Initial Project Planning Sheet

# Brief Software Plan:

* This project will be a puzzle type video game similar to Angry Birds where a Yoshi character flies through the map trying to reach a golden apple by propelling the character from a slingshot, through trampolines and other obstacles.
* Will be controlled through a Kinect.
* Each level the player gets a certain amount of attempts and is given a score at the end of a level.
* Score will be formulated with Lives, Time, Stars collected, and other variables.
* Game will be composed of multiple levels.
* There will be Win/Lose Conditions (If the character hits the floor, he will die)
* Audio Triggered Game States (Zoom state, Shoot Stage, Set up Stage… etc)

# Objectives:

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| **Number** | **Objective Name** | **In-Software Description** (What is it, where will it be used in the software): 2 – 3 points | **Owner** | **Difficulty (1 to 10)** |
| 1 | Kinect Integration | * Set up the main controller for the game to work from the Xbox 360 Kinect. * The slingshot mechanism that determines the players’ trajectory * Captures audio and performs operations   + E.g. when the player says “Shoot” the character will shoot out of the slingshot. | Ori Talmor | 6 |
| 2 | Collision Detection | * Make sure the player stays within boundaries * Detects when the player collides with objects in the environment * Circle to circle collision detection as an indicator for potential rotated rectangular collision. * Rotated rectangular collision detection between character and almost all objects in the map (trampolines, spikes, bubbles, etc.). | Ori Talmor | 10 |
| 3 | Physics Engine | * Projectile Motion   + Affect how the Yoshi moves once it is released from the slingshot   + Will be solely responsible for the players’ movement once it has the data from the slingshot * Acceleration & Deceleration   + The objects in the environment change the speed of the player and affect its trajectory. * Different objects affect different physics in the game. Gravity, speed, Acceleration, Deceleration… etc. | Ori Talmor | 7 |
| 4 | Particle System | * Effects that will appear when the character hits certain objects (like a wall or spike) as well as fly through the air. * Particles of objects/shapes of different sizes, angles and transparency that will appear at different times to look like particles emitted from the character. | Ori Talmor | 7 |
| 5 | Level Designer | * Gives the player the ability to create his/her own levels and then play them * Will be made in game without the Kinect controller (mouse and keyboard) and will then be saved in the program directory. * Will be loaded in game like every other map and the player will then be able to play the level with the same objective | Ori Talmor | 6 |