Space Dog

Game Design Document
By: Louis Choicer, Brianna Florio, Hernan Zavala Yanes

Introduction

This document describes a game called "Space Dog", which is designed to be a simple, 2d side scroller. The game will employ sprite-based animation, titled backgrounds and scrolling, collision detection, physics, AI, gravity, memory managements and more basic 2D game techniques

Technology

Space Dogs will be developed using the Phaser framework. Phaser is a free desktop and mobile HTML5 game framework used to develop games. Phaser uses both a Canvas and WebGL renderer internally and can automatically swap between them based on browser support. This allows for lightning fast rendering across Desktop and Mobile. All artwork and music is originally designed by our team's artist!

Back Story

It is the year 3000 and earth is slowly becoming inhabitable. A new planet must be found to harbor the future of the human race. Dogs with embedded AI chips are tasked with finding a new home across galaxies. These dogs will analyze all types of planets to determine its habitability. However, the AI technology is not perfect and some dogs wander off, jeopardizing their lives and the mission. Help the space dogs find their way back!

Objective

Your task is to guide the space dogs back to their spaceships! Along the way, you will have to collect air bubbles to sustain the dogs' suits. In addition, you must avoid all the objects that will harm the space dogs. Watch out for the asteroids, geysers, and aliens that will quickly and unpredictably pop up! Luckily, spaceships shoot out treats to attract lost space dogs so pick those up for a quick boost. Get the space dogs to the ship while taking minimal damage and enough air!

Gameplay

The user will be able to control the actions of the space dog such as walking left, right and jumping up or duck down as the space dog explores the spaceship. The space dog will need to be smart on paths/ actions it takes as there will be limited oxygen left in its spacesuit. The space dog must try to avoid spikes, traps, and paths that will loop back to the same place as these will significantly lower the oxygen levels. The space dog will be able to refill an oxygen bubble if it

encounters a Geyser. There will be hidden barkeroids which will allow the space dog to walk faster for a limited amount of time.

Controls

- **A/<-** - Walk left
- **D/->** - Walk right
- **W/↑** - jump up
- **S / ↓**- Duck down
- **B -** Bark
- **SPACE** - hold down to run
- **ESC** - This will bring the user to the Help screen where the user can decide to continue to play or choose one of the options provided.

Graphical User Interface

Splash Screen: When the game is initially loaded, a splash screen will appear. It will show the player character, space dog, and the logo for the game with the option of pressing "space" to continue. However, this is a rage game, so you have to click the actual word "space" to continue onto the next screen.

Main Menu: The main menu will display after the user has navigated from the splash screen. The following options will appear:
- **Start:** To start the game. The user will be sent to the **level select** screen.
- **Controls:** To learn the controls of the game. View the controls section to learn the controls.
- **Help:** To display the story of the game and its credits.
- **Exit:** To exit the game.

Level Select: The level select will display a lighter color purple to display that the level is available for the user to play. The locked levels will be reversed colors to the unlocked levels. They will have no function if clicked on.

In Game GUI: The game will display our space dog ready to depart from the start of the selected level all the way to the left side. There will be a short three second timer before the game starts. On the right hand side, there will be a "bubble timer" that notes the oxygen levels of the space dog. This can be filled throughout the level, but if all the bubbles are popped, the space dog will lose its life. There will be a life counter in the top left of the screen. The option to pause will be on the bottom left of the screen.

Artwork

All artwork will be original. The following needs to be created:
- **Space Dog:** need animations for:
  - Walking Left/Right
  - Jumping

- Ducking
- Crawling
- Running Left/Right
- Taking Damage
- Dying
- Barking
- Dancing
- **Barkeroids:** Space Dog's favorite snacks. Animations:
    - Bounce
    - Collected
- **Bubbles:** The in game "timer" that displays Space Dog's oxygen levels
    - Static Frame
    - Warning: Will Pop
    - Popped
- **Geysers:** Where space dogs can refill his oxygen levels.
    - Blowing Air
- **Spikes and Other Elements that cause damage:** These elements will both be hidden and visible throughout the level where the space dog has to avoid hitting into these.
- **Floor & Wall Tiles:** Contain multiple patterns to where Space Dog can walk and jump on to. They will be rough, porous surfaces that mirror a moon's/planet's surface.
- **Background Image:** Will remain static throughout the level, but each level will have a different background.

Sound Effects

Some sound effects that would be needed:
- **Jumping**
- **Walking**
- **Level Countdown Timer**
- **Collecting Items**
- **Barking**
- **Refill Oxygen**
- **"Click" Sound:** A soundbyte whenever the GUI is interacted with this particular mouse event.
- **Dying**
- **Level Completed**

Music

Link to original music and sound effects for game:
https://www.bandlab.com/band/band7225762910710500