



Windows



# WinJS in Windows Phone 8.1

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Microsoft



# Agenda

- WinJS story
- Big picture of what's new
- Deep dive on new features
- The road ahead
- References

# WinJS story

# WinJS yesterday



**WinJS 1.0**



**Xbox  
WinJS 1.0**



# WinJS today



**WinJS 2.0**



**Xbox  
WinJS 1.0**



**New!**

**Phone  
WinJS 2.1**

# WinJS today



**WinJS 2.0**



**Xbox  
WinJS 1.0**



**New!**

**Phone  
WinJS 2.1**

# WinJS today

Windows app *and/or* Windows Phone app



WinJS



WinRT

HTML5

# Windows Developer

## Universal Windows Apps in HTML/JS



# Web Developer



Cross-platform websites

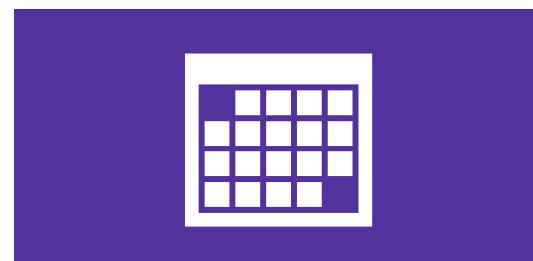
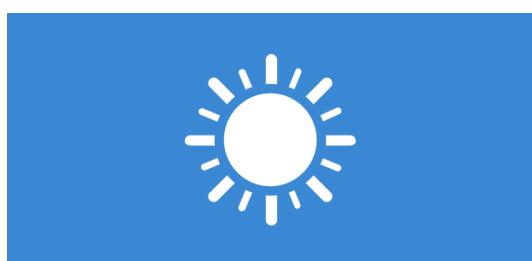
# Windows & Web Developer

## Universal Windows Apps



Cross-platform websites

# WinJS Apps



+ more

# Big picture of what's new

Enable true Phone experiences

Enable true Phone experiences  
Built with native performance

Enable true Phone experiences  
Built with native performance  
Share code across PC and Phone

Enable true Phone experiences  
Built with native performance  
Share code across PC and Phone  
Works great with the community

Enable true Phone experiences  
Built with native performance  
Share code across PC and Phone  
Works great with the community

# Deep dive on new features

# Making the switch from PC

- All core capabilities and utilities are available
- Controls migrated and improved
- New platform specific features

# Phone WinJS 2.1 highlights

New controls

Pivot

Improved controls

ListView

AppBar

Jump List

+ more

Building blocks

Animations

User themes

Accessibility

+ more

# Phone WinJS 2.1 highlights

Not fully supported

AppBar

What's missing

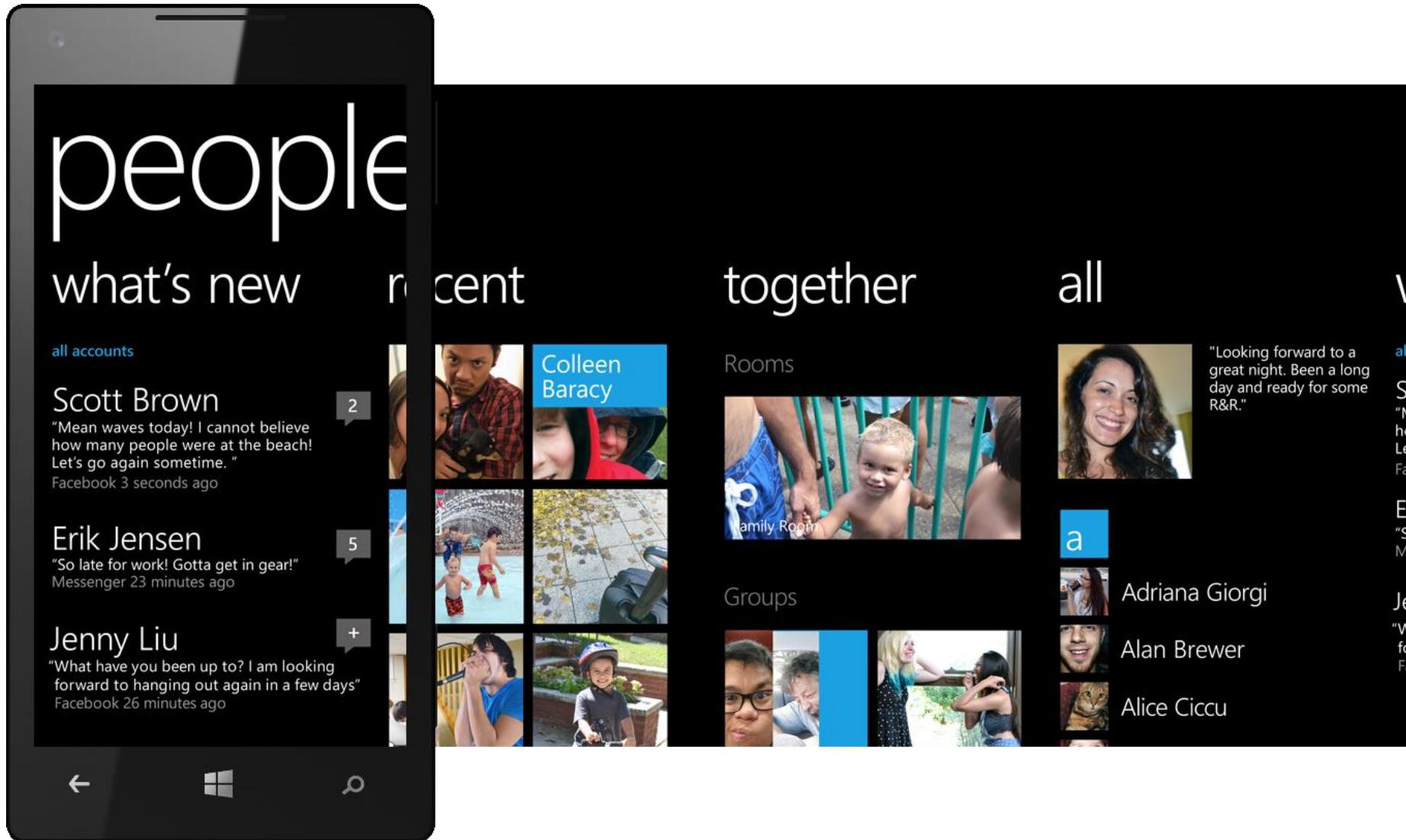
Flyout

SettingsFlyout

Hub

+ more

# Pivot



# DEMO

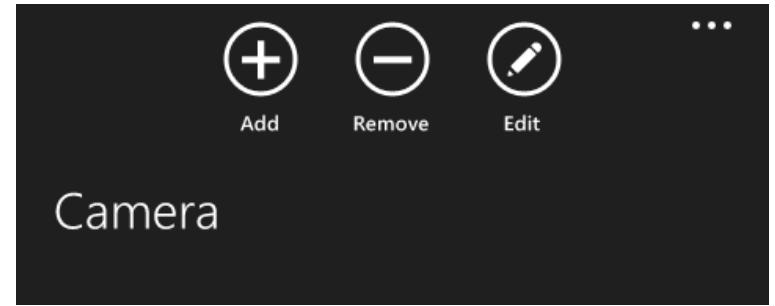
## Pivot

# Using Pivot

```
<div data-win-control="WinJS.UI.Pivot"
    data-win-options="{ title: 'Page title', selectedIndex: 0 }">

    <div data-win-control="WinJS.UI.PivotItem"
        data-win-options="{ 'header': 'First section' }">
        <p> Content - Item One </p>
    </div>
    <div data-win-control="WinJS.UI.PivotItem"
        data-win-options="{ 'header': 'Second section' }">
        <p> Content - Item Two </p>
    </div>
    <div data-win-control="WinJS.UI.PivotItem"
        data-win-options="{ 'header': 'Third section' }">
        <p> Content - Item Three </p>
    </div>
</div>
```

# AppBar on Phone



# DEMO

## AppBar

# Using AppBar on Phone

```
<div id="createAppBar" data-win-control="WinJS.UI.AppBar">

    <button data-win-control="WinJS.UI.AppBarCommand"
        data-win-options="{id:'cmdAdd', label:'Add', icon:'add'}">
    </button>
    <button data-win-control="WinJS.UI.AppBarCommand"
        data-win-options="{id:'cmdRemove', label:'Remove', icon:'remove'}">
    </button>
    <button data-win-control="WinJS.UI.AppBarCommand"
        data-win-options="{id:'cmdCamera', label:'Camera', icon:'camera',
            section:'selection'}">
    </button>

</div>
```

# Using AppBar on Phone

```
<div id="createAppBar" data-win-control="WinJS.UI.AppBar"
    data-win-options="{closedDisplayMode:'minimal'}">

    <button data-win-control="WinJS.UI.AppBarCommand"
        data-win-options="{id:'cmdAdd', label:'Add', icon:'add'}">
    </button>
    <button data-win-control="WinJS.UI.AppBarCommand"
        data-win-options="{id:'cmdRemove', label:'Remove', icon:'remove'}">
    </button>
    <button data-win-control="WinJS.UI.AppBarCommand"
        data-win-options="{id:'cmdCamera', label:'Camera', icon:'camera',
            section:'selection'}">
    </button>

</div>
```

# Using AppBar on Phone

```
<div id="createAppBar" data-win-control="WinJS.UI.AppBar"  
    data-win-options="{closedDisplayMode: 'minimal'}">  
  
    <button data-win-control="WinJS.UI.AppBarCommand"  
        data-win-options="{id: 'cmdAdd', label: 'Add', icon: 'add'}">  
    </button>  
    <button data-win-control="WinJS.UI.AppBarCommand"  
        data-win-options="{id: 'cmdRemove', label: 'Remove', icon: 'remove'}">  
    </button>  
    <button data-win-control="WinJS.UI.AppBarCommand"  
        data-win-options="{id: 'cmdCamera', label: 'Camera', icon: 'camera',  
                        section: 'selection'}">  
    </button>  
  
</div>
```

# Using AppBar across form factors

Windows platform sample

## AppBar control sample

- 1) Create an AppBar
- 2) Customize AppBar color
- 3) Customize icons
- 4) Customize content
- 5) Show and hide commands
- 6) AppBar with ListView
- 7) Sticky AppBar
- 8) Localize commands

Status:

The screenshot shows a dark-themed Windows application window. At the top left is a purple header bar with the title "AppBar control sample". Below it is a white status bar with the word "Status:". The main content area is dark. At the bottom right, there is an "AppBar" containing three circular buttons: one with a plus sign labeled "Add", one with a minus sign labeled "Remove", and one with a pen icon labeled "Edit".

For PC, the WinJS.UI.AppBar is hidden by default and appears when users swipe a finger from the bottom edge of the screen. It covers the content of the app and can be dismissed by the user with an edge swipe or by interacting with the app.

For Phone, the AppBar is visible by default and has two states: closed and opened. A closed AppBar can be either "minimal" or "compact". This scenario shows an AppBar with "minimal" closed state. An AppBar goes to the opened state when the user taps the ellipsis on the AppBar, which displays the labels for the icon buttons and menu items (if enabled).

For PC, the WinJS.UI.AppBar is hidden by default and appears when users swipe a finger from the bottom edge of the screen. It covers the content of the app and can be dismissed by the user with an edge swipe or by interacting with the app.

