Game Design Document (GDD)

The Cat Burglar

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Game Overview

Introduction

The Cat Burglar is a 2D Unity side-scrolling platformer, which follows the escapades of Curiosity, the mischievous "cat burglar" thief. Curiosity traverses through the 1930s-style Barkington City as he commits his heist, collecting gems and treasures from flats and buildings. He must avoid the police Watch Dogs and security beams to avoid detection, along with avoiding the sleepy Night Owls, who will inadvertently inflict damage if he collides with them. Once he reaches his faithful Carrier Pigeon at the end of the level, the player wins the game.

Description

In **The Cat Burglar**, the player guides Curiosity, the protagonist, on his heist through the 1930s-style Barkington City. The game features anthropomorphic animal characters and elements based on animal idioms. The player jumps from window to window and collects gems and treasures to increase their score. Along the way, the player also uses stealth to avoid detection and dodges hazards, or else the player is transported to the last checkpoint that was passed. At the end of the level, the player wins the game. However, the player must race a timer to finish the level, and if the timer runs out, the player loses the game.

Key Features

The Cat Burglar is a 2D platformer for the PC that is fun for players of all ages. There is a single level that the player must navigate through, designed to appear as a slice of the 1930s-style Barkington City.

Important features of the game:

- Fun animal characters based on idioms
- 1930s-style visuals
- Player health system
- Timer that restarts the level if it runs out
- Collectible loot pickups that add to the score
- Player stealth mechanics and encounters
- Hazards that inflict damage on the player

Key Mechanics

Player Character – Curiosity the Cat Burglar

Idle Animation Sprite Sheet

Walk Animation Sprite Sheet

Curiosity can walk right and left with the respective arrow keys (or the A and D buttons) and can also jump with the Spacebar. Curiosity can also look up and down with the up/down arrow keys.

Enemies – Watch Dogs

Patrol Animation Sprite Sheet

Watch Dogs will patrol back and forth in different locations in the level. If Curiosity walks in front of a Watch Dog at a close distance, he will be transported to the last checkpoint that he has passed. These enemies must be avoided to advance through the level. Streetlights signal the left and right bounds of the patrol of a single enemy.
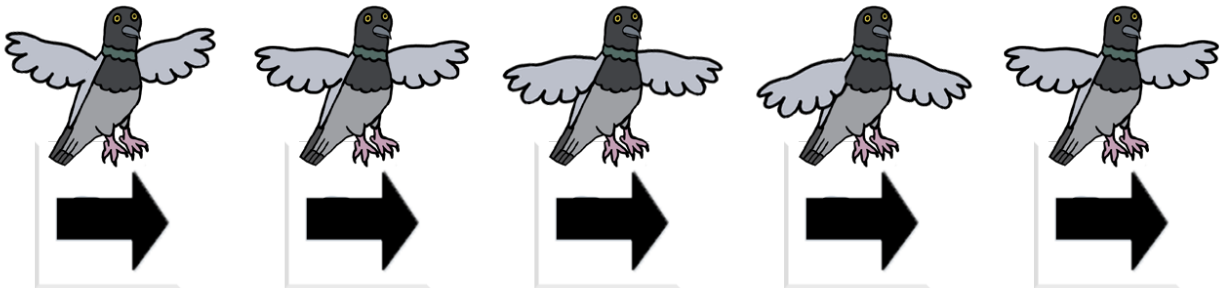
Hazard NPCs – Night Owls

Patrol Animation Sprite Sheet

The sleepy Night Owls will patrol vertically in different locations in the level. If Curiosity collides with one, he will lose a chunk of his health bar.

NPCs – Carrier Pigeons

Flying Animation Sprite Sheet

Sign Animation Sprite Sheet

The Carrier Pigeons float up and down here and there throughout the level. They signal to the player (sometimes by holding a sign) that there might be an interesting or promising location to search. One can also be found at the end of the level.

Collectibles

A variety of collectibles are scattered throughout the level. The pieces represent the "loot" that Curiosity is aiming to steal throughout Barkington City. When the player collides with one, the collectible disappears and adds a certain number to the player's score, depending on which item was obtained: **Collectible Gems** add 50 points to the score, while the **Collectible Ring** adds 100 points to the score.

