1) Game Information

Game: The Most Dangerous Game

Developers: Doan, Nhat; Saechao, Lucas

Package name: com.dsgames.game.hunt.HuntingGame

2) Game Screenshot

3) How to Run

Run the server.bat file in Command Prompt in order to start the server. It will be served over port 50290. This port can be changed by editing the server.bat file. The IP will be displayed, along with the port. Run compile.bat, followed by run.bat and enter the matching IP and port.

4) Device Requirements

Keyboard and Mouse

5) How to Play

Your goal is to go around and hunt down the monsters that spawn around the map. Be careful to avoid them, as well as the dragon's bullet fire. Beware of other players, however, as they can come after you too. WASD + QE to move and turn, mouse to look around, and left click to fire. You earn points by hunting the monsters. You will fire directly in front of you.

6) Controls

Input	Control
W	Move forward
A	Move left
S	Move backward
D	Move right
Q	Turn left
E	Turn right
P	Play next song
SPACE	Jump
Mouse	Look around
Left Mouse Button	Fire bullet
Mouse Wheel	Zoom in/out

Left Bracket	Decrease camera speed
Right Bracket	Increase camera speed

7) Scripting

Adding Light to the game
Setting up audio,skybox, and Terrain for the game

8) Changes to Network Protocol

Added functionality for players to interact and respond to each other. We made the network protocol more verbose than the original documentation.

9) Genre, Theme, Dimensionality, Activities

Genre: Competitive 3rd Person Shooter
Theme: Hunting
Dimensionality: 3D
Activities: Can walk around and shoot at monsters, or you can interrupt other players' progress by shooting them.

10) Working Requirements

External Models
  - HuntingGame.setupPlayer() : lines 290-327
  - HuntingGame.setupNpc() : lines 454-475
Networked Multiplayer
  - HuntingGame.setupNetwork() : lines 699-717
  - com.dsgames.game.myGameEngine.network
  - com.dsgames.game.myGameEngine.entities
Scripting

- src/*.js
- HuntingGame.setupScene() : lines 264-280

Skybox and Terrain

- HuntingGame.setupSkybox() : lines 392-406
- src/setupSkybox.js

Lights

- HuntingGame.setupLights() : lines 408-426
- src/addLight.js

Sound

- HuntingGame.setupAudio() : lines 434-452

HUD

- HuntingGame.update() : lines 902-933

Hierarchical Scenegraph

- HuntingGame.setupPlayer() : lines 317-318
    - This is used as a camera lookAt target

Animation

- HuntingGame : lines 328-357

NPCs

- HuntingGame.setupNpc() : lines 454-465
- com.dsgames.game.myGameEngine.ai.NPCController

Physics

- HuntingGame.setupPhysics() : lines 646-653
- HuntingGame.setupPhysicsWorld() : lines 659-697

3rd Person Camera Control

- com.dsgames.game.myGameEngine.camera.Camera3PController.java

FSEM Modes

- HuntingGame.setupWindow() : lines 205-224
- Uses Dr. Clevenger's DisplaySettingsDialog class

User-input IP addresses

- HuntingGame.main() : lines 1656-1677

UDP "fat" client-server approach

- See Networked Multiplayer

Can be played in Single Player

11) Non-working Requirements

For some reason, in our netcode, when a bullet is fired and the message for the server to send the the clients to recognize that a client has been hit, it causes it to check for a SceneNode that doesn't exist.

12) Techniques That Go Beyond the Requirements

None, as of this writing.

13) Contributions of Each Team Member

Original codebase is extended from Lucas' A2:
- External models
- Skybox and terrain
- Lights
- Sound
- HUD
- Hierarchical Scenegraph
- Physics
- 3P Camera
- FSEM Modes

Lucas Saechao
- Networking
- Camera control
- Mouse control
- Skybox
- Terrain
- NPC code
- Physics

Nhat Doan
- Scripting
- Networking
- Sourcing 3rd Party Models and implementation
- NPC code
- Physics
- Animation