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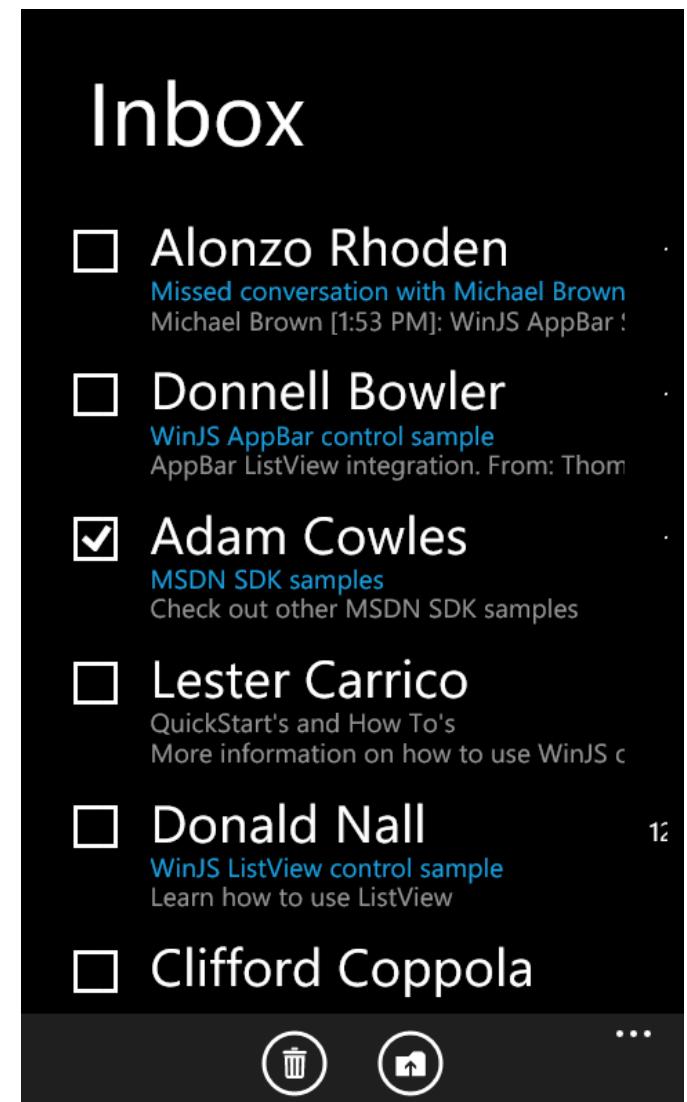
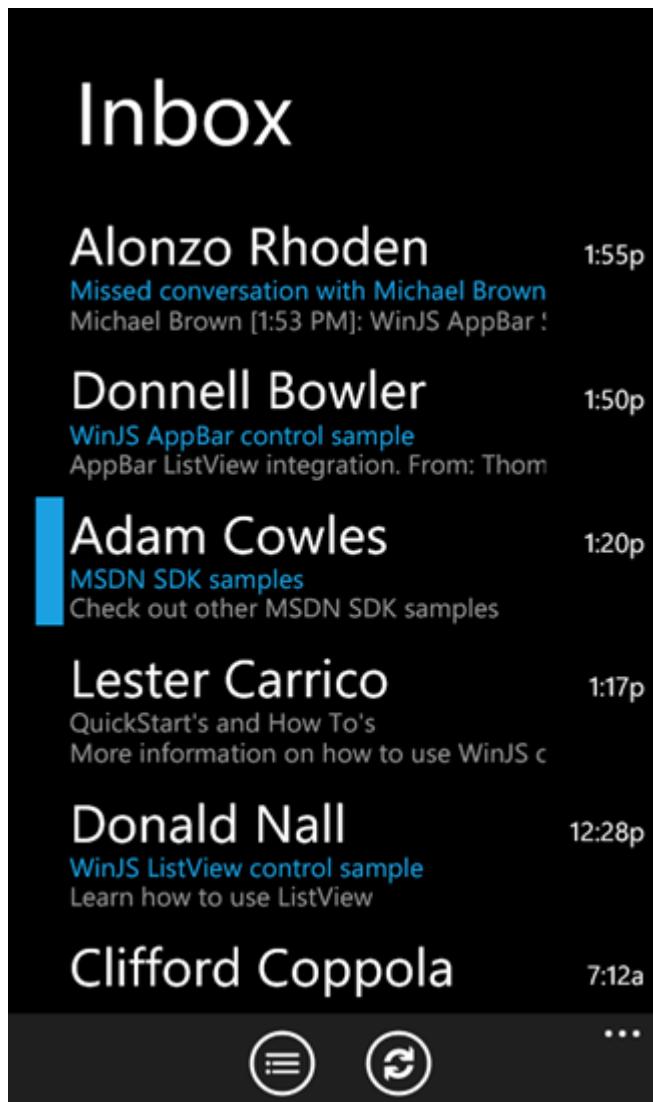
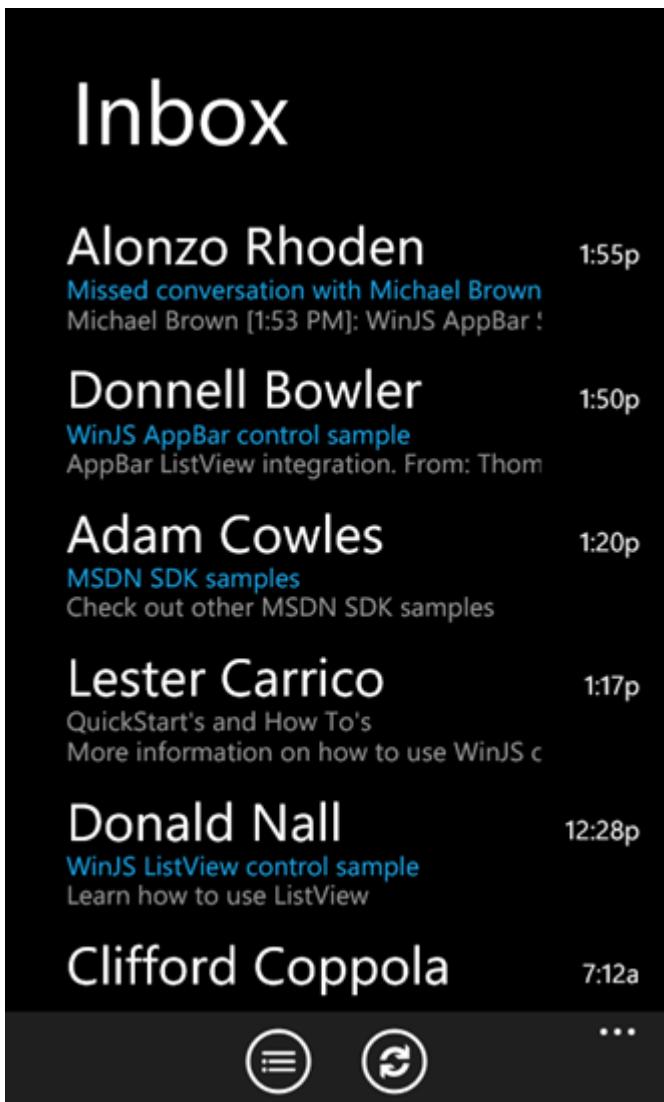
The screenshot shows a dark-themed mobile application window. At the top left is a purple header bar with the title "AppBar control sample". Below it is a white status bar with the word "Status:". The main content area is dark. At the bottom right, there is an "AppBar" containing three circular buttons: one with a plus sign labeled "Add", one with a minus sign labeled "Remove", and one with a pen icon labeled "Edit".