Door

Doors are found throughout the level. When the player collides with them, an interior space will appear, allowing the player to explore a previously-unseen area and find extra items. When exiting the space and colliding with the Door again (in the case of the Flat in the level) or a second Door (in the case of the Museum in the level), the interior space disappears.

Safe

Closed and Open Safe

The safe is found within the Barkington Police Station, holding a precious gem that was taken as evidence. The player can "crack the safe" by clicking it with the cursor.

Security Beam Hazards

In the Museum portion of the level, these Security Beam Hazards patrol up and down within its passages. If the player touches one of the beams, the alarm is sounded, and the player is transported to a previous checkpoint.

Additional Mechanics
- **Timer** counts down from 900 seconds. The player must race the timer to finish the level. If the timer runs out, the player loses the game, and the level starts over.
- **Milk Health Pickups** fill one chunk of the player's health bar.

Character Descriptions

Player Character – Curiosity the Cat Burglar

Concept Art   *Final Art*

Curiosity is the mischievous "cat burglar" of Barkington City. Every night, this cat sneaks through town in search of his next heist.

Enemies – Watch Dogs

Concept Art   *Final Art*

These kind-hearted police dogs are always prowling around the streets of Barkington City, always ready to spoil Curiosity's chances at committing his notorious heists.

Non-Playable Character Hazards – Night Owls

Final Art

These sleepy owls never know when to sleep! They flap groggily around and sometimes get in the way of conniving cats like Curiosity.

Non-Playable Characters – Carrier Pigeons
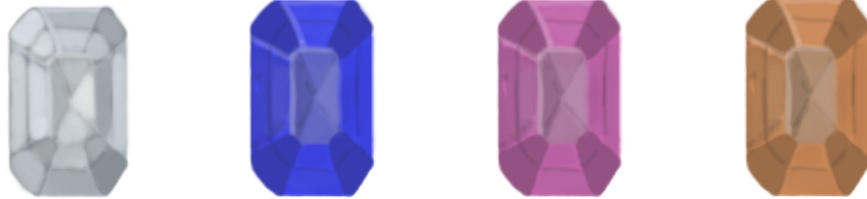
Concept Art   *Final Art*

Curiosity's faithful companions, the Carrier Pigeons, always help him on his daring quests to steal fantastical gems and dazzling treasures from Barkington City. These little guys love to show him the way to promising locations where loot might be found and fly him away at a moment's notice.

Collectible Items

Collectible Gems

Color Variants

Collectible Gems increase the player's score by 50.

Collectible Ring

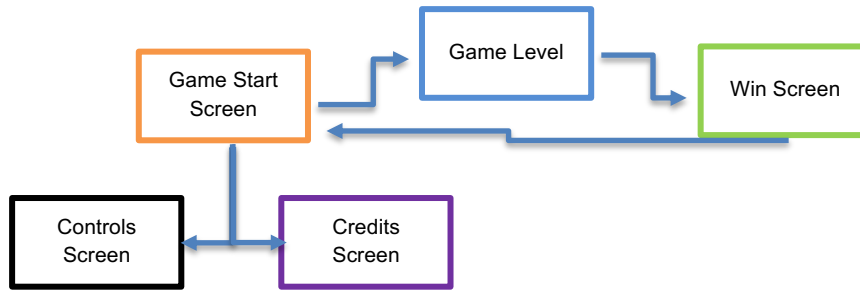*Concept Art*   *Final Art*

The Collectible Ring is found within the Barkington Museum at the close of the level and increases the player's score by 100.

Milk Health Pickups

Milk Health Pickups fill one chunk of the player's health bar.

Progression Chart

This progression chart shows the flow of the game:
- **Game Start Screen:** Start of the game
- **Game Level:** Level of gameplay. If timer runs out, the Game Level starts over.
- **Win Screen:** Screen the player encounters after winning the level. Returns to Game Start.
- **Credits Screen:** Shows the credits for the game. The player can access it from the Game Start Screen by pressing a secret pawprint button.
- **Controls Screen:** Shows the controls for the game. The player can access it from the Game Start Screen by pressing on a button labeled "Controls."

