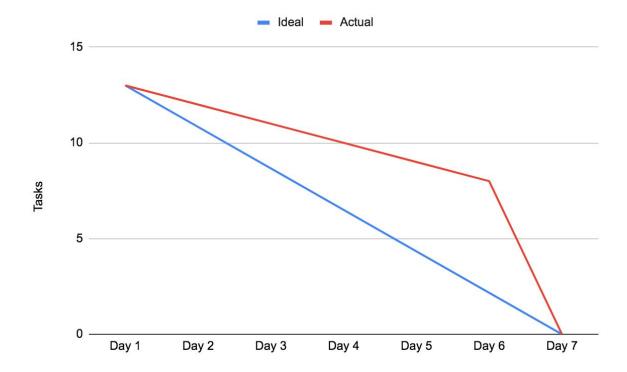
Team 5
Team member:
Yijian Hu
Shih-Yu Chang
Kai-Rui Hsu
Hongqi Zhang

1. Burndown Chart



2. Sprint Backlog

Items:

- 1. As a user, I want a sharp button box which can create a new tab when I click the sharp button.
- 2. As a user, I want a toolbar that I can select shapes and show on the right panel.
- 3. As a user, I want to maximize the user interface.
- 4. As a user, I want to minimize the user interface.
- 5. As a user, I want to resize the user interface.
- 6. As a user, I want to close the user interface.
- 7. As a user, I want a "translate" menu item on the menu.
- 8. As a user, I want a "new" menu item on the menu.
- 9. As a user, I want to save the graph on the current status and clean all the working areas when I click the "new" menu item.
- 10. As a user, I want to interpret the graphs and generate codes as the input of Graphviz.
- 11. As a user, I want to drag the shapes from the left panel and drop them onto the right panel.
- 12. As a user, I want to delete the connections between two shapes.
- 13. As a user, I want to change the connections between shapes.

| | | | Days and Hours | | | | | | | |
|------|--------|--|----------------|-----|-----|---|---|-----|---|---------------------------|
| Item | Points | Task | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Responsibility |
| 1 | 2 | 1.create sharp class. 2. add sharp button the the system 3.test | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0 | Hongqi Zhang |
| 2 | 4 | 1.create toolBarConainer class 2. add item to toolbar and assemble to frame 3.test functionality | 1 | 0.5 | 0 | 0 | 0 | 0 | 0 | Hongqi Zhang |
| 3 | 2 | 1.maximize the window 2.test | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | Hongqi Zhang |
| 4 | 2 | 1.minimize the window 2.test | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | Hongqi Zhang |
| 5 | 2 | Enable the interface to be changeable | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | ShihYu Chang |
| 6 | 2 | close the window | 0 | 0 | 0.5 | 0 | 0 | 0 | 0 | Hongqi Zhang |
| 7 | 4 | 1.modify the menubar and add menu item 2. Test and fix bugs | 0.5 | 0 | 0.5 | 0 | 0 | 0.5 | 1 | Kai-Rui Hsu |
| 8 | 4 | 1.modify the menubar and add menu item 2. Test and fix bugs | 0.5 | 0 | 0.5 | 0 | 0 | 0.5 | 1 | Kai-Rui Hsu |
| 9 | 4 | 1 modify the listener | 0 | 0 | 0 | 0 | 0 | 3 | 0 | Kai-Rui Hsu, Yijian Hu |

| | | 2 provide back end support | | | | | | | | |
|----|---|---|---|---|---|---|---|----|----|------------------------------|
| 10 | 8 | 1 Design interpreter 2 Implement interpreter 3 Test and fix bugs | 0 | 0 | 0 | 0 | 0 | 10 | 10 | Yijian Hu |
| 11 | 8 | 1.research for drag and drop technique. 2. implement the drag and drop functionality 3.test | 0 | 0 | 3 | 3 | 2 | 1 | 1 | Hongqi Zhang ShihYu Chang |
| 12 | 4 | 1 Implement the delete function 2 update the connections | 0 | 0 | 0 | 0 | 0 | 2 | 0 | ShihYu Chang |
| 13 | 4 | 1 Implement the edit connection function 2 update the connections | 0 | 0 | 0 | 0 | 0 | 3 | 0 | ShihYuChang |

Sprint Review

what has been done

In this sprint, we have finished all of our tasks. We researched how to implement and develop those tasks.

