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Paint final project

Introduction

Paint is a program that is used to edit pictures and to draw on a simple way. There are many tools on paint that let the user draw lines and erase them as they want. There is also a way in which the user can put some figures, like squares or the circles. This is a scholar project of a Paint from Object Oriented Programming subject made by Eva, Viviana and Emilio. Using from the basics of JAVA through the OOP to the GUI's, this Paint program is a complete project implementing most of concepts learned in class. There aren't rules for this program, the only limit is your imagination when creating your masterpieces.

Project Description

The program open a window that is divided in three sections. One will show the tools to the user, just like the eraser, pen, square figure, circle figure, line figure, new, save, open and reset; another will show the colors the user can work with; the last one will show the canvas the user is working with. The program was made in NetBeans in 2019, using JAVA language. The function of this program is to draw different things the user imagines, the user can manage the tools for drawing like the pen, squares, lines and circles, also you can erase what you draw using the eraser or the reset button. Another functionality of this Paint is that whatever the user draws can be save and reopen for editing later. The user can use images from their own Documents and start editing them.

List of features

Buttons

The program will have buttons for the user to choose what he or she would like to do next.

Colors Displays a Color Chooser for the user to paint with, only one can be used at the time. Pen, circle, line and square can use these colors.

Pen This tool draws lines in the color that is currently selected. The user determine how long the line will be, and if the line will be curved or a straight line. The line is created while the mouse is pressed and moved.

Eraser The eraser tool function is like the pen one, but instead of drawing lines, this one erase them, while the mouse is pressed and moved. The canvas returns to its original color (white).

Square This tool draws a square without filling that has its edge in the color that is currently selected, except for the white. Also, its size will be determined by the user, while the mouse is pressed the area of the square will change according to how the mouse pointer is moving and when released the figure will stay static.

Circle This tool draws a circle without filling that has its edge in the color that is currently selected, except for the white. Also, its size will be determined by the user, while the mouse is pressed the area of the circle will change according to how the mouse pointer is moving and when released the figure will stay static.

Line This tool draws a straight line in the color that is currently selected, except for the white. Also, its size will be determined by the user, while the mouse is pressed the length of the line will change according to how the mouse pointer is moving and when released the figure will stay static. With the exception if the user click one time on the canvas, then the line will draw from the coordinate 0,0 to the coordinate the user clicked on.

New This button opens a new canvas with an image that the user selects.

Save Saves the current canvas in a file with the name given by the user. Note: The user must select a file, otherwise the program will throw an error but will continue to work.

Open Opens a document that was previously saved by the user, he or she must write the name of the document. Also, the program will draw the image and the changes previously made by the user, but the changes will not come up until the user clicks one time in the canvas. If the file does not exist, the program will inform the user.

Reset Takes the current canvas to blank, like it had no modifications.

Canvas

The Canvas is the area where the user can draw or edit the image. Normally it is white except when you open a file, then the canvas will be the image.

File

The file saves the current state of the canvas that the user is working on in an image file. It can be reopened so the user can keep working on a previous canvas. Also, a file (image) that was not created in the program can be opened and used as canvas.

Diagrams OOAD process

Find   diagram   here: https://drive.google.com/file/d/1r4gW07h8wMCdf6z-SHg_XP6jxKgCUTPH/view?usp=sharing

GUI

GUIPaint

-eraser: Eraser
- sqrContainer: List<Square>
- circContainer: List<Circle>
- lineContainer: List<Line>
- penContainer: List<Pen>
- eraserContainer: List<Eraser>
- toolContainer: List<Tool>
-g2: Graphics2D
-circleCount: int
-sqrCount: int
-lineCount: int
-penCount: int
-eraserCount: int
-image: BufferedImage
-penClicked: boolean
-eraserClicked: boolean
-lineClicked: boolean
-circleClicked: boolean
-squareClicked: boolean
-xStart: int
-yStart: int
-xEnd: int
-yEnd:int
-color: Color
-name: String

