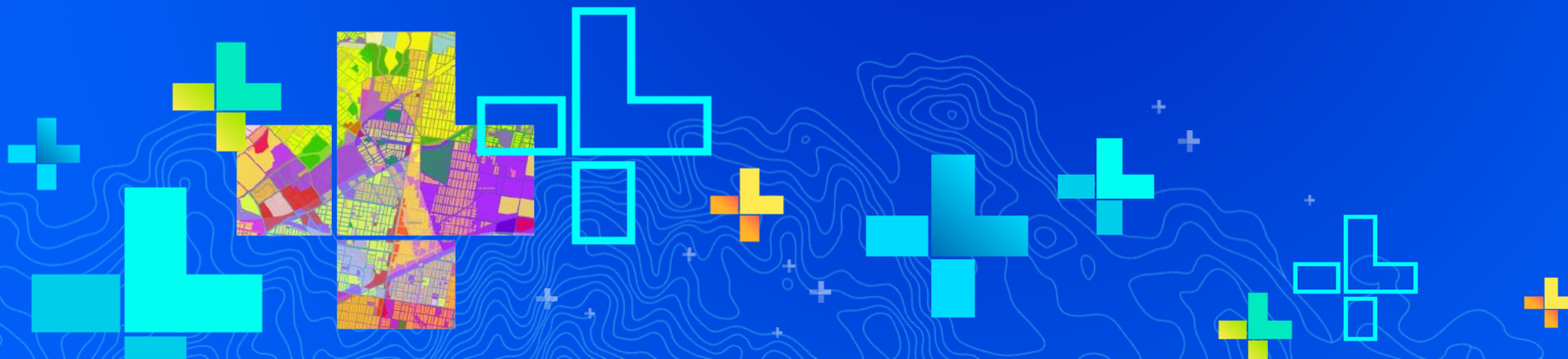




Making Smarter Maps with Arcade

Paul Barker, Jeremy Bartley



Agenda

- Arcade
 - What is Arcade?
 - Getting Started and Easy Wins
 - Adding complexity
 - Tips & Tricks
 - Troubleshooting
 - What's Next?

What is Arcade?



- common language for expressions in ArcGIS (think excel for ArcGIS with JavaScript like flow control)
- Allows you to build simple or complex expressions from your data
- Not intended to be a geoprocessing replacement or a Python replacement
- Supported in popups, rendering, labeling, rotation, and attribute rules (Utility Network)

Where to find it in the Web Map

Symbology

Change Style

HUD Insured Multifamily Properties

1 Choose an attribute to show

Show location only

2

USPS Address Type

USPS Standardized ZIP+4 Code

Was Ever Active 202/811 Grants/Loans for F

Watch List Date

ZIP Code

ZIP Return Code

New Expression

Rotation

☒ Rotate symbols (degrees)

1st Contract 1 Bedroom Units

Rent to FMR Ratio 1

Rent to FMR Ratio 2

Total Assisted Unit Count

Total Number of Children

Total Number of People (in thousands)

Total Unit Count

Total Units Across All Active Contracts Associate

New Expression

Pop-up Configuration

Attribute Expressions

Adding expressions allows you to create new information from existing fields for use in pop-ups.

ADD

Project Manager Name {expression/expr1}

Property Name {expression/expr1}

Address Line 1 {expression/expr2}

City {expression/expr3}

Annual Expenditure Amount for the Current Year

Average Federal Spending per Unit per Month

Transparency

Set transparency based on attribute values

Apply transparency to each feature based on the attribute values in a field or an expression.

Field: None

Rent to FMR Ratio 2

Total Assisted Unit Count

Total Number of Children

Total Number of People (in thousands)

