Urban Recovery

Game Design Document

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Game Play

Summary

A close friend, caught up in some shady business, has gotten himself captured by the local gang. It is your job to rescue him by navigating your way to the gang's hideout through the alleys while being cautious to survive both the winter cold and attacks from the gang

Gameplay

MOVEMENT: A first person stealth game where the player will have the ability to crouch and hide behind objects as well as throw bricks to stun or distract enemies.

GOAL: Reach the gang hideout, rescue your friend, and return back to the beginning without being spotted and shot by the enemies, or frozen by the cold.

OBSTACLES: Enemies will be patrolling the area and cold will be a constant, so the player needs to be aware of where the trash fires are located and don't stay out of their warmth for too long.

TACTICS: The player will have to observe the patrol patterns of the enemies as well as the layout of the area so that they can efficiently and safely make it to the gang hideout without dying from enemies or the cold.

CHALLENGES: Being aware of enemies around you as well as staying warm. The player must also figure out how to get around enemies without being seen. The player must get familiarized with the layout of the map so they know where the nearest fires are and what the enemies patrol path is.

Mindset

The mindset of the game should be intense and slightly nerve racking, and to provoke these emotions the enemies will one shot you, and the cold will constantly be a hazard when you leave the warmth of the fires.

Type of Progression

Non-Linear: The player must navigate their way to the gang hideout through small alleyways, finding ways around enemies, and there will be several ways to finish the game.

Technical

Controls

The player will be able to interact with the game by picking up bricks and throwing them at enemies, as well as windows. They will also be able to open and close doors.

Mechanics

Player can pick up and throw bricks and when they are going to throw the brick there will be a strength meter which shows how far the brick will be thrown and therefore the player has to time their throw to get the correct strength they want. This will be accomplished through physics and rigidbodies.

Scripts Needed:

Player:

- First Person Movement (walk around - no jump or sprint)
- First Person Camera (Move with mouse)
- Crouch/Sneak
    - Hide behind objects to avoid being spotted by enemies (raycasting of enemies)
- Throw Items to distract enemies (Physics and rigidbodies)
- Pick up throwing items from stockpiles (Instantiate object)
- Take Damage when in cold for certain amount of time (shown through HUD)
- Decrease cold amount when near fire
- Instant death from enemy (shot) (animation)
- Open doors (animation on key)

Enemy:

- Patrol (Navmesh)
- shoot if sees player (raycasting to determine if seen)
- Goes towards noises within hearing distance then return to patrol after a while (larger raycast area)
- Get dazed when hit by thrown brick or object(animation and Ienumerator wait time)

Person to Rescue:

- Follow Player (Navmesh)
- Hide behind objects (Trigger Areas/ mirroring player)

Visual Effects:

Environment:

- Snow Falling (particle effects)
- Footsteps in Snow (shader)
    - Appearing and Disappearing
- Flickering Lights (lighting and scripts)
- Fog (unity fog)
- Trash Fire (Houdini fire)

- Glass Breaking (modeling and scripts)

People:

- Breath (particle effects)

Level Design

Themes

Setting: Urban City on a wintery night
Mood: Intense, nerve racking
Ambient Objects: Buildings, trash cans, dumpsters, bottles, pipes, rubble, cardboard
Interactive Objects: Bricks/Brick piles, windows, doors, trash can fires

Game Flow

1. Black screen with dialogue setting up scene
2. Screen fades in and player is outside a building
3. Player sneaks through the alleyways and makes it to their friend
4. Player tells friend that they need to head back to the apartment
5. Player must sneak back to where they began
6. Win Screen

Key Events

- Start Game
    - Get a phone call or message that your friend has been captured
- Alleyway Maze
    - Enemy patrolling
- Gang Hideout
    - Apartment Building with gang members around (no one paying too much attention - only close proximity and noise will cause the enemies to notice the player)
    - Friend tied up in room
- End
    - Rescue friend and both successfully make it out of the hideout and back home

Graphics

Style Attributes

Colors: dark, cool colors with slight sheen from wetness
Graphic Style: Realistic
Visual Feedback: Enemy patrol will be shown with a light trail. When hit, the camera will get a red tint around it then fall over (player died). When getting overly cold, the player will have a blue tint around the camera to show they need to get to warmth. Brick will highlight when near it to show it can be picked up.

