

**THE UNIVERSITY OF WESTERN ONTARIO  
LONDON CANADA**

**COMPUTER SCIENCE 483b/641b  
MIDTERM EXAMINATION  
FEBRUARY 11, 2007  
2 HOURS**

NAME: \_\_\_ Marking Scheme \_\_\_\_\_

STUDENT NUMBER: \_\_\_\_\_

Question

1-25. \_\_\_\_\_

26. \_\_\_\_\_

27. \_\_\_\_\_

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33. \_\_\_\_\_

TOTAL \_\_\_\_\_

(Out of 140 marks)

There are no cheat sheets, books, or other reference materials allowed for this exam. No calculators or other electronic devices are permitted either.

Part I -- Multiple Choice, True/False -- Choose the best answer from the choices given. Circle your answer on the paper, and fill in the answer on the Scantron form. [50 marks total, 2 marks each]

1. All rules of a game should be explicit.
  - a. True.
  - b. False.
2. In every game that there is conflict, there is also violence.
  - a. True.
  - b. False.
3. Which of the following is not a characteristic of a flow experience according to Csikszentmihalyi, as discussed in class:
  - a. The subject undertakes an activity they believe they can complete.
  - b. The subject can focus their concentration completely on the activity.
  - c. Subjective experience of time is altered.
  - d. The subject experiences a sense of effortless involvement such that worries and concerns seem to vanish.
  - e. All of the above, in fact, are characteristics of a flow experience.
4. Which of the following is not a factor considered to be part of psychographics:
  - a. A person's way of thinking.
  - b. A person's attitudes.
  - c. A person's perceptions.
  - d. A person's country of origin.
  - e. All of the above are, in fact, part of psychographics.
5. Casual games are games aimed at the masses, while serious games are games intended only for the "hard core" game player.
  - a. True.
  - b. False.
6. The concept development phase of game development:
  - a. Is usually the first stage in the development of a new game.
  - b. Is rarely fully funded for independent developers.
  - c. Typically results in the creation of a game proposal.
  - d. All of the above.
  - e. None of the above.

7. Which of the following is not a need, goal, or concern of game developers that must be taken into consideration during concept development:
- a. Risk tolerance.
  - b. Scheduling constraints.
  - c. Licensing conditions and issues.
  - d. Preferred platforms and technologies.
  - e. All of the above must be taken into consideration.
8. Which layers of design in game development have to be done properly to produce a game that is good?
- a. Technical design.
  - b. Software design.
  - c. Game design.
  - d. All of the above.
  - e. None of the above.
9. Games of any genre can immerse a player.
- a. True.
  - b. False.
10. You can never have too much realism in a video game.
- a. True.
  - b. False.
11. Which of the following is not an application area for serious games:
- a. Medical applications.
  - b. Educational applications.
  - c. Social and public policy applications.
  - d. Military applications.
  - e. All of the above are, in fact, application areas for serious games.
12. Elegance and ease of use of a game interface are more important than increased functionality.
- a. True.
  - b. False.
13. No game should ever be decided by factors outside of the player's control.
- a. True.
  - b. False.
14. Every item in a game should have both strengths and weaknesses to ensure that it is not always superior or always inferior to other items in the game.
- a. True.
  - b. False.

15. Play testing is particularly important when balancing a game asymmetrically.

a. True.

b. False.

16. A player should never be in a position where winning is totally impossible and the player does not know it.

a. True.

b. False.

17. A player should never be in a position where winning is totally impossible, even if the player does know it.

a. True.

b. False.

18. All of the knowledge that the player needs to successfully play a game should be found:

a. Within the game manual.

b. Within the game tutorial.

c. Within a strategy guide for the game.

d. Within the game itself.

e. Within all of the above combined together.

19. Risks in a game must always be accompanied by a reward.

a. True.

b. False.

20. Games should always reward achievement, whether this achievement was risky or not.

a. True.

b. False.

21. Statistics tend to lie at the heart of most role playing games, whether the player gets to see them or not.

a. True.

b. False.

22. In an adventure game, good puzzles must:

a. Be appropriate to the setting.

b. Be fair and solvable by the player.

c. Somehow advance the story of the game.

d. All of the above.

e. None of the above.

