



Developing Windows Desktop and Device Apps with the ArcGIS Runtime SDK for .NET

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Agenda

- What is the ArcGIS Runtime?
- ArcGIS Runtime SDK for .NET
 - Platform
 - Highlights
 - Getting started
 - What's new
 - Road ahead

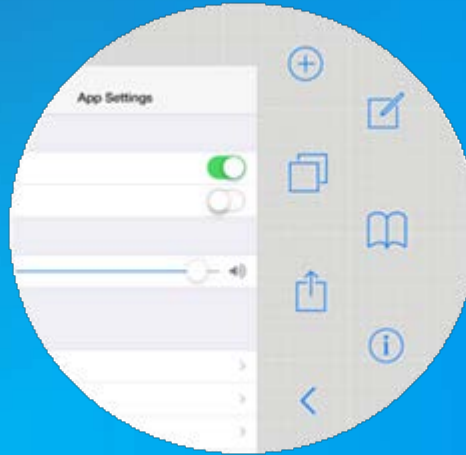


ArcGIS Runtime



Work Offline

Take your data offline to view, search, get directions, and edit and sync data



Native User Experience

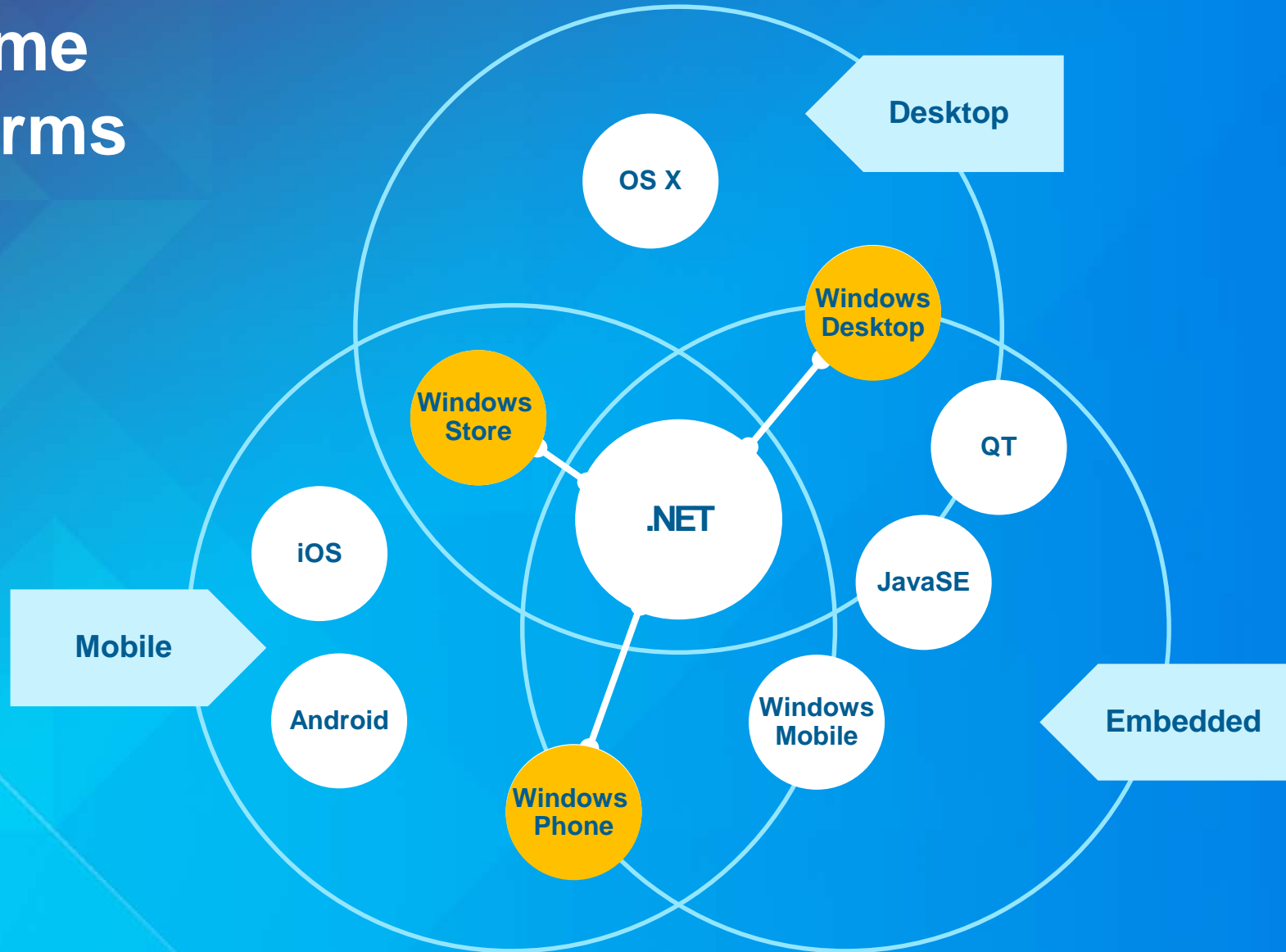
Build apps that match the UI and UX conventions of their platforms.



