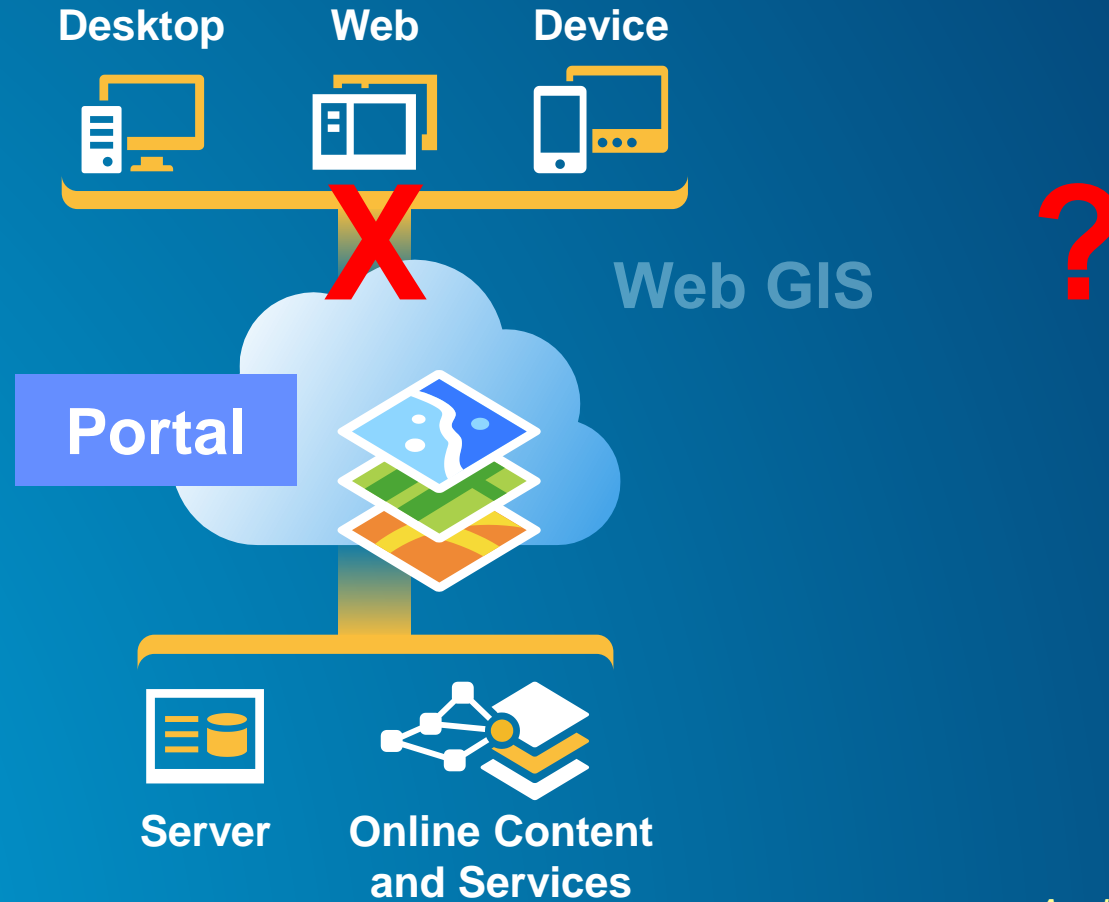# Using Smartphones and Tablets in Disconnected Environments

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ArcGIS Is a Platform

Enabling Web GIS Everywhere

Simple

Integrated

Open

Desktop   Web   Device

Web GIS

Portal

Server   Online Content and Services

Available in the Cloud . . .

. . . and On-Premises

Offline Options in the ArcGIS Platform

- **Collector for ArcGIS**
- **ArcGIS Runtime SDKs**
- **Disconnected web apps**

Collector for ArcGIS

- **Android and iOS**
- **Download maps**
  - **Basemaps**
  - **Operational layers**
- **Edit data online or offline**
- **Sync offline edits**
- **Use GPS**
- **Find places and get directions (online)**

Collector for ArcGIS

Demo

How to Use Collector for ArcGIS

- **Create and share feature service(s) (with "sync" enabled)**
- **Create and share a web map**
- **Make the web map offline-ready**
- **Online usage:**
  - **Open the web map in Collector for ArcGIS**
  - **Edit data as needed**
- **Offline usage:**
  - **Download the web map in Collector for ArcGIS**
  - **Edit data as needed**
  - **Sync when connected**

Collector for ArcGIS: Future Development

- More tools for planning offline field operations
- Smarter data collection forms (including related tables)
- Data collection with offsets
- Ad hoc collection support
- Integration of peripherals (laser range finders, bar code scanners, and so on)

Limitations of Collector for ArcGIS

- Sync is not automatic
- UI is not customizable
- Web maps are required
- Must connect to ArcGIS Online or Portal at least once
- No routing or analysis offline
- No way to provision local data

Custom Offline Apps

ArcGIS Runtime SDKs
- **Native apps**
- **One app per platform**
- **Supported in ArcGIS**

Disconnected Web Apps
- **Web apps**
- **One app for all devices**
- **No specific support in ArcGIS**

ArcGIS Runtime Offline APIs

- **Core GIS functions**
  - **View maps offline**
  - **Edit geodata offline**
  - **Analyze geodata offline**
- **Part of the ArcGIS platform**
  - **ArcGIS Online**
  - **Portal for ArcGIS**
  - **ArcGIS for Server**
- **Cross-platform**

Licensing

License level	Available functionality
Developer (development and testing only)	All functionality (watermarks and debug messages will be generated)
Basic	All functionality except: ■ Local locators (geocoding) ■ Local routing ■ Local geodatabase editing ■ Local geodatabase sync operations with an upload
Standard	All functionality

Offline Demos

Export Tile Cache

Offline Routing

Disconnected Web Apps

Benefits:

- **Mobile web apps for disconnected or sometimes-connected situations**
- **Lightweight cross-browser functionality**
- **One app, many devices**
- **Older devices (maybe)**

Drawbacks:

- **More challenging than ArcGIS Runtime**
- **Fewer capabilities than native apps**

Disconnected Web Apps

https://github.com/Esri/offline-editor-js

Disconnected Resources

- **Collector for ArcGIS: http://doc.arcgis.com/en/collector/**

- **ArcGIS Runtime SDKs: http://developers.arcgis.com**

- **offline-editor-js: https://github.com/Esri/offline-editor-js**

esri

Understanding our world.