Project 5 Product Backlog

Sprint table:

- P stands for priority. User stories are ordered by priority.
- E stands for estimation. We have used the Fibonacci series as a measure.

			Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Р	E	User stories	Tasks														
1	1	As a user, I should be able to maximise the workspace, so that I can have a better	Add maximise option to Frame class	1													
		view.	Test the maximise option in window		1												
1	1	As a user, I should be able to minimise the workspace, so that I can change my	Add minimise option to Frame class	1													
		view.	Test the minimise option in window		1												
1	1	As a user, I should be able to resize the workspace, so that I can change	Add resize option to Frame class		1												
		my view.	Test the resize option in window		1												
1	1	As a user, I should be able to close the workspace, so that I can open another workspace	Add close option to Frame class			1											
		without overlapping.	Test the close option in window			1											

2	1	As a user, I should be able to see scrollbars, so that I can modify my view of the workspace.	Add horizontal bar and vertical bar in JScroll bar		1						
			Add Jscrollbar to frame		1						
3	2	As a user, I should not be allowed to create more than one '(' open parenthesis shape in the workspace,	Write rules to restrict one shape in Open Bracket class								
		so that I can limit my shape connections.	Test creating more than one open brack shape in workspace								
3	2	As a user, I should not be allowed to create more than one ')' closed parenthesis shape in the workspace,	Write rules to restrict one shape in Close Bracket class								1
		so that I can limit my shape connections	Test creating more than one closed brack shape in workspace								1
4	2	As a user, I should be able to see a list of shapes in the top part of the workspace, so that I	Create JtoolBar with the 8 shapes		2						
		can work with them.	Add Jtoolbar to frame		2						
4	1	As a user, I should be able to click and create shapes from the top part of the workspace, so that I can add connections	Call connection and line method from Shapes in			4					

		between them.	top panel								
			Test click- click shape in workspace								
5	1	As a user, I should be able to see a list of shapes in the left part of the workspace, so that I can work with them.	Add 8 shapes to left panel			5					
5	5	As a user, I should be able to drag and drop shapes from the left part of the workspace, so that I can add connections between them.	Add drag drop class and link with left panel				1				
		between them.	Test drag and drop shapes in workspace								
6	2	As a user, I should see a File menu and Project menu in the top left part of the workspace, so that I can	Add Jmenu bar with names File and Project				1				
		navigate to several operations.	Add Jemnubar to main rame				1				
7	2	As a user, I should be able to create new, open and close workspaces from the File menu, so that I can manage different	Add three Jmenu items - new open and close to File Menu bar				1				
		workspaces.	Add Jmenu to main frame				1				
7	1	As a user, I should be able to compile and translate from	Add two Jmenu items - compile					1			

		the Project menu , so that I can evaluate my workspace.	and translate to Project Menu bar								
			Test MenuBar in workspace								
8	2	As a user, I should be able drag and drop # button from the left part of the workspace, so that I can perform	Add Pound shape to the abstract class					1			
		operations with it.	Test pound shape creation from left panel					1			
8	2	As a user, I should be able click and create # button from the top part of	Add pound shape to Shape class						1		
		the workspace, so that I can perform operations with it.	Test pound creation from top panel						1		
9	2	As a user, I should be able to double click on the # button in the workspace and input a name, so	Add action listener for pound value						1		
		that I can specify a name for the new tab.	JCreate option Dialog when isclicked						1		
			Input Value from JoptionDia log						1		
10	5	As a user, I should be able to see a new tab when I input the name in	Store the value from JOption dialog			2					

		the # button, so that I can work with different workspaces.	Call newtab method with the value as tabname			2						
11	5	As a user, I should be able to delete a link between two shapes, so that I can modify my	Create delete link method in connection class						3			
		connections between shapes.	Test deleting a link in workspace						3			
12	5	As a user, I should be able to change a link from one shape to another, so that I can modify my connections	Create change link method in Connection class						2			
		between shapes.	Test changing link in workspace						3			
13	2	As a developer, I want to learn about translating shapes in the workspace to lines of code that can be fed to	Research about structural graph code for graphviz.							2		
		graphviz.	Study on how to save the current shapes in the workspace to code.							1		
14	8	As a user, I should be able to translate my shapes in the workspace to code,	Add action listener to translate Menu item								4	
		so that I can generate structural graphs with it.	Call translate class and write code to .txt									5

