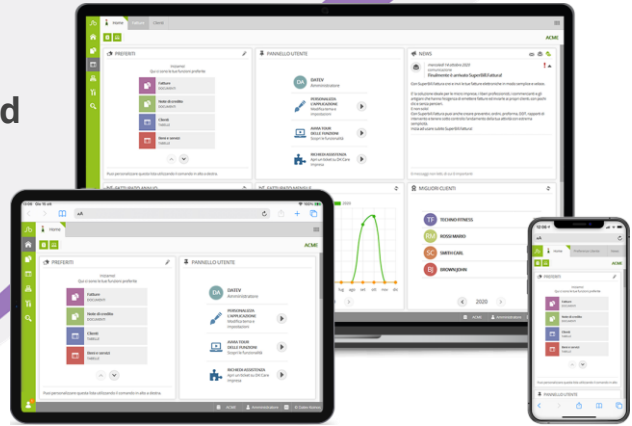


# Accelerate Development with Wisej.NET Hybrid

Speaker:  
Levie Rufenacht



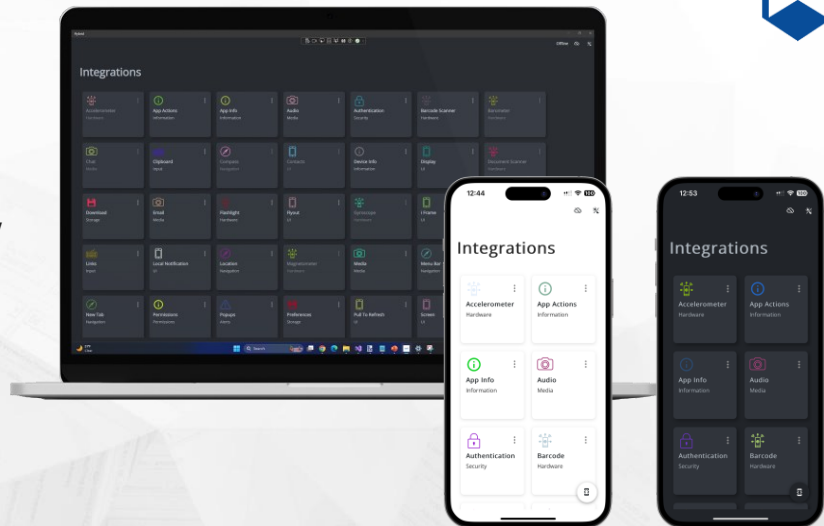
build  
migrate  
modernize



1

## Agenda

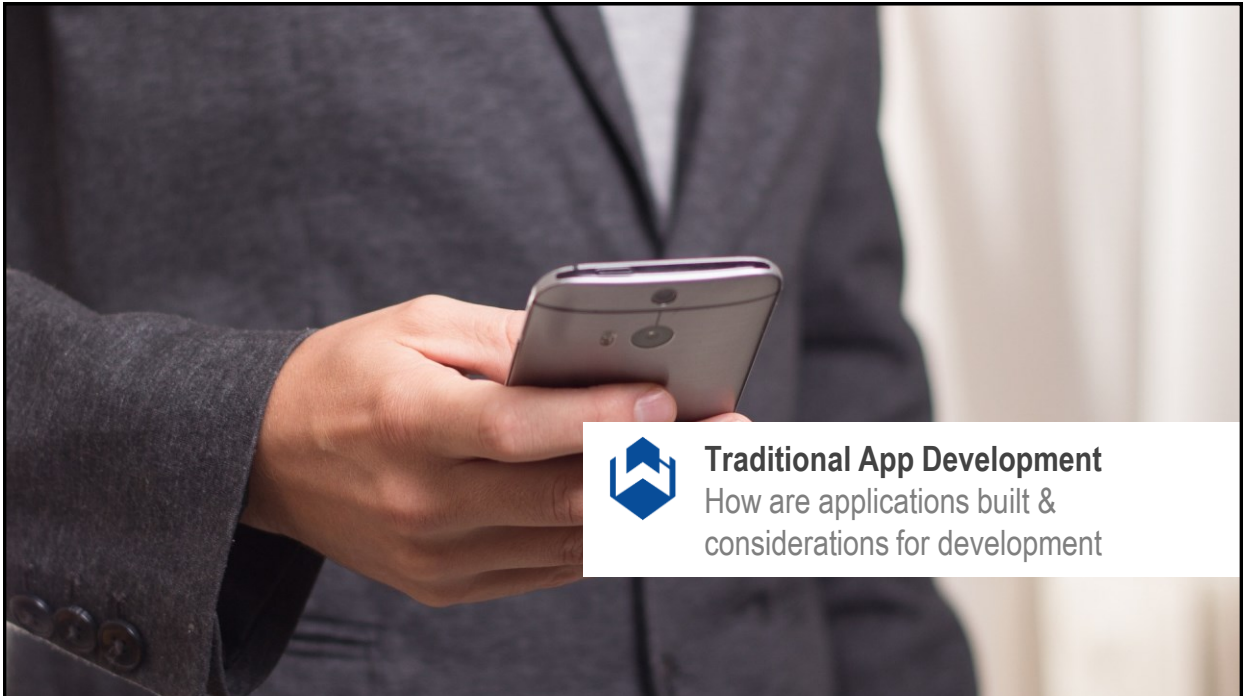
- Traditional App Dev
- What is Hybrid
- Build an App
- Deployment