Total Unit Count

Total Units Across All Active Contracts Associated

Watch List Date

New Expression

Labels

Label Features

HUD Insured Multifamily Properties

☒ Label Features

Text: Property Name

Percent of Household Members Age 62 or Older

Percent of All Household Members Below Age 18

Percent of Households with Income Below 80 Percent of Median

Median of Total Annual Income for the Household

LAST_UPDT_DTTM

Annual Expenditure Amount for the Current Year

Annual Expenditure Amount for the Previous Fiscal Year

Align

New Expression

Getting Started and Easy Wins

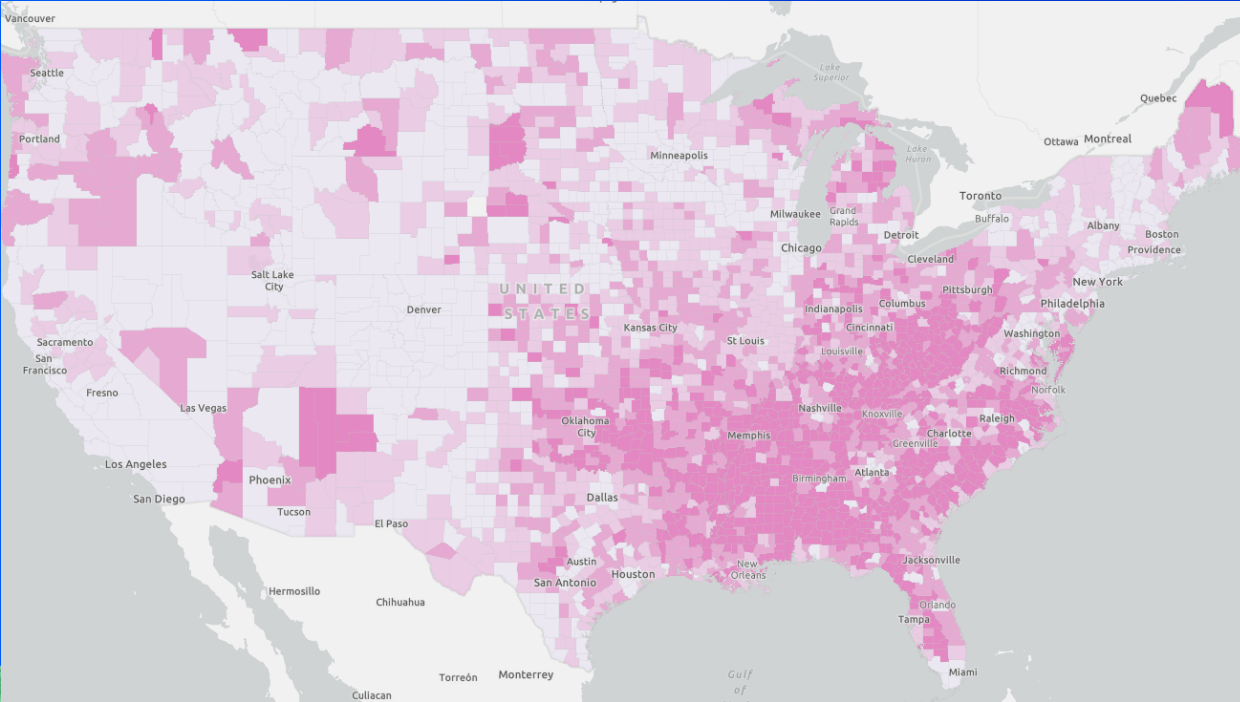
Paul Barker



Getting Started & Easy Wins



- Arcade expressions don't have to be complicated to be useful.
 - Combine fields together to create a new visualization variable
 - Format existing values in fields
 - Unit conversion
 - Rotate symbology
 - Arcade based rendering styles
 - Improve the presentation for you audience



