

CSC8503 Coursework 2019/20

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Video Demo Url

https://youtu.be/e_dx9Jg43Js

Keyboard and Mouse Controls

Navigation/camera controls inside the Goose Game

In selection mode	
left mouse-click	select object and paint the object in front of it with raycasting
right mouse-click	if selected object, then add force at the specific position
wheel rotation	increase/decrease the magnitude
In non-selection mode	
W / ↑	move goose forward (using force and torque)
S / ↓	move goose backward (using force and torque)
A / ←	move goose left (using force and torque)
D / →	move goose right (using force and torque)
move mouse to the left/right	look left/right (increase/decrease yaw)
move mouse forward/backward	look up/down (increase/decrease pitch)
SPACE	goose jumps
H	goose honks
G	activate (and throw apples)/deactivate gravity
Q	enable/disable selection mode
ESC	return to Main Menu

Main Menu

ENTER	Select option
↑	Move to the option above
↓	Move to the option below

Extra controls

N	Start networking (sends from a server to a client the text of a file, and the client prints a message in the console and clears the file)
PageUp	Show console
PageDown	Hide console

Screenshots and description of the game

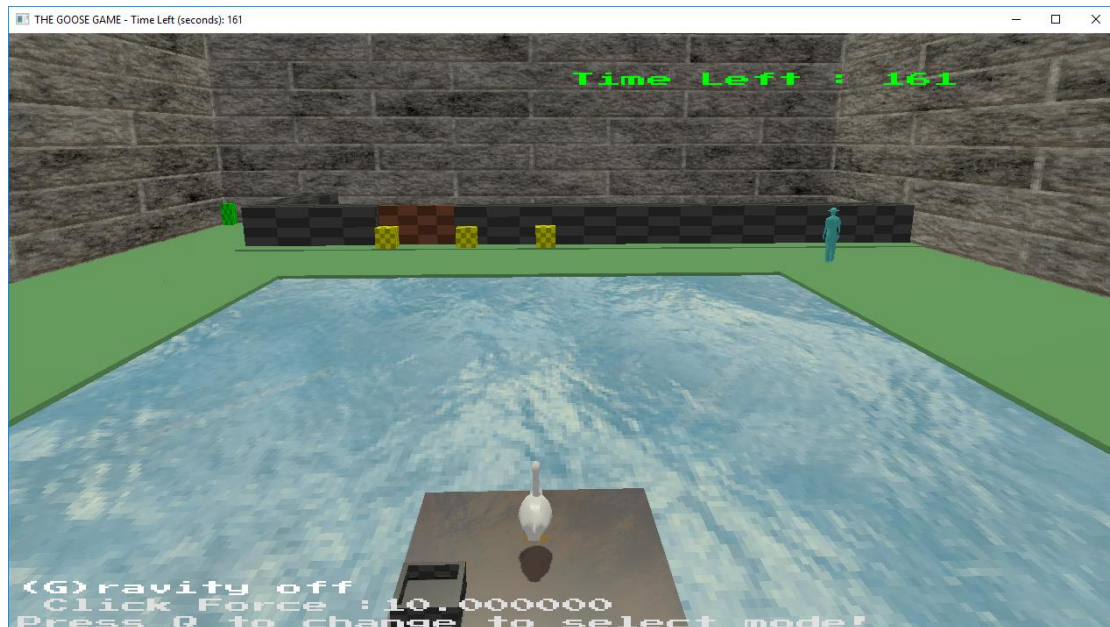
Main Menu:

- Options to start or close the game
- Moving up and down with arrows and the selected menu gets highlighted
- Press Enter to submit your choice and change the state of the state machine
- Timer holding the total hour that the game runs, when < 20 sec, it turns to red



