Description of Level Design

Elderscrolls V: Skyrim Dungeon Design

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Introducing and analyzing the design aspects of the level, designed and created for Elderscrolls V: Skyrim.

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Name of the Level

- Den Erovrade Staden: The Conquered City
  - Represents the situation of the dungeon

Objectives of Design

- To encourage the usage of "*Whirlwind Sprint*[i]", which wasn't being used often.
- To support a story.
  - A spectral faction lead by an ancient undead dragon (which is not included in this dungeon, who has wake upon the call from Alduin[ii], is trying to bring his army to the surface through a Dwemer[iii] city, while the automations are fighting against them.
- To provide players an intense adventure, rather than another big hunting ground full of weird and big objects.
- To create a dungeon that contains unique systems, but still maintains the original game's theme.

  ※ "*Whirlwind Sprint*" is a spell (shout) that allows the player to dash forward
  Side effects: it allows the player to move further than normal jumping

Goal for Player

- Explore an abandoned Dwemer ruin fighting against the unwelcomed spectral faction.
- Could be different if the story quest line is added.
  - Example: Discover the origin of the far off roars coming from the Dwemer ruin. Defeat the evil that marches towards the surface.

Features of Overall Design

- Platforming factor: To encourage the usage of "Whirlwind Sprint".
- Heavy usage of ambushes and traps: To provide an intense experience.
- Combination of traps: To give players a challenge to find a solution.
- Modified traps: To encourage the usage of "Whirlwind Sprint".
- Puzzles combined with navigation: To give players a challenge of path finding.
- New mechanism: "Melting ice" mechanism added.
- Vertical maze: Simple but encourages usage of "Whirlwind Sprint".
- Scripted (timed) events: To set up the story.
- Boss fight: To provide a different style of battle. Increases the risk.

Requirements for Play

- Skyrim.
- Dragonborn DLC.
- In-game skill: *Whirlwind Sprint* Level 1.

Overall Structure

- ◆ Flow (dungeon structure)
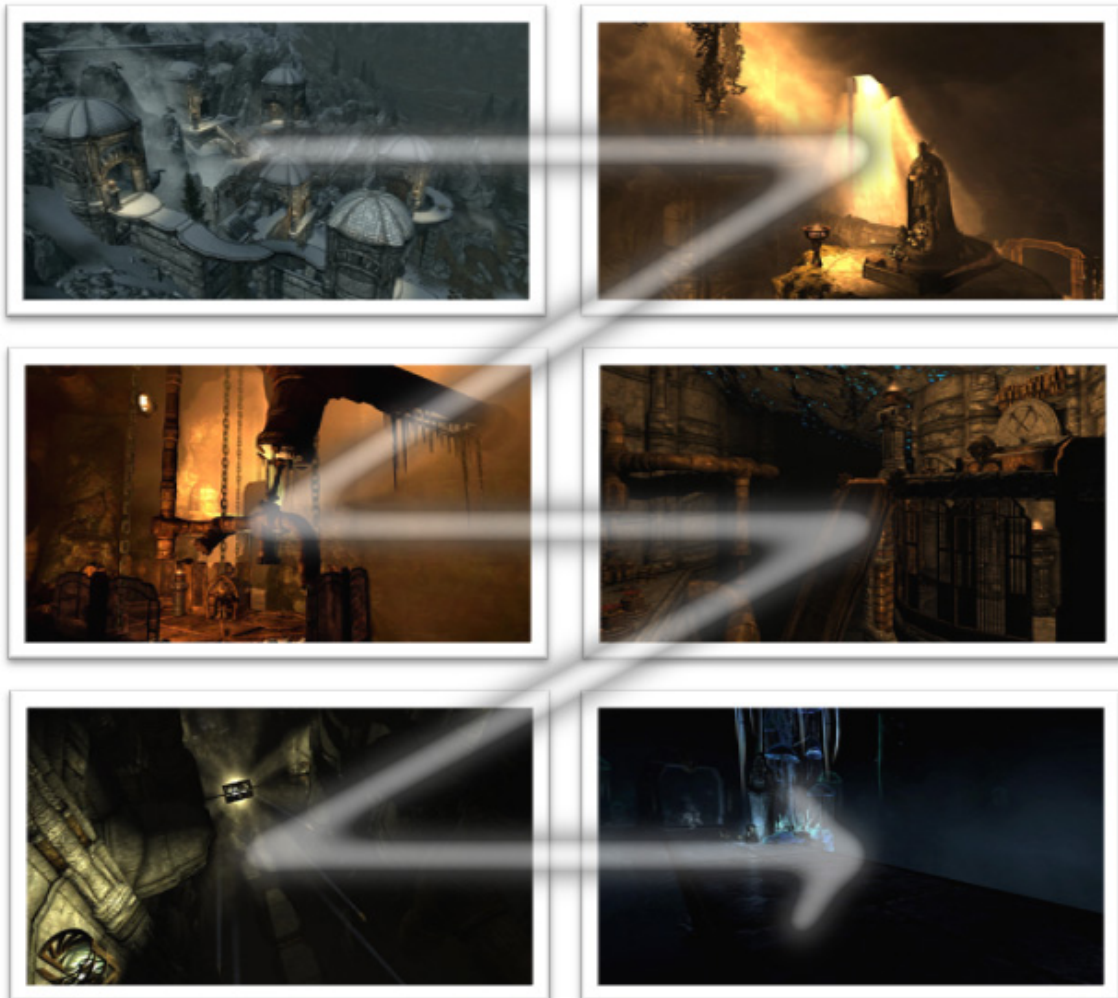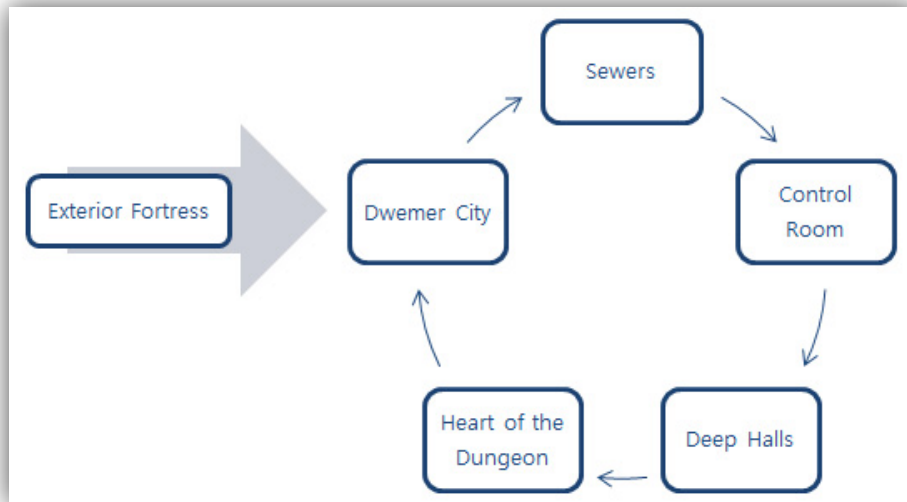
- ◆ Explanation of each area
  - Exterior Fortress
    - ・ Designed to filter players who do not have "*Whirlwind Sprint*"
  - Dwemer City
    - ・ Normal Dwemer dungeon with indirect control that leads player to the key.
    - ・ Warming up area with a few traps and basic platforming.
  - Sewers
    - ・ Heavy platforming that encourages the player to use the "*Whirlwind Sprint*".
    - ・ Introduces the first puzzle
    - ・ Introduces the new faction (the spectral force) and it's relationship with the Dwemer automations.
  - Control Room
    - ・ Concentrates on puzzles and traps.
    - ・ First battle with the new faction.
  - Deep Halls
    - ・ An easy vertical maze that leads the player down towards the exit.
    - ・ A mixture of platforming and traps.
  - Heart of the Dungeon
    - ・ Final boss fight and reward.
    - ・ Returns to the beginning of the dungeon.

※ Provides 60~120 minutes of gameplay (based on the play style)
  This was measured based on the feedback received from the members of Korean Elderscrolls community.

Details of Design

- ◆ Exterior Fortress
  - - Location

EXTERIOR FORTRESS
- SOUTH WEST OF WHITERUN

  - ∙ The whole dungeon is split into two, the fortress (exterior) and the underground city (interior)
  - ∙ South west of Whiterun[iv], close to the watch tower (used in the main quest)
  - - Shout check system

NEEDS KEY TO OPEN

CONTAINER WITH KEY
NEED WHIRLWIND
SPRINT TO REACH

CHECKING FOR SKILL
- CHECKS EXISTANCE OF WHIRLWIND

  - ∙ Navigation to the interior entrance requires the player to use "*Whirlwind Sprint*".
  - ∙ The door to the interior requires the key, which is placed in a container that can be reached only by using "*Whirlwind Sprint*".

- Event/Trap

**BALLISTA EVENT**
- INDICATED BY A MOB ACTIVATING ONE
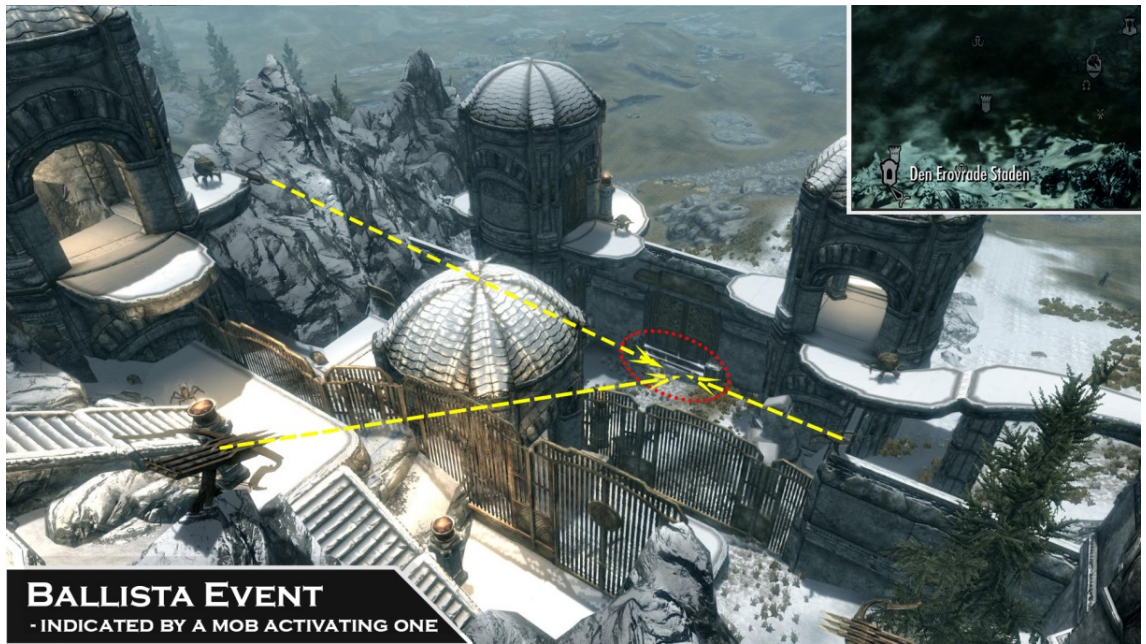
- Ballistae are fired towards the door.
- First activated by the dwarven spider[v] that passes the trap to introduce the new trap trigger.
- Activated once more by the player and then deactivated.
- Utilizable traps