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## Traditional App Development

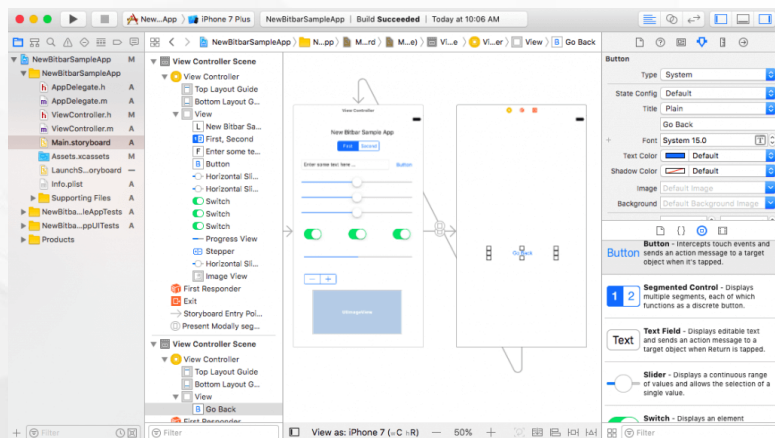
How are applications built & considerations for development

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## Traditional development (iOS)



- Xcode (Mac-only)
- Swift / Objective-C
- Storyboard / SwiftUI



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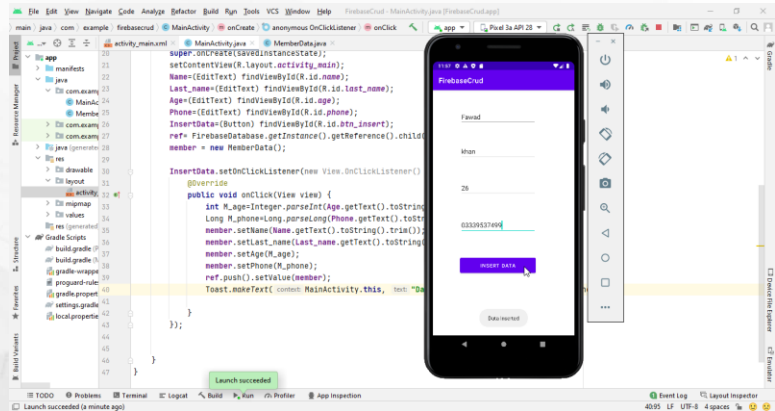
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## Traditional development (Android)