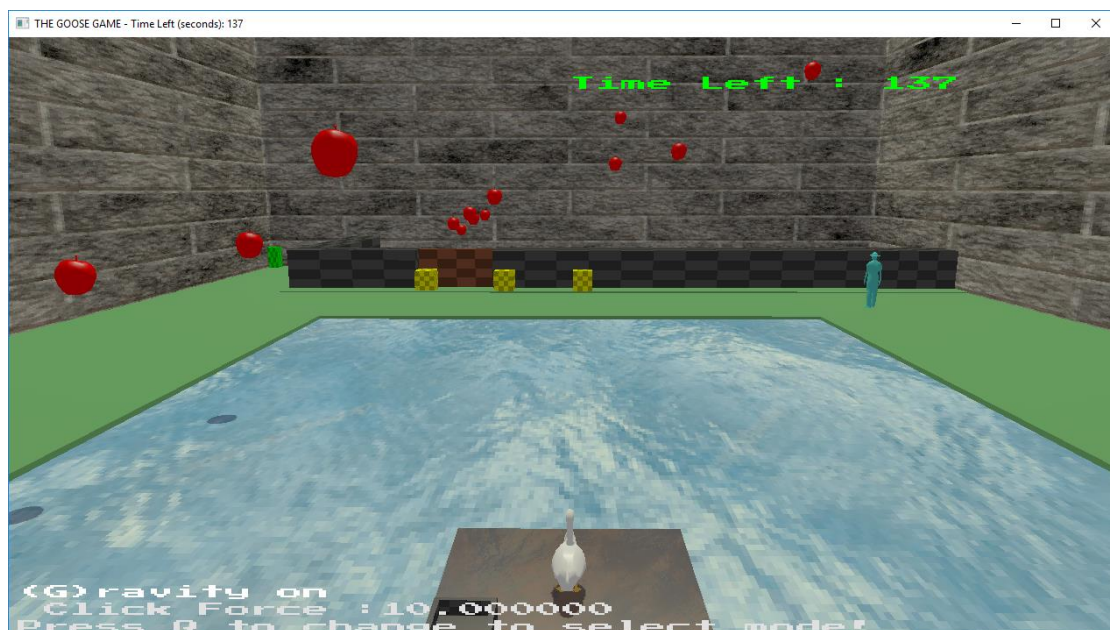
Initial game scene:

- Gravity is disabled
- Goose and camera movement is allowed
- Selection mode is disabled
- Timer holding the total hour that the game runs, when < 20 sec, it turns to red
- The agent won't chase the goose no matter how much it approaches it, because the goose won't be carrying any items

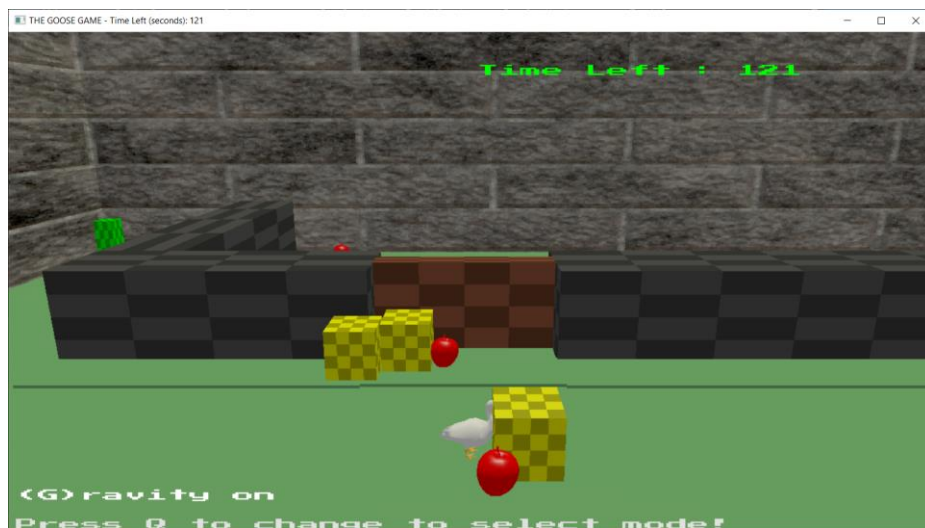


Gravity activated (G):