PATROL ROUTE

FLANKING CHANCE
- USING BALLISTA TO ATTACK
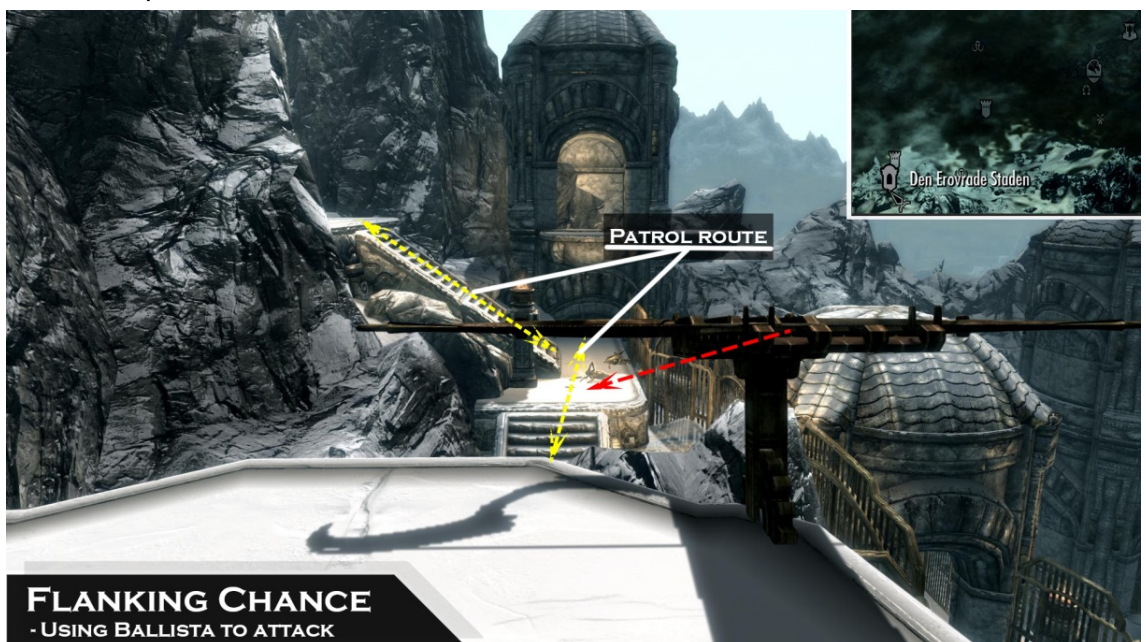
- Introduces the utilizable trap, aimed towards the patrol route of the automations.

- ◆ Entrance Area (Dwemer city)
  - Indirect control

LOCKS AND THE KEY
- USAGE OF WHIRLWIND SPRINT
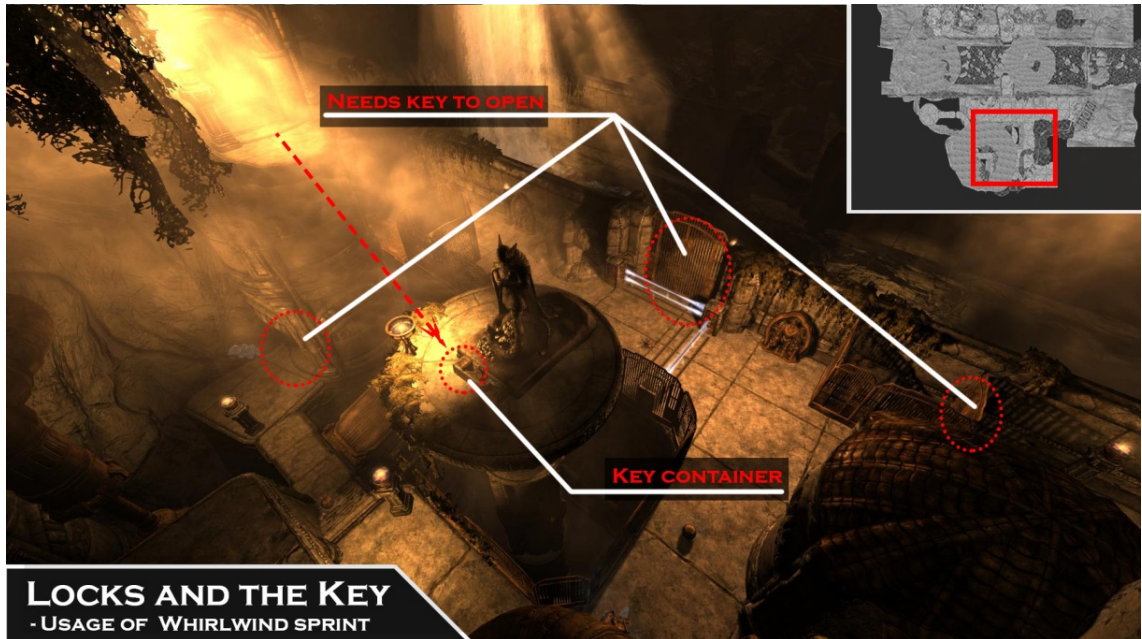
  - · Locked gates which require a key directs the player to the 'only' accessible gate which leads to the upper ground.
  - · "*Whirlwind Sprint*" is needed to reach the statue, where the key is.
  - Patrol Routes

ENTRANCE PATROL
- PATROL ROUTES
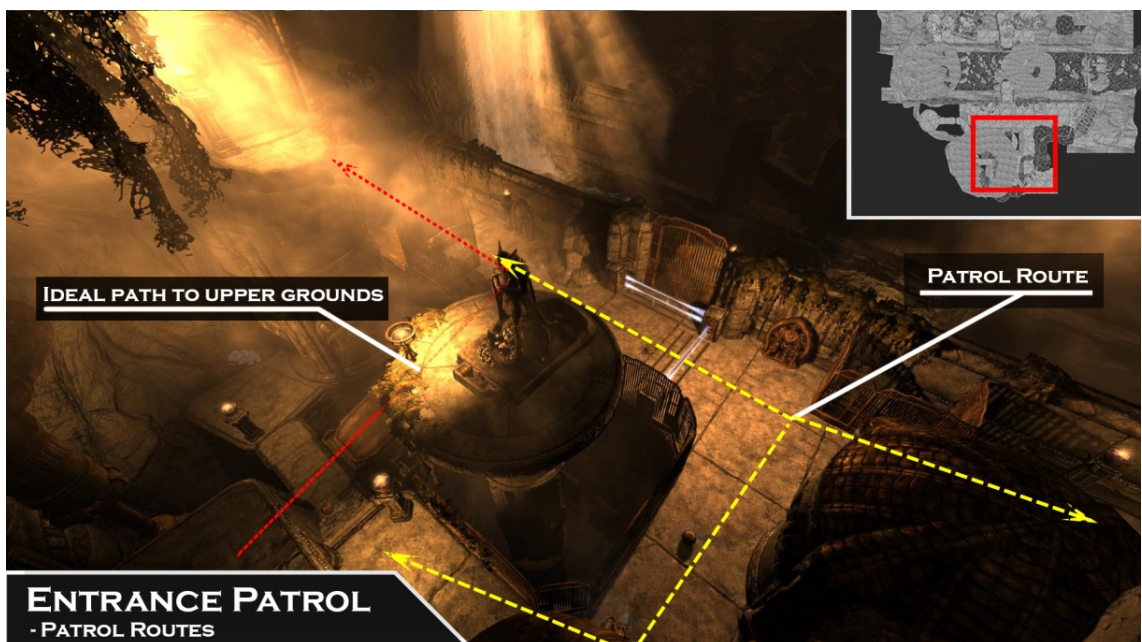
  - · Non-aggressive/aggressive automations patrol
  - · Provides a unpatrolled route that leads to the upper floor.

- Traps and rewards

TRAPS
- ACTIVATED / SCRIPTED
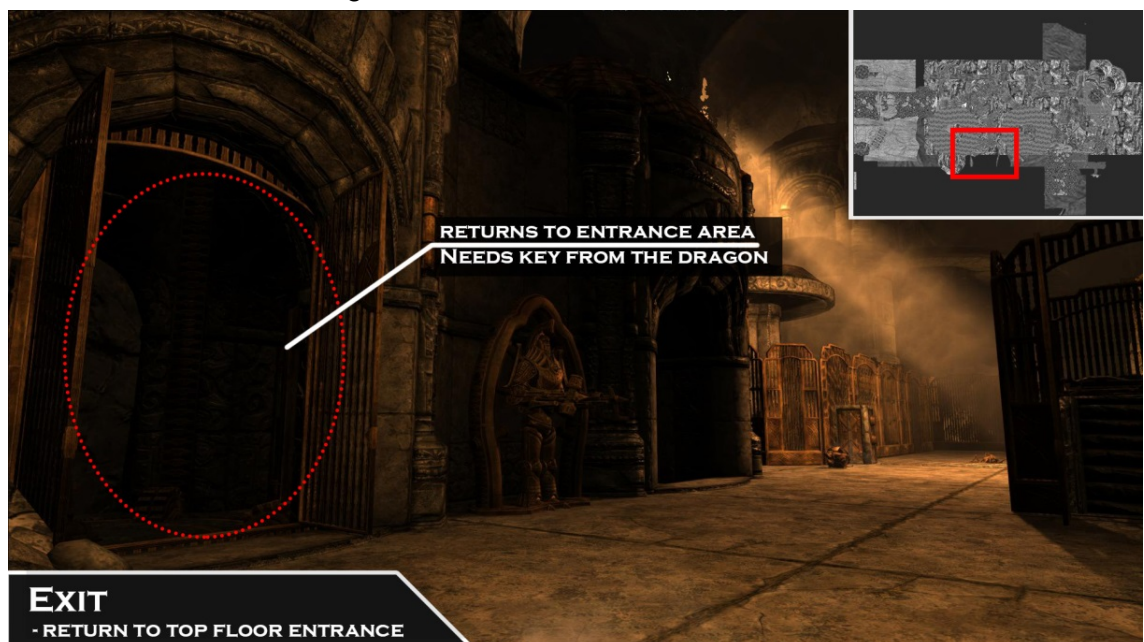
- The trap in front of the gate has to be deactivated in order to open/pass.
- The pressure plate: Fire traps are placed close to the additional reward chests.
  The fairly weak trap was set up to keep the tension on going even after the area is cleared.

- Exit from the end of the dungeon

**EXIT**
- RETURN TO TOP FLOOR ENTRANCE

- Designed to provide similar/convenient experience as the original dungeons of Skyrim.
- The exit from the end of the whole level is connected close to the entrance of the dungeon.
- Inaccessible without retrieving the key from the final boss.

