

The Woodpecker and The Lion

Verbs:

Player

Lion

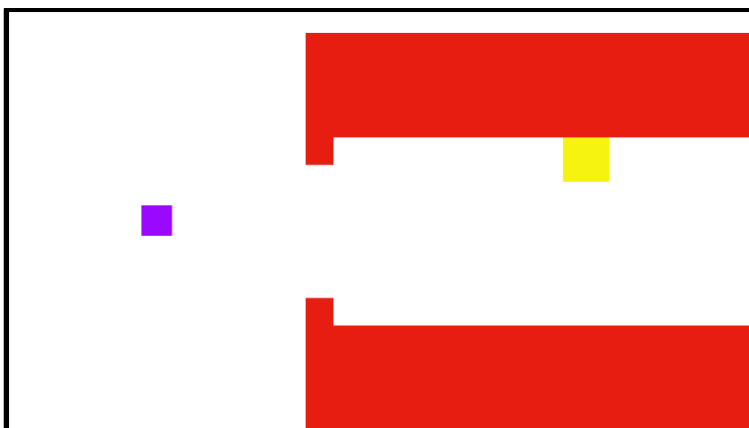
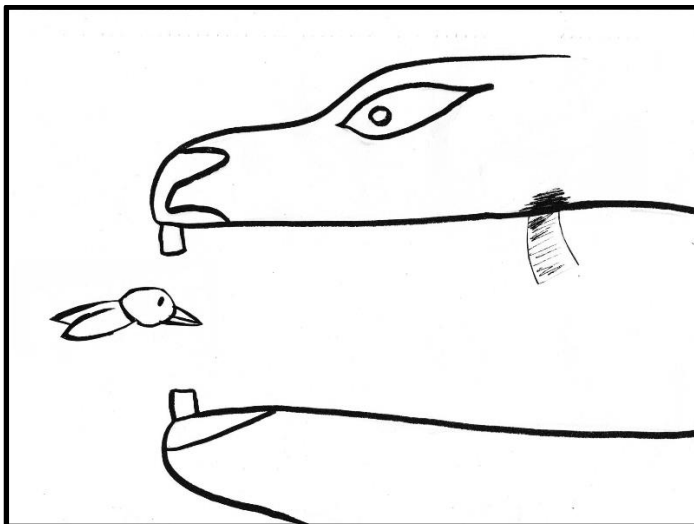
Bone

Stick

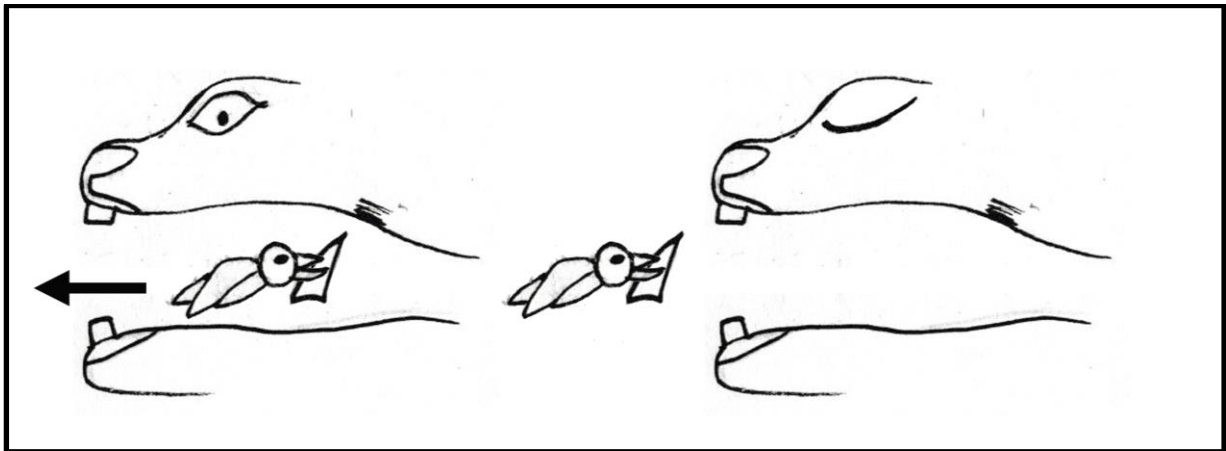
Saliva

Positioning

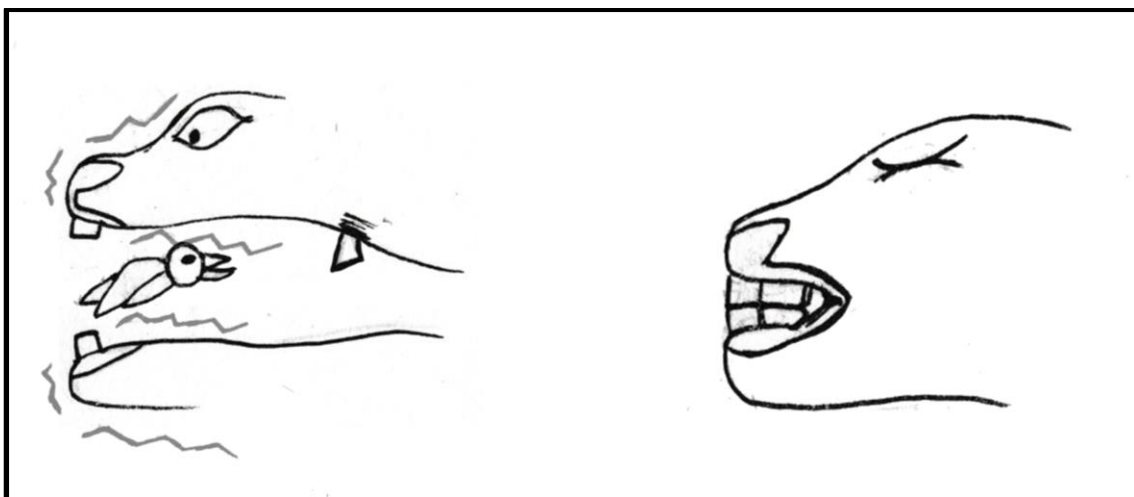
Players View:



The Goal: Is to get the stuck Bone out of the Lion throat.



