



ArcGIS Runtime SDK for iOS: Debugging Offline Feature Editing

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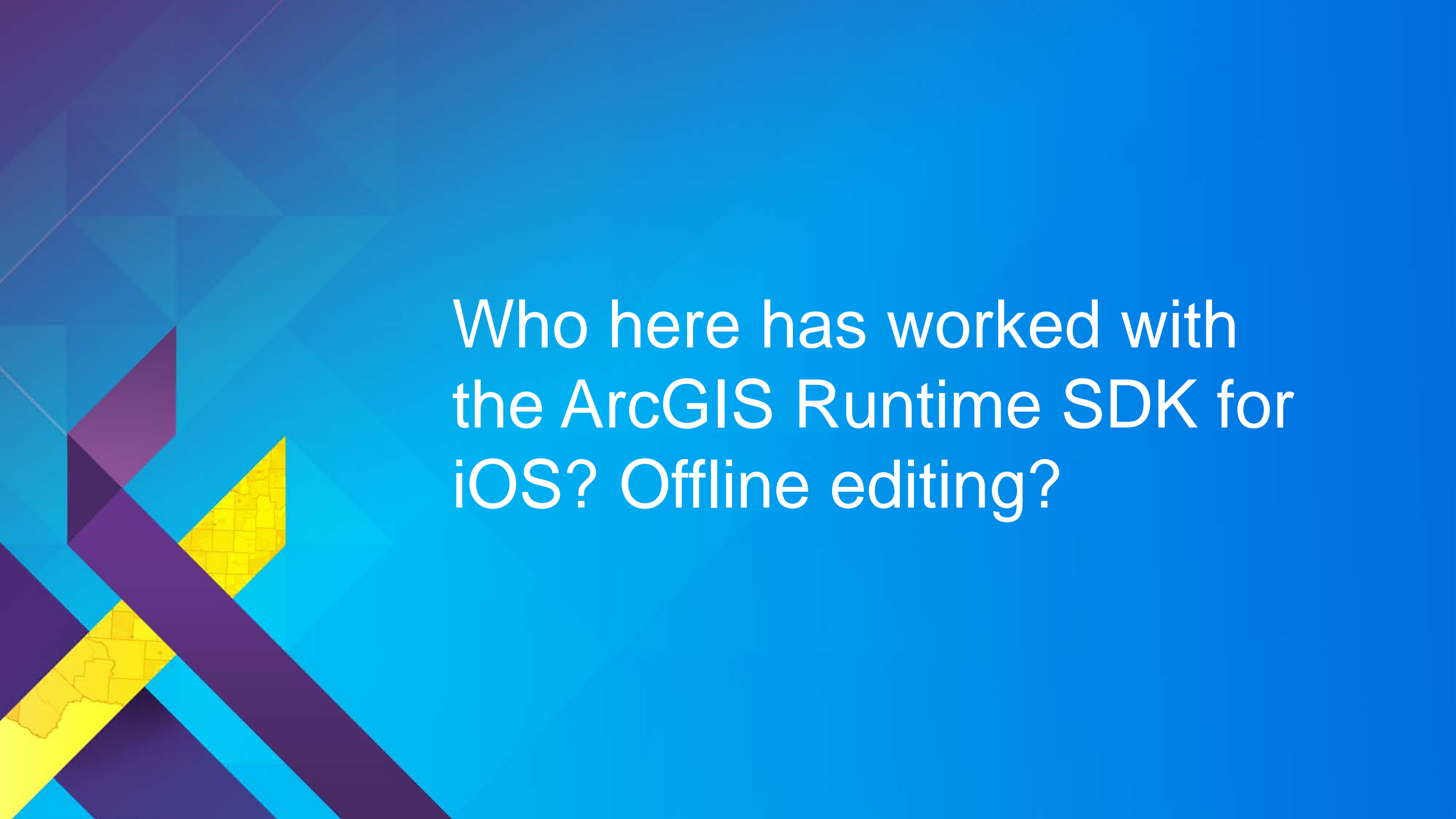
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Goal

! Strengthen your skills in troubleshooting iOS offline feature editing applications.

