

C++ project 2D Creation

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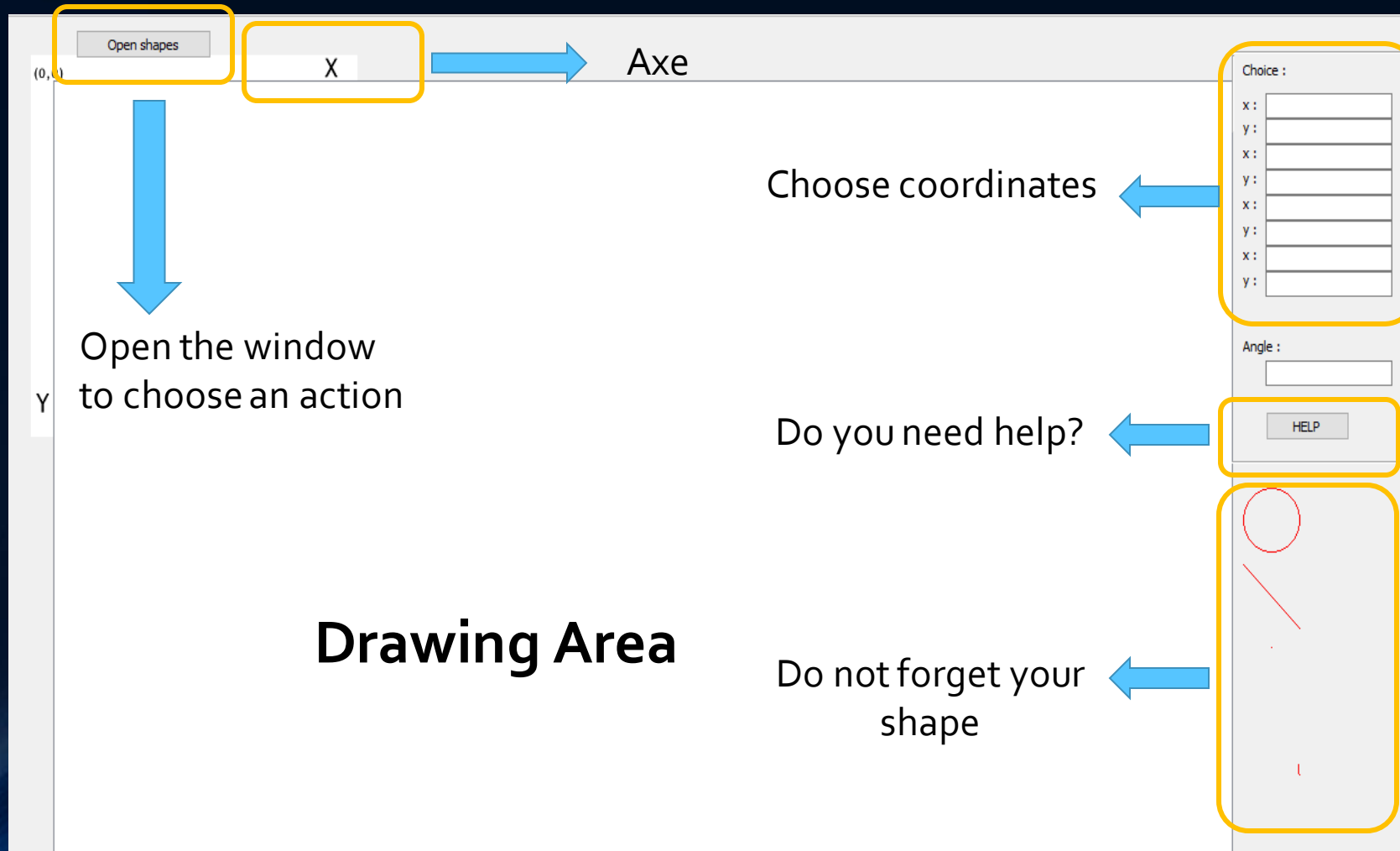
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Goal of the project