- BackgroundLabel: javax.swing.JLabel
- ToolsPanel: javax.swing.JPanel
- actualColorButton: javax.swing.JButton
- canvas: javax.swing.JPanel
- chooseColorButton: javax.swing.JButton
- circleButton: javax.swing.JButton
- eraserButton: javax.swing.JButton
- imageProof: javax.swing.JLabel
- jLabel1: javax.swing.JLabel
- jPanel1: javax.swing.JPanel
- lineButton: javax.swing.JButton
- newButton: javax.swing.JButton
- openProject: javax.swing.JButton
- penButton: javax.swing.JButton
- resettButton: javax.swing.JButton
- saveButton: javax.swing.JButton
- squareButton: javax.swing.JButton

+ GUIPaint()
- canvasMouseReleased(java.awt.event.MouseEvent): void
- canvasMousePressed(java.awt.event.MouseEvent): void
- canvasMouseDragged(java.awt.event.MouseEvent): void
- chooseColorButtonActionPerformed(java.awt.event.ActionEvent):void
- eraserButtonActionPerformed(java.awt.event.ActionEvent): void
- penButtonActionPerformed(java.awt.event.ActionEvent): void
- lineButtonActionPerformed(java.awt.event.ActionEvent): void
- lineButtonMouseClicked(java.awt.event.MouseEvent): void
- resettButtonMouseClicked(java.awt.event.MouseEvent): void
