Windows 10 – Highlights für Entwickler

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DevelopersDev***el***opersDevel***op***ersDevelop***ers***.***NET***

Microsoft

Agenda

- Tools
- Convergence
- Universal Windows Apps
- Adaptive Code
- Adaptive UI
- App to App & Integration
- Bridges
- Publishing & Store

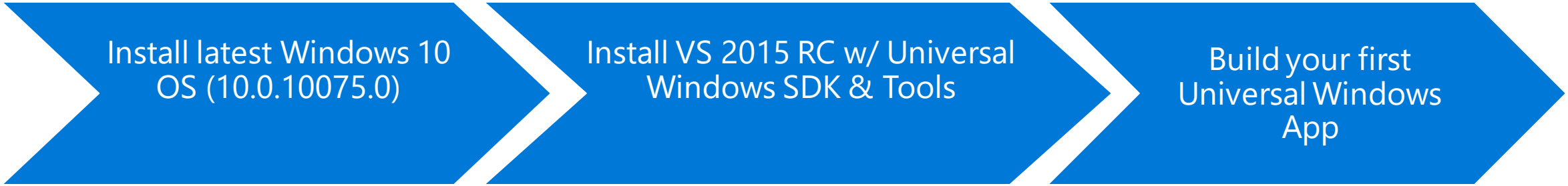
A word on „Apps“

Apps vs. Desktop Applications

Where's the difference?

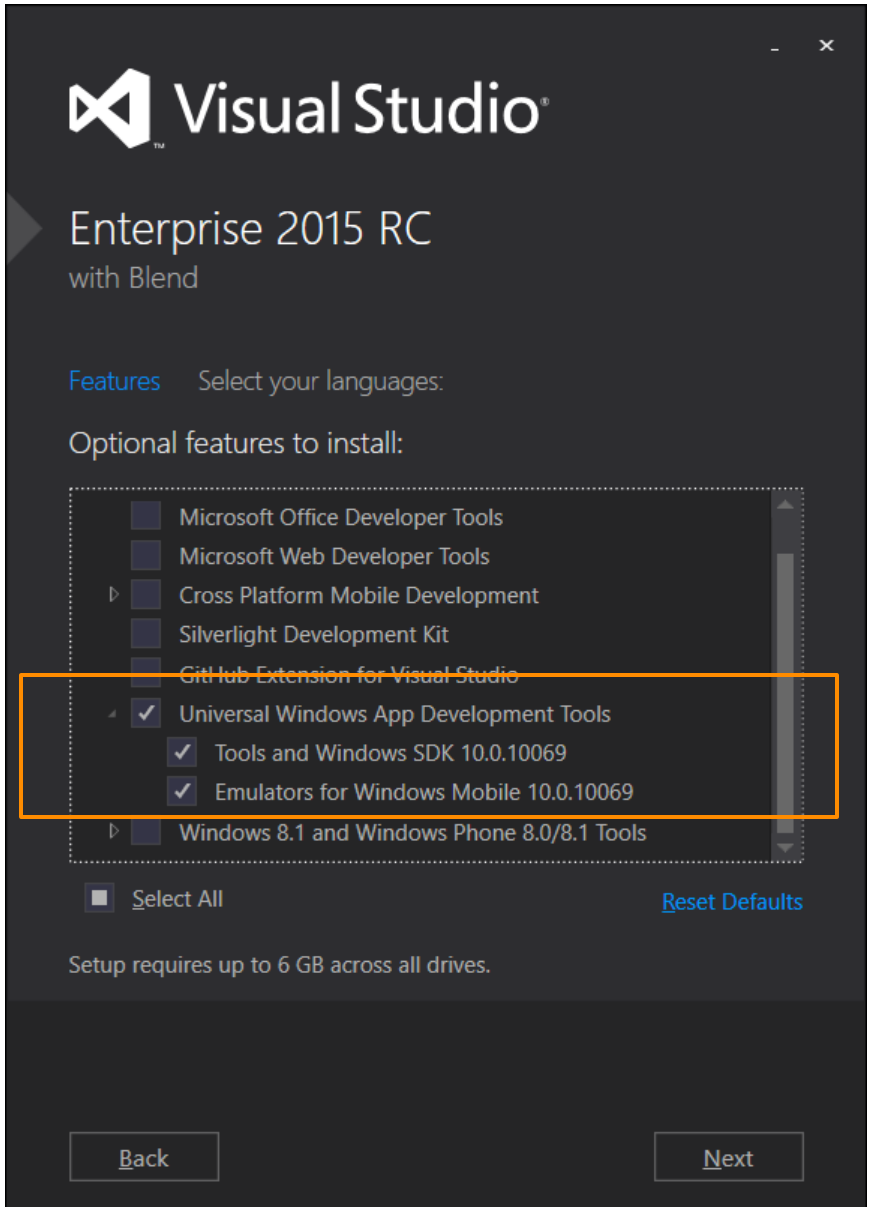
Classic App	Modern App
Installed from anywhere	Installed from the store or via sideloading
Does anything during installation/update/deinstallation.	Defined installation/update/deinstallation routine.
Can access the whole system during runtime.	Limited access to limited number of APIs. Explicitly declares capabilities.
Can run as admin.	Limited permissions. No admin mode.
No-Supsend-Lifecycle	Running/Suspended/Terminated
Full communication with other processes.	Sandbox.

Visual Studio 2015 RC with Universal Windows App Development Tools



Acquiring Windows 10 Tools/SDKs/Emulators

Select *"Universal Windows App Development Tools"* using **Custom** setup option



Supported OS for Universal Windows development

Windows 10

- Best developer experience for building Universal Windows apps
- Deploy/Debug/Profile
  - Simulator
  - Local Machine
  - Mobile Emulators
  - Remote Machine
  - Device
- XAML Designer/Intellisense

Windows 8.1
Windows Server 2012 R2

All other features work at parity with Windows 10, except:

- Deploy/Debug/Profile
  - Mobile Emulators
  - Remote Machine
  - Device
- XAML Intellisense
- No WACK (Server R2)

*Windows 7

All other features work at parity with Windows 10, except:

- Deploy/Debug/Profile
  - Remote Machine
  - Device
- XAML Intellisense

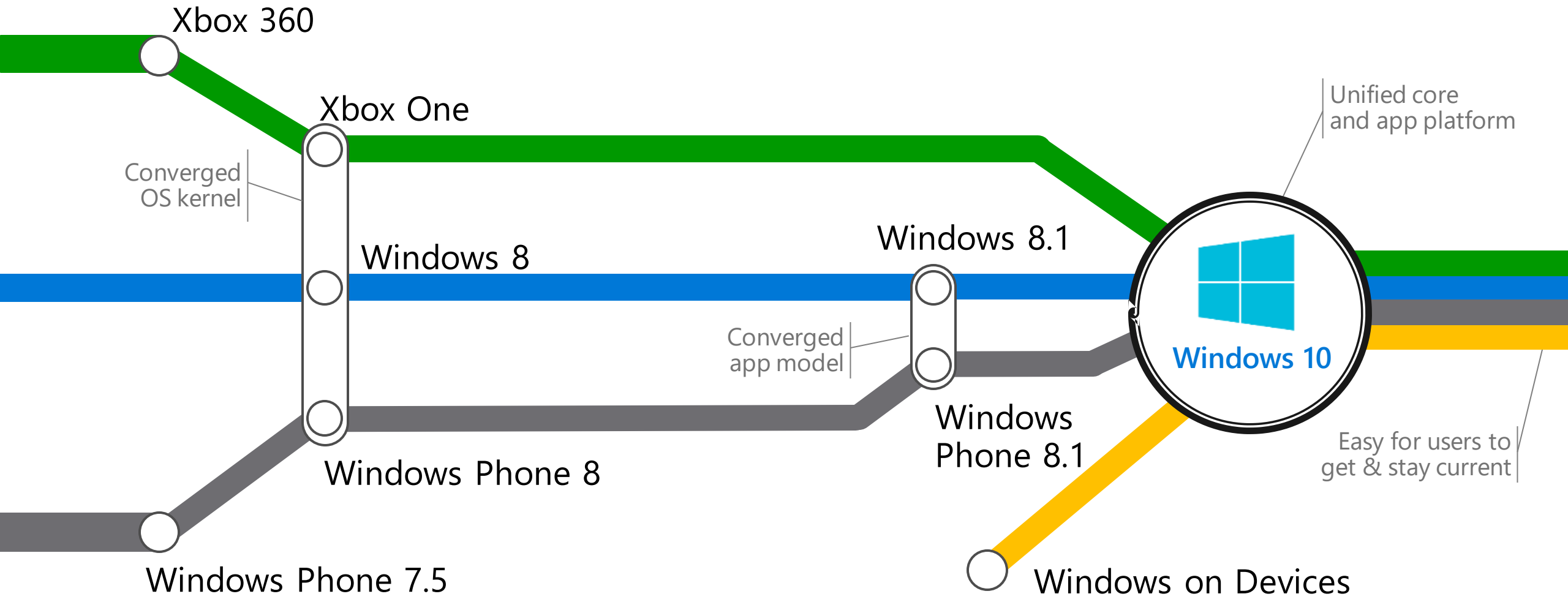
*will be supported at RTM

Reach customers on any device

Windows 10

Free upgrade for the first year

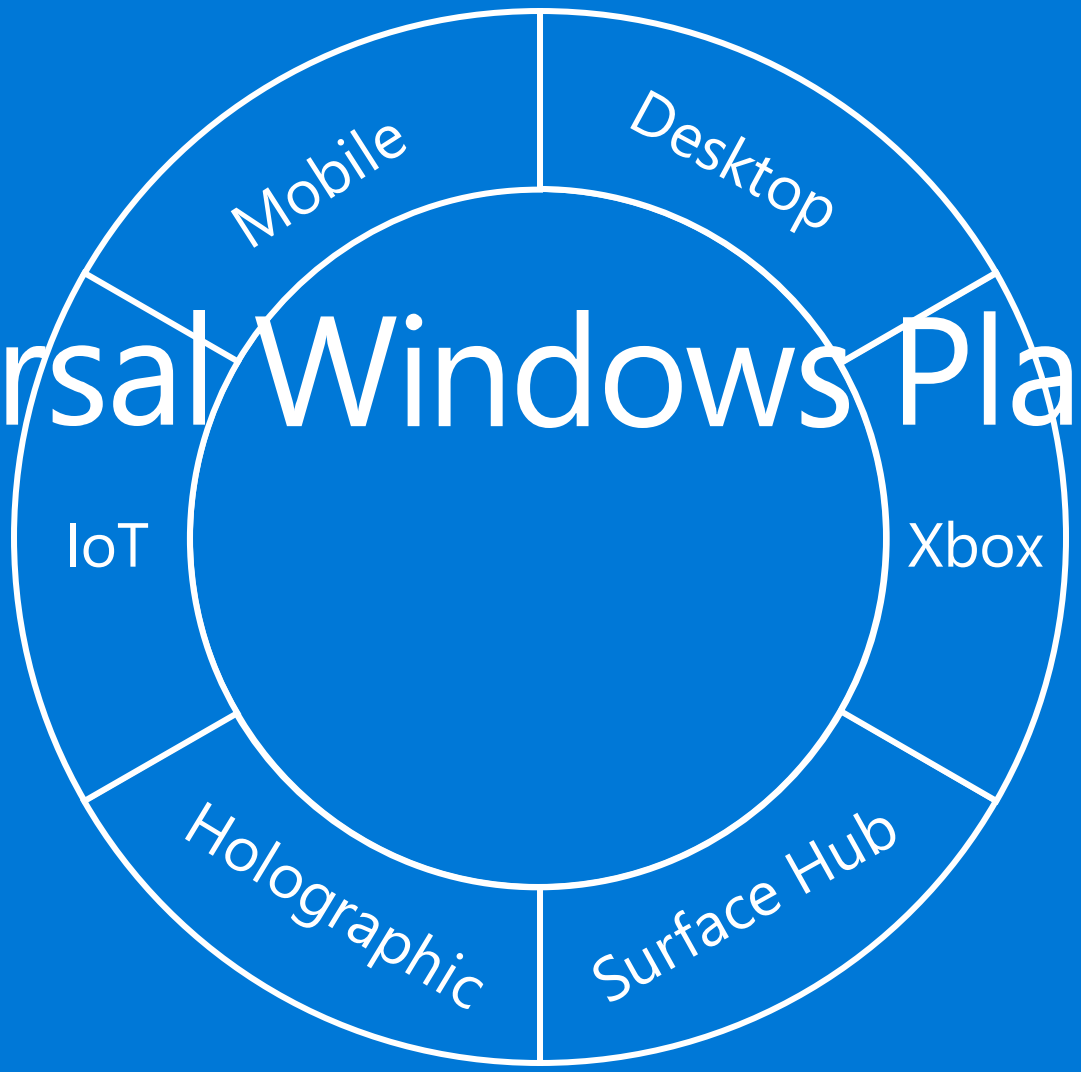
The convergence journey



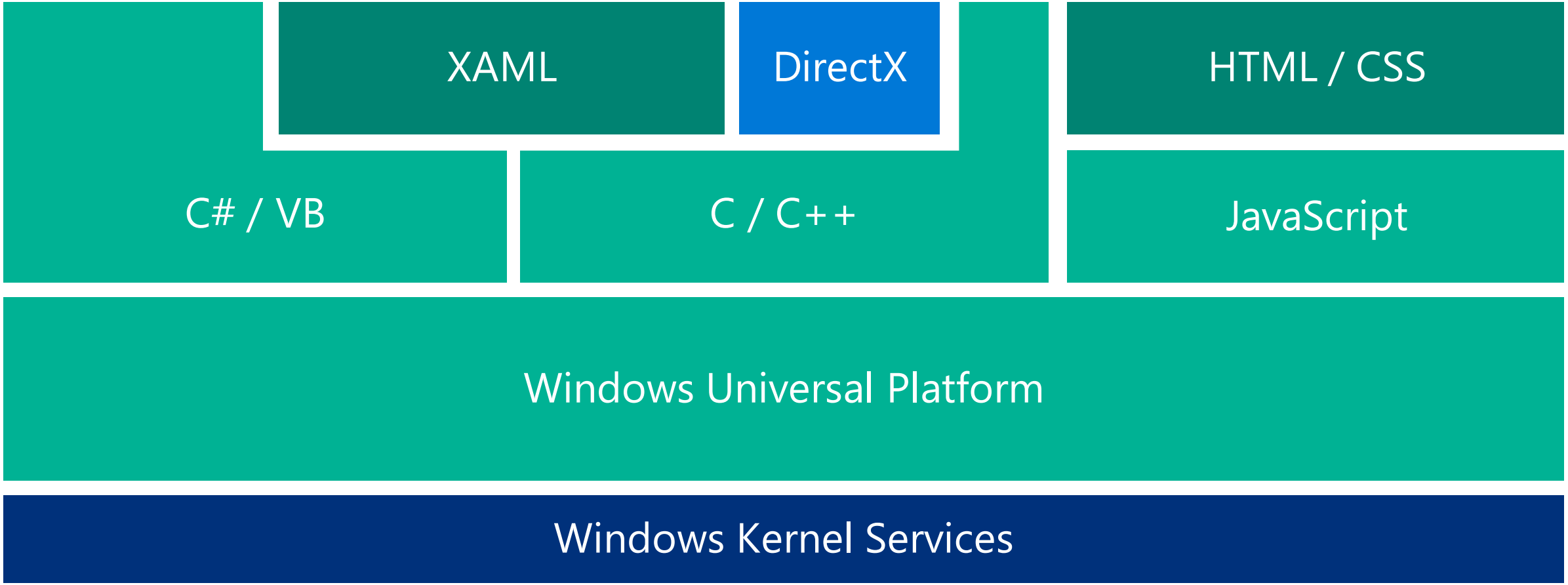
One app platform

One Package

Universal Windows Platform



One API. One Package. Same Platform.