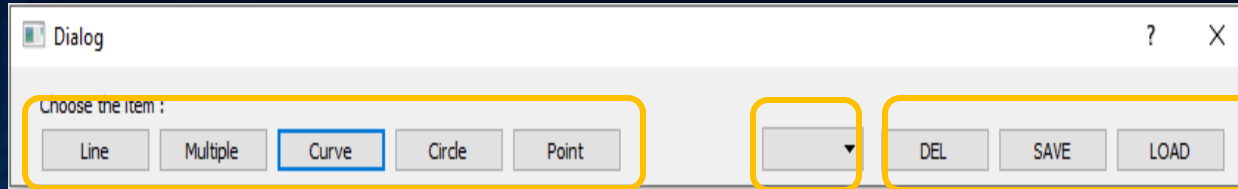
- 2D graphical interface
- Easy to use
- Instinctive
- Basic functions
- Project from A to Z



Interface



Interface



↓

Different shapes

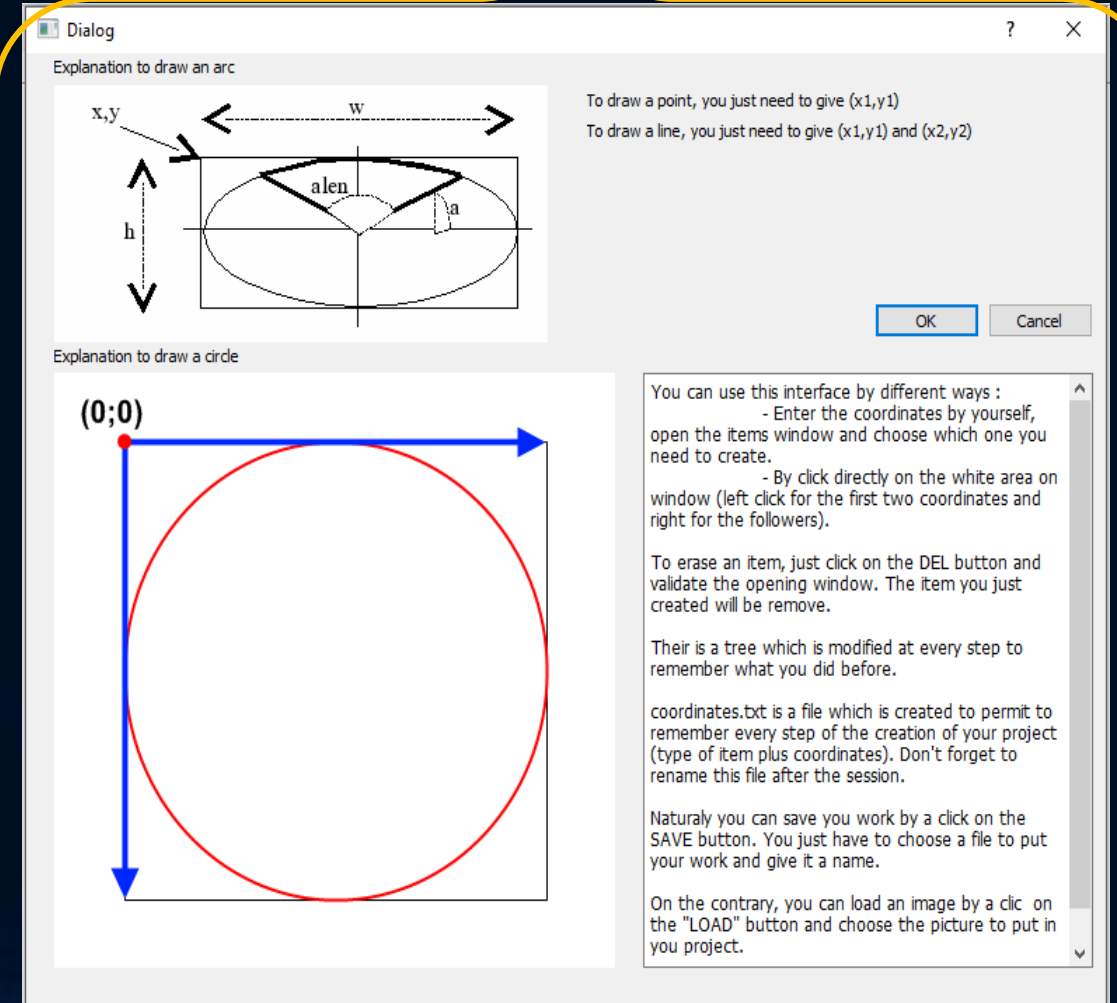
↓

Tree

↓

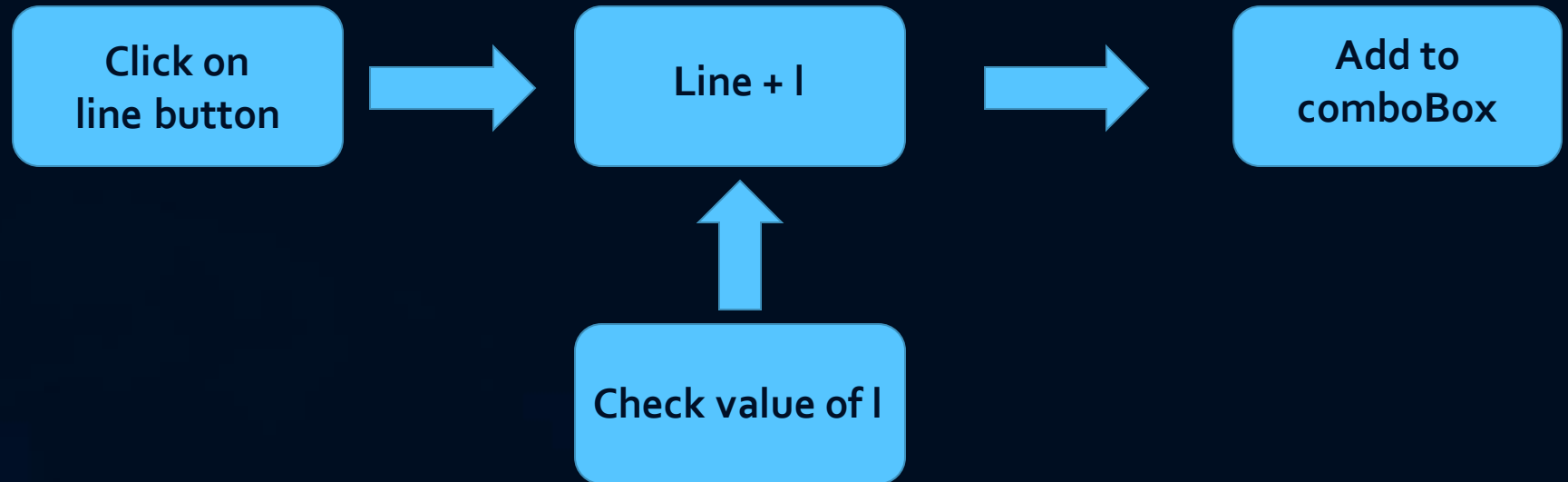
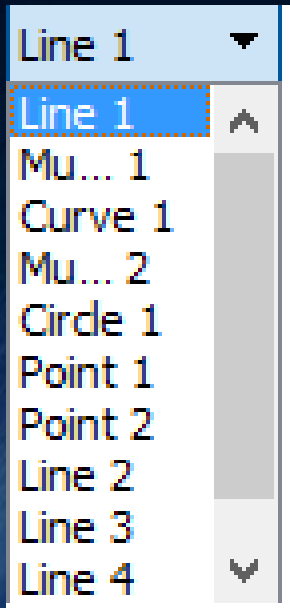
DEL SAVE
& LOAD

