**Question Network GUI Illustration & Plan (draft)**

Version 2020.1

**Introduction:**

Question Network (QN) GUI is a software that supports the QN model creation, illustration and analysis. The flowchart is illustrated in Fig 1.



Figure 1 Question Network (QN) model GUI

**The GUI aims to achieve following functions:**

1. To finish QN model creation, illustration and analysis in a single interface, specifically:

* Support importing a saved QN model or creating a new QN model. The QN model format is pickle.
* Support different layouts in illustration. The coordinate of the node is generated after the creation of the QN model.
* The QN model analysis targets single node/link analysis and QN model pattern analysis.

1. To design a QN model structure. The node and link are described via separate list. A networkx graph model is also created for using the package netowrkx’s analyzing functions.
2. To support the development of the QN model as a fundamental platform.

**Remark：**

1. The code has been tested on a 64-bit windows OS, with following main packages:

* Python 3.6.6
* PyQt5 5.11.3
* traits 5.1.2
* traitsui 6.1.2
* mayavi 4.7.1
* vtk 8.1.2
* pyface 6.1.2

1. How to run:

* Run main.py file at: ‘/QuestionNetworkGUI/src/main.py’.
* Test pickle file at: ‘/QuestionNetworkGUI/example/pickle/curiosity1.p’.

**Plan:**

1. QN model GUI revise:

* Shift tree model version of the QN model into the analysis page or into a sub window.
* Integrate node/link create function into the illustration scene.

1. Algorithm development:

* Write new layout functions for a given QN model. Layout function location: cor\_generate in QuestionNetwork.py.

1. Document：

* Write document to record the development of the QN model and GUI.