- Sewers (within the same cell as the entrance, divided into different rooms)
  - New mechanism

INTRODUCTION
- Ice melting mechanism
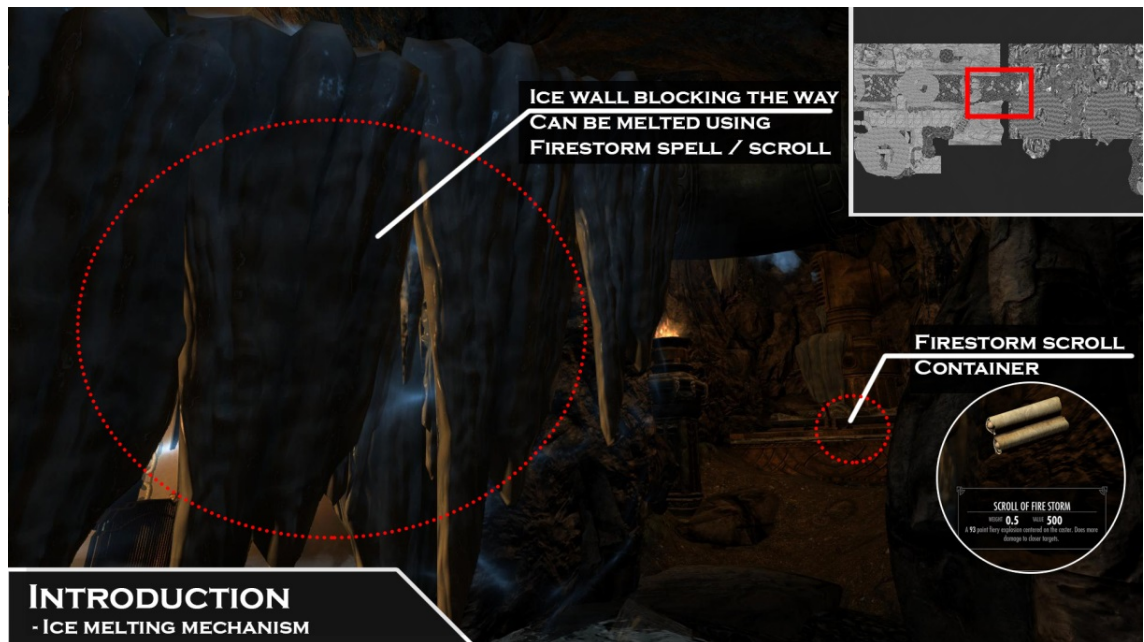
  - Introduces the ice melting mechanism: Scripted using 'OnHit' event
  - Ice blocks the only path, and a specific scroll to remove the ice is provided near by
  - removes any factor that could make the mechanism unclear.
  - Scroll is inside a chest which is revealed by using a lever. It plays some animation/effect to indicate the importance of the scroll.

  - Platforming (throughout the area)

PLATFORMING
- Navigating between platforms
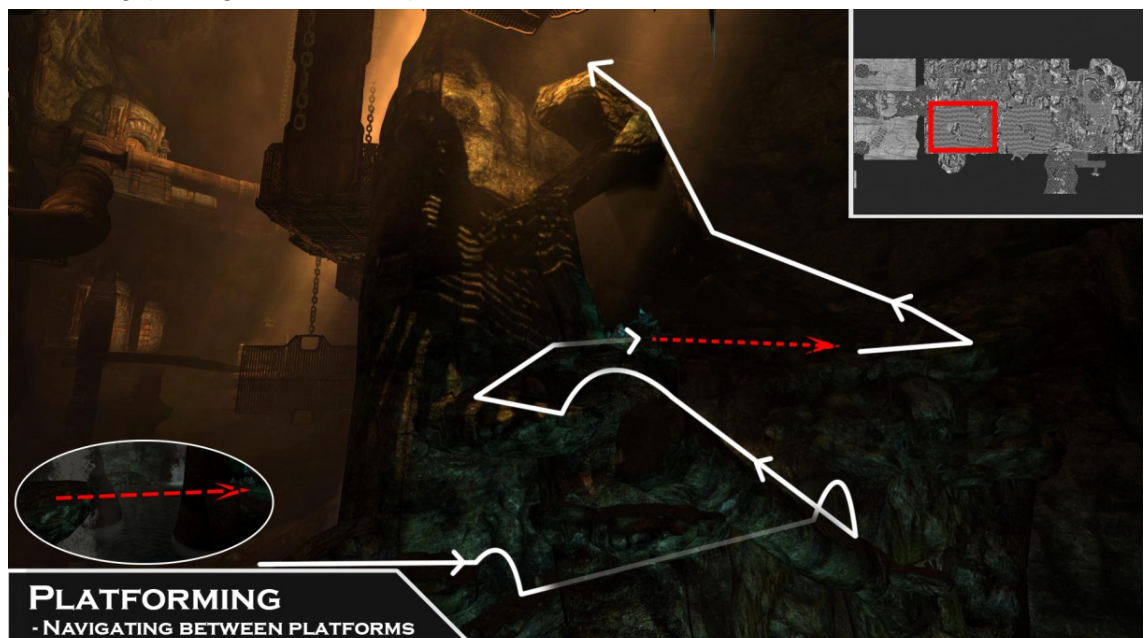
  - Terrain is created using non tile objects. It requires jumping and "*Whirlwind Sprint*" to proceed.
  - Minor encounters placed along the platforms.
  - Used Chaurus eggs[vi] and fallen sconces to provide light sources.

- Introducing new faction (the spectral force)
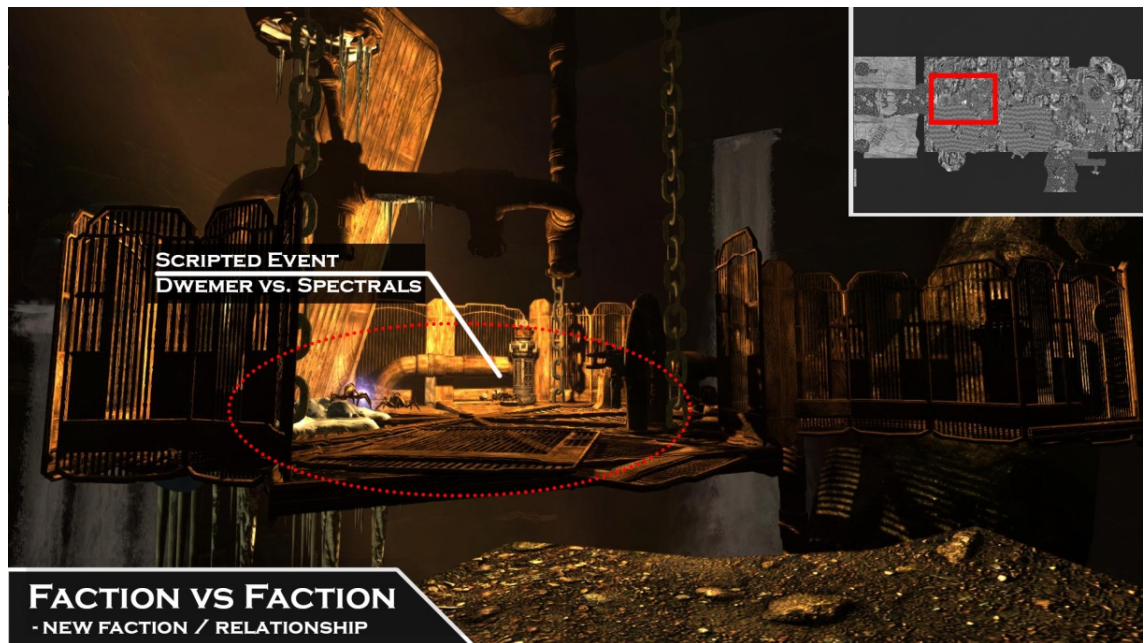
- Scripted event occurs as the player reaches the top area.
- Battle between a spectral spider and dwarven spider.
- Designed so that the dwarven spider wins.
- Introduces the new faction and it's relationship with the Dwemer automation.

- Ambush event
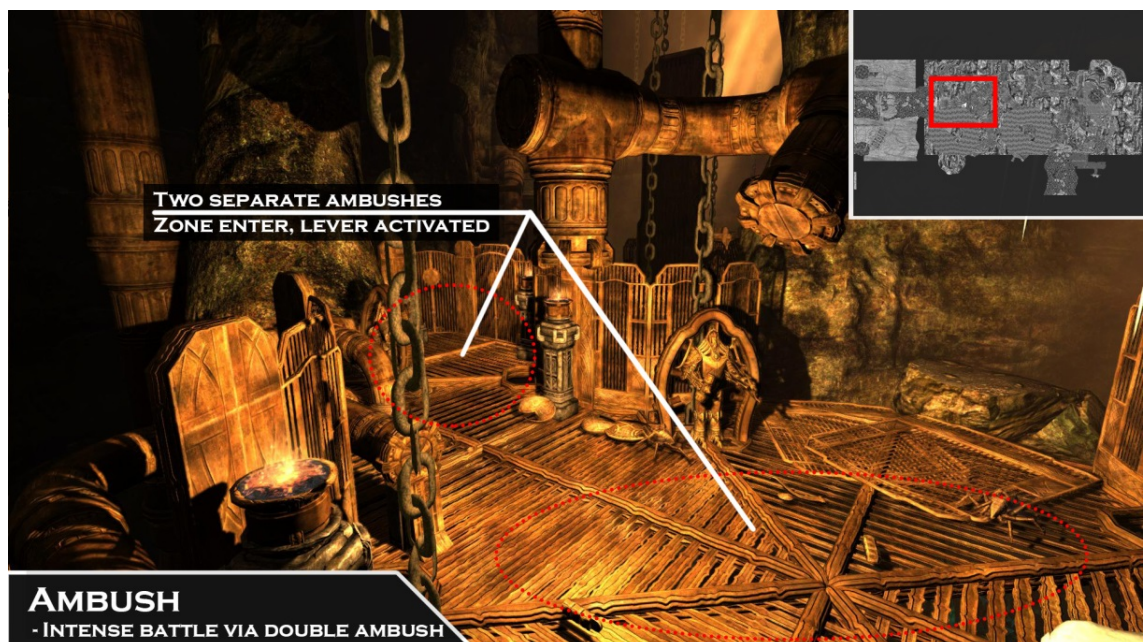
- Trigger box triggered ambush/lever activated ambush.
- Trigger box ambush provides a battle against multiple enemies.
- Lever activates a platform to rise from the water and a centurion[vii] ambush. The ambush is used to hide the transparency issue caused by the MoveTo[viii] function and to keep the tension high.
- The raised platform grants easy access to the next platform, the pipes.

