ArcGIS AppStudio: What's New

Erwin Soekianto

Product Engineer

Shobana Suresh

Software Development Engineer

2021 ESRI DEVELOPER SUMMIT

Agenda

- Introduction to AppStudio
- What's New in AppStudio Templates
- What's New in AppStudio Player
- ArcGIS Runtime SDK for Qt update
- What's New in AppStudio Desktop
- What's New in AppStudio Framework
- Sneak Peek into new features

What is ArcGIS AppStudio?

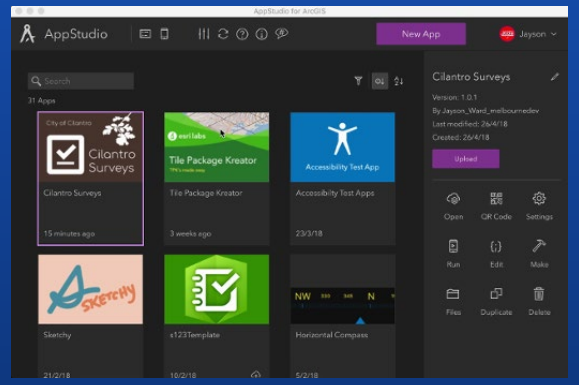
Please check out "ArcGIS AppStudio: An Introduction" to learn more

What is ArcGIS AppStudio?

A **no-code / low-code** solution for creating **cross-platform** native apps

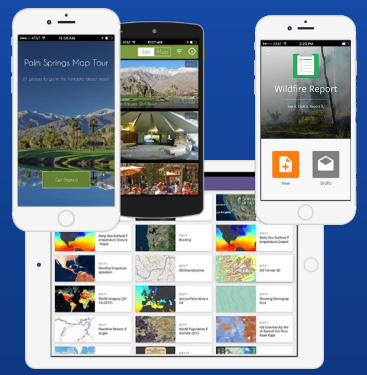
Please check out "ArcGIS AppStudio: An Introduction" to learn more.

The AppStudio suite of productivity tools



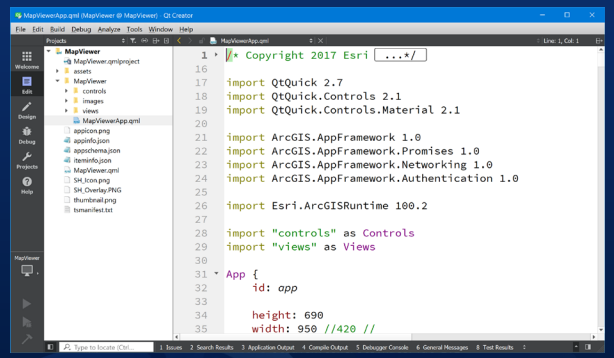
AppStudio Desktop

Interactive Samples

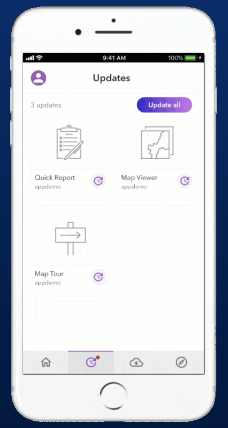


Configurable Templates

Advanced Templates



Developer Environment



AppStudio Player

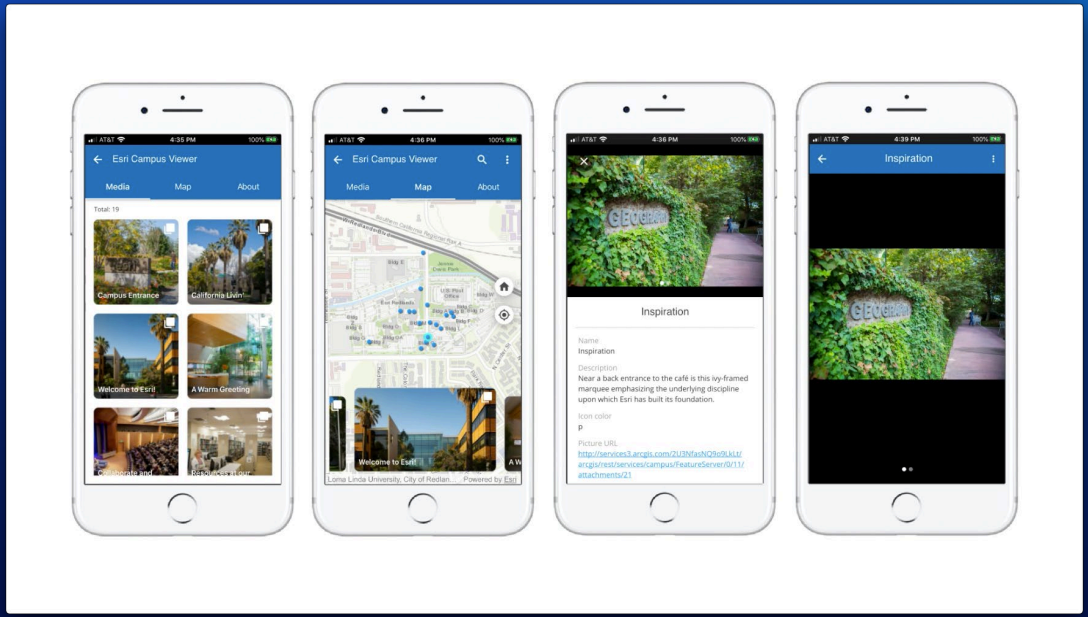
Cloud Make

What's New in AppStudio Template

New Attachment Viewer Template

- Based on Attachment Viewer Configurable Web App.
- Media focused experience
- Switch between attachment, attributes, map

- Example use cases:
  - Review photos of field assets
  - Image based map tour of a city
  - Review document tied to a location



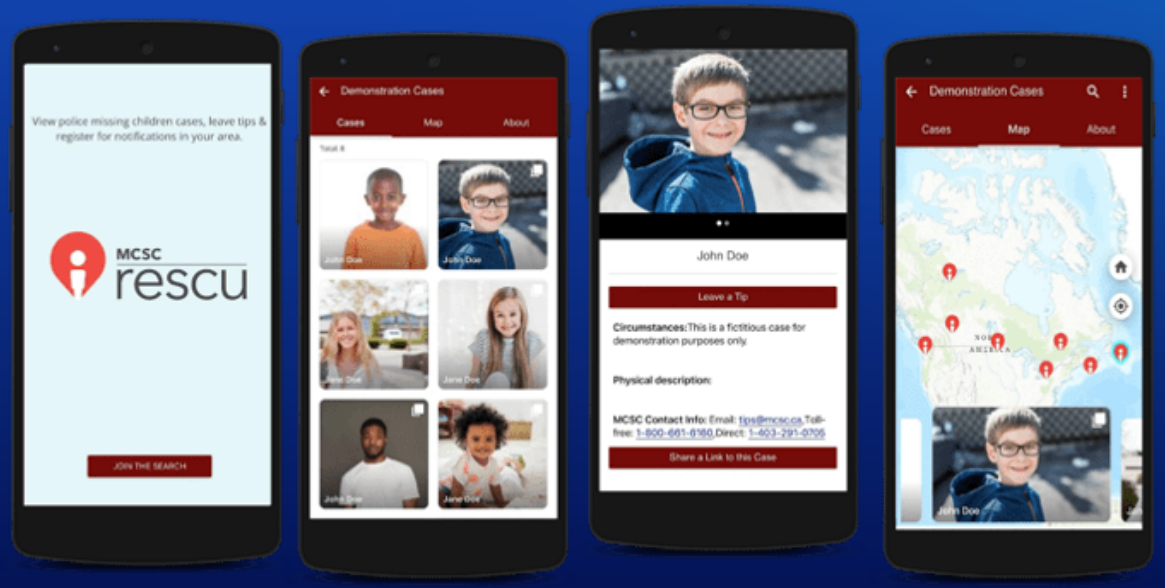
To learn more: https://www.esri.com/arcgis-blog/products/apps/announcements/introducing-the-attachment-viewer-native-app-template-for-arcgis-appstudio/

New Attachment Viewer Template

- App built using the Attachment Viewer Template
  - Missing Children Society of Canada (MCSC)
  - Built by Esri Canada
  - MCSC rescu Mobile App

