

Assignment 4 (A4)

Problem definition : Write a C++ program to draw Polygon using a Mouse choose colours using a colour pane. Use DDA to draw lines.

Objectives : To understand mouse events
To understand colour dialog box in Qt.

Outcomes - Be able to draw Polygon of any colour using Mouse clicks.

H/w & s/w requirements:

- core i3 intel
- Mouse
- 64 bit Os
- Qt creator.

Theory :-

Mouse clicks in Qt can be achieved by using "QtMouseEvent.h" header file.

4 Main functions associated with the following header files are used:

- 1) MousePressEvent()
- 2) MouseMoveEvent()
- 3) MouseReleaseEvent()
- 4) MouseDoubleClickEvent()

1) MousePressEvent()

It is called whenever the mouse button is clicked.

2) MouseMoveEvent()

This function is called as long as mouse button is pressed. Once the button is released, the function is not called. Useful for dragging classes.

3) MouseReleaseEvent()

This function is called whenever the mouse button is released.

4) MouseDoubleClickEvent()

This function is called whenever the mouse button is clicked twice.

All 4 functions take in a `QMouseEvent` object pointer as an argument which specifies the details about mouse event.

Color Palette can be achieved using 'QColorDialog' class static method `getColor()`;

- To draw a polygon, we use left clicks to detect new vertices
- Whenever a new vertex is added, a new line is drawn from previous

