

# Rob Miles Red Nose Day Lecture in Rhyme

## Getting Going with Windows Phone

Multi-Purpose Official Script  
Can also be used for wrapping fish and chips

Friday 18<sup>th</sup> March ~~1988~~ 2011

### Welcome

Welcome to my talk in rhyme,  
Poetry for the umpteenth time,  
By now you'd think I'd know the score  
I've done this many times before

In '87 I did my first  
At the time I thought that the worst  
As time went by there was much fear  
I'd do the same one every year

But this year it's new and exciting  
'bout Windows Phone I'll be enlightening,  
I'm back here in the land of Blighty,  
Telling things all Silverlight'y

### Phones and People

(Why are we all here?)

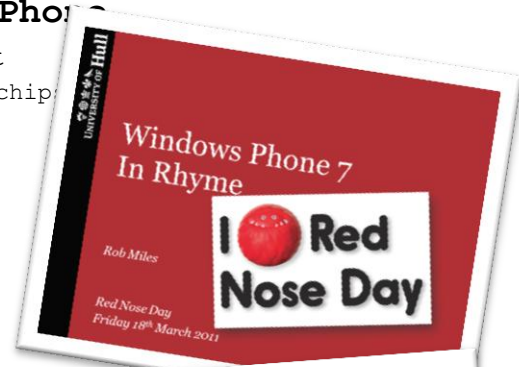
The first mobile phones did not do much  
Just used by folks to keep in touch  
In the past it didn't matter  
It was just used for calls and chatter

Things changed a little, by and by,  
Phones got smarter, on the sly  
The public, they weren't that impressed  
But they had discovered SMS

Computers in phones, now there's a thought  
Colour screens of touchy sort  
A beefy chip for thinking power  
Batteries good for more than an hour

The first with this to make a win  
Were the folks at Cupertino  
A kind of fruit, named as in pie,  
And product names that start with i

But now we have a Windows Phone  
Can program with a C# tone,  
On I this I have one thing to say,  
I've put my iphone on eBay.



### Red Nose Heritage

- Rob gave his first ever Red Nose Day lecture in 1987
- It was about computer networking, which was thought to be the next big thing
- The lecture was well received by both of the people there, and after they had paid their money they were let out of the building
- Rob looked exactly the same then as he does now
  - Although his eyes aren't as good as they used to be

Red Nose Day  
March 14<sup>th</sup> 1997

Join for Fun and Profit

### Slides in Rhyme?

- If you are wondering why the slides don't rhyme it is because I've just discovered a new kind of poetry
- It's called "Free Verse"
  - Except that it is not free in this case
- This might be regarded as a dodgy cop-out by a writer who is running out of time, ideas and rhymes
- In fact, since the slides normally just show what I'm saying, you can look on these words as "added value"

### Phones and People

- "Mobile phones to overtake desktops for web use by 2013"
- "US phone users send 4.1 Billion Text messages a day"
- "Mobile gaming spend to reach \$16.6 Billion this year"
- These look like quite serious statistics
  - Is Rob trying to teach us something?
- "Mozzarella is the most popular cheese in the US"
  - ...and we're back to normal..

### Better be quick...

## What's in a Windows Phone?

(Thinly disguised Windows Phone promotion)

If you take the back off a new Windows phone,  
The number of bits there's impressive,  
If you break them you're more than likely to groan,  
The repair cost will be most excessive  
There are sensors, and cameras and graphical bits  
A battery, four radios and GPS fits,  
In a box not much larger than wallets of old,  
Fantastic technology, if I may be so bold

And the crowning achievement, that makes them much cuter  
Is the way you can use them as your own computer  
The one always with you, connected as well,  
Giving access to all that the network can sell

The way things are going, you'll find that your phone  
Will be the best and most useful computer you own  
So it makes very good sense, if programs you do write  
To get your head down and learn some Silverlight

As you get better and better, more skills you'll be finding,  
You could round it all off with some nice data binding  
So let's all move on now, and look to the future  
And learn Windows Phone development, I think it will suit-yer.

