# Dynamic Widget Reflection

## Description

This article has many functionality. Dynamic Widget, Widget Reflection, Video Playback are the main attraction. Along with that I have used OpenGL in this application. Below are some code sample and the complete project is wrap up into the zip file. In the GUI there is a **QGraphicsView** widget. I promoted it to **imageViewer2d**. In **mainWindow.cpp** you can see how it works for images and background. You can also give a try to do something when scroll right limit it reached.

## Prerequisite

Take a video and image file and copy to the project folder. Set the video and image file path in the **mainWindow.cpp**.

## shawn.pro

```
QT       += core gui opengl phonon
DEFINES += QT_OPENGL_SUPPORT

TARGET = shawn
TEMPLATE = app


SOURCES += src/main.cpp\
        src/mainwindow.cpp \
    src/imageviewer2d.cpp \
    src/imagecontainer.cpp

HEADERS  += src/mainwindow.h \
    src/imageviewer2d.h \
    src/imagecontainer.h \
    src/defines.h

FORMS    += src/mainwindow.ui \
    src/video.ui
```

## mainwindow.h

```
#ifndef MAINWINDOW_H
#define MAINWINDOW_H

#include <QMainWindow>

namespace Ui {
    class MainWindow;
}

class MainWindow : public QMainWindow
{
    Q_OBJECT

public:
    explicit MainWindow(QWidget *parent = 0);
    ~MainWindow();

private slots:
    void on_pushButton_clicked();
    void onScrollRightLimitReached();

    void on_pushButton_2_clicked();

private:
    Ui::MainWindow *ui;
};

#endif // MAINWINDOW_H
```

## mainwindow.cpp

```
#include <phonon/mediaobject.h>
#include <phonon/videowidget.h>
#include <phonon/audiooutput.h>
#include <phonon/seekslider.h>
#include <phonon/volumeslider.h>
#include <phonon/videoplayer.h>

#include <QImage>
#include <QDebug>
#include "mainwindow.h"
#include "ui_mainwindow.h"
```


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```
#include "imageviewer2d.h"
#include "imagecontainer.h"

MainWindow::MainWindow(QWidget *parent) :
    QMainWindow(parent),
    ui(new Ui::MainWindow)
{
    ui->setupUi(this);

    ui->viewer->setImageContainerSize(QSize(150,200),
                                      QSize(15,15));
    ui->viewer->setBackgroundGradient(QColor(0,0,200),
                                      QColor(0,0,0),
                                      QColor(50,0,0));
    ui->viewer->set_rows(2);
    imageContainer::images_color = QColor(35,70,190);
    imageContainer::videos_color = QColor(127,4,6);
    imageContainer::images_text_color  = QColor(255,255,0);
    imageContainer::videos_text_color  = QColor(255,255,0);

    connect(ui->viewer, SIGNAL(onScrollRightLimitReached()),
            this, SLOT(onScrollRightLimitReached()) );
}

MainWindow::~MainWindow()
{
    delete ui;
}

void MainWindow::on_pushButton_clicked()
{
    QPixmap img("C:/Qt/workspace/Example/shawn/0001.jpg");
    imageStruct is;
    is.description_row1 = "description row 1";
    is.description_row2 = "description row 2";
    is.description_row3 = "description row 3";
    is.ID=0;
    is.image_source = "C:/Qt/workspace/Example/shawn/0001.jpg";
    is.kind = CONTAINER_KIND_IMAGE;
    ui->viewer->add_imageContainer(img, is);
    ui->viewer->addItemList_to_scene();
}

void MainWindow::onScrollRightLimitReached()
{
    qDebug() << "Scroll right limit reached";
    ui->viewer->stopInertia();
}


#include <QFrame>
#include "ui_video.h"
void MainWindow::on_pushButton_2_clicked()
{
    Ui_Form *videoForm = new Ui::Form;
    videoForm->setupUi(this);
    videoForm->widget->setGeometry(0,0,300,150);

    ui->viewer->setImageContainerSize(QSize(300,150), QSize(10,10));

    imageContainer *ic = new imageContainer(videoForm->widget);
    ui->viewer->add_widget(ic);
    videoForm->videoPlayer->load(QString("C:/Qt/workspace/Example/shawn/Aaj.mp4"));
    videoForm->videoPlayer->play();
}
```

## Source Code

The full source code presented in this article is available here File:DynamicWidget.zip

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