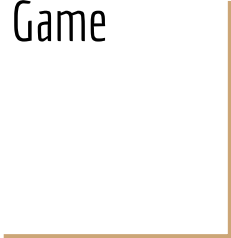




# Perspective Game Mango

Game and Sniffle-Based Game  
Engine



# The Game

- 2D Point and Click Puzzle Game
- 3 puzzle areas
  - Forest of Size - discover the Perspective of Size Totem
  - Canyons of Space - discover Perspective of Space Totem
  - Caves of Time - discover Perspective of Time
- All totems are added to the Pillar and life is restored to the estate

## Opening Scene

- Imagine a small worn down house squeezed in between skyscrapers. This is the house of the late Dr. Charles S. Laudner. This house has been willed to You (the player) as part of his will. Upon entering this house, You find Yourself suddenly standing in front of an open tall iron gate in the middle of a fence. The fence surrounds a forest. The forest is split by a path. You may choose to follow the path.

# Technologies

## iOS

- Swift
  - Core Audio
  - Core Graphics
  - SpriteKit
  - UIKit
- Objective-C
  - Used to bridge the C++ to the Swift code
  - Allows Swift to call on C++ functions
  - Utilizes bridging headers to allow Swift code to call on Objective-C implementations

## Scripting

- C++
  - Used to write language Sniffle
  - Intends to create more modular code with less redundancy

# Actions and Events

- Actions

- Music playing
- Animations
- loading/unloading of level resources
- These can exist individually or as part of a list triggered
  - The list actions can be triggered synchronously or asynchronously

- Events

- Occur when something important happens in the game
- Scene loading
- Button pressing
- Animation ending
- These trigger specific actions to occur

# Scripting with Sniffle

- LISP
- Used to:
  - Display images on screen
  - Attach animations to media
  - Display clickable buttons
  - Load a scene with multiple elements
  - Bind to events
  - Read and execute information from level files

```
1 (SpriteAlloc 10)
2 (TextureAlloc 10)
3 (ActionAlloc 11)
4 (ButtonAlloc 10)
5
6 (set note1 (sound "note1.mp3" 1))
7 (set note2 (sound "note2.mp3" 1))
8 (set note3 (sound "note3.mp3" 1))
9 (set note4 (sound "note4.mp3" 1))
10
11 (set puzzlestate 0)
12
13 (set lowcat (Texture "lowpolycat.png"))
14 (set bg1 (Texture "spacecanyonentrance.png"))
15 (set bg2 (Texture "spacecanyonopen.png"))
16
17 (set sprite3 (Sprite 1920 1272 bg1))
18 (set sprite4 (Sprite 1920 1272 bg2))
19 (addChild sprite3 0 0)
20 (set curplayer (Sprite 0 0 lowcat))
```

# Sniffle Design

Lightweight

Basic Math, Comparators, and Logic

Simple Lambdas

Lambdas as Contexts

Automatic Reference Counting

Recursive Evaluation

Global Variables

Code as Data

Event Management

Memory Management for Events

Instance Management By ID Number

Further Historical Design and Commits Here:  
<https://github.com/stephoro/sniffle-interpret>  
r

# Demo