



Game Design Document

IT-426: Computer Games

CARNIVAL

(Ralph and the invading monsters)

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ABSTRACT OF THE GAME

Welcome to the game manual of Carnival – Madness. This manual will brief you through the game, its essential features, controls, options available to you, system requirements etc. If you are reading this then we assume that you have already installed the game Carnival – Madness. If not then you can download the game source code from this [link](#).

The game Carnival – Madness is about a character called RALPH who is cramped in between the carnival along with the voracious aliens and monsters all around him, ready to have him. Also, one of the monsters already knew where RALPH is and hence, it is already chasing him. So, RALPH is running here and there in the carnival to protect himself from the grim monsters but then he gets tired if he runs continuously. He needs a Lollipop(his favorite!) or some energy capsule/booster which can reduce his weariness or tiredness.

Your task is to direct RALPH, so that he can survive. You need to choose the best possible paths and powers boosters which could help RALPH survive the longest. In return, you would be provided with the score in the end which indicates your ability or performance to protect RALPH.

How it works?

The game begins with completely healed RALPH i.e his health value is 100 initially. You would be provided with 3 lives in a game which means it would be fine if you die thrice, you still can rejuvenate. Now, as you keep on running your health starts decreasing gradually. You can revamp your health meter in two ways :- a) By collecting the lollipop or energy capsule. b) By stop running i.e cease to run to reduce the exhaustion.

The game has two types of monsters. a) Blue head Monsters b)Spherical Monsters. The prior ones are used to protect the special powers from ralph while the later one is the one who already knows RALPH's position and is therefore pursuing him. This game has two special powers a) Flashing Speed b) Ghost Mode or God Mode.

Ghost Mode – This feature avails RALPH to have the prerogative of passing through the buildings, walking over water, through roller coaster etc.

Flashing Speed- This feature avails RALPH to have the prerogative of running at the speed with 4.0x time the original speed while still reducing the stamina meter at the same rate. So, RALPH can easily flee himself from the Spherical monster.

This was all the background about RALPH and his reason for saving himself from those deadly monsters and collecting the elixir's.

Panda3D Features Included:

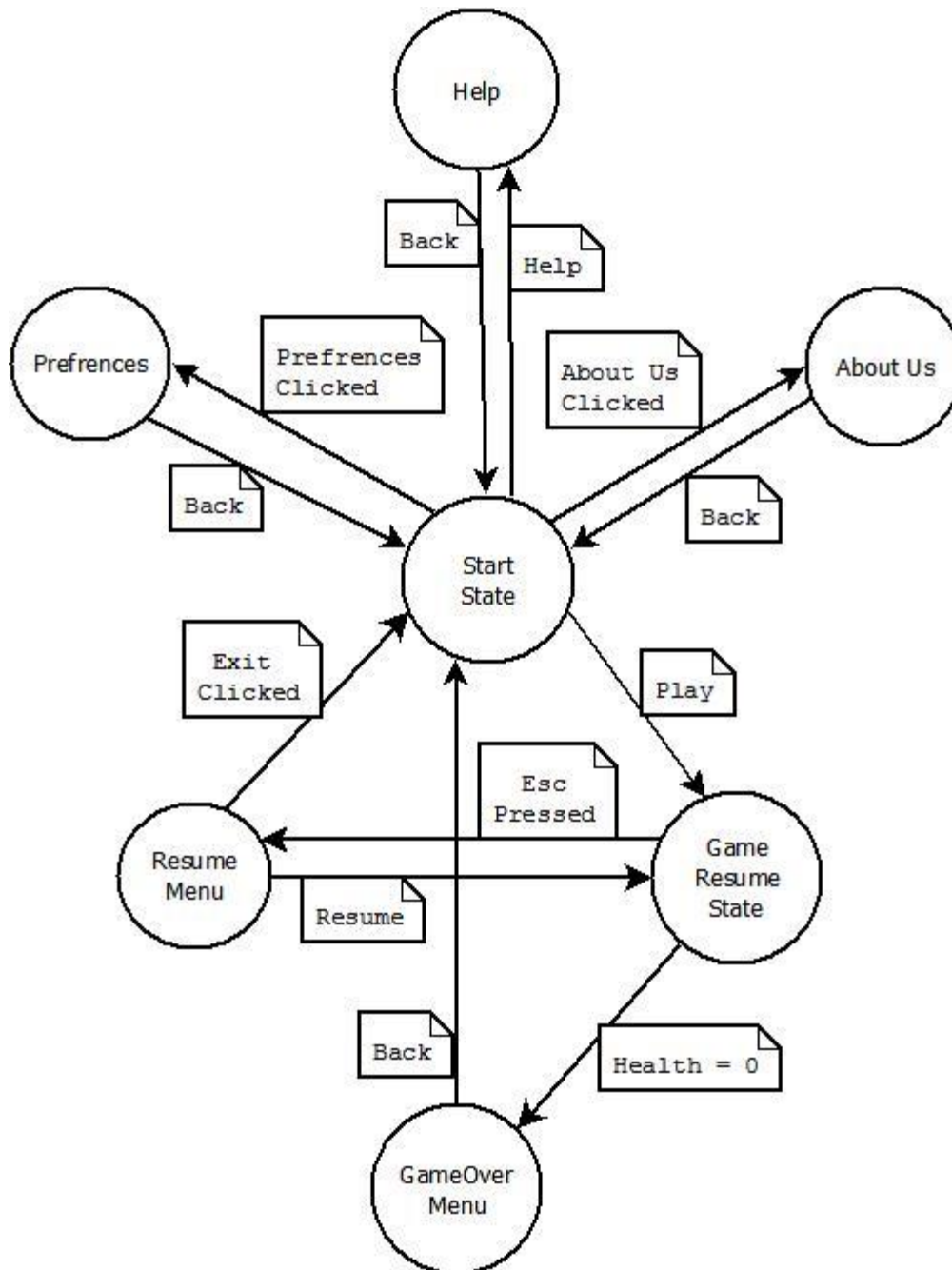
This game includes following features of Panda3D :-