## Windows Phone for Me

(Less thinly disguised Windows Phone promotion)

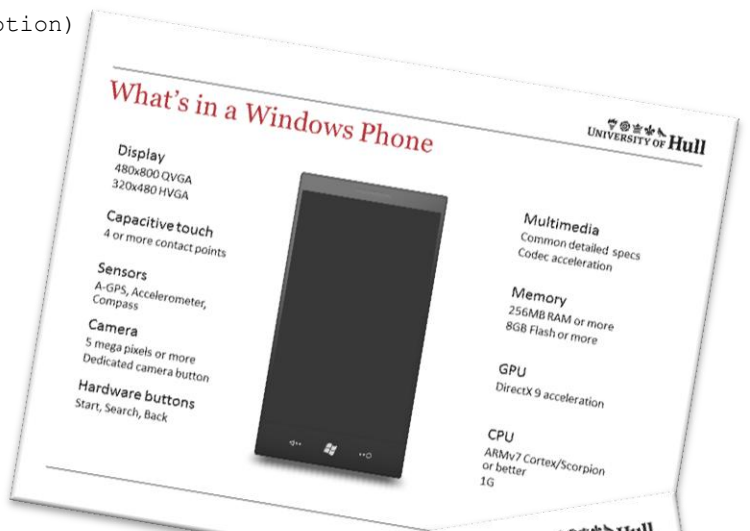
I've always loved C#  
Even on the piano  
My favourite way to talk  
To computers I program-o

I learnt it years ago,  
When .NET was a baby,  
In time I got to know  
How to write it ably

The thing I most desired,  
I kept asking, pretty please  
To writing games I did aspire  
Perhaps involving cheese

Last year my dreams came true,  
With the launch of Windows Phone,  
A platform that I well knew,  
I was going to have to own

I've had one for a while,  
And I really like it lots,  
With neat things like "Live Tile"-s  
And C# to call the shots



## Windows Phone and Silverlight

(It's silver and it doesn't weigh much, what is it?)

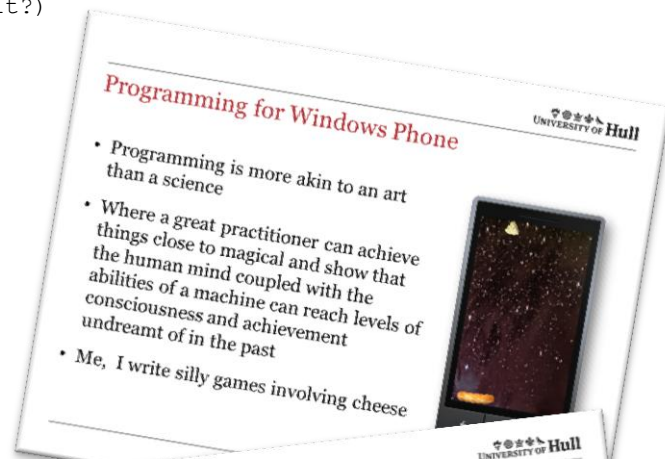
This is the one I must do right  
I need some rhymes for Silverlight  
'cos that is how you write the code  
That underpins my lecture-ode  
Visual Studio is where we start  
A program close to my own heart

We start it up and then we say  
Silverlight or XNA  
XNA's for gaming sorts  
A bunch of stuff and it purports  
To be the place for game creators  
With graphical accelerators

But just today it's not for us  
We're riding on the Silverlight bus  
Silverlight's a lovely place  
Will put a smile upon your face

If productivity apps are your volition  
Or simple games with small ambition  
That have front ends with great Expression,  
And do neat things with network sessions  
The kind of thing you'd like to use  
To Twitter or Facebook peruse  
Silverlight provides the way  
To give the user interface its say

And if dragging components seems to trammel  
You can do the layout all in XAML  
So I will now with no more ado  
Show some Silverlight to you



## Genuine Real Live Code Demo with Poetry

(or should that be an "Ode Demo"?)

And so we'll write some code for fun,  
A simple app that does some sums,  
First to the Start Menu we go  
And fire up Visual Studio  
A new project is our starting station  
To make a Windows Phone Application  
Give it the name of "AddingUp"  
And press OK, and wish me luck

