Zork: The Great Underground Oblivion Mod

Game Design Document

Synopsis:

Zork: The Great Underground Oblivion Mod is a tribute to the text adventure game, Zork: The Great Underground Empire. It provides a fully realized 3D interpretation of the original game’s world. The player fills the role of another adventurer who discovers the Underground Empire and follows the same paths the original explorer took. The Zork Mod aims to replicate as closely as possible the original game, but in some cases necessary changes were made. An avid fan of Zork should be able to navigate the Empire by relying on their memory of the original game, or by using a map of Zork. Created as a standalone mod, players won’t need anything else to play it and are encouraged to discard other gear from Oblivion by using the mailbox at the beginning. The use of total darkness is an important part of the ambience, and using bright light spells or night vision will ruin the experience.

Goal:

To create an exploratory adventure in which the player collects treasure for a score at the end, and to incorporate as much of the original Zork as possible.

System Requirements:

The Elder Scrolls IV: Oblivion patched to v1.2.0416
Shivering Isles Expansion
The Zork Mod installed properly and activated

Project Statistics:

Team Members:
Andrew Maul – Editor work, level design, scripting, documentation
Warren Thompson – Research, scripting, documentation

Editor/Engine: The Elder Scrolls IV: Oblivion Construction Set

Build Time: November 2008 to current; 100+ hours
Starting the Mod:

Install the mod by extracting the contents to the C://Program Files/Bethesda Softworks/Oblivion/Data folder and activating it in the startup area of Oblivion. Once activated, load a save game or create a new game and fast travel to the Zork map marker. Your avatar should spawn in front of the abandoned house in the middle of a small basin. The mailbox provides a means to get rid of any non quest items from your inventory. It is recommended the player stow away anything he/she does not want to lose prior to exploring this mod, as using the mailbox destroys everything but quest items and replaces them with standard adventuring clothes.
**Level Design:** Here is a map of the original Zork, edited to show progress and pathing.
Cell #1: Outside

**Lighting:** Lit  
**Scripting:** Mailbox Script

There are several key features to be found outside including the mailbox mentioned above, the bird’s nest containing the Jeweled Egg, and the window at the back of the house leading into the second area.

There is a bird song sound that plays when you enter the area around the nest as an indicator to the player that there is something worth investigating. This is one of the many changes and adaptations we had to make for this mod to work properly. Because Oblivion doesn’t have meshes or props for windows, we had to innovate. We created a window by using a display case and a black mask, and linked it as a teleporter to the inside. Inside, we faced the problem of having the window look outwards. Our solution was to copy the display case idea but instead of using a black mask, we took a painting of a forest and added a beam of light coming from it to simulate the appearance of a window to the outside.
Cell #2: Kitchen, Attic, Living Room, Studio

**Lighting:** Lit  
**Scripting:** Trophy Case Scoring System

The Kitchen and adjacent rooms have many important items for the player to find. On the table there is a Sack Lunch and a Bottle of Water. Inside the Sack Lunch there are three Garlic Cloves and a Lunch. The fireplace contains a one-way chimney from the Gallery back to the Kitchen. Attempting to crawl through the wrong way yields the message:

“Only Santa Claus goes down chimneys.”

Beyond the Kitchen there is a trap door to the Attic which contains The Nasty Looking Knife. Further on in the Living Room there is a Trophy Case containing the most important item in the game: the Brass Lantern. Because Oblivion doesn’t offer lantern meshes, we have to use the default torch until we can get a custom model made. In the dark areas of the Underground Empire exploring without the Brass Lantern will cause a Grue to attack the player. Above the Trophy Case is an Elvish Sword ready to be picked up. On the far door a note reads:

“This space intentionally left blank.”

Below the rug is a trapdoor that leads into the next area, the Cellar.

The Studio is in this cell as well, but can only be accessed from the Gallery. It provides a means back to the Kitchen through the chimney.

Cell #3: The Cellar, Gallery, Maze, Cyclops Room, Chalice Room

**Lighting:** Pitch Black (Except Gallery)  
**Scripting:** Summon Grue, Trapdoor, Taking the Painting, Cyclops Dialogue & AI, Ghost AI, Reservoir Door Change, Entering the Maze

**Cellar**

Upon entering the Cellar players are given the message:

“The trapdoor crashes shut, and you hear someone barring it.”