- Android Studio
- Java / Kotlin
- XML-based Designer



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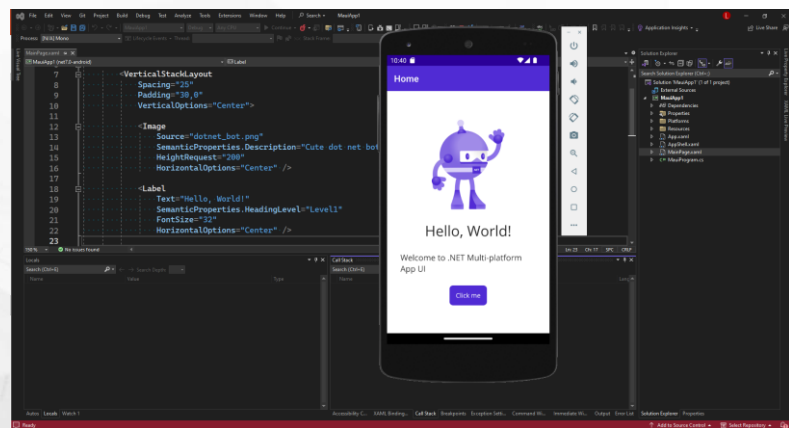
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## Traditional development (.NET MAUI)



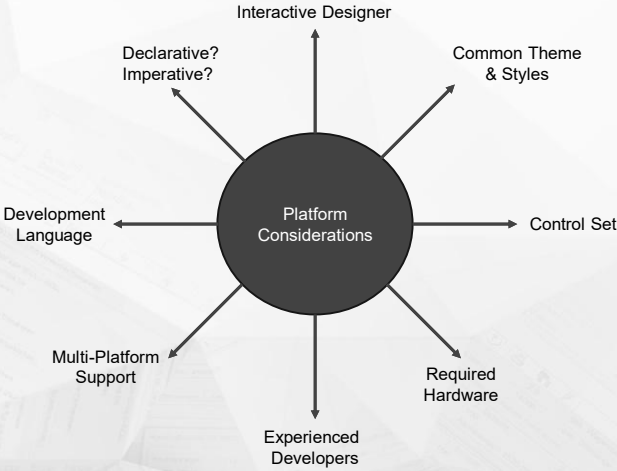
- Visual Studio
- C#
- XAML-based Designer



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# Platform Considerations



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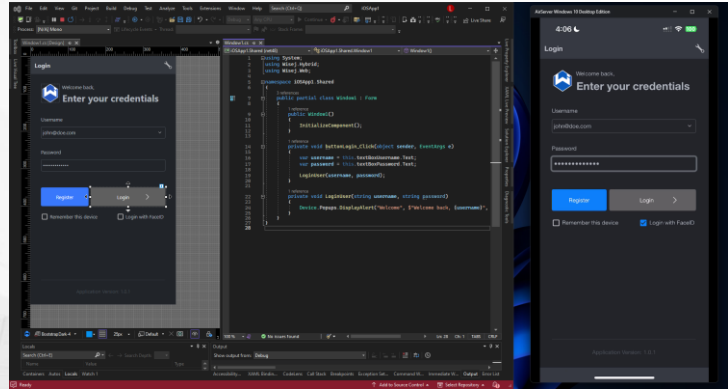
**What is Wisej.NET Hybrid**  
Develop applications for mobile & desktop using the Wisej.NET designer

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# Introducing Wisej.NET Hybrid



- Develop Apps For...
  - Windows, macOS, Mobile
- Visual Designer (WYSIWYG)
- Shared Codebase
  - Web / Mobile / Desktop
- Built for Line-of-Business