23. The best games are completely non-linear so the player has total freedom over what needs to be done within the game and when.

a. True.

b. False.

24. Resources in a strategy game have to be balanced according to:

a. Their amounts available.

b. Their locations in the game world.

c. Their rates of production and consumption.

d. All of the above.

e. None of the above.

25. When designing an online game, you want the game to play like:

a. The players are all playing on the same system.

b. The players are all in the same house.

c. The players are all in the same neighbourhood.

d. The players are scattered around the world.

e. None of the above.

26. The following question parts deal with types of game players. [12 marks total]
- a. According to Richard Bartle's article on player types discussed in class, what are the four main types of video game players? Briefly describe each type. [8 marks]

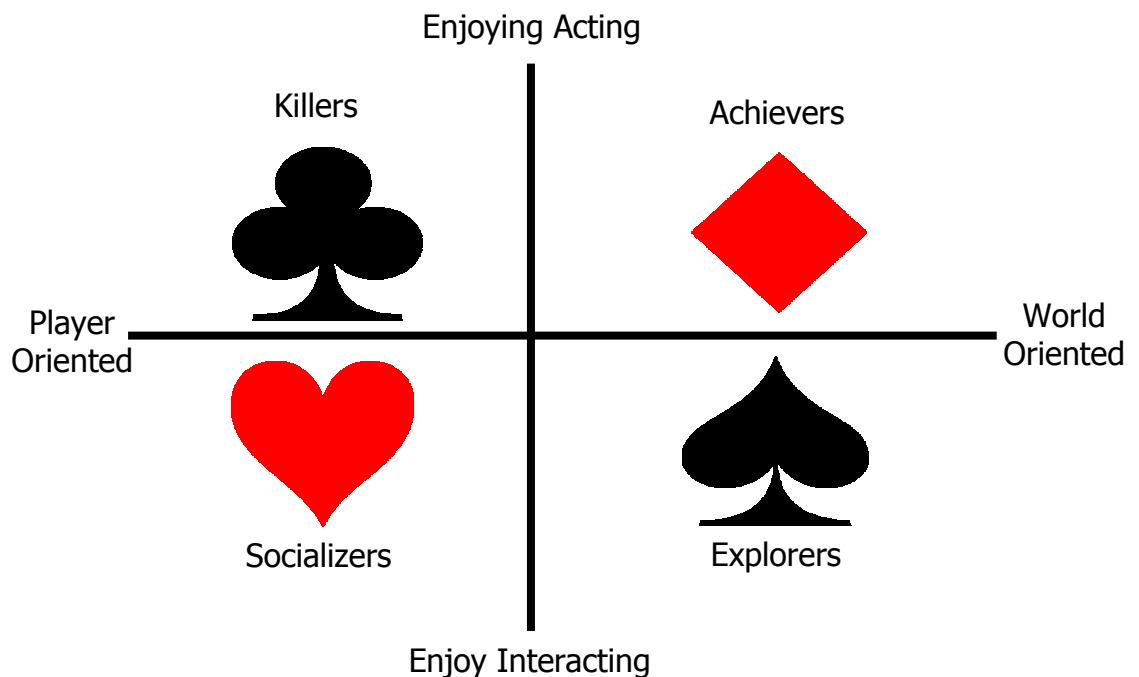
**Achievers:** These are players that enjoy acting and are world oriented. Typically, they are most interested in completing the objectives of the game.

**Explorers:** These are players that enjoy interacting and are world oriented. Typically, they are most interested in discovering everything that the game world offers, and understanding how and why it works.

**Socializers:** These are players that enjoy interacting and are player oriented. Typically, they are most interested in interacting and conversing with other players of the game, and they see the game as a tool for socializing.

**Killers:** These are players that enjoying acting and are player oriented. Typically, they are most interested in defeating or killing other players, as the name implies.

- b. Reproduce Bartle's diagram showing the four main types of video game players as different suits in a deck of cards. [4 marks]



A categorization of this information would be acceptable as well.