Download on the App Store

GET IT ON Google Play

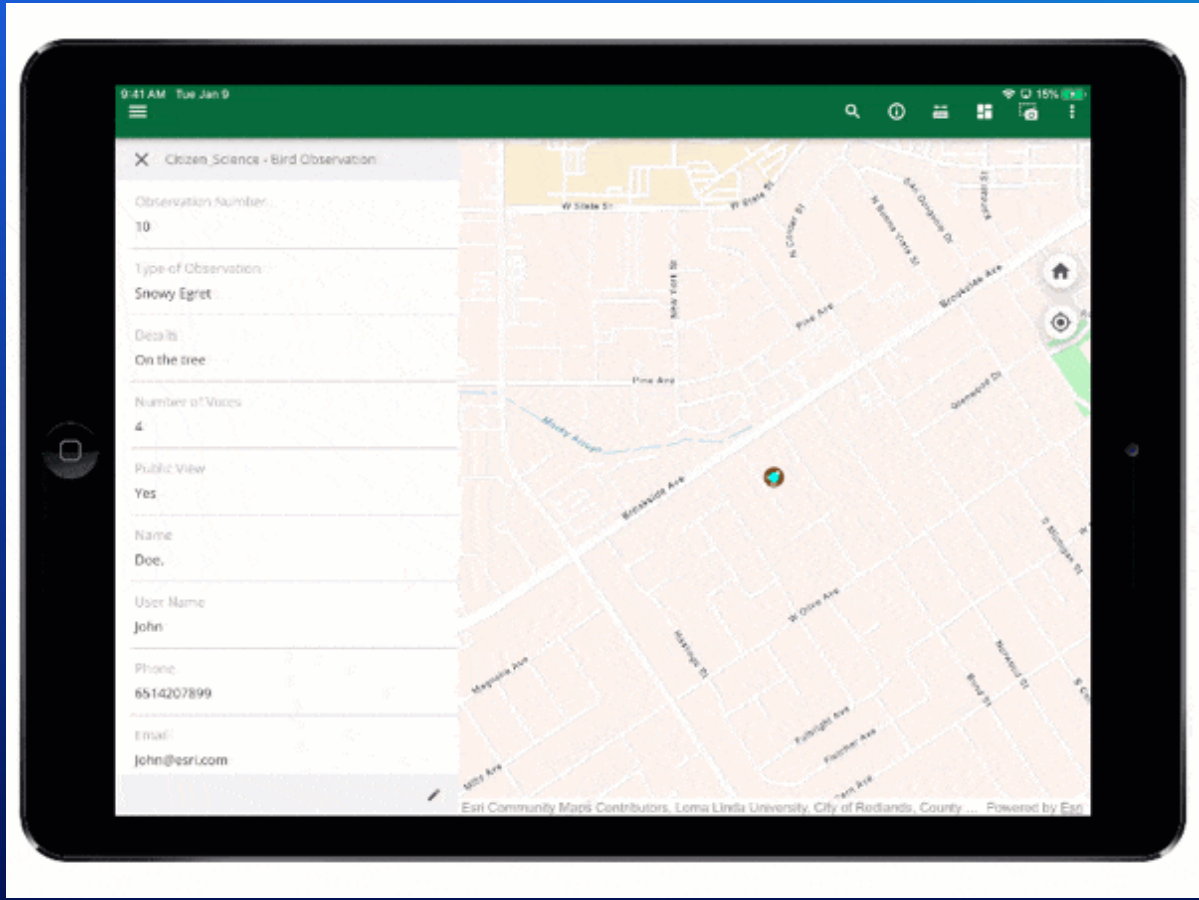


To learn more: https://www.esri.com/arcgis-blog/products/apps/announcements/introducing-the-attachment-viewer-native-app-template-for-arcgis-appstudio/

What's New in Map Viewer Template

- New Editing Capability
  - Feature attributes
  - Attachments
  - Related Records

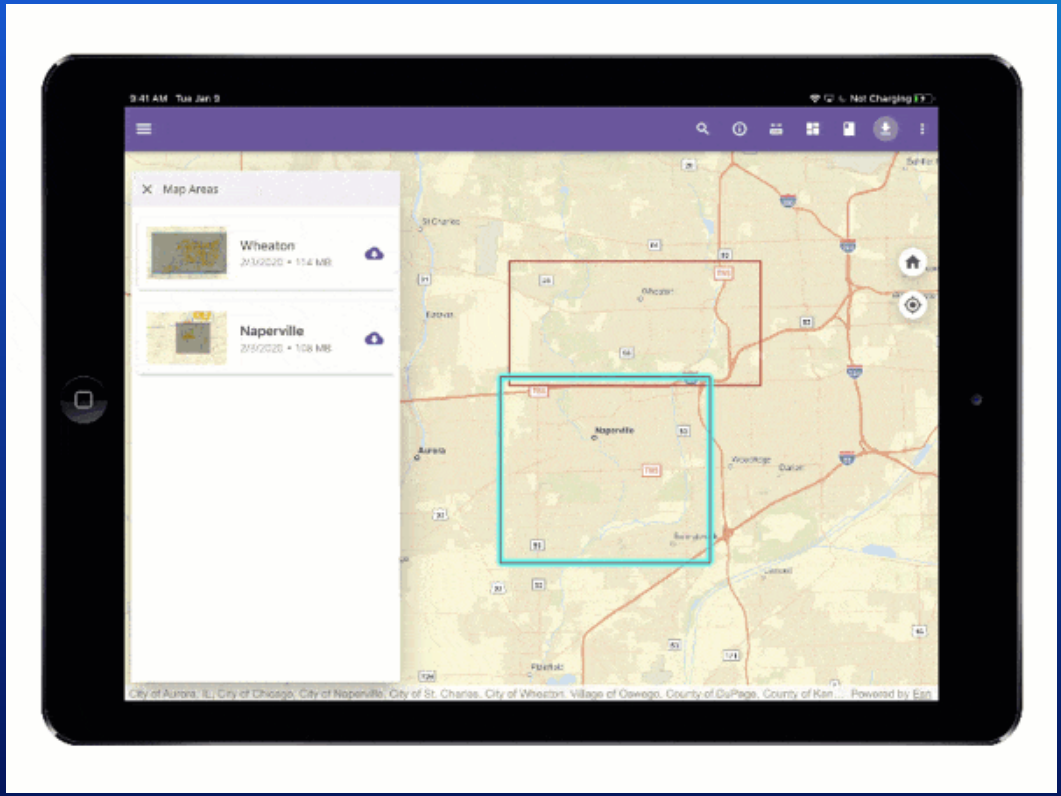
- Example use cases
  - Water utility inspection
  - Street sign inspection
  - Proof of work/repairs



To learn more: https://www.esri.com/arcgis-blog/products/appstudio/developers/new-editing-capability-in-the-arcgis-appstudio-map-viewer-template-for-attributes-and-attachments/

What's New in Map Viewer Template

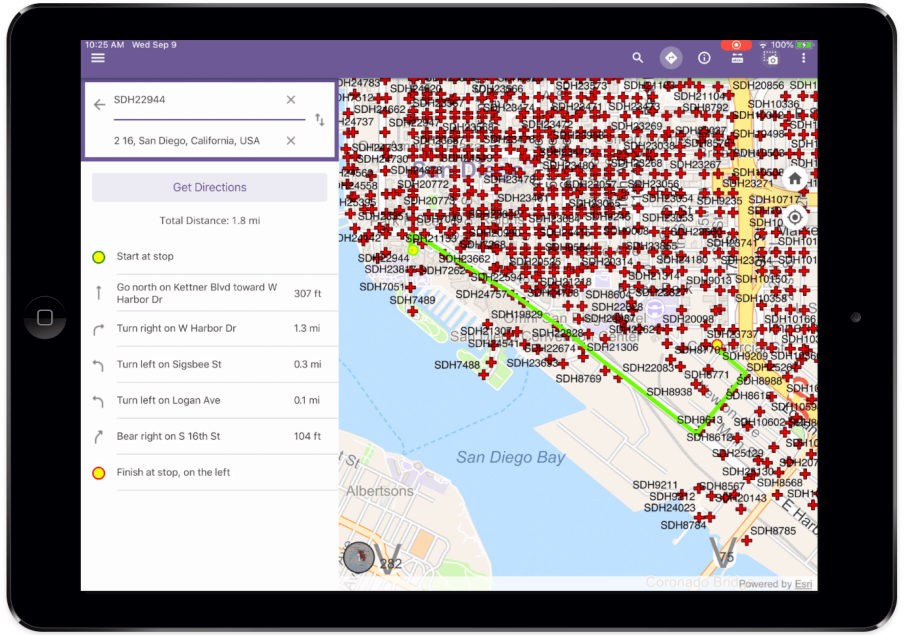
- **Offline Map Area**



To learn more: https://www.esri.com/arcgis-blog/products/apps/announcements/whats-new-in-app-templates-for-appstudio-4-2/