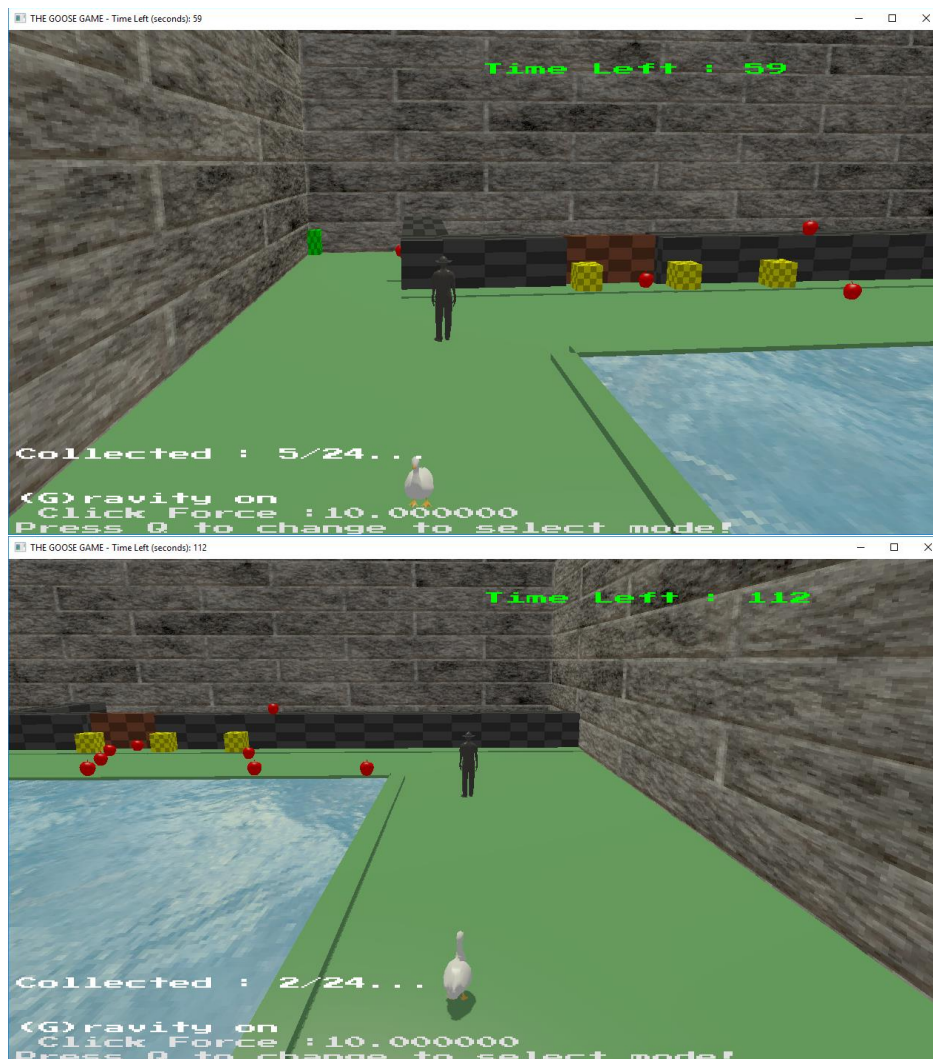
- Gravity is enabled
- Apple thrower throws 20 apples and they land on the ground because of the gravity



