|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Roll No |  |  |  |  |  |  |  |  |  |  |  |  |

****

**Presidency University**

**Bengaluru**

**School Of Computer Science and Engineering & Information Science**

**Summer End-Term Examinations, Aug 2024**

**Date**: 05-08-2024

**Time**: 9:30 am to 12:30 pm

**Max Marks**: 100

**Weightage**: 50%

**Odd Semester**: 2023 - 24

**Course Code**: CSE 3073

**Course Name**: Game Design and Development

**Department: Computer Science Engineering**

**Instructions:**

1. *Read the all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q.No** | **Questions** | **Marks** | **CO** | **RBT** |
| 1 | 1. Describe the meaning of "interesting decisions". | 4 | CO1 | L1 |
| 1. Explain in detail triangle of weirdness. | 6 | CO1 | L2 |
| 1. Show how games are designed in the 3Cs framework | 10 | CO1 | L3 |
| OR | | | | |
| 2 | 1. What are the components of elemental tetrad? | 4 | CO1 | L1 |
| 1. Explain the three design goals for making games in brief. | 6 | CO1 | L2 |
| 1. Show how games are designed in the 3Cs framework | 10 | CO1 | L3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 3 | 1. List any four tools used for paper prototyping. | 4 | CO2 | L1 |
| 1. Explain in detail the types of economy used in Games. | 6 | CO2 | L2 |
| 1. Consider the hit table consisting of range of random numbers generated and the corresponding weightage in combat.  |  |  | | --- | --- | | Hit Table | | | Range | Hit Weight | | 0 - 19 | 10% | | 20 - 34 | 25% | | 35 - 49 | 40% | | 50 - 59 | 50% | | 60-79 | 75% | | 80 - 94 | 80% | | 95 - 99 | 100% |   Use this hit table to design a combat model suitable for a two person combat game. If Player 1 is the human player, and you want the first level to be a tutorial level for the human player, show how should the attack and defense values be designed assuming that human player starts with health of 100.(HP=100). Give detailed justification for your answer. | 10 | CO2 | L3 |

OR

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 4 | 1. Describe the factors affecting game balance. | 4 | CO2 | L1 |
| 1. Explain the different types of prototypes based on how they are constructed. | 6 | CO2 | L2 |
| 1. Consider the hit table below.  |  |  | | --- | --- | | Hit Table | | | Range | Hit Weight | | 0 - 29 | 10% | | 30 - 59 | 30 % | | 60 - 84 | 60 % | | 85 - 99 | 100% |   Two players Kaju and Bisku are involved in a combat game in which they take turns attacking each other. Kaju is the first to attack. Both choose a random number between 0 and 99, to decide the weight of their attack or defence based on the hit table. The random values generated for a game with 5 turns is shown below: Turn 1: Kaju attacks: Kaju = 23, Biskut = 55 Biskut attacks: Kaju = 93, Biskut = 15 Turn 2: Kaju attacks: Kaju = 42, Biskut = 11 Biskut attacks: Kaju = 23, Biskut = 97 ​​​​​​​Turn 3: Kaju attacks: Kaju = 88, Biskut = 22 Biskut attacks: Kaju = 53, Biskut = 32 ​​​​​​​Turn 4: Kaju attacks: Kaju = 49, Biskut = 24 Biskut attacks: Kaju = 93, Biskut = 15 ​​​​​​​Turn 5: Kaju attacks: Kaju = 43, Biskut = 41 Biskut attacks: Kaju = 93, Biskut = 15 ​​​​​​​  Show playtesting for the combat model::   HP = HP - wA. AV  + wD. DV | 10 | CO2 | L3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 5 | 1. List important variable types used in Unity game development using C#. | 4 | CO3 | L1 |
| 1. Discuss in detail Collections in C#. | 6 | CO3 | L2 |
| 1. Illustrate the different ways in which functions can be created in C#. | 10 | CO3 | L3 |

OR

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 6 | 1. List the operators used in C#. | 4 | CO3 | L1 |
| 1. Discuss in detail Loops in C#, with examples. | 6 | CO3 | L2 |
| 1. Demonstrate the different types of bugs that is commonly encountered while developing games in Unity environment and how they can be resolved. | 10 | CO3 | L3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 7 | 1. Reproduce the format for tracking document versions. | 4 | CO4 | L1 |
| 1. Explain the purpose of Game Design Documents. | 6 | CO4 | L2 |
| 1. Using the Apple Picker game discussed in class, show how the following elements are designed: i. Game story ii. Game assets iii. Activities. iv. Mechanics(use flowcharts to show this) | 10 | CO4 | L3 |

OR

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 8 | 1. Reproduce one example for game flow statement. | 4 | CO4 | L1 |
| 1. Explain in detail the contents of a one-pager game design document. Why is USP of the game listed in this. | 6 | CO4 | L2 |
| 1. Show the need for creating game design document with the help of a live GDD. | 10 | CO4 | L3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 9 | 1. Describe the different types of Objectives in Game design. | 4 | CO1 | L1 |
| 1. Explain the dramatic and dynamic elements in FDD framework | 6 | CO1 | L2 |
| 1. Construct five definitions for game, and provide insights for these   Definitions from a designer’s perspective. | 10 | CO1 | L3 |

OR

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 10 | 1. Define Game Play. Define Vertical and Horizontal slicing. | 4 | CO2 | L1 |
| 1. Describe how physical prototypes are used | 6 | CO2 | L2 |
| 1. Why are games developed with the help of prototypes?  Consider a basic one on one combat game between a Red man and a Blue man. Develop a combat model for this game using prototyping. Show why each individual choice is made in this design with examples/counter-examples.[Note: You have to show the full evolution starting from the most basic example.] | 10 | CO2 | L3 |