- Checkpoint
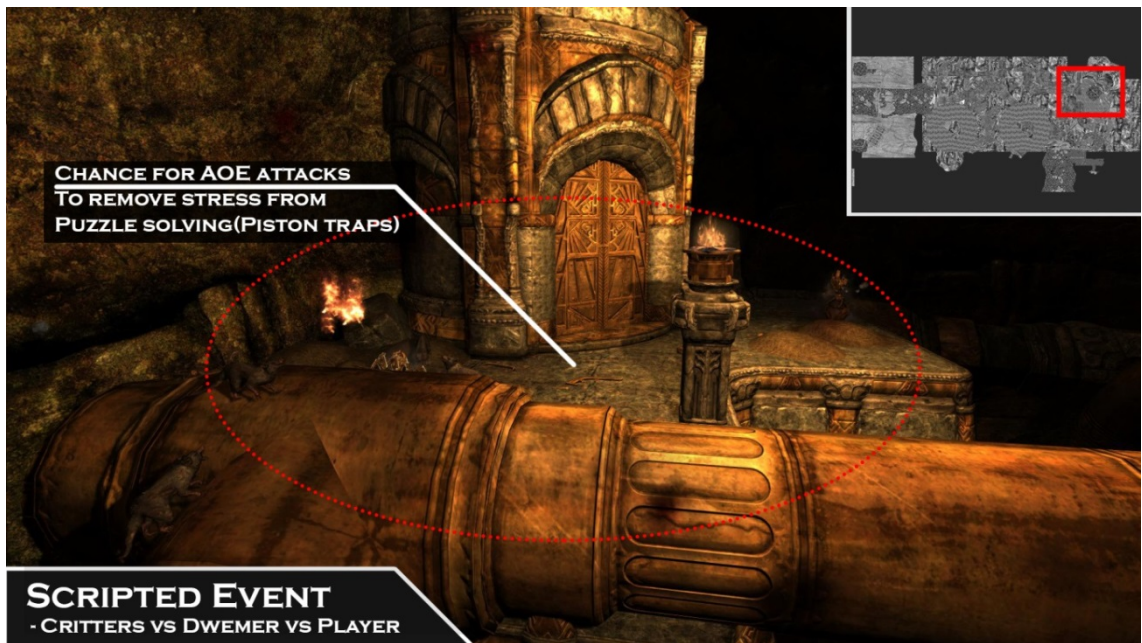

CHECKPOINT
- USING ICE MELTING MECHANISM
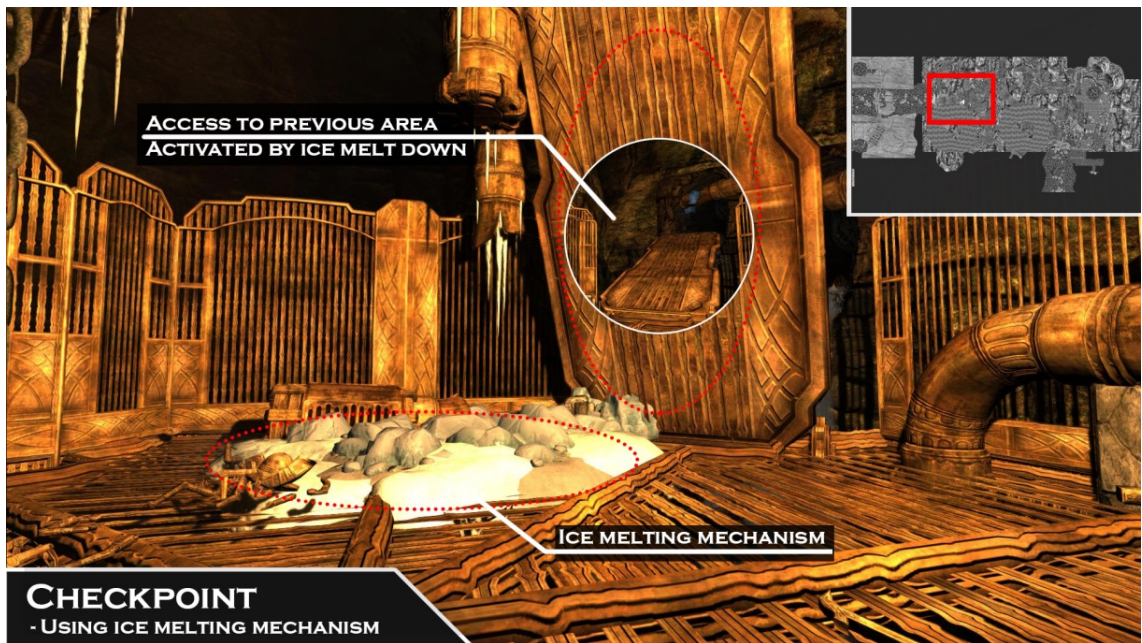
- Reuses the ice melting mechanism to remind the players.
- Scroll is provided in a locked box next to the lever mentioned in the ambush section.
- The chest that contains the scroll is locked so that the players will open it after the battle.
- The bridge falls after ice melts giving easy access to the previous area.

- Sequential trap (puzzle)

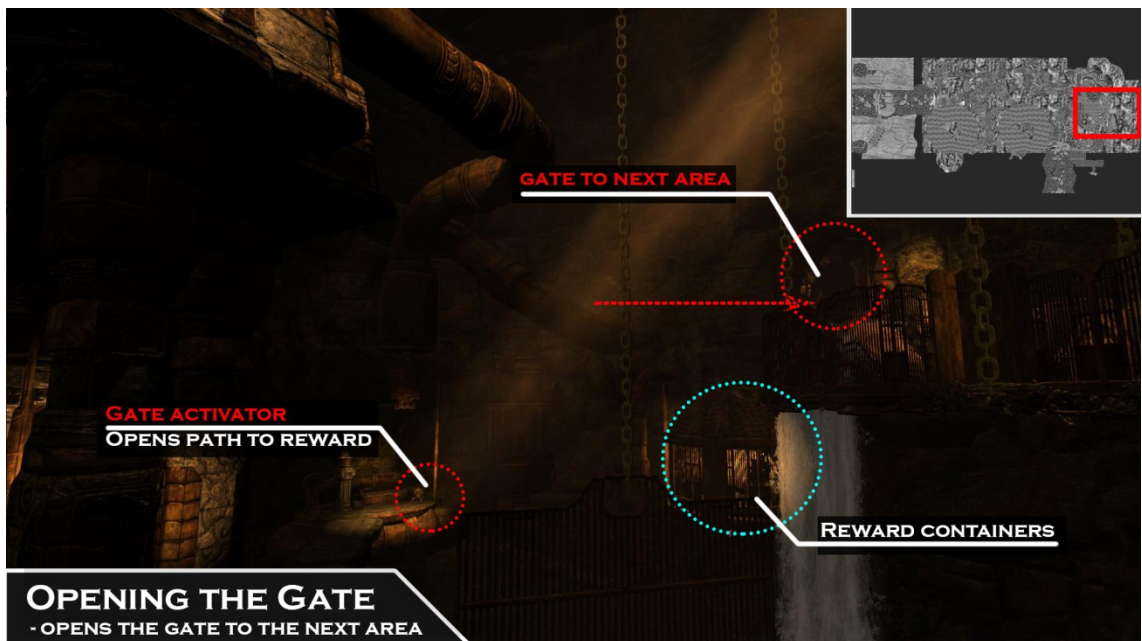

SEQUENTIAL TRAP
- READ PATTERNS OR USE WHIRLWIND

- Pistons push players off the platform (pipes) in a pattern.
- The pattern is quite long making it feel random in the first glance.
- Players can figure out the pattern or use "*Whirlwind Sprint*" to pass.
- Through playtest, players could pass using "*Become Ethereal*[ix]" shout.

- Scripted event

CHANCE FOR AOE ATTACKS
TO REMOVE STRESS FROM
PUZZLE SOLVING(PISTON TRAPS)

SCRIPTED EVENT
- CRITTERS VS DWEMER VS PLAYER

- A player triggered battle between skeevers[x] and automations
- Fast pace but easy battle to relieve stress
- Patrolling ballista[xi] still remains a challenge

- Opening the gate

GATE TO NEXT AREA

GATE ACTIVATOR
OPENS PATH TO REWARD

REWARD CONTAINERS

OPENING THE GATE
- OPENS THE GATE TO THE NEXT AREA

- The gate activator is away from the gate itself, and it requires the player to use "*Whirlwind Sprint*" to reach the gate. Due to the layout the usage of the shout feels undoable. So most players tend to explore the area before they go to the gate.
- Triggered effects such as steam, leads the player's sight towards the gate.
- Designed to prepare the players for the next level where navigational puzzles are awaiting. This gives the player an idea about finding switches away from the path.
- A small ambush and reward is prepared near the activator.

- Additional area with ambush

AMBUSH
- AMBUSH, REWARD AND AMBUSH

- This area was added to create a path back to the previous area.
- It contains two ambushes using trigger boxes. The first one is activated when the player tries to reach the reward containers, and the second is activated after the player gets the reward
- The difficulties of the two ambushes are different. Since the second ambush would become the final battle within this area, it is considerably more difficult than the first one.

- Checkpoint

CHECKPOINT
- GRANTS ACCESS TO PREVOUS AREA

- This checkpoint is activated by a lever.
- It grants easy access to the previous area.
- Also opens a bridge to a reward platform.

- ◆ Control Room (Puzzles and traps)
  - – Small hallway and introducing traps

- · The player will see dead dwarven spiders right before a well hidden, but fairly weak trap. The setting's purpose is to introduce the atmosphere of the area with highly populated traps and small hallways.
 - – Planned event/first battle with the spectral faction

- · After the player moves into this multi-layered opening a battle event between the dwarven automations and the spectral faction is triggered. The battle is won by the spectral faction, which means the player has to fight the spectral faction.
- · The area is quite open to provide enough space for the battle with the enlarged spectral spider, which is a boss that drops a key for this area.
- · Possible to avoid the battle temporarily, but needs the key to proceed to next area.

- Highly populated traps
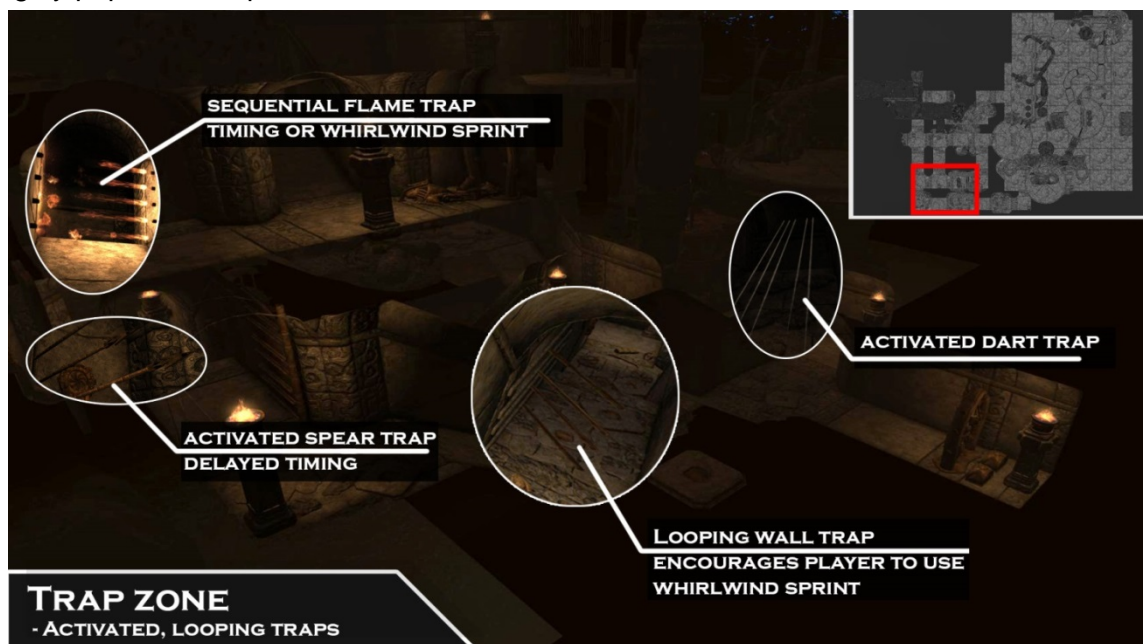
- Normal traps and modified traps are mixed together. They provide the player a moment to stop and think.
- Modified traps encourage the usage of "*Whirlwind Sprint*" due to it's looping/pattern.
- Pressure plates are hidden among dummies and rubble in order to increase the tension.
- Through playtest, players could pass using "*Become Ethereal*" shout.
- Scripted event (for indirect control)
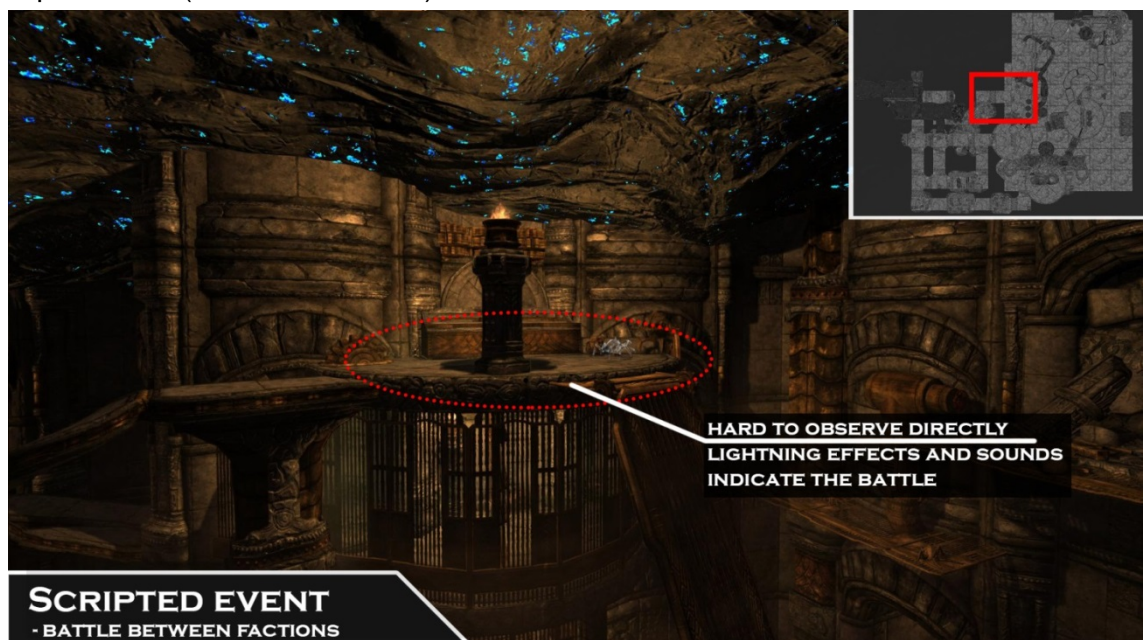
- When the player enters the 2nd floor of where the boss fight was held, a scripted battle between the two factions occurs on the 3rd floor. But the players can only hear and see some magic effects to provide a navigational goal by stimulating their curiosity.

