

**Esri Developer Summit**

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# Extending the Survey123 for ArcGIS Mobile App

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THE FOLLOWING TECH PREVIEW HAS BEEN APPROVED FOR  
ALL RESTRICTED DEVELOPER AUDIENCES  
BY THE APPSTUDIO/SURVEY123 TEAM

THIS EFFORT HAS BEEN RATED



WARNING: THOUGH IN PREVIEW IT MIGHT BE ADDICTIVE AND  
FUN

ALL (APPSTUDIO) DEVELOPERS WELCOME

Tech preview provides early access to upcoming product innovations, enabling you to evaluate functionality and provide feedback during the development process. Few capabilities may be still being worked on and may not be functionally complete. We will attempt to resolve any issues that customers experience during their evaluation.

# Talking points

- **Survey123 & AppStudio**

- Relationship
- How to get started
- AppStudio Desktop
- Standard level Licensing

- **Customization**

- **Branding**
  - Colors, Icons, Images, Splash screens, app-icon
- **Code**
  - Authentication
  - New controls
  - Add new components

- **Building**

- AppMake - cloud based infrastructure
- Mobile/Desktop
- Signing Certificates

- **Deployment**

- App Player
- Enterprise
- App Stores

## Customization - Scenarios

- Replacing simple mapping with ArcGIS Runtime
  - Webmaps, Feature layers, symbology etc...
- Replacing simple mapping with *online* Webmaps
  - using webviews (custom controls)
- Survey controls add/modifiy
  - Loosely coupled, complex checks or make new requests

# Continued

- **Authentication workflows**

- **Oauth2 (out of the box)**
- **Classic (services)**
- **Custom**
  - **Use Webview**
  - **Use NetworkRequest object to make**
    - **REST calls**
    - **HTTP headers**

- **Data flow and submission**

- **Submit data to custom web services or multiple sources**
- **Track time and location**
- **Make sure app is on location or location is accurate**



# Continued

- **Editing existing data**
  - **Coming later this year\***
    - Prepopulate forms on devices with data
    - Add or modify workflow
    - Static (offline usage)
    - Dynamic (online only use case, on the fly)
  - **Roll your own**
    - Identity based or role based editing on form fields
    - Pre-populate from other business systems
    - Can't wait. Need it now!

## Continued

- **I just want to embed XForms in my own App**
  - “Own” app has to be an AppStudio App
  - Its do-able but not as simple as copy+paste yet
  - Example: Survey123 Connect App

# Is Customizing your best option?

- **I want really sophisticated validation**
  - Understand XLS forms really well (esp. Expressions)
  - Ask your questions on Geonet
- **Similar features/functionality**
  - Follow us on twitter, be current on blog posts
  - Ask about your requirements on Geonet
  - Create/Add to issues in public Github repo
- **I want to change the way the app works**
  - OK if you want to change UI/UX and basic functionality
  - NO if you want to change how XForms validates and works with data





