Design

The design of System is consisted of several phases:

1: System Overview, i.e. The purpose of System and functionality it should Satisfy, this is closely linked with the Specification of the System.

2: Breaking down System into sub-Systems. Modularization technique is used to employ the divide and conquer paradigm to help with implementation of specific classes and functions.

3: Each Subsystem is now divided up into classes. In here, I will use abstract data type e.g Graph to layout the interface of each classes.

4: The last step involves breaking each class into its specific functions.

To aid the design process, I will use tree structure diagram to represent 1, to represent the subsystem structure. The reason to choose a tree diagram is because the design methodlogy I used: Model-View-Controller, are inherently hierarchical with controller communicating with both model(data) and view(UI). There is no communication between model and view because they don’t need to know about each other and rather everything is communicated through controller which is why it sits at the top of hierarchy.

The second design diagram I used is class diagram. It is important to ensure the classes diagram form a DAG(directed acyclic graph) so the flow of data is obvious from design and avoid complicated issues arises from circular relationship between classes.

Further more, I have read through the design pattern(gang of four) book to look through different design idea that can be helpful for the project.

An controller object is needed to implement the logic which updates the scene. Controller Objects are made of several parts: