Game Design Document

Story

The pioneer space shuttle that was transporting animals to Mars has failed to reach orbit. Luckily all the poor animals inside have been equipped with parachutes and released out of the shuttle.

The government seems to be ignorant of the fates of these animals. You are a representative of a non-profit animal activist group who have dedicated to save them instead. Direct them into safety by landing successfully into your boats!
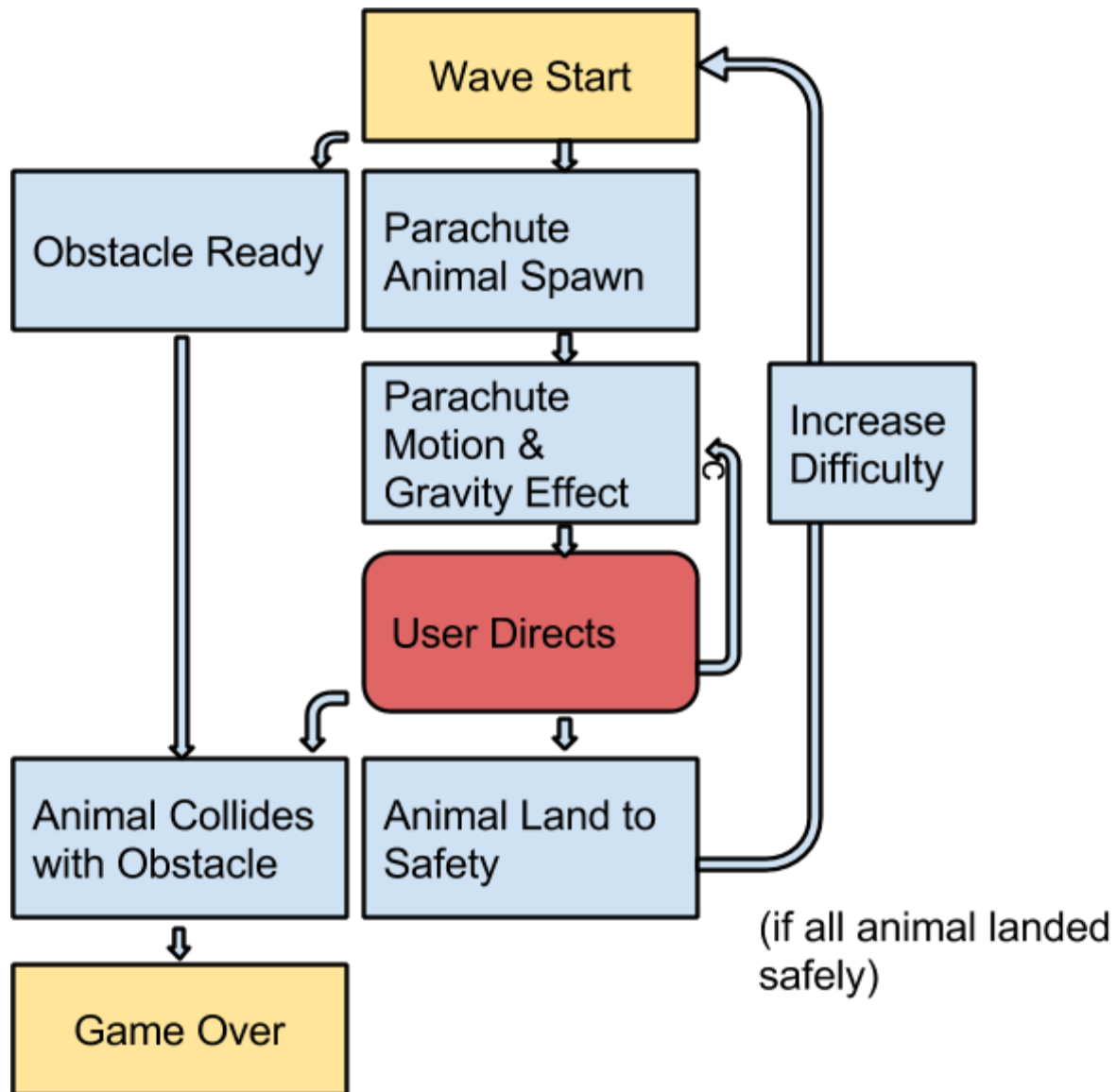
Setting

Jungle Swamp (visualization)

128 x 800 = Sky
1024 x 800 = Jungle Area
128 x 800 = Swamp Area

Reference:
Game Flow

Wave Start

Obstacle Ready

Parachute Animal Spawn

Parachute Motion & Gravity Effect

Increase Difficulty

User Directs

Animal Collides with Obstacle

Animal Land to Safety

Game Over

(if all animal landed safely)

Parachute Animals

1) Chickens

Dimension: 90x111 px

States: move left, move right, normal, dead

Chickens are one of the experiment animals that were sent to Mars. They are light and easy to direct. However, strong wind might carry them too far.

2) Cows

Dimension: 162x213 px

States: move left, move right, normal, dead - left, dead - right

Cows are one of the experiment animals that were sent to Mars. They are very heavy and gets dragged by gravity quick, they are also hard to direct.

Obstacles

1) Bee Swarm

Dimension: 145x164 px

There are many swarms of bees within the jungle. They could destroy the animals parachute upon impact. Ward them off before it comes near!

Spawn:
Bee Swarms could spawn anywhere in the left / right edge of the screen in the Jungle Area.

