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|  | NavPal Floorplan Creator |
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| 5/4/2013 | Graph Summary |
|  | A brief overview of the graph structured, what features are currently available within the structure, and instruction on how the tool can be extended to add more features. |

NavPal Floorplan Creator

Graph Summary

# **Overview**

Once the publish is clicked the building graph is generated. The graph consists of three levels: at the top is floor connections, next is the floor graph and at the lowest level is the grid view. The first level represents how floors connect to each other. The second level consists of the floor graph which represents how rooms, passageways, hallways, stairs, and elevators connect to each other. The first two levels are used for high level path planning, which calculates the path of nodes between the source and destination. The third level is key in low level planning, which constructs a detailed path to aid the visually impaired avoid obstacles and find passageways.

# **extending the Structure**

To add new nodes to the graph consider its owner (e.g. if it is a room, its owner should be the floor, if it is universal to all the floors perhaps it belongs to the building). To add new nodes to the floor, create an object and have it extend FloorNode (take a look at LandmarkNode for reference). Next add it to the constructor in its owner’s constructor. Finally make sure that the newly created feature is exported in the owner’s toOutput function.