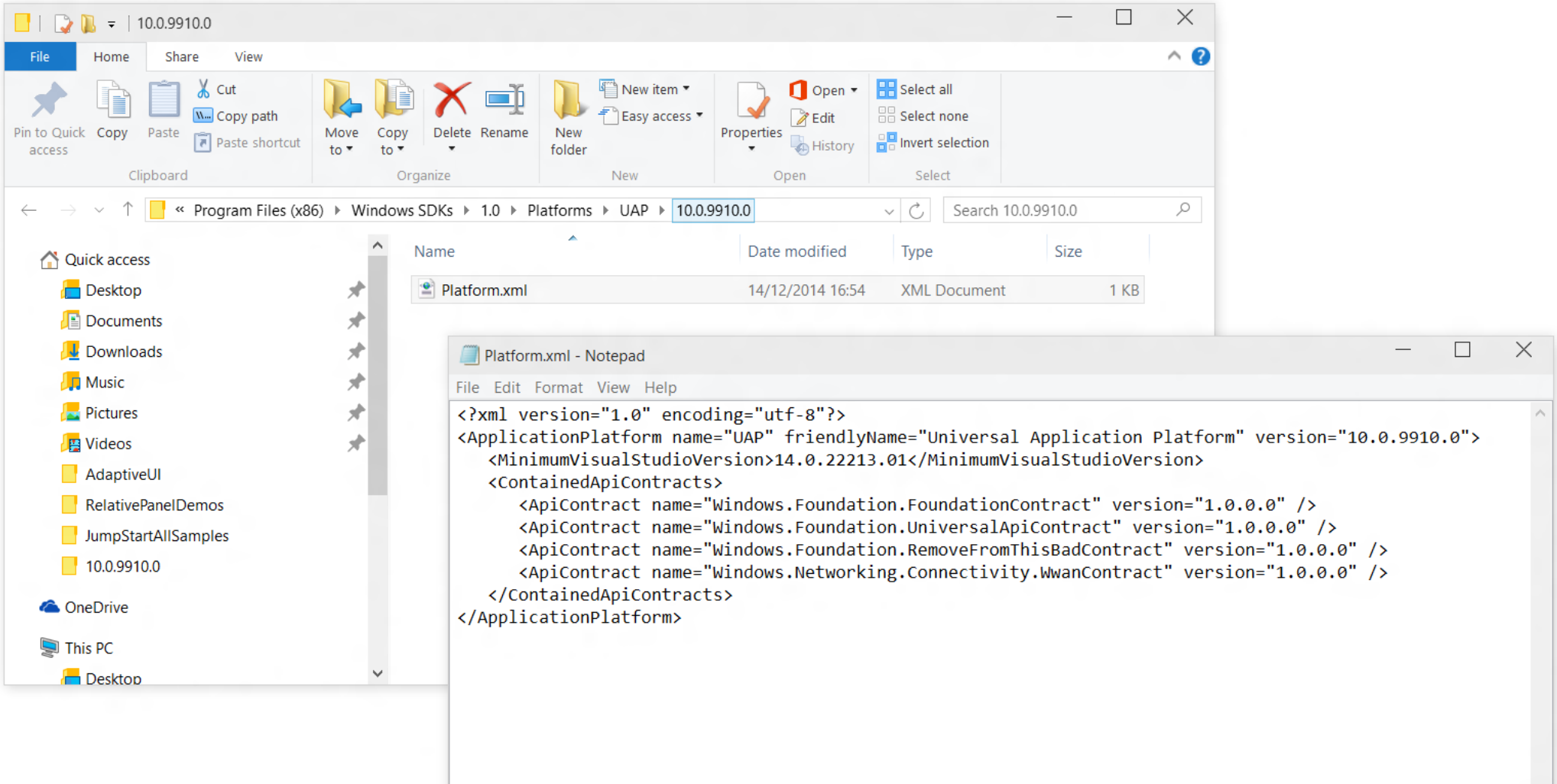


Target a version of UAP not the Operating System

Windows

WUP = Windows Universal Platform

- A collection of contracts & versions



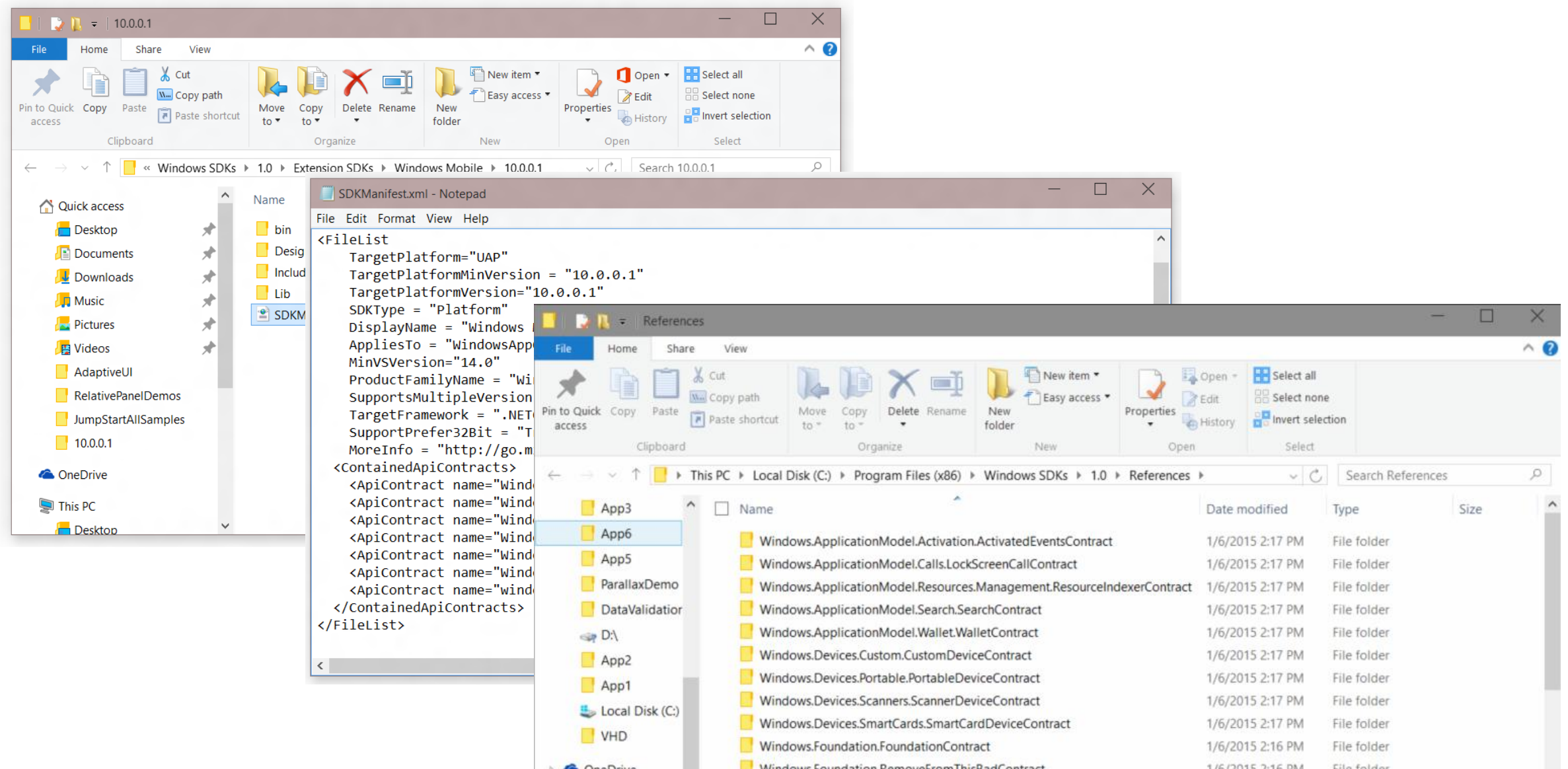
Platform Versioning

```
<TargetPlatform
    Name="Microsoft.Universal"
    minVersion="2.0.0.0"
    maxVersionTested="3.5.0.0" />
```

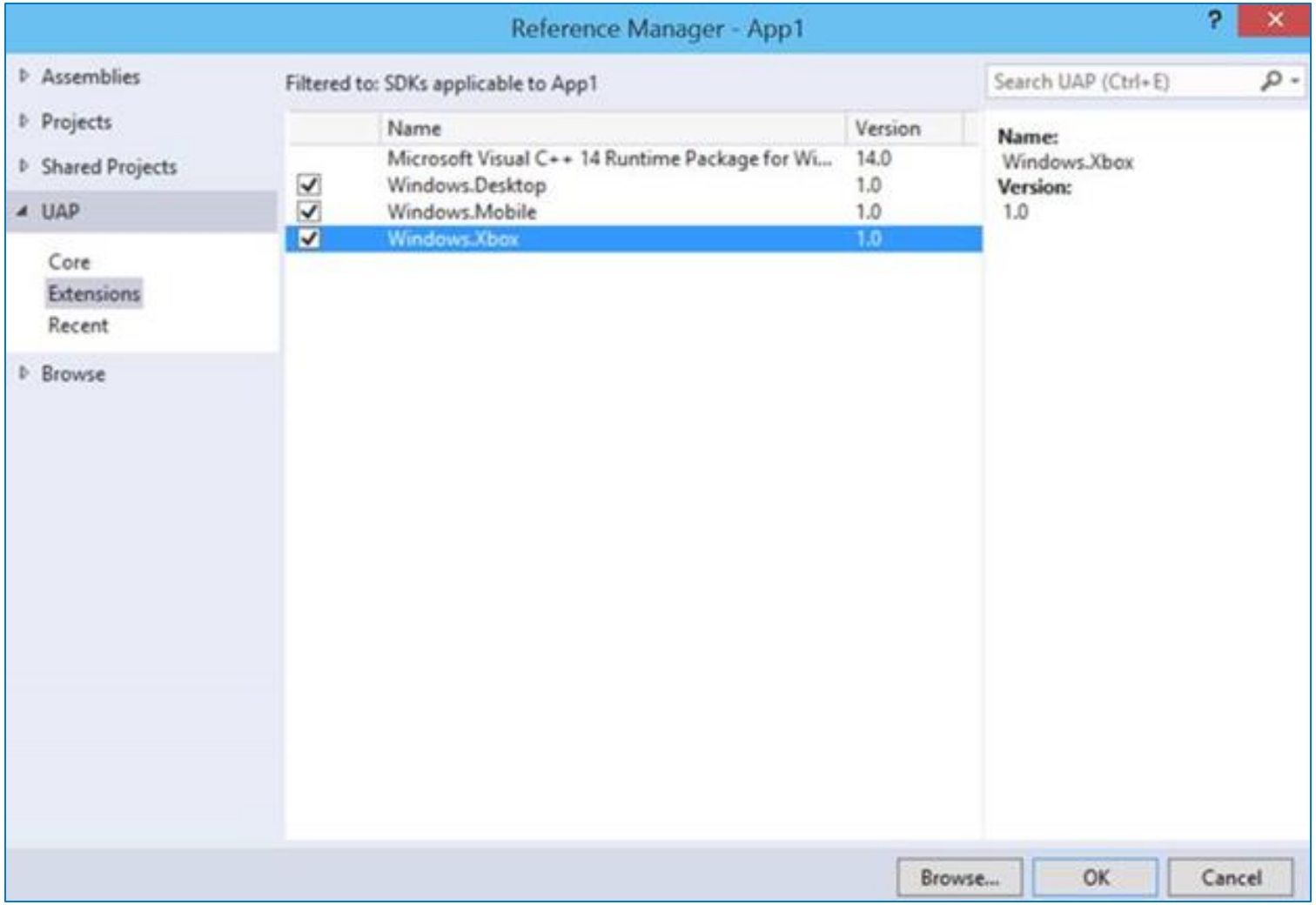
Extension SDKs

- Extends the UAP
- Targets specific platforms
- Updates at a separate cadence
- Enabled on every device

