

Design of Thinking: Digital Games as Tools for the Mind

Instructor

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Term & Lectures

January to April, 2011; Wednesdays, 9:30am-12:30pm; Rm. TH-3101

Course Description

This is an interdisciplinary course dealing with the design of digital computer games. You will learn interesting things about human thinking, structure of games, game design, play, motivation, and interaction design.

As you know computer and video games have become an important part of today's culture. They can be motivating environments that engage users with all kinds of information spaces. As representational tools, they can have a powerful influence on the human mind. This course examines how game design is similar to the design of thinking and explores issues pertaining to this relationship. To understand this relationship and learn how to design useful games, we will mostly explore small-scale, puzzle-like games. You will get to design and implement an actual digital game.

Objectives

- To be able to identify, describe, and distinguish core concepts, issues, principles, conceptualizations, and frameworks involved in the design of digital games
- To learn the fundamentals of thinking, to understand how digital games are related to and engage human thought processes and motivation, and to be able to design digital games that engage these processes

Textbook

The textbook for this course is available at the UWO Bookstore:

- Salen, K. & Zimmerman, E. (2004). *Rules of Play: Game Design Fundamentals*. Cambridge, MA: MIT Press.

Lecture Notes

Lecture notes will consist of PowerPoint notes and material written on the board. PowerPoint notes will be available after each class.

Sample Content

1. Digital games
2. Thinking
3. Motivation
4. Game design
5. Game patterns
6. Interaction design for games
7. Rule design
8. Cognitive toys & activities

Reading Assignments

It is **imperative that you keep up with the assigned readings**. A good understanding of the readings is essential if you want to do well on your project and the course. To help you keep up with the reading material, you are required to submit a **one-page summary** of the assigned readings every week, starting from the second week (**12th of January**). This summary should **highlight and present the main issues or concepts** discussed in the readings. Those who do not submit their summaries will receive a zero mark for that week. All other submitted summaries will receive a full mark automatically. These summaries **will not be returned** to you. The main purpose of these readings is to help you keep up with the course and be organized for the quizzes and the final exam. Assignments should be emailed to the TA **before 11:30 PM** of the day they are due. The assigned readings are as follows:

Due Date	Book chapters
1/12	3, 4, & 5
1/19	6 & 7
1/26	8, 9, & 10
2/2	11 & 12
2/9	13 & 14
2/16	17 & 18
2/23	Reading week
3/2	22 & 23
3/9	24 & 25
3/16	26 & 27

Project

In teams of approx. 4 to 5 people, you will design and create a small-scale, computer-based digital game. As a team, you will decide on a project to do. The project will have **5 deliverables**: 1) proposal, 2) activity design, 3) digital game, 4) final report, and 5) final PowerPoint presentation. You need to submit all 5 deliverables to me on a CD at the end of the term.

In the **proposal**, you will identify your team members and provide a brief background of your team members. This will be 2 pages long maximum.

In the **activity design**, you will select an activity and describe it (2 pages maximum). This activity will be converted into a digital game. Before that, you need to convert this activity into a **storyboard with scripts describing each screen**. These will be **detailed drawings and descriptions** of how each screen of your system will work. There is **no page limit** on your storyboards. The closer this component is to the final digital game, the easier it is for you to convert it into the computerized version. Make sure that the selection of the activity and the design are based on the concepts and principles studied in the course.

The **digital game** will be an implementation of your storyboards in the form of an interactive, computer-based game. You will create your game using a high-level game creation environment (e.g., Game Maker). The TA will show you how to download this software. Also, depending on the number of students and their diversity, there may be a session in which a tutorial on how to use this software to create games will be given. You will submit a CD to me containing your digital game that will run on MS Windows.

You will give a **presentation** of your project to the class. This presentation will be approximately 30 minutes long (depending on the number of teams). This presentation is in the form of **PowerPoint** slides. For the benefit of the rest of your classmates, you will describe your project, including: your motivation for choosing the project, your design, the concepts and principles involved, lessons learned, etc. You can either do this collectively as a team or ask select members of the team to do it. You will give me a copy of this presentation in electronic form. Remember: By the time of the presentation your project does not need to be complete. However, your final report can be based on this presentation to reduce the amount of work that you need to do.

The **final report** will be your overall description and evaluation of your own system. This report will be a maximum of 8 pages long and will reflect your understanding of the theoretical concepts in the course.

At the Final exam you will evaluate your team-mates or peers in terms of how cooperative they were, how much effort they put into the project, whether they attended your meetings, etc. The project mark of students whose peer evaluation is below 75% will be adjusted to reflect their lack of participation in the project. **That is, someone who gets 70% on peer evaluation will receive 70% of the total project mark for the group.** Each student should get **at least 50%** on this component of the project to pass the course. **Please note:** Students who fail on their peer evaluation will automatically fail the course, unless, based on the circumstances, the instructor judges otherwise.