Graphics Needed

HUD: Blue Tint outline, Red Tint outline, Dialogue Text
Menu: Text, Interesting Background

Visual Effects

- Breath
- Fire
- Pistol Blast
- Glass Shatter

Sounds/Music

Sounds Needed

- Gun Shot
- Brick Hit Enemy
- Brick Hit Ground
- Shivering
- Breathing
- Footsteps on brick
- Breaking Glass

Music Needed

- Intense quiet music
- Louder, death music
- Triumphant wind music

Schedule

1. Layout Lock: Jan 22
2. Pre-Production: Jan 22 - Jan 31
3. Grey Boxing: Jan 31 - Feb 3
4. Modeling: Feb 3 - Feb 21
5. Texturing: Feb 21 - March 4
6. Script: March 4 - March 25
7. Alpha: March 25 - April 10
8. Beta: April 10 - April 24
9. Final: April 27-30

Modeling List:

Up Close Models:

- Exterior
    - Buildings
        - Brick wall
        - Metal Fire Escape Stairs
        - Windows
        - Door
        - Swamp Coolers
    - Metal Small Trash Can
    - Plastic Larger Trash Can
    - Dumpster
    - Brick Pile
    - Wood Planks
    - Electrical Wires
    - Trash Bags
    - Lamp Posts
    - Sewer Drain
- Gang Apartment Interior
    - Kitchen
        - Cabinets
        - Pot
        - Card Table
        - Folding Chairs
        - Counter
        - Sink
    - Office
        - Laptop
        - Cluttered Desk
            - Papers
            - Books
            - Pencils
        - Office Chair
        - Lamp
    - Living Area
        - Couch
        - Coffee Table
- Props
    - Pistol (enemy)
    - Brick

10-20 meters away:

- More Buildings

Texture Sizes:

Up Close Models – 2048x2048
10-20 meters away – 1024x1024
Maps for each - normal, ambient occlusion, curvature, thickness, position (bake in substance)

Scale:

Playable area – approx. 24 x 24 meters
Overall Area – approx. 40 x 40 meters
Player character – approx. 1.75 meters (will be modeled in cm scale because Unity uses cm)
Environment scale - modeled in meters (scaling will just have to be set to 100 in unity)

Production Line:

Timeline/Workflow: see above schedule
Software:

- Modeling/UV - Maya
    - Low res > UV > High res
- Texturing - Substance
- Scripting/Setup - Unity

Hrs per week (10 – 20 depending on other classes (average 15))
Schedule (per day- weekdays)
Classes(in class and homework)

3641(level design) - 4 hr
3680(project/job) - 4 hr
3571(story development) - 2 hr
3660(rigging) - 2 hr
3260(C#) - 2 hr

Sleep - 7 hrs
Commute - 1 hr
Eating - 1 hr
Cleaning - .5 hr
Extra - 1.5 hr

Total per week (excluding weekends)
3641 - 20 hrs
3680 - 20 hrs
3571 - 10 hrs
3660 - 10 hrs
3260 - 10 hrs

Time Budget for each section (available – not necessarily how long it will take)

- Grey Boxing: 5 -10 hrs (weekend)
- Modeling: 30 – 40 hrs (about 2.5 weeks)

- Texturing: 20 – 30 hrs (about 2 weeks)
- Scripting: 20 – 35 hrs (3 weeks, but also Spring Break)
- Alpha: 20 - 30 hrs (about 2 weeks)
- Beta: 20 – 30 hrs (about 2 weeks)

Organization:

Naming Conventions:

Scripts – UnderScore separation (ex: Player_Controller, Enemy_Movement)
Scriptable Objects – add _Data at end (ex: Float_Data, Player_Data)
GameObjects – Named what the object is / does

Folder Layout:

- Unity Folder
    - Assets
        - Scripts
            - Player Movements
            - Enemy Movement
            - Scriptable Objects
            - Etc.
        - Models
            - Prototype_Models
            - Final
        - Textures
            - Prototype_Textures
            - Materials
            - Images
        - Prefabs
            - Prototype_Prefabs
            - Final
        - Sprites
        - Animations
            - Animation Controllers
            - Animation Models
- Maya Folder
    - Maya Files
- FBX Folder
    - FBX Files
- Texture Folder
    - Folders for each set of maps

Unknowns:

- Animation Bugs – Getting script/Animation Controller to have correct timing and good flow
- Script Bugs – making sure that mechanics work consistently without any problems
- Lagging – Decrease the number of polygons – keep updates limited in scripts – decrease amount of objects
- Unity Textures different from Substance Textures – fix through shaders or lighting