- Navigational/sequential puzzle
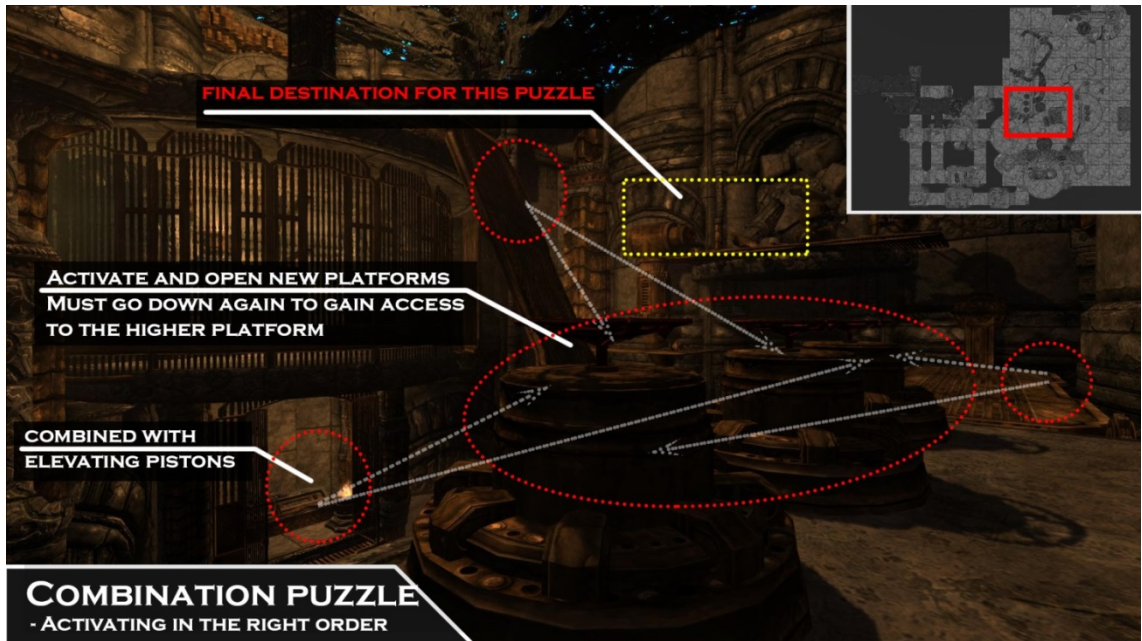
- Three switches combined with two platforms and a door.
- Puzzle that requires navigation between floors and sequential switch activation.
- Player has to reach the upper level in order to activate the final bridge.
- Sequence of puzzle solving: Player must go down → activate the elevating pistons → come up using the elevating piston → activate the two bridges → reach the upper level using the elevating piston → activate the final bridge.

- Elevating pistons (using traps as platforms)

- The piston trap is used for a different purpose.
- The pistons provide easy access between the 1st and 2nd floor of the open area.

- Trap passage

TRAP PASSAGE
- FUNCTIONS AS A SWINGING DOOR

ENCOURAGES WHIRLWIND SPRINT

· This wall trap's size was modified so that it could block the whole passage.
· The trap loops and with it's swinging direction, it functions as automatic gate.
· The interval of the loop is short. It encourages the usage of "*Whirlwind Sprint*"
· Through playtest, players could pass using "*Become Ethereal*" shout.

- Ice melting mechanism (defrosting valve)

USE FIRESTORM TO MELT ICE
THE VALVE ACTIVATES THE
GATE TO NEXT AREA

SCROLL PROVIDED ON THE
TOP LEVEL PLATFORM

DEFROSTING VALVE
- USE OF ICE MELTING MECHANISM
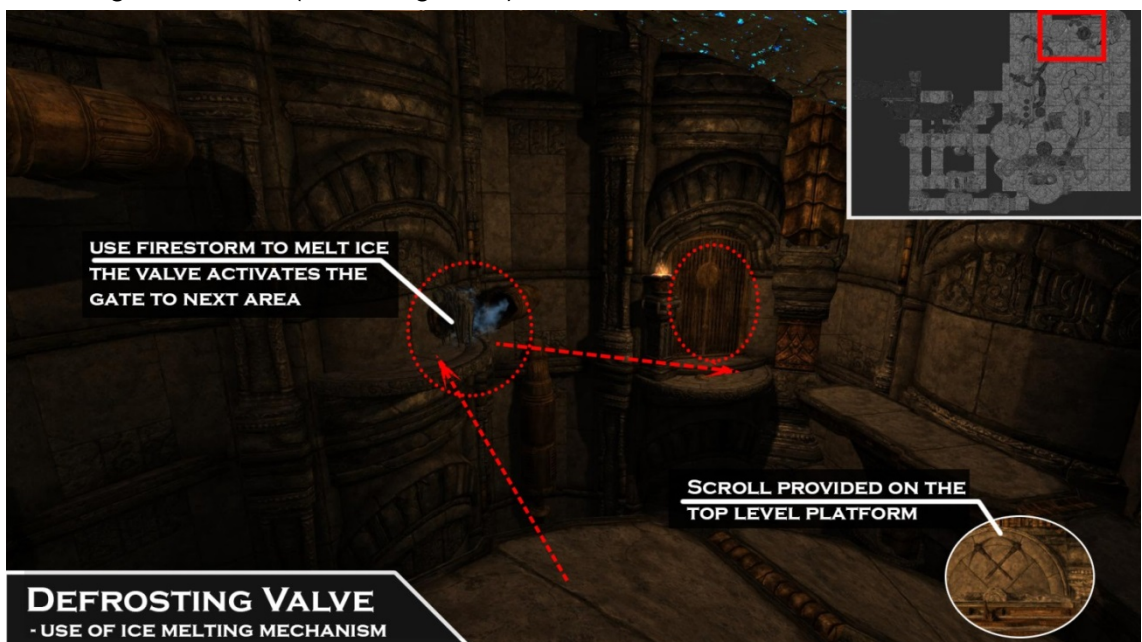
· Reminds the player of the ice melting mechanism. A scroll is provided on the 3rd floor platform nearby.
· Switch that opens the gate to the next area is beneath the ice/collision box. The player has to melt the ice to access the switch.
· The ice/switch is placed so that the player must use "*Whirlwind Sprint*".

- Checkpoint

CHECKPOINT
- SHORT CUT TO AREA'S ENTRANCE

ALLOWS EASY ACCESS TO THE ENTRANCE
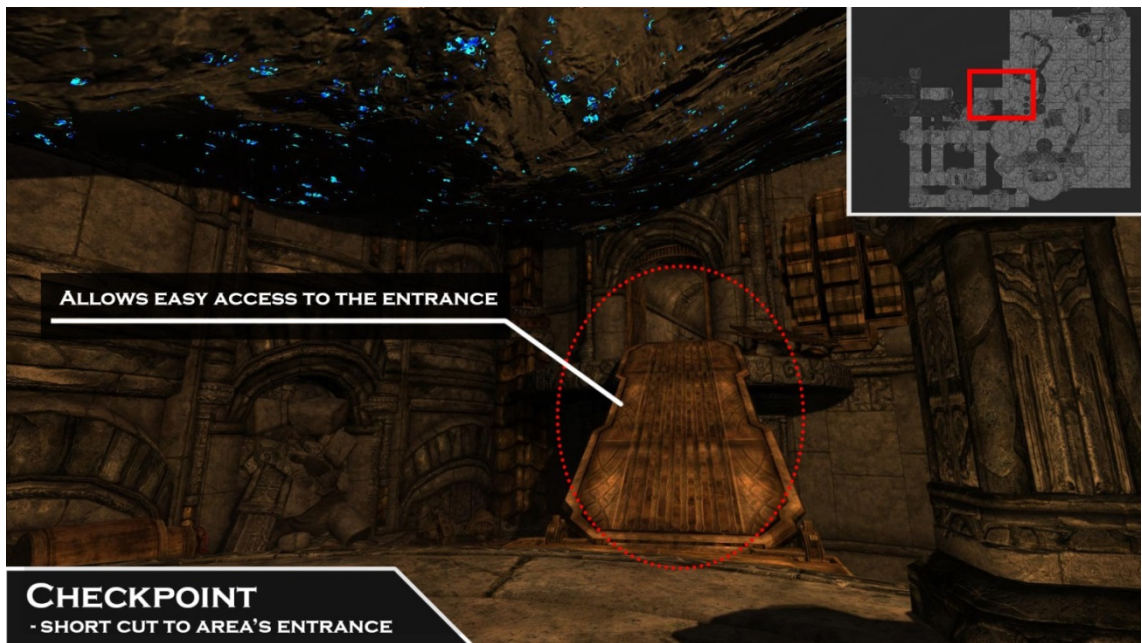
- Grants easy access to the entrance of the area
- Player needs to activate the switch from the 2nd floor to raise the bridge and the lever from 3rd floor to open the gate.

- Deep halls (vertical navigation)
  - Combination of sequential and looping traps.

