Johnny Mak (4002140)

Dylan Seto (40001991)

Helen Tam (27845537)

Comp 477 - Project Proposal

Instructor: Tiberiu Popa

## Description

We are very inspired with the idea of making something similar to the game Splatoon, a game where players must shoot blobs to paint the entire playing field. Therefore, we want to make a project similar to it where the user can move the camera in first-person view and shoot onto the terrain. Upon impact of the blobs, they will explode and change the color of the affected terrain. To do so, we will implement fluids that will naturally help us animate the impact and explosions of the projectiles. Our project will be set in a sandbox area where the user can freely move, look, and shoot around. Additionally, there will be obstacles like small walls where the user can also paint over. For this project only, we will not be implementing any blasters that the user will see on their screen. The liquid projectile will be shot out via direction of the camera. In addition, the user will have the option to toggle between day and night. During the day, the paint will have a goo-like texture to it but during the night, the paint will start to glow.

## Motivation

As explained above, we want to demonstrate fluid physics and are also very inspired by the game Splatoon. We believe that coding fluid physics is much more interesting in comparison to making physics for rigid objects due to the fact that we never worked with liquid objects before and want to learn how. The goal of this project is to demonstrate fluid physics in a subtle and interesting way. The idea of self-creating a colorful world also sounds interesting as there are no boundaries in what we can make.

## Objectives

1) Day Time Lighting: Render goo-like fluid
2) Night Time Lighting: Bloom effect on paint

3) Set proper fluid impact parameters to animate small paint explosion

4) Implement physics for paint projectiles (Bullet drop effect or arc trajectory)

5) Implement collision physics between terrain and paint

6) Vary force of blaster shot based on mouse hold time

7) Add basic lighting (Will help render goo-like fluid)

8) Enable movement in a sandbox

9) Allow choices between different paint colors

10) Blend paint color

## References

[1] https://www.youtube.com/watch?v=qN4w5D2tzME

[2] http://prideout.net/blog/?p=58

[3] https://www.youtube.com/watch?v=LyoSSoYyfVU