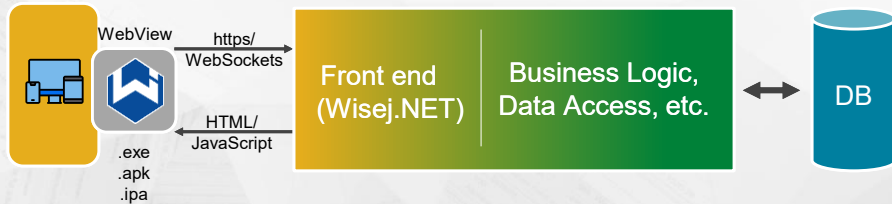
# Wisej.NET & Hybrid Architecture



Wisej.NET

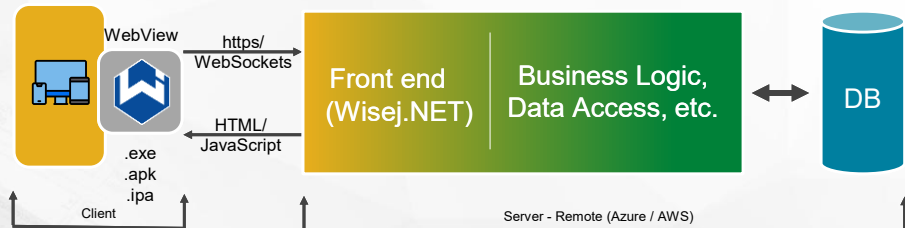


Hybrid



## Hybrid app modes (remote)

Hybrid



### Remote Hybrid App

- Connects to a remote web server (AWS, Azure)
- IIS, NGINX, or other web server
- Updated via remote web server

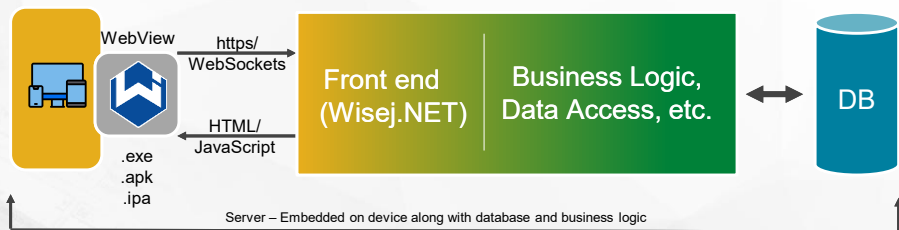
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## Hybrid app modes (local)

Hybrid



### Local Hybrid App

- Runs entirely on the device
- On-device web server & database
- Updated through app store deployment

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# Reading device information



- Device.Info singleton
- Contains info about...
  - System
  - Versioning
  - File System
  - Battery State
  - Network State
  - ... and more

```

using WiseJ.Hybrid.Shared.Display;
using WiseJ.Web;

namespace WiseWebPageApplication1
{
    public partial class Page1 : Page
    {
        public Page1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, System.EventArgs e)
        {
            // gets the current network state of the hybrid device.
            NetworkAccess access = Device.Info.Networking.NetworkAccess;

            // get device orientation.
            DisplayOrientation orientation = Device.Info.Display.Orientation;

            // get device name.
            string name = Device.Info.System.Name;
        }
    }
}

```

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# Interacting with the device



- Interact with native...
  - Tab Bar
  - Toolbar
  - Popups
  - Status Bar
  - File System
  - ... and more

```

public partial class Page1 : Page
{
    public Page1()
    {
        InitializeComponent();
    }

    private void button1_Click(object sender, System.EventArgs e)
    {
        // modify device's status bar color.
        Device.StatusBar.BackgroundColor = Color.Red;

        // add a key to the Device's preference storage.
        Device.Preferences.Set("key", "value");

        // show and populate the device's native tab bar.
        Device.TabBar.Items = new TabBarItem[]
        {
            new TabBarItem { Title = "Home" },
            new TabBarItem { Title = "Profile" },
            new TabBarItem { Title = "Settings" }
        };
        Device.TabBar.Visible = true;
    }
}

```

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## Listening to events



- Be notified of...
  - Network Status
  - Shortcut Click
  - Notifications
  - Orientation
  - ... and more

```

public partial class Page : Page
{
    public Page()
    {
        InitializeComponent();
    }

    // attach to network status events.
    Device.Info.Networking.ConnectivityChanged += Networking_ConnectivityChanged;

    private void Networking_ConnectivityChanged(object sender, System.EventArgs e)
    {
        var access = Device.Info.Networking.NetworkAccess;

        switch (access)
        {
            case NetworkAccess.None:
                // device went offline.
                break;

            case NetworkAccess.Internet:
                // device gained internet connection.
                break;
        }
    }
}