But you need to beware of the Lion mouth closing on you. This can happen at random times which is indicated by visual and physical shaking. If the lion closes on you while inside this is game over for you.

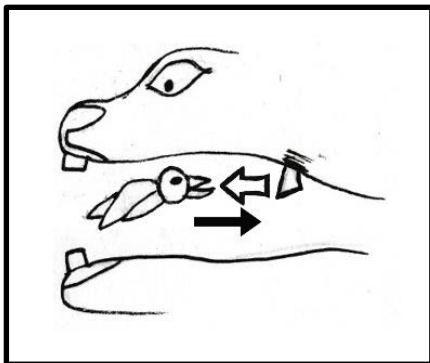


The bone is placed randomly on the top or bottom. Then will be placed in a range of selection on the x axis.

Saliva is another obstacle you will have to avoid. Saliva will drop from the top to the bottom inside of the mouth. If the player moves into the move saliva. The player will drop down with the saliva onto the bottom of the lion's mouth causing delays in time before the lion closes.



You can avoid the Lion from closing his mouth by moving outside of the mouth or by placing your one time stick inside the mouth which will break over time.



When touching the bone for the first time you will be pushed back slightly. The second time of touching the bone. You will be able to pick the bone up and escape.

Matrix:

<p style="text-align: center; font-size: 2em;">X</p>	Physical
	Mental
Skill	Luck

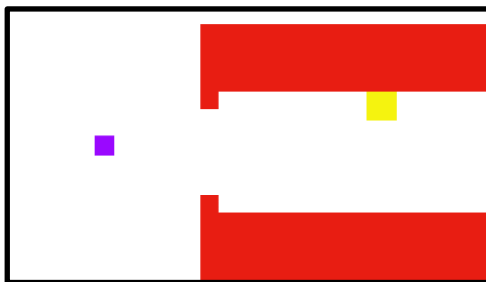
The Experience of Play

Learning:

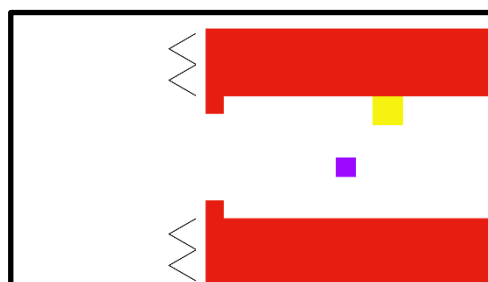
The player will try to overcome of getting the bone out of the lion's throat by strategizing and risking of getting the bone at certain times and being wise to use the stick to stop the lion closing his mouth. Positioning is also a skill in this game that the player needs to learn to avoid the dropping saliva from inside the lion plus planning where the bone is placed in the lion to build up upon every time they play.

Gameplay Storyboards

(1)



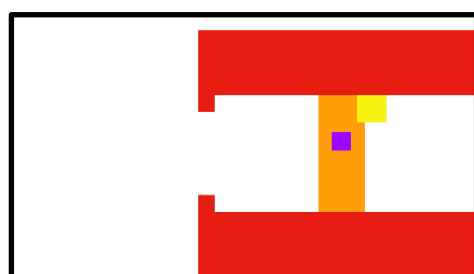
(2)



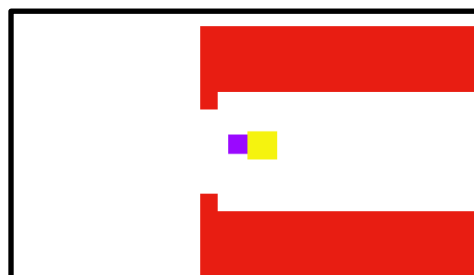
(1) The game has started. The bone has been placed randomly either on the top or bottom with carious x axis placement.

(2) The player has entered the lions throat. The lion at random has started to shake which could indicate he is about to close his month.

(3)



(4)



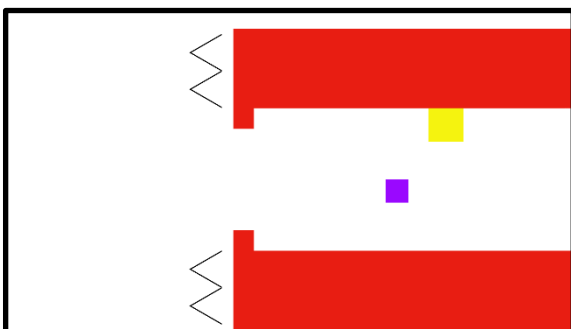
- (3) You could either fly out of the throat or use a one-time (per game) stick which stops the mouth from closing.
- (4) The player then can bump into the stuck bone twice to collect it and fly out with it. The bone makes the player slower to move.

(5)



- (5) Once the player comes out from the throat with the bone safely. The player has won.

(6)



(7)



- (6) But if the player fails escaping the throat or using the players stick...
- (7) The lion will close his month and the player loses.

Conditions

If bone is position = -6 and player is “flying”

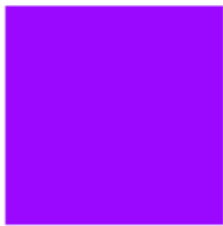
Then main gameState is **game over win**

If lion is “closed” and player position is bigger or equals to -2

Then main gameState is **game over lose**

Controls

Player always has 0.005f down force.