Camera

# DEMO

## AppBar: Windows & Phone

# ListView on Phone



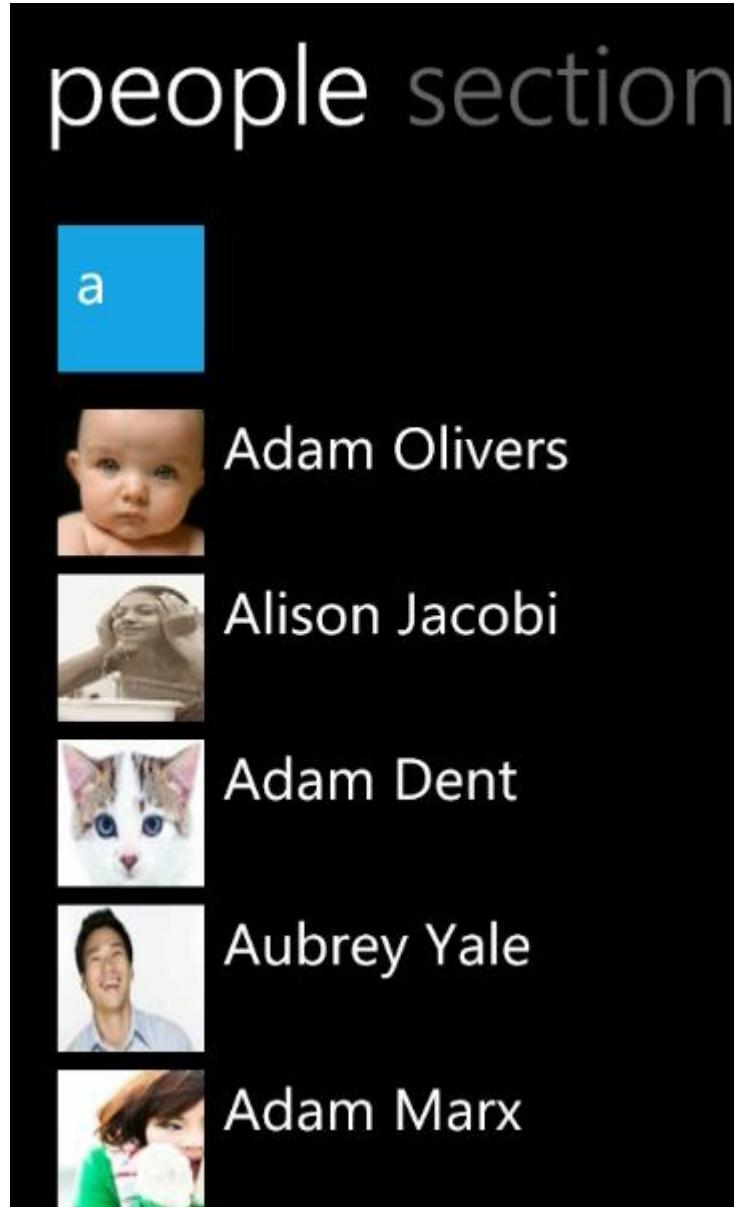
# DEMO

## ListView

# Using ListView

```
<div data-win-control="WinJS.UI.ListView" data-win-options="{
    itemDataSource: myDataSource,
    layout: { type: WinJS.UI.ListLayout },
    itemTemplate: myItemTemplate,
    selectionMode: 'multi',
    tapBehavior: 'toggleSelect'
}>
</div>
```

# Jump Lists using Semantic Zoom



# DEMO

## Semantic Zoom

# Using Semantic Zoom to build Jump Lists

```
<div id="inGroupTemplate" data-win-control="WinJS.Binding.Template" style="display:none">
    <div class="groupHeader" data-win-bind="innerText: title"></div>
</div>

<div id="outItemTemplate" data-win-control="WinJS.Binding.Template" style="display:none">
    <div class="groupHeader" data-win-bind="style.backgroundColor: color; innerText: title"></div>
</div>

<div style="width: 480px; height: 640px" id="sezoRoot" data-win-control="WinJS.UI.SemanticZoom">
    <div style="width: 480px; height: 640px" id="zoomedInLV" data-win-control="WinJS.UI.ListView"
        data-win-options="{itemTemplate: inItemTemplate, groupHeaderTemplate: inGroupTemplate,
        layout: {type: WinJS.UI.ListLayout}}">
    </div>

    <div style="width: 480px; height: 640px; padding-top: 60px"
        id="zoomedOutLV" data-win-control="WinJS.UI.ListView" data-win-options="
        {itemTemplate: outItemTemplate, layout: {type: WinJS.UI.GridLayout}}">
    </div>
</div>
```