HELP Window



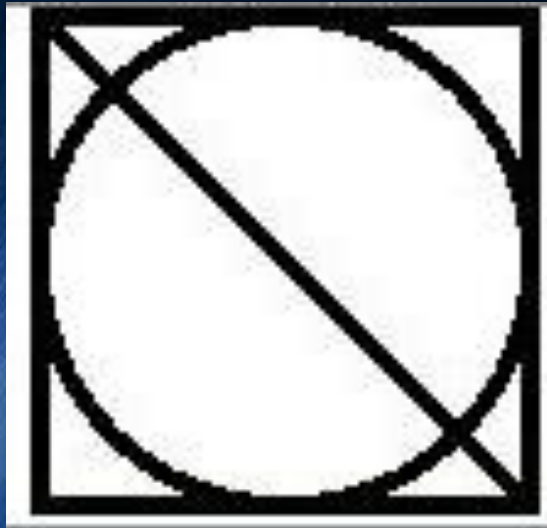
Tree and .txt file

```
ui->comboBox->addItem("Line " + QString::number(l));  
l++;
```



Tree and .txt file

```
File file("name_of_the_file.txt");  
if (!file.open(QIODevice::WriteOnly | QIODevice::Append))  
    return;  
QTextStream out(&file);  
out << "Here what you need to write" ;
```



Coordinates.txt

line =>

xValue1 = 0

yValue1 = 0

xValue2 = 100

yValue2 = 100

Circle =>

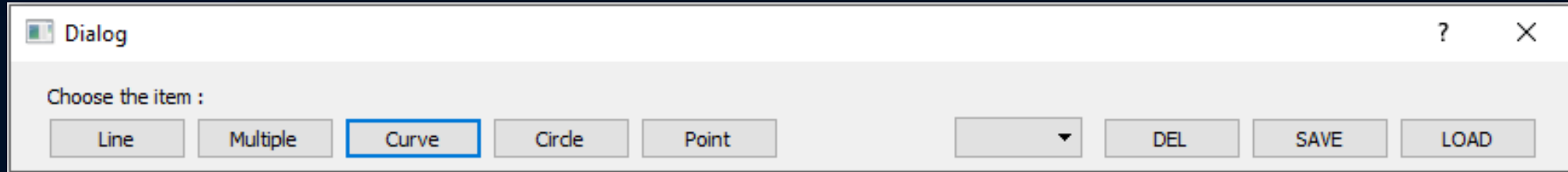
xValue1 = 0

yValue1 = 0

xValue2 = 100

yValue2 = 100

DialogBox



```
//Opening of the window shapes
Void MainWindow::on_pushButton_released()
{
    shapess->show();
}
```


Signal and slot

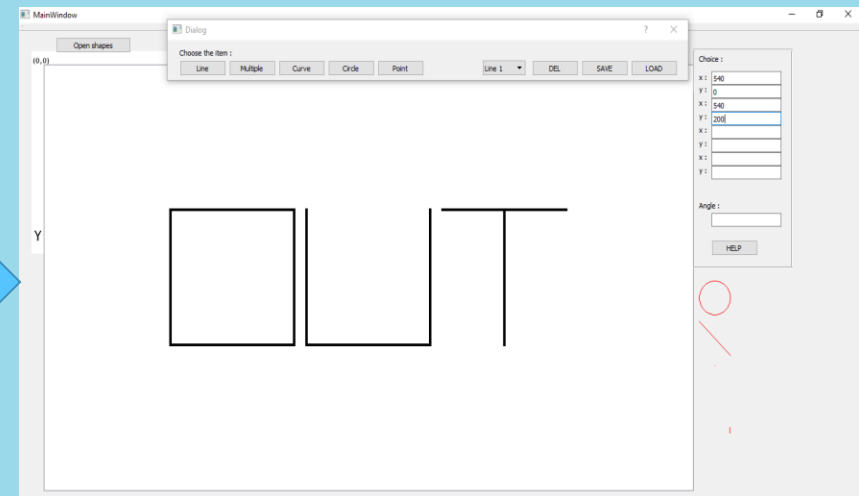
```
void shapes::on_buttonLine_clicked()
{
    //emition of a signal
    emit choice(1);
}
```

Signal = Message sent by a widget when an event occurs

```
//connection by signal and slot
connect(shapess, &shapes::choice,
        this, &MainWindow::changeDecision);
```

Slot = Function that is called when an event occurred

```
void MainWindow::changeDecision(int decision)
{
    if (decision == 1)
    {
        //Action to performe
    }
}
```