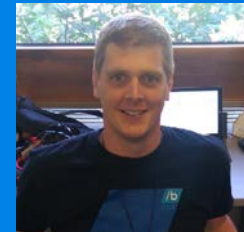
Access Native APIs

Access native device capabilities like the GPS and compass and access user data like calendars and contacts

Runtime platforms



“The .NET Team”



SDK Highlights

- High-performance 2D and 3D mapping
- Draw, query, identify, and select features and graphics
- Use Portal and ArcGIS Server, ArcGIS Online
- Work offline with local basemaps and data
 - TPKs, Mobile Geodatabase, Shapefiles, KML
 - Editing and sync, Geocode, Routing
- Work with device sensors
- Perform advanced geometric operations locally
- Task-based asynchronous pattern
- MVVM friendly



Getting Started

Demos



Define a map with XAML

```
<!-- Add XML Namespace declaration for ArcGIS Runtime -->  
xmlns:esri="http://schemas.esri.com/arcgis/runtime/2013"
```

Syntax differs slightly in Store/Phone apps

```
<!-- Use namespace prefix to access ArcGIS Runtime objects -->
```

```
<esri:MapView x:Name="MyMapView">  
  <esri:Map x:Name="MyMap">  
    <esri:ArcGISTiledMapServiceLayer  
      ServiceUri="http://services.arcgisonline.com/ArcGIS/rest/services/World_Street_Map/MapServer"  
      ID="Basemap" />  
    <esri:GraphicsLayer ID="Graphics"/>  
  </esri:Map>  
</esri:MapView>
```


Several types of layers

- **Tiled layers**

- ArcGISTiledMapServiceLayer
- ArcGISLocalTiledLayer
- BingLayer
- WebTiledLayer
- WmtsLayer



- **Dynamic layers**

- ArcGISDynamicMapServiceLayer
- DynamicMapServiceLayer
- FeatureLayer (online or local)
- GraphicsLayer

Use Tasks for specialized functionality

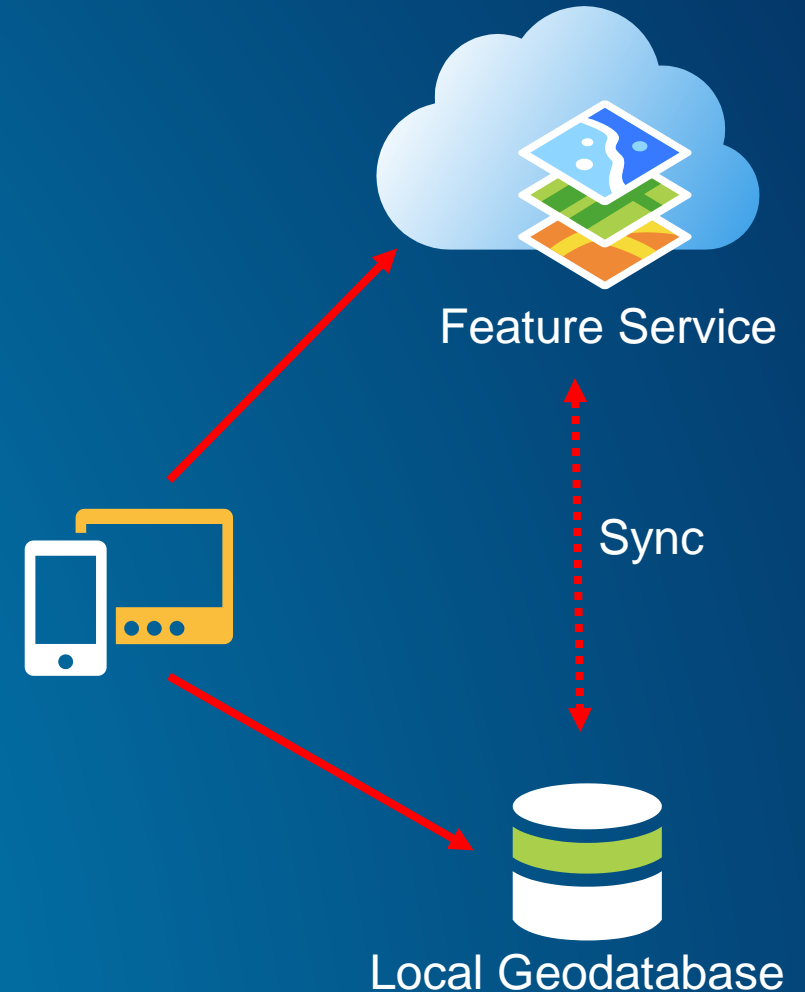
- **QueryTask:** use attribute or spatial criteria to find features
- **IdentifyTask:** get information about features at a location
- **FindTask:** find a text value across several layers and fields
- **LocatorTask:** geocode an address
- **RouteTask:** find the best path between points on a network
- **PrintTask:** output data to a specific device

