

# About the Game

Title: Monster Hunter

Developers: Patrick Jimison & Kevin Vang

Genre: Side-Scroller, Shooter

Theme: Fantasy

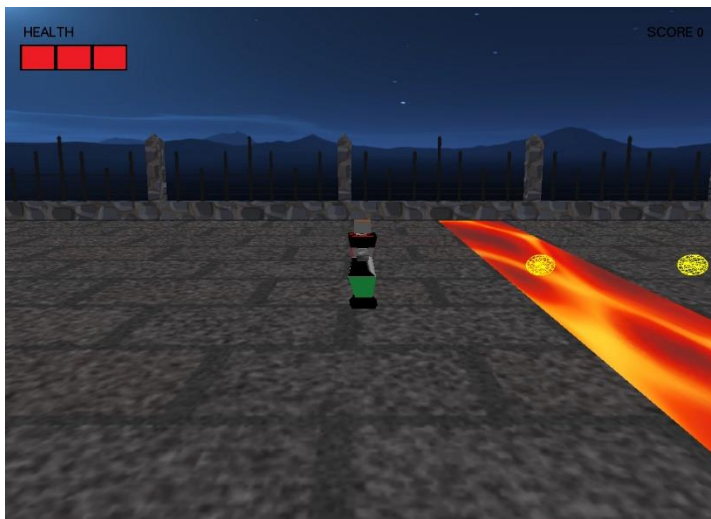
Dimensionality: 2.5D (3D elements with 2D movement)

Activities: Combat

## Synopsis

Monster Hunter is a side-scrolling, shooter game that has the player pitted up against a host of evil golems out for their next human meal. The character is locked to left or right lateral movements to try and escape the monsters before they reach the human. The player is also given a gun which they can use to shoot at incoming monsters. The rules are simple: Three hits and the golem is dead. Once all five golems have been dispatched, the player wins the game. However, any golems reaching the human will cause the player to automatically lose.

## Screenshots



## Requirements

There are no required peripherals or hardware other than a computer with an adequate NVidia Graphics Card and a keyboard for input.

## Running the Game

There is a convenient set of batch files used to compile and run the game. All you'll need to do is navigate to their location in the 'mygame' folder and double-click on the 'run.bat' file. This will launch a new game session which will open a command window that prompts for the number of players. Since this game has multiplayer mode as well, you'll need to decide if you want to play the single or multiplayer version.

### Single-player Mode

If you wish to play single-player mode, then enter 1 at the prompt and press ENTER. A new window will appear and the game will begin.

### Multi-player Mode

If you wish to play multiplayer, then enter 2 at the prompt and press ENTER. Multiplayer requires both a host (server) and a client. If you are creating a new game, then enter Y when the prompt asks if you would like to be the host. If you are joining a friend's game which has already started, then press N.

If you entered Y at the host prompt, you should see the following lines appear in the console window after pressing ENTER:

```
You are about to host a new game
The server connection info is PJ-PC/10.0.0.222:1550
waiting for client connection...
```

The second line contains the IP address that the other player will need to connect to your game. Capture or remember this number so that the second player can use it later.

If you entered N at the prompt, then you are joining another player's game which has already started. To do so, have the first player provide the IP address of the server they are hosting from. Steps to do this are above.

Enter the IP address provided by player 1 at the following prompt to join their game:

```
Number of players (1 or 2):
2
Will you be the host (y/n)?
n
Enter host server's IP address:
10.0.0.222
```

## How to Play

There's only one simple rule, kill all of the golems before they reach you. The player will spawn on the left-side of the map next to a large, ominous gate which will begin to close immediately. The only option is to continue to the right and face all of the golems.

The player can move right by pressing the D key or left by pressing A. You can kill the golems by shooting them using SPACEBAR, but be careful because they can change directions rapidly and one hit will end the game for the player.

The player can only shoot in the direction they are facing. By pressing A and moving to the left, the player will face and shoot to the left. By pressing D, the player can shoot to the right.

Pro tip: If you are being chased by a monster, you'll need to rapidly switch between right and left movements in order to shoot at it while still maintaining distance.