# Using Semantic Zoom to build Jump Lists

```
var groups = [
  { title: "#", count: 0 }, { title: "A", count: 2 }, // ...
  { title: "Z", count: 0 }
];

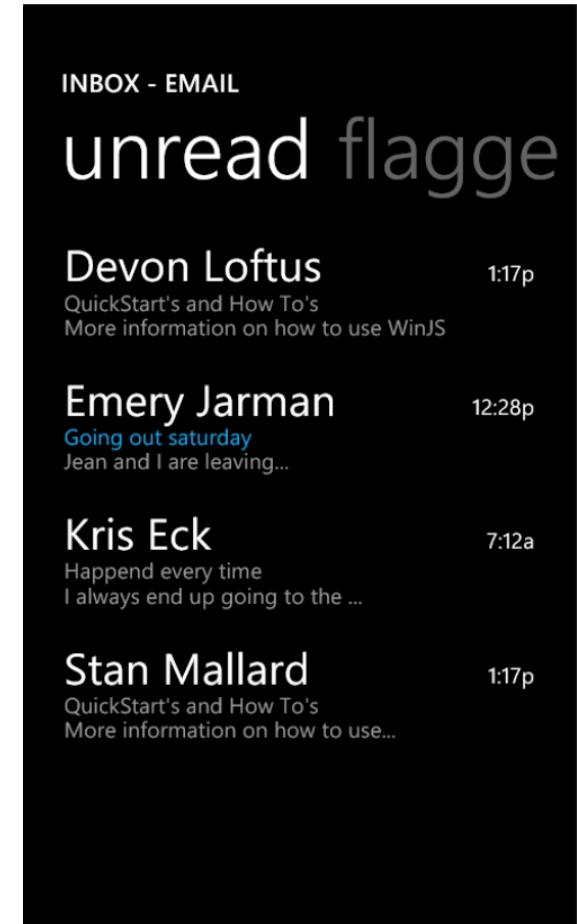
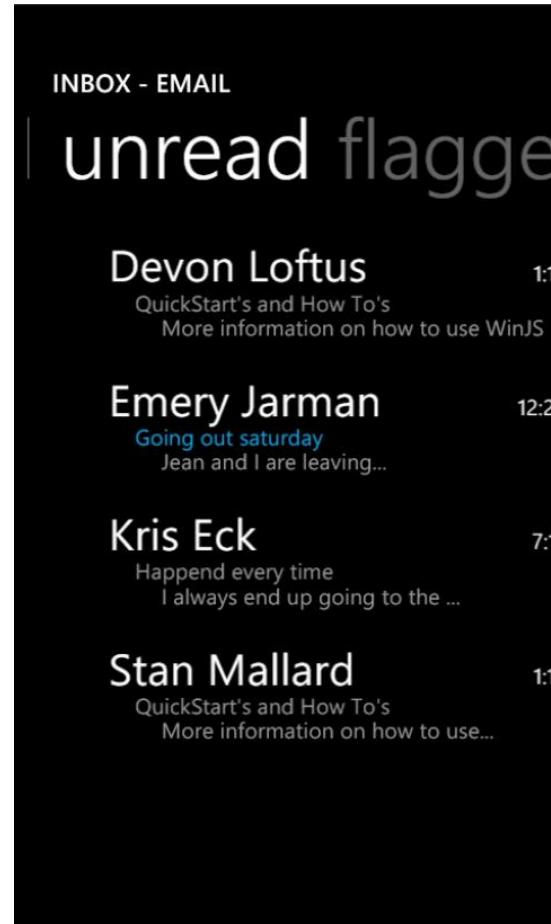
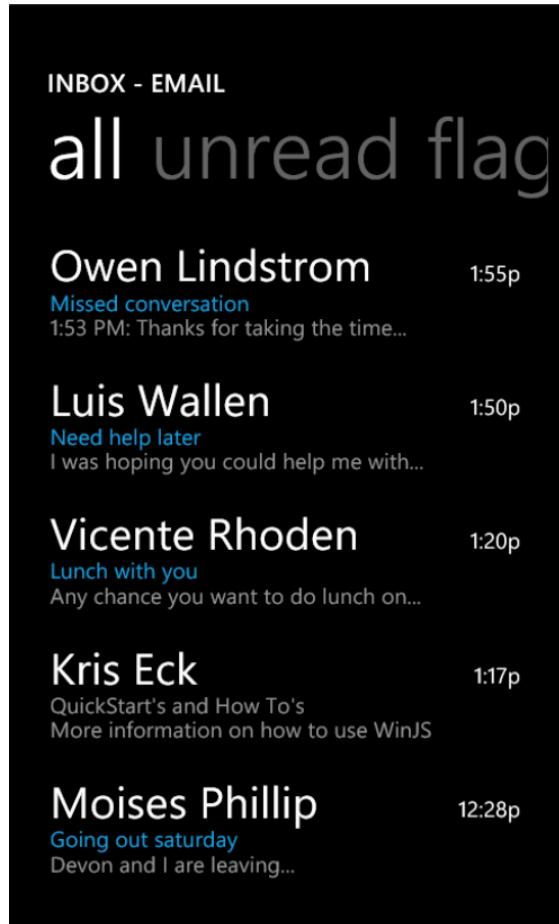
for (var i = 0; i < groups.length; i++) {
  outItems.push({ title: groups[i].title, color: (groups[i].count ? "#0094ff" : "#AAAAAA"),
    mapsTo: (groups[i].count ? inItems.length : -1) });

function inToOutMappingFunction(item) {
  return { groupIndexHint: item.data.mapsTo };
}

function outToInMappingFunction(item) {
  return { firstItemIndexHint: item.data.mapsTo };
}

outLV.addEventListener("iteminvoked", function (e) {
  var item = data.zoomedOut.getItem(e.detail.itemIndex);
  if (item.data.mapsTo === -1)
    e.preventDefault();
});
```

# Animations on Phone



Replay

**Alonzo Rhoden**

1:55p

[Missed conversation with Michael Brown](#)

Michael Brown [1:53 PM]: WinJS AppBar Sample

**Donnell Bowler**

1:50p

[WinJS AppBar control sample](#)

AppBar ListView integration. From: Thomas Lee

**Adam Cowles**

1:20p

[MSDN SDK samples](#)

Check out other MSDN SDK samples

**Lester Carrico**

1:17p

QuickStart's and How To's

More information on how to use WinJS controls

**Donald Nall**

12:28p

[WinJS ListView control sample](#)

Learn how to use ListView

**Clifford Coppola**

7:12a

AppBar and ListView integration

Contextual commands in the AppBar

**Alonzo Rhoden**

Turnstile

INBOX - EMAIL

all unread flag

**Owen Lindstrom**

1:55p

[Missed conversation](#)

1:53 PM: Thanks for taking the time...

**Luis Wallen**

1:50p

[Need help later](#)

I was hoping you could help me with...

**Vicente Rhoden**

1:20p

[Lunch with you](#)

Any chance you want to do lunch on...

**Kris Eck**

1:17p

QuickStart's and How To's

More information on how to use WinJS

**Moises Phillip**

12:28p

[Going out saturday](#)

Devon and I are leaving...