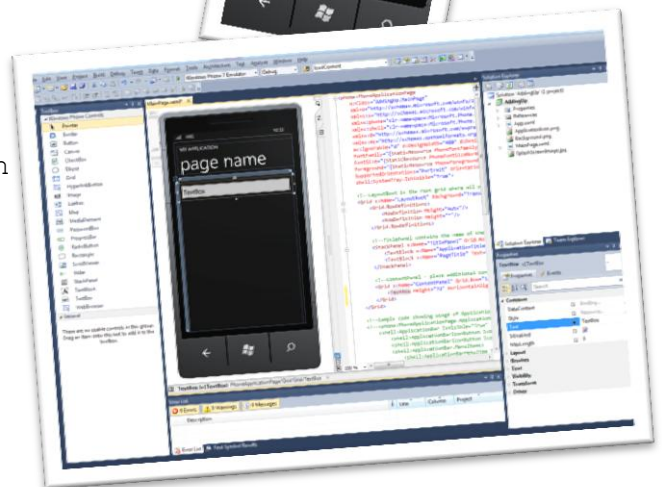
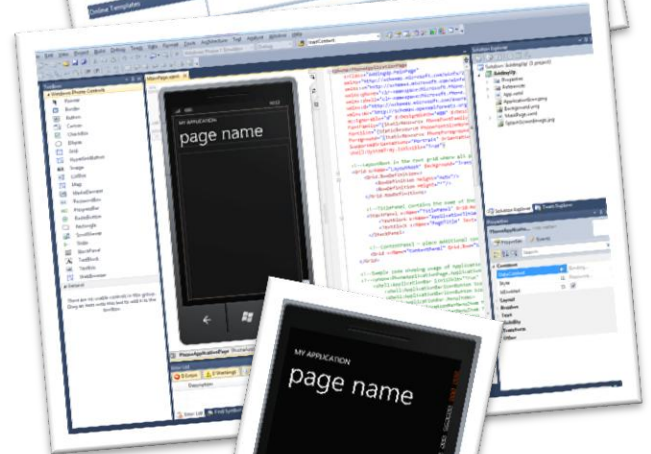
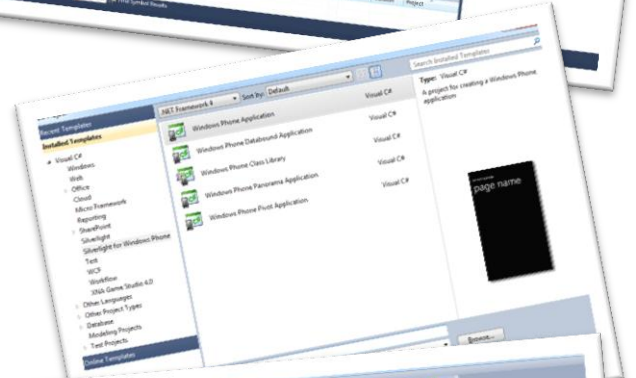
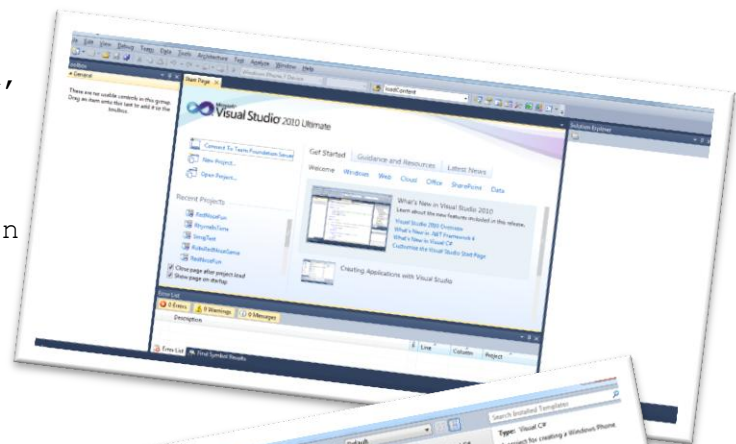
The project's there, and good to go  
We could press run to see the show  
But just before we turn spectator  
We had best select the emulator  
This lets us see on our PC  
The way the program seems to be  
The thing it does, it's really nice  
It saves us having a device  
Later when we get some kit  
We can run and debug inside it

When we press run things all get going  
With hopefully no exceptions throwing  
The program is built and packed up neat  
The platform is then in receipt  
Of software that it starts to run  
And give some "empty program" fun

The program works, there is no doubt  
But it doesn't seem to have much clout  
Some bits and bobs we'll have to add  
To make our user feel more glad  
So now the program we must stop  
If on the screen we want to drop  
Components that will show some data  
For a sums we work out later