Sprint Review:

Attended by:

- Amudhan Manisekaran
- Anusha Singh
- Kartik Mathpal
- Sandya Manoharan
- Sayali Tanawade

What was done in this sprint:

- Ability to change the workspace i.e. maximise, minimise and resize for better viewing.
- Added shapes and functionality to display them on top and left hand side and create those shapes in the workspace.
- File Menu and Project Menu created to open new workspaces and to compile and translate.
- Added # pound shape to top and left panel with double click input function.
- Enabled the functionality to name a new tab and work with different tabs.
- Functionality to delete or change links between shapes was implemented.
- Implemented translate shapes to code to enable creation of general structural graphs.

What was not done in this sprint:

- The drag and drop functionality was not implemented.

What went well during the Sprint:

- User Stories were completed with meticulous planning and well structured work division among the teammates.
- Everyone was able to work on the work given to them and communicate well.

Obstacles faced during this sprint:

- Knowledge transfer was a little difficult.
- Drag and Drop functionality posed a problem.

How did we resolve these obstacles:

 Learned about translating shapes and took time to understand how to achieve our objective.

Discussion of Product Backlog:

 Since almost all the User Stories were completed, this sprint was deemed a success.

Sprint Retrospective

Attended by:

- Amudhan Manisekaran
- Anusha Singh
- Kartik Mathpal
- Sandya Manoharan
- Sayali Tanawade

What went well:

- Most of the requirement goals outlined were manageable and achieved.
- The team worked well together.

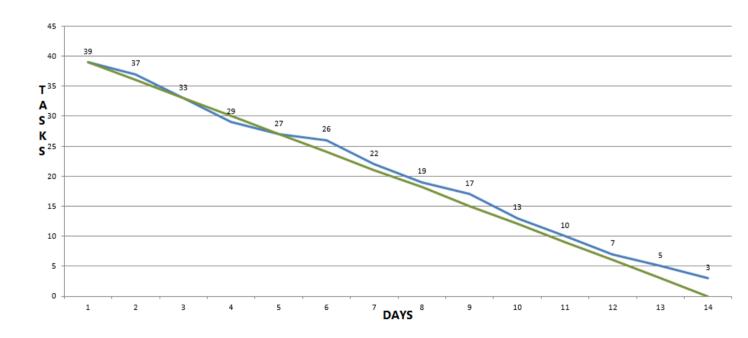
What needs improvement:

- There needs to be an increase in knowledge acquisition as it takes up a significant amount of time.
- Time management should be better handled and work distribution could also be done better.

Next Steps:

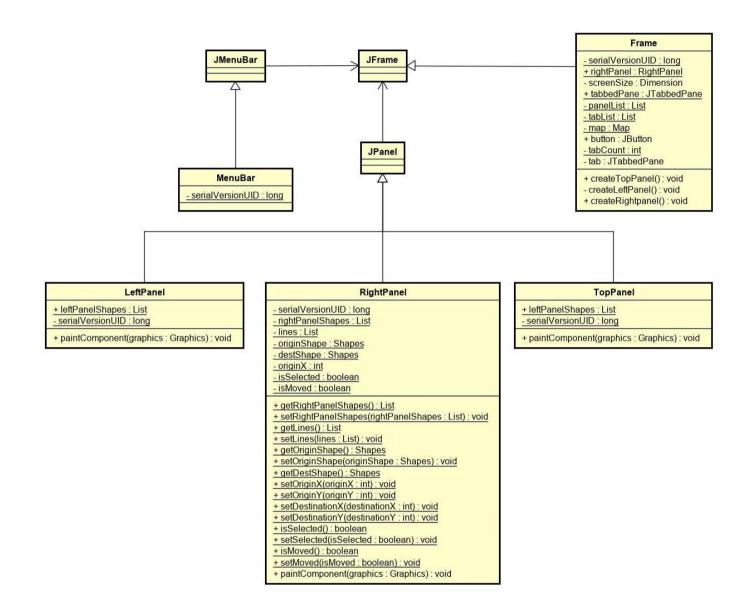
- Ensure better division of tasks among the team
- Since this is the last sprint, we can take away learning from this and work individually on what we can improve.