Slide

# Animations

Add	Expand	Slide left in
Collapse	Fade in	Slide left out
Continuum backward in	Fade out	Slide right in
Continuum backward out	Hide edge UI	Slide right out
Continuum forward in	Hide panel	Slide up
Continuum forward out	Hide pop up	Swipe deselect
Crossfade	Peek	Swipe select
Delete	Pointer	Turnstile backward in
Drag and drop	Reposition	Turnstile backward out
Enter content	Show edge UI	Turnstile forward in
Enter page	Show panel	Turnstile forward out
Exit content	Show pop up	Update badge
Exit page	Slide down	

# Using Animations

```
var incoming; // A single element or an array of elements
```

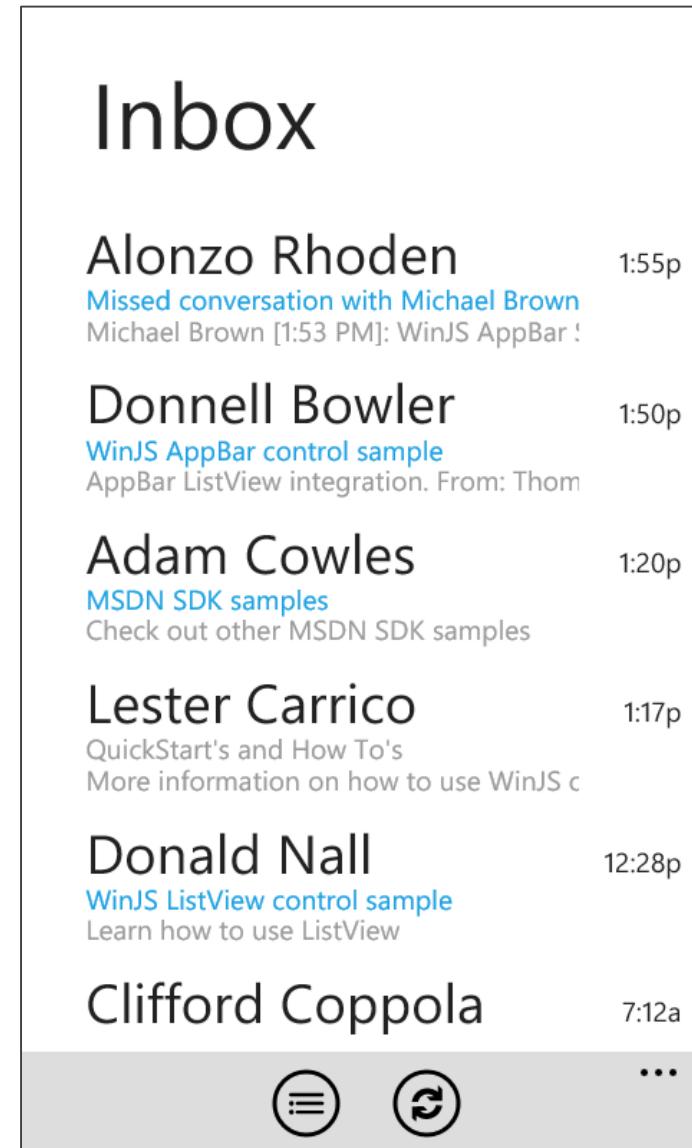
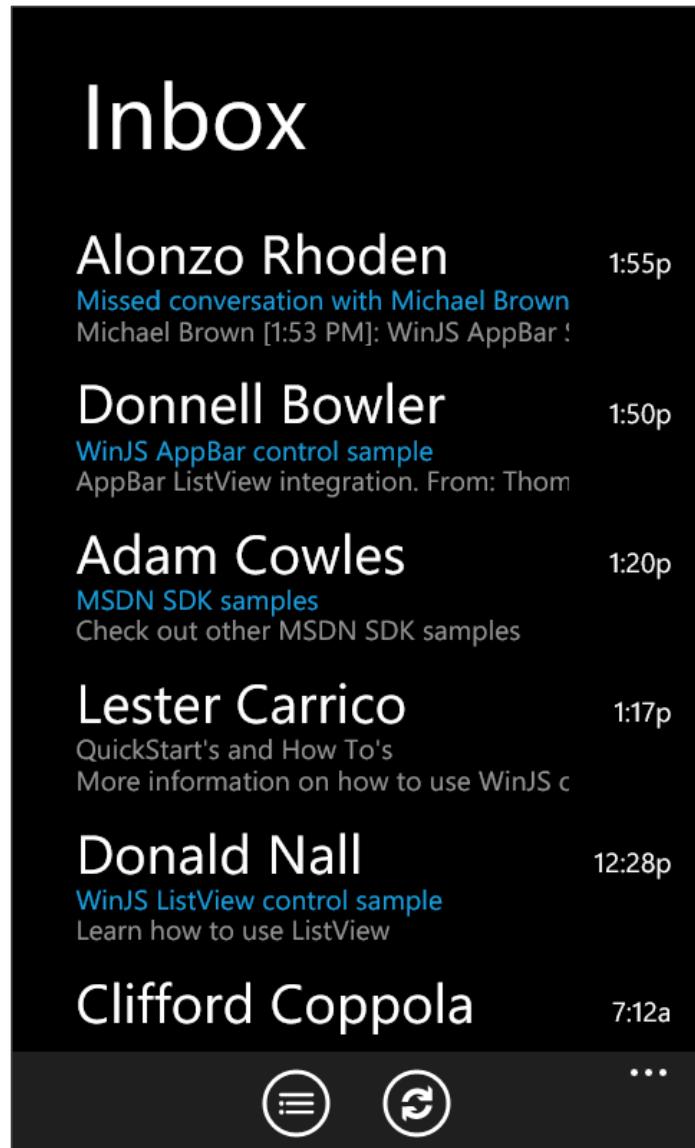
```
WinJS.UI.AnimationturnstileForwardIn(incoming);  
WinJS.UI.AnimationturnstileForwardOut(incoming);  
WinJS.UI.AnimationturnstileBackwardIn(incoming);  
WinJS.UI.AnimationturnstileBackwardOut(incoming);
```

```
WinJS.UI.AnimationslideUp(incoming);  
WinJS.UI.AnimationslideDown(incoming);
```

# Using Animations

```
var listview = document.getElementById("listview").winControl;  
var items = [];  
  
for (var i = listview.indexOfFirstVisible; i <  
    listview.indexOfLastVisible + 1; i++) {  
    items.push(listview.elementFromIndex(i).parentNode.parentNode);  
}  
  
WinJS.UI.AnimationturnstileForwardIn(items);
```

# User themes



# Using User themes

<!-- At runtime, ui-themed.css resolves to ui-themed.light.css or ui-themed.dark.css based on the user's theme setting.

This is part of the MRT resource loading functionality.

