Game Design Document

**Introduction**

Imagine your crew of astronauts and yourself were preparing a routine maintenance on your spaceship when all of a sudden your belts connected to the spaceship, snap. All of your crew are spirally off in different directions and you black out! When you come to, you realize you have limited fuel in your jetpack, you’re surrounded by multiple planets with gravitational pulls that could kill you, and you need to get back to the ship. Your crew are spread out around different planets and it’s up to you to save them.

Welcome to Gravity, an exploration of the laws of physics in space. Gravity is designed to test the player’s abilities to use their surroundings to help them achieve several goals. The main objective of Gravity is to reach the spaceship. However, there are certain side goals to boost your score. By picking up your fellow crew members, you’ll boost your score by a certain number. Once you have reached the spaceship safely, you’ll move on to the next level. Each level will increase in difficulty and it’s up to you to use your jetpack and other planet’s orbits to your advantage. But beware, planet’s pulls can kill you and there are other obstacles you will face along the way. Will you leave your crew behind to save yourself? Or will you risk your life to save others? The choice is yours, in Gravity.

**Main Scenes**

The very first scene of Gravity will be an instructions scene with how to operate the astronaut and the objective of the game. Our second scene is going to be our beginning level for the player to test out their abilities. This level will be introductory and mainly used to teach the player how to use controls and the planet’s orbits to their benefit. It should be noted the player cannot reach the spaceship by using their jetpack alone. After the player has completed level one, they will move on to level two. Level two will increase in difficulty as the planets will have a stronger gravitational pull, and there will be more strategy involved when using the jetpack (less fuel for the jetpack means more reliance on the planet’s orbit). The difficulty will again increase in level three, the final level. Upon completion of level three, the game will end.

**Scene Change**

Our first scene change will be after the player clicks continue on our first scene (the instructions scene). The levels will change based upon the player’s ability to make it to the spaceship. The spaceship will be placed in such a way that the player must be able to strategically navigate through the level using their jetpack and planet’s orbits. Once the player reaches the spaceship, the scene will change to the next level. Once the player reaches the spaceship on level three, they will see a ‘congratulations!’ appear on their screen, as that is the end of the game. After that scene, there will be no further scenes.

**Sprites**

Sprites used in Gravity include the astronaut, spaceship, planets, the astronaut’s crew members, fuel gage, fuel packs, score, and asteroids. The astronaut, the astronaut’s crew members, and the asteroids, are all moving during the duration of each level. If the astronaut collides with planets or asteroids, the game is over. If they collide with crew members, their score will go up by a certain number. If the crew members collide with planets or if asteroids collide with crew members, they will disappear. Fuel packs will appear in each level and will be placed strategically.