



The University of Fiji



SCHOOL OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE / INFORMATION TECHNOLOGY

FINAL EXAMINATION SEMESTER 1, 2015

Games Programming Techniques

ITC325

Time Allowed: Three hours (3 hours)
(An extra ten minutes is allowed for reading this paper)

INSTRUCTIONS

- 1.0 Write **all** your answers in the **Answer Book** provided.
- 2.0 There are Seven (7) pages of questions in this Question Booklet (excluding the Cover Page)
- 3.0 Write your **Student Identification Number** on the front page of the **Answer Book**.
- 4.0 If you use extra sheets of paper, be sure to show clearly the question number(s) being answered and to tie each sheet securely in your Answer Book at the appropriate place.
- 5.0 There are **two** sections in this paper, **Section A** consists of 20 multiple choice and is worth 20 marks, **Section B** consists of Matching and is worth 10 marks, **Section C** consists of 5 Short Answer Questions and is worth 50 marks and **Section D** consists of Long Answer Questions and is worth of 20 marks. **Answer all the questions.**
- 6.0 **Programmable calculators** are not allowed.

Section A: Multiple Choice Questions

(20 Marks)

1. What segment of the electronic game industry began in the '60s and didn't really take off until the '90s?
 - a. arcade
 - b. online
 - c. console
 - d. mobile
2. What type of platform is best-suited to local play?
 - a. arcade
 - b. computer
 - c. console
 - d. mobile
3. In a puzzle game, players race against time to search for words hidden in a grid of letters. Since there's a specific time allotted for each word search, the time interval used in this game is known as what.
 - a. part-time
 - b. real-time
 - c. player-adjusted
 - d. time-limited
4. You are investigating a series of murders, collecting clues and solving riddles connected to the crimes along the way. Your goal is to recreate what happened in order to solve the crime. What matters in this game is not your character (who is nameless and faceless)—but the story that unfolds as you continue to get closer to the truth. What type of game are you playing?
 - a. action
 - b. puzzle
 - c. adventure
 - d. role-playing
5. You are running quickly through dangerous terrain—bow and arrow in hand—stalking the enemy predators that have landed on your island. You see the environment through the eyes of your character at all times—and you are also able to see your character's weapon in the bottom foreground of the screen. As the enemy spots you and reacts, you think quickly and draw your bow—vanquishing your foe in a fraction of a second. What type of game are you playing?
 - a. action
 - b. puzzle
 - c. adventure
 - d. role-playing
6. You are in the cockpit of a jet transporting explosives and weapons back and forth between neighboring countries. The controls in the cockpit are so detailed that you must read the thick game manual thoroughly before even beginning to master them.

The rules for navigating this aircraft correspond in excruciating detail to real-world rules. What type of game are you playing?

- a. action
 - b. puzzle
 - c. simulation
 - d. role-playing
7. In a guessing game, players get closer to finding each other's locations by asking a series of questions. This strategy requires players to apply which knowledge in order to advance in the game.
- a. extrinsic
 - b. imperfect
 - c. intrinsic
 - d. perfect
8. You are a film producer who is trying to build your own production studio. In order to get money from investors, you must answer trivia questions related to popular films. This strategy requires players to apply what knowledge in order to advance in the game.
- a. extrinsic
 - b. intrinsic
 - c. perfect
 - d. intransitive
9. You are developing a game adaptation of a well-known television series. What type of company would specifically need to give you permission to develop this adaptation?
- a. licensor
 - b. CGI house
 - c. publisher
 - d. hardware manufacturer
10. Nintendo is a unique company in the industry because it produces, publishes and develops hardware for its own games. Nintendo is a what of developer.
- a. 1st-party
 - b. 2nd-party
 - c. 3rd-party
 - d. 4th-party
11. You are working in the marketing department at Electronic Arts. Your supervisor has given you the task of putting together a special "game signing" event at the local Gamestop retailer. This type of marketing is known as:
- a. sales
 - b. promotion
 - c. public relations
 - d. market research

12. You are working in the marketing department at Sony. You have been putting together a press kit for *God of War III*. The kit will be sent out to media outlets (e.g., reporters at newspapers, radio stations, television stations, online magazines) – and you will be following up later on possible game reviews and interviews with the developers. This type of marketing is known as:
- a. sales
 - b. promotion
 - c. public relations
 - d. market research
13. Mark code or phrases that aren't read by program – marked with // or / and /
- a. Access Modifiers
 - b. Program
 - c. Comments (C#)
 - d. Array
14. Unload anything that is not part of the ContentManager
- a. Operators (C#)
 - b. UnloadContent (XNA method)
 - c. Class
 - d. Private (C# Accessibility)
15. Block of C# with particular name
- a. Method (C#)
 - b. Draw (XNA method)
 - c. Array
 - d. Statement (C#)
16. Set up anything related to your game that's not content related
- a. Initialize (XNA method)
 - b. Cast (C#)
 - c. Private (C# Accessibility)
 - d. Array
17. What is a Visual studio?
- a. Block (C# statement)
 - b. Iteration (C# statement)
 - c. IDE (Integrated Development Environment)
 - d. Bug (C#)
18. Repeatedly execute the statement { while – do – for – foreach }
- a. Private (C# Accessibility)
 - b. Iteration (C# Statement)
 - c. Expression (C# statement)
 - d. Update (XNA Method)

19. Data structure that combines fields and methods in a single unit (may be user defined)

- a. Actions
- b. Breakpoint (C#)
- c. Class (C# type)
- d. Float (C#)

20. A reference types (C#)

- a. Byte
- b. Array
- c. Expression (C# statement)
- d. Enum

Section B: Matching

(10 Marks)

Match the strategy or goal in the right-hand column with the most well-suited genre in the left-hand column.