Pressing stop ends execution  
Of our empty little solution  
Now to the editor we can rush  
Start drawing with Visual Studio's brush  
We need to get data at this moment  
So let's use a TextBox component

I'll drag it thus, see where it's gone  
And there we have it, TextBox1  
So not all programs look the same  
I'm going to give a different name  
v1TextBlock will hit the spot  
This tells us that a value it's got





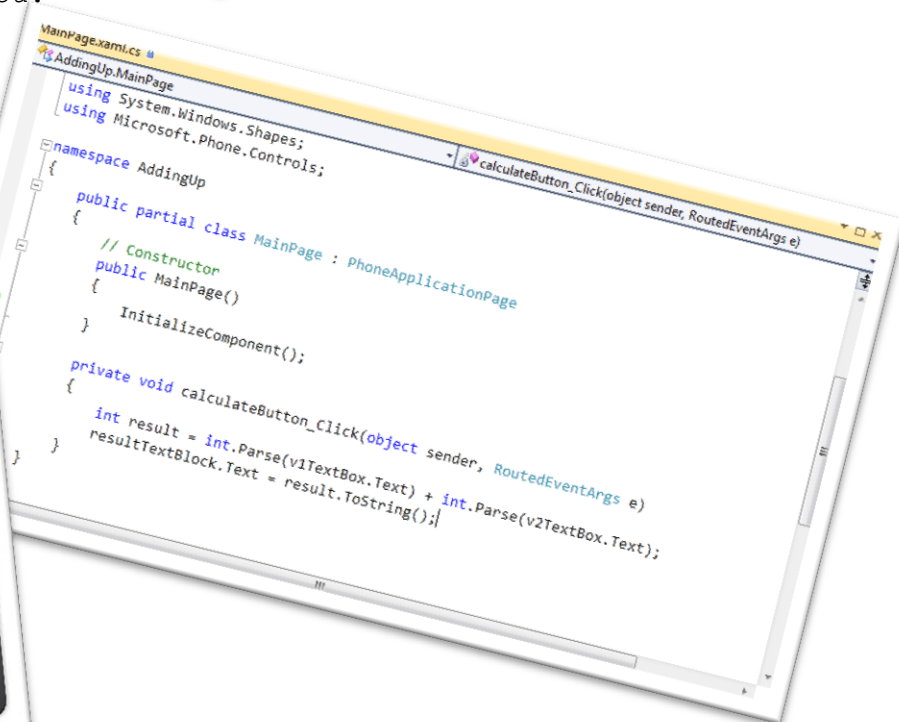
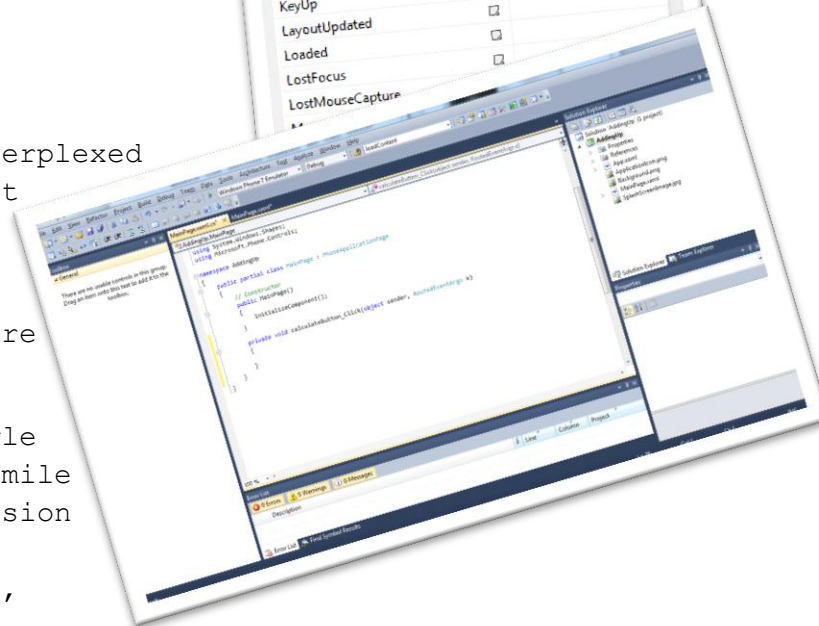
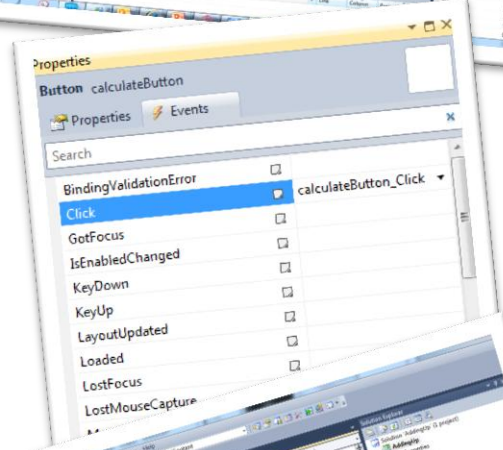
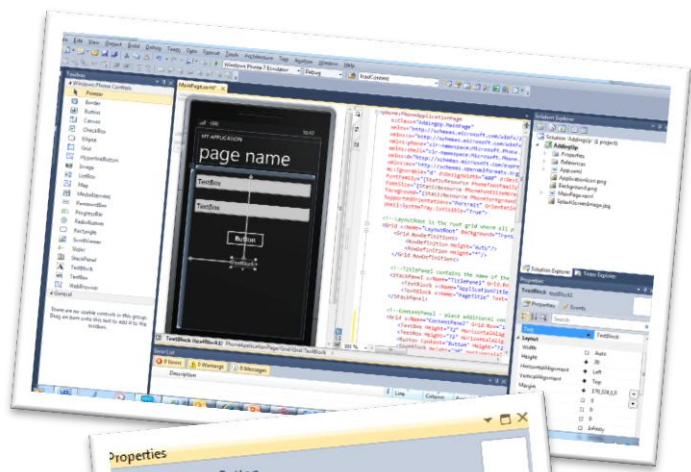
We could run our code once more  
But it doesn't yet do what it's for  
Our text box it will need a friend  
Where the second number we can send  
I think I will propose to you  
One more textbox for value two  
And a couple more things we need to fit  
To stop our program being not very good  
A Textblock to show the answer brought  
And a button if a result is sought