This cell’s areas, with the exception of the Gallery are Pitch Black. This means that if a player does not have a light source equipped, the Summon Grue script runs. Players will be given a random amount of
time (‘Grue Timer’), 1-3 seconds, to equip a light source before a die is rolled (1:3). If the die comes back negative, the ‘Grue Timer’ will reset and start over. If the die comes back positive, a Grue appears next to them and attacks. The Grue will remain until it is killed or kills the player. Once the Grue has been killed, the player will be prompted again and given 5 seconds before the ‘Grue Timer’ starts again. Whenever the player enters a new area that is a Pitch Black, they will automatically be prompted and given 5 seconds before the timer starts. Each time the player puts a light source away, they will be prompted but the ‘Grue Timer’ will start immediately.

To the north of the trapdoor from the Kitchen is a Troll. The Troll is guarding further passage into the Maze and Reservoir. On the ground in a pool of dried blood is the Bloody Axe.

Canyon to Gallery
South of the trapdoor from the Kitchen is a cavern with a large canyon separating the two sides. There are invisible barriers preventing the player from falling in. Following the path to the south-east leads the player into the Gallery. In the Gallery there is a door to the Studio. There is a painting on the wall that the players can interact with. When approached the player is prompted:

“Here on the wall is a painting of unparalleled beauty.”

If the player chooses to take it, the Taking the Painting script finishes and adds the Rolled-Up Painting to the player’s inventory, and then switches the meshes to an empty canvas.
Maze

Upon entering the Maze the players are prompted:

“This is a part of a maze of twisty little passages, all alike.”

The Maze is an exact copy of Zork’s maze, and if navigated properly, the first thing the player should encounter is a dead adventurer. Next to the dead adventurer are a Rusty Knife and a bag containing three hundred Zork Mids. If the player tries to loot the dead adventurer the ghost script plays which summons a Ghost to attack the player. In Zork, your Elvish Sword glows blue whenever a monster is near, and it glows very brightly when the Ghost is summoned. To simulate this we made the script cast a cold spell with no noticeable effects on the player. The Oblivion engine recognizes this and runs the cold spell effect on the player, which makes the player’s sword glow blue for a second. Afterwards, the Ghost is summoned and attacks the player.

Cyclops Room

Eventually the player may find the Cyclops guarding the entrance to a room behind him. There are several approaches to dealing with the Cyclops. When the player gets close enough to it, the Cyclops Dialogue Script runs. This prompts the player with:

“From the state of his health you gather that the Cyclops is not very friendly, though he likes people.”

In Zork, the player may type in ‘Odysseus” to frighten away the beast. To incorporate this mechanic after the dialogue a set of choices are given to the player. These choices are:

“Mention Hercules, Mention Perseus, Mention Achilles, Mention Odysseus, Mention Theseus”

Pressing the Mention Odysseus button will cause the Cyclops to turn and flee, breaking a hole in the wall leading back into the Living Room. If any other choices are made, or the player loiters too long, the Cyclops will attack. If the player gives the Cyclops the Lunch and Bottle of Water he will take the items and run through the wall.

Silver Chalice Room

Beyond the Cyclops is a room containing a piece of treasure, the Silver Chalice. In Zork, the Thief has a great chance of spawning and attacking the player at this point in the game. To simulate this, the Thief will already be in the room waiting for the player. Defeating the Thief will award the player with any treasure lost previously, in addition to the Silver Chalice.
Cell #4: The Reservoir

**Lighting:** Pitch Black (Except for Dam Bridge)

**Scripting:** Summon Grue

The *Reservoir* is an important area in terms of level design and scripting. We had to construct this area in a way that prevented the player from swimming (in order to follow the Zork methodology) and create an event that lowered the water level. To solve these problems we created a separate instance called Reservoir 2 for when the water level is lowered, and scripted all of the linking doors to switch to the new instance. Using invisible walls, while cheap, turned out to be the best way to prevent the player from getting into the water areas early. We also had to use a lot of black masking to block off certain areas, but this solution only works so long as the player doesn’t increase the ambient light in the cell or use night vision.

Directly east of the passage from the *Cellar* is one of two doors leading into the *Round Room*. Heading north through the cave tunnel leads the player into the *chasm* area filled with water, and the reservoir’s dam. To the east is the second entrance to the *Round Room*. Following the top of the dam reveals the *Dam Control Center* in the distance.
**Area #5: Dam Control Center**

The Dam Control is a small room, but contains a few items. On the front desk is a matchbook and a book with a clue to operating the Dam Control. On the right in the alcove is the control panel. To the right of the control panel is a light switch that toggles the lights on and off, and behind the front desk is a small hallway with a large lever at the back and some machinery. The control panel has two different buttons, a yellow and a blue button. The yellow button powers on the dam and allows the lever in back to release the water outside, revealing new areas. The blue button, however, causes a malfunction and floods the room.

There is a lot of scripting behind the events that transpire in the Dam Control. By pressing the yellow button the player causes the light above the lever to turn on, and when the player pulls the lever several things occur. The first is the doors leading outside flip, changing the teleporters to the new drained reservoir cell. A few sounds play, letting the player know the water is being drained.