COMBINATION TRAP
- LOOPING WALL & SEQUENTIAL FLAMES

LOOPING WALL TRAP
SEQUENTIAL FLAME TRAP
ENCOURAGES WHIRLWIND

TRAP INITIALIZER
TRIGGERS AMBUSH
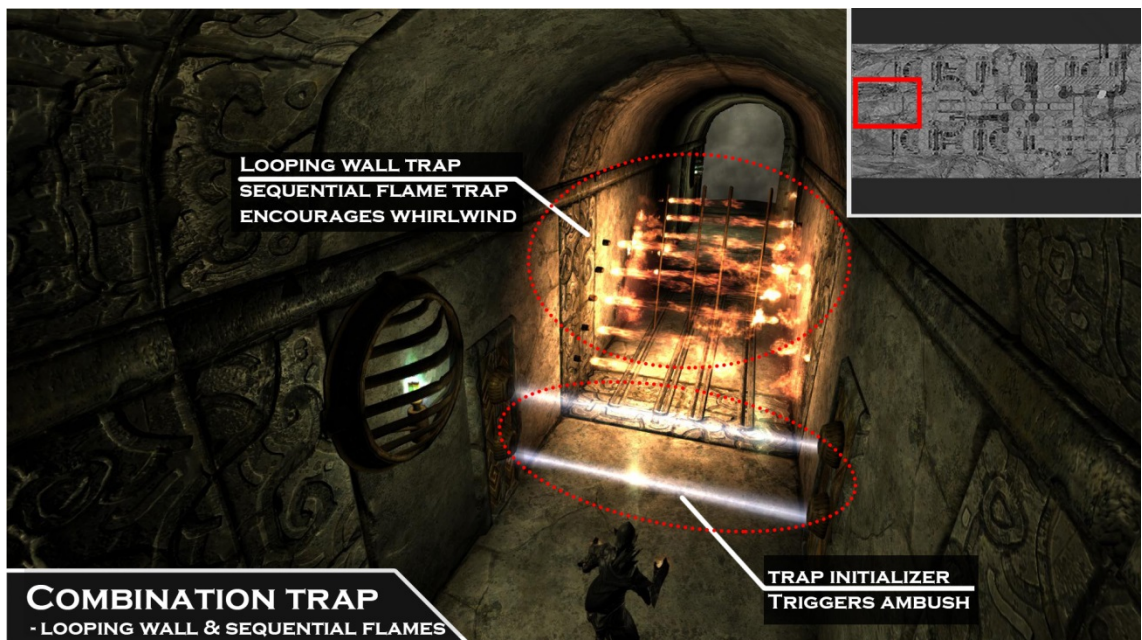
- Encourage shout usage, indicates the atmosphere of the area
- The sequential fire trap/looping wall trap from the control room are combined.
- Light beam seen in previous areas initiate the traps.
- The sequence and direction of the traps encourage the usage of "*Whirlwind Sprint*"
- Through playtest, players could pass using "*Become Ethereal*" shout.
- After the trap there is a dwarven automation, which can be defeated using the trap.

-   Platforming (vertical navigation)

PLATFORMING
- JUMPING BETWEEN HALLWAYS
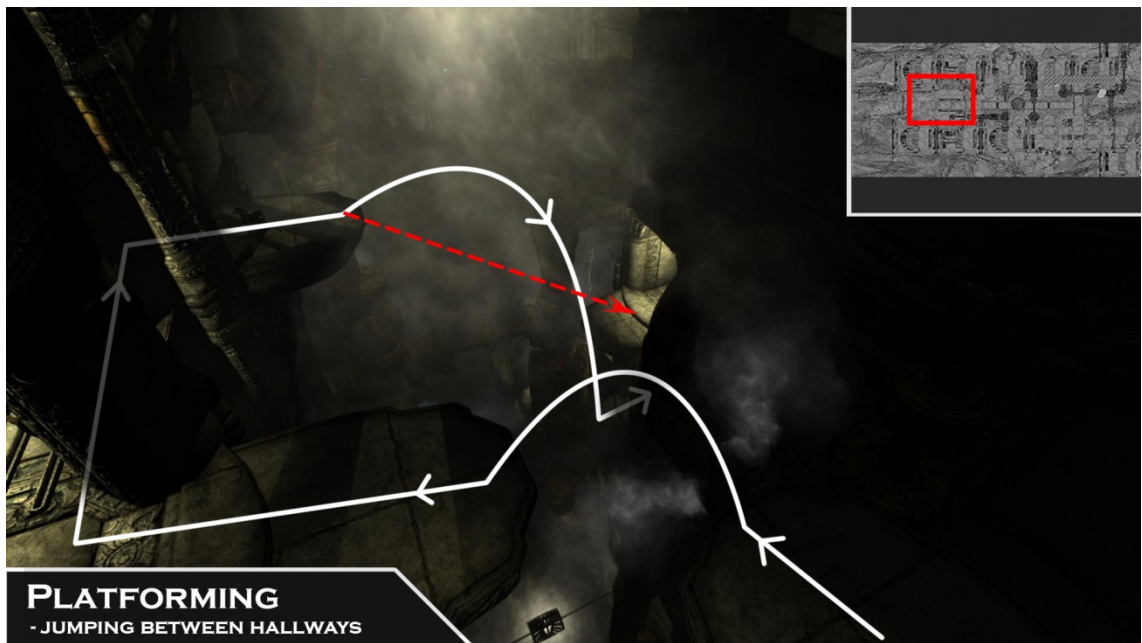
· Player must use "*Whirlwind Sprint*" to navigate. The overall direction leads the player downwards.
· Collapsing platforms increase the tension of navigating.
· Battles and traps within the hallways provides the time for the cooldown of the shout.

-   Multiple routes

ICE MELTING MECHANISM

PLATFORMING
- DIFFERENT ROUTES, ICE MELTING

· Players can choose from 2~3 different routes to reach the bottom.
· One route uses the pipes and the player has to use the ice melting mechanism to pass. This route provides a sub-routine with pressure plate fire traps and a reward.
· The possible (recommended) platforms are lit with light sources.

- Variety of traps

TRAPS
- VARIETY OF TRAPS

- The traps and battles exist to provide an experience for the players while they are waiting for the "*Whirlwind Sprint*" cooldown, since the main focus of this map is navigating vertically.
- This area contains a diversity of traps. This is to keep the tension high and also to keep the player focused. The traps gives the players a moment to stop and think, and it's diversity prevents them from getting bored

- Utilizable traps

LEVER ACTIVATED WALL TRAP

LEVER ACTIVATED DOOR/FIRE TRAP

UTILIZABLE TRAPS
- LEVER ACTIVATED TRAPS
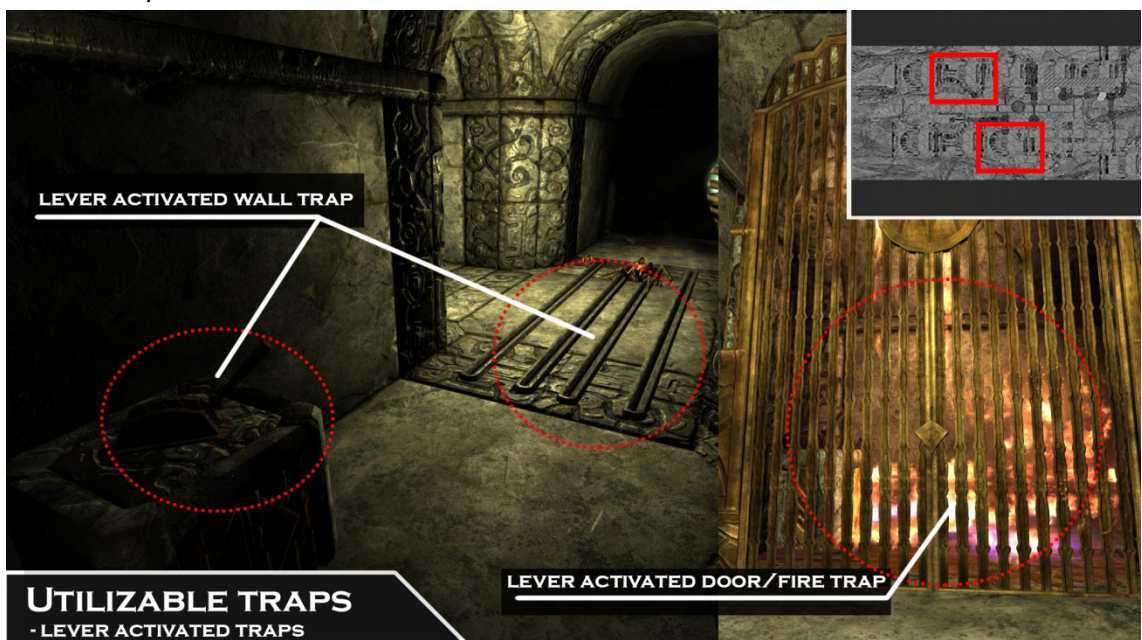
- Some traps are activated by a lever, allowing the player to use it against an enemy.
- The trap on the right in the picture captures whoever is within the gates and fires the flames. The oil on the floor indicates the flame trap giving a chance to the player to take advantage of it.

- Looping/sequential traps

SEQUENTIAL TRAPS
- MULTI-LOOPING WALL TRAPS

- Looping wall traps combined with different delay times create a sequential puzzle.
- Trap's sizes were modified to cover the hallway.
- The player must find the moment when the path becomes clear and has to pass.
- "*Whirlwind Sprint*" is not necessarily needed, but becomes useful.

- Scripted event and utilizable ballistae

SCRIPTED EVENT
PRE-AIMED POSITIONS

MULTIPLE BALLISTA SHOTS

SCRIPTED EVENT
- BATTLE BETWEEN FACTIONS, BALLISTA
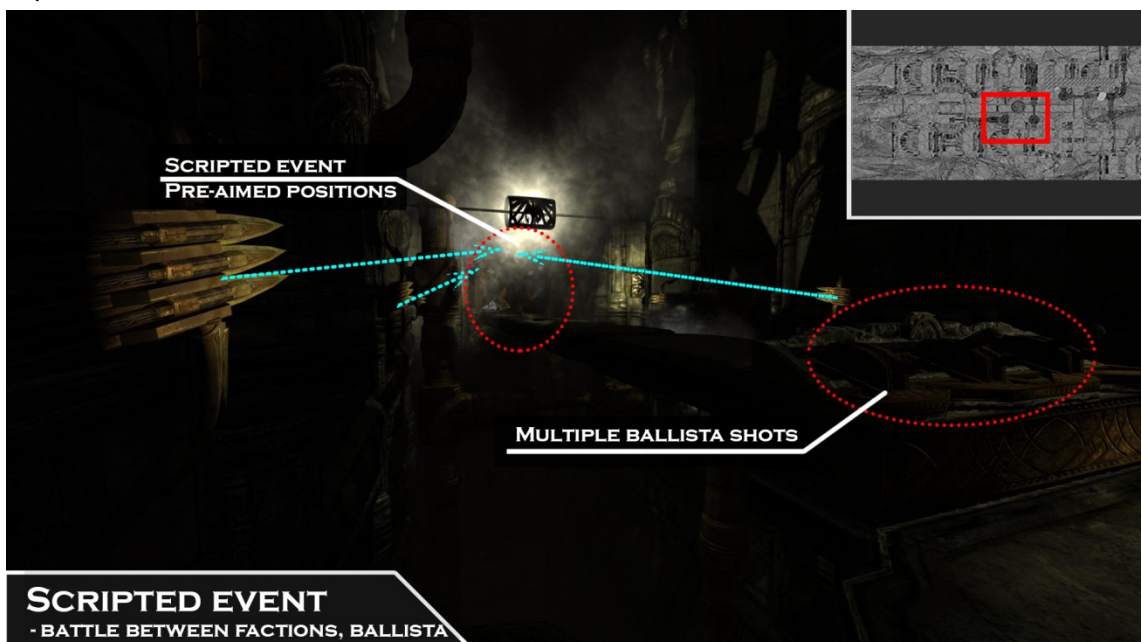
- When the player reaches the bottom, a scripted event occurs.
- A dwarven/spectral centurion will fight each other at the end of the bridge
- After the battle, the survived centurion will patrol towards the player's position.
- This event was positioned to tell what the player will be encountering in the next area and also to tell the enhancement of difficulty.
- Total of 6 ballistae are aimed along the bridge. It is enough to destroy the remaining centurion after the battle.