- **Artificial Intelligence** -> The game include one of the several artificial intelligence features provided by PANDA3D – **Pursue Behavior**. The game has spherical monster constantly pursuing RALPH.
- **Direct3D GUI Interface** -> We have implemented the GUI of the game using Direct3D objects available in PANDA3D. Some of the Direct GUI components we used include **DirectButton, DirectCheckButton, DirectDialog, DirectWaitBar, DirectEntryDialog** etc.
- **Detecting and Handling Collisions**
- **Sequences and Parallels** -> We have implemented several animation sequences as well as parallels animations sequences. Eg. The animations of the birds flying in the sky are implemented using sequence.
- **Finite State Machine** -> The implemented FSM diagram is shown on the next page.
- **Sound** -> We have implemented various sounds in our game like screeching of boy when monster comes too near to hit him or screaming of people heard when RALPH passes near by the roller coaster.
- **Lights** -> Point/Ambient. Eg Sun is a point source which radiates light.
- **Aspect2D, Render2D** -> This is used to stick some images or text on screen. Eg. Health bar has heart Image.
- **Transition** -> The game has some transition like IRIS IN/OUT – when we start the game then we do IRIS OUT i.e. the circle which gradually spreads out the game screen.
- **Web browser** Library for submitting feedback of the user -> The feedback form for the users directly accesses the internet and access the feedback form link in our case we have given our githu repository link.
- **Tasks** -> We have added several task like collision task and boy Moving Task etc..
- **Window properties** -> Full Screen, Screen Resolution, Mouse Disable/Hiding
- **Spatial Awareness** -> In our Game we have implemented a spatial awareness between objects like when RALPH goes near carousal it starts rotating.

FSM:

Our game implements the following FSM(Finite State Machine) for changing views between states.

This exactly explains the work flow of our game. All the state transitions are clearly explicable.



Rules of the Game:

- A. The game is restricted within the finite terrain of Carnival.
- B. The Ralph is chased by a monster so he needs to run otherwise monster will kill him by drastically decreasing his health.
- C. As the Ralph runs around in the world his health also decreases because he gets tired.
- D. To support Ralph there are some lollipops and capsules generated randomly in the world, Ralph could collect those lollipops or energy capsules to reduce his weariness and increase his health.
- E. Every Time Ralph collects some lollipops in the world his score increases by 1 which would enable player to make High Score 😊.
- F. The Character Ralph has 3 lives to survive in the world.
- G. There are also some special powers in the game like Flashing Speed or Ghost avatar which would help Ralph to move away from monster or pass through anything in the world respectively.
- H. But these powers are protected by some ghastly monsters who could significantly reduce Ralph's health.

Controls of the Game:

- A. Up arrow key – Used for the forward motion of the character.
- B. Left arrow key – Used to moving the angle of Ralph in counter-clockwise direction.
- C. Right arrow key – Used for moving the angle of Ralph in clockwise direction.
- D. Mouse Scroll button – Used to zoom in and zoom out the view.
- E. E keyboard key – Used to call jet (This is just a simple add-on).
- F. Mouse Motion – You can use the mouse to move the camera as per your comfort. If you are not comfortable with the default particular distance and angle of camera just move your mouse to look around. This becomes your new camera view.

Learning for the Player:

There will be considerable amount of learning involved in the game since it is a concentration based game. Since the genre of the game is particularly based on the concentration of the player. As the theme is interesting it makes player addictive to the game making his concentration much better.