

ITP4710 2D/3D Graphics Programming

Simple Game Development

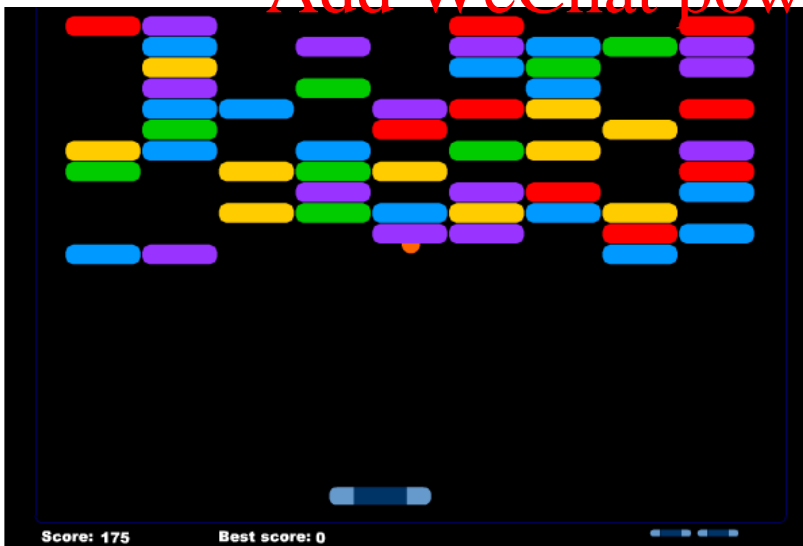
1. This is a take-home assignment to be done **individually**. Each student has to develop a simple game of any gameplay using MonoGame. The following screens are some of the suggested games or please visit MonoGame official website:



Spade Invader



1945 (Shooting Game)



Arkanoid



holes.io

2. Your game can be a 2D, pseudo-3D or 3D game.
3. Your game should include the application of the following knowledge:
 - Collision detection (collectable items and/or obstacles) – using overlapping testing and/or intersection testing when necessary. (for 2D, pixel perfect collision detection is expected / for 3D, use of bounding spheres is recommended)
 - Multiple types of computer-controlled movable objects (e.g. bullets / enemies / falling objects and collectibles etc.)
 - User controlled movable object(s) through keyboard and/or mouse
 - Sound effects and/or background music
 - Score, live count, and/or time counter
 - Stage completion and/or game end objective
 - Event messages – such as splash screen, stage complete message and/or end game message
 - Increasing difficulties while the game progresses
4. Other preferable features may include:
 - use of animated sprite / 3D models
 - Scrolling background
 - Multi-player game and/or Computer AI player
 - etc.
5. The marks would be given based on
 - (a) **Technical Features or Skills (70%)**,
 - (b) **Playability (10%)**,
 - (c) **Creativity (10%)**,
 - (d) **Appearance (5%)**, and;
 - (e) **Documentation Report (5%)**.
6. You need to submit a **Simple Document** which explains briefly your game idea and also a clear **User Manual** of your game with some **screenshots**. Zip the Visual Studio project (the source code and all related files) and the document into one single file and submit your work through **Moodle**.
7. The deadline is on **4-Dec-2020 (Friday) 23:55 pm**. Late submission may get zero mark.
8. Demonstration section may be held after submission and the last week of the term. You will be asked to come at specific timeslot to demonstrate your game if necessary. Detail schedule will be announced on due.

Plagiarism will be treated seriously. Any assignments that are found involved wholly or partly in plagiarism (no matter the assignments are from the original authors or from the plagiarists) will score Zero mark.