

Spike: 7**Title:** Graphs**Author:** Michael Williams, 7668481**Goals / deliverables:**

- Code
- Spike Planning
 - Rough Design
 - Implementation of new classes
 - Template for world

Technologies, Tools, and Resources used:

- Visual Studio IDE
- www.cplusplus.com
- Assorted web sources.

Tasks undertaken:

- Research C++ Graphs
- Develop a plan to implement a graph in C++.
- Develop a plan to work out which new classes will need to be implemented to support loading the world from a file (World, WorldProcessor etc.).
- Research the different input methods available.
- Research file designs.
- Choose file design.
- Implement the design.

What we found out:

We found out how to make a basic graph data structure in C++ using a vector of lists. The list contains information about which nodes are joined to the parent node. This makes navigation through the game world very simple. In order to simplify even further, we created the list to be a list of pairs storing both the ID of the neighbour node, and the path description of how to get there (south, north, take shortcut, etc.).

We also found out how to implement a file processing system which will load a game world from a file. In terms of design, after some initial attempts and research I opted for a file format which follows a similar convention to HTML

and XML. By using tags to identify what is coming next in the file, it makes it very easy to parse and expand on.