- **Many others ...**



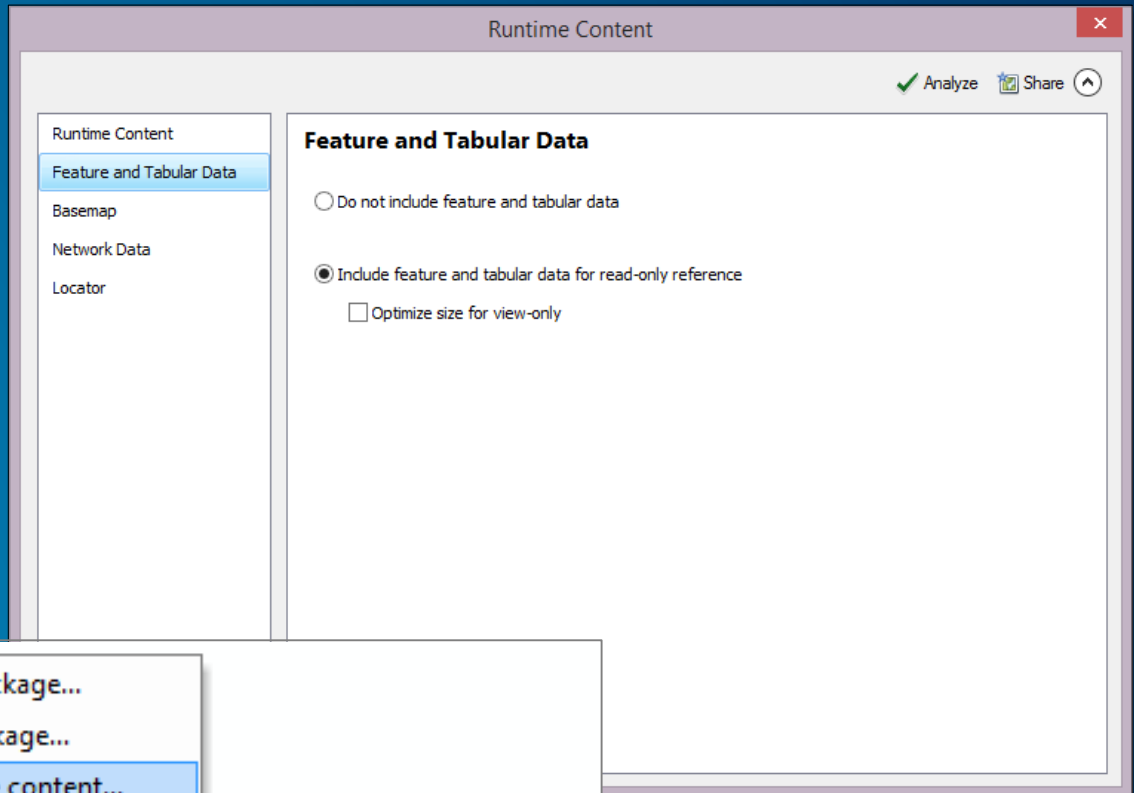
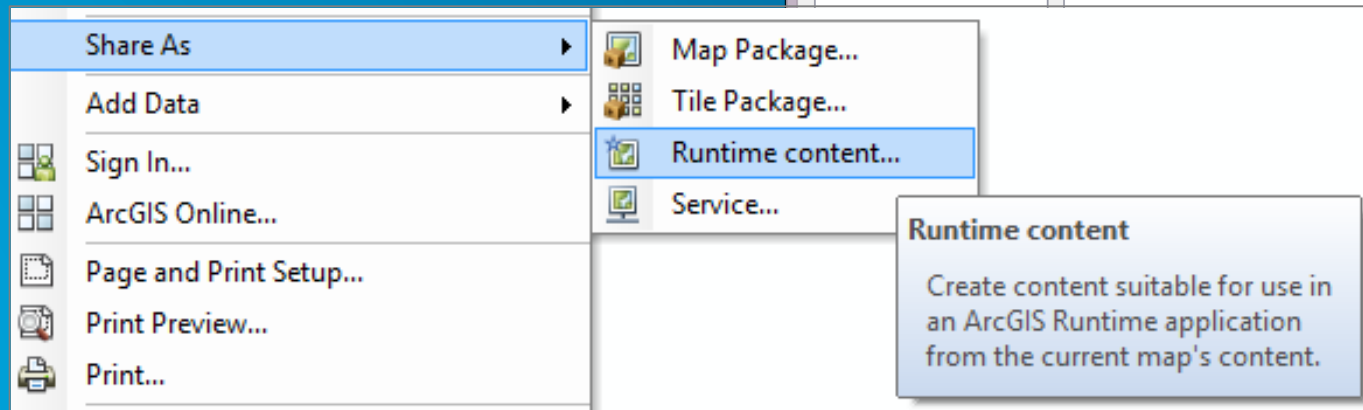
Work while disconnected

