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ITGDA4-14 Assessments (2024)

Project 2

1. Project

Faculty:	Information Technolog
Module Code:	ITGDA4-14
Module Name:	Computer Graphics and Game Development
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Internal Moderation:	Community of Practice
Copy Editor:	Mr Kyle Keens
Total Marks:	100
Submission Week:	Week 1-6

This module is presented on NQF level 8.

5% will be deducted from the student's assignment mark for each calendar day the assignment is submitted late, up to a maximum of three calendar days. The penalty will be based on the official campus submission date.

Assignments submitted later than three calendar days after the deadline or not submitted will get 0%. ^[1]

This is an individual project

This project contributes 20% towards the final mark.

[1] Under no circumstances will assignments be accepted for marking after the assignments of other students have been marked and returned to the students.

2. Instructions to Students

1. Please ensure that your answer file (where applicable) is named as follows before submission: **Module Code – Assessment Type – Campus Name – Student Number.**
2. Remember to keep a copy of all submitted assignments.
3. All work must be typed.
4. Please note that you will be evaluated on your writing skills in all your assignments.
5. All work must be submitted through Turnitin. The full originality report will be automatically generated and available for the lecturer to assess. Negative marking will be applied if you are found guilty of plagiarism, poor writing skills, or if you have applied incorrect or insufficient referencing. (See the "instructions to students" book activity before this activity where the application of negative marking is explained.)
6. You are not allowed to offer your work for sale or to purchase the work of other students. This includes the use of professional assignment writers and websites, such as Essay Box. You are also not allowed to make use of artificial intelligence tools, such as ChatGPT, to create content and submit it as your own work. If this should happen, Eduvos reserves the right not to accept future submissions from you.

3. Section A

Section A

Learning Objective

1. Develop simple video games.
2. Demonstrate how to implement movement in games
3. Assess the business context in game development.

Project Topic

Game development

Scope

Blocks 3 to 4

Technical Aspects

1. Python programming with PyOpenGL and PyGame

3.1. Question 1

Question 1**30 Marks**

Study the scenario and complete the question that follows:

Designing a Game

You have been hired by a start-up game company in South Africa. The company wants to focus on developing retro experience games, and for now, want to **input interaction with games to be limited to the keyboard only**. The company wants to gather ideas from all staff to develop a new game within the next year. This will be a complete run through of a game project, so you will need to consider most aspect of designing a new game, and ways of monetising your game.

The first step is to design a game concept.

Create a game design document for your game keeping in mind the interaction limitation. Discuss the tools required, target devices, target audiences, stylist choices, sound, interaction required, gameplay, mechanics, end-game goal, game progression, scene management, rendering pipeline, etc. You are welcome to discuss any other relevant factors. Justify your decisions, including values and figures where necessary. Provide a mood board to illustrate your design decisions.

Submit this as a PDF file. If you are creating a slideshow, please export your slides to a PDF document.

End of Question 1

3.2. Question 2

Question 2

20 Marks

Study the scenario and complete the question that follows:

Implementing the Base Game Elements

Now that you have created a design document, you must start developing your game. This will be done in 2 stages. The first stage (Question 2) will involve creating a basic prototype of the elements in your game. The second stage (Question 3) will involve finalising your game.

Implement the key functionality of your game. This should include setting up a base scene for your elements. You should also implement user input and basic movements for your characters and environments.

You may use assets from online (be sure to state in your documentation which aspects are not your own work). You are also encourage to design your own elements, to be awarded marks for creativity.

You will be using Python with PyGame.

Include any instructions the marker might need to execute your program and play the base game in your report.

End of Question 2

3.3. Question 3

Question 3

30 Marks

Study the scenario and complete the questions that follow:

Completing the Game

Now that you have developed the key elements for your game, you must now complete your game.

Complete the rest of the game. Keep in mind the factors you presented in Question 1. Here you will consider factors such as sound, imagery, mechanics, game progression, scoring, networking (if applicable), etc.

You may build upon the program from Question 2, however, ensure that the submission for Question 2 does not include elements from Question 3.

Include any instructions the marker might need to execute your program and play the complete game in your report.

End of Question 3

3.4. Question 4

Question 4

20 Marks

Study the scenario and complete the questions that follow:

Monetising the Game

Now that you have designed and developed a suitable game, the company wants to see how such a game can be monetised.

4.1 Discuss the project management triangle of your game, mentioning values and figures. **Justify your decisions.**

(10 Marks)

4.2 Research at least 2 past cases where games similar to yours were monetised and discuss your findings. Mention how these games are similar to yours. Aim for an in-depth discussion, rather than a broad one, mentioning figures and values.

(10 Marks)

Answer

Note to Marker

- Use discretion when marking.
- The answer provided shows an example of factors to consider only. Students will have to substantiate their points.
- Generally, 1 mark is awarded per point.
- **You may use the following guide:**

Comment	Marks
Question 4.1	
Project management triangle is well thought out with justifications. Actual figures and values are used. All decisions are well justified.	7 - 10
Project management triangle is mostly thought out. Most decisions are justified.	5 - 6
Most of the project management triangle is not well thought out. Decisions are not well justified.	3 - 4
No response or very little written or nonsensical response.	0 - 2
Question 4.2	
In-depth discussion of at least 2 relevant case-studies. Mentions how the case-studies are similar to the game developed. Mentions values and figures.	7 - 10
Discussion is mostly in-depth. Not many values or figures mentioned (or unrealistic ones are mentioned). Similarities between the case-studies and game developed is not well defined.	5 - 6
Response is broad and vague. Case studies are not very relevant.	3 - 4
No response or very little written or nonsensical response.	0 - 2

4.1 The project management triangle involves balancing the scope, cost and development time of the project. Discuss each of these in with the project in mind (discussion should be specific to the project, not vague). What will be prioritised and why? [10 marks]

4.2 The 2 sources should be discussed in-depth, and students should relate them to the games built specifically (not discuss them broadly and vaguely). Discussions should mention marketing and monetisation strategies.

End of Question 4