

Design Overview for <<Dr 19 >>

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Summary of Program

Dr 19 is a game that has the player jump through a small platform equipped with their trusty antibodies and antigens (sword and shield) The aim of the game is to eliminate covid-19 virus' whilst avoiding Donald Trump tweets that fall from the sky.

Required Data Types

Describe each of the records and enumerations you will create using the following table (one per record).

Table 1: <<record name>> details

Field Name	Type	Notes
Player health	Numerical	
Player attack	Numerical	
Player defence	numerical	

Table 2: <<enumeration name>> details

Value	Notes
Class virus (can we use classes?)	Contains basic draw function for virus' enemy. Allowing for variation
Class antibody/antigen (2 separate)	Basic variables to create variety in player pickups

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Overview of Program Structure

List the main functions/procedures you are going to need to create this program. For each function/procedure provide its name and a brief description of what it will do.

Don't spend too long on this at this stage. Focus on the main things you think you are likely to need and you can build on this as your program develops.

Include a structure chart (once you have your proposal approved by your tutor)

Gosu::Window

- A standard Gosu window.

Draw main menu

- Start game
- High score table, read and write text file.

Draw player

- Draw physical player
- Have position that can be updated
- Reference to player lives
- Reference to player score
- Reference to collision detection
- Attack and defence
- Health

Draw virus

- Draw physical player
- Have position that can be updated
- Be aware of player position
- Health
- Attack and defence values

Draw tweets

- Draw physical player
- Have position that can be updated
- Be aware of player position

Draw Entity

- Draw physical player
- Have position that can be updated

Antibody/antigen

- Interaction of attack and defence on entities

Player pickups

- Attack variation
- Defence variation
- Speed variation
- Jump variation

Draw platform

- Read txt file to create platforms based on a txt map
- Level can change by reading new txt file
- Be aware of collision detection

Collision detection

- Check collision between each entity

Player movement

- Key detection for player
- Jump, left, right,

Entity gravity

- A constant that can be applied to the y axis of all entities to simulate gravity and allow jumping

Score

- Keep track of player score

Lives

- Keep track of player lives