**CSC 413 Term Project:**

**Software Reusability Practices via Wingman and Tank Multiplayer Games Development**

(Fall 2014)

- 1st milestone (Design Documents) due by 11/16 11:59pm [10 points]
- 2nd milestone (Wingman Game) due by 11/23 11:59 pm [30 points]
        Only 1 day late penalty for submission by 11/30 11:59 pm due to the Thanksgiving Break
- 3rd milestone (Tank Game) due by 12/14 11:59 pm [20 points]
- Class presentations on 12/4, 12/9 & 12/11.
    o You need to present at class to receive the presentation credit.
    o Slides are required to be submitted one night before the presentation – The order of the presentation will be decided by the order of slides posted at iLearn. It is very possible that we have more presenters than the given class time slots. Then not all students will have chance to present at the class. In such case, the submitted slides get 50% credit, but not full credit. Students who couldn't present in class need to show instructor working game during the final exam day.
    o Presenters on 12/4 will receive up to 20 presentation credit from the below grading criteria.
    o Presenters on 12/9 will receive up to 12 presentation credit.
    o Presenters on 12/11 will receive up to 8 presentation credit.

You are recommended to study Game Maker version of Wingman and Tank games. This will help you understand the game mechanics needed to make the 2D sprite-based games. Lecture slides contain the steps to make those games and explain how resources are controlled in the "Object" and the "Objects" listen to events and actions are set up accordingly. By comparing two games, you should create proper super classes that can handle common tasks in abstract level and then sub classes will handle specific tasks.

Design of these classes has to be clearly explained. You need to list all the classes that will be used in your games. Each class should include important states and behaviors. Inheritance relationship should be clearly specified. Also the classes that are reused at Tank game should be color-coded!

During the actual development, you may make some changes to the design, then you will have to submit to me a modification of design document that explain why the modification is necessary and what was the issues of the original design. Without it, any changes from the original design won't be accepted for credit.

Requirement for Wingman game:

Complete working version of wingman game from the given example is worthy 30 points (including class presentation using PPT and documentation).

(Make sure that there are different types of enemy planes including ones that come from the behind of the plane or shoot bullets in the diagonal directions, stronger bullets, etc. Collision effect of enemy planes is also different)

- Acceptable performance and overall player experience (too slow or glitches take off points) – 5 points
- Proper Collision Handling (airplane vs. airplane, airplane vs. bullets) – 5 points
- Proper timeline handling – 3 points
- Explosion effect with sound – 3 points
- Score board at the end of game, Health bar – 2 points
- Background music – 2 points
- Diverse types of enemy planes and Bullets shooting in diagonal direction – 3 points
- Support for 2 players – 2 points
- Class Presentation & Reusable Classes – 5 points

☐ Extra credit can be also given. (You may discuss with me on this option)

If you wish, you may choose a different game from the Game Makes examples. You need to discuss with me before you start working on this.

Requirement for Tank game:

Grading Criteria includes

- Smooth Performance and pleasant user experience (score, background music, etc) – 7 points
- Tank angle & moving direction handling – 3 points
- Mini-map – 2 points
- Viewing Window - 2 points
- Explosion effect – 1 point (Tank & blocks – disappearing and appearing over time)
- Weapon and Bonus – 2 points
- Class Presentation and Reused Classes – 3 points

☐☐ Extra credit can be also given.