CS365 Assignment 4
System Design and Architecture
Spring 2016

Instructor: Eva Iwer

Deadline: 03/08/2016

1 Instructions

1.1 Background

1.2 Requirements

- If you have any questions, please use the forum at moodle

- This is a group assignment. You find your group and topic in the File groups.pdf

- The foundation of your design is a given requirement specification. You find all specifications at moodle. groupX uses rs_groupX

- Add all your results as appendix to the requirement specification.

- Use the template meeting for the minutes of the meeting, which you can find in the template section at moodle

- Write the name of every team member and your group number on every document.

- Protocol any change of a document in the revision history.

- Save your file with the following naming convention:
GroupteamNumber_documentType.xxx – example: Group12_minutes.docx

- Zip your documents and upload it to moodle (distance.digipen.edu)

- EVERY TEAM MEMBER NEEDS TO SUBMIT THE DOCUMENTS!

- NO LATE SUBMISSION

2   Task

In this assignment you should create an system design and architecture for a specific topic.

2.1   System modeling

- Create at least 4 uses cases (this includes use case diagrams and a tabular description of each use case.)

- Create one class diagram. Include associations between the different classes. Do you find any aggregation associations in your system?

- Create for every use case a sequence diagram to describe the interaction between actors and the objects within a system.

- Create one state diagram with a description of all states and stimuli.

2.2   Architectural design

Write 2-3 sentences about the following system characteristics:

- Performance

- Security

- Safety

- Availability

- Maintainability

Based on the characteristics and requirements create two different architectural designs. You should write a brief description of your design (include pattern if possible). Be sure to describe some advantages and disadvantages of each your design alternatives. Decide at the end which one you would prefer and why. Don't forget to include diagrams for a better understanding.

2.3   What to hand in

- Meeting Minutes

- Requirement Specification

- All diagrams as jpg or visio file.

3 Usefull Links

3.1 scheduling tool

http://doodle.com/

3.2 UML tools

- MS Visio

- Argo UML (http://argouml.tigris.org/)

- Violet UML (http://alexdp.free.fr/violetumleditor/page.php)

3.3 UML tutorial

- http://www.uml-diagrams.org/uml-25-diagrams.html

- http://www.tutorialspoint.com/uml/uml_2_overview.htm

- http://www.sparxsystems.com/resources/uml2_tutorial/uml2_interactionoverviewdiagram.html