The player is rewarded with 1 point for every golem they kill. The current score is reflected in the HUD at the top right corner.

You'll also notice that the player has a health bar in the top left corner of the screen. Each time a golem hits the player, they will lose one 'tick' from their health bar. Once the health bar is depleted, the game is over and the player loses.

There are also pools of lava on the way but don't worry about those, because they are just for show (for now.)

## Keyboard Controls

SPACEBAR – Fire a projectile in the direction you are facing

A – Move the player's avatar to the left

D – Move the player's avatar to the right

## Game Requirements - Implemented

**External Models** – There are several external models used in the game.

Created by Kevin Vang:

- The player's model – man.obj, man.png
- The monster's model – golem.obj, golem.png
- Wolf model (unused) – beast.obj, beast.png
- A second player model (unused) – man2.obj, man2.png

Created by Patrick Jimison:

- The stone wall at the beginning – gate\_stone.obj
- The wooden gate in the wall – gate\_wood.obj
- The background stone wall – wall\_stone.obj
- The background metal gate – gate\_steel.obj, gray.png
- Height map image - height.png

**Networked Multiplayer** – When running the game, the player is asked whether they want to start in single or multiplayer mode. GameClient.java, GameServer.java, and NetworkingGame.java provide the client and server support for network communications.

**Scripting** – From within TheGame.java, scripting is used to create the scene by spawning enemy monsters into the game world.

**Skybox and Terrain** – A skybox is included and can be seen from within the game world. There is also a terrain generator function in TheGame.java which generates terrain 'panels' which are laid out across the ground.

**Events** – Events handle the resizing of monsters when they are hit with a projectile. Each time a projectile hits a golem it will become smaller.

**3D Sound** - A groan sound plays when golems are hit with a projectile. However, it does not adjust based on proximity to the player, so it is not technically a 3D sound.

**HUD** – There is a player HUD which tracks the player's health and score at the top of the screen.

**Hierarchical Scenegraph** – The background gate that runs along the perimeter is a hierarchical object.

**Animation** – The golems play an attack animation where they swing their arm out toward the player. The animation is comprised of 6 different keyframes.

**NPCs** – The golems are managed by a Golem Controller, which uses a Behavior Tree to determine its movement and actions. The behaviors are: Pause for two seconds, roam, check for nearby players, and attack a player. When roaming, the golem will wander back and forth, switching directions every two seconds.

**Physics** – There is collision detection between the player, projectiles, and golems using bounding volumes, but an actual physics engine was not implemented.

## Game Requirements – Unimplemented/Incomplete

**Networked Multiplayer** – Networking is about 80% complete. The second player's ghost avatar moves and updates their location properly, but the second player's ghost avatar will appear gray (the player model isn't send to the ghost avatar)

**3D Sound** – Sounds are played when the golems are hit with a projectile, but it is not 3D sound.

**Physics** – The physics engine was not used, so collision detection is done using bounding volumes and the projectiles nor avatars are actually physics objects.

## Team Contributions

Kevin Vang –

- External Model design (specific models listed in section: Game Requirements – Implemented)
- Scripting (Javascript)
- HUD
- Sound

Patrick Jimison –

- External Model design (specific models listed in section: Game Requirements – Implemented)
- Networking
- Animations
- NPC/AI
- Terrain/Skybox

## Lab Machines

This game was tested on Zelda and Pacman in the lab, as well as the main computer (hooked to the projector) used for the demo.

## Permissions

The following textures/sounds were not created by either Patrick Jimison or Kevin Vang. They were found on open-source websites that offer free textures with public domain licensing.

1. roar.wav (<http://soundbible.com/1748-Tyrannosaurus-Rex-Roar.html>) – License is listed as Public Domain on the above website.
2. Nightsky\_ft.jpg (<http://www.custommapmakers.org/skyboxes.php>) – A team of developers creating art for their game, Urban Terror. All textures, skyboxes, and screenshots are free to use per <http://wiki.custommapmakers.org> as long as credit is given to the owner.
3. The following textures were found at <https://opengameart.org> and are licensed under Public Domain
  - a. seamless\_brick\_dark.png
  - b. stone.jpg
  - c. light\_wood.png
  - d. lava.png