What's New in Map Viewer Template

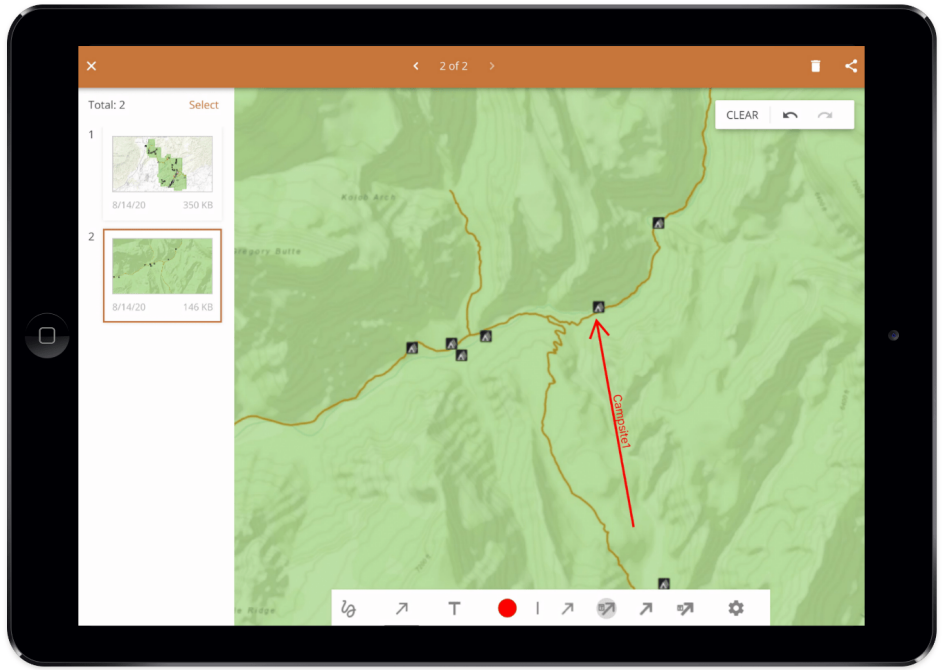
- Offline Map Area
- Offline Routing



To learn more: https://www.esri.com/arcgis-blog/products/apps/announcements/whats-new-in-app-templates-for-appstudio-4-3-september-2020/

What's New in Map Viewer Template

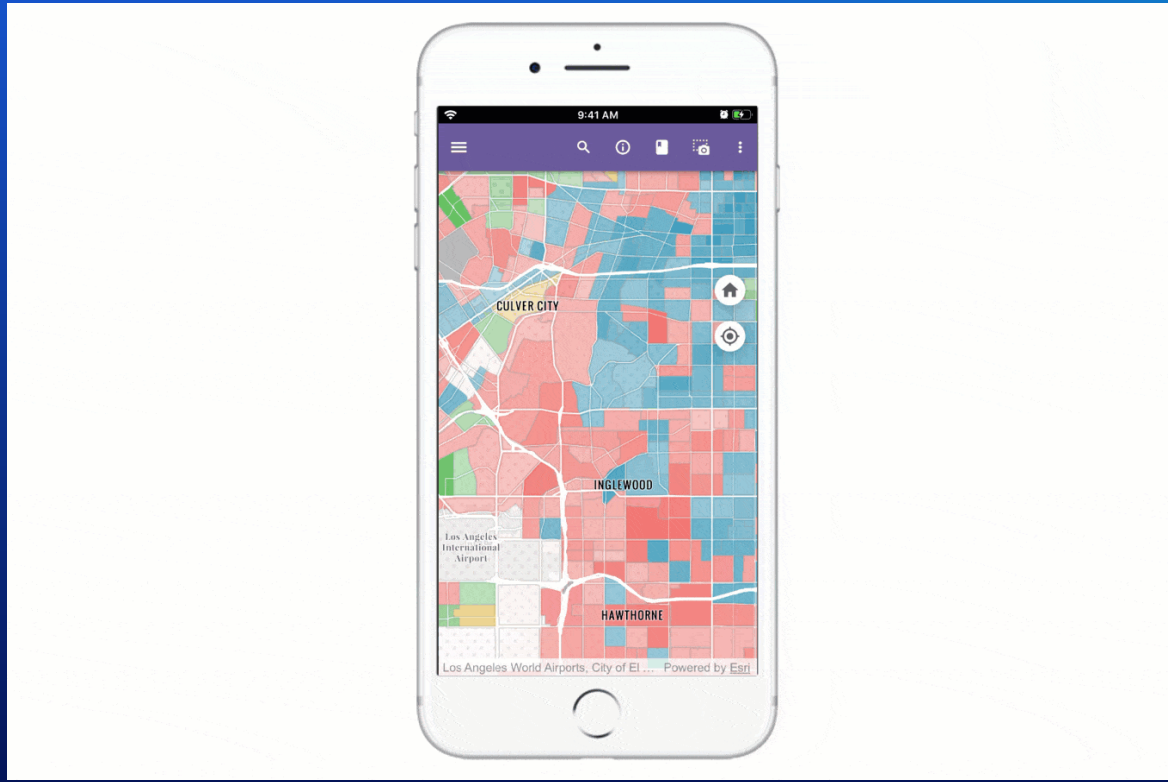
- Offline Map Area
- Offline Routing
- Screenshot with annotations



To learn more: https://www.esri.com/arcgis-blog/products/apps/announcements/whats-new-in-app-templates-for-appstudio-4-3-september-2020/

What's New in Map Viewer Template

- Offline Map Area
- Offline Routing
- Screenshot with annotations
- Popup improvements



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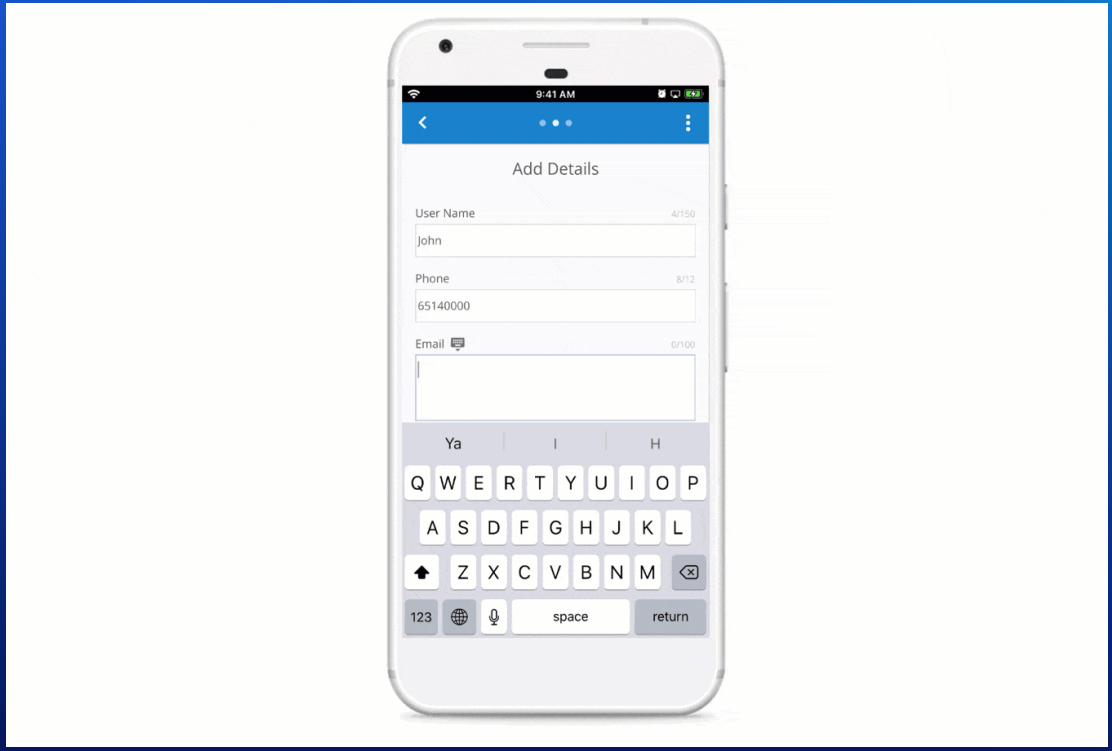
What's New in Map Viewer Template