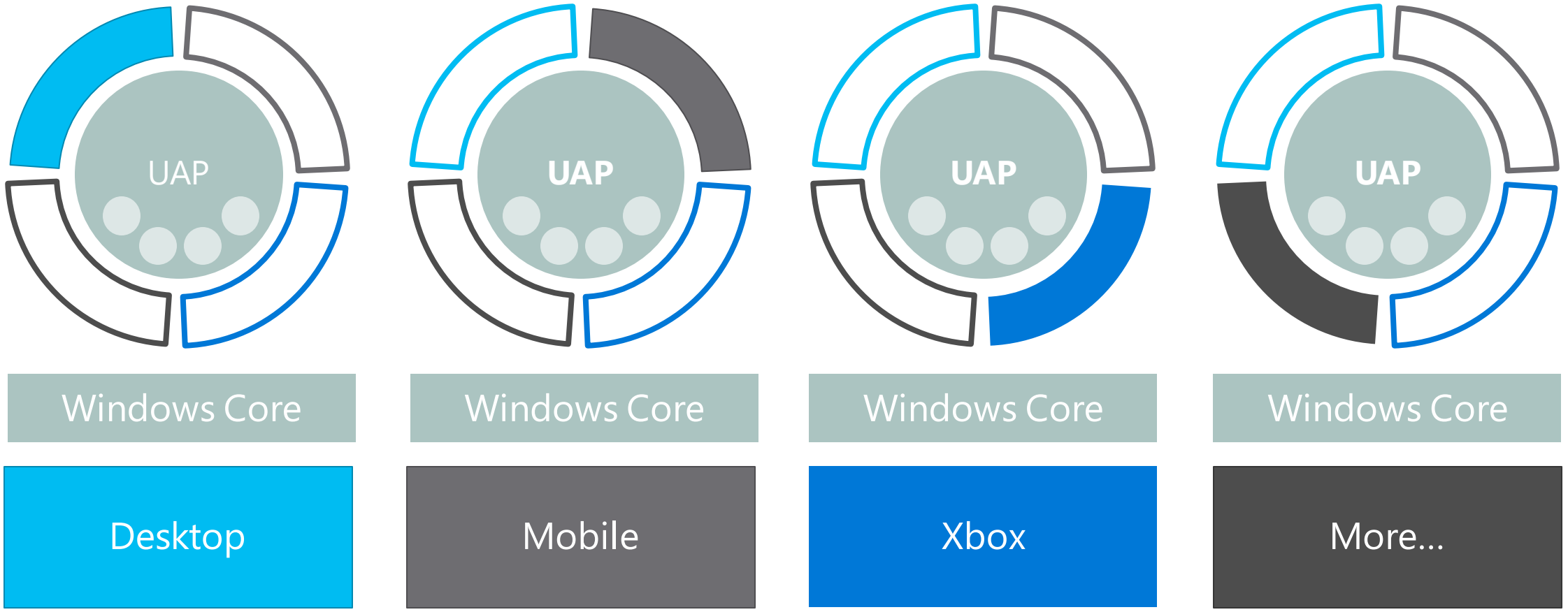
The Extension SDK/Manifest



Adding extensions



Extension SDKs



Adaptive Code *Run on Different Devices*

Windows Core

One Common source

One Windows kernel

One File I/O stack

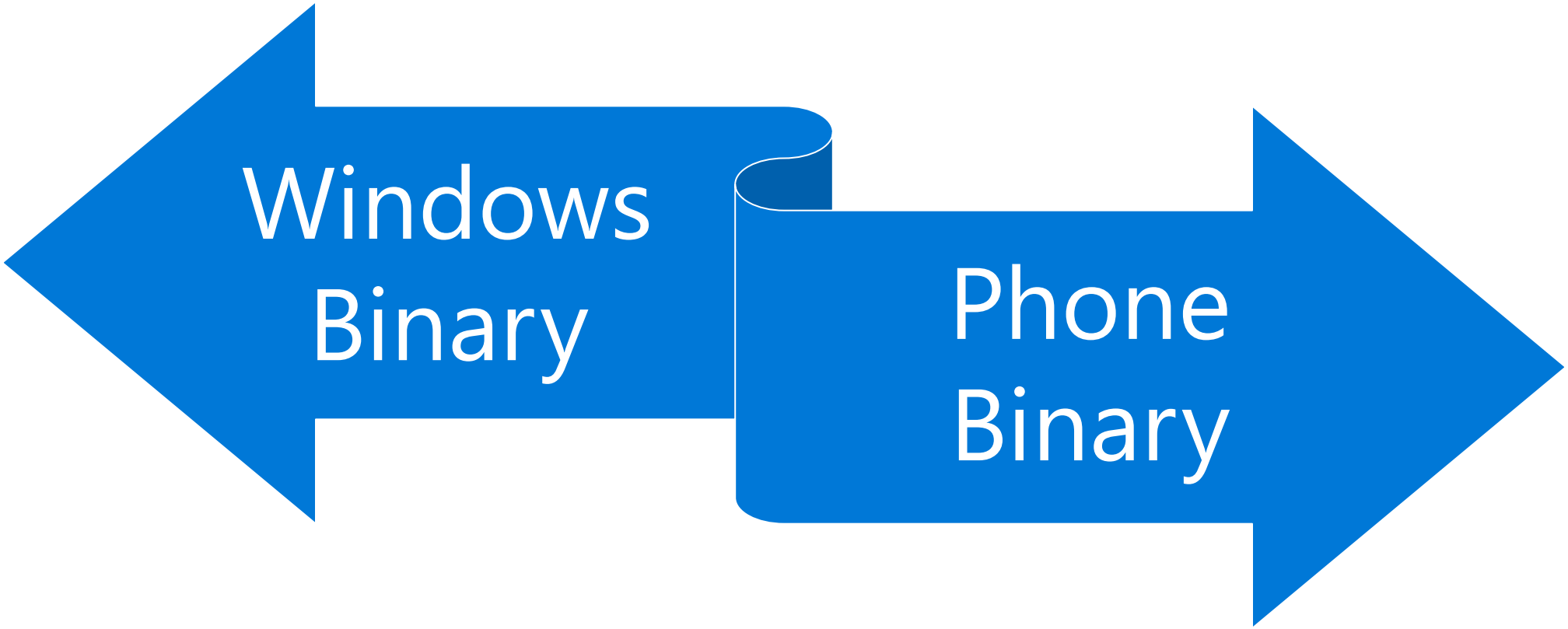
One App model

One Binary

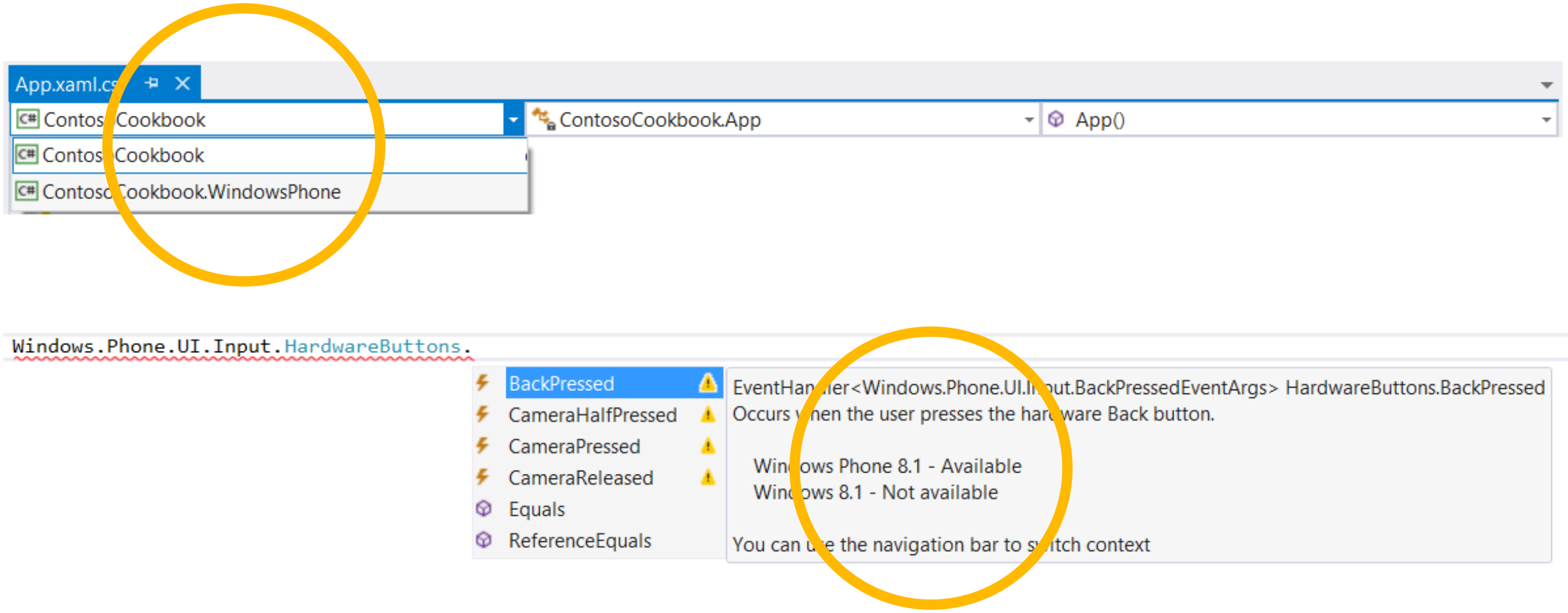
Developer Challenges:

- Hardware Features
- Screen Sizes

Shared Projects



Not all APIs were available everywhere



Compilation directives

- C# Syntax

```
#if WINDOWS_PHONE_APP
    Windows.Phone.UI.Input.HardwareButtons
        .BackPressed += this.HardwareButtons_BackPressed;
#endif
```

- C++ Syntax

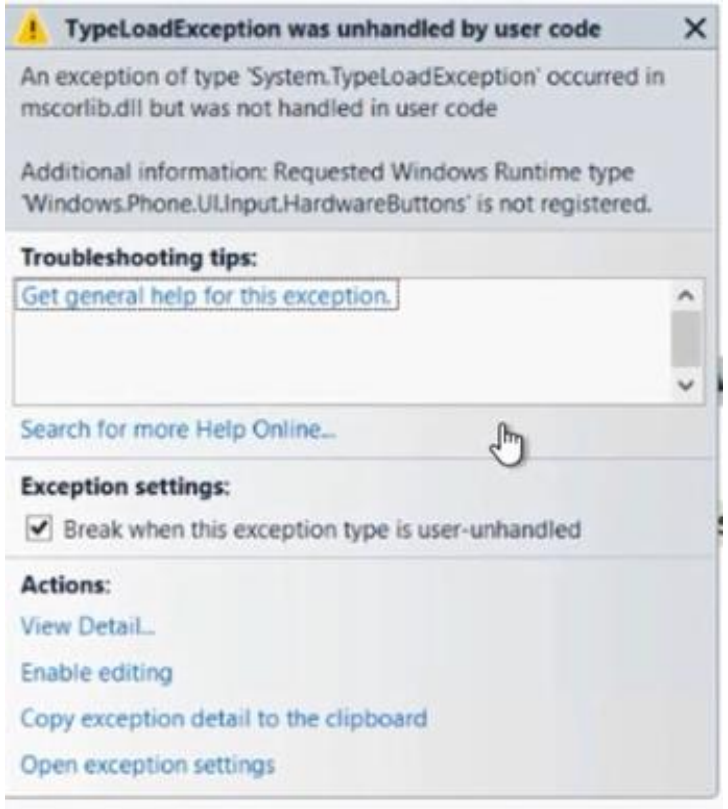
```
#if WINAPI_FAMILY==WINAPI_FAMILY_PHONE_APP
    _backPressedEventToken = HardwareButtons
        ::BackPressed +=  ref new EventHandler
        <BackPressedEventArgs^> (this,
        &NavigationHelper::HardwareButton_BackPressed);
#endif
```

Feature Detection

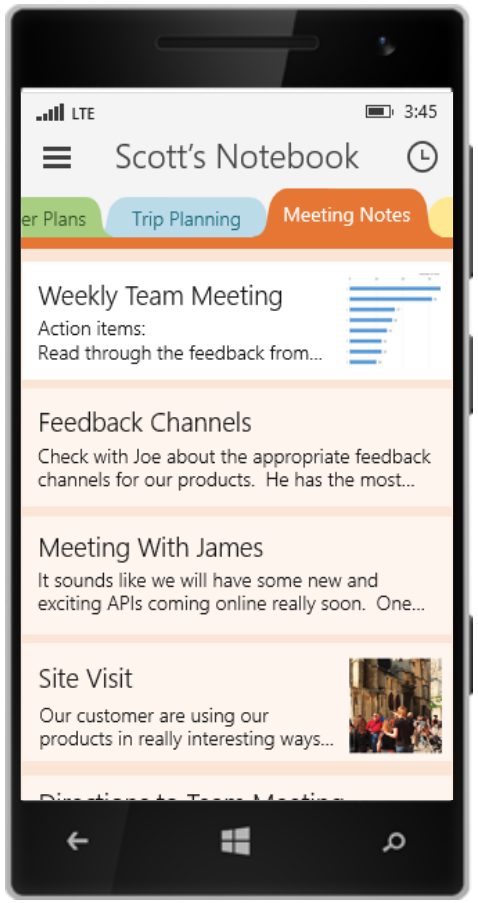
Testing for capabilities

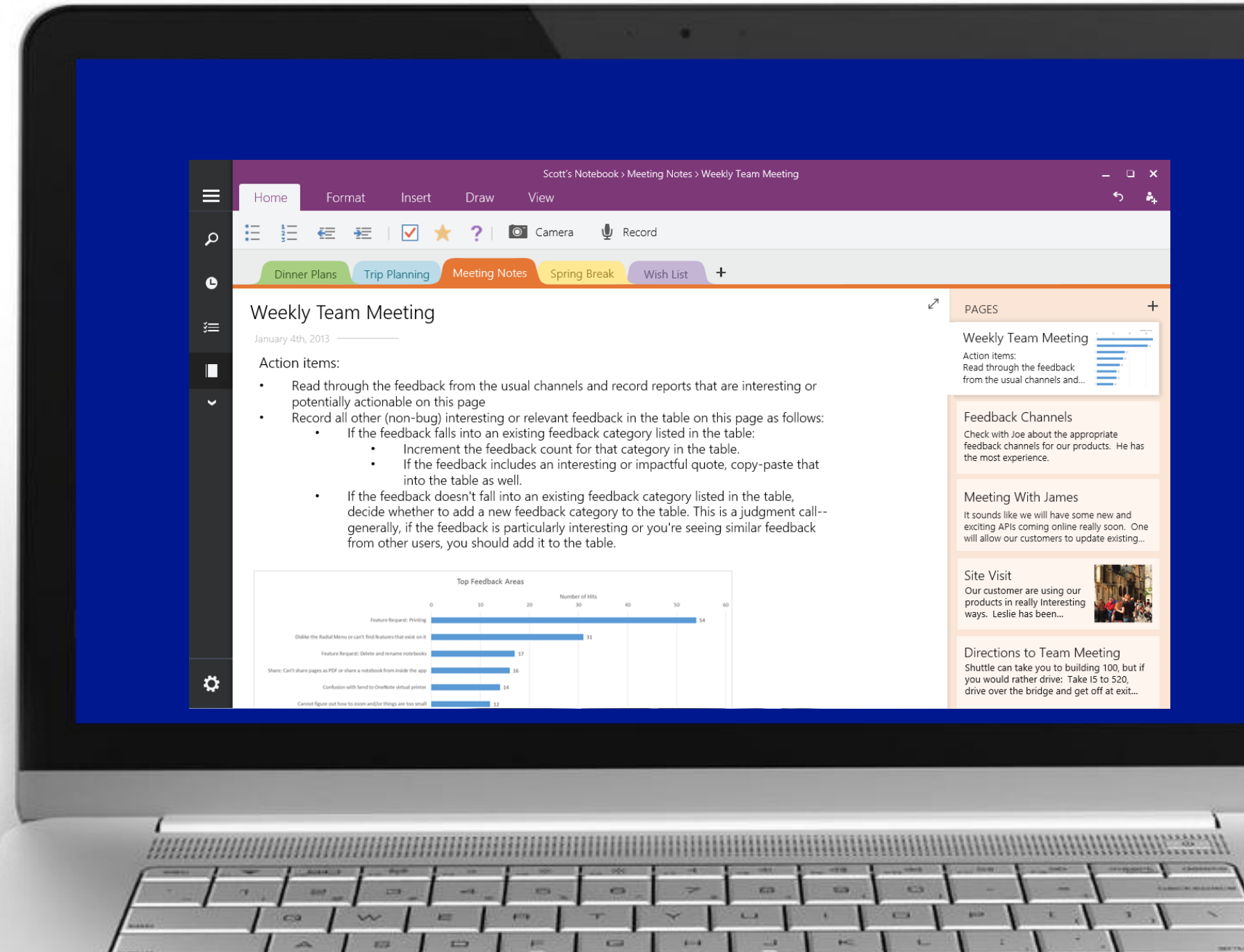
`Windows.Foundation.Metadata.ApiInformation`

```
IsApiContractPresent
IsEnumNamedValuePresent
IsEventPresent
IsMethodPresent
IsPropertyPresent
IsReadOnlyPropertyPresent
IsTypePresent
IsWriteablePropertyPresent
```



Adaptive UI


LTE
3:45
Scott's Notebook
er Plans
Trip Planning
Meeting Notes
Weekly Team Meeting
Action items:
Read through the feedback from...
Feedback Channels
Check with Joe about the appropriate feedback channels for our products. He has the most...
Meeting With James
It sounds like we will have some new and exciting APIs coming online really soon. One...
Site Visit
Our customer are using our products in really interesting ways...


