

Lab(Qt templated class)

ESE 3005: EMBEDDED SYSTEMS ARCHITECTURE II

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INTRODUCTION:

Qt is a full cross-platform development framework that is written in C/C++. It is used in the preceding section for UI programming, but it also provides support for databases, threads, timers, networking, multimedia, XMLprocessing, andmore.Qt has built in modules, each of which can be added to your project by including the requisite header files in your C++ program and by identifying that the module is used in the project .pro file.

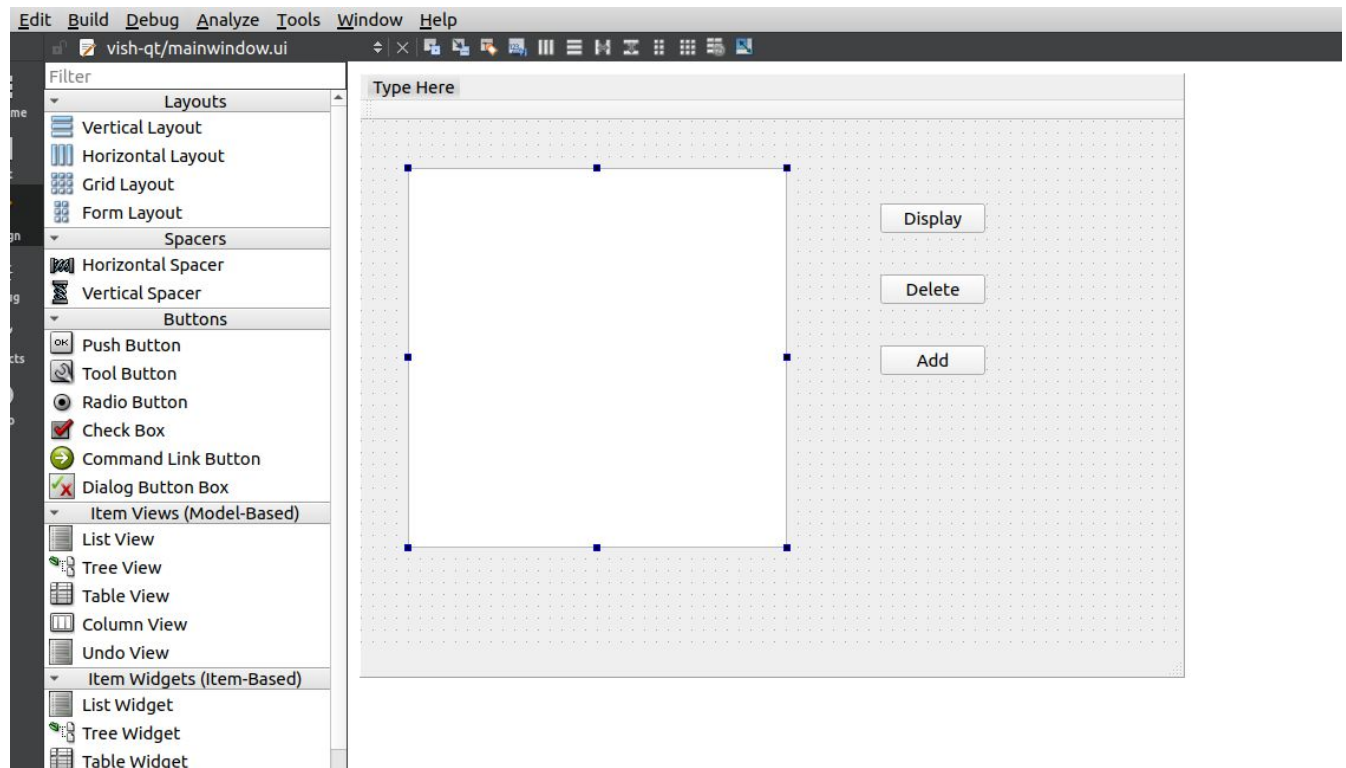
In this lab we will try to implement the simple Qt project to display the content and we add the buttons like Display,Add and Delete.

DESCRIPTION :

At first we will try to implement the basic QT application and then we will explain a little bit about the templated classes.

Here we created a form using different widgets as shown below:

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when any button is clicked(i.e Add,Delete or Display), it generates a signal, which has been connected to a slot.The slot, which is somewhat like a callback function, performs a user-defined function when it receives a signal

Then we added methods in the defined slots like :

For Display :

```
void MainWindow::on_pushButton_clicked()
{
    ui->output->setText("Hellooo.....!!! I will display Your Database records");
}
```

This will show us the message in the text box as given above .

For Delete:

```
void MainWindow::on_pushButton_2_clicked()
{
    ui->output->setText("Record deleted...again press Display to see ur records");
}
```

Will display the text as given .

For Add:

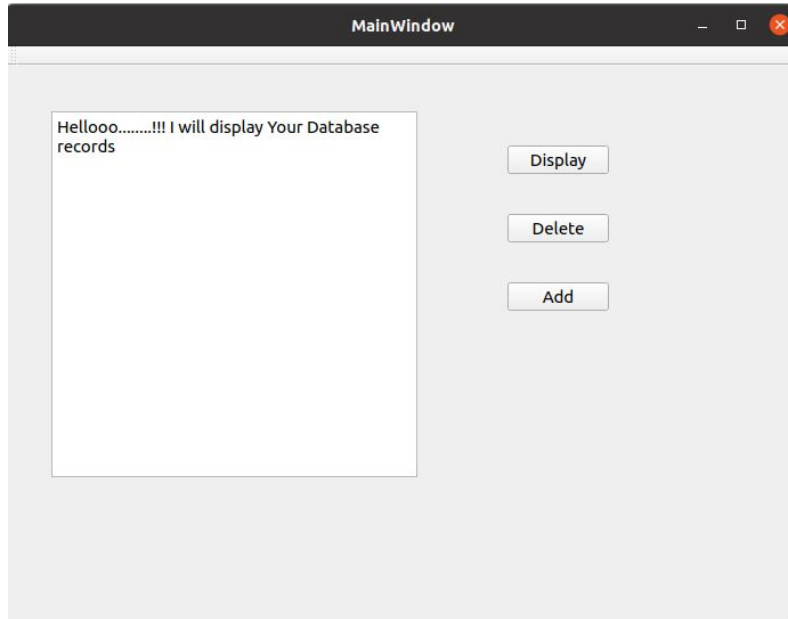
```
void MainWindow::on_pushButton_3_clicked()
{
    ui->output->setText("Added a record into database..Click Display to see all the records..!!");
}
```

In the main function as given, we have created an object w for Main Window and then we are displaying it using show() method.

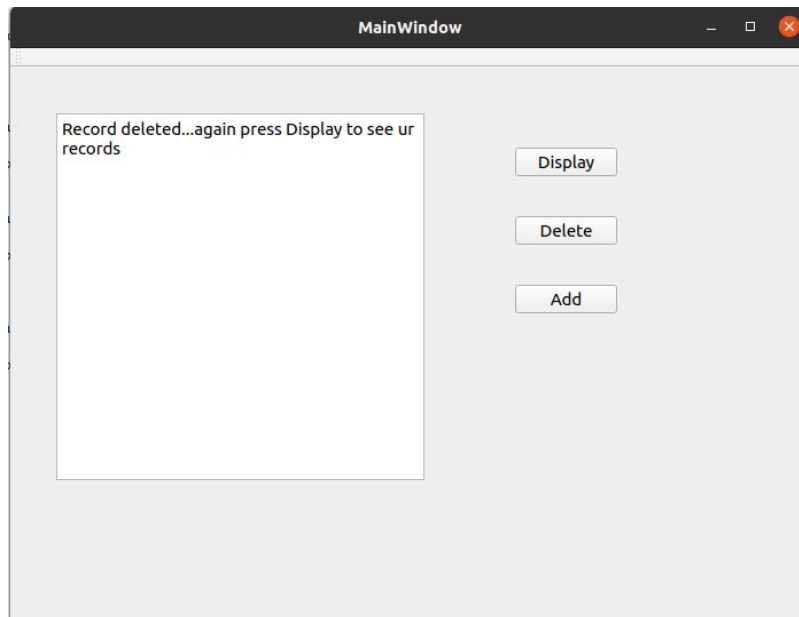
```
int main(int argc, char *argv[])
{
    QApplication a(argc, argv);
    MainWindow w;
    w.show();
    return a.exec();
}
```

Output :

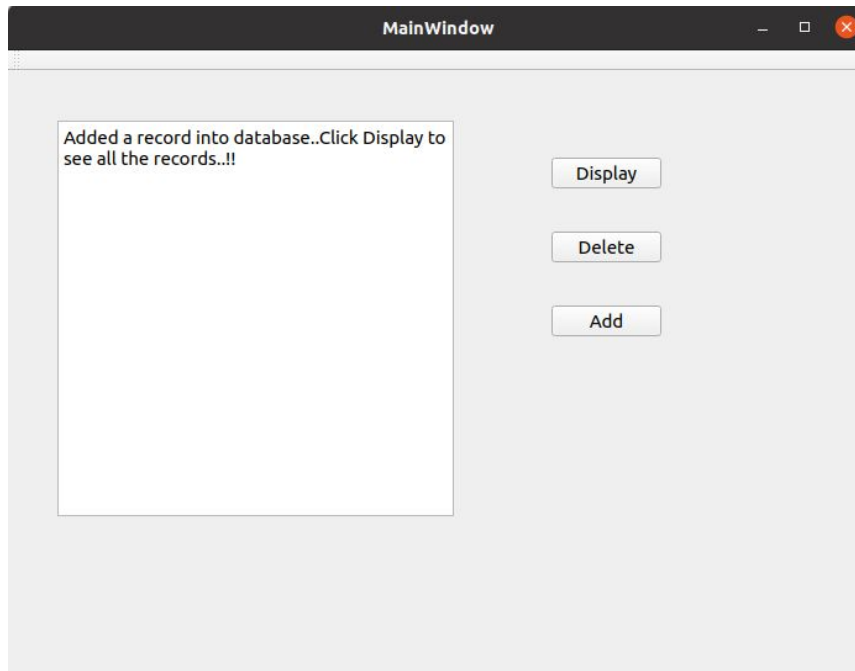
After pressing Display :



After pressing Delete:



After pressing Add:



Now coming to the **templated class** .We were not able to implement it but we can provide you some idea about how to do it .

In **mainwindow.cpp** , we can do the following changes :

```
void MainWindow::on_addButton_clicked()
{
    myStudentDB.add(); //For adding the record to the
    database
}

void MainWindow::on_delButton_clicked()
{
    myStudentDB.del(); // for Deleting the record using key
```

```
provided
}

void MainWindow::on_displayButton_clicked()
{
    ui->textBrowser->clear(); //clearing the text box
    myStudentDB.display(); //displaying all the records of
the database.

}
```

CONCLUSION:

Overall, we learned about the Qt widgets and how to use it and finally we tried to implement a simple Qt application which used buttons and text area in our form.