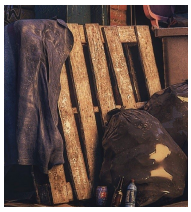
Object	**Model**	**UV**	**Texture**	**Implement**	**Approval**	**Final(with extra)**
Metal Trash Can	1 hr	10 min	30 min	30 min	10 min	3 hrs
Plastic Trash Can	1.5 hr	20 min	1 hr	30 min	10 min	4 hrs
Dumpster	1 hr	20 min	1 hr	10 min	10 min	3 hrs
Brick Pile	1 hr	10 min	1.5 hr	30 min	10 min	3.5 hrs
Electrical wire	30 min	5 min	30 min	1 hr	10 min	2.5 hrs
Wood Planks	30 min	5 min	15 min	30 min	10 min	2 hrs
Trash Bags	30 min	5 min	15 min	30 min	10 min	2 hrs
Lamp Post	1 hr	5 min	30 min	10 min	10 min	2 hrs
Sewer Drain	30 min	10 min	15 min	10 min	10 min	1.5 hrs
Pistol	1 hr	20 min	30 min	10 min	10 min	2.5 hrs
Brick	10 min	5 min	15 min	10 min	10 min	1 hr
Kitchen Cabinets	1 hr	10 min	30 min	10 min	10 min	2.5 hrs
Kitchen Counter	1 hr	10 min	30 min	10 min	10 min	2.5 hrs
Sink	1 hr	10 min	30 min	10 min	10 min	2.5 hrs
Pot	10 min	10 min	15 min	10 min	10 min	1 hr
Card Table	1 hr	10 min	30 min	10 min	10 min	2.5 hrs
Folding Chair	30 hr	20 min	30 min	10 min	10 min	2 hrs
Monitor/Keyboard/Mouse	1 hr	10 min	1 hr	10 min	10 min	3 hrs
Book (open)	10 min	5 min	30 min	20 min	10 min	1.5 hrs
Book (closed)	10 min	5 min	15 min	20 min	10 min	1.5 hrs
Pencil (wooden)	10 min	5 min	15 min	20 min	10 min	1.5 hrs

Office Chair	1 hr	20 min	30 min	10 min	10 min	2.5 hrs
Office Desk	1 hr	20 min	30 min	10 min	10 min	2.5 hrs
Couch	1 hr	20 min	30 min	10 min	10 min	2.5 hrs
Coffee Table	1 hr	20 min	30 min	10 min	10 min	2.5 hrs
Apartment Window	30 min	10 min	30 min	20 min	10 min	2 hrs
Curtains	15 min	10 min	15 min	10 min	10 min	1.5 hrs
ApartmentDoor	30 min	5 min	30 min	30 min	10 min	2 hrs
Metal Fire Escape	1 hr	20 min	30 min	10 min	10 min	2.5 hrs
Swamp Cooler	30 min	20 min	1 hr	10 min	10 min	2.5 hrs
Lamp	30 min	10 min	30 min	10 min	10 min	2 hrs
Crushed Cans	30 min	10 min	30 min	30 min	10 min	2 hrs
Apartment Exteriors (set up)	2.5 hr	30 min	1 hr	1 hr	30 min	6 hrs
Total	**24 hrs**	**7hr**	**18.5 hr**	**10 hrs**	**5.5 hrs**	**73 hrs**

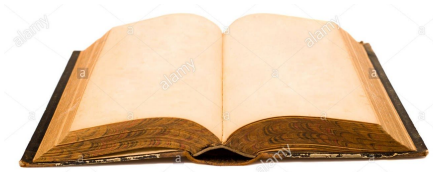
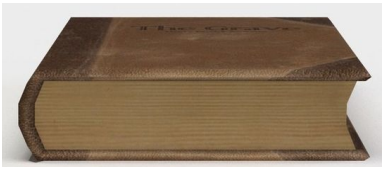
Scripts Needed:	**Time**
First Person Movement	1 hr
First Person Camera	1 hr
Crouch/Sneak	1 hr
Throw/Pick up items	1 hr
Increase/Decrease Cold	30 min
Death	30 min
Open/Close Doors	30 min
Enemy Patrol	1 hr
Enemy Sight	2 hr
Enemy Earshot/Moving towards brick	2 hr
Enemy Stunned	30 min
Friend Follow Player	1 hr
Friend hide behind objects	2 hr
Total:	**14 hrs**

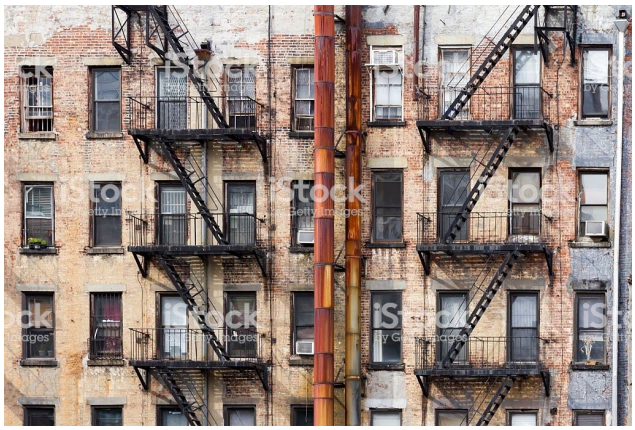
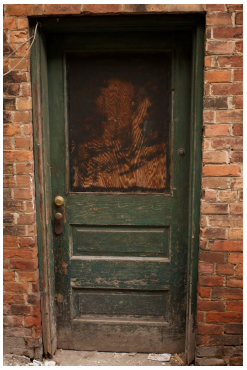
Visual Effects Needed:	**Time**
Snow Falling	2 hrs
Footsteps in snow	2 hrs
Flickering Lights	30 min
Fog	30 min
Trash Fire	2 hrs
Glass Breaking	1 hr
Breath	2 hrs
Total:	**10 hrs**