- Consistent user experience
- Consistent developer experience
- Synchronize data sources when connected
 - Push edits made to local data
 - Pull newest version of online data



Provision local data


- Can create local data using ArcMap
- File > Share As > Runtime content
 - Feature data (read only)
 - Base map tiles
 - Locators
 - Network datasets



Generate local data

- **Sync-enabled feature service**
 - **Generate editable local geodatabase while connected**
 - **For desired layers and extent**
- **Export tiles enabled map service**
 - **Generate local tile cache while connected**
 - **For desired scale levels and extent**

Export Data	<input type="checkbox"/>	Allow others to export to different formats.
Sync	<input checked="" type="checkbox"/>	Enable Sync (disconnected editing with synchronization).
Track Edits	<input type="checkbox"/>	Keep track of who created and last updated features.
	<input type="checkbox"/>	Editors can only update and delete the features they add.

 **SAVE** CANCEL

Synchronize edits

- Only changes (delta) are synchronized
- `GeodatabaseSyncTask.SyncGeodatabaseAsync`
 - Push edits made on the client into the service
 - Pull changes in the service down to the client

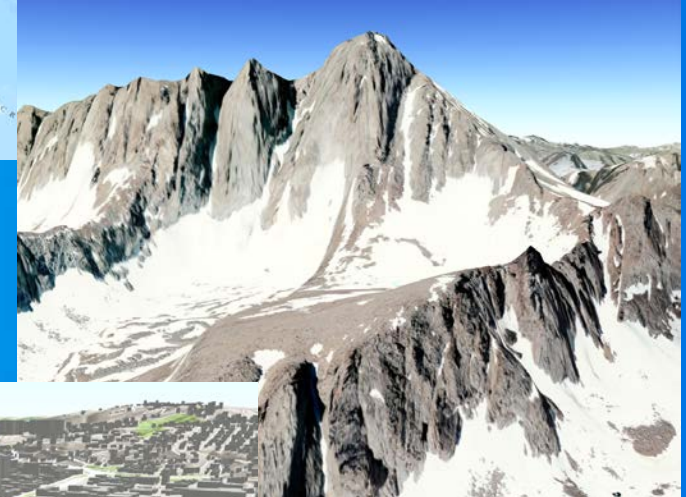
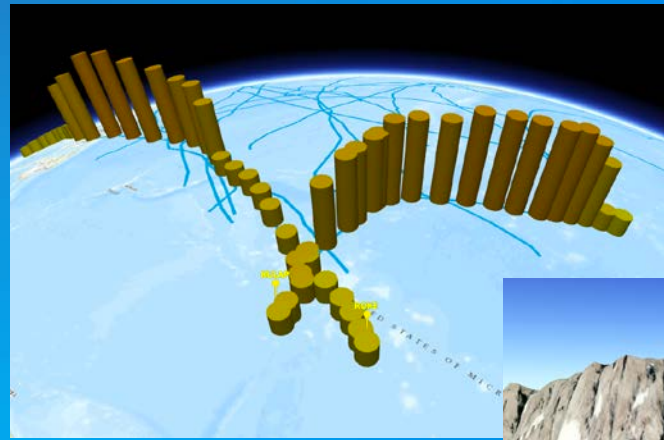


Offline and editing

Demo

What's new?