The background features a blue gradient with abstract geometric shapes in purple and yellow. A small, semi-transparent map fragment is visible on the left side, showing a grid pattern.

Who here has worked with
the ArcGIS Runtime SDK for
iOS? Offline editing?

Agenda

Data preparation



Offline workflow



Potential hiccups



Demo: Downloading, editing, and syncing

Agenda

Data preparation



Offline workflow



Potential hiccups



Demo: Downloading, editing, and syncing

Data preparation

Desktop pattern

- # Consume runtime content from ArcMap
- # Read-only data
- # Best for infrequent updates

Service pattern

- # Download data
- # Update, add, delete
- # Changes applied after sync

Data preparation

Tile Package



ArcMap



iTunes/
file share

Download cached tiles



AGSExportTileCacheTask



Data preparation

Sync-enabled feature service

Feature class



- % Enterprise geodatabase
- % Enable archiving
- % Create Global IDs
- % Enable attachments (optional)
- % Versioned (10.3+) or non-versioned data

Sync-enabled
feature service



Data preparation

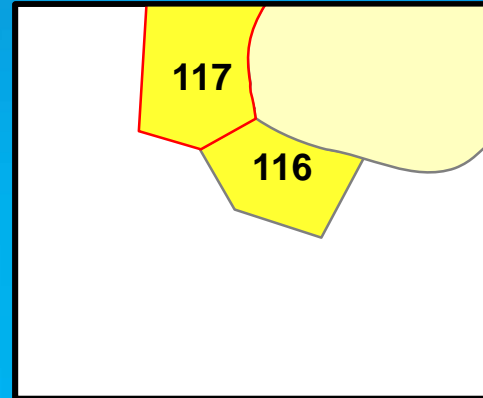
Archiving – record and access changes made to a dataset over time

	Creation date	Modification/ deletion date
PIN	gdb_from_date	gdb_to_date
116	7/23/2015 12:32	12/31/9999

12/31/9999 ⇒ null

Data preparation

Add feature



Creation date

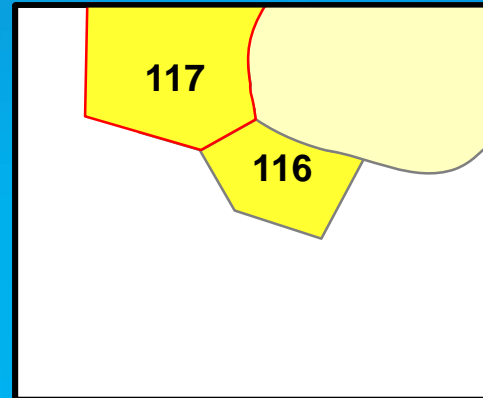
Modification/
deletion date

PIN	gdb_from_date	gdb_to_date
116	7/12/2015 17:34	12/31/9999

PIN	gdb_from_date	gdb_to_date
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117	7/23/2015 13:33	12/31/9999

Data preparation

Update feature



Creation date

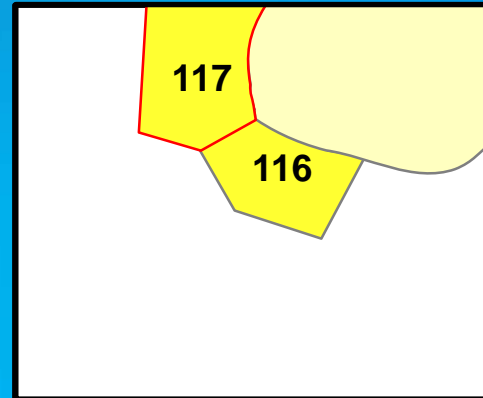
Modification/
deletion date

PIN	gdb_from_date	gdb_to_date
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117	7/20/2015 13:30	12/31/9999

PIN	gdb_from_date	gdb_to_date
116	7/12/2015 17:34	12/31/9999
117	7/20/2015 13:30	7/23/2015 12:34
117	7/23/2015 12:34	12/31/9999

Data preparation

Delete feature



Creation date

Modification/
deletion date

PIN	gdb_from_date	gdb_to_date
116	7/12/2015 17:34	12/31/9999
117	7/20/2015 13:30	12/31/9999