**AppStudio for ArcGIS**

Build one App, deploy across multiple  
platforms and form factors

# Typical AppStudio Stack



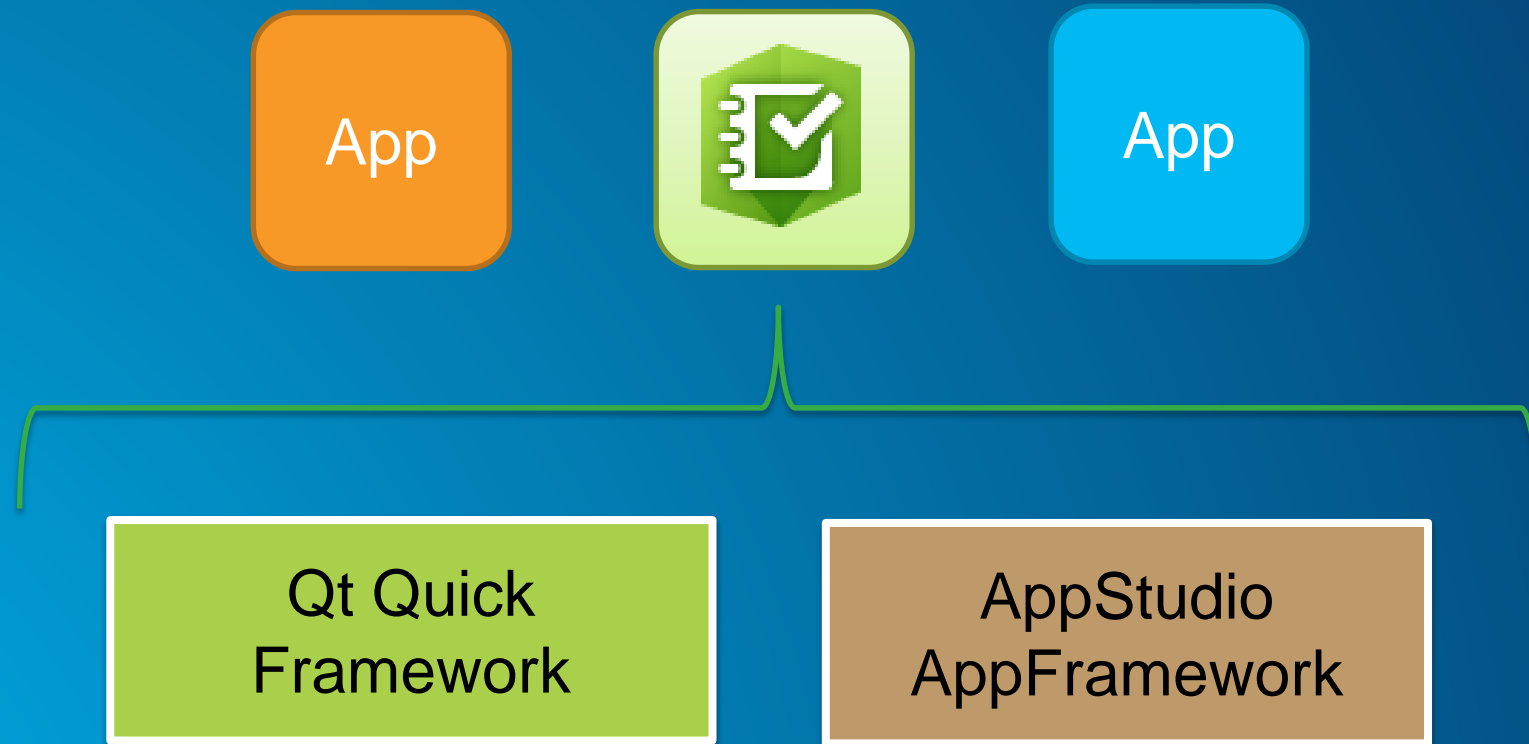
Qt Quick  
Framework

ArcGIS Runtime  
API

AppStudio  
AppFramework

ArcGIS Maps, Feature Services, Packages ...