```

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## Other integrations



- Authentication
  - FaceID / TouchID
- Device Features
  - Barcode Scanning
  - Document Scanning
  - Text (OCR) Scanning
- Push Notifications
  - Local
  - Remote

```

namespace HybridOfflineApp
{
    public partial class Page : Page
    {
        public Page()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            bool authenticated = Device.UseDeviceAuthentication()
                .Authenticate("Auth", "User Login");

            MessageBox.Show($"Result: {authenticated}");
        }
    }
}

```

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# Barcode scanning

- Based on...
  - Android
    - Google ML Kit Framework
  - iOS
    - Apple CoreML Framework
- Scan multiple barcodes
- Zoomable & focusable

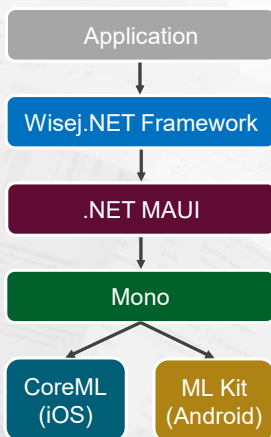
```

1 using Wisej.Hybrid;
2 using Wisej.Hybrid.MLKit;
3 using Wisej.Web;
4
5 namespace WisejWebPageApplication1;
6
7 [3 references]
8 public partial class Page1 : Page
9 {
10     public Page1()
11     {
12         InitializeComponent();
13     }
14
15     [1 reference]
16     private void button1_Click(object sender, System.EventArgs e)
17     {
18         string[] barcodes = Device.UseDeviceML<O>
19         ScanBarcode(new CaptureConfiguration());
20     }
21 }
    
```