Scott's Notebook › Meeting Notes › Weekly Team Meeting
Home
Format
Insert
Draw
View
Camera
Record
Dinner Plans
Trip Planning
Meeting Notes
Spring Break
Wish List
Weekly Team Meeting
January 4th, 2013
Action items:
Read through the feedback from the usual channels and record reports that are interesting or potentially actionable on this page
Record all other (non-bug) interesting or relevant feedback in the table on this page as follows:
If the feedback falls into an existing feedback category listed in the table:
Increment the feedback count for that category in the table.
If the feedback includes an interesting or impactful quote, copy-paste that into the table as well.
If the feedback doesn't fall into an existing feedback category listed in the table, decide whether to add a new feedback category to the table. This is a judgment call--generally, if the feedback is particularly interesting or you're seeing similar feedback from other users, you should add it to the table.
Top Feedback Areas
Number of Hits
PAGES
Weekly Team Meeting
Action items:
Read through the feedback from the usual channels and...
Feedback Channels
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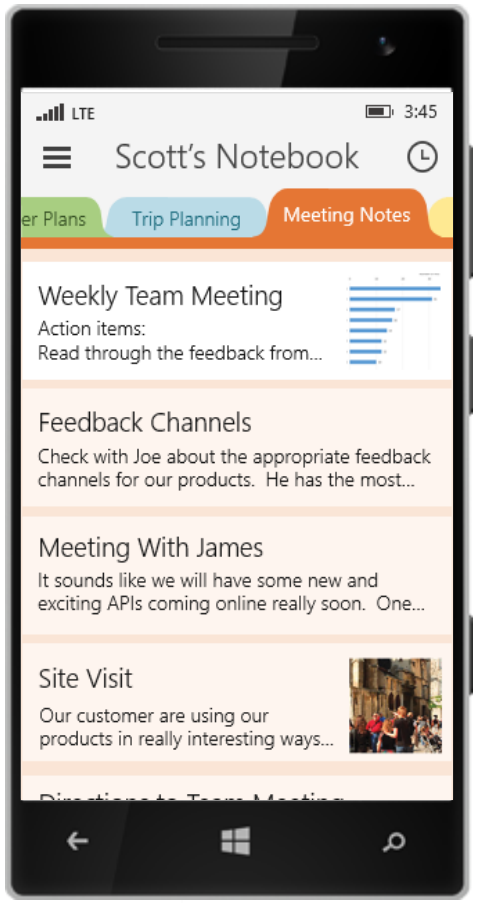
Site Visit
Our customer are using our products in really Interesting ways. Leslie has been...
Directions to Team Meeting
Shuttle can take you to building 100, but if you would rather drive: Take I5 to 520, drive over the bridge and get off at exit...

Adaptive UI

Adaptive UI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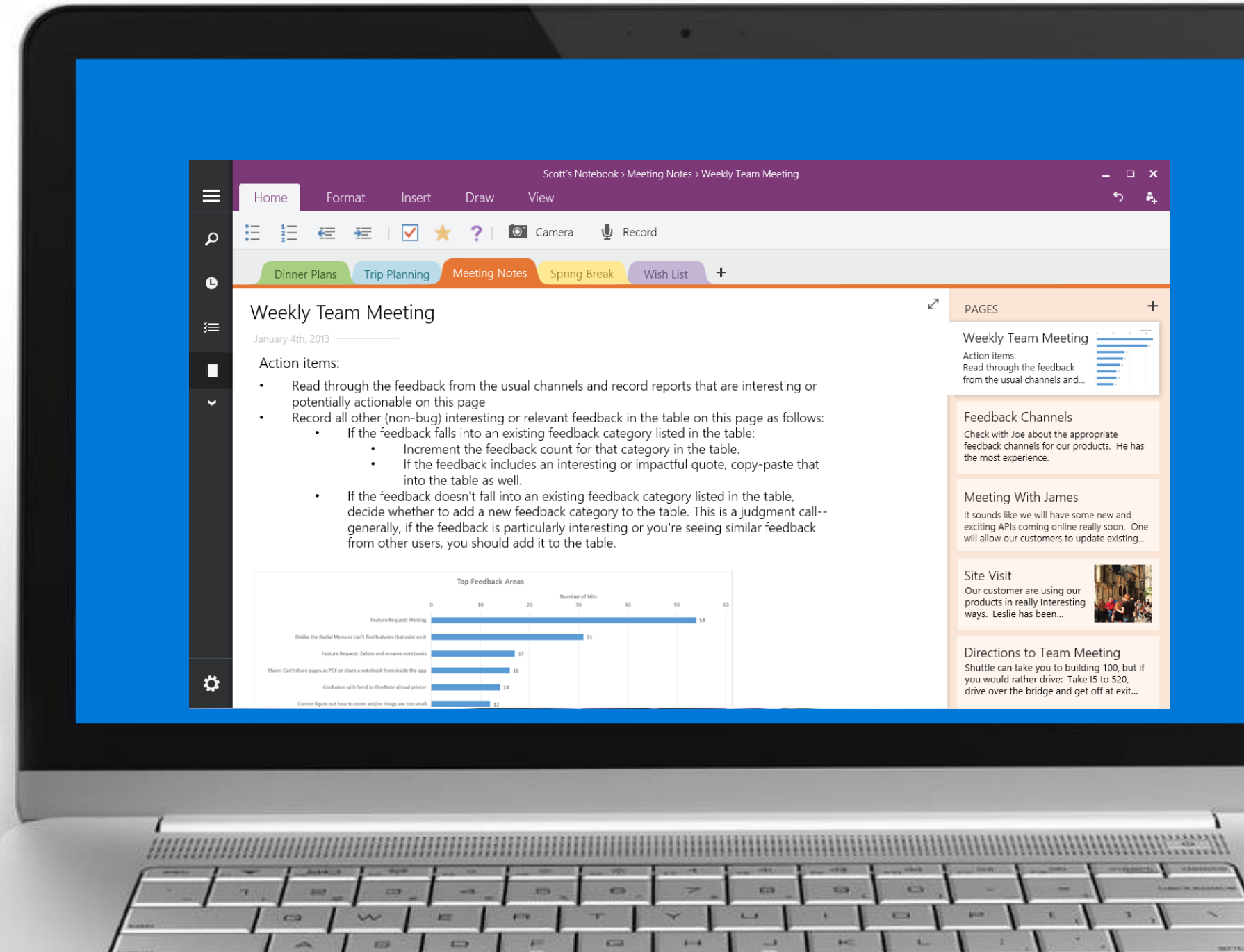
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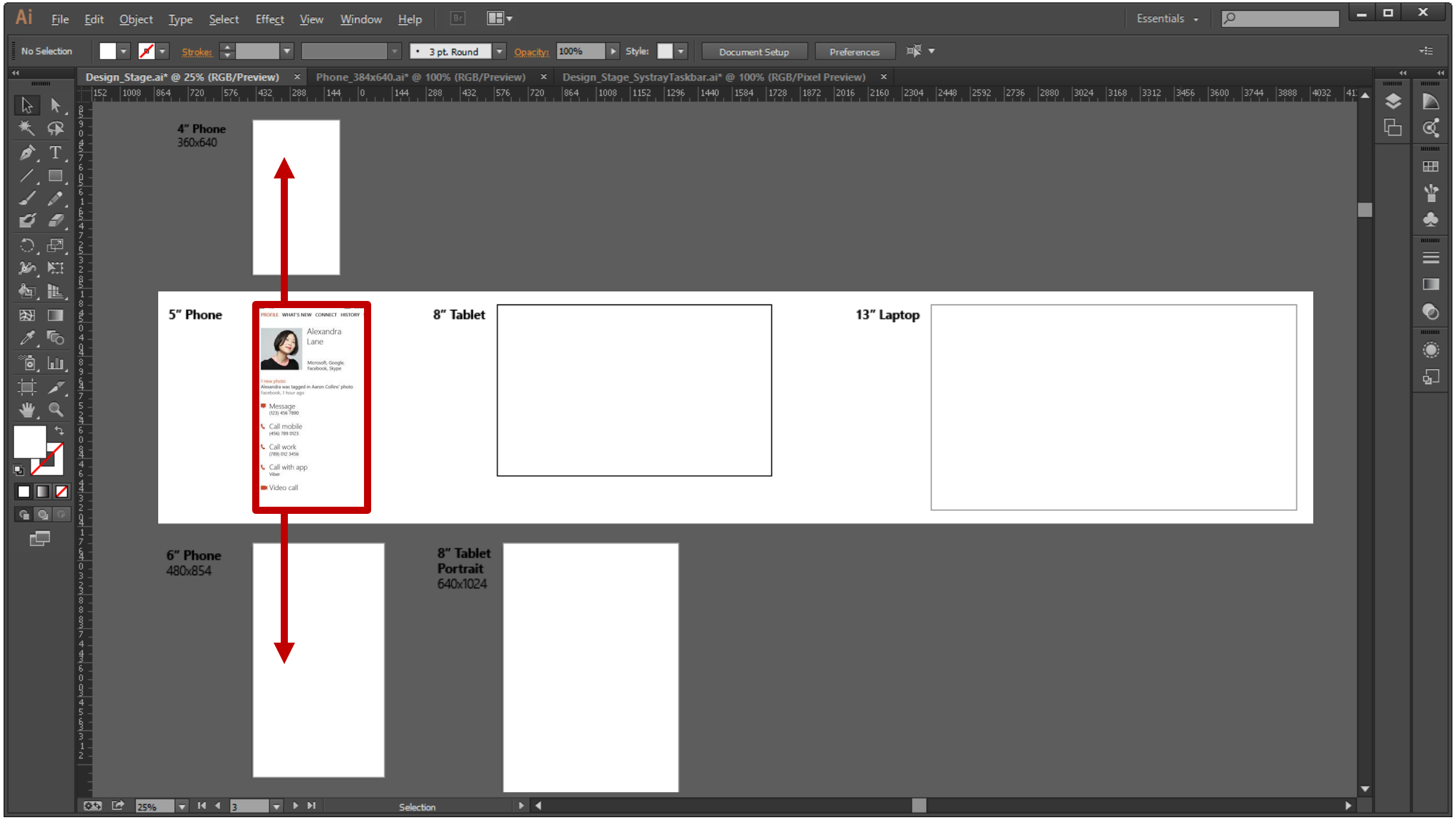
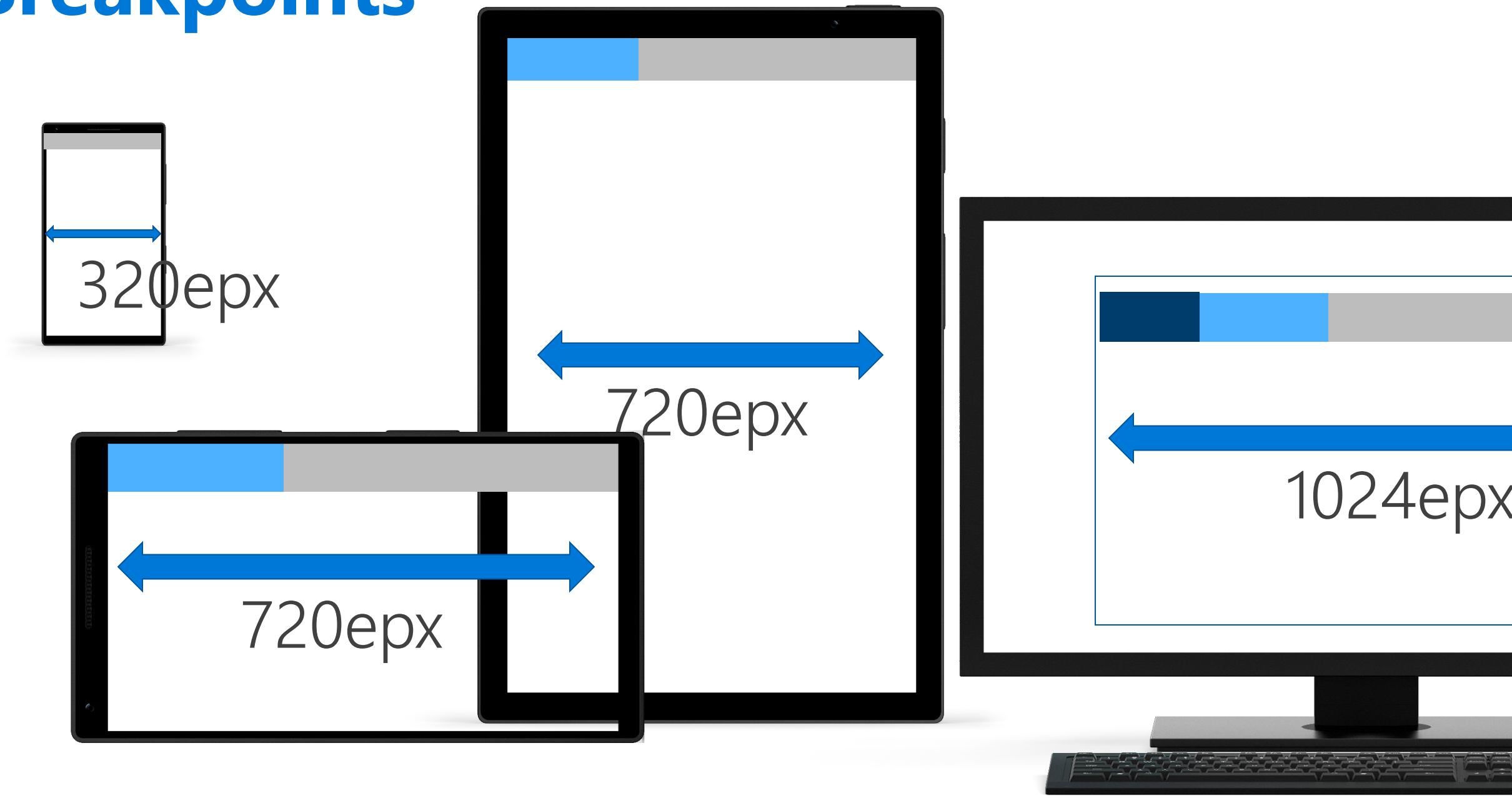
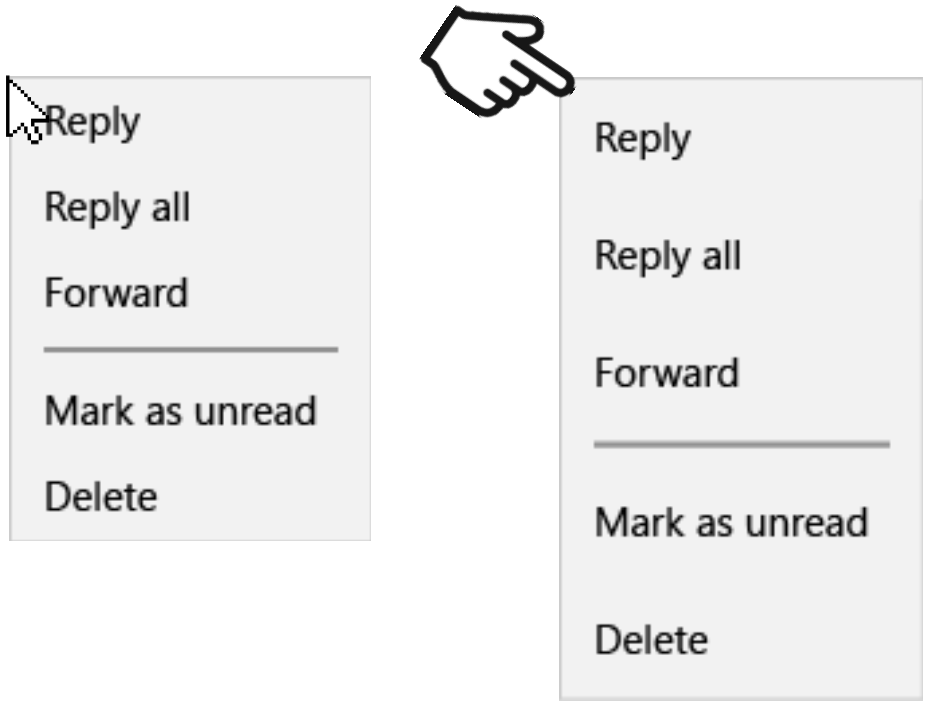