- Offline Map Area
- Offline Routing
- Screenshot with annotations
- Popup improvements
- Support for IWA Authentication
- MMPK search improvement

To learn more: https://www.esri.com/arcgis-blog/products/apps/announcements/whats-new-in-app-templates-for-appstudio-4-3-september-2020/

What's New in Quick Report Template

- **Quick entry using saved entries**



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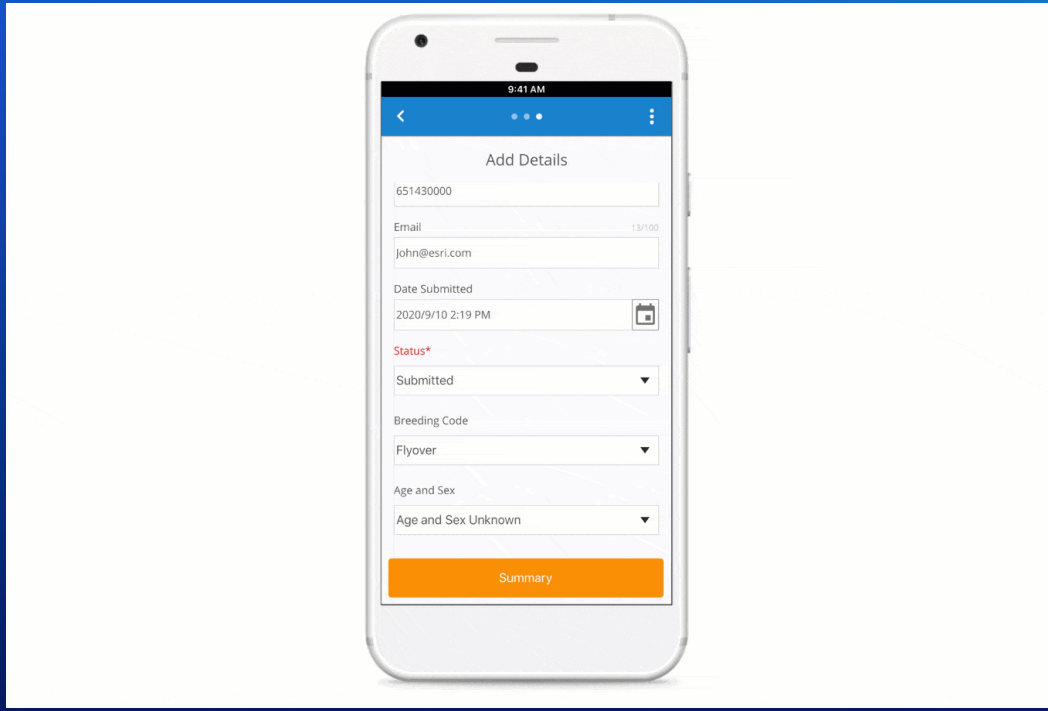
What's New in Quick Report Template

- Quick entry using saved entries
- Summary page before submitting a report



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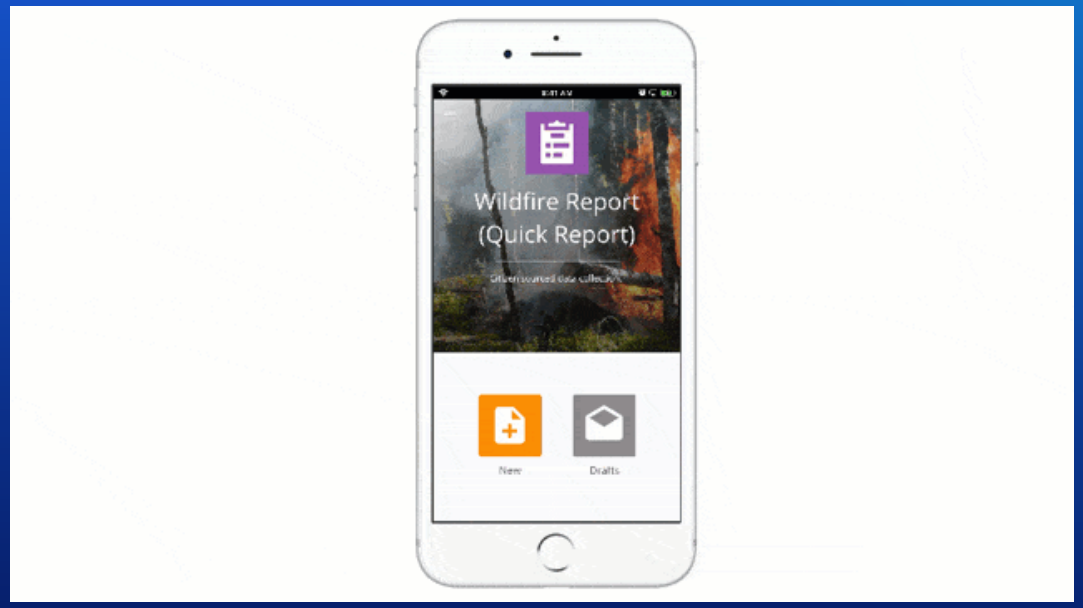
What's New in Quick Report Template

- Quick entry using saved entries
- Summary page before submitting a report
- Support for automatic theme based on the OS setting



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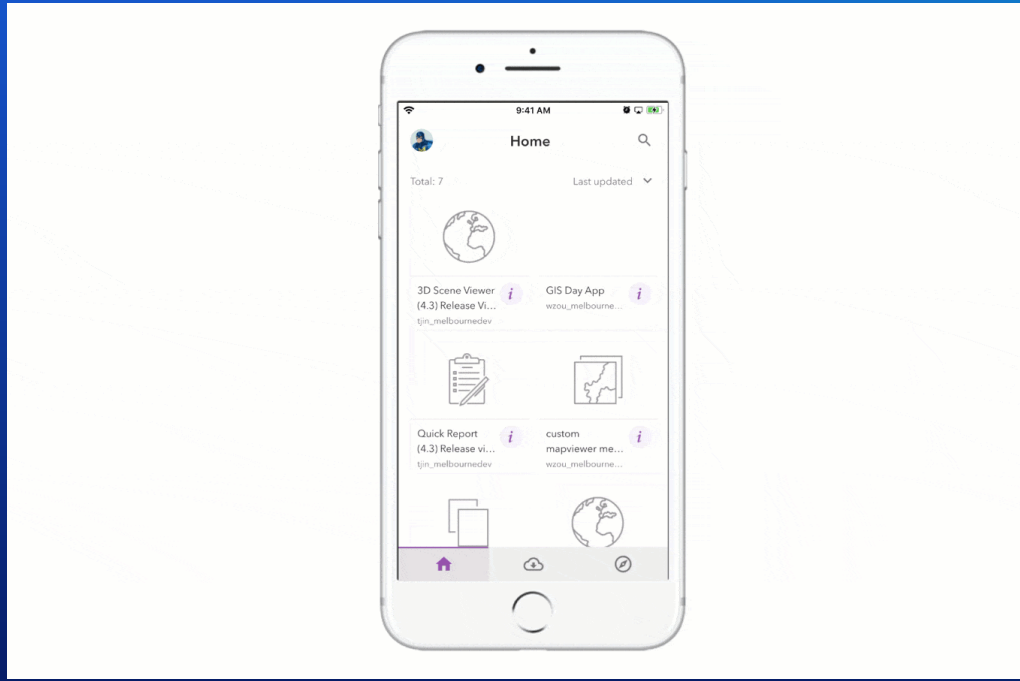
What's New in AppStudio Player

