

Memorial University of Newfoundland
Faculty of Engineering and Applied Science

**Engineering 7893 – Software Engineering
Spring 2007**

Instructor & TA:

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Textbooks / References

There is no official textbook for this course. Most of the material for lectures will be drawn from [1]. [2] is the standard reference to UML. The classic book on design patterns is [3]. [4] is an excellent and readable introduction to object-oriented analysis and design. Some JAVA references are given as [5] and [6].

[1] C. Ghezzi, M. Jazayeri, and D. Mandrioli. Fundamentals of Software Engineering. Prentice Hall, second edition, 2003.

[2] M. Fowler. UML Distilled: A Brief Guide to the Standard Object Modeling Language. Addison-Wesley, third edition, 2004.

[3] E. Gamma, R. Helm, R. Johnson, and J. Vlissides. Design Patterns: Elements of Reusable Object-Oriented Software. Addison-Wesley, 1995.

[4] C. Larman. Applying UML and Patterns: An Introduction to Object-Oriented Analysis. and Design and the Unified Process. Prentice Hall, second edition, 2002.

[5] Cay S. Horstmann, Gary Cornell. Core Java 2. Sun Microsystems Press: Prentice Hall, 7th edition, 2005.

[6] Xiaoping Jia. Object-Oriented Software Development Using Java: Principles, Patterns, and Frameworks. Addison-Wesley, second edition, 2003.

Evaluation Scheme

There is NO midterm or final exam in this course. Your mark will be entirely based on the project. This is primarily a group project but will have individual components. Even for the group component of the project, your individual contribution will be determined by a peer-evaluation process at the end of the term.

Project Deliverables

The following dates are tentative. It is your responsibility to be aware of any changes that occur. Changes will be announced in class and will be posted on the web page. The project deliverables, due dates and their relative weights are as follows:

Due Date	Item	Marks
Monday, May 21	Simulator Preliminary Design	10
Monday, June 4	Simulator Alpha Implementation	5
Friday, June 8	Simulator Verification Plan	5
Friday, June 15	Simulator Beta Implementation	5
Friday, June 22	Simulator Verification Report	5
Tuesday, June 26	Controller Layer 1 Preliminary Design (team)	10
Wednesday, July 4	Controller Layer 2 Preliminary Design (individual)	5
Wednesday, July 18	Competition	20
Wednesday, July 18	Final Implementation (team)	5
Wednesday, July 18	Final Implementation (individual)	5
Wednesday, July 25	Final Design Documents (team)	20
Wednesday, July 25	Final Design Documents (individual)	5

Other Important Dates

Date	Item
Wednesday, May 2	Student Background Survey and Team Selection
Wednesday, May 23	Simulator Design Review (formal meeting with team)
Wednesday, June 27	Controller Layer 1 Design Review (formal meeting with team)
Wednesday, July 25	Team assessment due (individual)

Team Structure

A team project is the major component of this course. The teams for this project will have four or five members, which will be chosen using a draft process as follows:

The instructor will choose one member for each team. Those individuals will meet with the instructor as a group representative and will choose the remaining members of their teams. You may form pairs (i.e., two people) yourself, and we will make every effort to keep each pair together in one team.

The Project

The project is a distributed game of Capture The Flag (CTF). Each team will create a Simulator that maintains the state of this game and interacts with another component known as the Controller. The Controller dictates the movements of a team of agents participating in the CTF game. Each team (of students) will create that part of the Controller component that interfaces with the Simulator across a network. Each team will also define an interface for plugging in different Strategy components. Students will individually design and implement the Strategy components that plug into the interface

for their team—yielding a complete Controller. The CTF game will be played between two student teams using both teams' Simulator components in turn. Thus, a team's Controller must work with the Simulators of other teams. For the competition, the two opposing Controllers and the Simulator will be running on three different computers. Further details on the project will be presented in class and on the course web page.

Other Info

- Punctual submission of deliverables is strongly encouraged. For every day of lateness in submission, 20% of the mark for each deliverable will be deducted. This penalty will be applied for every day late, rounded up to the nearest day.
- Any complaints about marks, addition, recording etc., or special circumstances (e.g., illness, bereavement) must be brought to the Instructor's attention before the last day of the term (July 27).
- Academic dishonesty will, as a minimum result in a grade of zero for the offending work, and may be reported to the Dean for treatment through the prescribed formal process. Academic dishonesty includes copying, allowing your work to be copied, and failing to cite sources.
- Note that copying or otherwise referring to software or documents produced by previous students in this course without explicit permission from the Instructor will be considered to be academic dishonesty.
- Comments, suggestions and constructive criticisms are always welcome.