If bone is “normal”.

If the player presses the A Key (or left arrow)

Then player object moved left continuously.

If the player presses the D Key (or right arrow)

Then player object moved right continuously.

The player object moves at a speed of 0.1f left and right and must be clamped to stay on the screen (8, -8).

If the player presses the W Key (or up arrow)

Then player object moved up once (can be pressed again right after).

If the player presses the S Key (or down arrow)

Then player object moved down continuously.

The player object move speed for going up is 0.15f.

The player object move speed for going down is 0.1f.

Up and Down and must be clamped to stay on the screen (4, -4).

If the player presses the Space Bar Key

Then stick's state is "used".



If bone is "hold".

If the player presses the A Key (or left arrow)

Then player object moved left continuously.

If the player presses the D Key (or right arrow)

Then player object moved right continuously.

The player object moves at a speed of 0.05f left and right and must be clamped to stay on the screen (8, -8).

If the player presses the W Key (or up arrow)

Then player object moved up once (can be pressed again right after).

If the player presses the S Key (or down arrow)

Then player object moved down continuously.

The player object move speed for going up is 0.1f.

The player object move speed for going down is 0.1f.

Up and Down and must be clamped to stay on the screen (4, -4).

If the player presses the Space Bar Key

Then stick's state is "used".

Event and Actions

Player



If player's state is "move", **then** player can move and place a stick down.

If player's state is "stop", **then** do nothing.

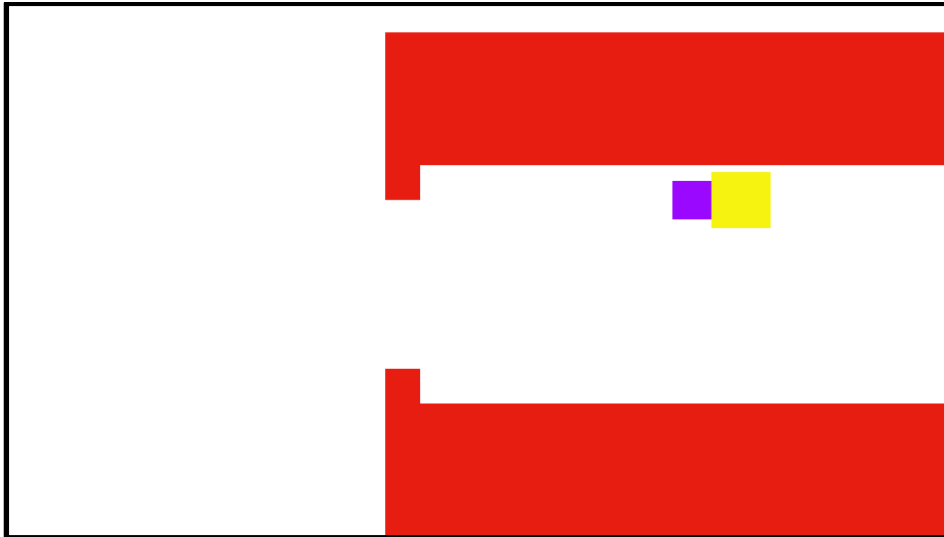
Bone

If bone's state is "normal", **then** do nothing.

If bone collides with player and **boneHits** **!= 1**, **then** player position – 0.5, 1, 0. +1 **boneHits**.

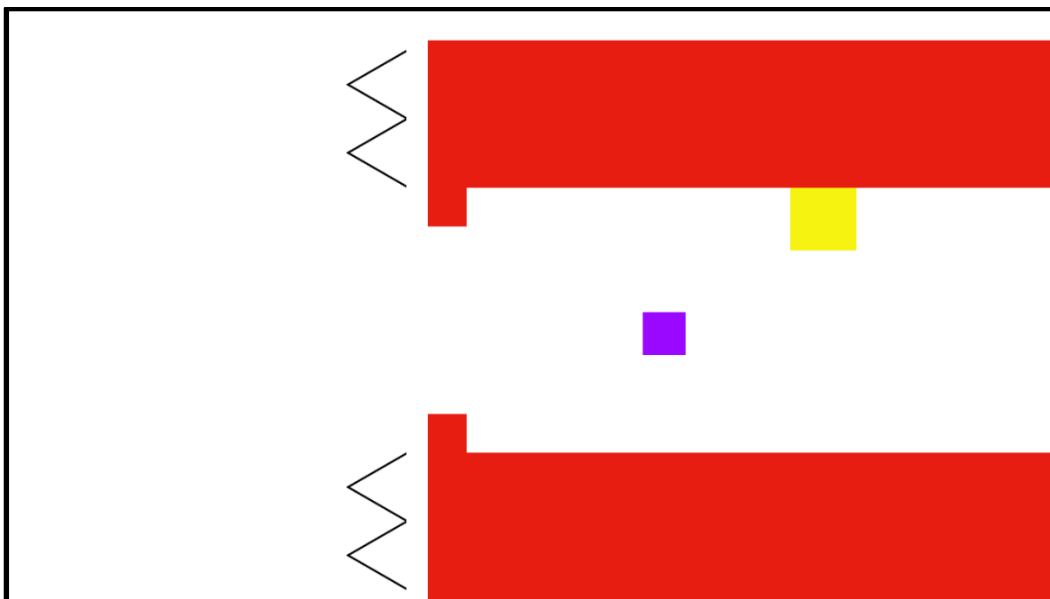
If bone collides with player and **boneHits** = 1, **then** bone state is "hold".

If **bone's state** is "hold", **then** position is always with player*. Players speeds floats have changed.