PIN	gdb_from_date	gdb_to_date
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117	7/23/2015 13:30	7/23/2015 12:36

Agenda

Data preparation



Offline workflow



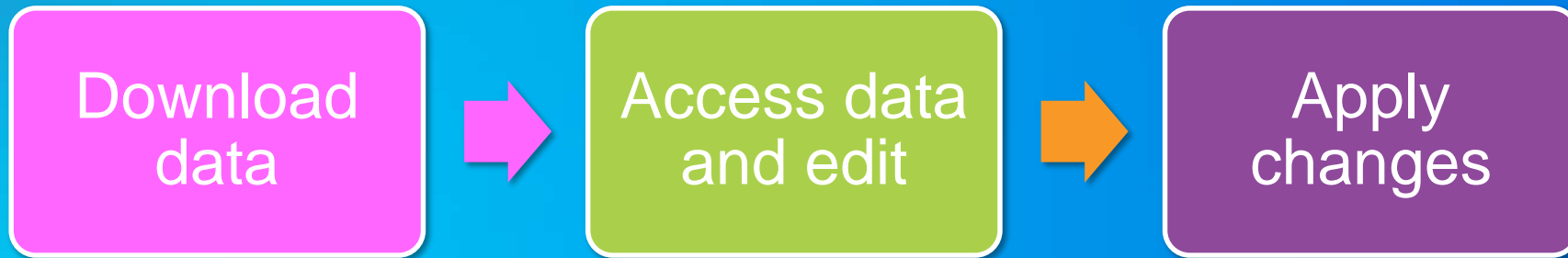
Potential hiccups



Demo: Add, update, and delete features

Offline workflow

Offline editing workflow



Offline workflow

Sync-enabled feature service

syncGeodatabase

Upload
only

Download
only

Bidirectional

AGSGDBSyncTask

View
Query
Analyze
Update
Add
Delete

generateGeodatabaseWithParameters



Agenda

Data preparation



Offline workflow



Potential hiccups



Demo: Downloading, editing, and syncing

Potential hiccups

Network



- # Strong connection
- # Intranet? Use internal wifi

Potential hiccups

Device



- \$ iOS version (iOS 7, 8,...)
- \$ Device type (iPhone/iPad)
- \$ Device version (iPad 1,2,...)

Potential hiccups

Code



- (Set breakpoints
- (Print to console

Potential hiccups

Code - Editing and sync error codes

Error code	Description
0	SQL statement is not valid.
1	Internal SQLite error.
2	Access permission to database file denied.
3	A database callback function called abort.
4	The database is locked. Did you commit a transaction while a cursor was open?
5	The table is locked.