Issues

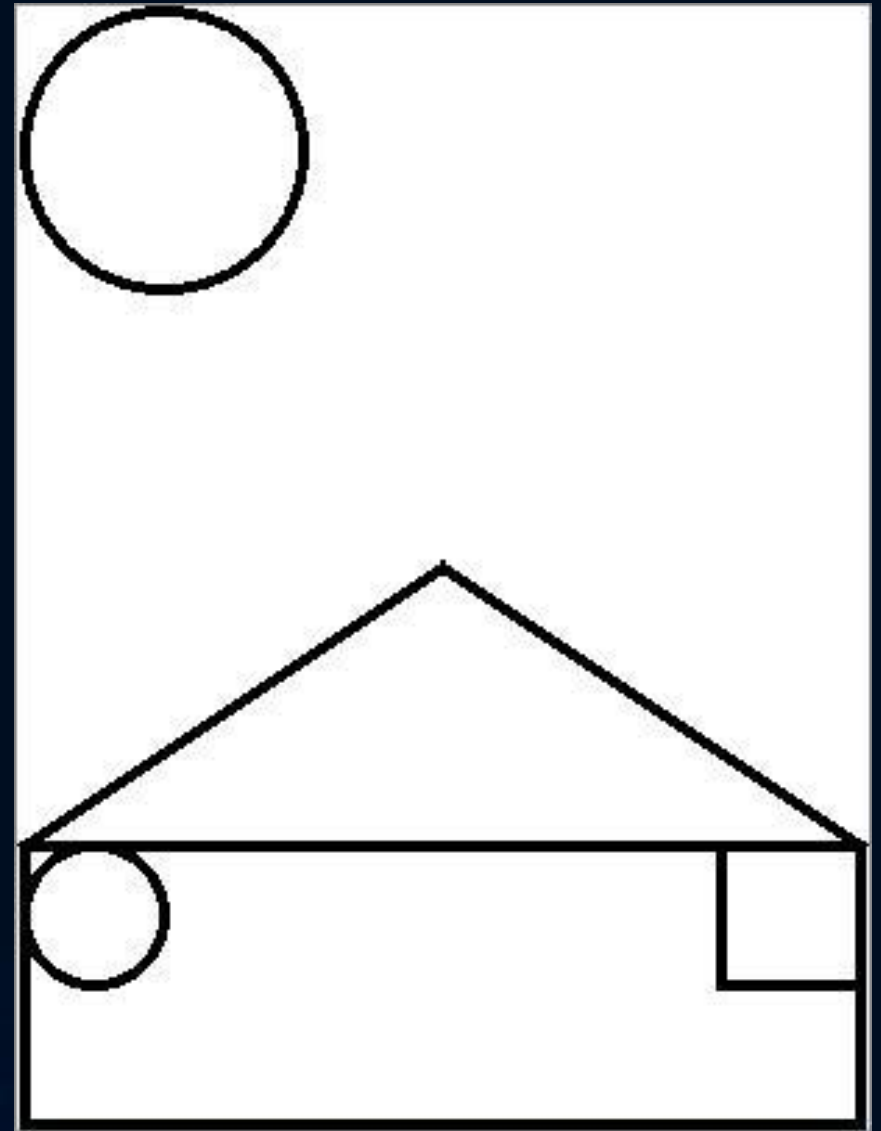
- Coordinates by Mouse Click
 - Shift between real coordinates and click coordinates
 - Try to solve the problem by erase the shift
 - Never the same shift
- Widget to show the user choice
 - Widget is working
 - Problem from signal emission

To go further

- Creation of the same application in 3D
- Add some skins
- Try to modify the size with the mouse
- Add some keyboard short cuts

Demonstration?

How to create the following image in less than 5 moves?



Conclusion

- Feel free to ask questions



Links for the project

- <http://stackoverflow.com/questions/7451183/how-to-create-image-file-from-qgraphicsscene-qgraphicsview>
- <http://www.qtcentre.org/threads/22149-How-to-draw-a-semi-circle-or-arc-of-ellipse>
- <http://doc.qt.io/>
- <https://professor.yohan.fougerolle.com>