Lion

If closeTime = LionSecondCount, then lion's state is "shake" and LionSecondCount and LionFrameCount = 0



If LionSecondCount = 3 and lion's state is "shake",

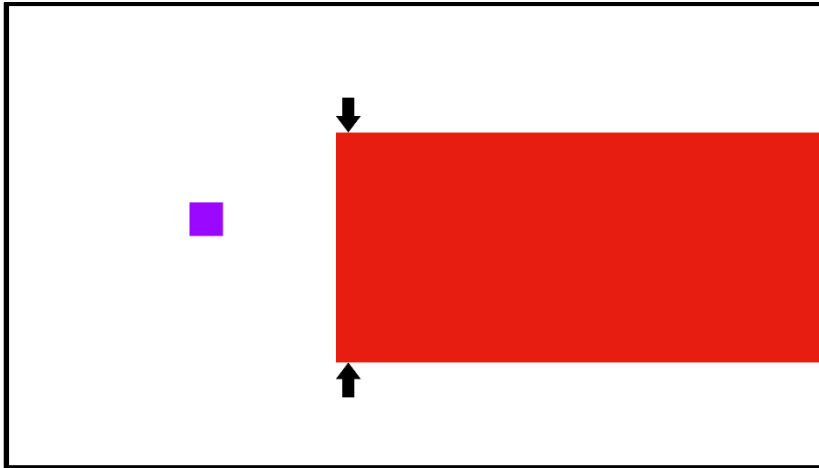
Then LionSecondCount and LionFrameCount = 0.

If closeFake = 1 or 2 or 3 or 4, Then lion's state = "Closed".

If closeFake = 5, Then LionSecondCount and LionFrameCount = 0.

A new **closeTime** and **closeFake** random number is made.

Lion's state = "Fake".



If LionSecondCount = 3 and lion's state is "Closed"

Then RefToUpperJaw position.y = 1.25f

and **RefToLowerJaw** position.y = -1.23f.

LionSecondCount and **LionFrameCount** = 0.

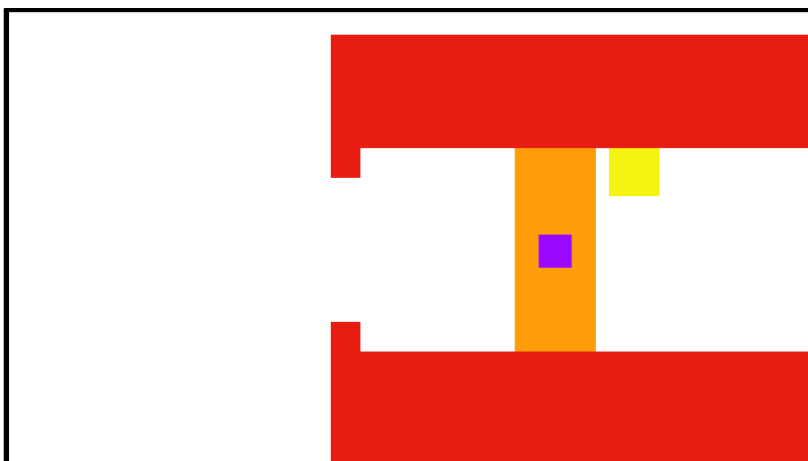
A new **closeTime** and **closeFake** random number is made.

Lion's state = "Opened"

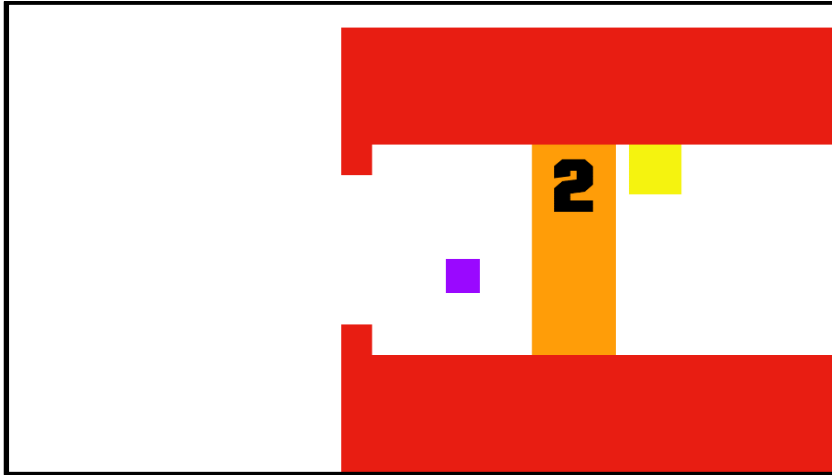
If LionSecondCount = 2 and lion's state = "Fake", **Then LionSecondCount** and **LionFrameCount** = 0. Lion's state = "Opened".

Stick

If stick's state is "used" **Then StickFrameCount** and **StickSecondCount** = 0. Sticks position is same as players (not following), but z axis is + 1. Lion's state = "Opened" and **LionSecondCount** and **LionFrameCount** = 0.