Object	**Reference Images**
Metal Trash Can	
Plastic Trash Can	
Dumpster	

Brick Pile	
Electrical wire	
Wood Planks	
Trash Bags	
Lamp exterior	
Sewer Drain	

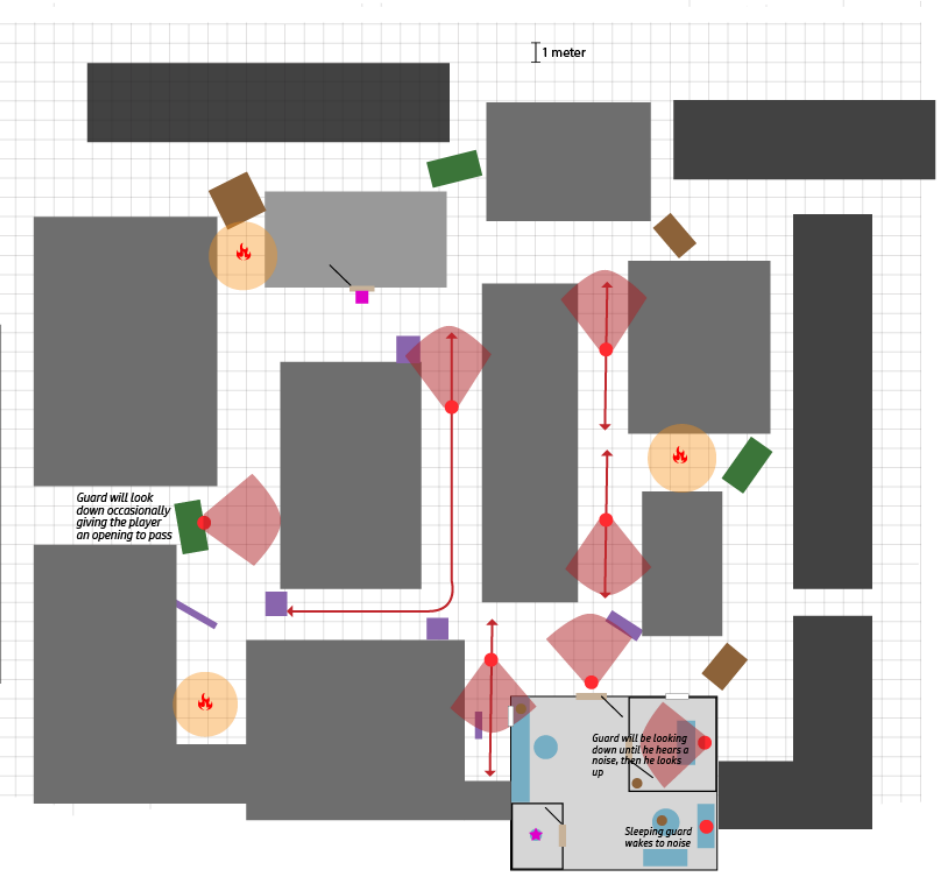
Pistol	
Brick	
Pot	
Card Table	
Folding Chair	
Monitor Keyboard Mouse	

Book (open)	
Book (closed)	
Pencil (wooden)	
Office Chair	
Office Desk	
Couch	

Coffee Table	
Apartment Window	
Curtains	
Apartment Door	

Metal Fire Escape	
Swamp Cooler	
Lamp Desk	
Crushed Cans	

Apartment Exteriors (set up)	



Player
Friend
Enemy
Enemy Sight
Enemy Path
Trash Fire
Brick Pile / Weapons to throw
Doors/Doorways
Dumpster (block player)
Building (non-Interactable)
Gang Hideout
Friend's Apartment
Window
Furniture
Background Building

URBAN RECOVERY

Objective: A close friend, caught up in some shady business, has gotten himself captured by the local gang. It is your job to rescue him by navigating your way to the gang's hideout and back through the alleys while being cautious to survive both the winter cold and attacks from the gang.

Game Play Notes:
- If you enter into the view of an enemy, they will shoot, and if you are hit it is instant death.
-Also when you leave the warmth of the trash fires for too long, you start to get cold damage.
-Brick piles will be found throughout the level, providing the player with bricks that can be thrown to distract the enemies.

By Skye Slade