Secret Feature Plan

The secret feature our group has chosen to implement is plan B: different collision detections between bullets. This means incorporating a new type of bullet that, when shot, causes other bullets in its path to stick to it. This will require us to make slight modifications to our current design.

Current Design:

Our Bullet class contains information about a bullet's damage, path, speed, and which team it is on (friendly or enemy team). It has an OnCollision() method which will not do anything when a bullet collides with another bullet (if the bullet collides with a character, the bullet will be removed from the game). We have made an abstract BulletFactory class that is inherited by BulletFactoryFactory, ShotgunBulletFactory, SingleBulletFactory, and SurroundBulletFactory, each of which will make bullets in a specific way.

Design Plan:

The modifications we will need to make to our existing code are minimal. We will not add any new design patterns, but instead expand on the ones we already have in place. The modifications we will make are:

1) Make a new class called SuperBullet that will inherit from Bullet. This class will have its own OnCollision() method.

2) Make a SuperBulletFactory class that will inherit from BulletFactory. This class will create the super bullets.

3) Modify the OnCollision() method in the Bullet class so that if a regular bullet collides with a super bullet, it will change its path to be the same as the super bullet's path. This will allow for the regular bullets to stick to the super bullets upon collision. If a regular bullet collides with another regular bullet, nothing will happen (it will just return). If a regular bullet collides with a character, it will be removed from the game as it was before.

4) The OnCollision() method in the SuperBullet class should specify that if a super bullet collides with a regular bullet or another super bullet, nothing will happen (it will just

return). If a super bullet collides with a character, it will be removed from the game as the regular bullets are.

5) We will want to use a different texture for our super bullet so that super bullets are distinguishable from regular bullets when playing.