Burndown Chart:

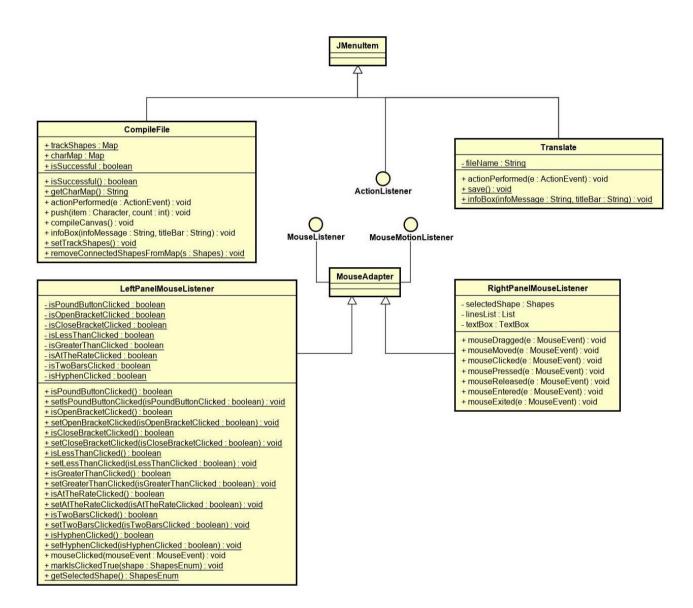


Class diagram:

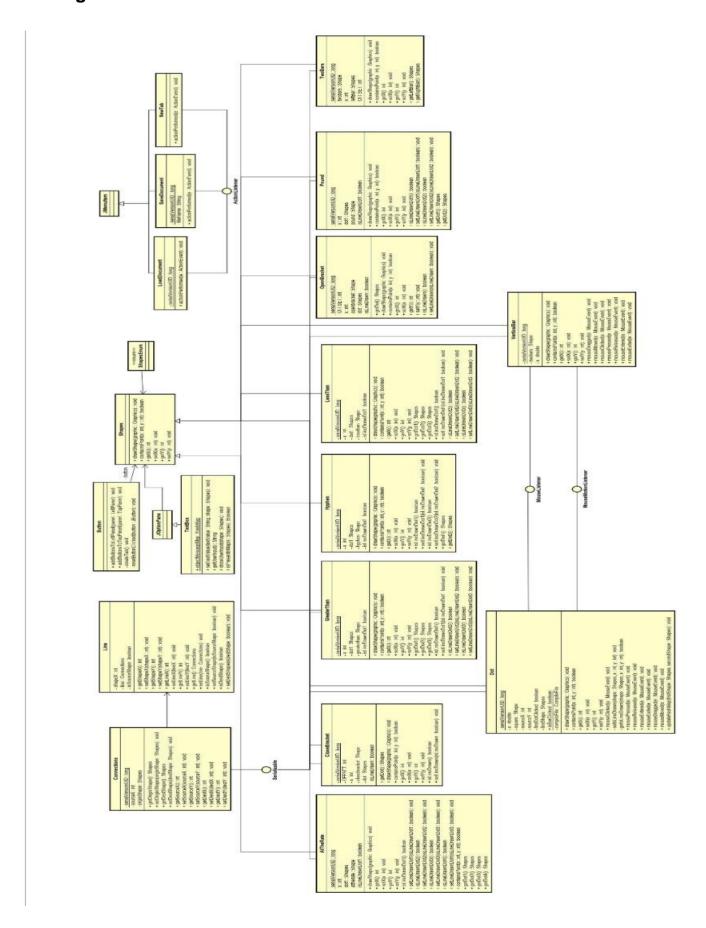
Package: View



Package: Controller



Package: Model



Structural Metrics:

Package : View

Class name	Ca	Се	I	Α	D
Frame	0	1	1	0	0
LeftPanel	0	1	1	0	0
RightPanel	0	1	1	0	0
TopPanel	0	1	1	0	0
JPanel	1	1	0.5	0	0.5
JFrame	3	0	0	0	1
JMenuBar	1	1	0.5	0	0.5
MenuBar	0	1	1	0	0

Package: Controller

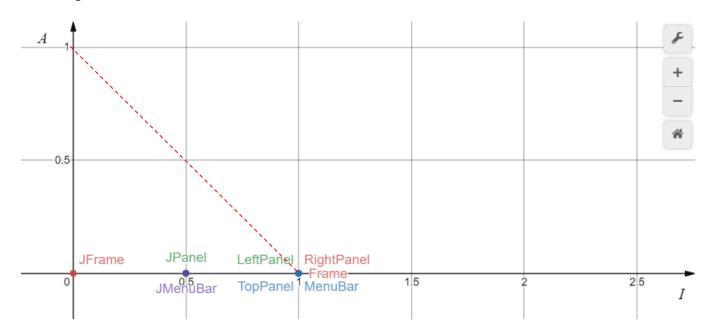
Class name	Са	Се	I	Α	D
CompileFile	0	1	1	0	0
Translate	0	1	1	0	0
MouseAdapter	2	2	0.5	0	0.5
LeftPanelMouseL	0	1	1	0	0
RightPanelMouseL	0	1	1	0	0
Jmenultem	2	0	0	0	1

Package: Model

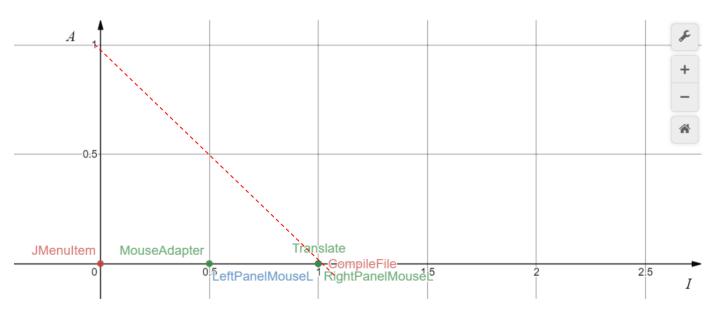
Class name	Ca	Ce		Α	D
Shapes	10	0	0	1	0
AtTheRate	0	2	1	0	0
CloseBracket	0	2	1	0	0
Dot	0	4	1	0	0
Greaterthan	0	2	1	0	0
Hyphen	0	2	1	0	0
LessThan	0	2	1	0	0
OpenBracket	0	2	1	0	0
Pound	0	2	1	0	0
TwoBars	0	2	1	0	0
VerticalBars	0	4	1	0	0
Connections	10	1	0.09	0	0.91
LoadDocument	1	1	0.5	0	0.5
SaveDocument	1	1	0.5	0	0.5
NewTab	1	1	0.5	0	0.5
ShapesEnum	0	1	1	0	0
TextBox	0	1	1	0	0
Button	0	1	1	0	0
Line	1	0	0	0	1

I vs A plot:

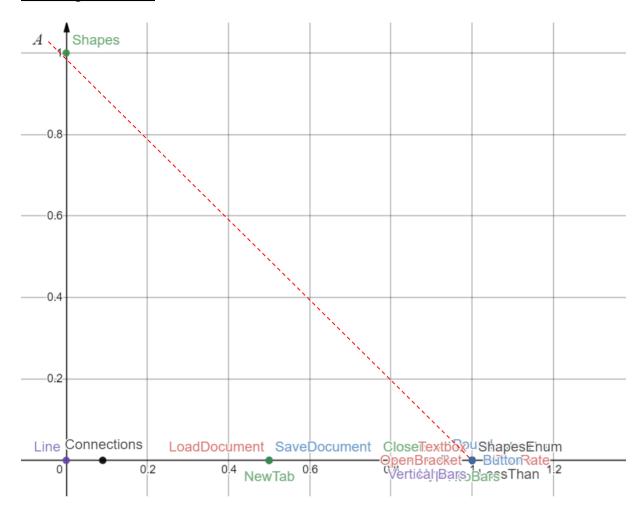
Package: View



Package: Controller



Package: Model



SAP:

