COMP4122 Game Design and Development

Group Project (30% in course total)

Due – Nov 22, 2016 (23:59)

In this group project (3-5 students per group), you are required to develop a 3D game by using XNA / Unity 3D / OpenGL / etc.

Deliverables

- Project report
  - Word count: 2,000 to 2,500 words
  - Name it in this way: [`G##_Report.doc`] where [`##`] is your group number assigned.
  - The document should include the following parts
    - Game Title and Group Members List
    - Simple explanations about how the game was developed
    - What difficulties had been encountered during the development? How did you overcome those difficulties?
    - How is the game being operated?
      - ✧ Control of the characters
      - ✧ Rules of the Game
      - ✧ [*Win*] and [*Game Over*] state
      - ✧ Class Diagram
      - ✧ Interaction Diagram
    - Any innovative and/or interesting ideas are included in the game?
    - Detailed contribution of work is required for **EACH** member individually.
- User Manual / User Guide
  - Use ONE page (*A4 size paper*) to include the following.
    - Briefly describe the game (*e.g. reasons why it is worth to play*)
    - Anything about the setup (*e.g. hardware requirement*)
    - How to install the game
    - How to play
  - Name it like that [`G##_Manual.doc`], `##` is the group number.
- Project Demonstration
  - 10-15 minutes' project demonstration and Q&A session
    - ✧ Each member is required to present his/her own part.
  - Presentation schedule will be announced later.

Levels of Assessment

There are 4 levels of the assessment

Level 1 - Satisfied

The game should have the following.

- welcome screen with message / video
- user menu,
- game scene with different obstacles, lighting effects
- moving feature (*e.g. game character can move/jump/swim/attack around in the game scene)*
- collision detection with enemy/enemies
- shooting / collecting feature (*e.g. game character can shoot / collect something to gain the mark*)
- special shader and particle effect
- special user interface design
- complete game play
- creative game play (puzzle game, simulation) is welcome.

Level 2 - Fair

The game should have fulfilled (*at least*) 90% of Level 1 and have the following.

- more than one game scene (*i.e. game with different levels*)
- intelligent enemy/enemies that can move around freely in the game scene and/or can escape and/or find paths to avoid obstacles in the game scene, etc
- shooting / collecting features (*e.g. game character can shoot / collect things in the game to gain points/bonus*)
- camera control with different perspective (*may have special shading methods, say, billboard, lens flare, etc*)
- game play should be more than two minutes

Level 3 - Good

The game should have fulfilled (*at least*) 90% of Level 2 and have the following.

- new model(s) in the game are required (*i.e. game scenes, characters, etc*) with different embedded animation effects (*e.g. particle*)
- should able to connect to network (*e.g. access Web Data through "www" functions of Unity 3D, be integrated into web browser and communicate with web page by using JaaScript or Ajax, communicate with a game server if applicable, etc*)

Level 4 - Excellent

The game should have fulfilled all the requirements of Level 3 and have the following.

- game should be able to save and/or load players' status (*i.e. support "save" function*)
- (*optional 1*) allow multiple players playing together and provide facilities (*e.g. chatroom*) to allow players to communicate with each other (*e.g. team mates*)
- (*optional 2*) provide VR/AR functions (*e.g. apply Leap Motion/Kinect to have the interactions with users*)

Grading scheme (100%)

We will evaluate your project base on the following:

1. Individual contribution (*20%*)
   i. Able to answer questions that related to the part he/she is responsible for.
   ii. Levels of the contribution to the whole project
2. Group (*80%*)
   i. What kind of the techniques that have been applied in the game/project
   ii. The game whether or not meets the requirement completely
   iii. Game design
   iv. Presentation of the game
   v. Interesting / innovating ideas that have been applied in the game/project
   vi. Smoothness of the demonstration
   vii. Quality of the Project Report
   viii. Correct format of the Submission

Submission deadline and method

You are required to submit a CD/DVD/USB to the me during the presentation/demonstration. The CD/DVD/USB must include the following:

- Project Report (*in Word or PDF format*)
- User Manual / User Guide (*in Word or PDF format*)
- Source code files (*use a separated folder to hold those files*)
- Presentation slides, if any

Submission deadline: **Nov 22, 2016 (23:59)**

****Late submission* is subjected to a **15% penalty per day**.

Detailed Contribution of Work

For [**Detailed Contribution of Work**], you are required to include a [**Workload Table**] at the end of the project report. This is used to indicate individual member whose involvement in the project. It is, in general, if a group has *n* members, each member may receive (*at most*) **10** "**points**" from other members and by himself/herself. In other words, a member may receive $(n \times 10)$ at most in total.

Example below shows that there are three members (*A, B and C*) in the group. And, Student_A can give points (*10 at most*) to each member (*including himself/herself*) in the group. After the three students in the group have given the points. The table may look like the one below.

Student	A	B	C
A	10	7	10
B	7	10	5
C	10	8.5	10
Total	*27*	*25.5*	*25*

In addition, it is also required to provide a job list in detail to describe the contribution of each member. For example:

Student A

- 3D menu
- Development of game flow
- ….

Student B

- Coding
- Testing
- ….

Student C

- Graphs
- ….

We will reference to the workload table, contribution list and the student's presentation to grade the Individual Contribution part. As a result, within the same group, the final mark of each group member may be different with the others.

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