Level Description
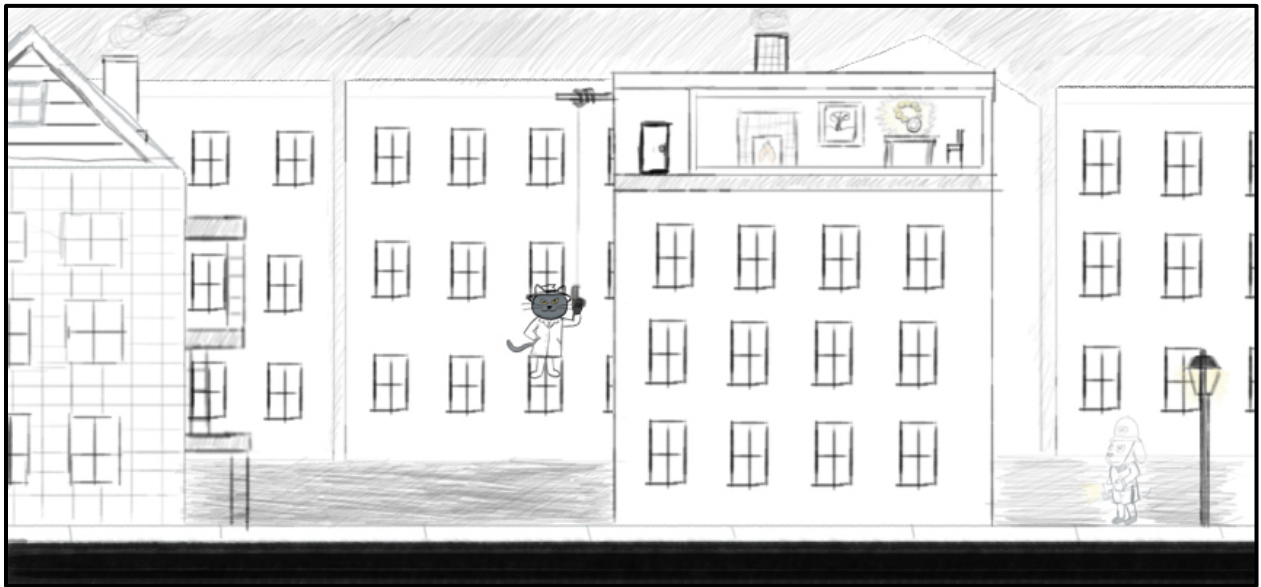
Level Concept Art

Final Level (Shown in Unity Editor w/o Post-Processing)

Set in Barkington City on yet another rainy night when Curiosity, the "cat burglar," is setting his sights on another heist. The level progresses as follows:

- <u>Start</u> on left side of level with a wall as a barrier behind:
    - o <u>Dialogue volume</u> tells the player to start:
        - ▪ *Time for this cat to prowl! I should jump up and look for shiny things in open windows…*
    - o <u>Carrier Pigeon</u> with sign and pawprints also signal for the player to move forward and jump.
- Walk forward and jump across the car and up on the windows to find the first <u>Collectible Gem.</u>
    - o <u>Dialogue volume</u> tells the player what the collectible is:

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- ▪ *People really should close their windows… You never know who's prowling around…*
- Jump down the windows and across the second car back to the ground.
- Walk forward to grab the <u>Milk Health Pickup</u>.
  - o <u>Dialogue volume</u> tells the player what this is:
    - ▪ *Slurp… I fancy milk so much… You can almost taste the cat lives returning…*
- Walk forward to encounter another wall as an obstacle.
  - o <u>Dialogue volume</u> tells the player to jump up:
    - ▪ *Hmm… Well, there's more than one way to climb a wall…*
- Jump up the windows to reach the top of the wall.
  - o If the player continues jumping up, they will reach a double window and see the <u>Carrier Pigeon</u> holding a sign that points to a <u>Door</u>.
  - o Jump over to the balcony and collide with the <u>Door</u> to see the interior of the flat.
    - ▪ <u>Dialogue volume</u> tells the player what this location is:
      - • *Looks like a ritzy flat… I should find some good loot here…*
  - o Walk forward past the fireplace and grab the <u>Collectible Gem</u> on top of the table.
    - ▪ Dialogue volume tells the player that they found the gem and to go back and continue over the wall:
      - • *Hmm… This perfect gem reminds me of another feline I know… Oh, well, I had ought to find a way over that wall…*
      - • <This dialogue is referencing the "Pink Panther" gemstone from the *Pink Panther* movies.>
- Jump onto the wall and over to the next window ledge to encounter two Hazard NPC Night Owls.
  - o <u>Dialogue volume</u> explains to the player what the hazards are:
    - ▪ *I say! These Night Owls never know when to sleep! I'd better not bump into them…*
- Jump past the Hazard NPC Night Owls and grab the second <u>Milk Health Pickup</u>.
- Jump down to the ground.
  - o Optional <u>Collectible Gem</u> if the player walks back to wall along the ground.
- Walk forward to encounter the first <u>Watch Dog</u>.
  - o <u>Dialogue volume</u> explains to the player what the enemies are:
    - ▪ *Oh, no! The Watch Dogs always lurk by the streetlights. I'll be quiet as a mouse…if I'm spotted, it's over!*
- Jump up along the window ledges to avoid the <u>Watch Dog</u>.
- Grab the third <u>Milk Health Pickup</u>.
  - o <u>Dialogue volume</u> adds to the story:
    - ▪ *Hiss…That reminds me of my last heist… Got pretty hairy…better stay on guard…*
- Jump upward along the window ledges to avoid the second <u>Watch Dog</u> and the third <u>Hazard NPC Night Owl</u>. Grab a <u>Collectible Gem</u> on a window ledge near the top of the building.

- Pawprints tell the player to jump to the roof of the building.
- Grab the third <u>Milk Health Pickup</u>.
- <u>Carrier Pigeon</u> with sign tells the player to jump off the roof to the right.
- Drop down to a wire that runs between the buildings and slide down to the balcony of the Barkington Police Station.
- Inside, find the <u>Safe</u>. Click on it with the cursor to open it and grab another <u>Collectible Gem</u>.
  - o <u>Dialogue volume</u> explains to the player how to open the safe:
    - ▪ *How silly is it for the police safe for stolen jewels to be by the window! If I use my CURSOR claw, I can open anything!*
- Jump back along the wire and up to the roof of the Police Station.
- Walk to the right and encounter another <u>Dialogue volume</u>:
  - o Informs the player that there is a <u>Museum</u> ahead:
    - ▪ *There's a museum ahead! Time for my next notorious crime…*
- Jump over to the Museum balcony and collide with the Door to see the interior.
  - o <u>Dialogue volume</u> explains to the player about the <u>Security Beam Hazards</u>:
    - ▪ *I say! It's a security beam! I hope it doesn't skin this cat…*
- Avoid the <u>Security Beam Hazards</u> and grab the <u>Collectible Ring</u>.
- Reach the <u>Door</u> at the bottom of the Museum interior, and collide with it to see the interior vanish and exit the <u>Museum</u>.
- NOTE: If the player falls or does not jump upward to avoid the second <u>Watch Dog</u>, they can travel along the ground and avoid a third <u>Watch Dog</u> by jumping on windows at the bottom of the <u>Police Station</u>. The player can then walk to the right and reach the same point as if they had traveled through the <u>Museum</u>.
- Reach the Carrier Pigeon at the **end of the level to win**.
  - o <u>Dialogue volume</u> tells the player that the heist is over:
    - ▪ *Got some good loot, my Carrier Pigeon! Time to fly me away! Curiosity hasn't killed me yet!*
- *If the player <u>loses</u> the level due to the timer running out, <u>the level starts over from the beginning</u>. The player cannot actually lose.*

UI Interface & Controls

UI Display

During level gameplay, there are several UI elements that will guide the player and add to the 1930s style of the game:

- Health bar at top left. There are 9 chunks of health represented by the 9 heart-shaped, numbered cat pawprints, which are similar in style to the pawprints that appear throughout the level. There are 9 chunks of health to pay homage to the myth that cats have "nine lives."
- Score listed at the top center.
- Time remaining listed at the top center to the right of the score. The time starts at 900 seconds.
- "Looking Eyes" at the top right. This sprite glances up and down with arrows beside them to indicate to the player to use the up/down arrow keys to glance above or below if necessary.
- Dialogue listed at the bottom when encountering dialogue volumes.
- Old-fashioned film border to make the gameplay seem part of an old movie.
- Vignette shadow around the entire display (created with Post-Processing) to make the player feel as though the gameplay is being projected like a classic movie.

Fonts
Elegant Typewriter by Lucas Krakora - https://www.dafont.com/elegant-typewriter.font

Auxiliary Screens

Game Start Screen

The Game Start Screen shows a section of the street of Barkington City. Curiosity peeks in and out of a trash can, and a Carrier Pigeon flies back and forth in the background. Press "Start" to start the game level, "Controls" to navigate to the Controls Screen, or "Quit" to exit the game. The Credits Screen can be accessed by pressing one of the pawprints beside Curiosity.

Win Screen

The Win Screen is accessed after the player successfully finishes the level. It shows Curiosity and his Carrier Pigeons flying away after the successful heist. Press the arrow button to return to the Game Start Screen.

Credits Screen

The Credits Screen shows the credits for the game. It can be accessed by pressing one of the pawprints on the Game Start Screen.

Controls Screen
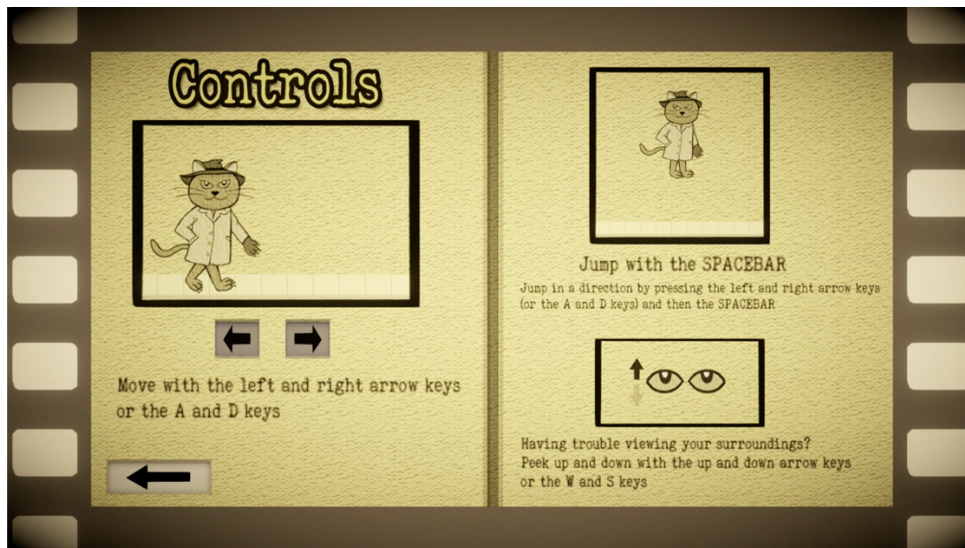
The Controls Screen is accessed from the Game Start Screen. It tells the player the various controls of the game.

Sound & Music Guidelines

The game's music and sound effects have a cutesy and old-fashioned theme. All audio is free use from www.freesound.org.