-->

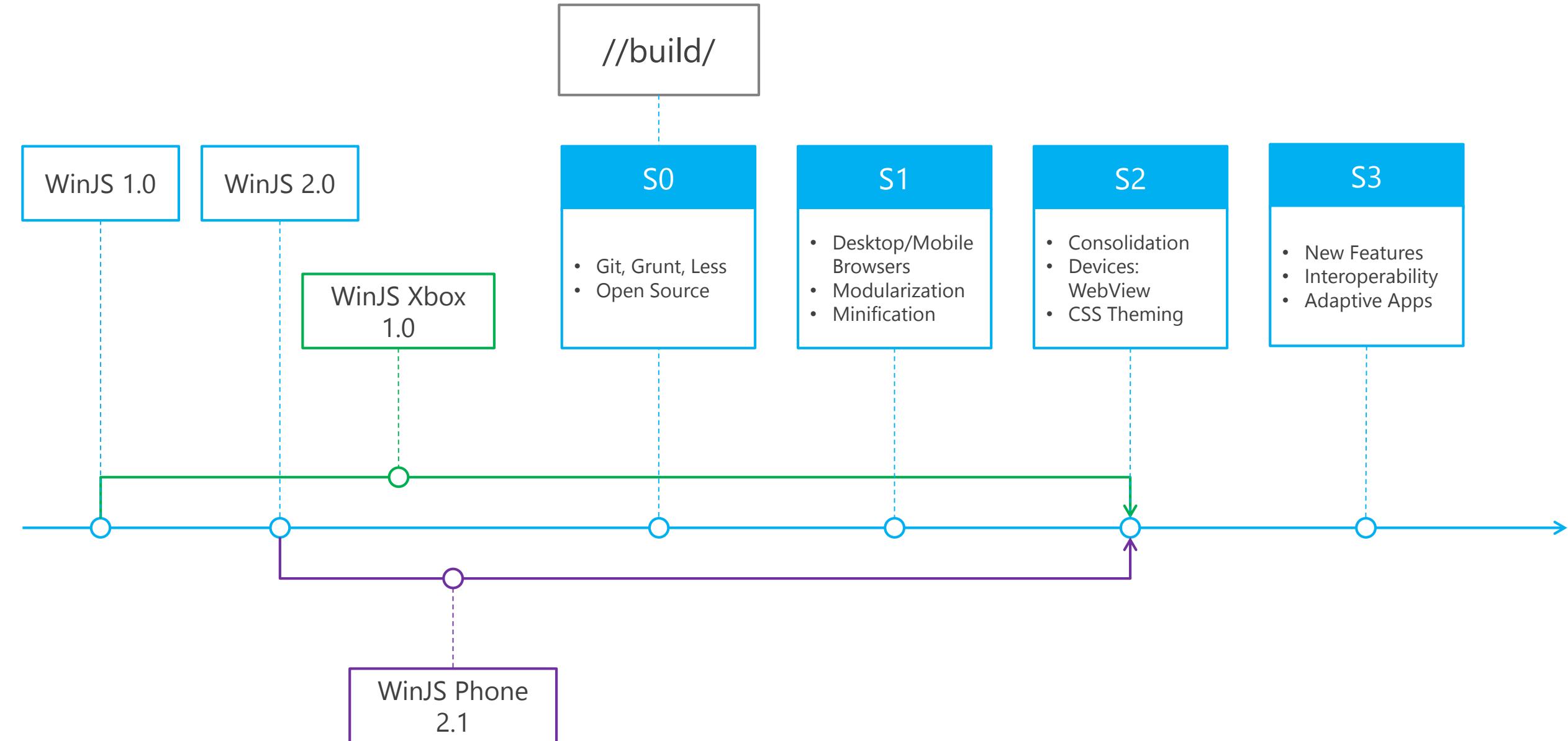
```
<link href="/css/ui-themed.css" rel="stylesheet" />
<script src="//Microsoft.Phone.WinJS.2.1/js/base.js"></script>
<script src="//Microsoft.Phone.WinJS.2.1/js/ui.js"></script>
```

# The road ahead

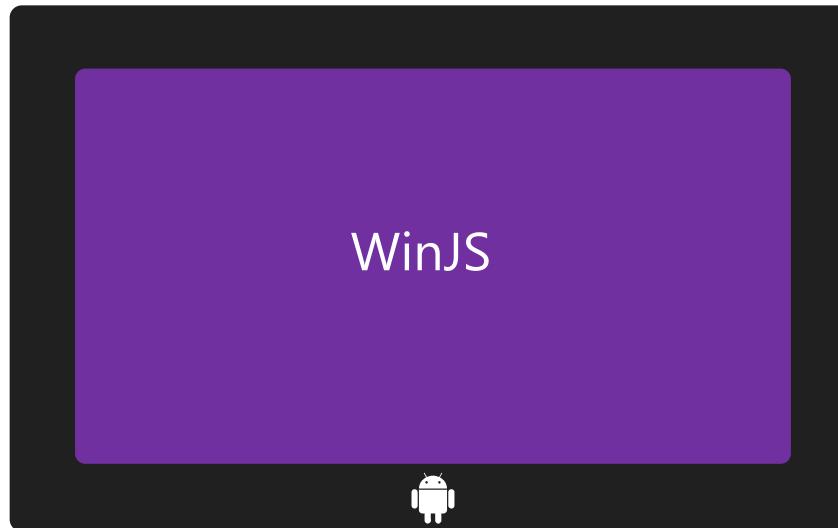
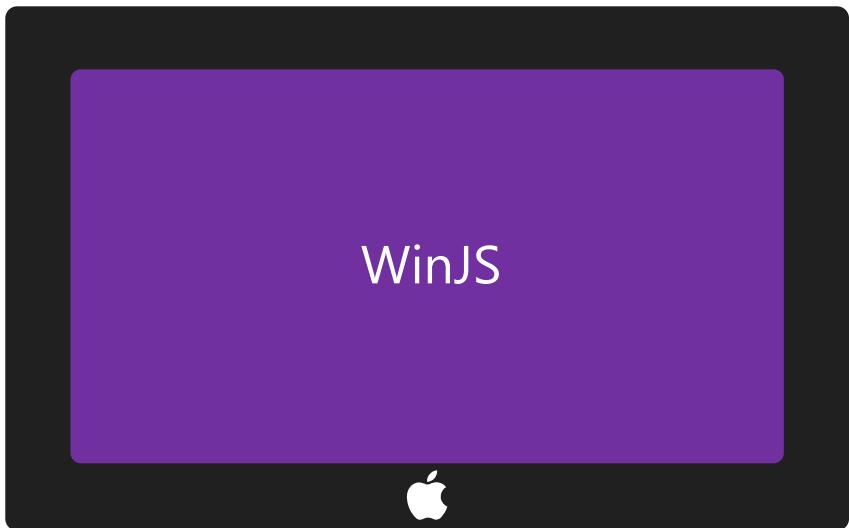
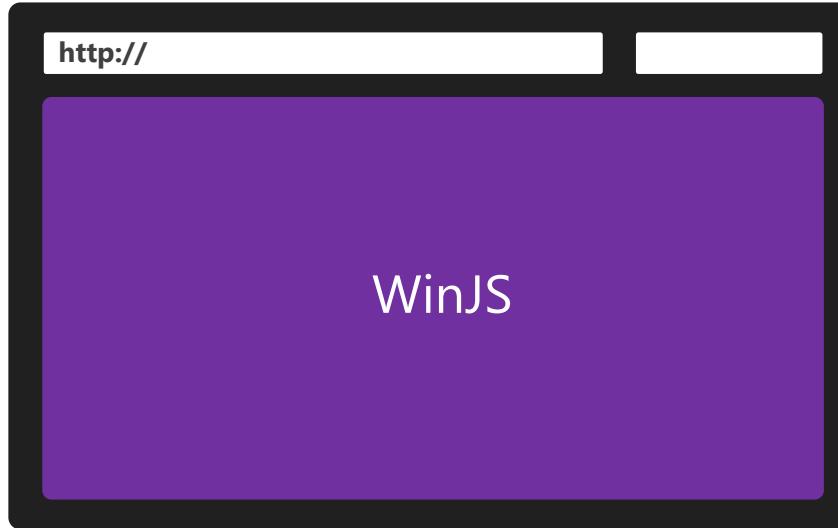
# The road ahead