# AppStudio Stack – Survey123 App



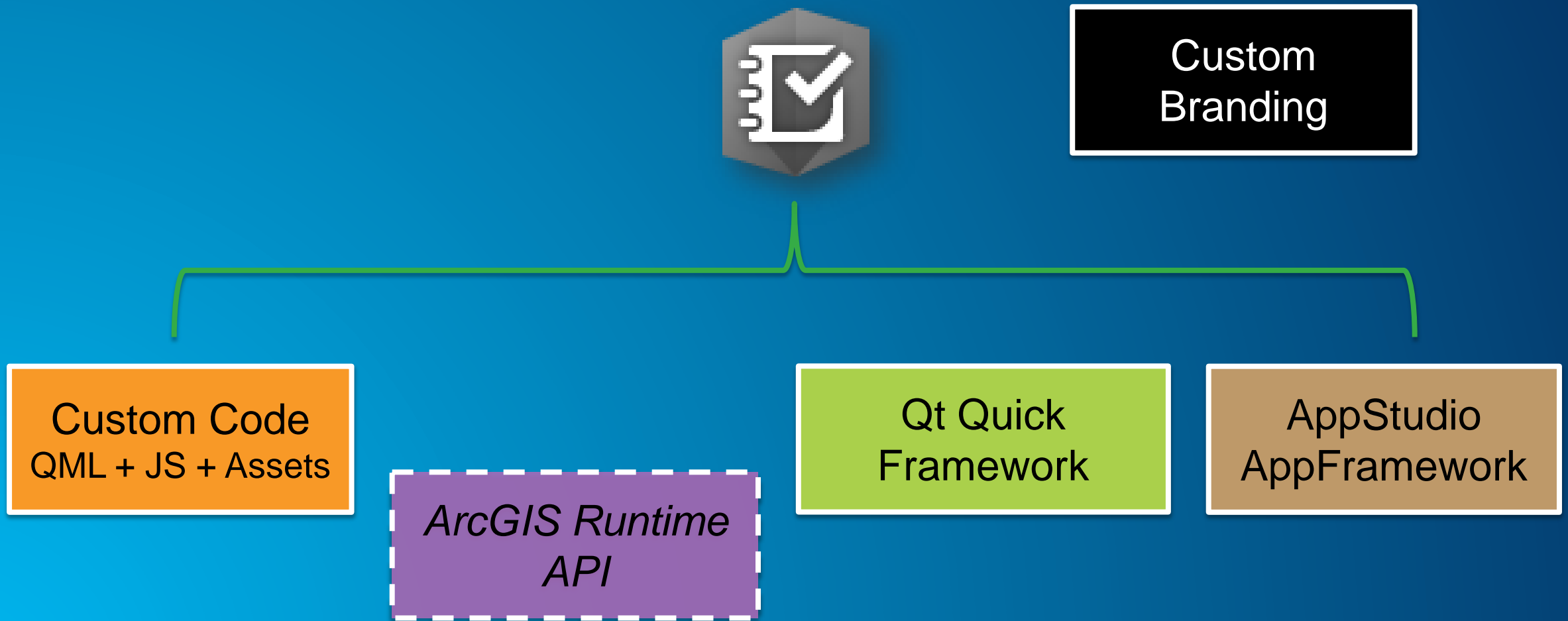
# Internals

- **XForms**
- **ArcGIS Portal library**
- **GeoServices plugin**
  - (Not ArcGIS Runtime)
  - Basic mapping
  - Online Tile URLs
  - Offline ArcGIS TPK
- **AppFramework**
- **CloudMake**
- **Player**
- **Others...**
- **No ArcGIS Runtime**
  - No Runtime licensing
  - App Size considerations
- **Same codebase**
  - Survey123 App
  - Survey123 Connect preview

# AppFramework – Key cross-platform functionalities

- Network
- File + folder I/O
- ArcGIS TPK Support
- ArcGIS Portal library
- GeoServices Plugin
- Enhanced location services
- Barcode
- Access to camera and albums on devices
- Image resizing
- Audio Recording
- Other plugins\*\*

# AppStudio Stack – Your custom Survey123 App





# How to get started

- Download AppStudio Desktop Edition (Mac, Windows or Linux)
- Login to your ArcGIS online organization and provision AppStudio Standard license to your account
- Login to AppStudio Desktop with the same account
- New App -> Enterprise -> Survey123
- Create a new app out of the Survey123 template
- From this point onwards its just like any other AppStudio app
  - Player, Cloud Make, Customization, Branding etc....

# AppStudio Licensing: Basic and Standard

	basic	standard
Build apps with no coding, using configurable app templates	✓	✓
Build apps that run on Android, iOS, Windows, OS X and Linux	✓	✓
Convert your ArcGIS web maps into mobile apps	✓	✓
Build apps you can publish to the Apple and Google Play app stores	✓	✓
Extend apps built using the configurable app templates		✓
Create custom apps using your developer skills		✓
Distribute apps within your enterprise		✓
Access to Enterprise templates		✓

# Codebase - Entry points

- **Template**
  - App UI/UX, Pages (StackView)
  - *SurveyApp.qml*
- **Portal**
  - Authentication, Portal rest calls
  - *Portal.qml*
- **XForms**
  - XForms parsing and handling
  - Form controls
  - *XForm.qml*

## Release cycles & Maintenance

- Once every 4-6 weeks for App and Connect with appropriate website refreshes
- Survey123 Template available in AppStudio Desktop will be refreshed
  - Release notes will be available in the help website to track issues and new features
  - Codebase not available on github and/or as git repo
  - \*\* Merging changes is your responsibility \*\*

# Resources

- **Samples from AppStudio Desktop**
- **Samples from ArcGIS Runtime for QML**
- **Samples from Github**
- **Wiki on Github**
- **Survey123 documentation**



Understanding our world.