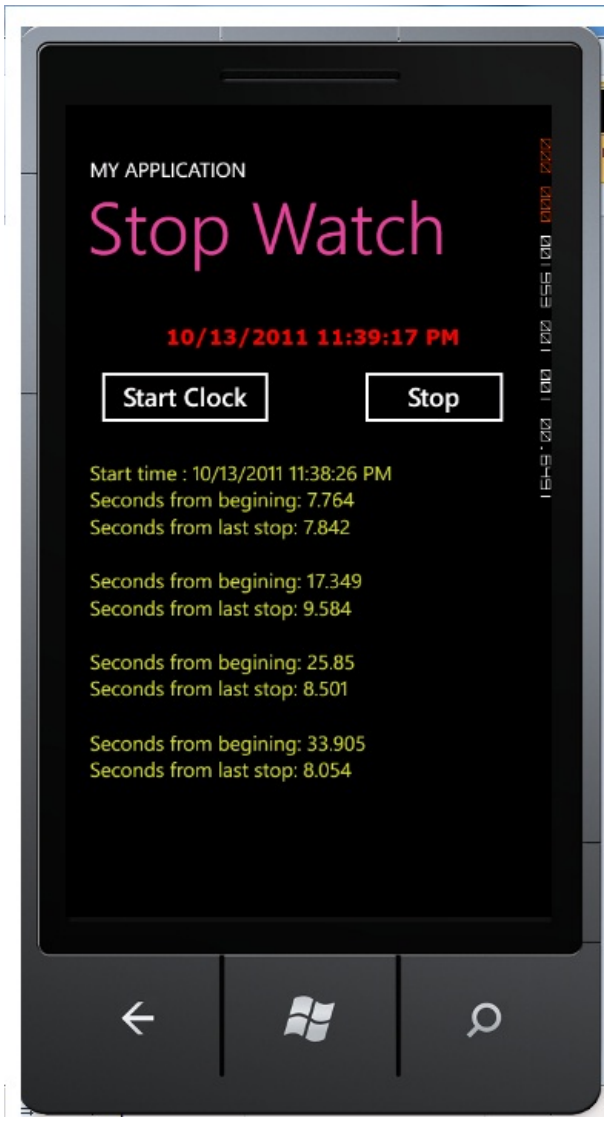
Stop Watch using Windows Phone

This article explains how to create stop watch in Windows Phone. It extends the article: Implement Timer control in Windows Phone.

Introduction

This code example creates a simple stop watch which you can start and stop using the buttons **Start Clock** and **Stop** respectively. The example uses DispatcherTimer to update the stopwatch every second and lists how long the timer ran (calculated from current `DateTime` when the buttons are pressed).



Implementation

1. Create a new "Silverlight" project using C# and name the project as "StopWatch".
2. Drag one textblock from the toolbox and name it `txtClock`
3. Drag two buttons and place them just below the `txtClock` as shown in the application image below. Name the buttons `btnStart` and `btnStop` respectively.
4. In the XAML file, add the event handlers for the newly created buttons by adding the attribute

```
Click="btnStart_Click"
```

in the `btnStart` tag and

```
Click="btnStop_Click"
```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in the `btnStop` tag. Alternatively, just double click both buttons in the layout view.

5. Drag another textblock and name it `lblTimer` and place it below the buttons.
6. Copy and paste following code into your application.

```
using System;
using Microsoft.Phone.Controls;
using System.Windows.Threading;
namespace StopWatch
{
    public partial class MainPage : PhoneApplicationPage
    {
        // Constructor
        DateTime lastTime,startTime;
        public MainPage()
        {
            InitializeComponent();
        }
        void OnTimerTick(Object sender, EventArgs args)
        {
            txtClock.Text = DateTime.Now.ToString();
        }
        private void btnStart_Click(object sender, System.Windows.RoutedEventArgs e)
        {
            DispatcherTimer newTimer = new DispatcherTimer();
            newTimer.Interval = TimeSpan.FromSeconds(1);
            newTimer.Tick += OnTimerTick;
            newTimer.Start();
            lastTime = DateTime.Now;
            startTime = DateTime.Now;
            lblTimer.Text = "Start time : " + lastTime.ToString() + "\n";
        }
        private void btnStop_Click(object sender, System.Windows.RoutedEventArgs e)
        {
             DateTime endTime = DateTime.Now;
             TimeSpan span = endTime.Subtract(startTime);
             lblTimer.Text += "Seconds from begining:
"+span.TotalSeconds.ToString()+"\n";
               span = endTime.Subtract(lastTime);
             lblTimer.Text += "Seconds from last stop: " + span.TotalSeconds.ToString()
+ "\n\n";
             lastTime = DateTime.Now;

        }
    }
}
```

Tested On

The application is tested on Windows Phone Emulator.

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