System Development Methods
CT00046-3-2

People Oriented Methodologies

Topic & Structure of the Lesson

- People Oriented Methodologies
- Web Information Systems Development Methodology (WISDM)
- Knowledge Acquisition and Documentation Structuring (KADS)
- Soft Systems Methodology (SSM)

Learning Outcomes

- By the end of this lecture, YOU should be able to :
  - Identify and explain the underlying people based methodologies

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:
  - People Oriented Methodologies and Principles
  - Web Information Systems Development Methodology (WISDM)
  - Knowledge Acquisition and Documentation Structuring (KADS)
  - Soft Systems Methodology (SSM)

People Oriented Methodologies

These methodologies are used when;

- Developer trying to make the system mimic the user's needs and behaviors.
- The System is going to be used by many types of users (age, literacy, culture, needs, etc.)
- Widely used in environment involving gaming, robotics, virtual reality, augmented reality, medicine, animal behaviors, etc.
- Used when:-
  - Requirements are not fixed / cannot be fully determined earlier
  - Requirements and scenario is constantly changing.
  - Structured methodologies might not be suitable as they require many facts to be constant.

People Oriented Methodologies

Facts often considered-

- User's age
- Users behavior
  - Students, managers, sports athletes, etc.
- User's computer literacy
  - Novice, Intermediate, Expert
- User Physical capabilities
  - Body size, level of sight, hearing, etc. (for Gaming)
- Users Culture
  - Language, texts, colors, concerns, etc.
- User Emotion
  - Perception, preferences, emotions, attraction, fear, concerns.
- Environment
  - Private, social, group, corporate, etc.
- Laws and Legislations
  - Copyright, Consumer Rights, etc

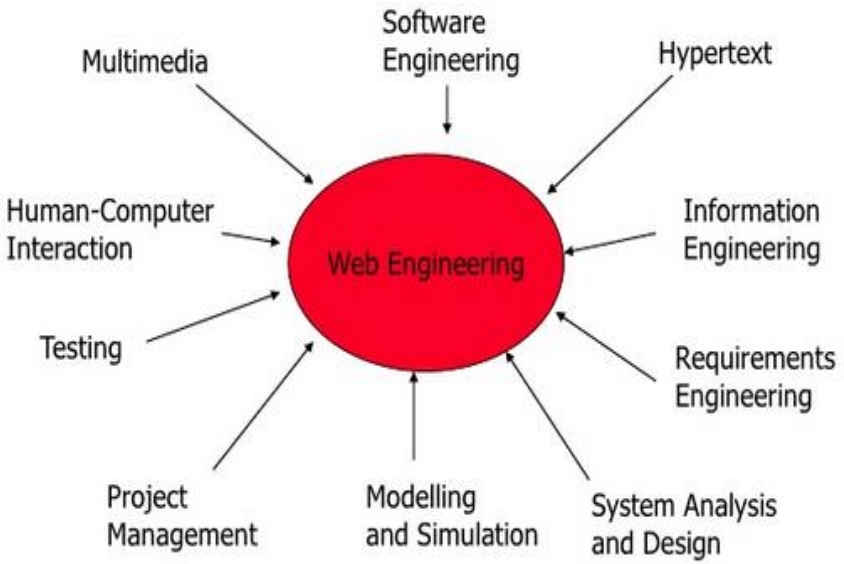
People Oriented Methodologies

General strategies of development in this methods;

- Developers study user behaviors of a system in real-world.
- Capture users behavior into 'tasks' in virtual world.
- Connect / link several tasks to become a complete process.
- Build IS to satisfy the process in real-world.
- Continually update IS system with new and improved tasks (continuous development)