Teams:

Teams will be chosen semi-randomly. There will be no movement of students from one team to another once a team is formed. If a student drops the course, that student's team will continue to exist, minus one member. However, the other members should talk to me if they need to readjust the scope of their project. Teams will be randomly drawn. Final project presentations are in the order by which the teams are formed.

Written reports:

Each written report should include a cover sheet: title of report (e.g., proposal), title of your project, course number, date, and name of all team members (**in alphabetical order**). The number of pages specified for each component does not include the cover sheet. Written reports should be single-spaced, and in 12 point “Times New Roman” font. Pages should be numbered.

Quizzes

There will be 3 quizzes, one each month. The purpose of the quizzes is to help you regulate your studies and keep up to date with what is being studied in the course.

Grading Scheme

Final Exam:	40% (individual grade)
3 quizzes:	15% (individual grade)
Summaries of Assigned Readings:	5% (individual grade)
Term Project:	40% (group grade except for peer evaluation)

Breakdown of project marks (40%):

Proposal:	1%
Activity design (incl. storyboards and scripts):	8%
Prototype game:	18%
Final report:	9%
Final class presentation:	2%
Peer evaluation:	2%

Your mark for each component of the project will be one of the following:

<i>Outstanding:</i> quality of work is exceptional ; team has gone beyond the call of duty	91-100%
<i>Very good:</i> quality of work is very good ; almost no flaws; team has worked very hard	81-90%
<i>Acceptable to good:</i> quality of work is acceptable ; did not put much thought into some parts	70-80%
<i>Poor:</i> quality of work is not acceptable ; not really based on any material studied in the course	55-69%
<i>Not delivered:</i> component is not submitted	0%

Late delivery:

1 day: -10%; 2 days: -20%; 3 days: -30%; 4 days: -40%; 5 days: -50%; 6 days: -60%; 7 days: -70%; 7+ days: -100%

Important Dates (Tentative)

1/12	Start of submission of assigned readings
1/19	Project: Proposal due
1/31	Quiz: #1
2/28	Quiz: #2
3/2	Project: Activity Design due
3/23	Quiz: #3
3/30	Project: Class presentations of your projects
4/6	Project: Class presentations of your projects
4/6	Project: Final digital games & reports due
4/6	Questions & answers

Email Policy

I prefer to see students in person, rather than receive emails. If you do send me an email, I generally answer **within 5 days**, depending on the volume of emails I have received during that week. However, I always try my best to reply as soon as I can.

NOTE: Any email you send to me should have “MIT3663-CS3334: <subject>” in the subject line (e.g., **CS3334: Project proposal**). Otherwise, due to the volume of junk emails I receive, it may get lost in my emails and I may not

see or read it. All course-related emails should come from your **uwo** account, or there is a chance that they may be filtered into the junk-email folder.

We will occasionally need to send email messages to the whole class, or to students individually. Email will be sent to your UWO email address. You must make sure that you read your email on a frequent and regular basis, or have it forwarded to an alternative email address if you prefer to read it there.

However, you should note that email may have quotas or limits on the amount of space they can use. If you let your email accumulate there, your mailbox may fill up and you may lose important email from your instructors. Losing email that you have forwarded to an alternative email address is not an excuse for not knowing about the information that was sent.

Quizzes and Academic Accommodation for Medical Illness

There will be **no makeup quizzes**. Students who miss an exam must have notified the course instructor and filed documentation with their Dean's office at least 2 weeks prior to the exam. If you miss any of the quizzes for any other reason, and present valid documentation to the Dean's office, your Final Exam mark will be reweighted to include the weight of the quizzes. You must notify the course instructor within a week of the missed quiz.

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to your Dean's office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. For further information please see: <http://www.uwo.ca/univsec/handbook/appeals/medical.pdf>

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found here: https://studentservices.uwo.ca/secure/medical_document.pdf

Ethical Conduct and Scholastic Offences

Students are expected to conduct themselves academically in a manner that upholds the integrity and reputation of our academic programs. Cheating on assignments, exams, essays and term papers is considered to be a serious violation of ethical conduct, and will not be tolerated.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: <http://www.uwo.ca/univsec/handbook/appeals/scholoff.pdf>.

Plagiarism: Students must write their essays and assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence.

Cheating on exams or tests includes (but is not limited to):

- using unauthorised aids
- communicating in any way with another student during the exam
- copying answers of another student
- altering an exam after it is marked.

Academic dishonesty in assignments includes (but is not limited to):

- unacceptable collaboration
There is a difference between discussing assignments and solutions with fellow students, and working together on the solutions to the point where the work submitted is clearly not individual work.
- copying of another student's assignment
- allowing another student to copy
- using material from an external source (text, instructor, course website) where a student's own work is expected
- altering of assignment results.

Penalties may include a mark of 0 on the assignment and an additional deduction of 100% of the value of the assignment, an F in the course or required withdrawal from the university.

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Accessibility Statement

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.