- | | |
|------------------------------------|-------------------------------|
| _____ Action | a. Applying real-world rules |
| _____ Adventure | b. Character advancement |
| _____ massively multiplayer online | c. Collecting |
| _____ Puzzle | d. Cooperation & teamwork |
| _____ role-playing game | e. Extrinsic knowledge |
| _____ Simulation | f. Pattern recognition |
| _____ Strategy | g. Reflexes (quick movements) |
| _____ Trivia | h. Resource management |

Section C: Short Answer Questions

(50 Marks)

Question 1: Historical Game Elements

(10 Marks)

- a) What are the key phases and milestones in the history of electronic game development? (1)
- b) Why have some game development companies succeeded while others have failed? How can you apply this knowledge to the current industry? (3)
- c) What electronic games helped attract a larger audience to the industry? Why did they succeed in doing so? (2)
- d) What was the first electronic game you ever played? Did it capture your attention? Why? What are some non-electronic games that were popular when you were a kid? (2)
- e) What traditions in early game development are still in existence? How are they appealing and useful to developers and players? (2)

Question 2: Roles & Responsibilities – developing the team (9 Marks)

- a) How do game development studios, publishers, licensors, and manufacturers work together to bring a game to market? Compare and contrast business models as part of your answer. (2)
- b) The roles of artist and designer are sometimes confused with one another. How do these roles differ? Using one electronic game as a reference, discuss three examples of how art is used in the game, and three examples of how design is used in the game. (2)
- c) What are the benefits and disadvantages of running an independent game studio? How does this structure differ from third-party developers and publishers? If you were running an independent studio and you could initially hire only two team members, what roles would you assign to them? (5)

Question 3: Audio – Creating the Atmosphere (10 Marks)

- a) What are the many purposes audio serves in games? Why is audio an important (but often overlooked) element in game development? (2)
- b) What is the difference between looping and adaptive music in games? (2)
- c) What are some essential tools utilized by audio professionals in the game industry? What do these tools help audio professionals accomplish? (2)
- d) How are voiceovers, sound effects, and music used effectively in a game? (2)
- e) Game and film scoring are distinct from each other. Analyze the differences between these processes, and discuss the major distinctions between these two media. (2)

Question 4: Gameplay – Creating the Experience (11 Marks)

- a) What is the difference between *gameplay* and story? How do these two elements intersect? (2)
- b) How do game goals relate to challenges in a game—and what strategies can be utilized to overcome these challenges? (2)
- c) A game's premise indicates "You are given immunity from a deadly disease that causes humans to age rapidly. It is up to you alone to find the cure. Use your powers of deduction to uncover the mysterious origins of this disease and find an antidote—before it's too late!" What are the victory and defeat conditions for this game? Assigning a genre of your choice, make up a set of rules for this game. (3)
- d) Describe yourself in terms of a game character. What are your physical and personality characteristics, goals, strengths and weaknesses, likes and dislikes, general mood? (2)

(Note: These characters might not necessarily be helpful but could represent obstacles that prevent you from reaching your goals.) (2)

- e) How do you distinguish the main player character from the game environment? (2)

Question 5: Player Elements – who plays and why? (10 Marks)

- a) What motivates people to play games? Discuss three different motivational factors and provide examples of games that address these factors. (2)
- b) Why do you play games? What elements in your favorite games make you want to continue playing? (2)
- c) What is the importance of psychographics such as values, attitudes, and lifestyles in player markets? Discuss three games that incorporate a distinct belief system. (2)
- d) How have age and gender demographics in the player market changed over time? How might these changes affect the way games continue to be developed? (2)
- e) Violence in our society continues to be blamed on the influence of entertainment content such as explicit films and song lyrics. Some games have been blamed for violent outbreaks. Provide a real-world example of a violent incident for which an electronic game was held responsible. Do you agree with this view, or do you believe that there is not a distinct correlation between real-world violence and the “fantasy” violence in games? (2)

Section D: Long Answer Questions (20 Marks)

Question 1: Game Story Analysis (10 Marks)

The following two paragraphs relate to the same game. Read both of them before filling in the blanks with the correct answers.

Paragraph A:

“The earth has been devastated by a horrible plague, causing the aging process to speed up. The population has decreased by 50%, and it’s just a matter of time before all humans cease to exist.”

Paragraph B:

“You are given immunity from a deadly disease that causes humans to age rapidly. It is up to you alone to find the cure. Use your powers of deduction to uncover the mysterious origins of this disease and find an antidote—before it’s too late!”

- a) Paragraph A is known as a _____, and Paragraph B is known as a _____. (2)
- b) What is the specific victory condition for this game? (2)

- c) What is the specific loss condition for this game? (2)
- d) What is the target generational market for this game, and why? (2)
- e) Choose a different generation. How you would change the game's storyline to attract that generation? (2)

Question 2: Game Analysis

(10 Marks)

- a) The game industry went through a slump in the early 1980s. Although home console systems experienced a new "golden age" in the late 1980s, the arcade industry never recovered. What are 2 possible reasons for this slump? Why do you agree or disagree with these reasons? (5)
- b) It is widely assumed that games are primarily designed solely for entertainment purposes. What are 3 additional game goals? Name a game designed for one of these goals, and name the associated application. (5)

End of Paper.