Ai
File Edit Object Type Select Effect View Window Help
Essentials
No Selection
Stroke:
3 pt. Round
Opacity:
100%
Style:
Document Setup
Preferences
Design_Stage.ai* @ 25% (RGB/Preview)
Phone_384x640.ai* @ 100% (RGB/Preview)
Design_Stage_SystrayTaskbar.ai* @ 100% (RGB/Pixel Preview)
4" Phone
360x640
5" Phone
PROFILE WHAT'S NEW CONNECT HISTORY
Alexandra Lane
Microsoft, Google, Facebook, Skype
Message
Call mobile
Call work
Call with app
Viber
Video call
8" Tablet
13" Laptop
6" Phone
480x854
8" Tablet Portrait
640x1024
25%
Selection

Breakpoints

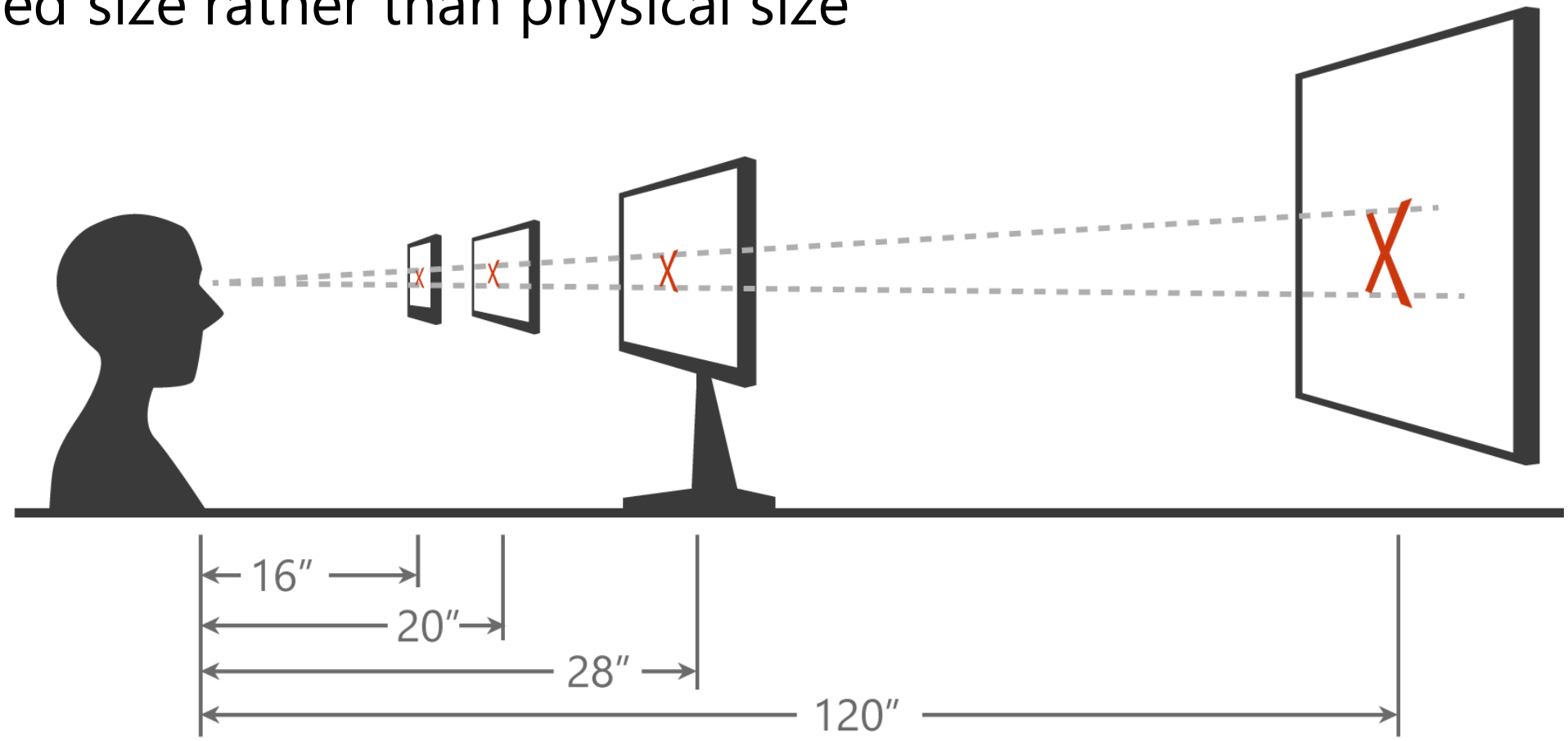


Input-Aware Context Menu

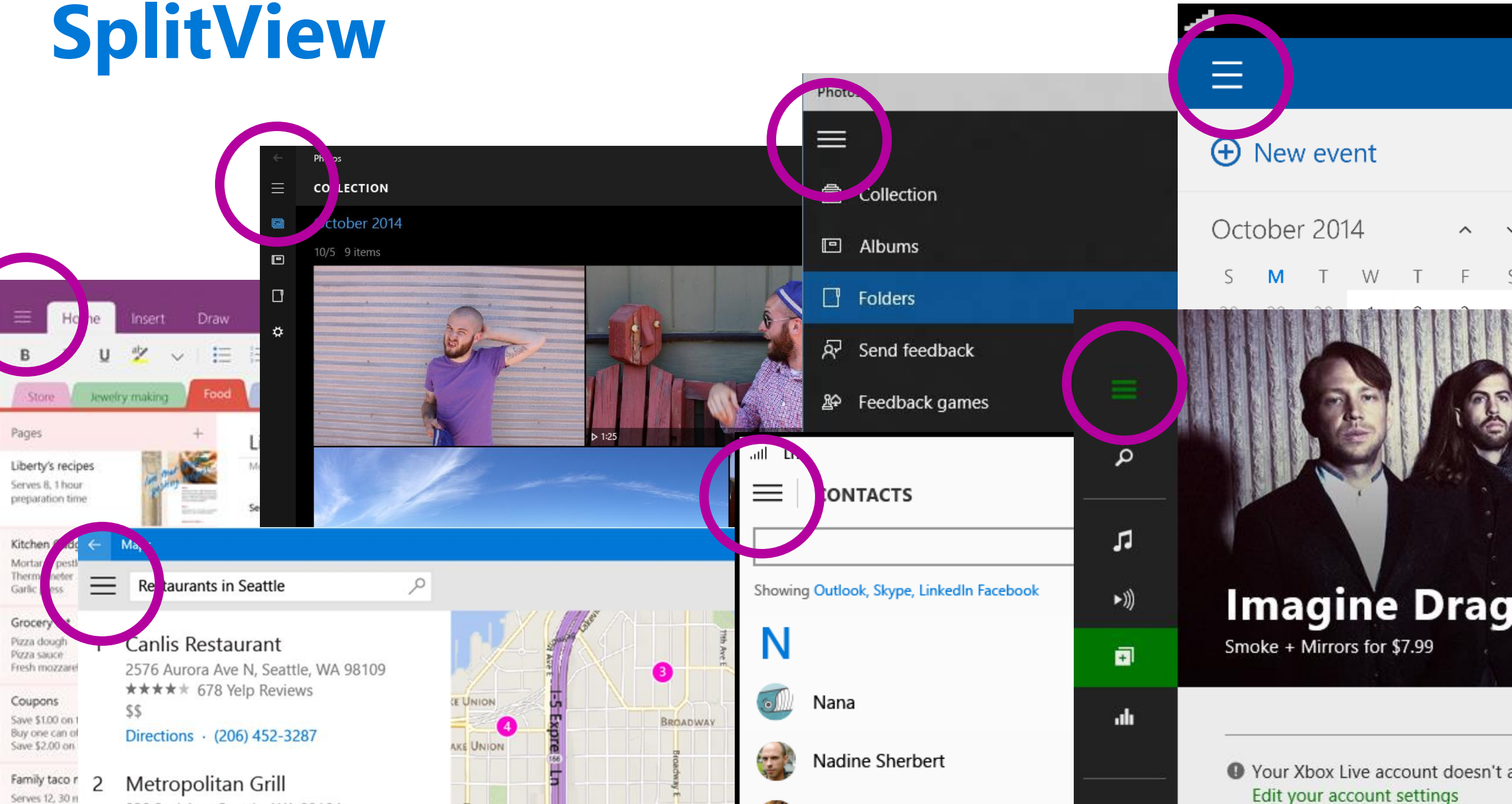


Scaling algorithm & effective pixels

Takes **viewing distance** and **pixel density** into account to optimize for perceived size rather than physical size



SplitView


Collection
Albums
Folders
Send feedback
Feedback games
New event
October 2014
S M T W T F
Insert
Draw
Store
Jewelry making
Food
Pages
Liberty's recipes
Serves 8, 1 hour preparation time
COLLECTION
October 2014
10/5 9 items
1:25
CONTACTS
Showing Outlook, Skype, LinkedIn Facebook
N
Nana
Nadine Sherbert
Restaurants in Seattle
1 Canlis Restaurant
2576 Aurora Ave N, Seattle, WA 98109
678 Yelp Reviews
$$
Directions · (206) 452-3287
2 Metropolitan Grill
Broadway
Imagine Drag
Smoke + Mirrors for $7.99
Your Xbox Live account doesn't a
Edit your account settings

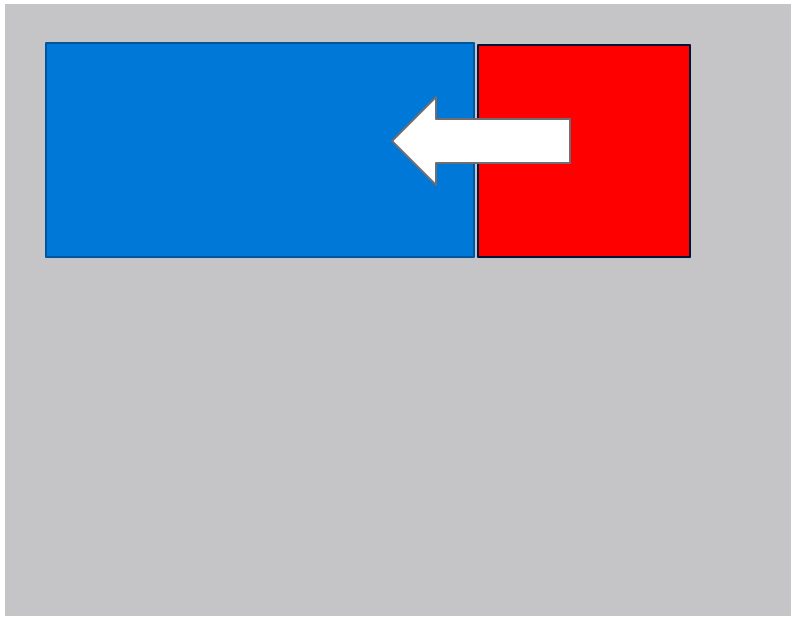
Introducing the Relative Panel

Windows XAML layout controls

Grid | Stack Panel | Canvas | Scroll Viewer | Border | View Box | Wrap Grid | **Relative Panel**

Relative Panel is a XAML layout control. It arranges children by declaring relationships between them.

