System Analysis and Design

Assignment: Spring 2023

Lecturer: Yan LIU

Part III: Design Model

Due: Monday June 19, 2023, 23:59
Submit To: Canvas
Weight in course grade: 30%

For Part III of the project you should provide a software **DESIGN** model and update your prototypes. You should also explore the usage of architectural styles, design patterns and other design principles to improve the **QUALITY** of your system design. You may refine your architecture and enhance your design model based on reasonable design decisions by applying some design principles or patterns.

A report should be submitted with the following structure:

0   Table of contents
1   Overview of your progress on system design and a description of implementation platforms and frameworks.
2   Architecture Refinement:
    a.   Present a platform-dependent architecture with refined overall structure.
    b.   Provide a list of subsystems and interfaces
    c.   Demonstrate interface specification in details with one or several samples between your system and external systems, such as the public information website, 3rd party messaging system, map services and so on.
    d.   Select one subsystem as an example to specify its interfaces in details.
3   Select any two analysis mechanism identified in your analysis model, find suitable solutions in your implementation platform and then provide detailed description of the corresponding design mechanisms.
4   Design two use case realizations by incorporating the design mechanisms and the refined architecture.
5   Architectural styles used and critical design decisions made in your solution.
6   Progress on prototyping.
7   Open issues in your design model.
8   Project self-reflection
9   Contributions of team members.

The following models should also be submitted in model file format or PNG format (if you are using online modeling platform/tool)

1. **Updated use case model and analysis model**
2. **Design model**: includes the refined architecture, examples of detailed interfaces, and at least 2 examples of detailed use case realizations.

Each team will be presenting your architecture refinement, interfaces and subsystem design, critical design mechanisms and sample use case realization design prior to submitting the final version of this document (Thursday, June 15, 2023, 3:05PM – 6:55PM**)**

Note: You must submit both the required reports and the corresponding models.