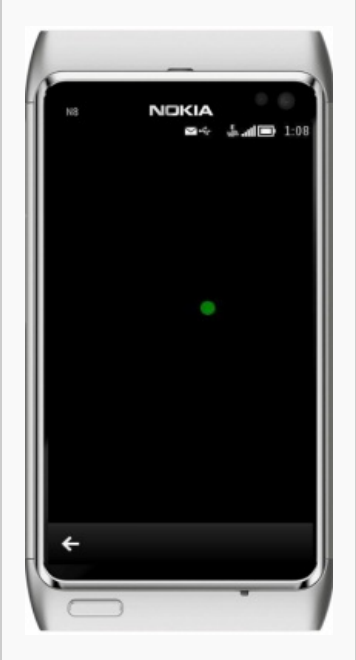
Animated Moving Ball in Qt and Windows Phone

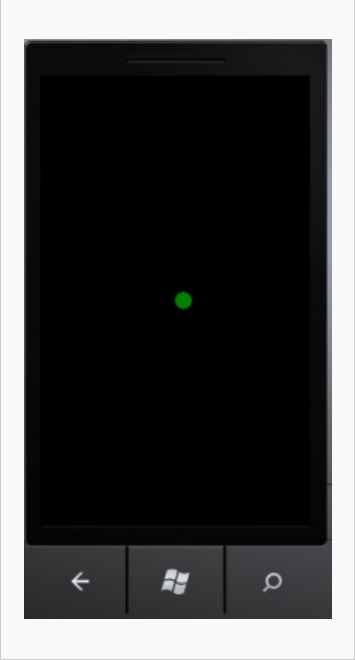
This article demonstrates how to create an animated moving ball using Qt Quick and Windows Phone.

Introduction

This is a very basic article for beginners to show how to create an animated moving ball in both Qt and Windows Phone. When user clicks on the device screen the ball moves to the clicked area.



Animated moving ball in Qt



Animated moving ball in WP7

Note: The screenshots above are static. The best way to view the animation is to run the code on a device or simulator.

Implementation

Both Qt and Windows Phone apps draw a circle. When a user clicks on the device screen we take the *x* and *y* coordinates of that point and change the ball position to that point with an animated behavior.

Qt Project (MainPage.qml)

We create a Rectangle element with a certain `radius` to make it a circle.

```
Rectangle {
            id: rectRed
            width: 20; height: 20
            radius: 10
            color: "green"
}
```

To change the *x* and *y* coordinates of the circle in an animated manner we use SmoothedAnimation Element.

```
Behavior on x { SmoothedAnimation { velocity: 200 } }
Behavior on y { SmoothedAnimation { velocity: 200 } }
```

When user clicks on any place of the device screen we catch the *x* and *y* coordinates and update the position of the circle.

```
MouseArea{
```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```
            anchors.fill:parent
            onClicked:
            {
                rectRed.x = mouseX
                rectRed.y = mouseY
            }
        }
```

This will give a feeling of linear animated behavior of the motion of the circle.

WP7 Project (MainPage.xaml)

In WP7 we draw a Canvas and add a circle inside it using EllipseGeometry.

```
<EllipseGeometry x:Name="myCircle"    Center="200,100" RadiusX="15" RadiusY="15" />
```

We then define a Storyboard to animate the ball.

```
<Storyboard x:Name="myStoryboard">
<PointAnimation
x:Name="myAnimation"
Storyboard.TargetProperty="Center"
Storyboard.TargetName="myCircle"
Duration="0:0:0.5"/>
</Storyboard>
```

When user clicks on any place of the device screen it catches the *x* and *y* coordinates of the point and updates the position of the circle.

```
double pointX = e.GetPosition(null).X;
double pointY = e.GetPosition(null).Y;
Point myPoint = new Point();
myPoint.X = pointX;
myPoint.Y = pointY;
myAnimation.To = myPoint;
myStoryboard.Begin();
```

This will give a similar animated behavior like Qt.

Summary

This article is mainly for beginners who want to have an idea about basic animation in both Qt and Windows Phone.

Source Code

- The full source code of Qt example is available here: File:MovingBallQML.zip
- The full source code of Windows Phone example is available here: File:MovingBallWp7.zip

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