Sound Effects

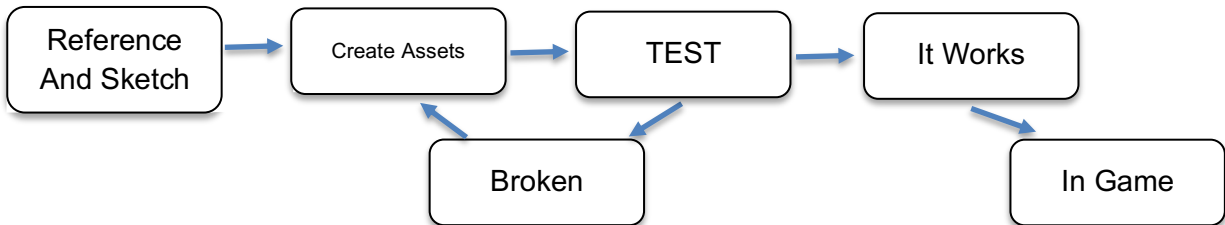|	
Colliding with Collectible:	"Meow_Sample9" by lockwert
Colliding with Hazard Night Owl:	"Meow 9.wav" by TRNGLE
Colliding with Milk Health Pickup:	"Cat Happy Purr/Twit3.wav" by steffcaffrey
Rain FX:	"Rain and Thunders" by aesqe
Safe Opened:	"Odd Creak.wav" by Reitanna
Security Beam Activated:	"Police Siren One Loop Loop Able" by szpury
Watch Dog Whistle:	"www.soundbyter.com-whistle.wav" by soundbyter.com

Music

"What's Going on in This Old British House??" by fmceretta

Technical Overview

Pipeline(s):

Meshes, textures, animation, particles and FX, lighting

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┌──────────────┐      ┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│  Reference   │ ───> │              │ ───> │              │ ───> │              │
│  And Sketch  │      │ Create Assets│      │     TEST     │      │   It Works   │
└──────────────┘      └──────────────┘      └──────────────┘      └──────────────┘
                             ↑                     ↓                      ↓
                        ┌──────────────┐      ┌──────────────┐
                        │    Broken    │      │   In Game    │
                        └──────────────┘      └──────────────┘
```

Software:

Unity 2018.2.12f1
Visual Studio 2017
Photoshop CC

Asset Structure and Naming:

Sprites and Normal Maps:
Assetname_00.file

Animations:
Assetname_ANIM_00.file (e.g. WatchDog_ANIM_00.filename)

Prefabs:
Assetname_PF_00.file

Particle Texture/Particle/Particle Prefab:
Assetname_PT_00.file

Materials:
Assetname_MAT_00.file

Textures:
Assetname_DF, MT, RG, EM, NM, SP_00.filename (png)

Levels:
Level_00_LevelArea

Lighting Materials:
LIGHTS_ON.file
LIGHTS_OFF.file

Light and Light Prefab:
Assetname_L_00.file

Asset Size Guide:

Pixel size:
Background = 1024-2048
Midground = 512-1024
Foreground = 256-1024
Gameplay = 32-512
Player = 64-128
Enemy = 32-512
Boss = 128-1024
Key Asset = 32-512

Lighting:
Directional Light x 1
Point Light x 2-8 per level, watch radius overlap
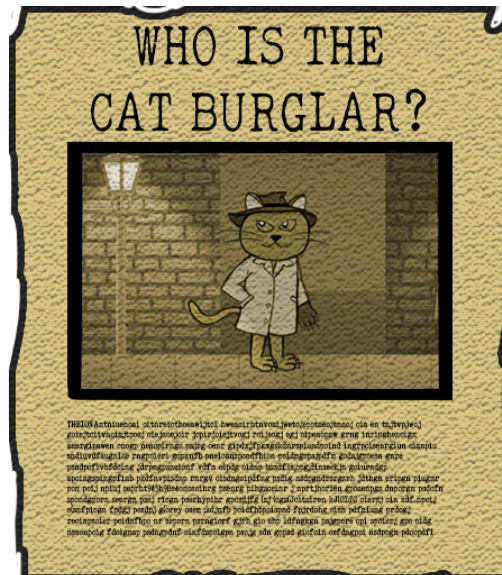Spotlights x 2-8, no overlap

Color:
City 01 Color Palette

Font:
Elegant Typewriter by Lucas Krakora -- https://www.dafont.com/elegant-typewriter.font

HUD and GUI Details:

Team Splash

Launcher

Game Icon

Cursor