- circleButtonActionPerformed(java.awt.event.ActionEvent): void
- saveButtonActionPerformed(java.awt.event.ActionEvent): void
- squareButtonActionPerformed(java.awt.event.ActionEvent): void
- newButtonActionPerformed(java.awt.event.ActionEvent): void
- openProjectMouseClicked(java.awt.event.MouseEvent): void
- saveButtonMouseClicked(java.awt.event.MouseEvent): void
+ main(String args[]): void
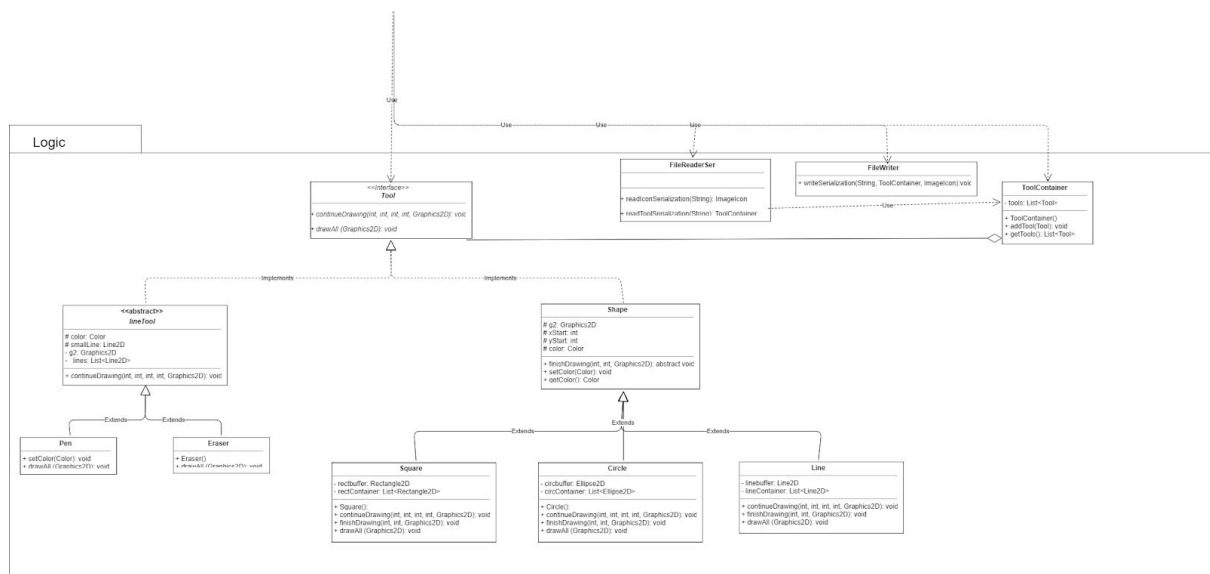
Mock-ups
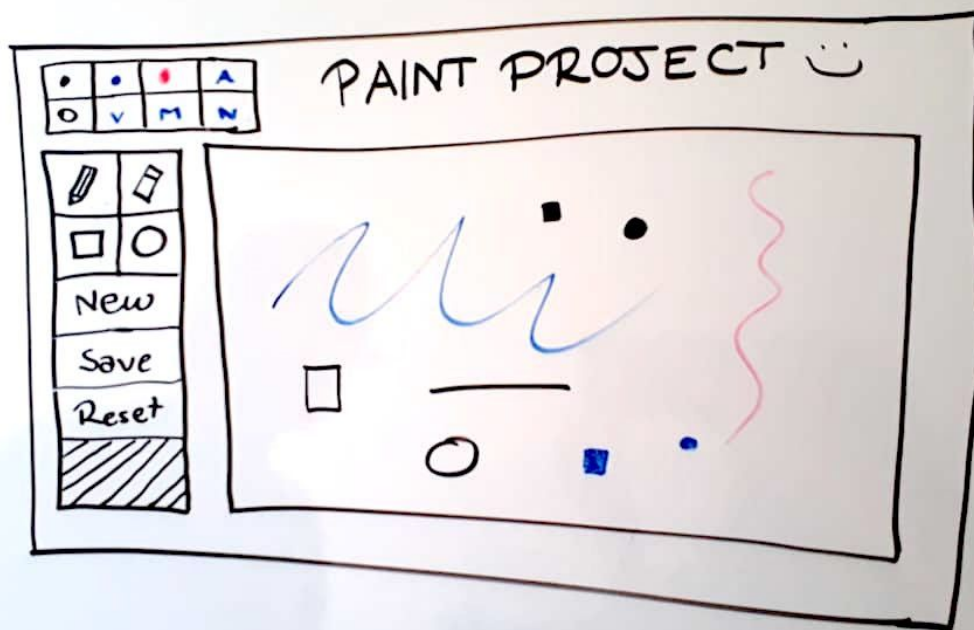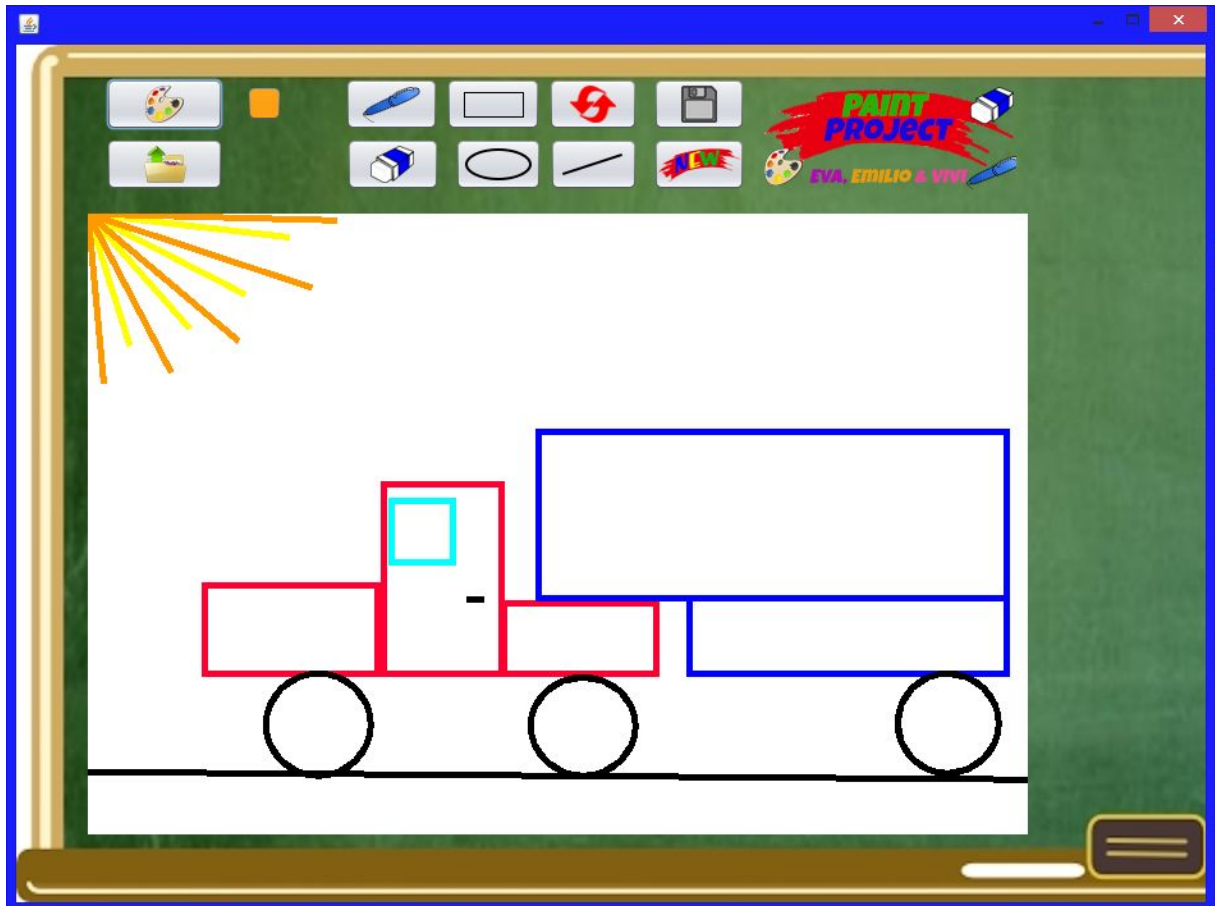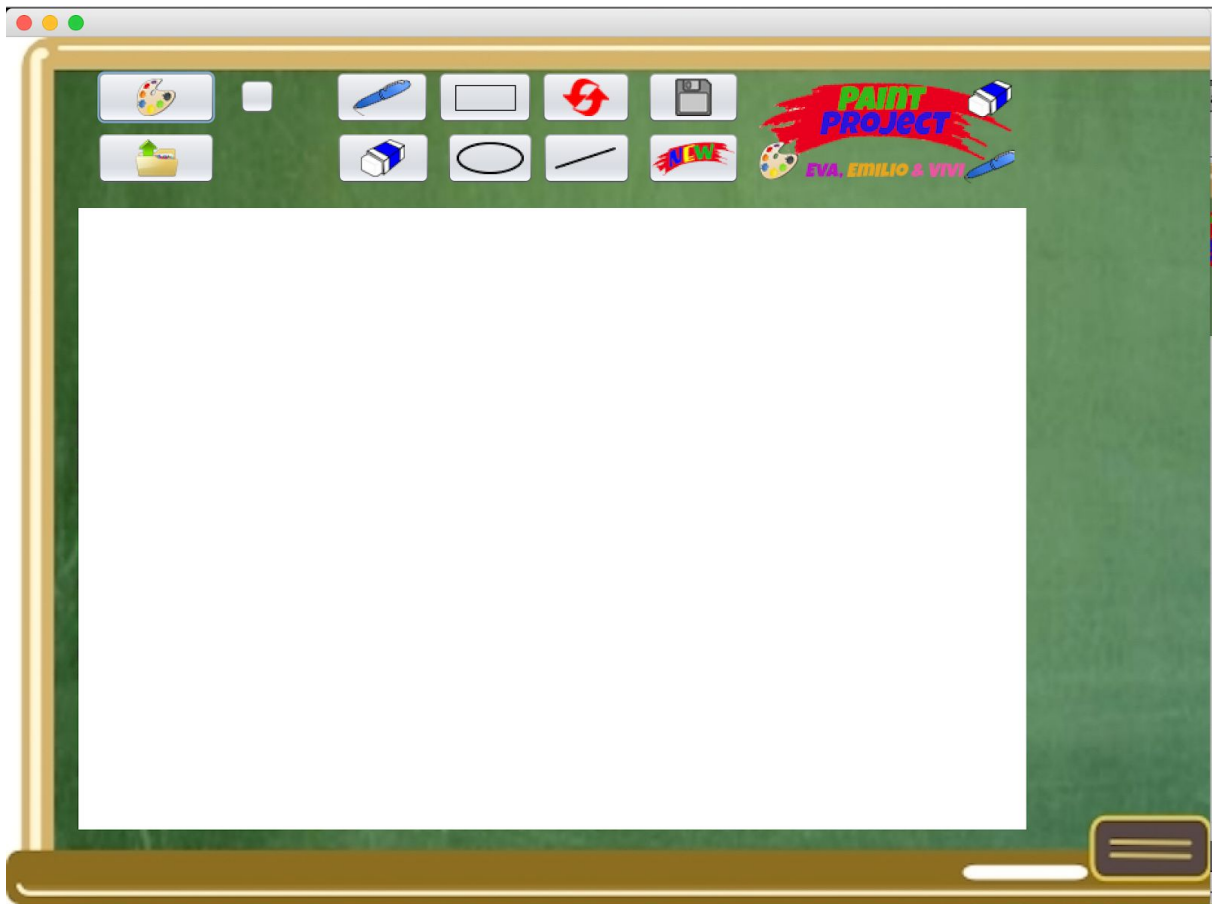
Total time spend