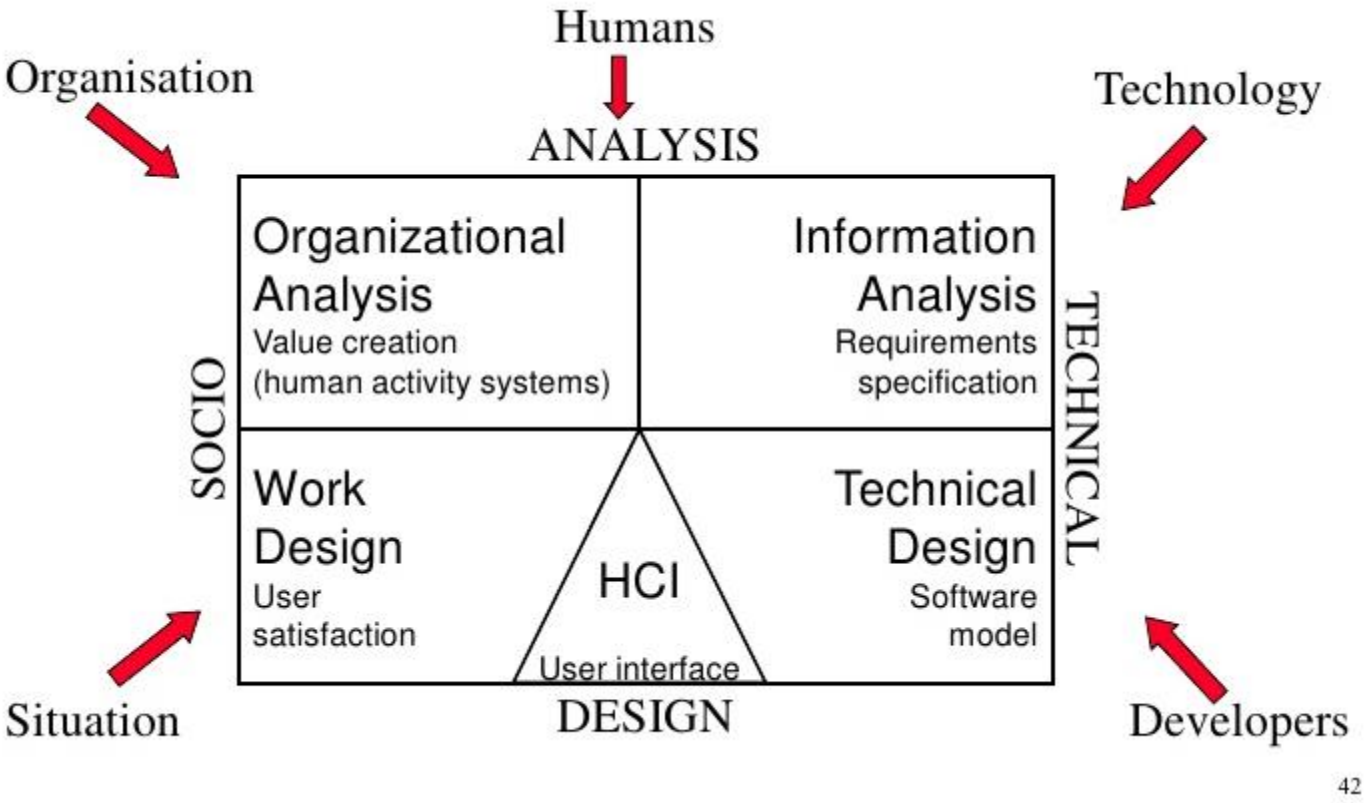
Web Information Systems Development Methodology (WISDM)

- Idle for building websites and web application which are very dynamic - incorporates many components, languages and features.
- WISDM is based on '**Multiview**' framework -It was originally defined to take into account the human and organisational aspects of information systems development



