UNIVERSITY OF INFORMATION TECHNOLOGY

Faculty of Information Systems

Introduction to the course

Information System Analysis and Design

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INTRODUCTION

- Course name: Information System Analysis and Design
- Number of credits: 4 (3 Theory – 1 Lab)
- Description
- Content
- Assessment
- Requirements and Expectations
- References

Description

- The course provides basic concepts and methodologies to analyze and design an information system

- Contents focused on analyse user requirements, analyse and design data, processes, and user interfaces

- Students obtain analysis and design skills for building an information system with both structure method and object - oriented method; proficiently use some tools to create data models, process models

- Practice teamwork skills

Contents

- Chapter 1: Overview
- Chapter 2: Requirements determination and analysis
- Chapter 3: Process component analysis and design
- Chapter 4: Data component analysis and design
- Chapter 5: User Interface design

Requirements and Expectations

- Attendance

- Workgroup and other activities in classroom

- Homework

- Project

  - Group: max 4 students

  - Analyse and design completely an application using relational data model and object – oriented method

  - written by English.

Assessment

- Final exam: **50%**

- Practice (group of max 4 students): **50%**

  - Homework: **15%**

  - Project: **35%**

- Bonus score: **Max +5%**

  - Attendance, discussion, excellent students

  - Seminar: Database programming, No SQL,…

Homework

- Group: 4 students/group.

- Assignments:

    - Requirement analysis: Function Hierarchy Diagram (FHD) or **B**usiness **F**unction **D**iagram (BFD), Use case model and its specification (Data flow using natural language)

    - Analyse and design data component based on structure method: ERD (Entity – Relational Diagram), Relational Data Model, and constrains.

    - Analyse and design process component based on structure method: DFD (Data Flow Diagram): some main business processes

Project

- Analyse and design an information system using object - oriented method and relational data model
- Students can choose favorite topics (not the same among groups)
    - Information requirement analysis: use case model
    - Analyse and design data component: Class diagram, state diagram.
    - Analyse and design process component: (some main business processes) Activity diagram, sequence diagram.
    - Design User interface: input, output
    - Build an application with core/basic functions

References

1. Kenneth E. Kendall, and Julie E. Kendall, *System Analysis and Design Slides,* Pearson Education, Inc. Publishing as Prentice Hall, 2014.

2. Kenneth E. Kendall, and Julie E. Kendall, *System Analysis and Design,* Pearson Education, Inc. Publishing as Prentice Hall, 8th edition, 2011.

3. Gary B. Shelly, and Harry J. Rosenblatt, *Systems analysis and design*, 9th edition, United States of America, 2011.

4. Alan Dennis, Babara Haley Wixom, David Tegarden, *Systems Analysis and Design: An Object-Oriented Approach with UML, 5th Edition*, Wiley, 2015.

5. *Information System Analysis and Design Slides*, Faculty of Information Systems – University of Information System, 2015.