Emilio

Student	Emilio			Date	12/03/2019
Project	PAINT			Language	Java

Date	Start	Stop	Break time	Actual time	Phase	Comment
12/03/2019	16:00	17:00	15	45	Initial features	Discuss with team
13/03/2019	20:00	21:30	20	70	Initial features	Work in google drive document
23/04/2019	11:30	12:30	10	50	UML diagram	Discuss with team
23/04/2019	12:30	13:15	15	30	UML diagram	Design in draw.io
1/05/2019	16:00	17:00	10	50	Investigate how to draw circles	read about drawing graphics 2D in netbeans
1/05/2019	17:00	18:00	15	45	Investigate how to draw squares	read about drawing graphics 2D in netbeans
1/05/2019	18:00	19:00	10	50	Try to use NetBeans	My NetBEans had an issue that paint the code screen in grey making impossible to use it
1/05/2019	19:00	21:00	30	90	Start designing the buttons for the GUI	Make the design in Photoshop
3/05/2019	17:30	18:10	0	40	Start Coding the drawing circles method	
3/05/2019	18:10	18:50	0	40	Start Coding the drawing squares method	
3/05/2019	18:50	19:05	0	15	Fixing the shapes methods	
3/05/2019	19:05	19:30	0	25	Investigate how to clear the figures	
3/05/2019	19:30	20:00	0	30	Start Coding the reset method	
3/05/2019	20:00	20:35	5	30	Start Coding the drawing line method	
3/05/2019	20:35	21:00	0	25	Finish the design of the buttons and the GUI	Photoshop used

Date	Start	Stop	Break time	Actual time	Phase	Comment
7/05/2019	17:00	18:00	20	40	Looking was wrong with the eraser and reset button	
7/05/2019	18:00	19:00	15	45	Start Time-log	
7/05/2019	19:00	21:00	30	90	Start Documentation	
7/05/2019	21:00	21:30	5	25	Insert Label in Panel	Insert the Label without moving anything from the GUI
7/05/2019	21:30	22:05	0	35	Finish Documentation	Complement TimeLog
7/05/2019	22:05	22:25	0	20	Make an Open Design Button	Photoshop used
7/05/2019	23:50	1:45	0	115	Fix the Diagram	
					Total	1005 min

Eva

Student		Eva Cristina Beltrán Reyes			Date		01/may./2019
Project		PAINT			Language		Java