WISDM
Multiview Framework

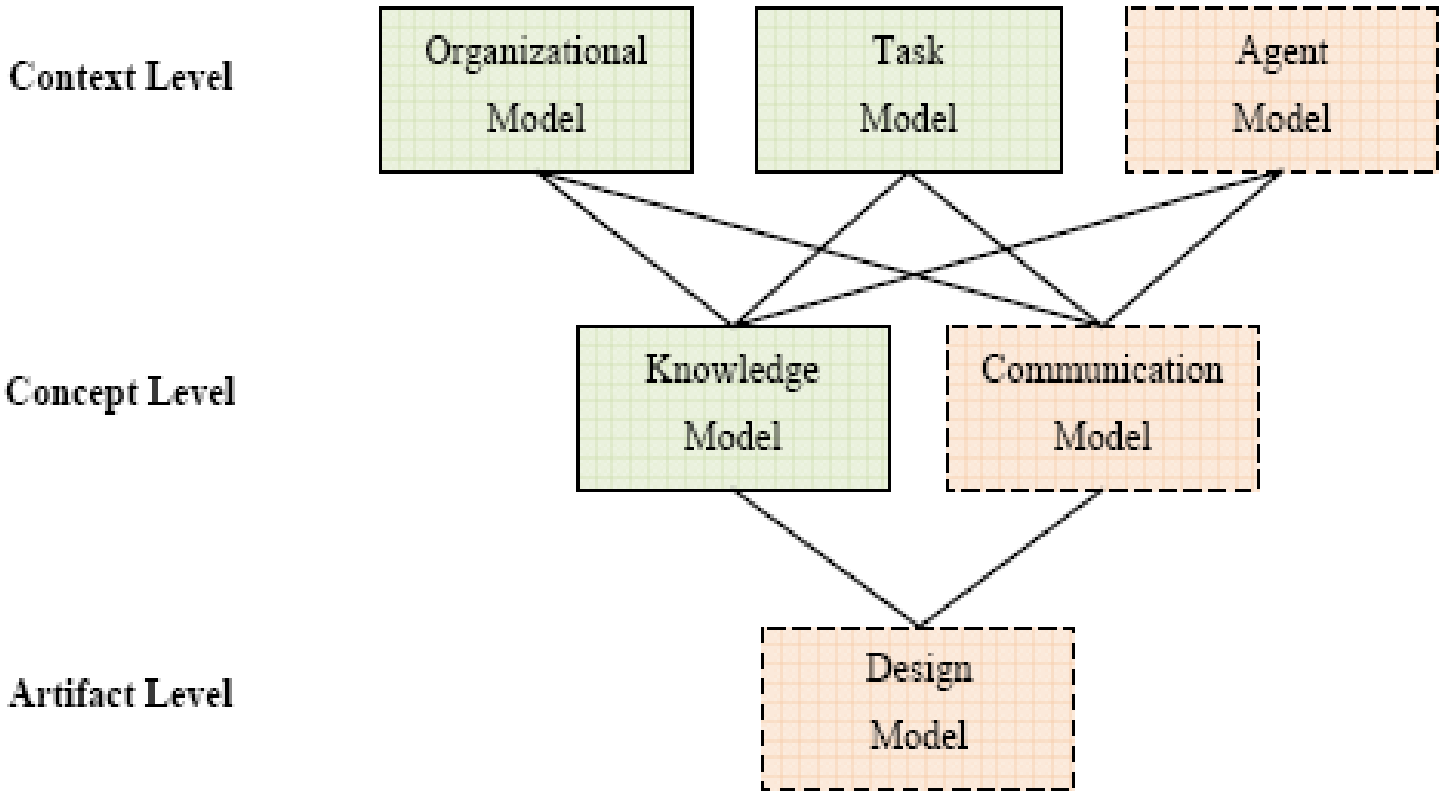
- **Multiview** looks at a scenario from many view / angle and creates automated design based on the captured tasks.



Knowledge Acquisition and Documentation Structuring (KADS)

- Structured way of developing knowledge-based systems (expert systems).
- A knowledge-based system (KBS) is a form of artificial intelligence (AI) that aims to capture the knowledge of human experts to support decision-making.
- Its components are;
  - A methodology for managing knowledge engineering projects.
  - A knowledge engineering workbench.
  - Methodology for performing knowledge elicitation.
- Components in the real world are converted into 'chunks' to be designed and turned into automated functions.
- Uses Object Oriented approach for designing and construction.