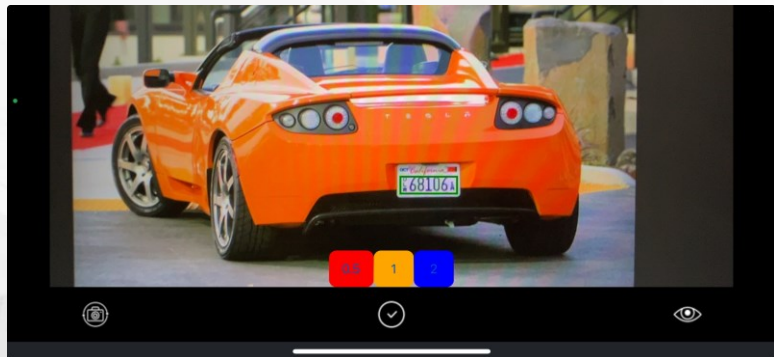


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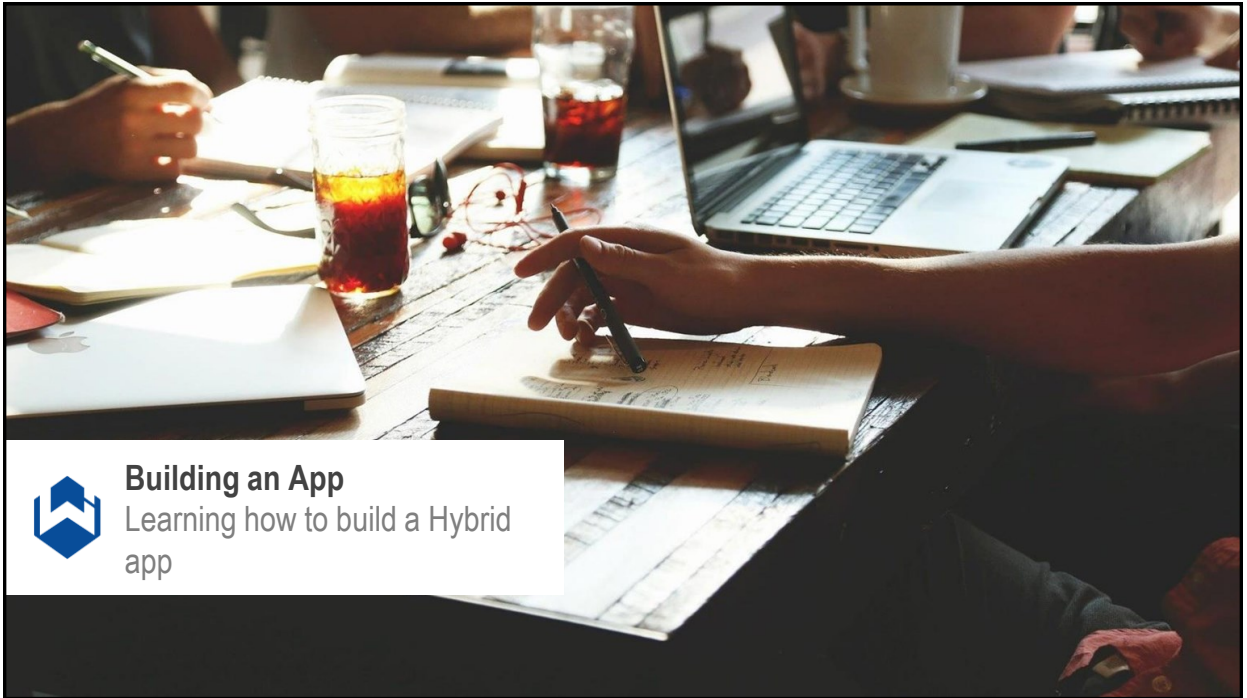
# Text (OCR) scanning



```
← string[] texts = Device.Use<DeviceML>().ScanText(config);
```



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# Wisej.NET Hybrid development

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Country	Exports (billion US\$, 2012)	Imports (billion US\$, 2012)
Brazil	\$243,000,000,000	\$233,000,000,000

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## Deployment

Deploying a Wisej.NET Hybrid Application

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# Deployment

- VS Publishing Tool
- Same as .NET MAUI
- Public & Private App Stores

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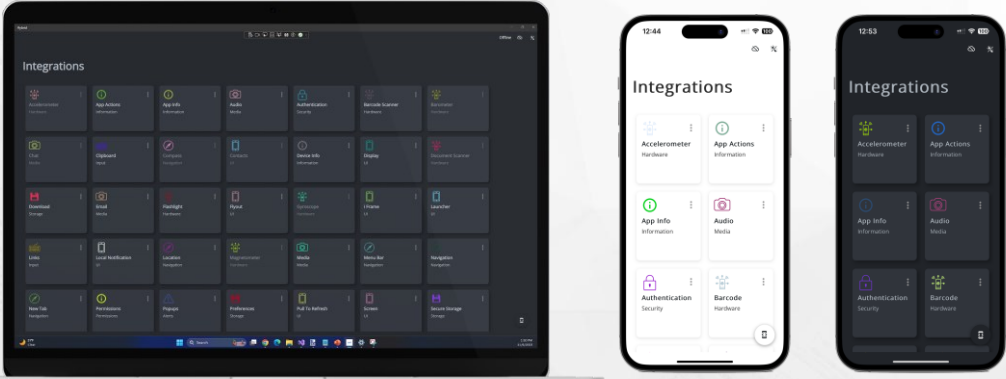

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# Wisej.NET Hybrid demo



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## Try the demos on your phone



TestFlight (iOS)



Google Play (Android)

## Wisej.NET Hybrid in a nutshell



**Wisej.NET is a ground-breaking web development platform for enterprise-scale applications**

- You just need to know one language: C# or VB
- The page is rendered in Visual Studio (WYSIWYG) so you can fine-tune its appearance easily
- You can use all the resources that are available to a .NET application
- Local & remote app modes allow for use in rural and industrial environments
- Full set of integrations and controls for enterprise business use-cases
- Complete technology stack for web, mobile, and desktop development



Rapid .NET  
Web  
Development  
build  
migrate  
modernize