Potential hiccups

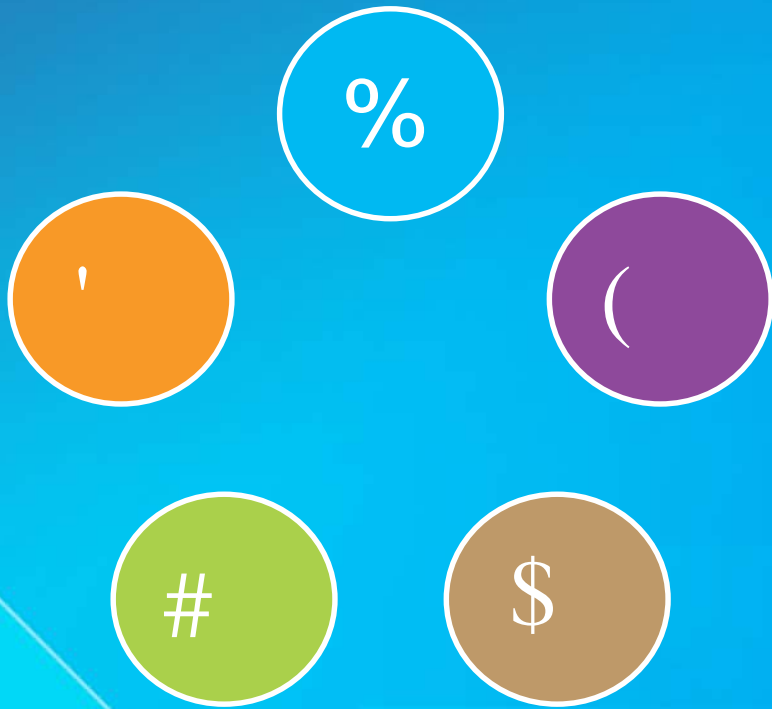
Date



- % Non-nullable field
- % Attachments with global ID

Potential hiccups

Security



- Use AGSCredential class
- Online: ClientID
- Server: username/password

Agenda

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Offline workflow



Potential hiccups



Demo: Add, update, and delete features

Agenda

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Offline workflow



Potential hiccups

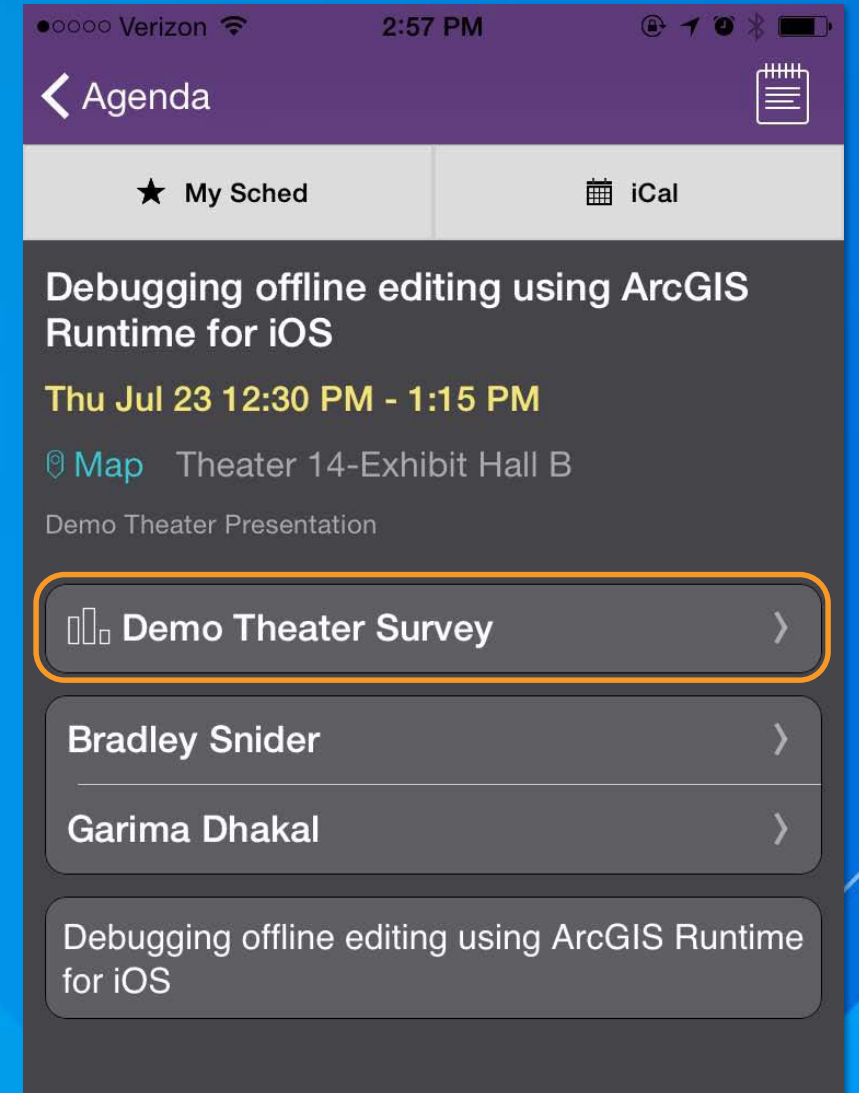


Demo: Downloading, editing, and syncing

Thank you...

Please fill out the session survey in your mobile app

- Select ‘Debugging Offline Editing using ArcGIS Runtime SDK for iOS in the Mobile App’
 - Use the Search Feature to quickly find this title
- Click “Demo Theater Survey”
- Answer a few short questions





Understanding our world.