- 3D
 - Scenes are maps for 3D
 - Scene layers
 - 3D symbols
 - Elevation sources
- KML
 - v2.2 + extensions
 - Online and direct read



What's New

Demos

What's next?

- Quartz
 - Direct read of files
 - Analysis
 - Map authoring
- Xamarin
- Windows 10

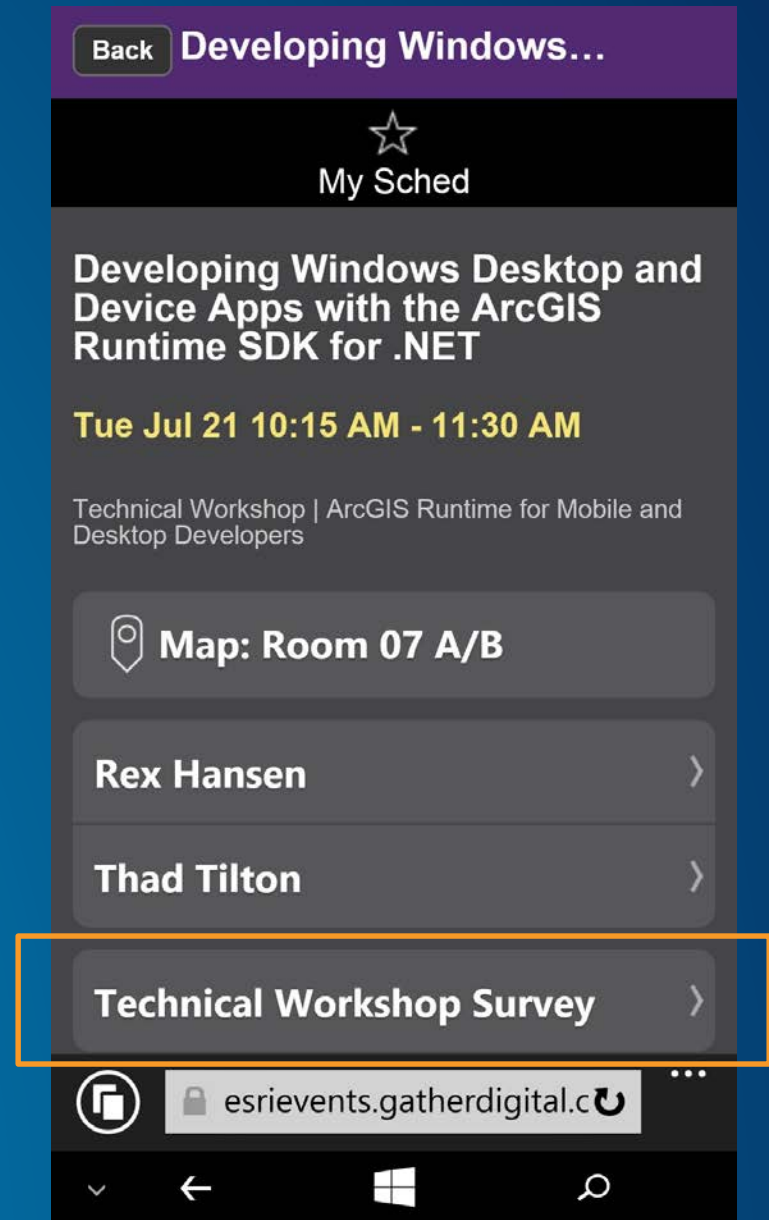


Other Sessions

- **Road Ahead: ArcGIS Runtime SDKs**
Wed Jul 22 3:15pm-4:30pm Room 8
- **Demo Theaters**
 - **Migrating your WPF apps to the .NET Runtime SDK**
Wed Jul 22 1:30pm – 2:15pm Theater 11
 - **Building .NET apps with the ArcGIS Runtime: Tips and Tricks**
Thu Jul 23 9:30am – 10:15am Theater 11
 - **Using Xamarin to build cross platform apps**
Thu Jul 23 10:30am – 11:15am Theater 11

Thank you ...

- Please fill out the session survey in your mobile app
- Select **Developing Windows Desktop and Device Apps with the ArcGIS Runtime SDK for .NET**
 - Use the Search Feature to quickly find this title
- Click “Technical Workshop Survey”
- Answer a few short questions and enter any comments





Understanding our world.