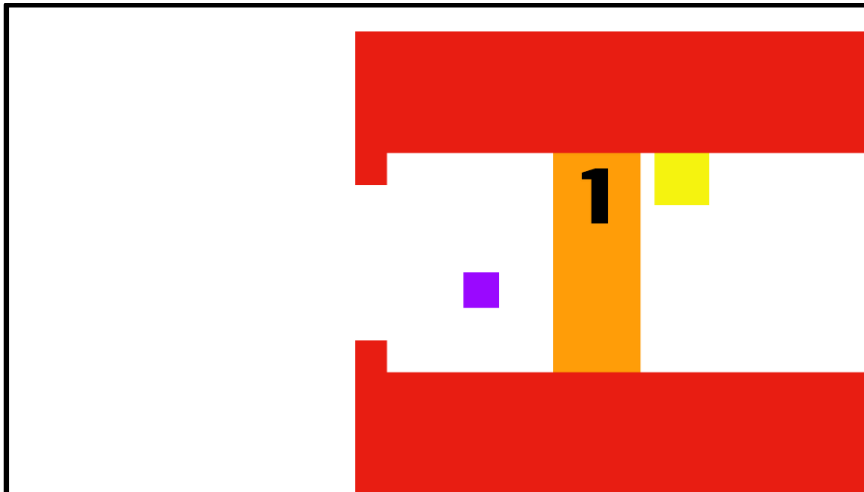


If stick's state is "used" and **StickFrameCount** = 2 Then stick's state is "Break1".



If stick's state is "Break1" Then **StickFrameCount** and **StickSecondCount** = 0. Lion's state = "Opened" and **LionSecondCount** and **LionFrameCount** = 0.

If stick's state is "Break1" and **StickFrameCount** = 2 Then stick's state is "Break2".



If stick's state is "Break2" **Then** **StickFrameCount** and **StickSecondCount** = 0.

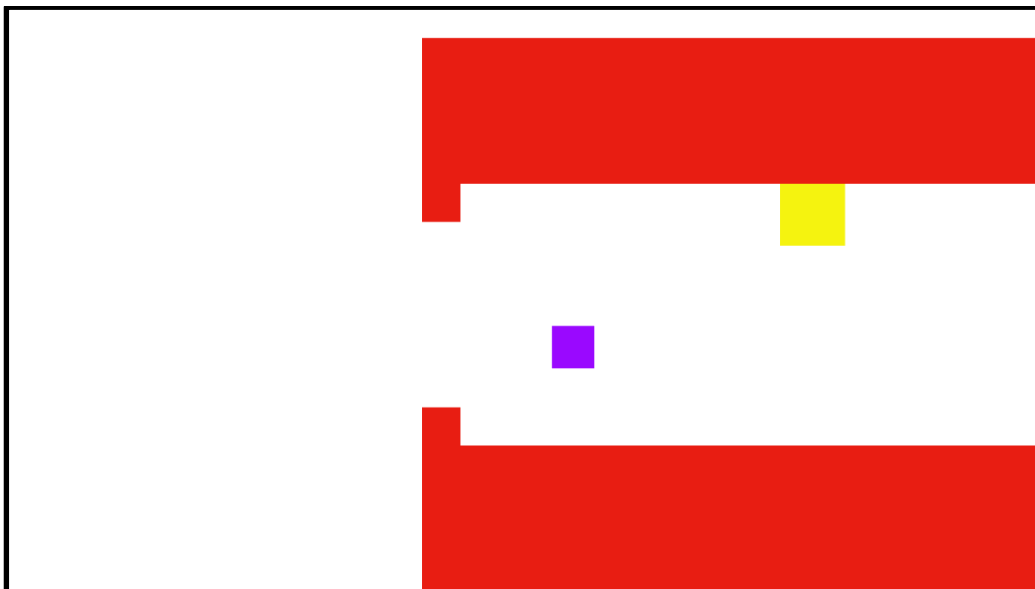
Lion's state = "Opened"

LionSecondCount and **LionFrameCount** = 0.

If stick's state is "Break2" and **StickFrameCount** = 2 **Then** stick's state is "Break3".

If stick's state is "Break3" **Then** sticks positions is moved away.

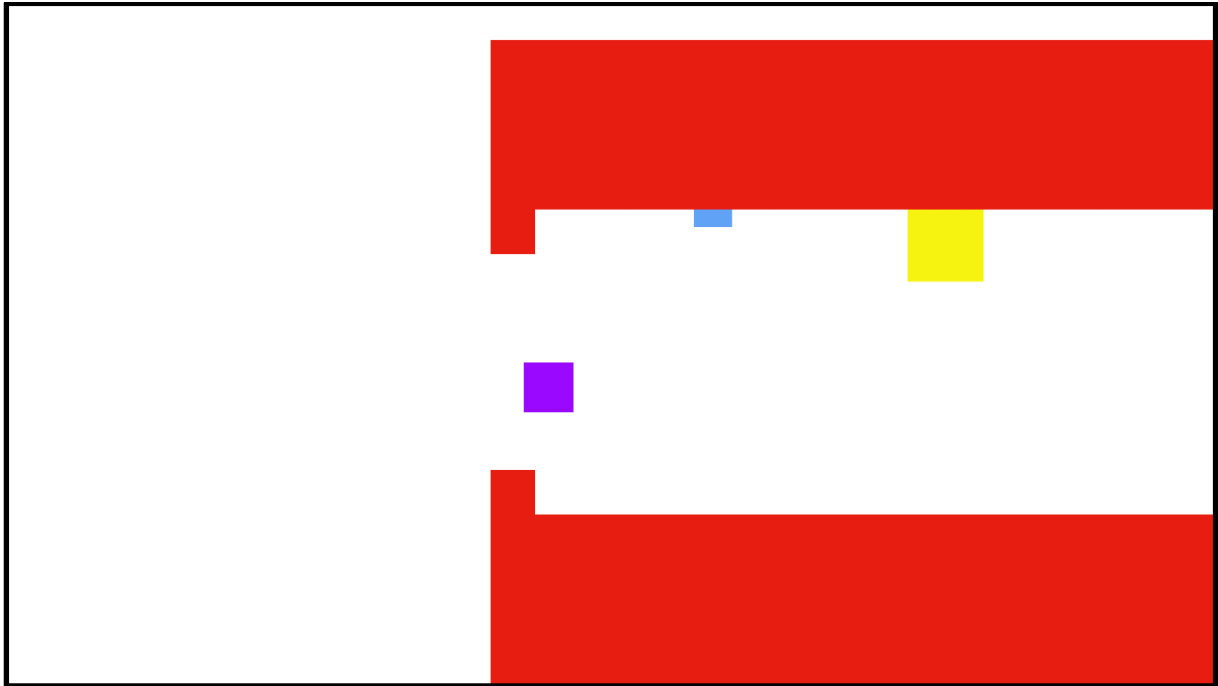
(You only have one stick in each game, so you can't get the stick back.)



