**Spike:** Spike\_1

**Title:** Simple Game Loop

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**Goals / deliverables:**

Goal was to demonstrate the use of a simple game loop, separation of update/render code and game data from the world map and player location.

For example: UML diagram, code, reports

* Code see /GridWorld/GridWorld/
* Short report titled “spike\_report\_1”
* Plan titled “GridWorld\_plan”

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

List of information needed by someone trying to reproduce this work

* Visual Studio 2015
* SDL version 1.2.3.4
* StackOverflow:
  + http://stackoverflow.com/questions/15310846/creating-a-class-object-in-c
  + http://stackoverflow.com/questions/8767166/passing-a-2d-array-to-a-c-function
* TutorialsPoint:
  + http://www.tutorialspoint.com/cplusplus/cpp\_class\_member\_functions.htm

**Tasks undertaken:**

* Download and install Visual Studio
* Plan the code design
* Create a new project and associated classes
* Implement classes from design
* Create game loop and add classes

**What we found out:**

The design for GridWorld was provided with components of the game and the map to be implemented. Design consisted of separating the components into classes and their role in the solution.

Implementation involved separating code and creating distinctions between classes. The game loop updated the player’s location which also changed the available paths for the player and alerted the player if they won, died, or could not move. On winning, losing or quitting, the game loop suspended.

**Open issues/risks:**

List out the issues and risks that you have been unable to resolve at the end of the spike. You may have uncovered a whole range of new risks as well.

* Issue 1: When typing a string into the text processor, it evaluates each individual character. Hence typing “nnnn” will move the player North four times.
* Issue 2: Text processor is all within the game loop. This could convolute the code with further extensions, hence it would be best if it were contained in its own class.
* Issue 3: The setting of tile types is done through for loops. While this works, initialising the values on creation of the 2D array and the prospect of converting each item into a tile may have been better.

**Recommendations:**   
This task has given me a better understanding of C++ and some of its syntax and methodology. Hence it will help me with other spikes that involve the use of this language.

Furthermore, other spikes that involve coding may help me resolve the issues encountered in this spike as I will have more insight on the language.