What's New in AppStudio Player

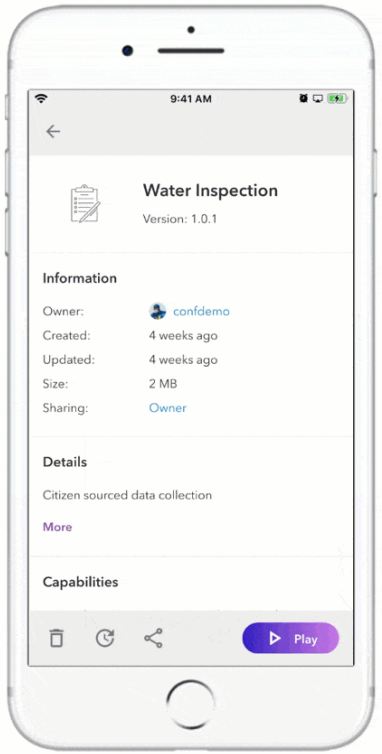
- **Improvement to Profiles**



To learn more: https://www.esri.com/arcgis-blog/products/appstudio/announcements/whats-new-in-arcgis-appstudio-player-version-4-3/

What's New in AppStudio Player

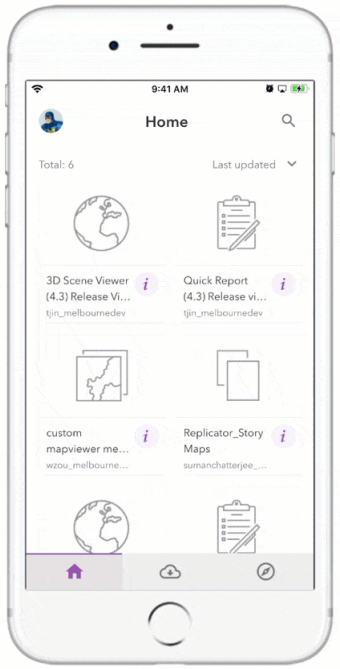
- Improvement to Profiles
- More share app options



To learn more: https://www.esri.com/arcgis-blog/products/appstudio/announcements/whats-new-in-arcgis-appstudio-player-version-4-3/

What's New in AppStudio Player

- Improvement to Profiles
- More share app options
- Auto detect theme based on device setting



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What's New in AppStudio Player

- Improvement to Profiles
- More share app options
- Auto detect theme based on device setting
- Support for MDM with Managed App Configuration settings

Key	Data type	Player (version)	Description
portalURL	String	AppStudio 4.3 or later	Default portal URL. When the user taps on the **sign-in** button, it will open the organization's **Sign-in** page.
portalName	String	AppStudio 4.3 or later	Default portal display name in the **Sign-in** page header.

To learn more: https://www.esri.com/arcgis-blog/products/appstudio/announcements/whats-new-in-arcgis-appstudio-player-version-4-3/

What's New in AppStudio Player

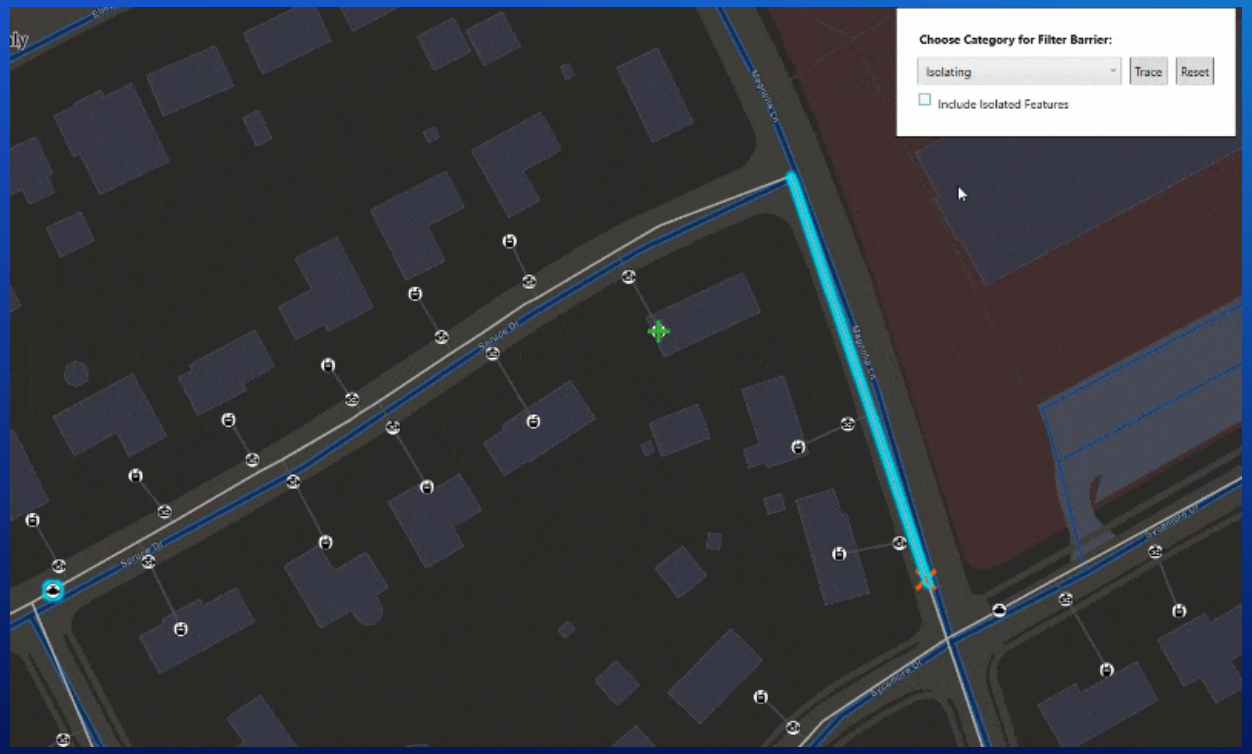
- Improvement to Profiles
- More share app options
- Auto detect theme based on device setting
- Support for MDM with Managed App Configuration settings
- Support for signing in with PKI authentication
- Avaliable to download and install from the Microsoft Store

To learn more: https://www.esri.com/arcgis-blog/products/appstudio/announcements/whats-new-in-arcgis-appstudio-player-version-4-3/

ArcGIS Runtime SDK for Qt

ArcGIS Runtime SDK for Qt update

- Update to version 100.10
- ArcGIS Platform – API keys
- Utility Network updates
- Improved offline workflow
- High-accuracy GPS location – NMEA parsing
- Many more...

