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OculoChroma

TAJ Studios

Description

This program provides a fun alternative to the typical color vision test. Users are given a grid of squares and challenged to find the square with a different hue than the others. As users correctly complete grids, the test grows increasingly difficult, with closer hues and larger grids.

Instructions

Click on the square in each grid with a different hue than the others to continue onto the next grid. If in timed mode, there is a time penalty for incorrect answers. If time runs out before the correct square is clicked, the test is over and a guide given to interpret results.

Class name	Description	Fields	Methods
OculoChroma()	HAS Screens. Defines window and screen changes. Client class.	Color red, orange, yellow, green, blue, purple, gray int timedHighScore, untimedHighScore int currentLevel int colorDifference SquareGrid squareGrid Timer timer int secondsLeft boolean isTimed Container c Screen startScreen, howToScreen, choiceScreen, gridScreen, pauseScreen, resultsScreen Screen currentScreen	void main(String[] args) void changeScreen (Screen screen) void subtractSeconds (int seconds) void incrementLevel() void getResults() void resetTest() void updateScreen()s Screen getGridScreen() boolean isTimed()
Screen (JFrame JFrame, String name, String text, Color backgroundColor, JButton[][] buttons, int time)	IS-A JPanel. Stores name, text, color, and buttons for a screen. Defines layout shared by all screens.	String name String text Button[][] buttons JLabel timerLabel JLabel titleLabel JTextArea textBox JPanel buttonPanel	void setTime(int seconds) void addButton(Button button, int x, int y) void paint(Graphics g)

Button(String name, int width, int height, Screen screen)	IS-A JButton. Leads to screen on click.	Screen screen int width int height	int getWidth() int getHeight() void actionPerformed (ActionEvent e)
Square(int x, int y, int width, int height, Color color)	IS-A Button. Has color. Leads to next gridScreen or resultsScreen on click.	boolean isOddSquare OculoChroma game	void actionPerformed (ActionEvent e)
SquareGrid (int rows, int colorDifference)	HAS-A (2D array of colored) Square.	Square[][] squares int oddColumn int oddRow	Square[][] getSquares() int getOddColumn() int getOddRow()

Responsibilities

Tamra - OculoChroma, Timer, Debugging

Amanda - Square, Button, Debugging, UML

Julia - SquareGrid, Screen, ReadMe

Credit

Amanda's family for helping with some minor bugs with pauseButton

Julia's family for testing

Bugs

- on the macOS, after around level 20, the squares lose their border and there is no space between them.
- buttons respond to clicks slightly right of and below them