14) Original Assets

Animations and skeletons made by Nhat.
assets/animations/dragon_fly.rka

assets/animations/player_jump.rka

assets/animations/player_running.rka

assets/animations/player_shooting.rka

assets/animations/player_standing.rka

assets/animations/snitch_fly.rka

assets/animations/stepLeft.rka

assets/animations/stepRight.rka

assets/animations/zombie_shooting.rka

assets/animations/zombie_walking.rka

assets/skeletons/dragon.rks

assets/skeletons/player.rks

assets/skeletons/snitch.rks

assets/skeletons/zombie.rks

assets/meshes/player.rkm -- Lucas

assets/meshes/modelGame.obj -- Nhat

Sound samples synthesized by Lucas
assets/sounds/a1/sfx/destroyed.wav

assets/sounds/a1/sfx/lifeup.wav

assets/sounds/a1/sfx/score.wav

Skybox made by Lucas.
assets/skyboxes/hunt/back.jpg
assets/skyboxes/hunt/bottom.jpg
assets/skyboxes/hunt/front.jpg
assets/skyboxes/hunt/left.jpg
assets/skyboxes/hunt/right.jpg
assets/skyboxes/hunt/top.jpg

assets/textures/heightmap.jpg -- Lucas
assets/textures/heightmapnormal.jpg -- Lucas
assets/textures/heightmaptexture.jpg -- Lucas
assets/textures/modelGame.jpg -- Nhat
assets/textures/playerModel.png -- Lucas
assets/textures/waterTexture.jpg -- Lucas

15) 3rd Party Assets

"Night Fury Dragon" by *zzarthurzz*.
https://www.turbosquid.com/3d-models/free-dragon-3d-model/676540
- Available under an editorial license, defined by TurboSquid as:
  3D Models designated with the Editorial Use label may only be used in an editorial manner, relating to events that are newsworthy or of public interest, or an academic manner, relating to teaching purposes, scholarship, and research, and may not be used for any commercial, promotional, advertising or merchandising use. In certain very limited instances, you may otherwise have the rights to Depicted Intellectual Property in content that is labeled Editorial. For instance, you may be the advertising agency for a brand/IP owner or you may be the brand/IP owner itself purchasing content. If that is the case, you may use the 3D Models with the Editorial content commercially under the standard terms of the 3D Model License,

assuming you have the rights clearance through other means. But you must have all the intellectual property rights necessary from the IP in the 3D Models and this is usually only the case for the vendor of a brand/IP or for a brand/IP owner itself. As a rule of thumb, if you wonder if you have these rights, you don't. It is usually very clearly set forth in a contract. The burden and risk of confirming these rights is on you if you Purchase 3D Models.

- **Academics.** Examples include a university computer engineering student using a 3D Model of a Stadler Kiss train with an Editorial Use label to highlight layering techniques for computer animation, and a high school technology teacher using a 3D Model with an Editorial Use label of Spiderman during a class discussion of animation.

"Black Dragon With Idle Animation" by *3DHaupt*.

https://sketchfab.com/3d-models/black-dragon-with-idle-animation-fb0053a2e59b43868e934c239bf4eb36

- Available for usage under the Creative Commons Attribution-NonCommercial license.

"Low-poly character 3D model" by *puzanovanton8*.

https://www.turbosquid.com/3d-models/low-poly-character-3d-model-1350847

- Available for usage under Turbo Squid's standard license.

Allowed games uses: Console, PC, web, mobile games; Virtual and augmented reality; Game mods; Closed MMOs and closed Virtual Worlds.

Prohibited games uses:

Redistributing or otherwise making TurboSquid 3D Models available to end-users. If you are redistributing something that includes actual 3D Model files, the 3D Model files must be incorporated into a larger creation and not in an open format that others can be downloaded. Most game engines, such as Unity and Unreal, handle

this automatically. In general, to prevent your end-users from obtaining TurboSquid 3D Models, you should use proprietary formats that cannot be extracted, exported, or decompiled without reverse engineering.

Claud Debussy (Debussy's works are public domain since 1988)

"Arabesque No. 1"

assets/sounds/a2/music/arabesque_no_one.wav

"Suite bergamasque, Movement 3: Clair de Lune"

assets/sounds/a2/music/clairdelune.wav

"Reverie"

assets/sounds/a2/music/reverie.wav

16) Lab Machines Tested On

- ECS/Metroid, ECS/Centipede