Spring
2013

Project 1 – GUI And Launcher Assignment Due 3-19-2013

ADAPTER, SINGLETON, INTERFACES, OBJECT MODELING, USE CASES

HANK

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Administration

Points – 300 points

Due Date

The deliverables are due at the start of class on March 19th, 2013. Please **NOTE:**
ELECTRONIC VERSIONS OF THE SOFTWARE ARE ALSO DUE AT THE START OF CLASS.

NO LATE SUBMISSIONS

Submission and Naming

Submit your project to the instructor by e-mail. Use the following file name format: *cpts323-2013-spring-project-01-groupName.pdf* Use your group's name. Failure to use this format will result in a deduction of 50%, and 10% for every submission after. You must submit a hard copy at the beginning of class, electronic version may be submitted after class. No handwritten assignments will be accepted. No late homework is allowed. This is a group assignment. Please only submit one hardcopy and one electronic copy. One person from your group should submit this homework. This email must contain the names of each student in the group. Hardcopies should be turned in on Tuesday March 19th, 2013.

Collaboration

Group project, you may divvy up the project and responsibilities how you want. You are expected to work together.

Assignment Details

Software Requirements

You are expected to build a graphical user interface (GUI) that can control and fire the Thunder Dream Cheeky missile launcher. Here are the basic requirements.

1. The software package must be able to also read a target description file in XML or INI format.
2. The GUI should display these targets with the following attributes
    a. Position X, Y, Z
    b. Friend / Foe
    c. Target Name
3. The GUI should display the version of the software at the top of the program
4. The missile launcher should be controllable from the GUI
    a. Move Up/Down
    b. Move Left/Right
    c. Fire a missile
5. The GUI should display your group's name.
6. Your program should be called "Asml-GroupName.exe" where Group Name is your group's name.

Design Patterns

You must use the following design patterns:

1. Singleton
2. Adapter
3. Factory

Required Interfaces

Your design should use the design principles discussed in class: abstraction and polymorphism where appropriate. Your missile launcher should realize the ILauncher interface that is provided in the Cpts323 GIT repository:

https://github.com/brianlamarche/Cpts323/tree/master/ProjectSDK

GUI Screenshots

You must create GUI storyboards for each screen of the software. Each storyboard should show the different states of the GUI if the software enters different modes, e.g. search and destroy versus idle. You can design your GUI to look however, you want. You just have to create storyboard screenshots beforehand.

User Narratives

Write a user narrative for each user in your system.

Use Cases

Use cases are required to model each user and system interaction. You should use the following format:

ID:	**UC-6**
Title:	Fire Missiles
Description:	The AMSL should fire missiles when the fire button is pressed.
Primary Actor:	Judge
Preconditions:	Software has started an in idle mode
Postconditions:	Missile is fired
Main Success Scenario:	1. <fill in> 2. <fill in> 3. <fill in>
Extensions:	2a. <fill in>
Frequency of Use:	For testing purposes
Owner:	John Smith
Priority:	P3 – Medium
Risk	MIT23

Each Use Case should be associated to an owner (a task) and also related to a risk from your software management plan.

UML Class Diagrams

You must model your software with UML Class Diagrams. All classes need to be included in these models.

Tasks and Issue Tracking

You must enter each development task into GitHub as an issue per direction of your software management plan that you turned in as a group. Tasks must be closed before submission of your electronic version. Tasks must be printed and delivered as part of the hardcopy. Each task for this submission must be managed under a milestone that describes the assignment.
WARNING: Failure to use issue and task tracking will result in a zero on the assignment.

Write-up

You must include a write-up with the following sections:

1. Description
2. GUI Storyboards
3. User Narratives
4. Formal Use Cases
5. UML Modeling Diagrams
    a. Class
    b. Use Cass
6. Design patterns used
    a. Pros/Cons
7. Design considerations
8. Issues

Deliverables

The following must be turned in:

1. Hardcopy
    a. Write-up
    b. Code
2. Electronic Copy
    a. Write-up (PDF)
    b. Code (per assignment turn-in requirements)