Package: View

- JPanel
- JMenuBar
- JFrame

Package: Controller

- MouseAdaptor
- JMenuItem

Package: Model

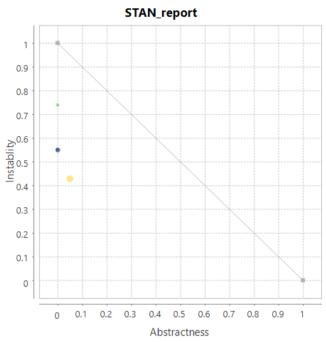
- Connections
- LoadDocument
- SaveDocument
- NewTab
- Line

SDP:

There are no red-light connections

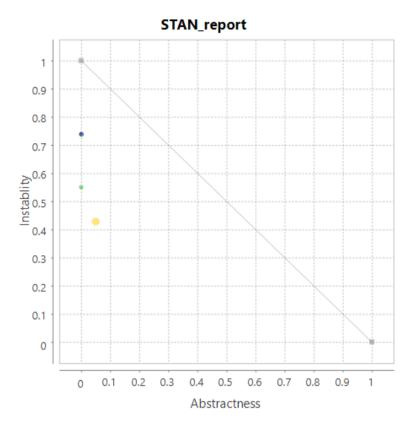
STAN tool results:

View package – Distance:



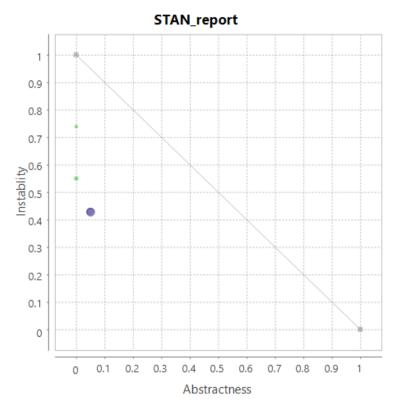
⊕ Overview f _x Metrics ⊠	
Category/Metric	Value
✓ Count	
Units	5
Classes / Class	0.29
Methods / Class	5.14
Fields / Class	3.71
■ ELOC	273
ELOC / Unit	54.6
Complexity	
⊡ CC	1.22
Fat	4
ACD - Unit	20.00%
Robert C. Martin	
• D	-0.45
∄ A	0
■ I	0.55
E Ca	9
E Ce	11
Chidamber & Kemerer	
⊎ WMC	6.29
∄ DIT	1
I NOC	0
E CBO	n/a
∄ RFC	n/a
I LCOM	n/a

Controller package - Distance:



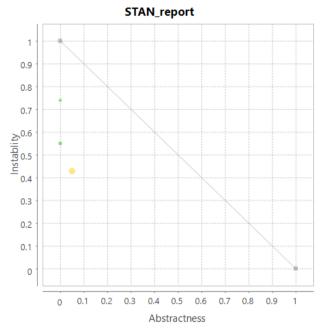
⊕ Overview f _x Metrics ⊠	
Category/Metric	Value
√	
• Units	4
Er Classes / Class	0
Methods / Class	11
Fields / Class	3.75
E ELOC	451
Er ELOC / Unit	112.75
∨ Complexity	
₽ CC	2.86
- Fat	2
ACD - Unit	16.67%
∨ Brobert C. Martin Control Co	
: ∄ D	-0.26
₽ A	0
∃ I	0.74
∃ Ca	6
E Ce	17
∨ Chidamber & Kemerer	
₽ WMC	31.5
₽ DIT	1
₽ NOC	0
₽ CBO	n/a
₽ RFC	n/a
₽ LCOM	n/a

Model package – Distance:



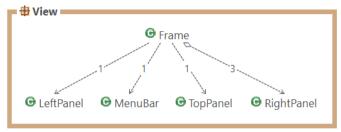
○ Overview f _x Metrics ⊠	
Category/Metric	Value
✓ ├── Count	
■ Units	20
El Classes / Class	0
Methods / Class	9.85
Fields / Class	5.55
E ELOC	1762
ELOC / Unit	88.1
→ Complexity	
El⁺ CC	1.95
Fat	30
ACD - Unit	25.00%
Robert C. Martin	
■ D	-0.52
E A	0.05
∃	0.43
E Ca	8
E Ce	6
Chidamber & Kemerer	
Ŀ WMC	19.2
₽ DIT	1.5
₽ NOC	0.5
E CBO	n/a
₽ RFC	n/a
I LCOM	n/a