KADS
Development Techniques

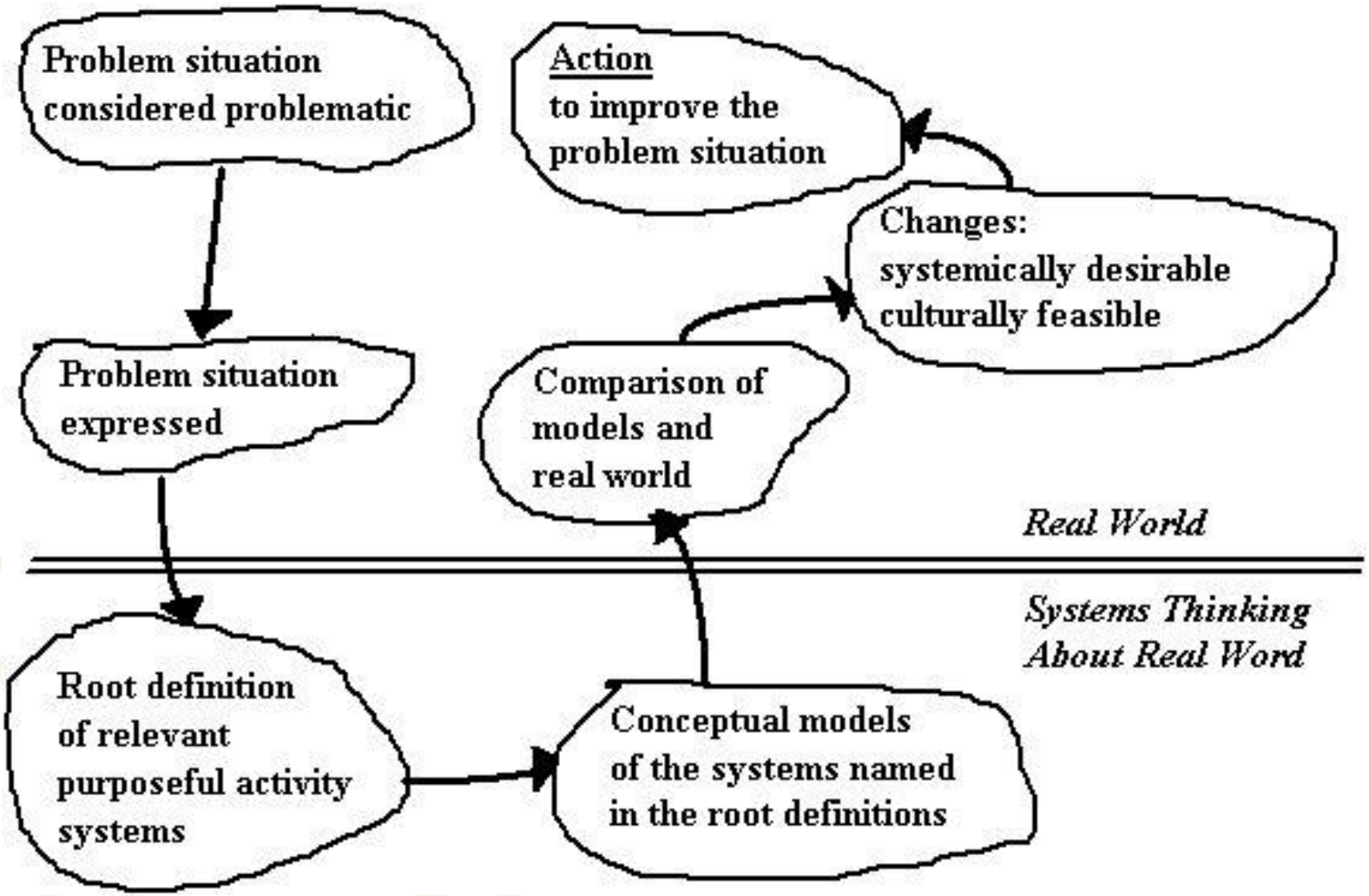


Soft Systems Methodology (SSM)

- An organized way of tackling the messy situation in the real world.
- Based on **system thinking,** a **holistic** view of the situation
- **Used when;**
  - Requirements are not clear / cannot be fixed
  - Scenario of the system are too complex to be defined.
  - Users not sure how the system should behave.

