

Global Innovations Award Presentation Script

Problem: Myles

We worked on the problem of sorting waste.

We know people do not sort waste properly because we made direct observations of recyclables and compostables in the trash bin at our coach's house.

We also met with Rhonda Mace, from our local waste disposal agency, who told us that 40% of the food that is grown goes to the dump.

We read parts of David Hume's book which showed that 20% of landfills is food scraps.

Innovation: Andrew

Our solution is innovative because:

- 1) we made an original video game using Unity Pro
- 2) we made original art work and animations using Anime Studio
- 3) we made original music using Garage Band
- 4) we made original game play because we use the tilt control to keep the whole user moving
- 5) we made a game on mobile devices because kids do not bring computers with them to school.
- 6) we made our game for both apple and android devices.

Implementation: Ethan/Kenny

Game Design

We based our game on Kaboom, which inspired the Unity Tutorial Game Hat Trick.

We made sprites using Anime Studio for the objects in the game.

We made backgrounds using Photoshop with filters.

We made splash images in Anime Studio that had facts about sorting waste.

We made original music using a piano and garage band for our game theme song and celebration songs.

We modified the Hat Trick game objects to use our Assets. Once we made the first level, we made the next level by duplicating the level and changing the backgrounds, splash page and added new objects.

We made five levels to show the movement of waste from a home, to a trash truck, to a transfer station, to an 18 wheeler of the landfill.

Once the game was finished, we conducted alpha testing, then beta testing and we released the game on iTunes. Our coach helped us get the game from Unity to Xcode, to iTunes connect to the iTunes store.

STEM: Kenny/Vihit**Physics (Kenny)**

We learned about physics because the Unity 2D engine uses physics for things like mass, gravity, friction. The game also uses colliders to detect collisions.

Engineering**Alpha Testing (Kenny)**

We used multiple rounds of alpha testing, with paper surveys, while developing our game to find problems in the game that we could fix.

Beta Testing (Kenny)

We used beta testing, with survey monkey, while developing our game to get outside perspective, from friends and family, on the game so that we could make changes that would make the game more successful. We used math to analyze our results.

Product Testing (Vihit)

After we launch our game, we presented it at the Maker Fair to more than 2000 people. 71 of those people completed a survey of our game. We learned that people liked our game and felt that it would make them sort waste better. We used math to analyze our results.

Science as a Process (Andrew)

We conducted a study to see if our game does change behavior. We visited Mater Christi School on two days and observed 8th graders sorting waste on each day. We divided the 8th graders into two groups, a control that did not play the game and a test that did play the game. When we analyzed the difference between the pre and post test groups, we learned that both groups dropped by about 10%. This suggests that our game did not help sorting behavior. However, we did not control for the amount of time that students played our game. We think some kids lied about playing the game. We think we should have controlled when the kids play the game to ensure that they actually played the game.

Technology (Ethan)

We used YouTube to learn how to make a game.

We used Unity to program the game.

We used a midi enabled keyboard to record the theme song for the game.

We used Anime Studio and a tablet to make original art work.