27. Why is it important to introduce new gameplay elements as a game progresses? When introducing new elements, why is it important to not introduce too many of them too quickly or at the same time? [8 marks]

Introducing new elements in this fashion is important for several reasons. From a player boredom/fatigue perspective, introducing new elements gives the player something new to play with throughout the game, alleviating boredom, and provides the player something to look forward to. From a structure and progression standpoint, it provides a gradual introduction to the game, ramping up challenge and difficulty as the player grows prepared for it. It is important not to do it too quickly for the same reasons; if too much is introduced too quickly, you might overwhelm the player, either in terms of too many new things to become accustomed to at once (resulting in confusion or frustration), or because difficult things are introduced so quickly that the player cannot grow and properly learn to deal with them.

28. Discuss four gameplay elements that could be used to engage player emotions in games as mentioned in class, and provide a specific example of each element in action. [8 marks]

Several elements were discussed in class:

- Characters, their relationships, and the events that happen to them in the game.
- The setting and atmosphere of the game.
- The creativity and control given to the player.
- The risks and rewards in the game.
- The goals the players must meet in the game, and the ethical and moral issues faced in the process.

Suitable examples would depend on the elements provided. Examples could either be of a situation, or of a particular game demonstrating the element in use.

29. The following question parts deal with concept development. [12 marks total]
- a. What occurs during the “concept development” phase of game development? What do you start with, and what do you have as a result of concept development? [4 marks]

In the concept development phase, you start with your initial game idea. The main goal is to take this idea, refine it and flush it out to decide what the game will be all about. You must decide on story and character elements, gameplay, setting, and so on. Concept art should also be developed. You must also do some initial business investigation to estimate a schedule and budget, develop a competitive analysis, and conduct a risk analysis. In the end, the game project proposal is written. If successful, you can proceed with the various issues in pre-production.

- b. What are the advantages and disadvantages of basing a video game on a completely new and original idea? [4 marks]

Having a game based on a totally new and original idea is good in that innovation and fresh ideas are important in the creation of a new game. After all, why would players want to buy what is, in essence, the same game over and over again? If the idea is good enough, players will like it, and other developers will imitate it, but you will be remembered as the first adopter. But, with something completely new and different comes a measure of uncertainty, as the ideas are unproven and untested. Variations on existing themes can sometimes be viewed as safer, and things that are totally new might scare off publishers.

- c. In class, we said that game publishers invest in people, not just ideas. What is meant by this statement? What implications does this have during the concept development of a game? [4 marks]

Good ideas can be cheap and plentiful, but you need to have the right team to take an idea and make it reality. Publishers know this, and so a team is an important aspect of their investment decisions. This means that when you are embarking on concept development, submitting pitch documents and proposals, you should have a solid team assembled for developing the game. Without a strong team, publishers might shy away from supporting development because they are unsure of your ability to follow through on it, even if it is a really good idea. A strong team will help sell the idea of a game, as well as helping to assemble the necessary materials required during this phase of development.

30. The following question parts deal with quotes on gameplay design. [12 marks total]
- a. Nolan Bushnell once said: “All the best games are easy to learn and difficult to master.” Explain why this is the case. [4 marks]

If games were difficult to learn, they would be very frustrating and discouraging to players, providing a large disincentive to continue playing, particularly for new players. If games were easy to master, games would quickly lose their challenge, and consequently a good portion of their fun, resulting in players getting bored and abandoning them after a short period of time. Since neither of these traits are desirable, Bushnell’s statement is a good one to follow.

- b. In class, we made the statement: “A game should be technically easy to leave, but emotionally and psychologically difficult.” What is meant by this statement? [4 marks]

For the technically easy part, it is important to make sure that appropriate options for saving and quitting a game are present to permit a player to quickly leave a game without major problems or hassles, if they choose to do it. The emotionally and psychologically difficult aspect is all about creating an experience where the player does not want to make this choice. By creating an immersive and engaging experience, the player will want to continue playing the game, and they will not want to leave when the time to do so comes. This is a sign that they are really enjoying what they are getting out of the game.

- c. In class, we made the statement: “Good writing is invisible. Bad writing draws attention to itself.” What is meant by this statement? What influence does this statement have on game design? [4 marks]

If writing is done well in a game, players will appreciate it, but their attention will not be drawn to it. They will be happy, but largely unaware that the writing is well done otherwise. Bad writing, on the other hand, sticks out like a sore thumb, and can break immersion in a game rather quickly. It will be rather noticeable, thereby attracting player attention. This implies that writing is important to games, and that it must be done carefully, using professional talent to do so. (Especially when it comes to translations and so on.)

