EGCI340: Software Design

– Project Description –

Due Date: December 4th, 2025, 12:00 PM

Project Description

The goal of this course is the direct experience with a small project in which the student plays the roles of software engineer. In this project, the students will gain experience in analysis, plan, and design applications (no implementation). Students will also develop friendly graphical user interfaces for their software system. Each group must submit the project title and project description on December 4th, 2025, 12:00 PM at the MS Team (5 marks deduction for this delay submission)

For the project, students will analyze, design and write project report following the phases of the software life cycle: feasibility study, software requirements analysis and specification, high-level design, detailed design. The project outcomes are the following: feasibility study document, requirements specification document, design specification document, user-manual including screenshot of GUIs.

1. Project Report
The project report must include all the following sections:

1.1 Problem definition and objectives (5 marks)

1.2 Feasibility study document and Project Plan (at least 1 pages) (5 marks)
- Clearly state if you develop/design a new system, extend or improve an existing one.
- Scope your project
- Describe project plan: schedule, milestone, Gantt chart and/or timeline

1.3 Software requirements specification (SRS) document (20 marks)
This document should include:
(a) User requirements
(b) System requirements
    (b.1) Consistent and unambiguous functional requirements. You may show the complete use-case diagram with all the use cases and actors. Define in detail of use-cases
    (b.2) Non-functional requirement
        - Performance requirements
        - Safety requirements
        - Security requirements
        - Software qualities (correctness, efficiency, robustness, risk and user friendliness, etc).
(c) System constraints
        - Hardware requirements
        - Database requirements
(d) Domain requirements
(e) Other related requirements

1.4 Design specification document including: (20 marks)
(a) Software process model
(b) Design Diagram
        - Activity diagram and/or
        - Use-cases and/or
        - DFD diagram and/or
        - State machine diagram

1.5 Technical documentation, including: (5 marks)
   (a) Programming languages
   (b) Tools and environments

1.6 User Interface design and user manual with some screenshots of the graphic user-interfaces (GUIs) (20 marks)
   (a) User experience: user journey, persona, empathy map, user flow
   (b) User interface design

2. **Project Submission, and Presentation**
   2.1 The project report and presentation slides should be submitted to MS Team. Due date is on December 4th, 2025, 12:00PM. Please name your files as groupXX_project.docx and groupXX_slides.pptx. (No late submission will be accepted)
   2.2 Presentations will start on December 4th, 2025. The ordering of presentations is determined by a random draw. A presentation takes maximum 10 minutes including Q&A. You should assume that your role is software engineering team and you present the software project proposal to your customers or clients who may hire your team to develop software.
   *Note: Maximum Number of group members = 4 members/group

3. **Important Dates**

Task	Date
1. Project title, scope and description	Oct 10, 12:00 PM
2. Project submission and presentation	Dec 4, 12:00 PM

4. **Example**
   - The example will be posted on the MS Team