Complete Project – Distance:

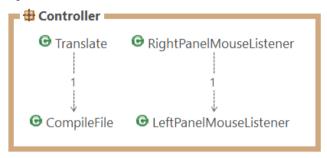


E Overview f_x Metrics ⊠	
Category/Metric	Value
✓ Count	
Libraries	1
Packages	3
Units	29
Units / Package	9.67
E Classes / Class	0.06
Methods / Class	8.94
Fields / Class	4.9
■ ELOC	2486
ELOC / Unit	85.72
✓ Complexity	
₽ CC	2
Fat - Libraries	0
Fat - Packages	6
Fat - Units	93
E Tangled	28.07%
🖪 Tangled - Libraries	0.00%
ACD - Library	0.00%
ACD - Package	100.00%
ACD - Unit	74.14%
Robert C. Martin	
₽ D	-0.41
· □ D	0.41
Chidamber & Kemerer	
₽ WMC	17.87
₽ DIT	1.32
₽ NOC	0.32
Ŀ CBO	n/a
₽ RFC	n/a
Ŀ LCOM	n/a

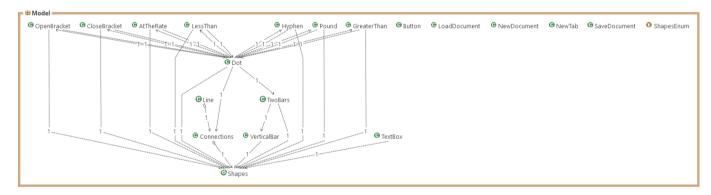
View - Composition



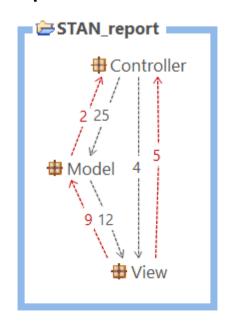
Controller – Composition



Model - Composition



Complete Project – Composition



Self-Evaluations:

Amudhan Manisekaran:

- I worked on GUI and application design.
- Major features implemented are Shapes and Connections.
- Designed buttons for all shapes in all panels.
- In Project 5,
 - o I worked on creation of new shape (#)
 - o Responsible for creation of top panel.
 - o Created image buttons for shapes in top panels.
- Coordinated and delegated tasks to team members and organized all meetings.

Anusha Singh

- Worked on clean code and ensured coding practices were followed.
- Fixed defects in Shapes class.
- Corrected defects in CloseParentheses functionality.
- Created I vs A graphs and gave SAP and SDP.
- Fixed Textbox.java and implemented functionality
- Extensive documentation done and review and retrospective meeting notes recorded.
- Participated in all team discussions and attended all sprint meetings.

Kartik Mathpal

I worked on the application backend part and application design. Major features implemented were the app Frame, Menu, Save, Load, compilation and translation functionality and worked closely with my teammates if they needed my support in their development. Also Worked in resource delegation and scrum planning.

Sandya Manoharan:

- I worked on the tasks of creation of few shapes and the connections between them.
- Fully responsible for the Burndown chart, User stories, tasks and Sprint table.
- Actively involved in team meetings and took major team responsibilities.
- In Project 5,
 - o I worked on JMenubar for File and Project menu.
 - o Worked on adding scrollbar functionality and screen size.
 - o Modified connecting two shapes functionality from Project 4.

Sayali Tanawade

- The project is the final product of everyone's efforts and great teamwork. I primarily worked on the following tasks:
- Implemented scroll bar functionality for the right panel to see the shapes that are moved out of the right panel's initial size.
- Implemented a scrollbar for left panel to be able scroll through all buttons when frame is resized
- Changes frame to re-sizable and adjusted sizes of panels and frame to implement above functionalities.
- Created STAN reports using STAN4j software to be added in report.
- Apart from this I participated in all team meetings and design discussions during initial planning.