**Spike:**  *4*

**Title:** None Blocking Game Loop

**Author:** Steven Efthimiadis, 1627406

**Goals / deliverables:**

The goal is to create a game loop that continuously runs while waiting for a trigger to activate it. Use the Gridworld game made in Spike 1 to build on.

To create this spike, you require:

* Spike 1
* Thread that take input
* Thread that operates the output and rendering

**Technologies, Tools, and Resources used:**

List of information needed by someone trying to reproduce this work

* Visual Studio 2015
* Multithreading
  + <https://solarianprogrammer.com/2011/12/16/cpp-11-thread-tutorial/>
* Timers
  + Modulus - <http://www.cplusplus.com/reference/cmath/>
  + Time - <http://www.cplusplus.com/reference/ctime/>

**Tasks undertaken:**

* Copy Spike 1 into a new project
* Separate the input into one thread
* Separate the output and rendering into another thread
* Once working create a timer which the rendering thread will run on a limit before an error message appears.

**What we found out:**

* By separating the input and rendering into 2 threads we stop the blocking game loop by the threads waiting to be activated and when it’s complete it will delete the thread.

**What didn’t work:**

* The time for the input thread. I tried using modulus to work out if the time has been 2 seconds. The modulus wasn’t working properly which caused the console to spit out it constantly that 2 seconds has past.