With our button we need to set  
An event from buttons we can messages get  
You can add an event with greatest ease  
Just double click will do the deed  
To the method source we then do go  
All fixed up by Visual Studio

Next we get the answer string  
Then we need to show the thing  
This ain't to hard, don't look perplexed  
We put it on ResultTextBlock Text

Then set the values, do the sums  
And Presto! out the answer comes  
More complex apps can do much more  
You can add pages by the score

And if you want to show some style  
And make your stuff stand out a mile  
Then you can give a great impression  
Designing pages with Expression  
Video, animations, timelines too,  
All this power brought to you.



## A quick word about XAML

(except that it isn't quick, and it isn't a word)

Whenever I get me a shiny new toy,  
(I've been doing this since I was a small boy)  
I'll pull of the cover to see how it works,  
And find out where inside the mechanical lurks

In Silverlight's world the truth if we tell,  
Is that pages all use a kind of XML  
Extensible Markup a language for you  
You can see it on the page in Visual Studi-oo

We could examine a TextBox, and find that the words,  
Give a good explanation of just what it does  
When you edit your layout and move things around,  
The XAML's updated by things underground (actually Visual Studio)  
If with graphical interfaces you become somewhat vexed  
You can design the front end by just using text

The XAML that we make is all that there is  
To make all visual components light up and whizz  
And the wonder of XAML I can now relate,  
Is that interface and logic it does separate  
The graphic designer who wears a beret  
Uses Expression Blend to design the display  
The programmers, not known their graphical flair  
Can make all the code work without going there  
No need to with the graphics fight,  
They can get it done and looking right

### A Quick Word about XAML

- XAML does not count in the game of Scrabble™
  - Although it does nearly rhyme with it
- It is an XML based language (another word you can't use)
- It is used to express where on the page each component is displayed and give any other properties for that component
- It is used to provide clean separation between user interface design and the program code

## Adding a Bit'o' Twitter

(nothing beats a bit of data binding)

Twitter is quite fashionable,  
According to the papers,  
A client for mobile phone,  
Might be a worthwhile caper

It turns out to be easy,  
As from this demo you'll be finding  
Just put it all together  
With a bit of data binding

What you are seeing here  
Is where we get the Twitter feed  
A string sent from the server  
That holds the messages we need

