[COSC360 - Computer Game Design](http://www.cs.otago.ac.nz/cosc360/assignments.php):

**Assignment 03 - Rapid Prototyping**

In our game design document a few issues were obvious at conception, however more issues showed up during implementation.

We broke our prototype into 3 core sections. By doing this we were able to create a prototype that would address the issues within our assigned sections but without having to create all the code for the whole scenario to get a working concept ready for this weeks deadline.

The three sections were broken up as follows:

**JAMES GOODMAN – ENEMY/A.I:**

**Issues:**

1. **2d Rotation:**
   * This was something we did not expect when creating a 2d game; the library is only setup for 3d rotation. (A side-scroller would not have encountered this)
   * The issue this caused was that our image would simply disappear when rotating as the image would turn on its side, there was no depth (z axis) to the image to keep the illusion that it was turning; You cant use the 3d rotate library to turn a 2d image.
   * **Fix:**
     1. We had to find code that would allow the image to keep it’s perspective, this was not as easy as it sounds as understanding the vectors and what is actually going on is a sticking point for our team.
     2. Estimated fix time: 24hrs
2. **2d Rotation + follow:**
   * Although we fixed the rotation the issue when moving and turning opened up further weird issues, e.g the enemy AI would just rotate around the player in a circle, something I cannot really explain as to what was going on, partly due to my understating of the math behind the code.
   * **Fix:**
     1. This was partly fixed while completing the rotation. More code was investigated form the Unity community and a solution was found
     2. Estimated fix time: A combined 24hrs with the above solution.
3. **AI village thrower:**
   * The village thrower character is like a turret in the game, seems we had fixed the rotation obstacle we were now able to move onto shooting in the direction of the player. Some of the code could be used from the space invaders lab eg timing and shooting but the issue I had was that shooting in a direction of up and down was not going to satisfy the feeling of a “turret” as shooting needs to happen in the direction of the player.
   * **Fix:**
     1. Added a rigid body to the shotprefab which allowed me to create a force to the shot with 0 gravity.
     2. Estimated fix time 7hrs.
4. **Other issues to address for AI but outside of prototype:**
   * AI path finding – this could be an issue. As the AI would be in groups losing the add AI behind a wall or building as the Player is running away may not be noticed. (the player running past the AI may also address the AI being “stuck”)
   * Thrower bullet physics – do we need to add this to make it look more real?