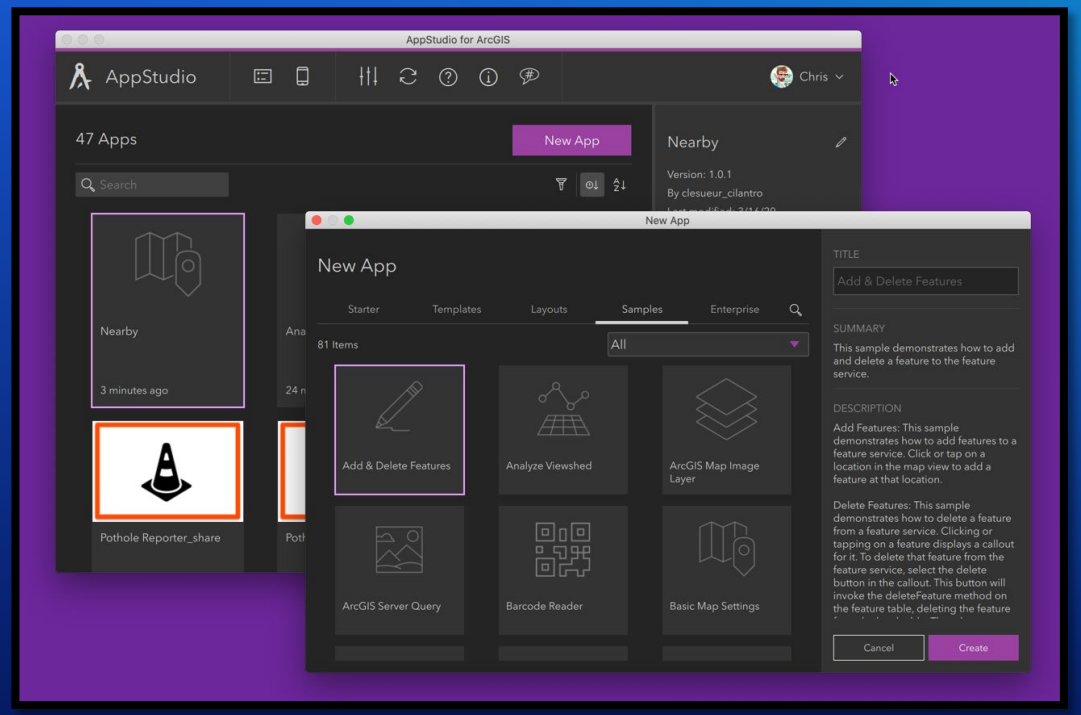


To learn more: https://www.esri.com/arcgis-blog/products/developers/announcements/welcome-to-arcgis-runtime-100-10/ and https://developers.arcgis.com/qt/reference/release-notes/

- What's New in AppStudio Desktop
- What's New in AppFramework
- Sneak Peek into new features

AppStudio Desktop

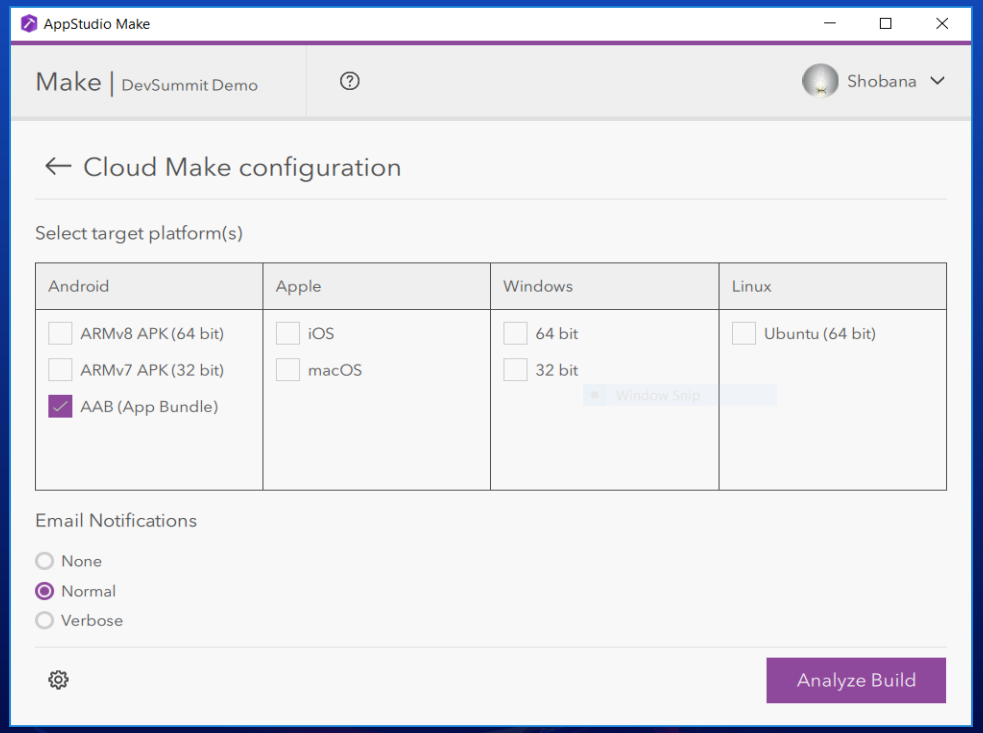
- Productivity tools for App Development
- Create New Apps
- Configure App Templates
- Access to wide range of Samples
- QtCreator and Visual Studio Code IDE
- Upload, Share and Build

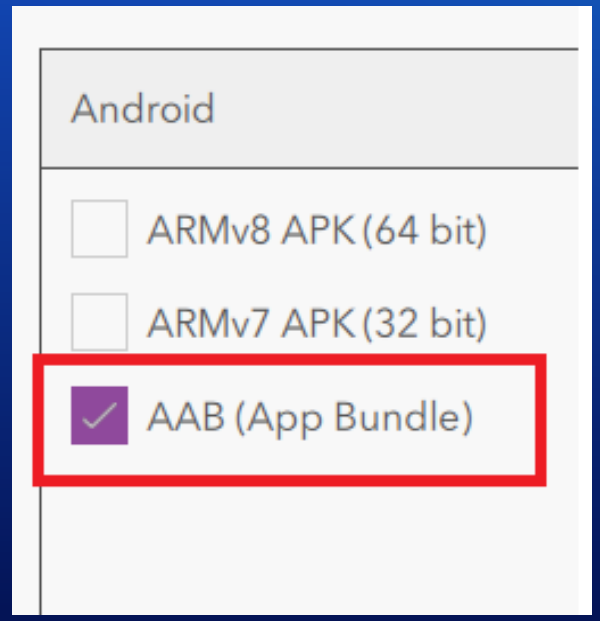


What’s New in AppStudio Desktop

Support for building Android App Bundle

- **Android's new official publishing format**





Android App Bundle

- An Android App Bundle is a file (with the .aab file extension) that you upload to Google Play
- Smaller installs. Google Play uses your Android App Bundle to build and serve APKs that are optimized for each device configuration
- Single aab file with armv7 (32bit) and armv8 (64bit) support
- Cannot be deployed to devices directly. Needs to be downloaded from Google Play

Big updates under the hood

- Move to Qt5.15.2
  - New QML language features
    - Required Properties
    - Inline Components
    - Nullish Coalescing
  - Qt WebEngine has been updated to Chromium 80 and comes with all the new features from that Chromium update
- Move to ArcGIS Runtime 100.10

To learn more: https://wiki.qt.io/New_Features_in_Qt_5.15

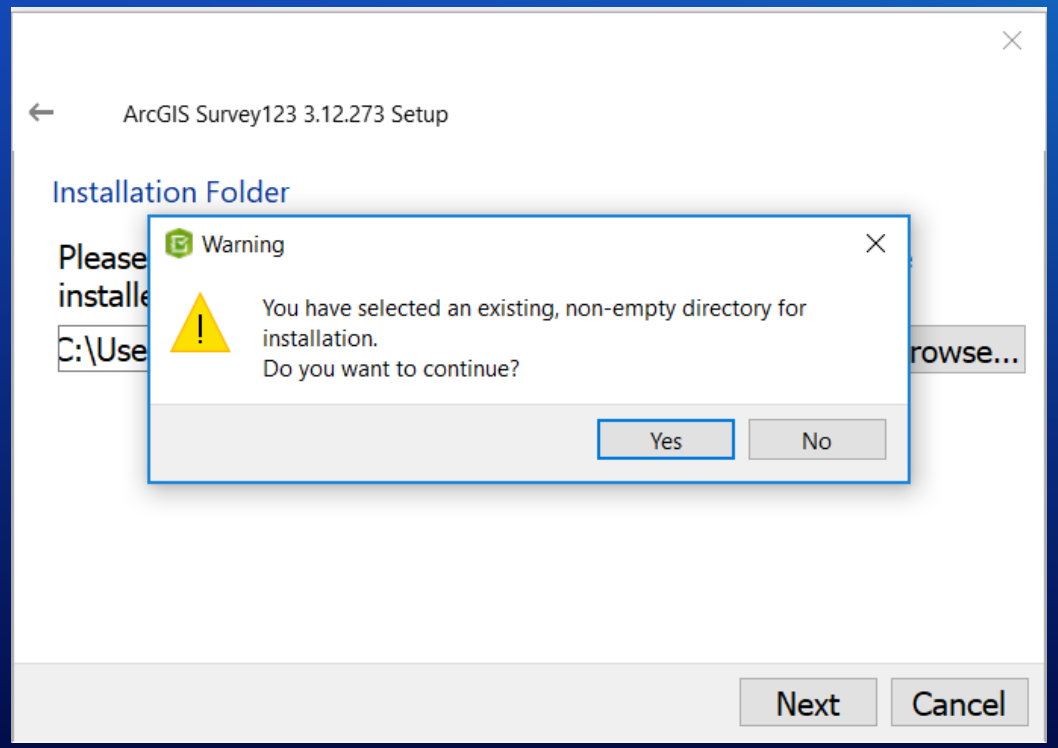
Upgrade to Xcode 12 for iOS builds

- Starting April 2021, all iOS apps submitted to the App Store must be built with Xcode 12 and the iOS 14 SDK
- https://developer.apple.com/news/?id=itpt8dkc