We request it from the network  
The answer comes back to us  
Web request in Windows Phone  
Are always asynchronous

When the good word comes right back  
We have some more work to do  
So the XML we received  
Can be displayed to you

LINQ does all the hard work  
Building lots of TwitterPosts  
A class that we created  
For the messages to host

The last bit in our story  
It certainly is not tragic  
Is the databinding portion  
A certain kind of magic

Each item in the object  
To our display it is bound tight  
It's written in the XAML  
That defines our Silverlight

So with my nerves of steel  
To the start I must be going  
See what I have been Tweeting  
On the screen of my Windows Phone

**Binding an XML data source**

```
tweetsListBox.ItemsSource = postList;
```

- This sets the ItemSource property of the tweetsListBox to the collection of posts that we just created
- Data binding will do the rest for us
- We just have to create a display template to lay out the display elements



## A Bit'o' Twitter

- Twitter has over 160M users
- A very small fraction of them follow me (Rob Miles)
- And I follow an even smaller fraction of them
- Some people say it is hard to express yourself in just 160 characters

## Data Binding

- In data binding you take the objects (stuff you've fetched from somewhere) and connect it to stuff on your display
- The binding does the gluey bit and makes the display fit whatever values the object contains
  - The XAML for the components contains instructions to link them to the data properties in the objects
- Makes programming easier and faster
- This is actually Proper Knowledge

## Rob's Non-patent Twitter Reader

- Shows me all my Tweets
- So that I can be amazed by my cleverness
  - Fetches the XML Twitter feed from
  - Uses Language Integrated Query (LINQ) to decode it
  - Uses Silverlight databinding to display the result



## Reading the Twitter Feed

```
private void loadButton_Click(object sender, RoutedEventArgs e)
{
    string url =
        "http://twitter.com/statuses/user_timeline/" +
        nameTextBox.Text + ".xml";
    client.DownloadStringAsync(new Uri(url));
}
```

- This builds a web request for the given user Twitter status and fires it off
- Web requests in Windows Phone are asynchronous

## Parsing the Twitter Feed

```
var postList =
    from tweet in twitterElements.Descendants("status")
    select new TwitterPost
    {
        UserImage = tweet.Element("user").
            Element("profile_image_url").Value,
        PostText = tweet.Element("text").Value,
        DatePosted = tweet.Element("created_at").Value
    };
```

- This is the LINQ query that will work through the status elements in a LINQ XML element and create new TwitterPost instances from

## Creating a Display Class

```
public class TwitterPost
{
    public string PostText { get; set; }
}
```

## A ListBox display template

```
<ListBox Height="442" HorizontalAlignment="Left"
    Name="tweetsListBox" VerticalAlignment="Top" Width="468">
    <ListBox.ItemTemplate>
    <DataTemplate>
    <StackPanel Orientation="Horizontal" Height="132">
    <Image Source="{Binding UserImage}" Height="73"
        Width="73" VerticalAlignment="Top" />
    <StackPanel Width="370">
    <TextBlock Text="{Binding DatePosted}"
        Foreground="#FFC8A14" FontSize="22" />
    <TextBlock Text="{Binding PostText}"
        TextWrapping="Wrap" FontSize="24" />
    </StackPanel>
    </StackPanel>
    </DataTemplate>
    </ListBox.ItemTemplate>
</ListBox>
```



## Windows Phone Marketplace for Profit and Profit

(show me the money)

If you want to make cash selling your wares  
Then you want to head off to the Marketplace Squares  
There you can make a mint, or at least one or two quid  
Or you could give it all away, just like I just did

It costs just 99 dollars to set up your stall  
If you are a registered student it costs nothing at all  
And once you are signed up to distribute your stuff  
You can give it for free, or charge just enough

Microsoft take care of the cash that is paid  
Once you've earned 200 bucks they will send it your way  
They don't do it 'cos you're a wonderful gent  
They do it and take away thirty per cent

But it's still worth the effort, I think you'll agree  
You'll almost certainly end up with more cash than me  
So if you are serious and want to impress  
To **create.msdn.com** you must go with quick-ness

### The End

(no money refunded)

And now we have got to the end of my rhyme  
And I've got to go, good grief, is that the time?  
So thank you for listening, and applauding so brightly  
And I'll bid adieu, Windows Phone, SilverLightly