Relative Panel (XAML)



```
<RelativePanel>

    <Rectangle x:Name="BlueRect"
       Height="100" Width="100" Fill="Blue" />

    <Rectangle x:Name="RedRect"
       Height="100" Width="100" Fill="Red"
       RelativePanel.RightOf="BlueRect"
       RelativePanel.AlignVerticalCenterWith="BlueRect" />

</RelativePanel>
```

Simplify the visual tree

```
<Grid>
        <StackPanel>
                <StackPanel>
                        <TextBlock />
                        <TextBlock />
                </StackPanel>
                <StackPanel>
                        <TextBlock />
                        <TextBlock />
                </StackPanel>
        </StackPanel>
</Grid>
```

```
<RelativePanel>
        <TextBlock />
        <TextBlock />
        <TextBlock />
        <TextBlock />
</RelativePanel >
```

Visual State Triggers

```
<VisualStateGroup x:Name="WindowSizeStates">
        <VisualState x:Name="WideState">
                <VisualState.StateTriggers>
                        <AdaptiveTrigger MinWindowWidth="720" />
                </VisualState.StateTriggers>
                <!- - more - - !>
        </VisualState>
</VisualStateGroup>
```

Visual State Setters (code snippet)

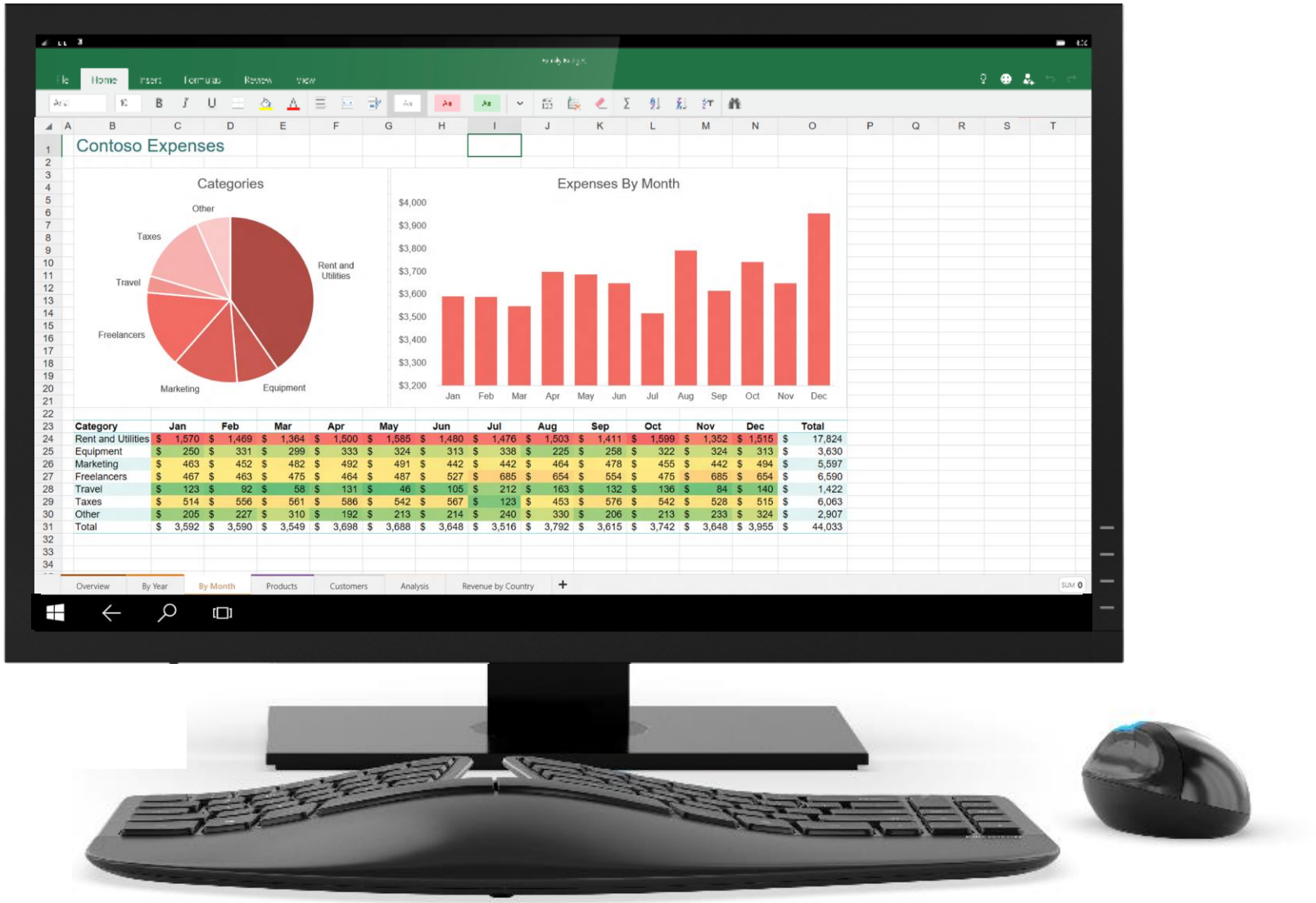
```
<VisualState x:Name="Pressed">
        <Storyboard>
                <ObjectAnimationUsingKeyFrames Storyboard.TargetName="RootGrid"
                        Storyboard.TargetProperty="Background">
                        <DiscreteObjectKeyFrame KeyTime="0" Value="{ThemeResource
                                SystemControlBackgroundBaseMediumLowBrush}" />
                </ObjectAnimationUsingKeyFrames>
                <ObjectAnimationUsingKeyFrames Storyboard.TargetName="ContentPresenter"
                        Storyboard.TargetProperty="BorderBrush">
                        <DiscreteObjectKeyFrame KeyTime="0" Value="{ThemeResource
                                SystemControlHighlightTransparentBrush}" />
                </ObjectAnimationUsingKeyFrames>
                <ObjectAnimationUsingKeyFrames Storyboard.TargetName="ContentPresenter"
                        Storyboard.TargetProperty="Foreground">
                        <DiscreteObjectKeyFrame KeyTime="0" Value="{ThemeResource
                                SystemControlHighlightBaseHighBrush}" />
                </ObjectAnimationUsingKeyFrames>
        </Storyboard>
</VisualState>
```

Relative Panel

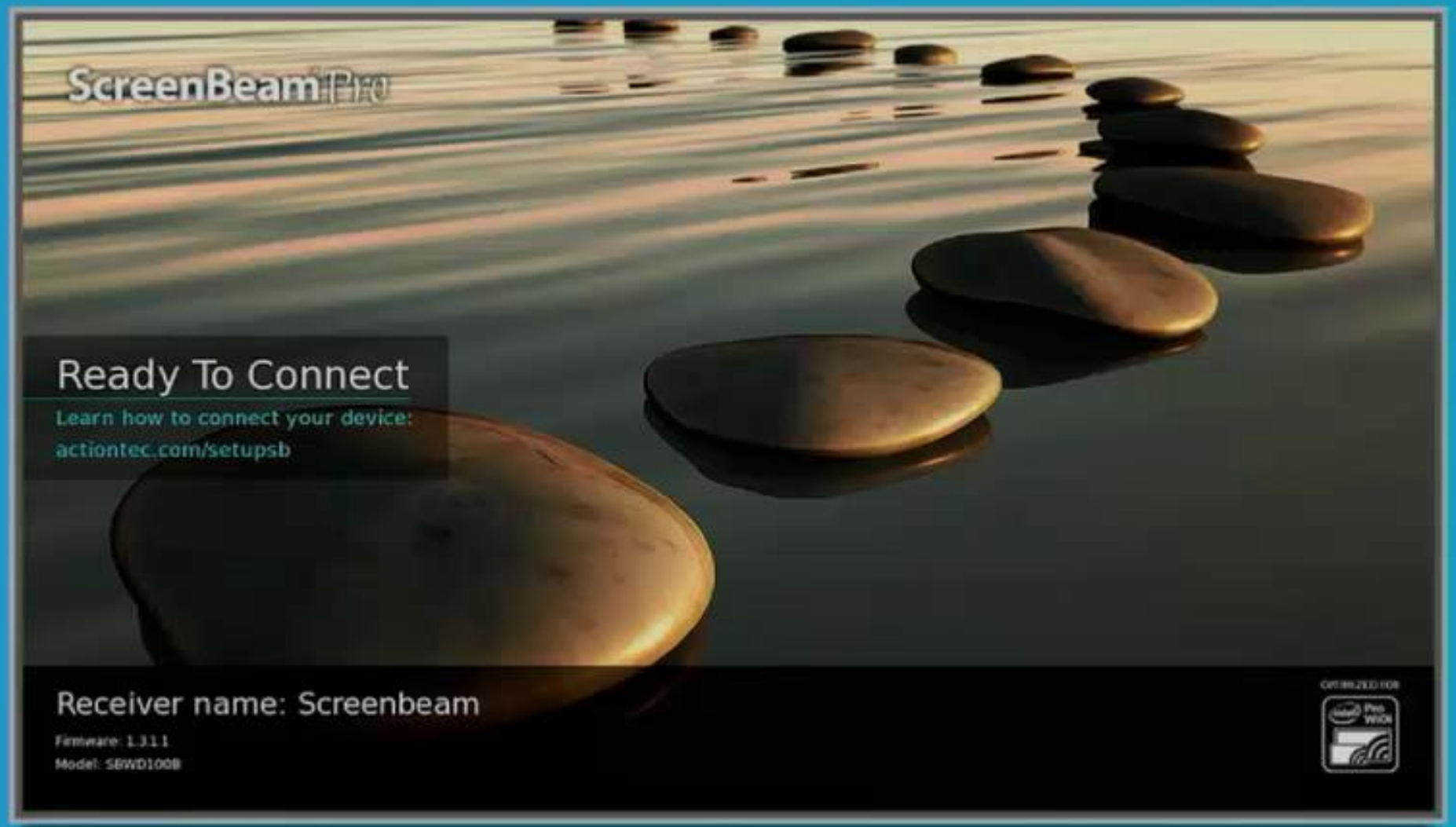
DEMO

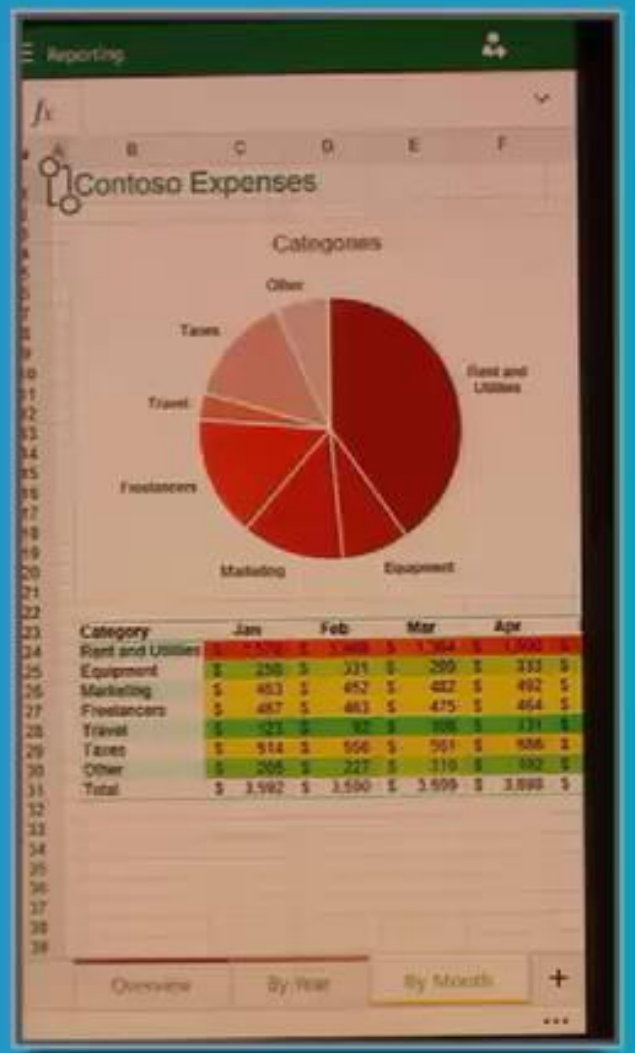
Windows

Introducing Continuum



Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Rent and Utilities	$ 1,570	$ 1,469	$ 1,364	$ 1,500	$ 1,585	$ 1,480	$ 1,476	$ 1,503	$ 1,411	$ 1,599	$ 1,352	$ 1,515	$ 17,824
Equipment	$ 250	$ 331	$ 299	$ 333	$ 324	$ 313	$ 338	$ 225	$ 258	$ 322	$ 324	$ 313	$ 3,630
Marketing	$ 463	$ 452	$ 482	$ 492	$ 491	$ 442	$ 442	$ 464	$ 478	$ 455	$ 442	$ 494	$ 5,597
Freelancers	$ 467	$ 463	$ 475	$ 464	$ 487	$ 527	$ 685	$ 654	$ 554	$ 475	$ 685	$ 654	$ 6,590
Travel	$ 123	$ 92	$ 58	$ 131	$ 46	$ 105	$ 212	$ 163	$ 132	$ 136	$ 84	$ 140	$ 1,422
Taxes	$ 514	$ 556	$ 561	$ 586	$ 542	$ 567	$ 123	$ 453	$ 576	$ 542	$ 528	$ 515	$ 6,063
Other	$ 205	$ 227	$ 310	$ 192	$ 213	$ 214	$ 240	$ 330	$ 206	$ 213	$ 233	$ 324	$ 2,907
Total	$ 3,592	$ 3,590	$ 3,549	$ 3,698	$ 3,688	$ 3,648	$ 3,516	$ 3,792	$ 3,615	$ 3,742	$ 3,648	$ 3,955	$ 44,033


ScreenBeam Pro
Ready To Connect
Learn how to connect your device:
actiontec.com/setupsb
Receiver name: Screenbeam
Firmware: 1.3.1.1
Model: SBWD100B


Reporting
Contoso Expenses
Categories
Other
Taxes
Travel
Freelancers
Marketing
Equipment
Rent and Utilities
Category
Jan
Feb
Mar
Apr
Rent and Utilities
Equipment
Marketing
Freelancers
Travel
Taxes
Other
Total
Overview
By Year
By Month