- The hays (yellow cubes) are pushable and they can also push apples with them

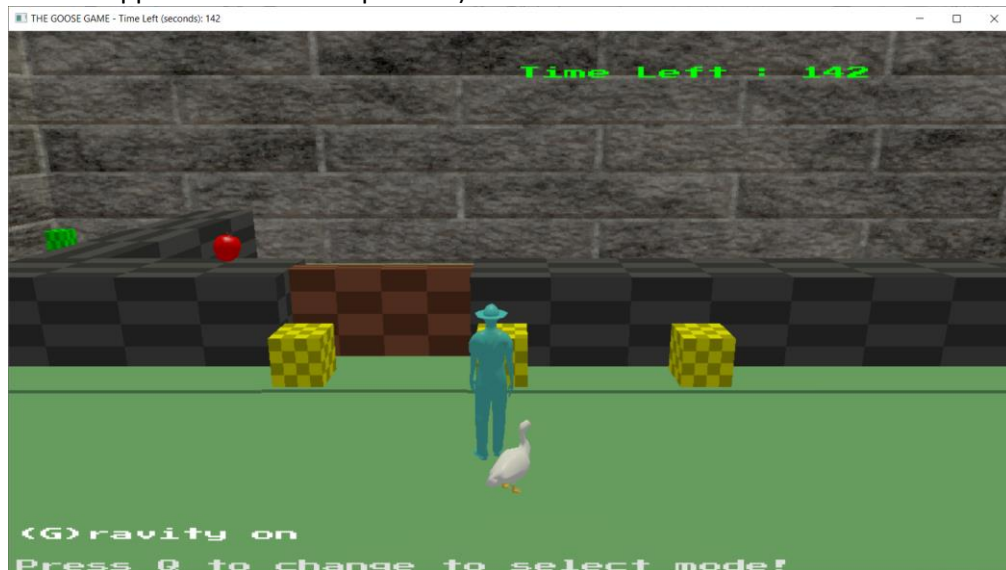


- If the goose collects either any of the apples or bonus items and is located less than 80 units from the agent, it will be chased



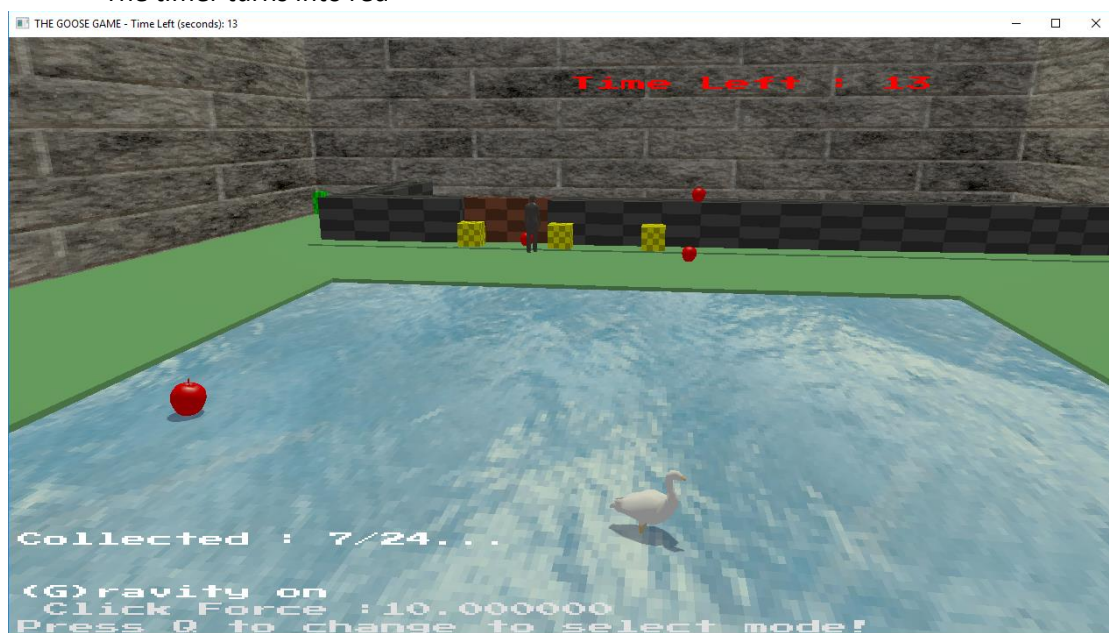
- When the goose moves on a space that agent cannot reach, like the lake, the agent returns to its initial position

- If the agent touches the goose, he returns to its Idle state (changes color), the goose loses its carrying items and the items get respawned (x apples are thrown/ x bonus items reappear in their initial position)



Time (is about to) end(s):