- Open source
- Cross-platform
- GitHub
- Grunt
- Less
- QUnit

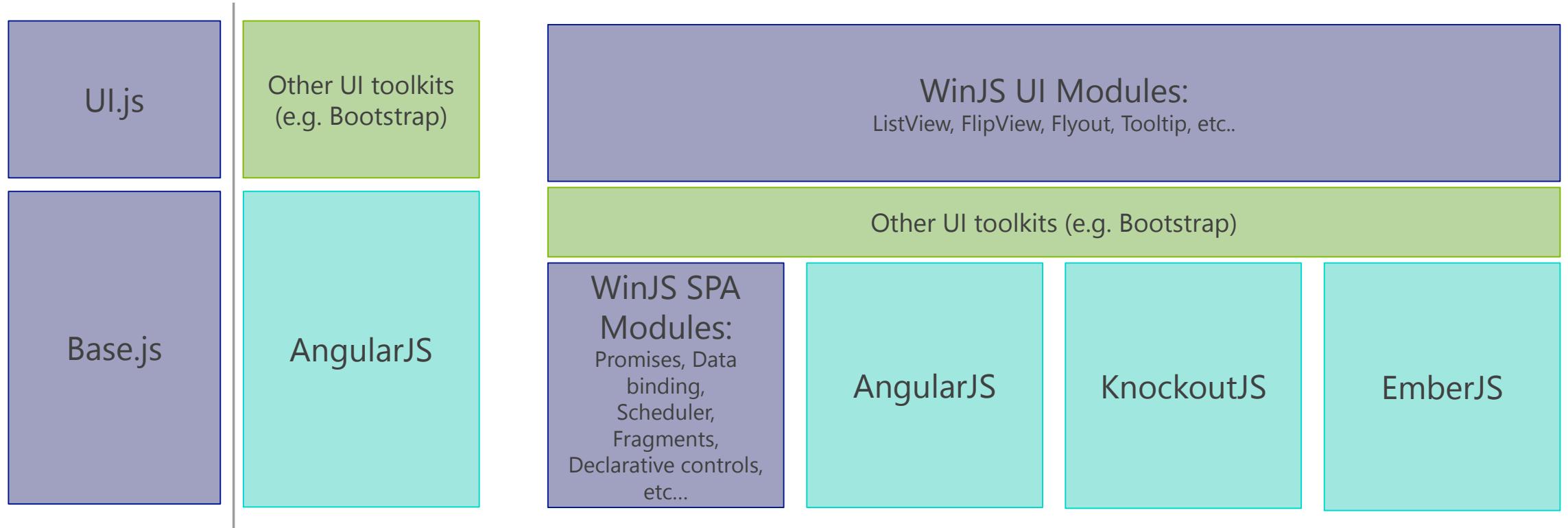
# The road ahead



# WinJS support



# Interoperability with other libraries



Today: all or nothing

The future: modular and composable

# DEMO

## JS Libraries

# Angular-WinJS

```
<!DOCTYPE html>
<html xmlns:ng="http://angularjs.org" id="ng-app" ng-app="app" ng-controller="AppController">
<head>
  <meta charset="utf-8" />
  <title>Angular-WinJS</title>
  <!-- WinJS references omitted -->
  <script src="/js/lib/jquery.js"></script>
  <script src="/js/lib/angular.js"></script>
  <script src="/js/lib/angular-winjs.js"></script>
  <!-- Project references omitted -->
</head>
<body>
  Hello, {{name}}. Your current rating is: {{rating}}.<br />
  <input type="text" ng-model="rating" /><br />
  <win-rating max-rating="5" user-rating="rating"></win-rating>
</body>
</html>
```

# Knockout-WinJS

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <title>Knockout-WinJS</title>
    <!-- WinJS references omitted -->
    <script src="/js/knockout-3.0.0.debug.js"></script>
    <script src="/js/knockout-winjs.js"></script>
    <!-- Project references omitted -->
</head>
<body>
    Hello, <span data-bind="text: name"></span>.
    Your current rating is: <span data-bind="text: userRating"></span>.<br />
    <input type="text" data-bind="value: userRating, valueUpdate: 'afterkeydown'" /><br />
    <div data-bind="winRating: {userRating: userRating}"></div>
</body>
</html>
```

# References

# References

Get involved in the project

<https://github.com/winjs/winjs>

Learn more

<http://www.buildwinjs.com>

Try it out yourself

<http://try.buildwinjs.com/>

Porting from a WinRT app

<http://msdn.microsoft.com/en-us/library/windows/apps/dn636144.aspx>



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