Demo

Paul Barker, Jeremey Bartley

Adding Complexity

Jeremy Bartley, Paul Barker



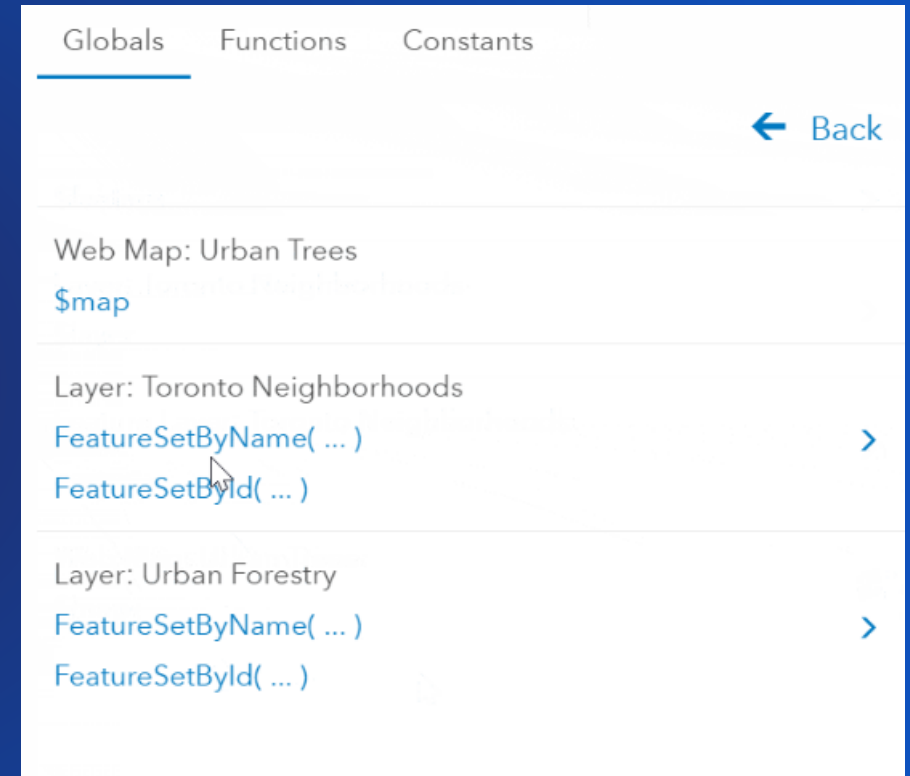
Getting Fancy



- **Discover and clean-up your data**
 - Variables
 - User-built functions
 - Boolean logic
 - For loops
 - Conditional statements
 - Geometry functions
 - Feature Sets
- **Examples:**
 - Access related data in your popup
 - Complex calculations such as an index created from multiple fields
 - Render based on geographic relationships

What's a FeatureSet

- Feature sets are a way to access information from multiple features
 - From the same layer or any layer within your map (\$map) or service (\$datastore)
 - Work with data that is related either informally or formally
 - Can be very powerful when used responsibly



Considerations



- Check your network traffic – how big are your queries?
- When using feature sets, don't make heavy queries (heavy = slow)
 - Use attribute queries instead of spatial queries when possible
- If you don't need it, don't request it!
- Chain functions as much as possible



Demo

Jeremy Bartley

Tips & Tricks

Paul Barker



Tips & Tricks



- Flexibility always comes with responsibility. Balance complexity and performance
- Reuse expressions across different areas
- Take advantage of constants
- Accessing domains based on value or name
- Use the [Github](#) repo for inspiration and share expressions

Troubleshooting



- Plan things out in your head or on paper before you start
- The test feature and button are your friend
- Leverage log statements to debug code
- Factor out logic into functions in larger expressions
- Reference variables in filter via @

What's Next?

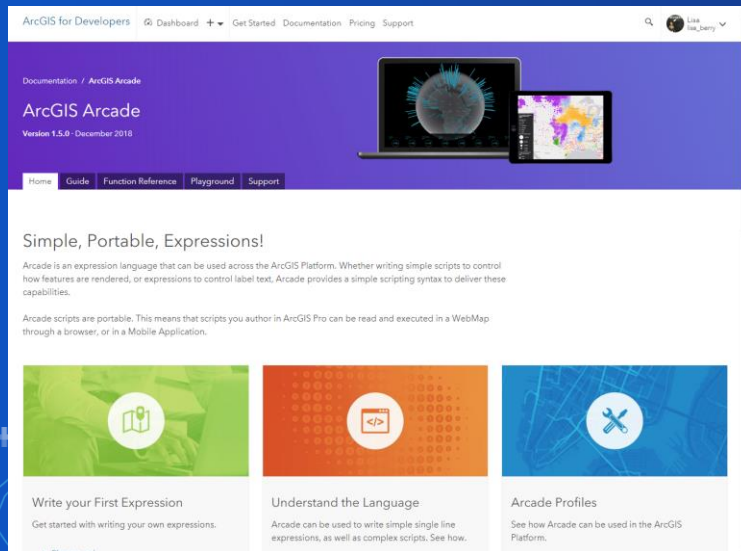


- Expanding attribute rules
- Using arcade to make popups smarter
- Optimizing performance (esp. Calc)
- Revamped Arcade expression editor
- Templating (popups)