Saliva

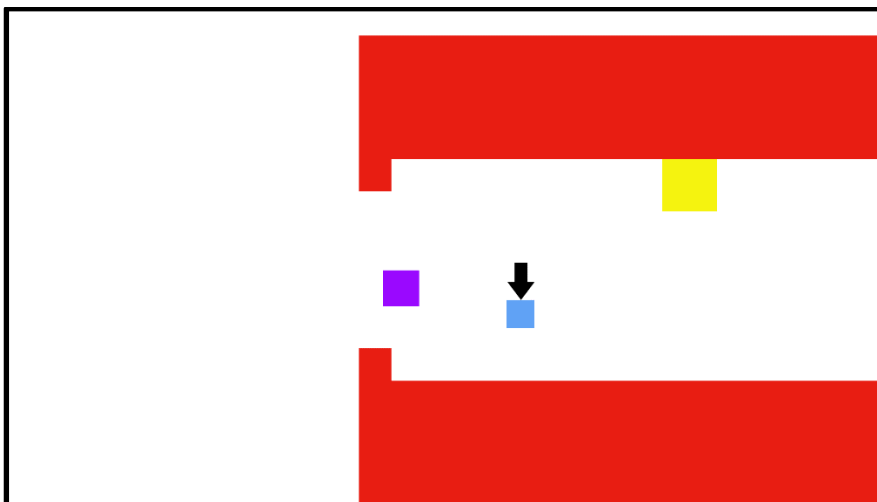
If **SalivaState** is "NotActive", **Then** position is 14, 2, 0.

If **SalivaSecondCount** = **SalivaTime** and **SalivaState** is "NotActive", **Then** **SalivaState** is "Active" and **SalivaFrameCount** and **SalivaSecondCount** = 0.

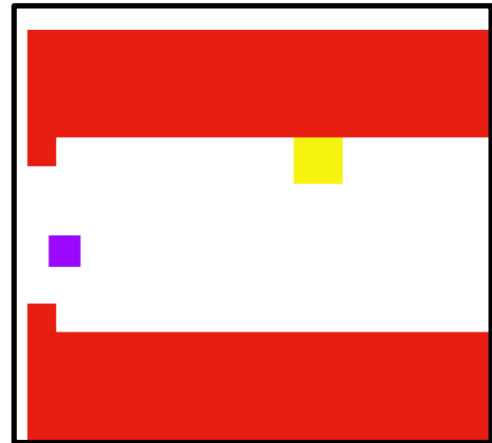
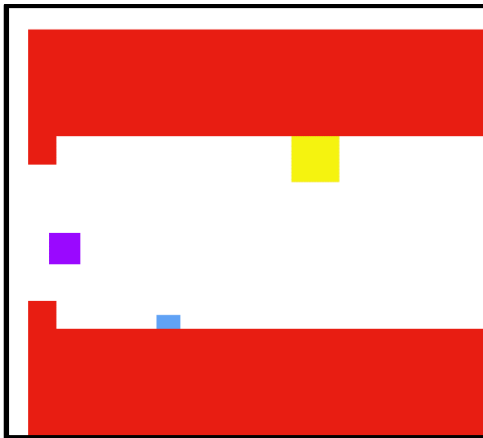


If SalivaSecondCount = 3 and SalivaState is “Active”, Then SalivaState is “Dropping”.

If SalivaState is “Dropping”, Then this position is always $-0.05f$.



If Saliva is $\leq -2.45f$, Then SalivaState is “NotActive” and SalivaFrameCount and SalivaSecondCount = 0.



Game Manger

If GameState = "NotInPlay" and Input is any button, Then GameState = "Playing".

If GameState = "Playing" and Input is P or ESC, Then GameState = "Pause".-----

If players position ≤ -6 and bone's state is "hold", Then GameState = "gameOverWin".

If lion's state is "Closed" and player position is ≥ -2 , Then GameState = "gameOverLose".

If GameState = "gameOverWin", Then RefToLoseScreen position is set to on screen.

If GameState = "gameOverLose", Then RefToLoseScreen position is set to on screen.

If GameState = "gameOverWin" and Input is any button or GameState = "gameOverLose" and Input is any button, Then GameState = "NotInPlay".