Because the Oblivion engine doesn’t support real time water-level manipulation we are attempting several different methods of simulating it. One of these methods is the synchronized sinking of every static mesh simultaneously, but there are certain collision issues that need to be resolved. Pressing the blue button also causes one of the pieces of machinery to break before the room starts flooding.

**Area #6: The Drained Reservoir**

After the player has used the Dam Control to drain the water, a new cell is used to simulate the water loss. This cell is an exact replica of the old Reservoir, with a few exceptions. There is no water, and therefore the boundaries keeping the player from entering the water are removed. There is an item on the lake floor: the Trunk. There is also a pathway leading to the Atlantis Room.
Area #7: The Round Room & Strange Passages

This is a large area all connected by the Round Room, which acts as a hub. From the round room the player can navigate a series of passages that lead to the entrance of the Land of the Dead, the Loud Room, and drop down into the Temple and Egyptian rooms to find the Book of Prayers. This item is used to dispel the ghosts guarding the gate to the Land of the Dead.
Items- Non Treasures

*Brass Lantern & Torch* - Used for lighting dark areas and warding away Grues.

*Nasty Looking Knife* – A small knife found in the Attic.
Rusty Dagger- A rusty dagger found near the corpse of the dead adventurer.
Bloody Axe- An axe that bears many bloodstains. Found in the Troll Room.
Lunch- A delicious shepherd’s pie that restores life if eaten.
Garlic- A clove of garlic.
Water- A bottle of water that restores health if drank.
Book of Prayers- Used for opening the Gates of Hades.
Dam Control Book- Gives instructions for draining the reservoir.
Leaflets and Notes are scattered about as well.

Treasures

Jeweled Egg- Found in the Bird’s Nest outside of the house
Silver Chalice- Found in the Thief room and guarded by the Cyclops
 Rolled Up Painting- Taken from the Gallery.
Crystal Skull- Found in Hades
Trunk- Available once the water has drained in the Reservoir
Zork Mids- The currency of the Great Underground Empire. Found in a sack next to the dead adventurer.
Platinum Bar- Found in the Loud Room.

Script Descriptions

Mailbox Script- This bit of code prompts the player when they open the mailbox. To make the mod more immersive we offer to strip them of any non-quest items and replace them with a set of adventuring clothes. This is optional, but recommended.

Trophy Case Scoring System- Actually a quest, this system will offer a quest when the case is first opened. The player must seek out and collect all of the treasures in the mod to finish it.

Summon Grue- This is a complicated script that checks if the player has a torch equipped when in a Pitch Black area. If so a timer starts and after a small grace period it begins rolling to spawn a Grue near the player. Equipping a torch nulls the script but un-equiping a torch after already having one removes the grace timer and begins rolling for a Grue immediately.

Trapdoor- A simple prompt informing the player that someone has locked the door behind them.

Taking the Painting- A prompt offers the player the chance to take the painting from the wall. If Yes is chosen the static mesh is replaced with a blank canvas and instantly rotated so it looks like the player has knocked it around a bit. It also adds the Rolled Up Painting to the player’s inventory and tallies the quest.

Cyclops- A dialogue box appears when the player collides with the trigger. The player is offered a chance to scare it away by choosing Odysseus. If the incorrect answer is chosen the Cyclops attacks.
Ghost- This script triggers when the player attempts to interact or ‘desecrate’ the dead adventurer. A cold spell is cast on the player as mentioned before while the Ghost is summoned. Just like the Grue, the Ghost is an instance pulled from a separate cell.

Reservoir Door Change- This occurs when the player drains the water in the Dam Control. To simulate this we replicated the two cells and created a script that flips the doors. When the player attempts to use the same door it is actually teleporting him/her to the newly drained cell. There are multiple instances of doors we had to replace.

Maze Script- Another simple collision trigger that delivers the message to the players that they are entering the Maze.

Light Switch- By using collision boxes and parent references of lights we created a light switch that is activated when the player interacts with the static mesh. This effectively turns the lights in the Dam Control on and off. We added an audio component when the switch it flipped as well.

Button Activation- By pressing the yellow button the player enables the lever in the back to be used as well as turning on a green light above it. If the player uses the blue button the machine breaks and the room is flooded*.

*Real time water editing is not supported in this engine. We are trying several methods to recreate the experience that the room is flooding.

Lever Activation- When the player hits the lever this causes the door flip script to run. In addition a chain of several sounds plays simulating that the water is being drained.

Guardian Ghosts- These will be marked as Essential (meaning they cannot be killed) until the player has found and read the Book of Prayers.