build system  
(includes acquire components)
- Testing

# MAINTENANCE PHASE



- Ensure the system is running properly during the lifetime of the system
- Fix any issue that arises

# **SUCCESSFUL SYSTEM DEVELOPMENT**

What is an  
information  
system?

Role of (IT)  
Business  
Analyst

Methodologies,  
Models , Tools  
and Techniques

SDLC

Successful  
System  
Development

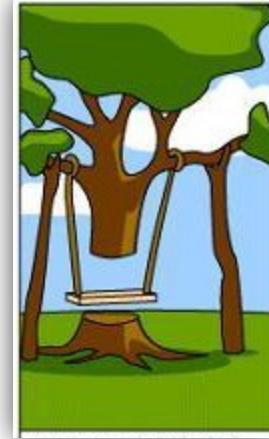
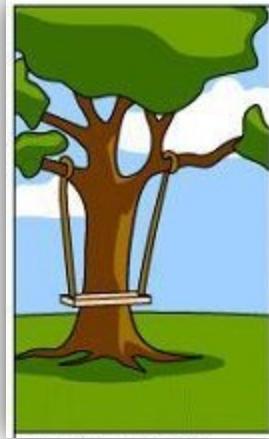
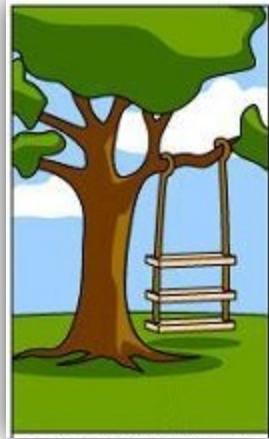
# SUCCESSFUL SYSTEM DEVELOPMENT



# S U C C E S S

Because you too can own this face of pure accomplishment

# **THE PROBLEM WITH COMMUNICATION**



**How the Customer explained it.**

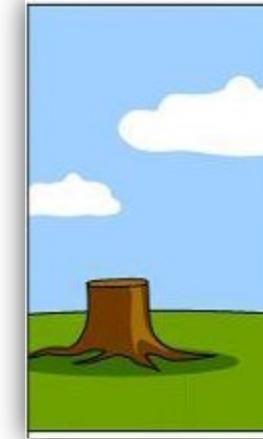
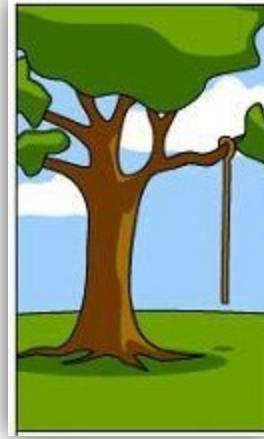
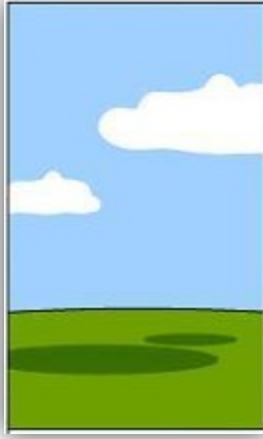
**How the Project Leader understood it.**

**How the Designer designed it.**

**How the Programmer wrote it.**

**How the IT Business Analyst described it.**

# **THE FINAL OUTCOME**



**How the Project was documented.**

**What Operations were installed.**

**How the Customer was billed.**

**How it was supported.**

**What the Customer really needed!**

# **SUMMARY**

**Introduction to Information Systems**

**Role of IT Business Analyst**

**Some definitions: methodologies, models, tools and techniques**

**Various activities in system development: business modeling, requirements gathering and analysis, design, implementation, testing, deployment**

# **WHAT'S NEXT?**

**Systems Development Life Cycle (SDLC)**

**Planning Phase**