

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.

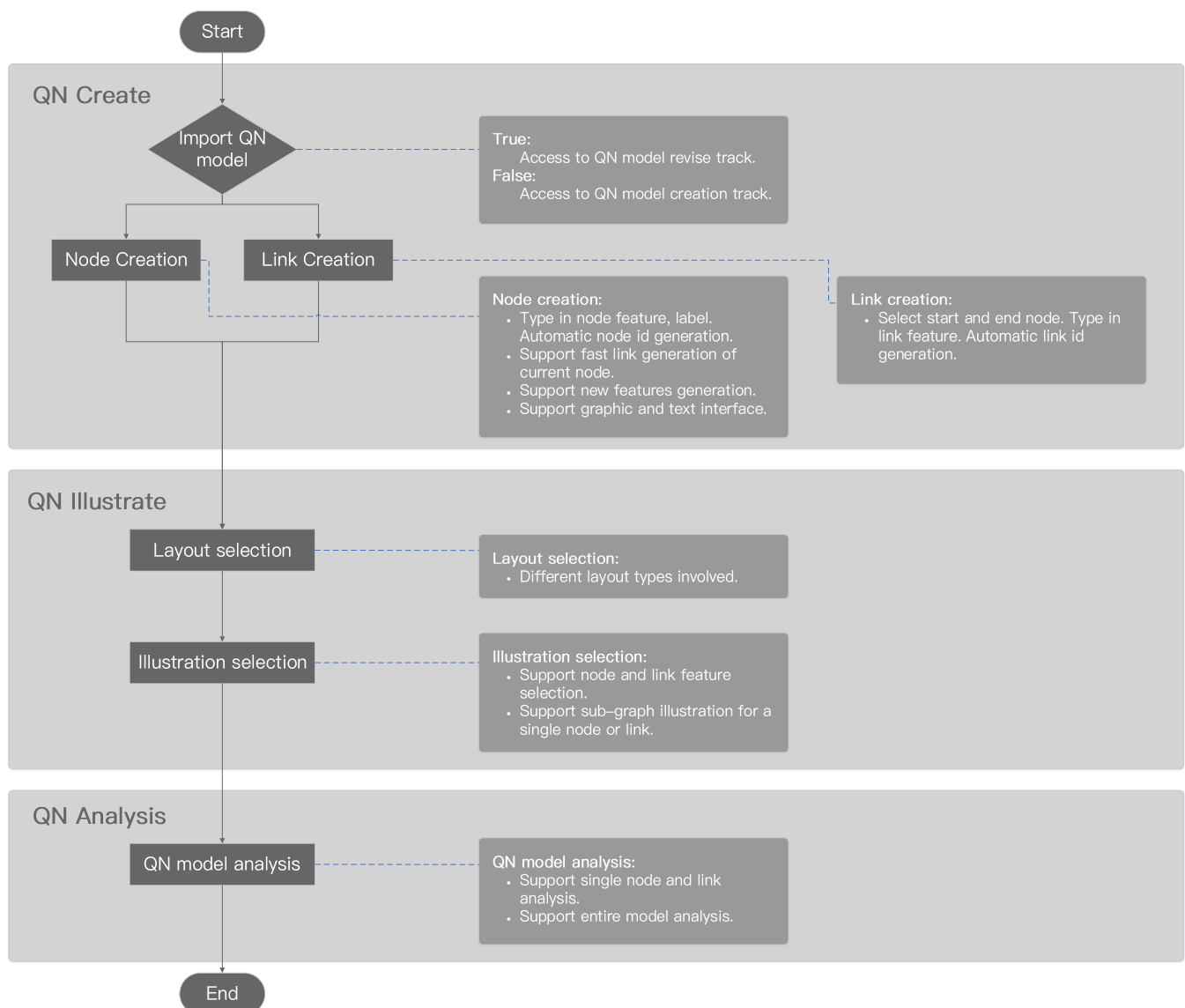


Figure 1 Question Network (QN) model GUI

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.
2. 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 networkx's analyzing functions.
3. 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
2. 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.

2. Algorithm development:

- Write new layout functions for a given QN model. Layout function location: `cor_generate` in `QuestionNetwork.py`.

3. Document:

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