Install over top for Windows Apps

- Windows apps built using AppStudio can now be installed without uninstalling a previous version of the app

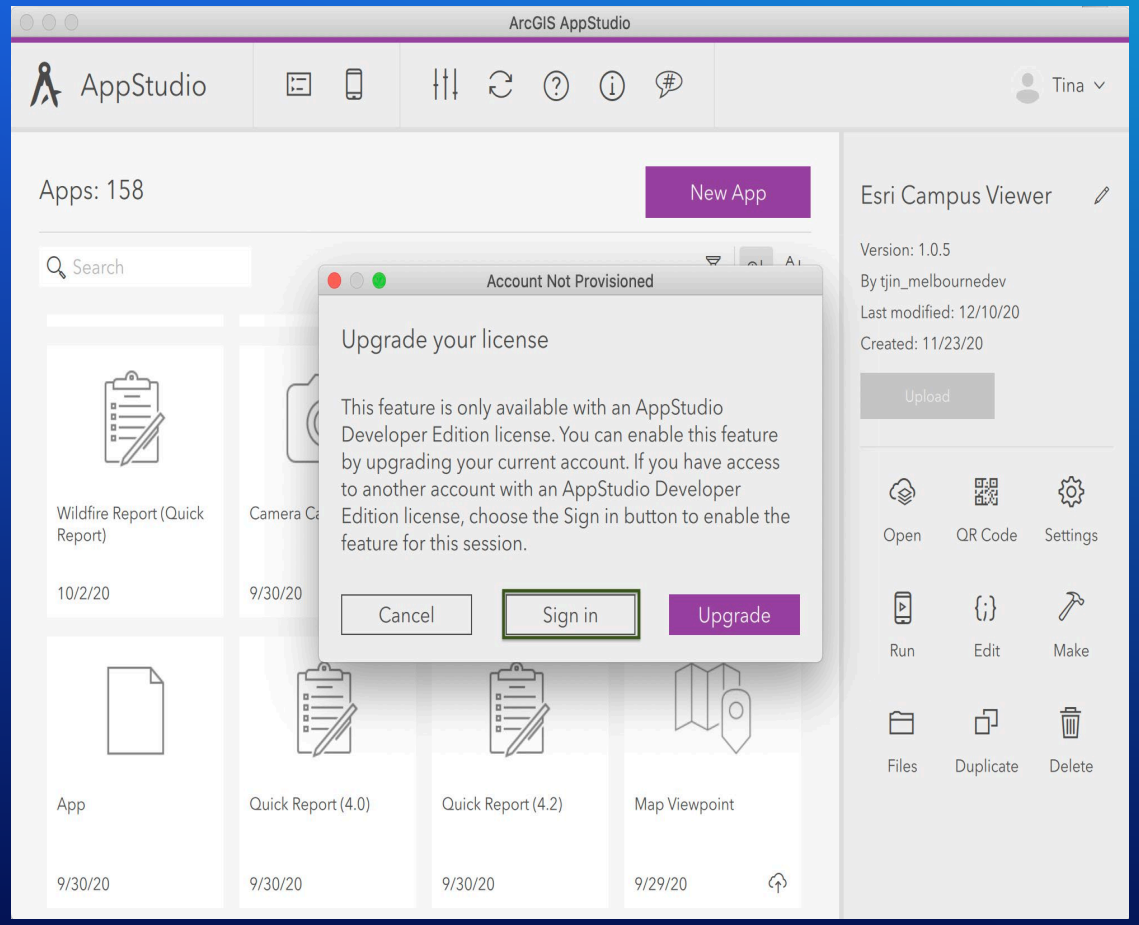
```
"deployment": {,
    "desktop": {
        "allowOverwrite": true
    }
},
```



AppStudio Desktop Licensing enhancements

- Dual Sign-In experience

- Users can now sign in to one ArcGIS Online account to create and share apps.
  And, use a different account to get an AppStudio Developer Edition license for using tools like Cloud Make



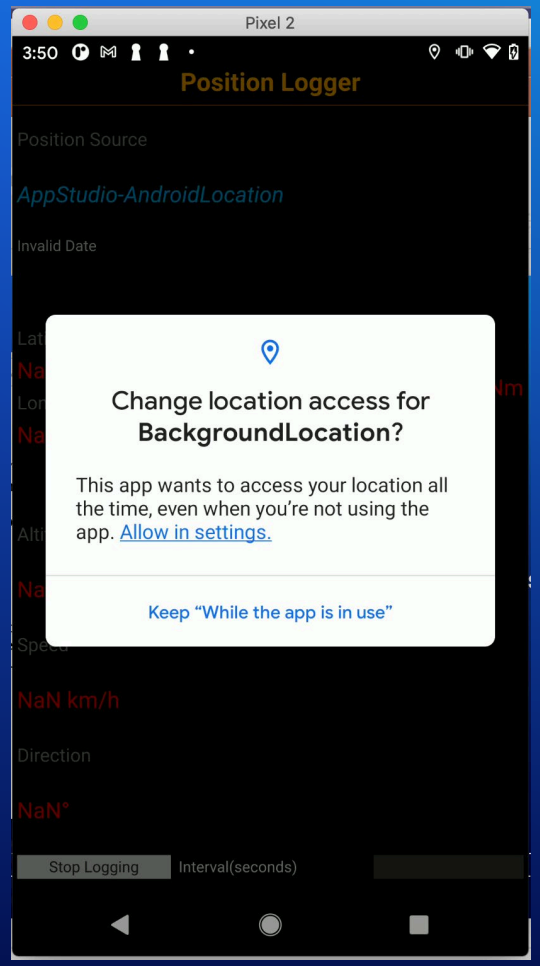
Other Updates

- Added support for the language Slovak
- RTL and localization improvements
- Local Make and Advanced Configuration tools updated as per Qt5.15.2 requirements

What’s New in AppFramework

Background Location Support on Android 11

- Allows apps to use location data in background mode.
- Privacy changes in Android 10 and 11
- Enable background location capability for the app in AppStudio Settings - > Capabilities



Support for Android content uri

- Symbolic name of a file or folder that gets selected in the native Android file picker
- File handling AppFramework components have been updated to support this new Android content uri format
- General format is content://authority/path

BrightnessContrastFilter

- Provides a way for an app to change video output by allowing brightness and contrast to be modified before being passed on to another filter

```
VideoOutput {
    filters: [ brightnessContrastFilter, barcodeFilter ]
}

BrightnessContrastFilter {
    id: brightnessContrastFilter
    contrast: 0.20
}

BarcodeFilter {
    id: barcodeFilter
}
```

CSV updates

- FileFolder readCsvFile(filename, object options)

```
let csvContent = fileFolder.readCsvFile(csvFile, {"delimiter": "|"});
```

- AppFramework SQL component now uses the internet standard RFC 4180 for improved virtual table handling of CSV files

To learn more: https://developers.arcgis.com/appstudio/api-reference/qml-arcgis-appframework-filefolder/#readCsvFile-method