- **Soft System** - Developer / user not sure of the requirement for the system (System functionality difficult to be determined)
  - *Compared to **HARD SYSTEMS** where most of the requirements can be determined and fixed.*

SSM
Development Path



SSM
Development Techniques

- Takes a holistic view of the scenario / situation
- Draw a 'Conceptual Design' of the scenario
  - Rich Picture Recommended
- **Root definitions** are produced for each system using the ***CATWOE*** criteria
  - (client, actor, transformation, world-view, owner, environment).
- **Conceptual Model** produced and compared to the real world.
- Task to be automated are prioritised using the MoSCoW technique.

MoSCoW technique.

M — MUST HAVE

Non-negotiable product needs that are mandatory for the team

S — SHOULD HAVE

Important initiatives that are not vital, but add significant value.

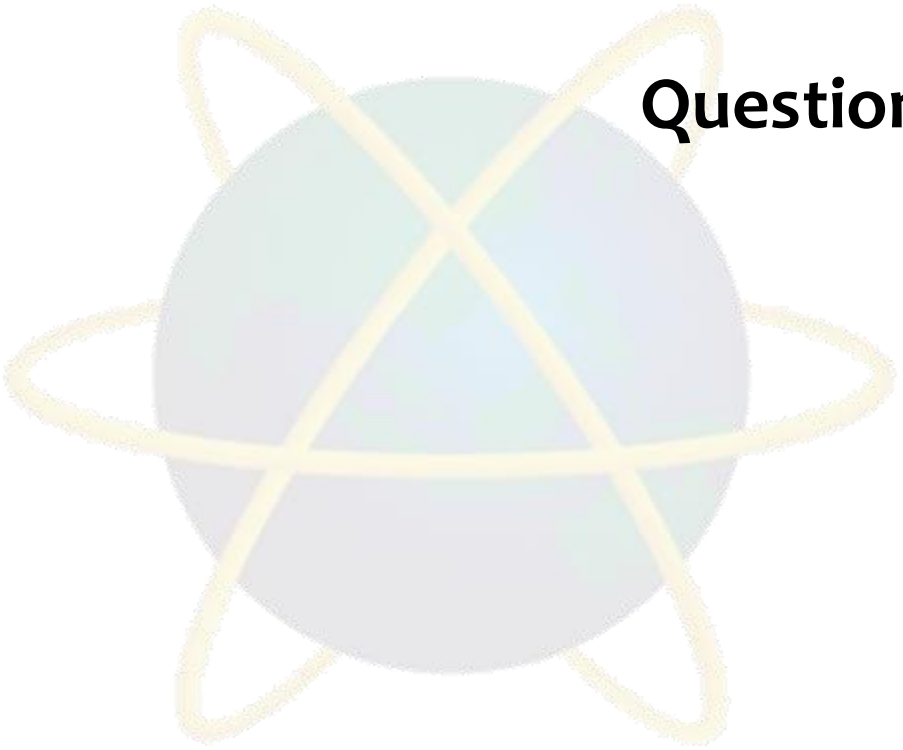
C — COULD HAVE

Nice to have initiatives that will have a small impact if left out.

W — WILL NOT HAVE

Initiatives that are not priority for this specific time frame.

ProductPlan



Question & Answer

Tutorial

Individual work;

1. Why do we need to study human behavior when creating a system? What would happen if we don't?
2. List THREE disadvantages (each) of WISDM, KADS and SSM.

Group Work;

1. Display the following diagram on the screen and explain to your class how it works;
   - MULTIVIEW Framework (Slide -8)
   - KADS Process (Slide – 10)