App to App in Windows 10 UWP

Enhanced App to App in Windows 10

Launch a *specific* app

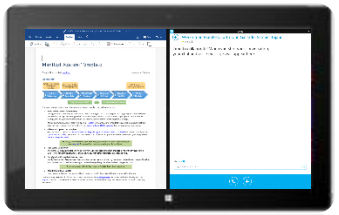
Send file token, send data

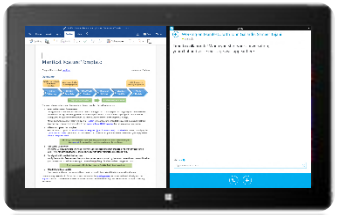
Launch for Results

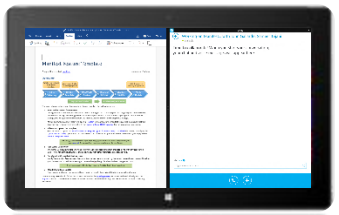
App Services

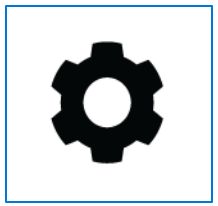
Shared Folder

Drag & Drop



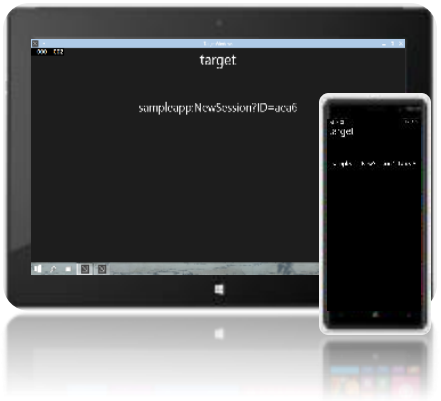




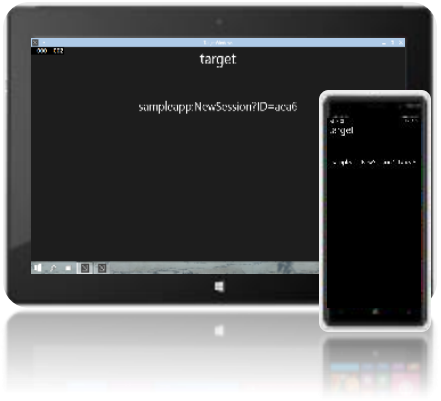


App Services

Client App A



Client App B



App with App Service

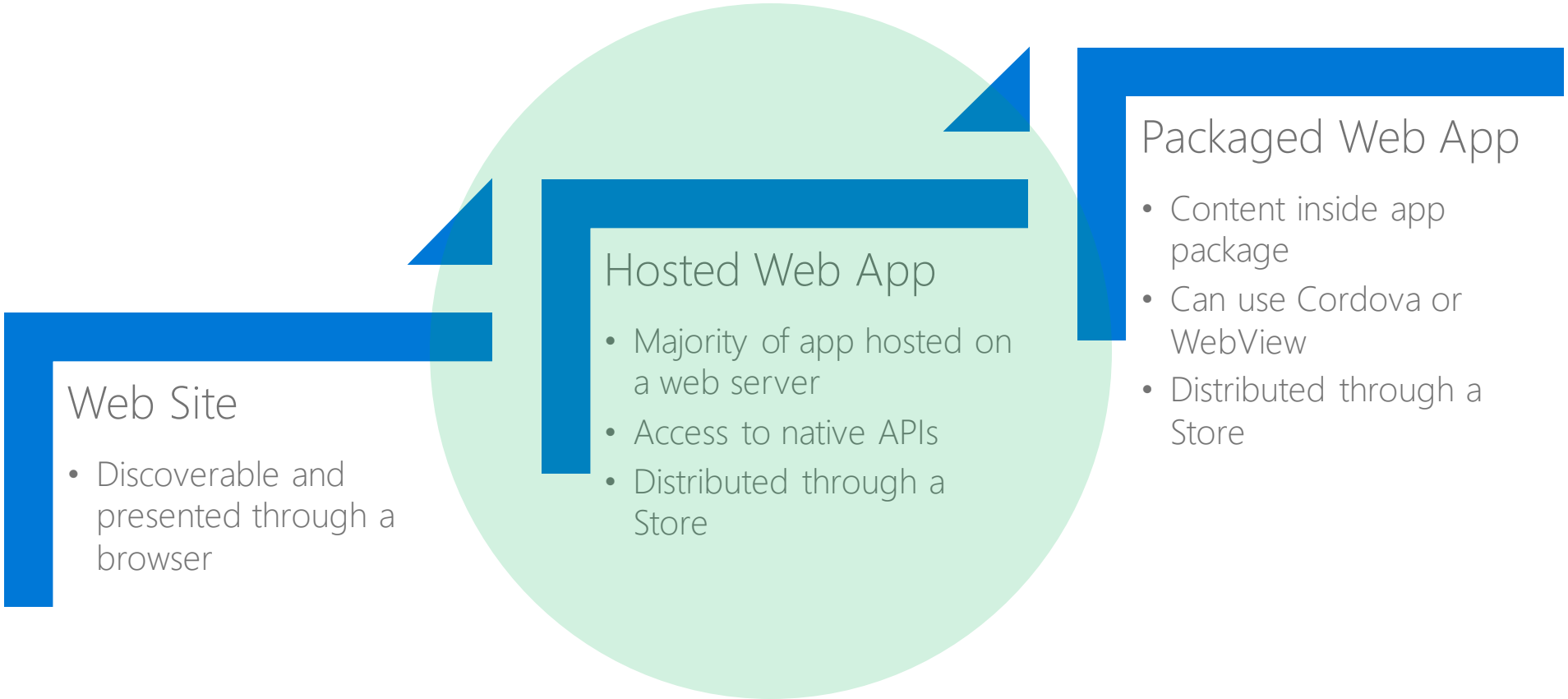
Background Task

Reusing your investments & Bridges


1 Billion Windows 10 Devices
Windows Store
Universal Windows Platform
Web
.NET & Win32
Android
Java/C++
iOS
Objective C

Project Westminster „Hosted Web App“

Bring Web Apps to the Windows Store



Hosted Web App

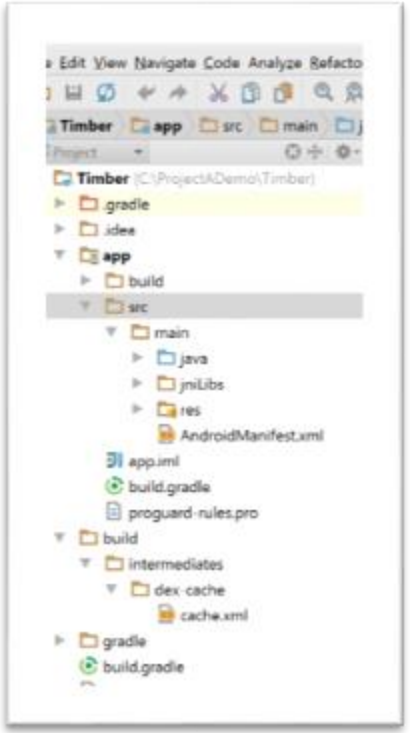
DEMO

Windows

Project Astoria

Bring Android Apps to the Windows Store for Phones

Your Android Code
(Project Astoria SDK & App analysis)



+

Your IDE
(Project Astoria Plugins)

IntelliJ

Android Studio

Eclipse

+

Your dev machine

Windows

Mac

+

Windows Magic

Live tiles

bing ads

XBOX LIVE

...

→

Your app in the Windows Store

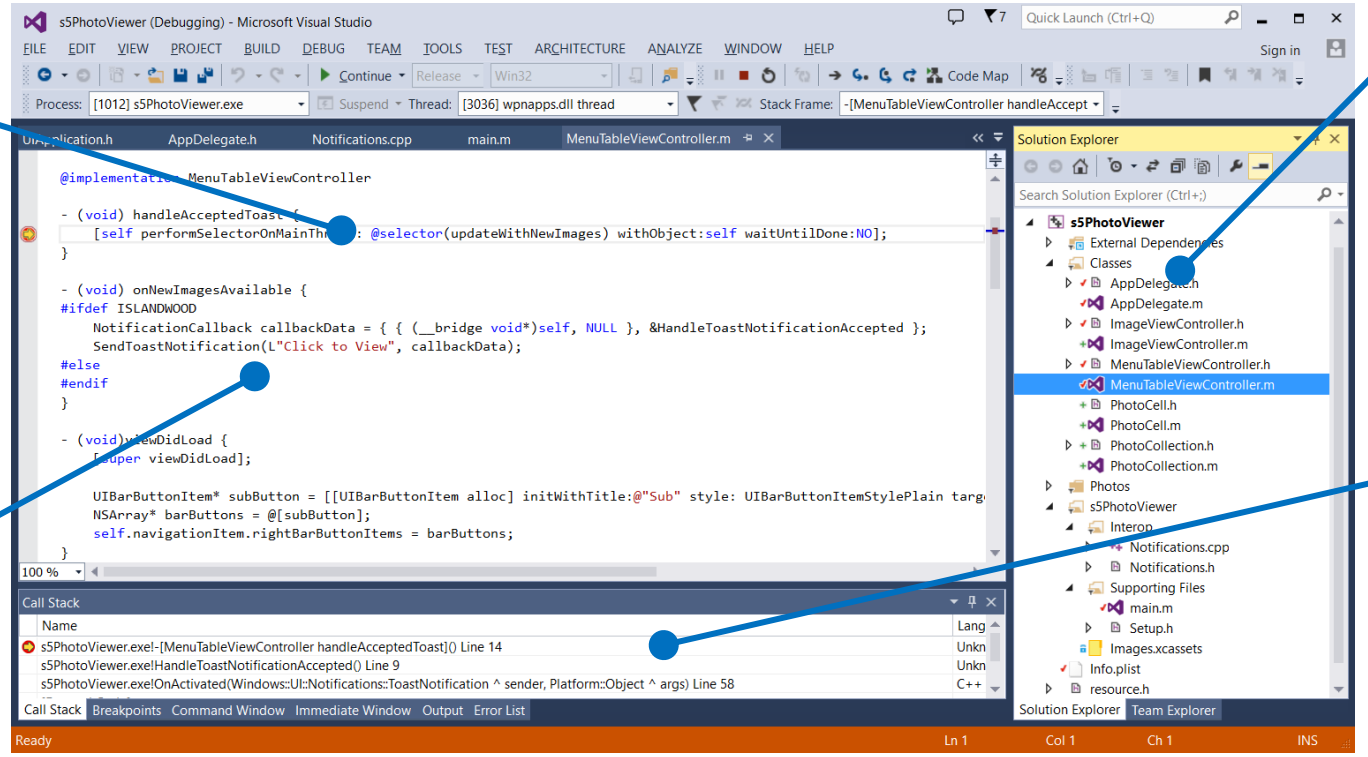
Project Islandwood

Bring iOS Apps to the Windows Store

Compile Objective-C for Windows in Visual Studio

Integrated language support: syntax highlighting, autocomplete

Universal API Interop

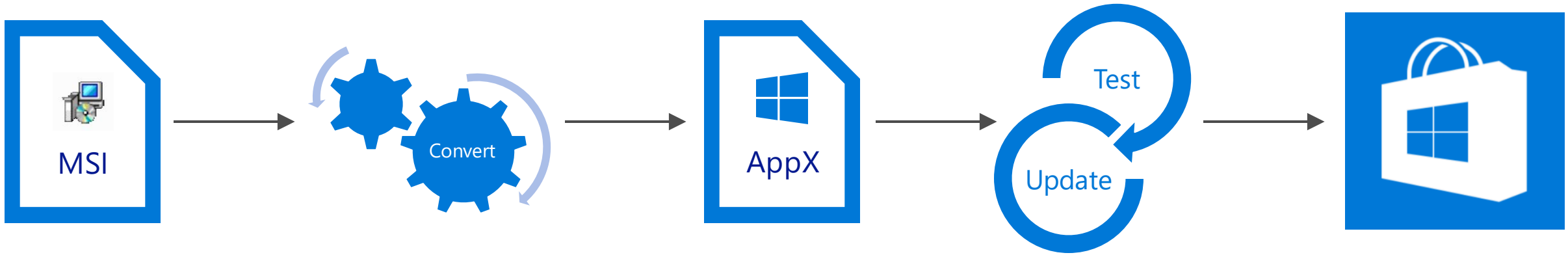


Xcode projects imported to Visual Studio

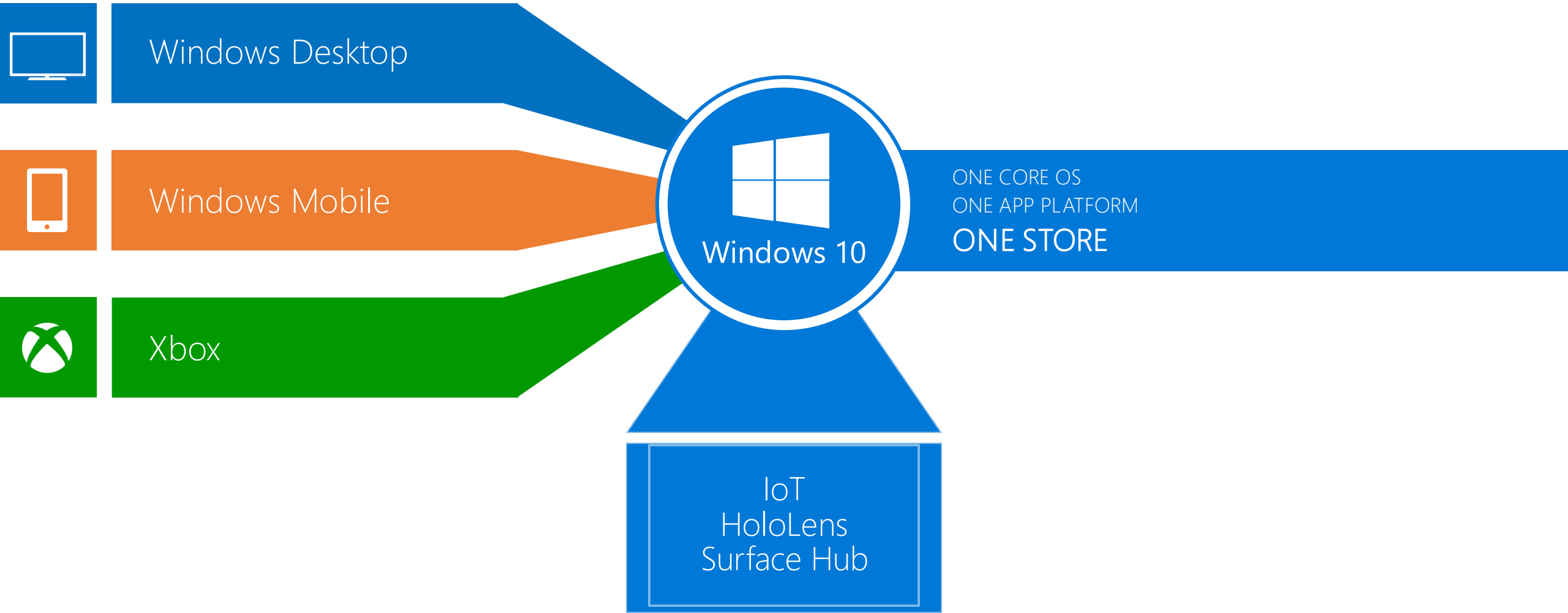
Full debugging: breakpoints, stack traces, …

Project Centennial

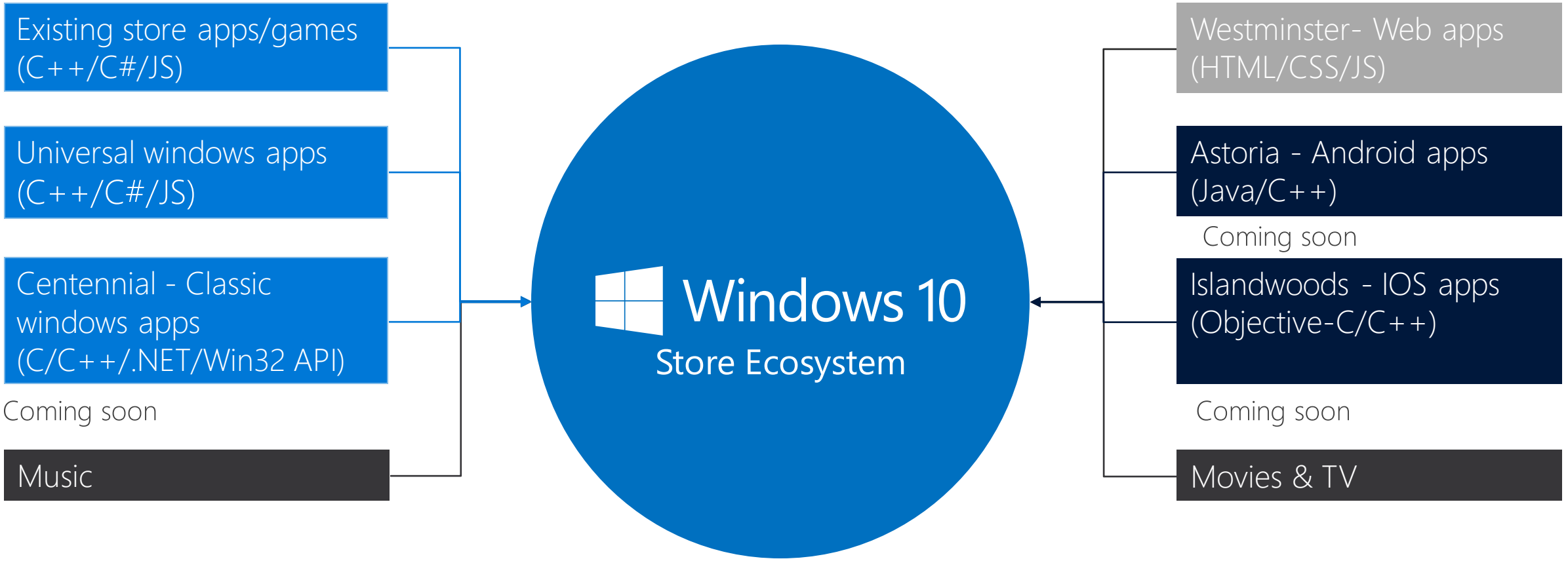
Bring Classic Windows Applications to the Windows Store