- ◆ Heart of Erovrade Staden (boss fighting area)
  - Two factions at war

BATTLEFIELD
- MULTIPLE BATTLES

- · This area is a battlefield for the two factions. The dwarven automations and spectral forces will attack each other as well as attacking the player.
- · The two factions will attack whoever is closer, so the players can utilize their relationship to make the battle easier.
  - Patrolling enemies/pre-aimed ballistae

BATTLE AREAS

BALLISTA UTILIZATION

CAVE OVERVIEW
- PATROL ROUTE & BATTLE
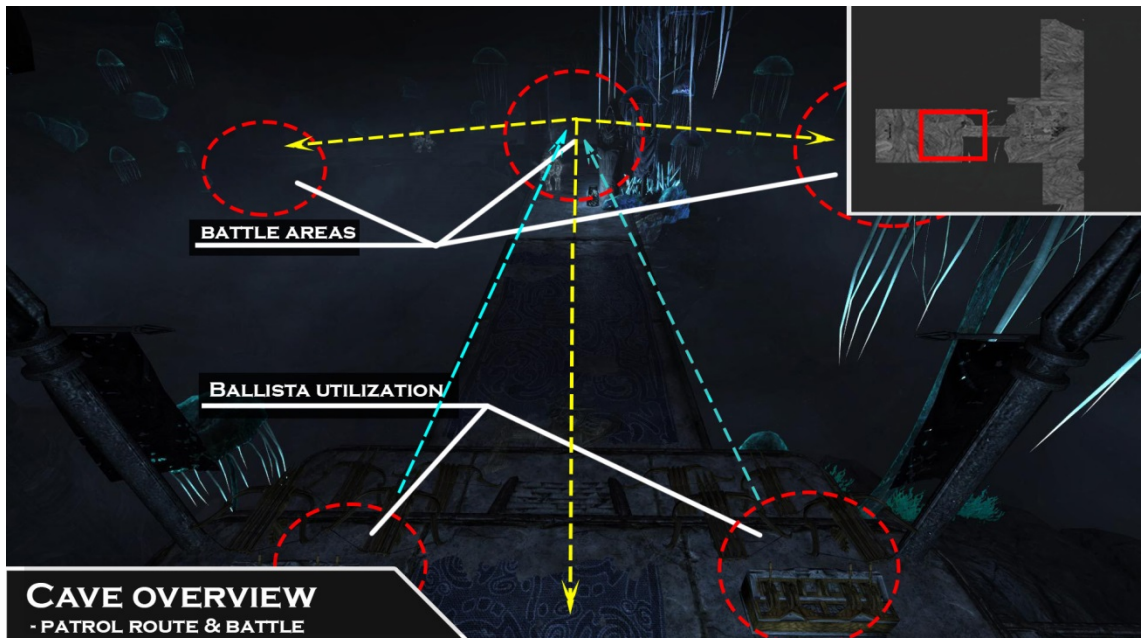
- · The enemies from both factions patrol, changing the battlezone depending on when the player enters.
- · Patrol routes draws a "T" giving a target point with a high chance of being occupied for the pre-aimed utilizable ballistae.

- Final boss fight

FLIES THROUGH WALLS
PUSHES PLAYER OFF THE BRIDGE
FROST ATTACK
UNRELENTING FORCE

FINAL BOSS
- UNIQUE SPECTRAL FROST DRAGON
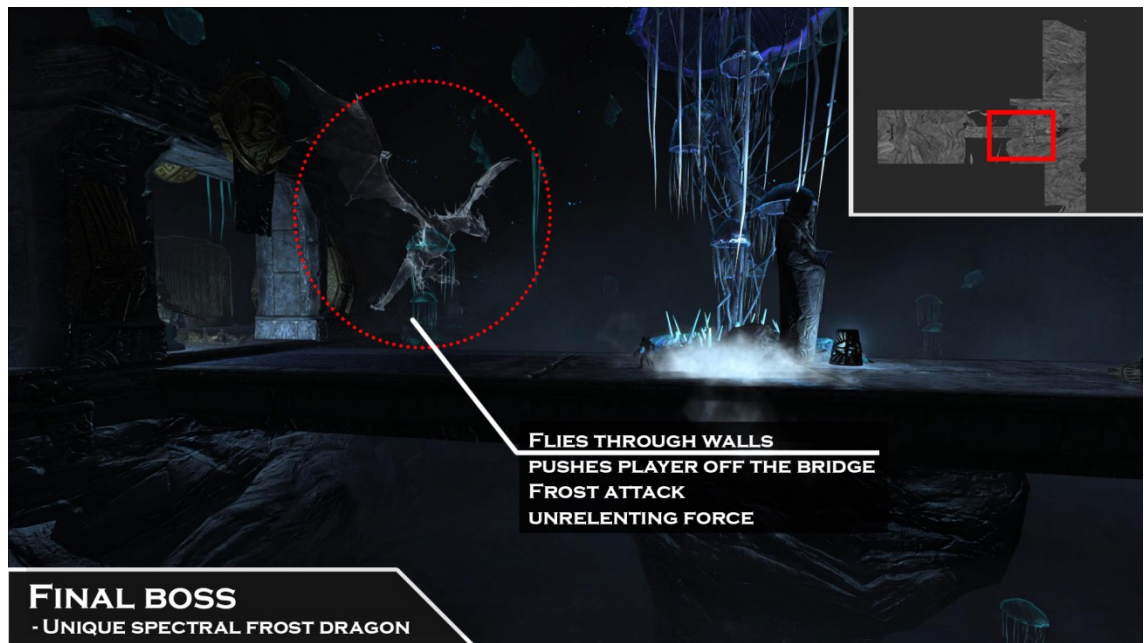
- The final boss flies through objects. It pushes the player off the bridge while flying by, making the battle more challenging.
- Players can fight on the bridge where the battle becomes a ranged duel, or on the solid ground where close combat happens more often.
- The boss uses frost attacks and "Unrelenting Force[xii]" depending on the player's level.
- The boss drops a key that gives access to a chest and the passage to the beginning of the dungeon. The chest contains a scroll needed to unlock the final reward.

- Final reward

FIRESTORM SCROLL

DESTROYABLE USING FIRESTORM
CREATES REWARD WHEN ACTIVATED

REWARD
- FIRESTORM SPELL BOOK
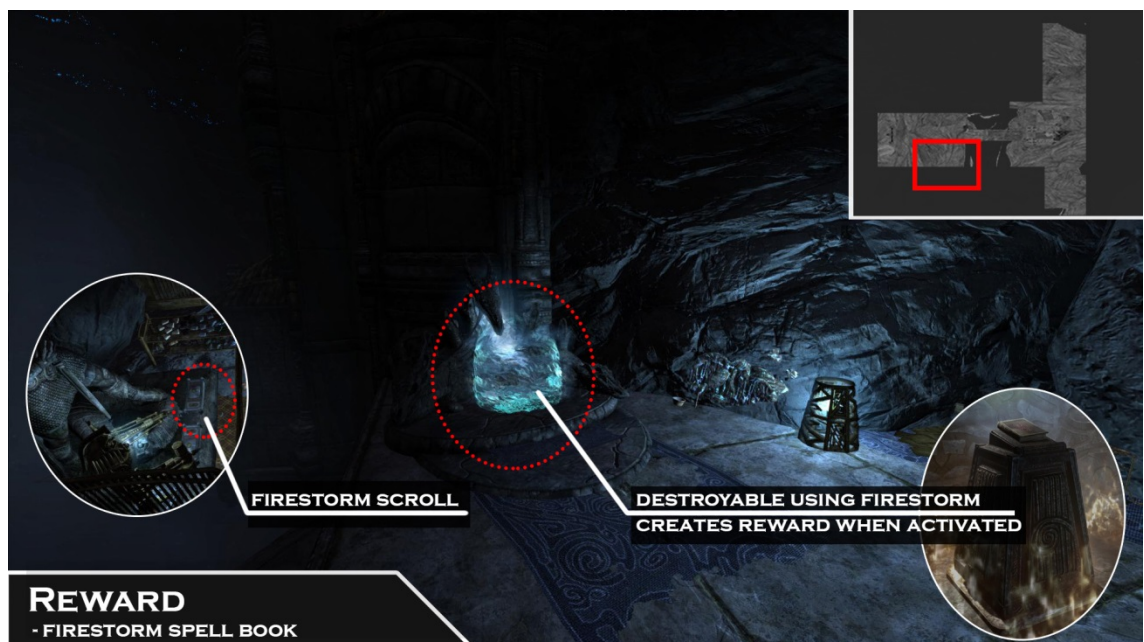
- The final reward needs to be unlocked using the ice melting mechanism.
- Rewards is a firestorm spellbook which is revealed by activating the pedestal.

Testing and Feedbacks

- Publishing a portion of the map
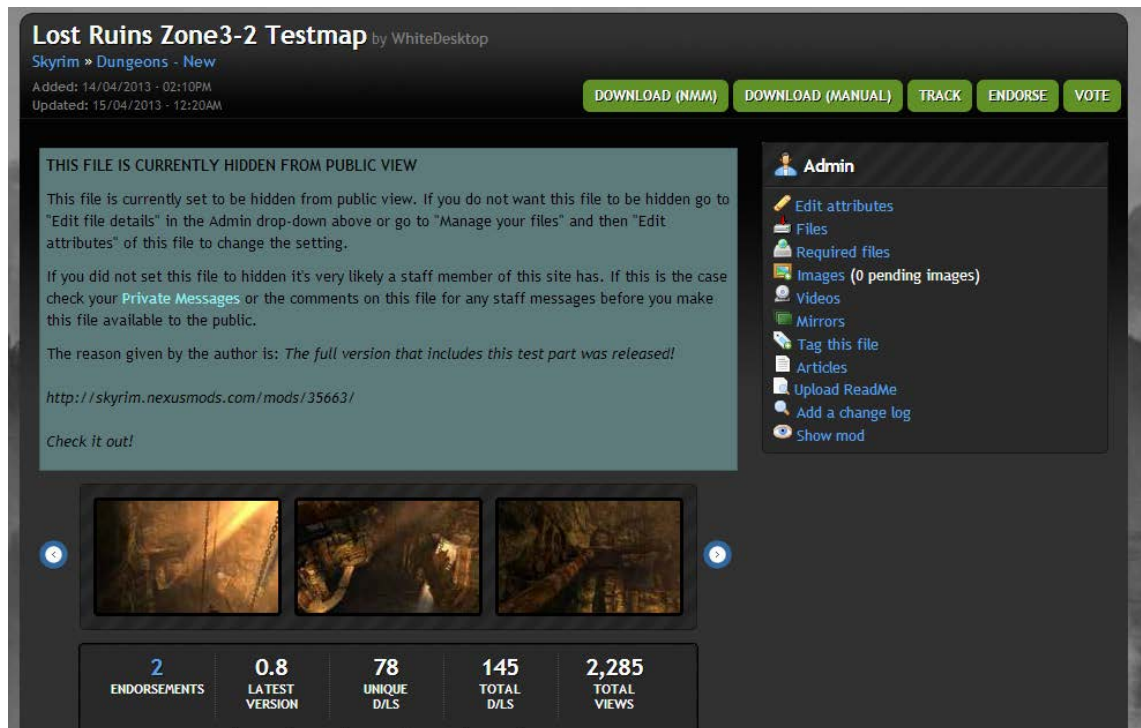
- Major feedbacks

  - High quality work

  - Short on content (15~20 minutes only)

  - Needs a formal entrance

  - Enjoyed the puzzles and platforming. They would like to see more.

