Graphics Assignment 4

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Compilation:

Run make on makefile. To run, type ./a.out . In windows, run Graphics.exe .

Gameplay

Objective

The character has to collect maximum number of eclairs possible from the game, and reach the 'GOAL' tile. Éclair score is displayed on top of the character.

Blocks

- Jumping blocks make the character jump. They look like fire.
- Start and end blocks are colorful blocks. Game ends upon reaching the end block.
- Blocking blocks can not be reached. Character bounces off these. These look like big pillars.
- Teleportation blocks MAY teleport you to another teleport block. These look… funny!
- Simple blocks are simple…. Walk around on them and collect the eclairs.
- Lifts move up and down… too early or late, and the character falls down!

Controls

- W/A/S/D to move
- Space to jump
- Left click + drag to rotate view
- Right click to change view
- Scroll to zoom in/out
- Enter to restart
- Esc to exit
- 1,2,…9 to quick-change level
- Other controls:
    - V to cycle between all views
    - Arrow keys to free-move camera in tower view, change tile in tile view

Techniques

Tiles

Class 'tile' is used to create tiles. Tiles can have tile types 'TILE_SIMPLE', 'TILE_TELE', 'TILE_BLOCK', 'TILE_START', 'TILE_END', TILE_LIFT, TILE_JUMP. Class position and type are set upon creation. Each tile has functions that behave according to the tile type. These can contain eclairs.

Man
Class 'man' defines a playing character. The object is loaded from a blender model. It has animated movement, turning, jumping, etc and behaves according to the tile it is on. It falls down if nothing is under it. It collects eclairs, referred as 'coin' in the code.

Levels
Levels are read from level files in the 'levels' directory. When all levels are completed, new levels are automatically generated. These contain characters 'c', '.', 's', 'e', 'j', 't', 'b', 'l' to define levels. Blocks are automatically read.

Textures
Textures are loaded from special texture files and lighting is set for the rest. Glowing effect is added to improve visual appeal.

Miscellaneous
- A function is called whenever the character lands on a tile. Further course of execution is decided.
- In helicopter view, view distance reduces from a large value when level changes. This adds a visual effect and puts emphasis on the positions of start, end , level number.