Movement:
Horizontally. From left to right, or right to left, depending on the spawn location.
Stop movement upon impact with Animals.

Destroy:
i)   Upon impact with Animals
ii) finishes movement of 800 px towards right / left
iii) upon being touched by player.

States:
normal, destroyed

2) Man-eater Plant

Dimension: 205x254 px

Some man-eater plants might appear randomly during the gameplay. As the animals are hungry, they would eat these fruits if they pass by one. One would instantly die upon eating though..

Spawn:
Randomly at any part of the screen in the Jungle Area. Except the spot which was occupied by another venom fruit. (They should not be displayed overlapping)

Movement:
None.

Destroy:
i)   Upon impact with Animals
ii) after 5 seconds
iii) upon being touched by player.

States:
normal, destroyed

Parachute Movement:

(i)
Without any wind (user's intervention), parachute 's vertical movement will only affected by gravity. Horizontal movement will be affected by minor rotation. (10°)

(ii)
During user's intervention, parachute's vertical movement will be affected by wind. It increases the fall down speed by 30%. Horizontal movement depends on user swipe direction. Below is an example when user swipes right. This motion is valid for 2 seconds, after which the motion returns to (i)
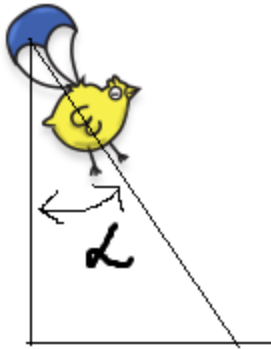
$\alpha = 60^o$ for chicken, $\alpha = 40^o$ for cows

Collision Handling

(i)
Between Animals

There would be no collision handling between animals, they should be overlapping one another.

(ii)
Between Animal and Obstacles

The impacted animal will die, and obstacles be destroyed. The prototype game ends.

(iii)
Between Obstacles

There would be no collision handling between obstacles, they would be overlapping one another.

(iv)
Between Animal and Landing Target

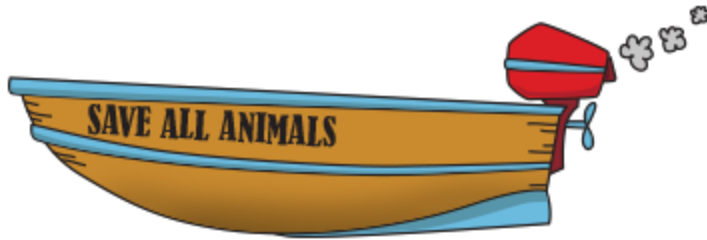Animal will be blinking and disappeared (destroyed), the score of 'animals saved' will increase by one.

As animals could overlay each other, they should have different z axis value. (they are 2D though)

Landing Target should cover the z axis value, they are 3D

Animals Spawn

Animals are spawned above the Sky Area in random manner. (outside the game screen)

Landing Target

Dimension: 357x124 px (some parts to be overlayed by water)

The landing target is in the shape of a boat. This boat is a property of the non-profit animal activist organization.

Required Milestone:
A boat will be located at the center of the swamp area.

Additional Milestone - do this after Milestone 1 and Collision Handling is finished
Consecutive boats will be moving from the right edge of the screen, towards the left edge of the screen.
There would be random gaps between boat. (this gives more challenge to the players)
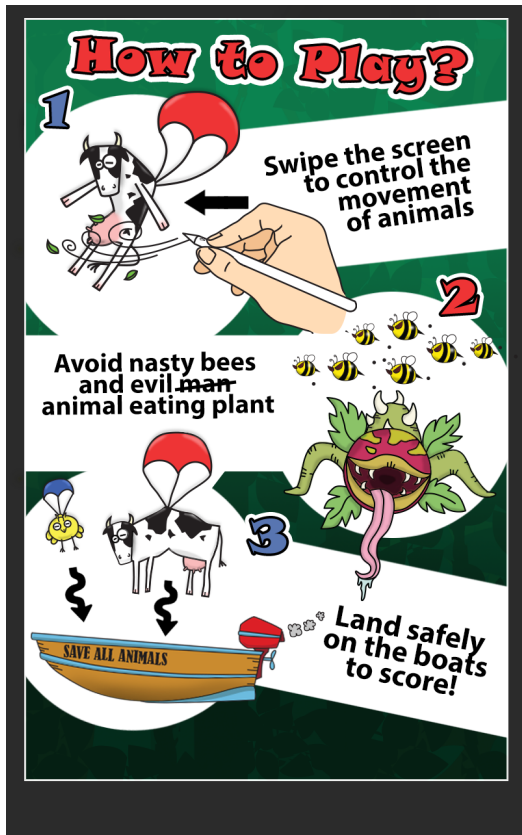
Scoring System

Counts the number of animals that player has saved.
Increase the count every time an animal landed successfully in the boat.
The game never ends, and

Display on the top right area of the Sky Area.

Tutorial Image

Sound

There are 7 sounds that are being used within the game.

They are as follows:
bg_music_loop
This sound is being used when the game starts. This music loops infinitely.

button_click
This sound plays whenever a UI button is clicked.

sound_cow
This sound plays whenever the player moves a cow.

sound_chick
This sound plays whenever the player moves a chick.

sound_plant
This sound plays whenever the plant eats a cow or a chick.

sound_bee
This sound plays whenever a flock of bees enter the game.

gameover
This sound plays if any animal died. This sound keeps looping until the player goes back to the main menu, or replay the game.