  - Ice melting mechanism was not clear.

- Fixes based on feedbacks

  - Expanded area, adding a story component

  - Added areas focused on puzzles and traps

  - Added an area focusing on platforming

  - Added formal exterior connection, but not the fortress

  - Added ice melting mechanism in the tunnel before the sewers to help the players focus only on the mechanic.

  - Reused the ice melting mechanism multiple times.

Final Publishing and Feedbacks

◆ Released on 3 mod communities (02/05/2013)
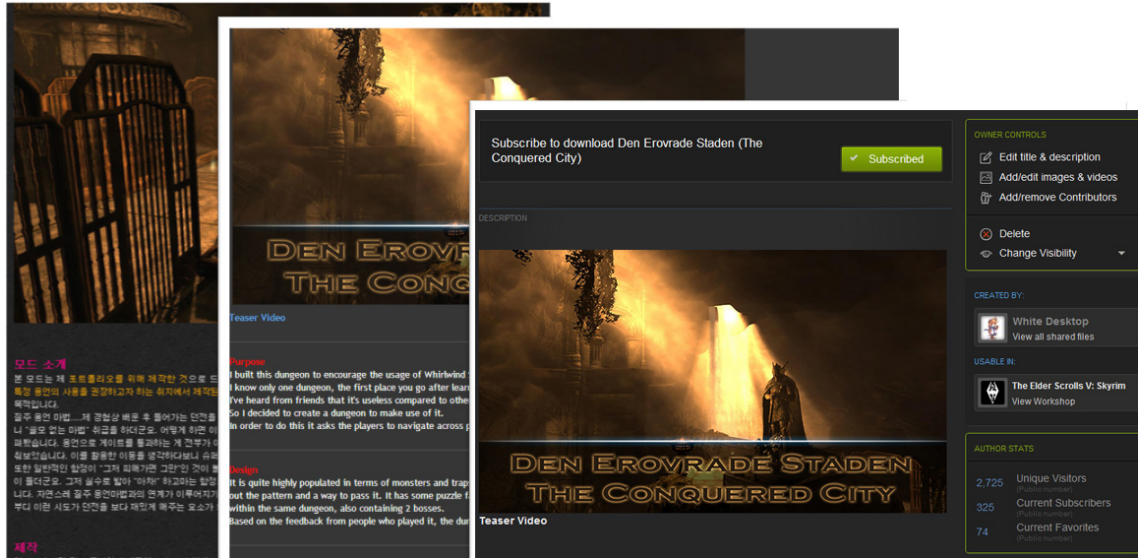
- Korean Elderscrolls community
  · 7,000 views/128 endorsments. It reached the top 50 best posts within a week among 440,000 posts total.
- Nexus Mods: Skyrim
  · 4,300 views/790 downloads/25 endorsments
- Steam Workshop
  · 2,900 views/500 downloads/83 favorited (overall status)

※ Compared to the success in the Korean Elderscrolls community, less attention was paid in the other two communities. Possibly because;
  · The details and looks of the description page of the Korean community was much better. The system of the other communities did not support detailed editing.
  · The mod does not have a quest which is an important factor when the player considers when downloading a dungeon.
  · Longer exposure to the members was granted in the Korean community, whereas the other communities had mods released more frequently.
  · Did not have any mods released before which would help starting the snowball effect.
  · Despite the less attention, it was highly appreciated[xiii] (16% favorited on Workshop)

◆ Feedback: positive/constructive
  - Nice usage of "*Whirlwind Sprint*"
  - Well designed traps/puzzles and many surprising elements
  - Very high quality environment
  - Engaging boss fights
  - Could enter without the "*Whirlwind Sprint*". It was fixed by adding the exterior fortress.
  - Liked the story element, but would like to see actual story telling through quests.

Development Notes

- ◆ Original design
  - Initial layout started from a Dwemer palace connected to the common living area/sewer.
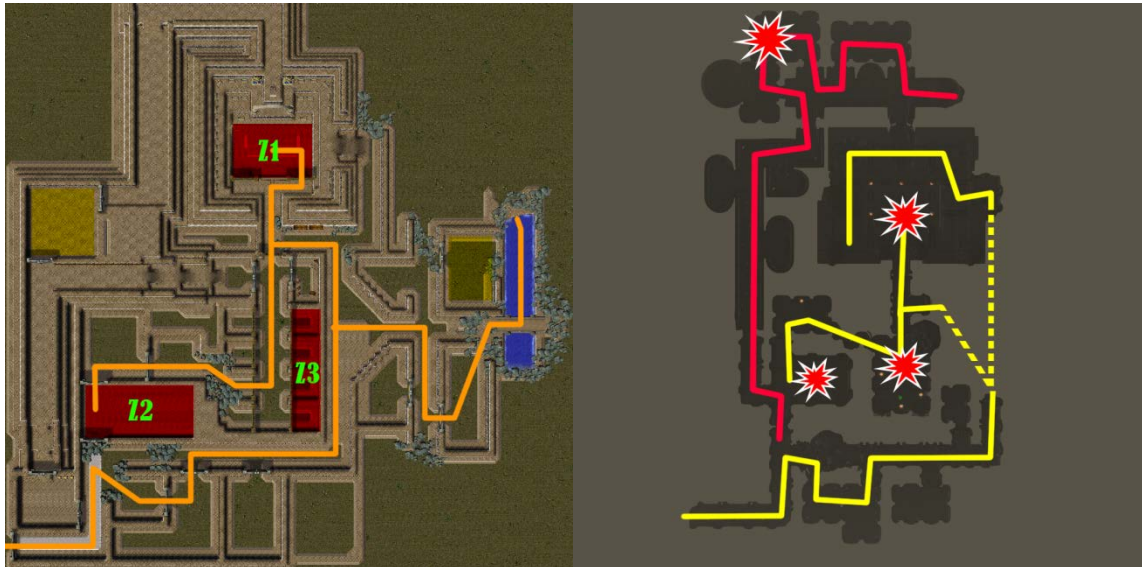
- · Initial planning (using Warcraft III World Editor) and execution.
  - Designed to blend different environments into one dungeon

- ◆ Changes in design
  - Switched to 'player focused' design. Focusing on engaging experience not alluring environment.
  - Kept the most unique part of the initial design. The sewers that had platforming factors within the original design.
  - Reused half of the basic structures, but populated/connected the maps in a different way.
  - Added new areas/events to implement the story supporting structure.

- ◆ Naming rules
  - "C1_DescriptionOfObject"
  - Required for easy filtering.
  - Required for future modifications.

- ◆ Scripting
  - Started reading existing scripts and modifying them and used Creation Kit Wiki for reference to overcome the weakness of not having a programming background.
  - Hardcoded scripts → Modifiable scripts → Generally usable scripts

- · Scripts are mostly focused on ObjectReference[xiv] to achieve special effects/traps.

- Optimization
  - Usage of roombounds
    - Roombounding is used within the first area.
    - Divides the area into 3 parts: Entrance, connection tunnel and the sewers.
  - Lighting optimization
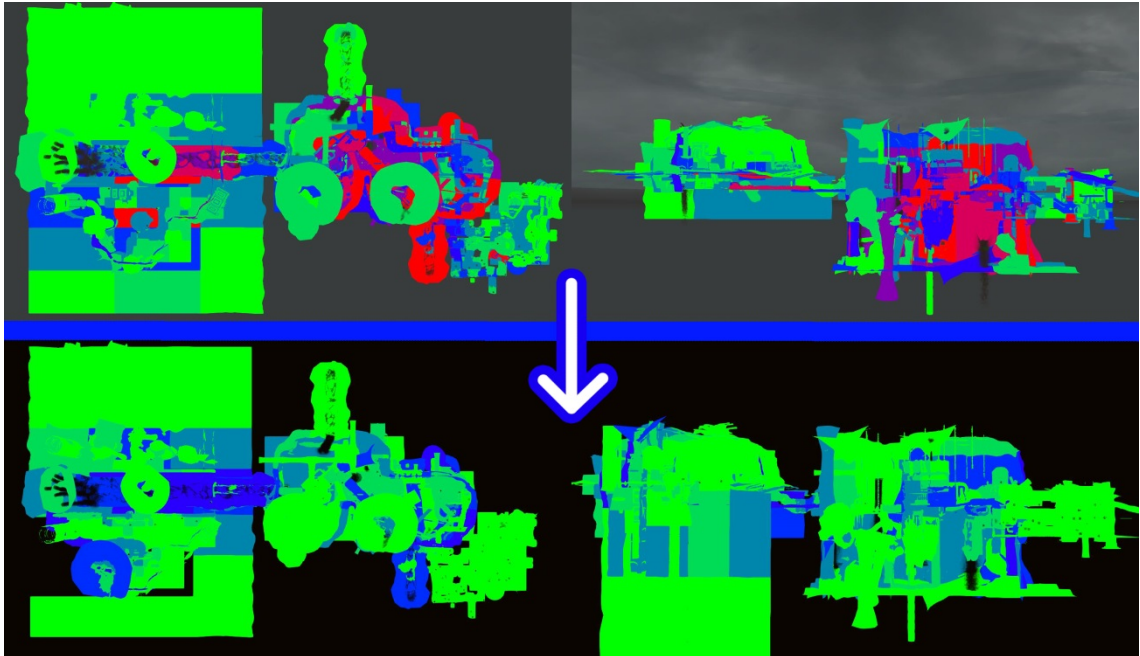
    - Reduced number of shadow casting light sources and rearranged the positions to achieve similar effects.
    - Reduced number of overall light sources and used ambient lighting option to increase visibility or limit visibility.
    - Used light emitting special effects such as beams with dust to guide the players to the navigation points more efficiently.

Link to Mod/Video
- Steam Workshop
  - http://steamcommunity.com/sharedfiles/filedetails/?id=142886571
- Nexus Mods
  - http://skyrim.nexusmods.com/mods/35663
- Korean Elderscrolls community
  - http://cafe.naver.com/elderscrolls7/622313
- Teaser Video
  - http://youtu.be/QYVvs6pgBIk

Vocabulary/References

[i] *Whirlwind Sprint*: http://elderscrolls.wikia.com/wiki/Whirlwind_Sprint

[ii] Alduin: http://elderscrolls.wikia.com/wiki/Alduin

[iii] Dwemer: http://elderscrolls.wikia.com/wiki/Dwemer

[iv] Whiterun: http://elderscrolls.wikia.com/wiki/Whiterun_(Skyrim)

[v] Dwarven Spider: http://elderscrolls.wikia.com/wiki/Dwarven_Spider

[vi] Chaurus Eggs: http://elderscrolls.wikia.com/wiki/Chaurus_Eggs

[vii] Dwarven Centurion: http://elderscrolls.wikia.com/wiki/Dwarven_Centurion_(Skyrim)

[viii] Script Function MoveTo: http://www.creationkit.com/MoveTo

[ix] Become Ethereal: http://elderscrolls.wikia.com/wiki/Become_Ethereal

[x] Skeever: http://elderscrolls.wikia.com/wiki/Skeever

[xi] Dwarven Ballista: http://elderscrolls.wikia.com/wiki/Dwarven_Ballista

[xii] Unrelenting Force: http://elderscrolls.wikia.com/wiki/Unrelenting_Force

[xiii] Most of the recent dungeon mods are favorited below 10%. Used Workshop as a reference since dungeons get more appreciated than in Nexus mods.

[xiv] ObjectReference: http://www.creationkit.com/ObjectReference_Script