Enterprise configuration support for Windows

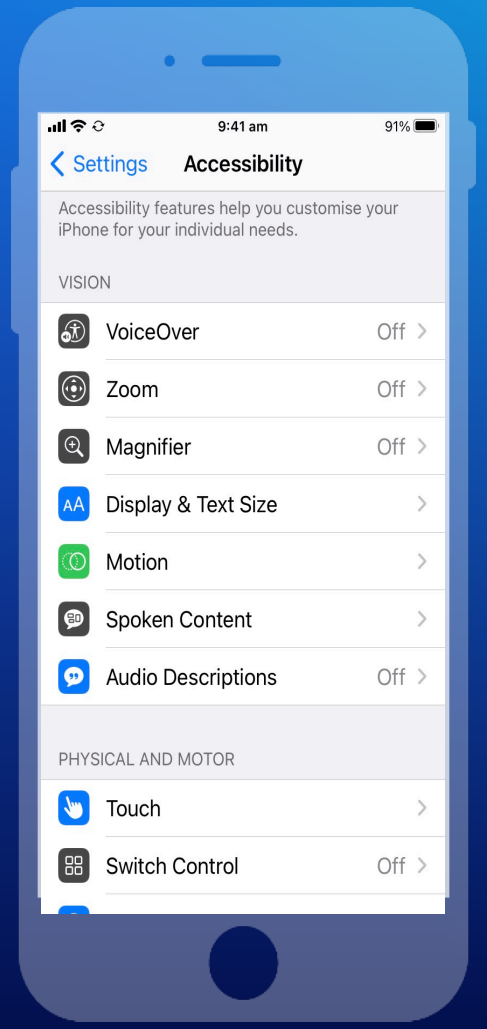
- Ability for IT system administrators to manage enterprise wide configuration of app properties by pushing out registry settings across the enterprise via a group policy management system
- ManagedAppConfiguration.value() looksup values in the registry on Windows

```
"management": {
    "windows": {
        "applicationName": "ArcGISSurvey123",
        "keyRoot": "HKEY_CURRENT_USER",
        "vendorName": "ESRI"
    }
},
```

Accessibility

- Detects below accessibility options of the operating system that the app is running on. This can be used to change the behaviour of your app based on operating system-level options.

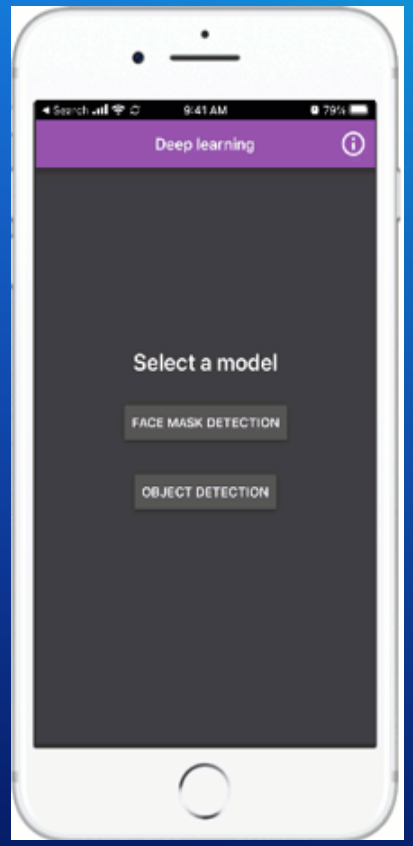
- boldText
- highContrast
- textScale
- voiceOver



AppFramework TensorFlow Labs Plugin

- Powerful open-source deep learning framework
- Based on TensorFlow Lite C++ Library for mobile and IoT devices

  https://www.tensorflow.org/lite
- Best solution for offline edge computing
- Portable and scalable (Desktop, Android, iOS, IoT etc.)
- Static image analysis and Real time video analysis



To learn more: On-Demand session "AppStudio and TensorFlow Lite – Machine Learning on Edge Devices"

Other Updates

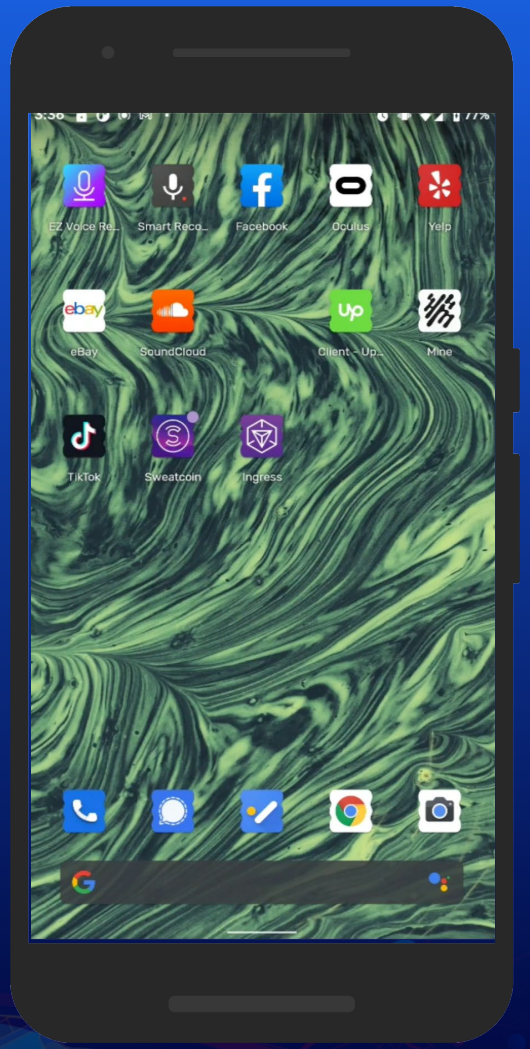
- StorageInfo improvements
- Security updates
  - SecureStorage improvements
  - OpenSSL version has been updated to latest version 1.1.1i
- OpenURLExternally supports App Links, URL Schemes, Content URI and file URLs
- Improved robustness of the captureToLocation property in CameraDialog to detect if the fileUrl is a folder or a file

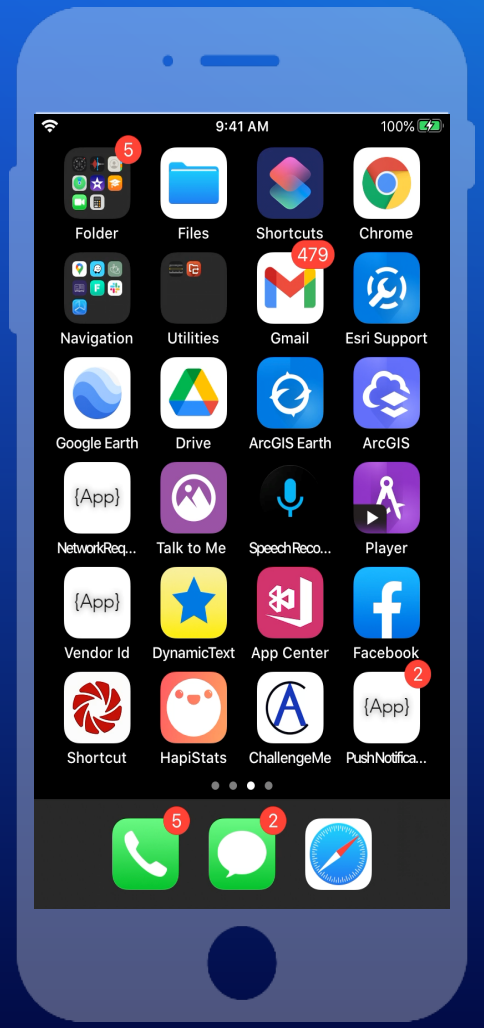
Sneak Peek into new features

Push Notifications

- Increase engagement with users of your app
- Provide updates regardless of the state of the app
- Power efficient

Push Notification





Thank you!

- Please provide any feedback and suggestion in
  - Email to appstudiofeedback@esri.com
  - Ask on GeoNet (https://community.esri.com/t5/arcgis-appstudio/ct-p/arcgis-appstudio)
- Follow us on Twitter @AppStudioArcGIS to keep up-to-date on the latest information
- Let us know about your creation built using AppStudio to be featured in the the AppStudio Showcase (http://esri.github.io/arcgis-appstudio-samples/)

ArcGIS AppStudio Technical Sessions

- ArcGIS AppStudio: An Introduction – Tech Session with Live Q&A
- ArcGIS AppStudio: What's New – Tech Session with Live Q&A

- On-Demand
  - AppStudio and TensorFlow Lite – Machine Learning on Edge Devices
  - Creating Custom Native Apps with AppStudio App Template

Please provide your feedback for this session by clicking on the session survey link directly below the video.

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