COURSEWORK OBJECTIVES

- Develop and implement special effects in digital media using appropriate workflows and techniques.
- Create a compelling digital artefact utilizing digital image processing and computer graphic techniques.

COURSEWORK TITLE

Develop an Interactive Game Artifact with Special Effects

COURSEWORK TYPE

Group Project

COURSEWORK OVERVIEW

This coursework contributes to 60% of the overall module weightage. Students will work in a group to develop an interactive game with a theme. The assignment will require the integration of various imaging and special effects techniques, utilizing appropriate modelling tools, game engines, and Application Programming Interfaces (APIs). The game should incorporate event-driven gameplay to enhance interactivity and user engagement.

COURSEWORK REQUIREMENTS

The assignment involves a series of tasks from writing a narrative, designing and modelling assets (models, environment, sprites) and finally integrating it into a functional game. The game should include at least two levels, each with unique challenges and environments based on the narrative storyboard.

The game should showcase the use of visual programming tools and libraries such as Pygame (2D game engine). Additionally, you may Blender to create models / sprites / characters and environments for the game, and incorporate visual or audio special effects to drive the event sequences (e.g., smoke tires, shot, character abilities) to enhance the user experience.

Detailed Requirements

Group Formation

- Each group will consist of four students.
- Two members will be responsible for developing each game level.
- If there are five members, a minimum of three levels is mandatory.

Theme

- The game should have a theme of your choice.
- Suggested artefact name: "Super Kart" (or any name of your choice).

Narrative Storyboard

Write a narrative storyboard for the game artefact. The narrative should revolve around a game theme and include character design, movement, and event-driven actions. The storyboard should outline the following information.

- The main characters and their abilities.
- The environment settings such as arena and background.
- Plot and mechanics (ex. Seeking fame and fortune then join the racing match)

Game Assets

Create the following game assets and integrate it in the final game development.

- Visual assets should encompass backgrounds, sprites, textures, animation, particle effects.
- Audio Assets should encompass background music and sound effects such as noise, character voice or audio clips.
- Any other necessary assets to define the event-driven actions / obstacles / terrains and game logic.

Artefact Implementation

- Setup the game environment using Pygame.
- Implement the game concepts, logic and mechanics based on the narrative storyboard.
- Integrate the visual and audio assets in the previous section into the game environment.
- Apply special effects to enhance attacks or major events in the game.

Artefact Demo

- The demonstration will assess your knowledge and understanding as well as technical skills in the field of imaging and special effect.

SUBMISSION

- Submit the complete game files (code, assets, audio, Blender models, etc.) in a zip folder.
- Provide a short (2-3 minutes) video demo showcasing the gameplay, narrative, and special effects implemented.
- A pdf report which includes the following contents:
  - Introduction which will describe the game and narrative.
  - Storyboard narrative.
  - Screenshot the Game Scene and explains the assets.
  - Explains how the visual and audio special effects were integrated into the game.
  - Conclusion will describe the strength and weakness of the current artefact and possible future enhancement.
  - Workload Matrix to show each team member contributions.
  - References

PERFORMANCE CRITERIA

The evaluation criteria will focus on creativity, storyboard narrative and technical implementation – logics, assets and mechanics, gameplay experience - visual and audio effects.

Learning Outcomes	**Marks**
CLO2 - Report	**20**
Report layout, Standard, introduction, conclusion, workload matrix and references	5
Content (workflow and techniques explanation) • Storyboard narrative. • Screenshot the Game Scene and explains the assets. • Explains how the visual and audio special effects were integrated into the game.	15
CLO3 – Solution	**40**
Digital Artefact • Game environment. • Game concepts and logic and mechanics. • Asset integration	20
Audio and visual special effects	20

Fails to submit the presentation for Artefact Demo ***Zero marks will be allocated to demo, solution.*

***A maximum of 20 marks will be allocated for the CLO2 - report assessment (based on the submitted report in the Moodle).*

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Submission Information
Due Date : refer to learning Management System
Time : 11:00PM
Location : Learning Management System (Moodle)

ACADEMIC INTEGRITY

- You are expected to maintain the utmost level of academic integrity during the duration of the course.
- Plagiarism is a serious offence and will be dealt with according to APU and De Montfort University regulations on plagiarism.

Academic Dishonesty

- The writing of code and the work behind it must belong substantially to you. If any person besides you contributes in any significant way to the assignment, you must credit their work in your description. Similarly, if you include information/source code that you have used from other published sources or web pages, you must cite them as references. Otherwise, it will be viewed as a plausible academic dishonesty case.