- what has not been done
 - **Nothing**
- what work that has been added
 - 1. ToolBar with different symbols and buttons which users can select.
 - 2. Sharp button box is added in the left panel and toolbar.
 - 3. Shape Button Box implements creating new tab pages that allow multiple working areas.
 - 4. "New" and "Translate" menu items are added to the menu bar.
 - 5. Allow to maximize, minimize, and resize the user interface.
 - 6. Delete function and message dialog
 - 7. Change connection function

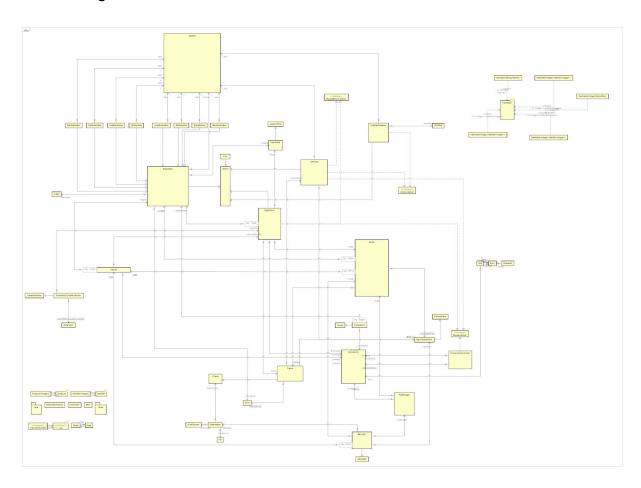
4. Sprint Retrospective

What went well in this Sprint

We have good communication this sprint which means we share the information and work progress in time. Also, we made a good design at the last sprint. Therefore, we can add new functions easily.

- What could be improved
 The architecture could be better. The Model class could be more powerful if we move
 the data manipulation from ConnectionController to this class. Also, the user
 experience could be improved and we can make it operate more smoothly.
- What will we commit to improving in the next Sprint
 Design better architecture and provide a better user experience.

5.Class Diagram



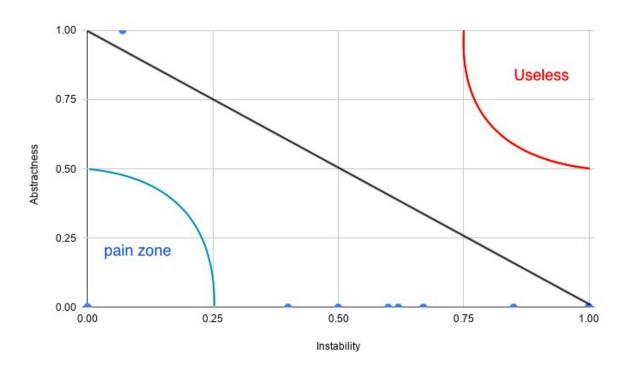
6.Structural Metrics

6-1. Robert C. Martin for each class (Ca, Ce, I, A, D)

| Class Name | Са | Се | Instability | Abstractness | Distance from the main sequence |
|------------|----|----|-------------|--------------|---------------------------------|
| Graph | 1 | 0 | 0 | 0 | 1 |
| Main | 0 | 1 | 1 | 0 | 0 |
| MenuBar | 0 | 5 | 1 | 0 | 0 |
| ShapeInfo | 2 | 0 | 0 | 0 | 1 |
| Line | 1 | 0 | 0 | 0 | 1 |

| ButtonBoxFactory | 0 | 1 | 1 | 0 | 0 |
|------------------------------|----|---|------|---|------|
| Frame | 3 | 2 | 0.4 | 0 | 0.6 |
| LeftPanel | 1 | 0 | 1 | 0 | 0 |
| RightPanel | 1 | 6 | 0.85 | 0 | 0.15 |
| ButtonBox(Abstract) | 12 | 1 | 0.07 | 1 | 0.07 |
| EndButtonBox | 0 | 1 | 1 | 0 | 1 |
| StartButtonBox | 0 | 1 | 1 | 0 | 1 |
| BarButtonBox | 0 | 1 | 1 | 0 | 1 |
| LButtonBox | 0 | 1 | 1 | 0 | 1 |
| LoopButtonBox | 0 | 1 | 1 | 0 | 1 |
| RButtonBox | 0 | 1 | 1 | 0 | 1 |
| DotButtonBox | 0 | 1 | 1 | 0 | 1 |
| Compilation | 0 | 3 | 1 | 0 | 1 |
| Connection | 6 | 0 | 0 | 0 | 1 |
| ConnectionController | 0 | 1 | 1 | 0 | 0 |
| TabInfo | 2 | 3 | 0.6 | 0 | 0.4 |
| ValuePane | 2 | 0 | 0 | 0 | 1 |
| Box | 1 | 2 | 0.67 | 0 | 0.33 |
| Model | 3 | 5 | 0.62 | 0 | 0.38 |
| MenuBar | 0 | 5 | 1 | 0 | 0 |
| FileBrowser | 1 | 0 | 0 | 0 | 1 |
| RightTabbedPane | 3 | 0 | 0 | 0 | 1 |
| Interpreter | 1 | 1 | 0.5 | 0 | 0.5 |
| SharpButtonBox | 0 | 1 | 1 | 0 | 0 |
| ToolBarContainer | 0 | 4 | 1 | 0 | 0 |
| Component TransferHandler | 0 | 3 | 1 | 0 | 0 |

6-2. Plot for Pain vs Useless of the project



6-3. Review and report SAP and SDP

Regarding SAP:

According to the Instability-Abstraction graph,

The painful classes are:

Graph, ShapeInfo, Line, Connection, ValuePane, FileBrowser, RightTabbedPane.

The useless class is/are: None.

Regarding SDP, the connections between these classes need to be reviewed:

Frame and LeftPanel

TabInfo and RightPanel