31. The following questions deal with player classification and issues. [16 marks total]
- a. What is meant by the term “geographics” as used in class? Identify three geographic issues discussed in class and explain how they could or should affect the development of a game. [8 marks]

Geographics issues deal with the location of the player; a player’s location can affect their attitude towards games or particular types of games or gameplay. In class, we discussed the following geographics issues:

- Dominant hardware infrastructure (e.g, consoles vs. computers, wired vs. wireless connectivity, low-speed vs. broadband access)
- Dominant platform
- Tolerance to certain types of content (violence, sex, and so on)
- Use of licenses and licensed properties
- Genre and gameplay adoption

How these issues could or should affect development naturally depends on the issue. For example the dominant infrastructure or platform in essence dictate what you should target your game for. Tolerances should be kept in mind when developing content for your games. The popularity of certain licenses should be kept in mind as well, as there is no point in pushing a licensed game into a region where that property is essentially unheard of.

- b. What is meant by the term “demographics” as used in class? Identify three ways in which demographics can influence the development a game as discussed in class, and explain why this is the case for each. [8 marks]

The demographics of players in essence has to do with various statistical descriptors of the players in question, including gender, age, income level, education level, marital status, ethnicity, and so on. Demographics can influence games in many ways, as discussed in class:

- Interface design.
- Story elements such as plot and characters.
- Pace of action.
- Target level of difficulty.
- Multiplayer and online support.
- Appropriateness of content.

Explanations should be provided appropriately for each of three of these items.

32. The following questions deal with player-centric game design. [12 marks total]
- a. What is meant by the term “player-centric game design”? What two key duties does a designer have when following this approach? Explain the importance and significance of each duty. [8 marks]

Many designers prefer a player-centric approach to game design, in which players are simply put first; all major design decisions revolve around the player. In this approach, the designer envisions a representative player of the game and recognizes two duties: a duty to entertain, and a duty to empathize.

**A duty to entertain.** A game’s primary function is to entertain the player, and the designer must strive to do so above all else. (Including personal objectives for the game, and vision for the game that is incompatible with delivering the best possible player experience.)

**A duty to empathize.** To design a game that entertains, the designer must imagine themselves as the player and deliver what they want and need. Player empathy can be key, and requires the designer to know what the player wants, expects, and needs from the game, and then deliver on it.

- b. In the player-centric approach to game design, what two assumptions must you avoid making about yourself and your player? Why? [4 marks]

In taking on a player-centric focus, it is important to remember to avoid the following assumptions:

**You are your player.** Do not assume that other players are like you. You have to imagine what it is like to be your player, and they can be very different from you. Making this assumption means you aren’t empathizing with your player, and are focusing on entertaining only yourself.

**Your player is your opponent.** Game design is about entertaining the player, not opposing them. This can be hard to keep in mind, but it is critical to do so. If you make this assumption, and guide your game design accordingly, your game is not likely to be very entertaining, and instead will be overly difficult and frustrating to the player.

- The following questions deal with interface design for games. [10 marks].
- a. In class, we discussed several questions that a game's user interface should be able to readily answer for the player at any point during a game. Identify five of these questions and justify why each is an important question to answer for the player. [5 marks]

In class, we identified the following questions:

- Where am I?
- What am I actually doing right now?
- What challenges am I facing?
- Did my action succeed or fail?
- Do I have what I need to play successfully?
- Am I in danger of losing the game?
- Am I making progress?
- What should I do next?
- How did I do?

Suitable justification will need to be given, depending on the questions selected.

- b. We also discussed in class several activities that a player would want to be able to carry out through the user interface of the games they play. Identify five of these activities and justify why each can be important to the player's ability to play the game. [5 marks]

In class, we identified the following activities:

- Move
- Look around
- Interact with non player characters
- Pick up portable objects and put them down
- Manipulate fixed objects
- Construct and demolish objects
- Give orders to units or characters
- Customize elements of the game
- Talk to friends in the game (multiplayer games)
- Do housekeeping tasks as discussed in the notes

Again, suitable justification will be required, depending on the activities selected.