Date	Start	Stop	Break time	Actual time	Phase	Comment
12/mar./2019	4:00 pm	5:00 pm	15	45	Initial features	Discuss with team
13/mar./2019	8:00 pm	9:30 pm	20	70	Initial features	Work in google drive document
23/abr./2019	11:30 am	12:30 pm	10	50	UML diagram	Discuss with team
23/abr./2019	12:30 pm	1:15 pm	15	30	UML diagram	Design in draw.io
26/abr./2019	7:30 am	8:25 am	15	40	Program	Logic part with original diagram
30/abr./2019	7:30 am	8:25 am	15	40	Design GUI	For the class
01/may./2019	4:50 pm	5:48 pm	22	36	Design GUI	And correct the variable's names
01/may./2019	5:48 pm	6:25 pm	15	18	Investigation	How to make the lines follow the mouse
01/may./2019	6:25 pm	7:10 pm	10	35	Program	The lines that follow the mouse
01/may./2019	7:10 pm	8:04 pm	20	34	Program	The straight line
01/may./2019	8:04 pm	9:05pm	15	46	Program	Start making logic classes
01/may./2019	9:05pm	9:30 pm	10	15	Design GUI	Include the pretty designs for buttons
03/may./2019	11:30 am	1:00 pm	25	65	Program	Include square and circle classes in logic and implement them in main
03/may./2019	1:00 pm	2:20 pm	15	65	Fix	Colors issue
03/may./2019	7:00 pm	7:37 pm	10	27	Test	Find bugs
03/may./2019	7:37 pm	9:00 pm	25	58	Fix	Found bugs
07/may./2019	5:03 pm	7:53 pm	10	40	Fix methods	So they only work with variables
07/may./2019	7:53 pm	8:14 pm	7	14	Code	Fix eraser
07/may./2019	8:14 pm	8:25 pm	7	15	Code	Reset
07/may./2019	8:25 pm	8:54 pm	10	21	Code	Make the last change be above all previous ones
07/may./2019	8:54 pm	9:45 pm	5	46	Code	Include opening images
07/may./2019	9:45 pm	10:00 pm		15	Code	How to save the document
07/may./2019	10:00 pm	10:35 pm	5	30	Code	How to open the document
08/may./2019	7:30 pm	8:13 pm	15	28	Fix	Minor issues
08/may./2019	8:13 pm	10:10 pm	40	77	Commment	All classes in logic package
09/may./2019	12:00:00 pm	1:20 pm	15	65	Documentation	
				Total			1025

Vivi

Student		Viviana Dueñas Chávez			Date		22/02/2019
Project		PAINT			Language		Java

Date	Start	Stop	Break time	Actual time	Phase	Comment
12/mar./2019	4:00 pm	5:00 pm	0.25	0,75	Initial features	Discuss with team
13/mar./2019	8:00 pm	9:30 pm		1,5	Initial features	Work in google drive document
22/abr./2019	5:30 pm	7:00 pm		1,5	Initial	UNML diagram desgin
23/abr./2019	11:30 am	12:30 pm	0.3	0,7	Productive	Discuss with team: UML diagram
23/abr./2019	12:30 pm	1:15 pm	0.25	0,5	Productive	Design UML diagram in draw.io
26/abr./2019	7:30 am	8:25 am	0.25	0,67	Program	Designing specific details on logic
30/abr./2019	7:30 am	8:25 am	0.25	0,67	Productive	Desgin GUI
01/may./2019	4:54 pm	5:48 pm		0,9	Productive	Corrections on attributes (GUI)
01/may./2019	5:52 pm	6:20 pm		0,47	Investigation	Research: Class color
01/may./2019	6:20:00 pm	6:33:00 pm		0,2	Investigation	Research: Use of color chooser/emerge panel
01/may./2019	6:35 pm	7:31 pm		0,96	Investigation	Research: Use of file chooser/joptionpane
01/may./2019	7:37 pm	8:10 pm		0,55	Investigation	Research: determine file's format
03/may./2019	7:30am	8:48am		1,3	Productive	Working on readFile class//reducing images p1
07/may./2019	6:05 pm	8:00 pm	0.2	0,7	Fix methods	drawing image on canvas method//GUI
07/may./2019	8:00 pm	9:14 pm		1,23	Code	Reducing image's size p2
07/may./2019	9:14 pm	9:22 pm		0,13	Code	Research: ImageIcon//Open image on jlabel
07/may./2019	9:22 pm	10:00:00 pm		0,63	Code	Include opening images
07/may./2019	10:15 pm	10:35 pm		0,33	Code	Research: Jfieldtext and JoptionPanel
08/may./2019	9:23 pm	10:52 pm		1,2	Documentation	Commenting all GUI
09/may./2019	12:00:00 pm	3:20 pm	1.5	1,98	Documentation	Finishing timelog/checking UMLdiagram
				Total			16,87

Total time spent in the project: 3042.2