Objects Models (Data)

Game Manger

Main.cs

Properties (Variables)

String **GameState** = "NotInPlay"

GameObject **RefToWinScreen**

GameObject **RefToLoseScreen**



Player

Player.cs

Properties (Variables)

String **PlayerState** = "play"

public float **xSpeed** = 0.1f

public float **upSpeed** = 0.15f

public float **downSpeed** = 0.1f

Color ThisColour (For Prototype Ver)

Main **myMainClass**; / GameObject **refToGamerManager**; (ref to main)

Lion (Consists of Lion Upper Jaw + Lion Dower Jaw)

Lion.cs

Properties (Variables)

String **LionState** = "Opened"

int **closeTime** = Random choice from 5 to 20

int **closeFake** = Random choice from 1 to 5

int **LionFrameCount** = 0

int **LionSecondCount** = 0

Color ThisColour (For Prototype Ver)

GameObject **RefToUpperJaw**



GameObject **RefToLowerJaw**



Main **myMainClass**; / GameObject **refToGamerManager**; (ref to main)



Bone

Bone.cs

Properties (Variables)

String **BoneState** = "normal"

int **bonePlacementY** = Random choice from 1 to 2

float **bonePlacementX** = Random choice from -1f to 8f

int **boneHits** = 0

Color ThisColour (For Prototype Ver)

Main **myMainClass**; / GameObject **refToGamerManager**; (ref to main)

Player **refPlayerClass**; / GameObject **refToPlayer**; (ref to player)



Stick

Stick.cs

Properties (Variables)

String **StickState** = "NotInUse"

int **StickLionFrameCount** = 0

int **StickLionSecondCount** = 0

Color ThisColour (For Prototype Ver)

Player **refPlayerClass**; / GameObject **refToPlayer**; (ref to player)

Lion **refLionClass**; / GameObject **refToLion**; (ref to lion)



Saliva

Saliva.cs

Properties (Variables)

String **SalivaState** = "Active"

int **SalivaTime** = Random choice from 5 to 10

float **SalivaPlacementX** = Random choice from -1f to 8f

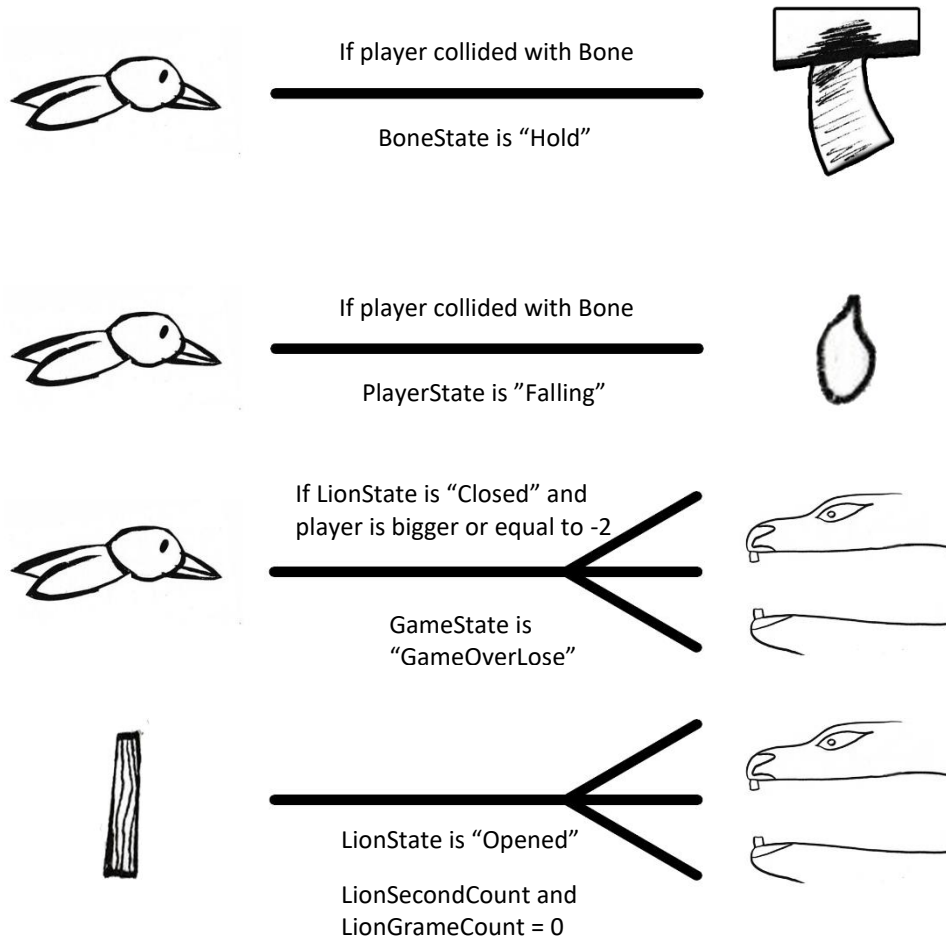
int **SalivaFrameCount** = 0

int **SalivaSecondCount** = 0

Color ThisColour (For Prototype Ver)

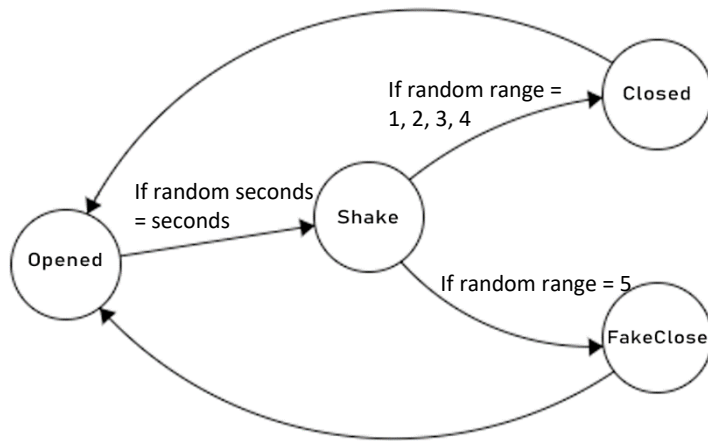
Player **refPlayerClass**; / GameObject **refToPlayer**; (ref to player)

Entity Relationships:

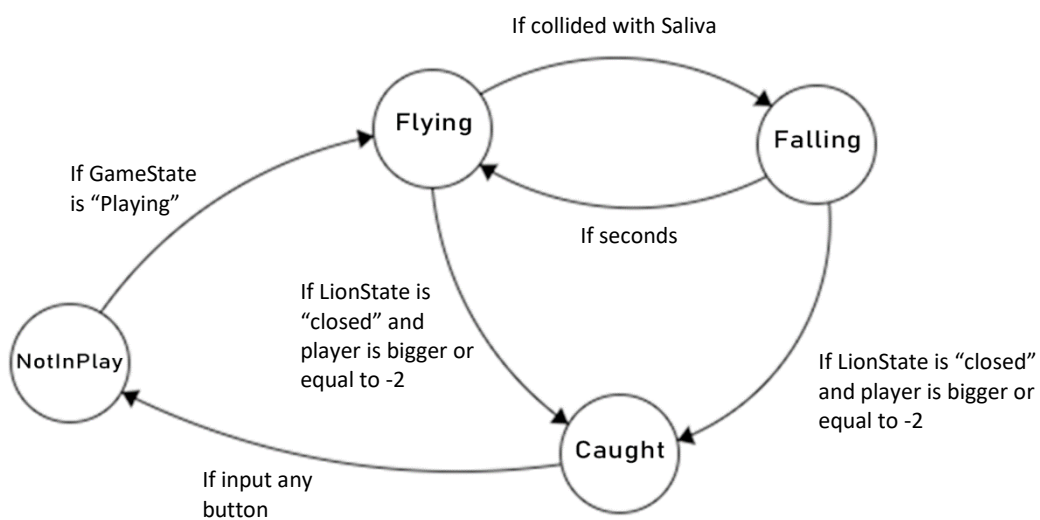


Finite State Machines:

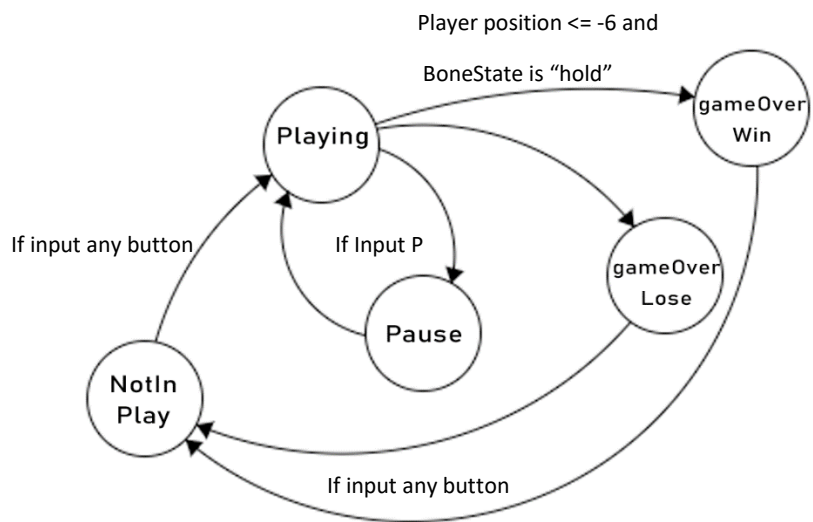
Lion:



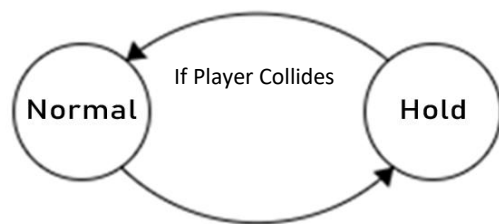
Player:



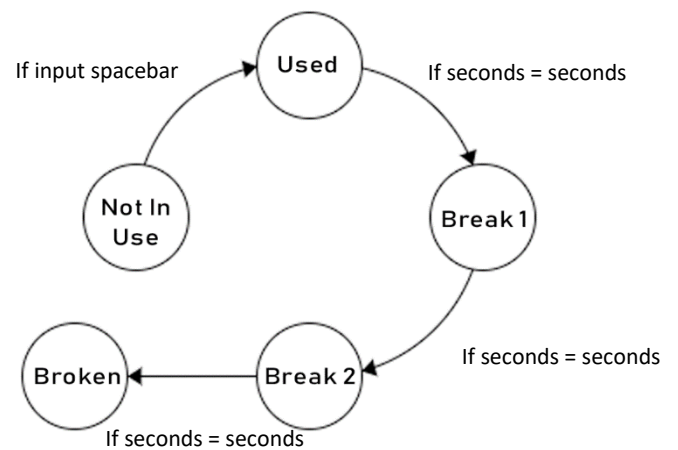
Game Manger



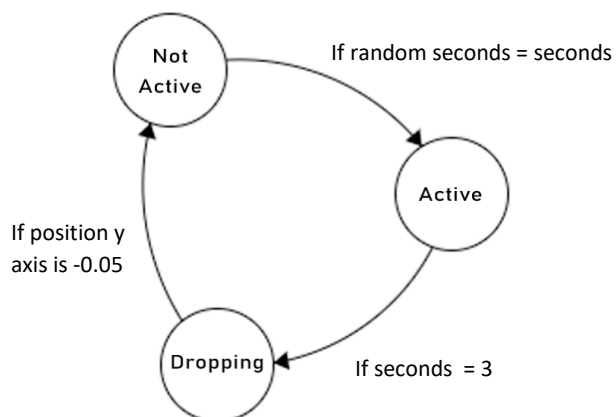
Bone:



Stick:



Saliva:



Extra Features for Game:

Here is a list of other extra features I could experiment to make the game more exciting or difficult from various modes in the game:

- Time limit
- Breathing in and out from the lion
- More Bones to pick up
- Needing to go deeper into the lion's throat
- Different types of light/heavy bones: like a light fish bone to a heavy human bone.