- The timer turns into red

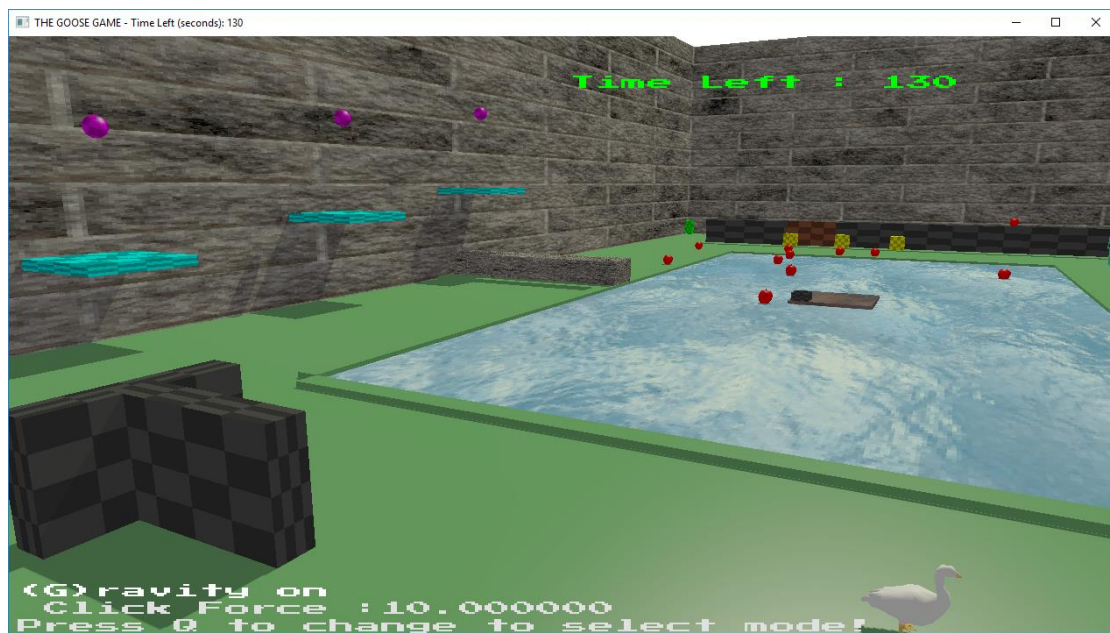


- When time out, a message is displayed on the screen
 - By pressing SPACE, user returns to the Main Menu



Bonus items:

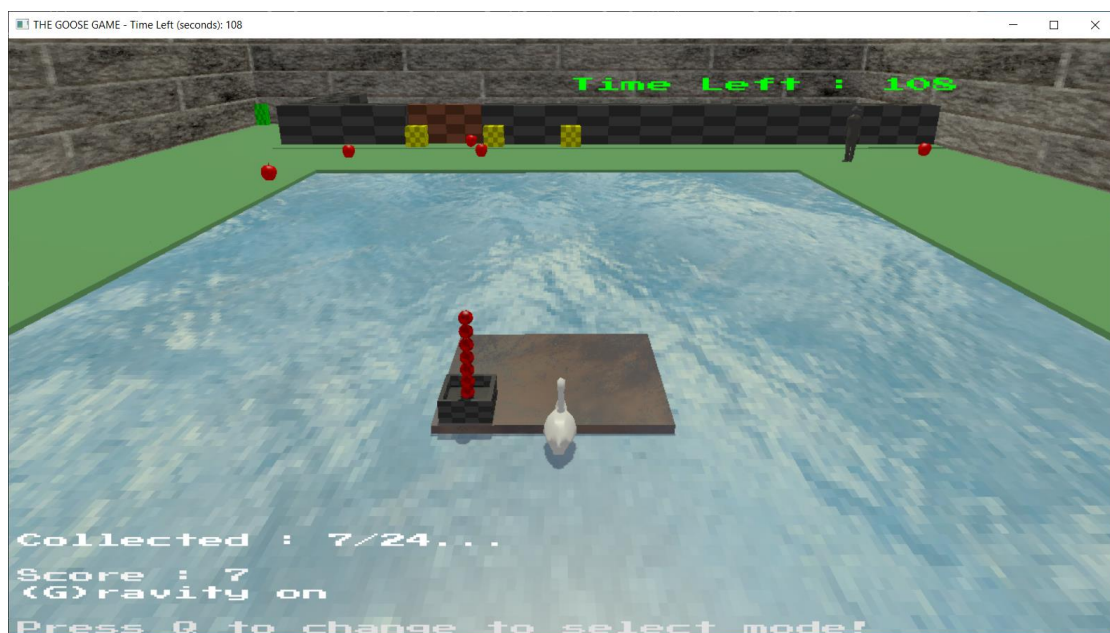
- Spheres that give 5 points when returned to the nest
- Located over pads that have big elasticity and work like trampolines