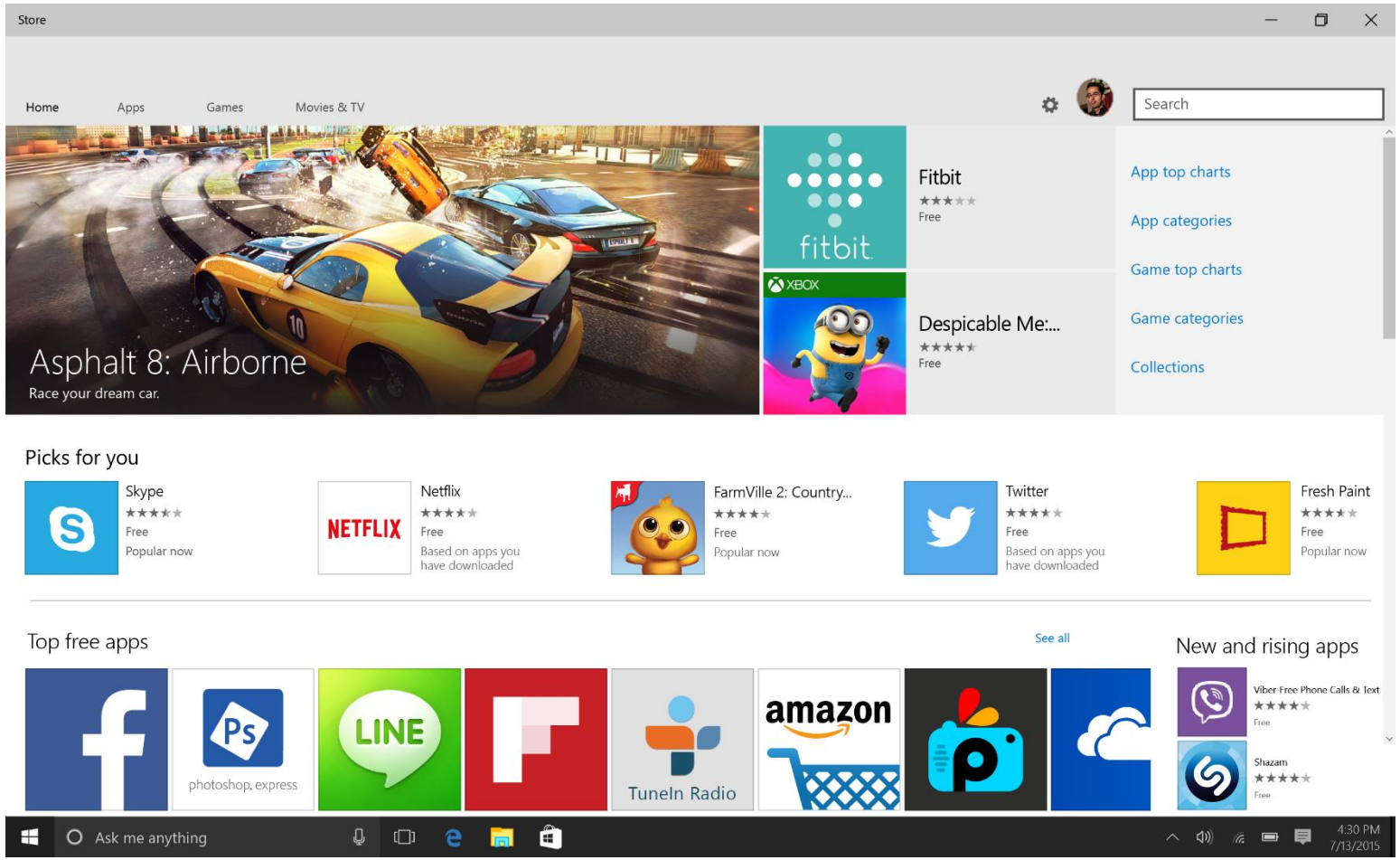
Windows 10


Windows Desktop
Windows Mobile
Xbox
Windows 10
ONE CORE OS
ONE APP PLATFORM
ONE STORE
IoT
HoloLens
Surface Hub

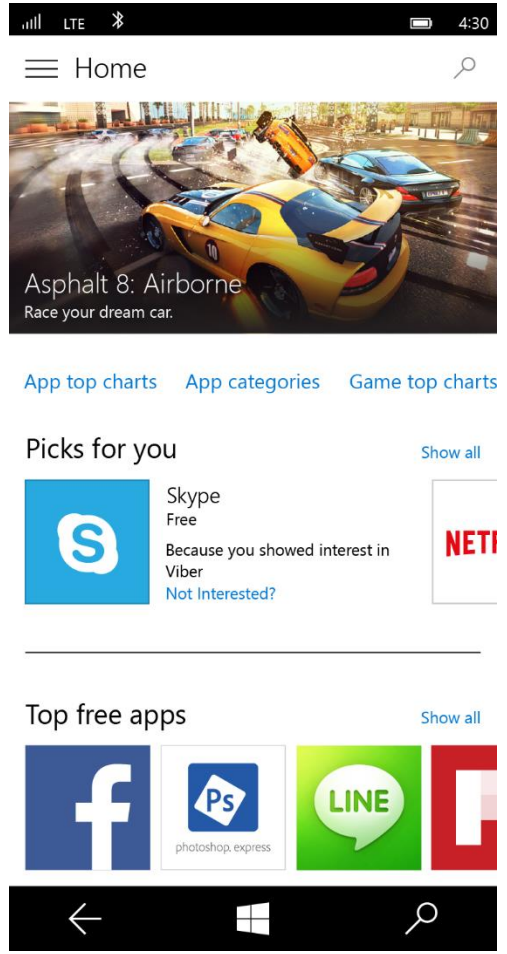
Content support in windows 10 store



One store for all windows 10 devices



Desktop

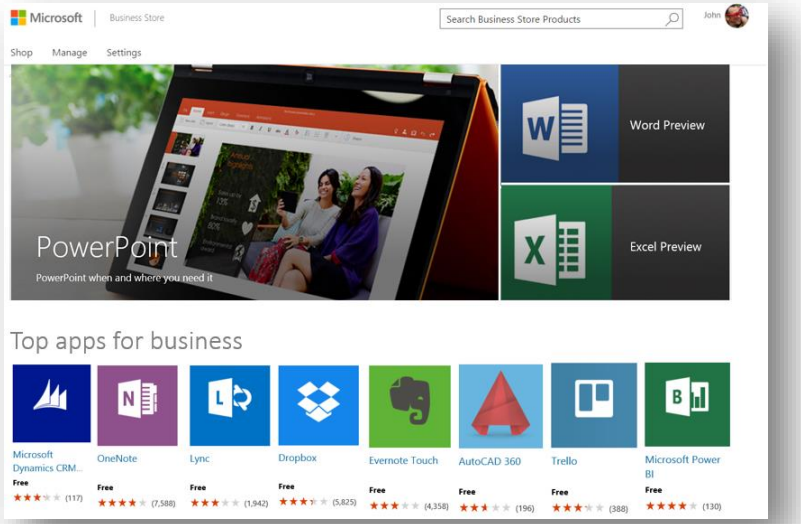


Mobile

Keeping the best features

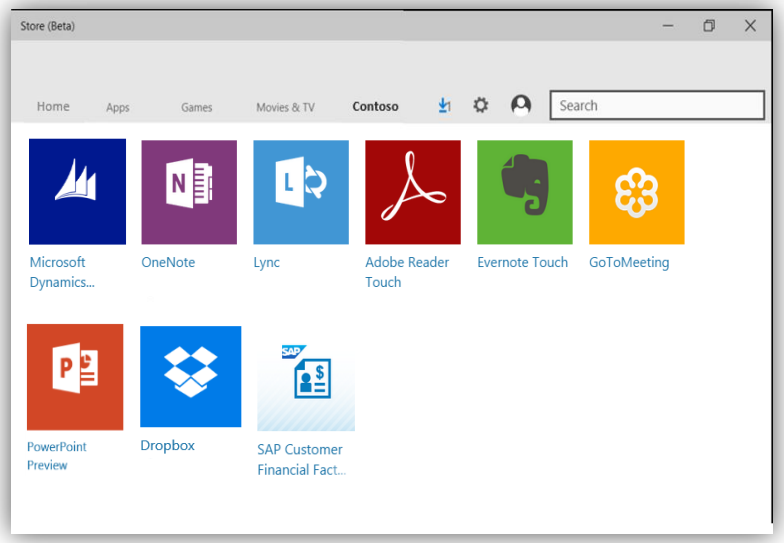
	Windows Phone 7.x, 8.x	Windows 8.x	Windows 10
Hidden apps	✓		✓
Per market pricing	✓		✓
Independent IAP publishing	✓		✓
Betas	✓		✓
Time based trials		✓	✓
App discounts		✓	✓
Scheduled publish		✓	✓

Business Store for Windows 10



Opportunity for developers to extend reach to businesses globally

- Sell in volume to the largest installed base of business customers
- Expand visibility of apps to businesses of all sizes around the world
- Simple submission through Windows Dev Center to participate in consumer and business stores



Seamless for organizations and end-users

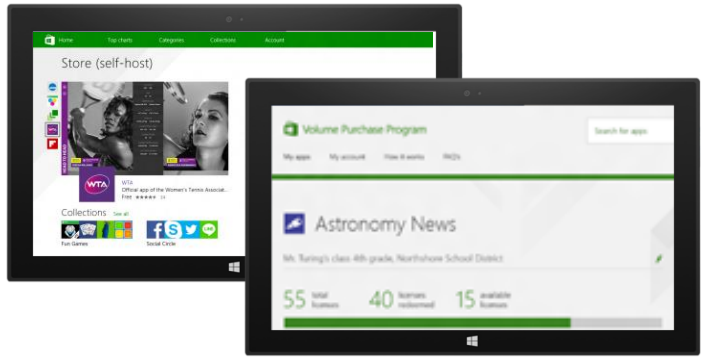
- Organizations can search, acquire, manage and distribute apps in volume
- For advanced scenarios Business Store integrates with commonly-available device management tools
- Users install across Universal Windows Devices

Windows 10 at a Glance

Windows Store

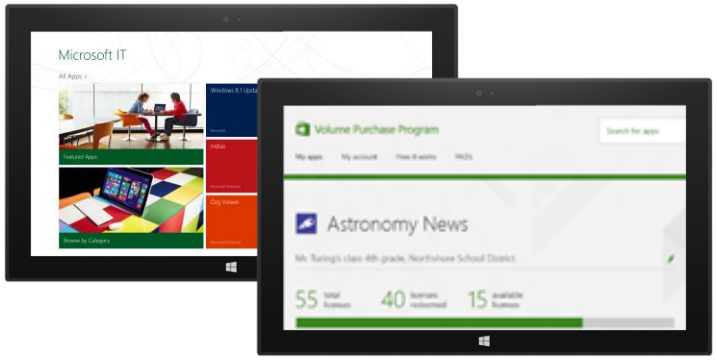
- Modern apps
- Sign in with MSA
- Pay with credit card, gift card, PayPal, Alipay, INICIS, mobile operators

Business Store



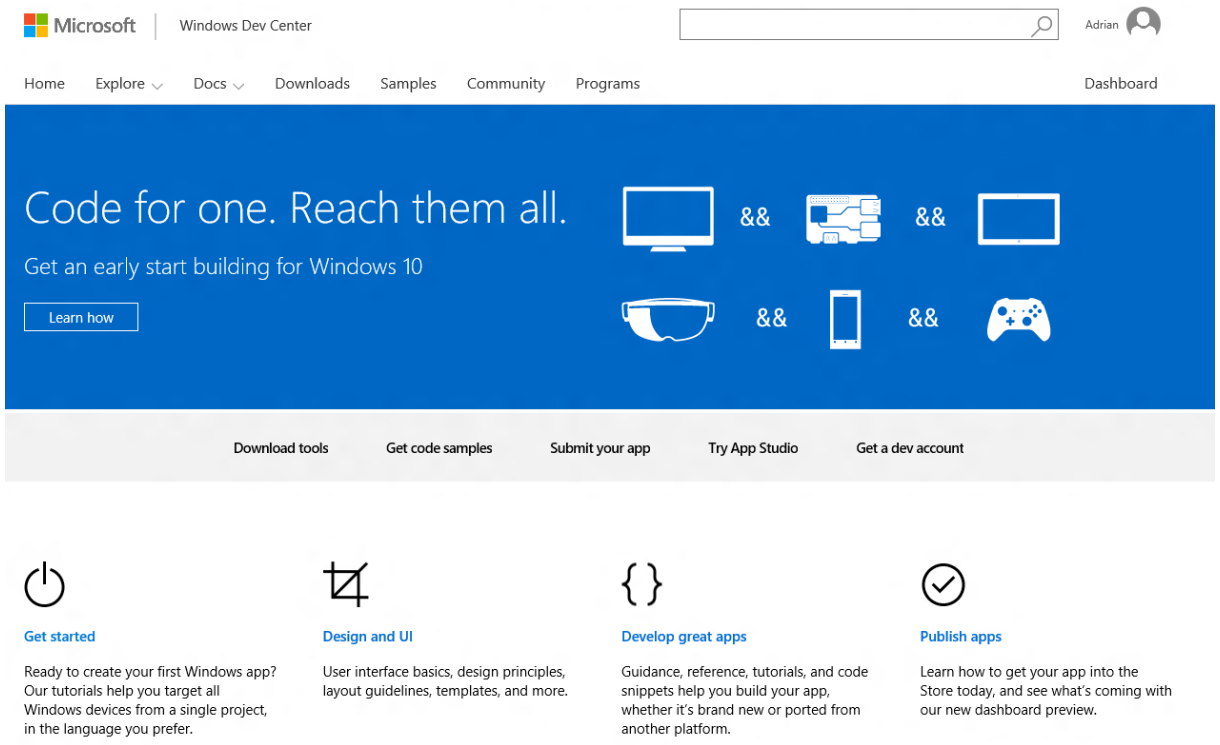
- Modern apps
- Leverages Azure Active Directory for administration, some scenarios
- Private organization store for the org's preferred or LOB apps
- Pay with credit card or PO/invoice
- Deploy modern apps offline, in images, and more
- Modern app license management

"Company Portal"



- Sideload line-of-business modern apps
- Deploy apps from the Windows Store (even when the Store UI is disabled) as well as uploaded LOB apps through Business Store integration using MDM

Introducing One Windows Dev Center



DEV.WINDOWS.COM

One destination for supporting all Windows platforms

- ✓ One registration
- ✓ One app submission
- ✓ Customer acquisition
- ✓ Customer engagement
- ✓ Powerful monetization
- ✓ Rich analytics
- ✓ One payout

Preview available now!

Thank you!

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