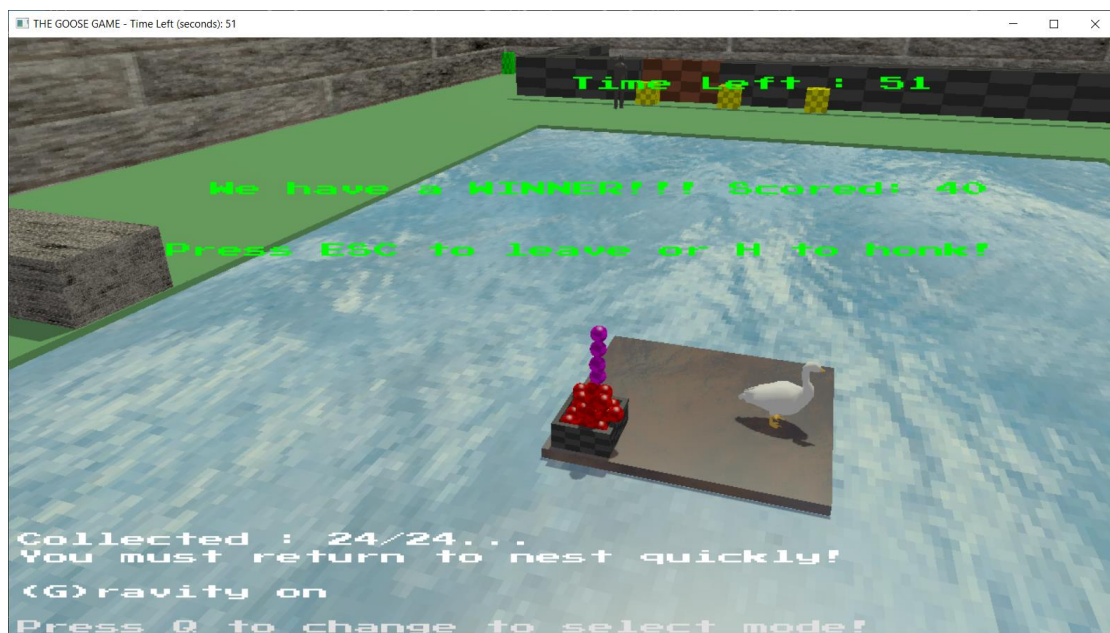
Goose return to the nest:

- When the goose collides with the square in the centre of the lake, the objects it has collected and carrying around, get spawned and thrown in the basket
- The score increases accordingly





- If all items have been returned to the nest before time runs out, a message for WIN and the total score is displayed and the user has the option to return to the Main Menu (Esc) or honk (H)



Selection mode (Q):

- When object selected, object's information appear on the screen
- The object that is located in front of it (-z axis), turns into blue
- If Q is pressed again, the texts gets disappeared



Networking (N):

- The server reads the texts of the file CheatCommand.txt located in the Assets/Data folder of the solution
- The server sends the package to the client (localhost)
- The client receives the data, prints the message and cleans the file

```
Client: Connected to server!
Server: New client connected
Client: Packet received...
NetworkBase::ProcessPacket no handler for packet type 7
Client: Packet received...
Client received message: POWER
Client: Packet received...
Client: Packet received...
Client: Packet received...
Client: Packet received...
Client: Packet received...
Client: Packet received...
```