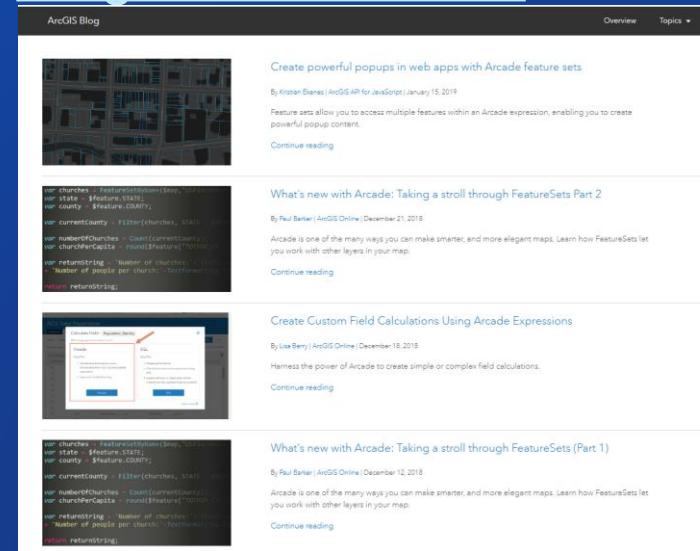
Resources for Arcade

<http://esriurl.com/ArcadeResources>

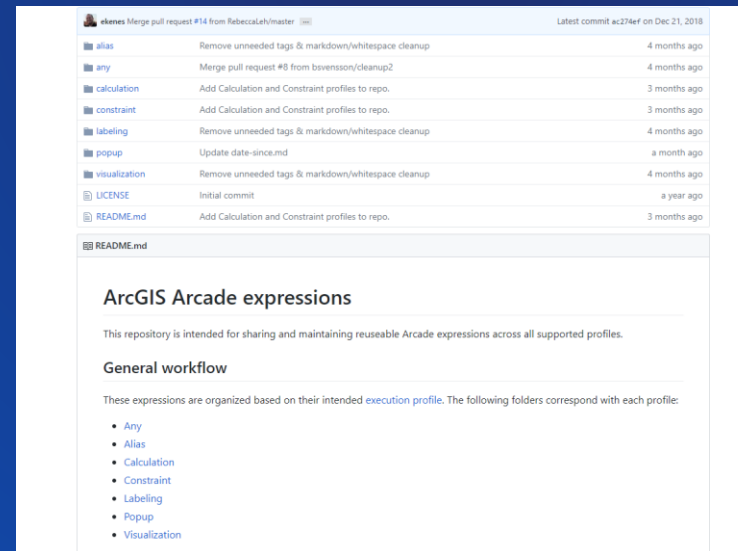
Documentation



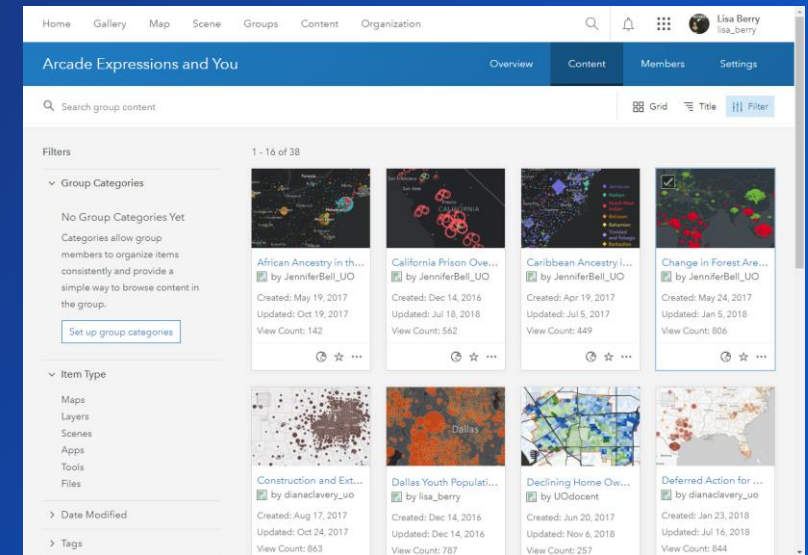
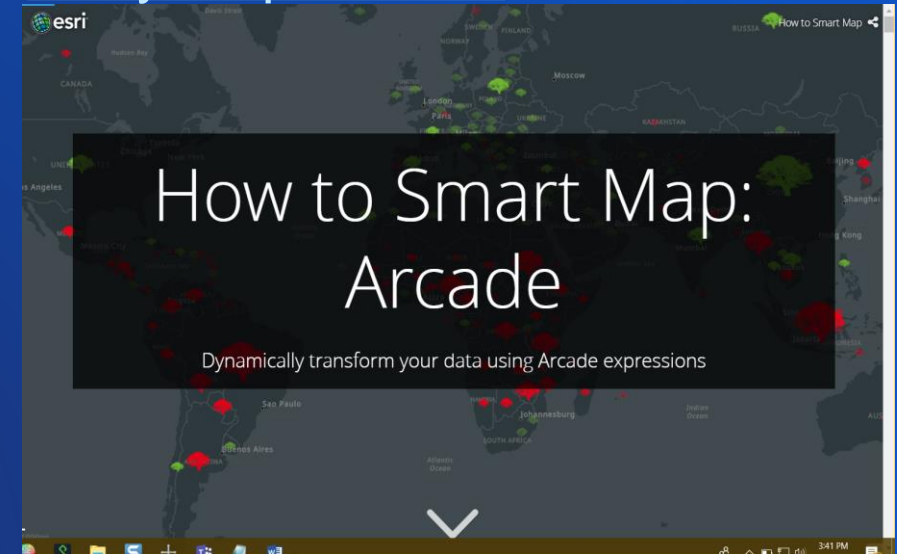
Blogs about Arcade



GitHub – Arcade Examples



Story Map Tutorial

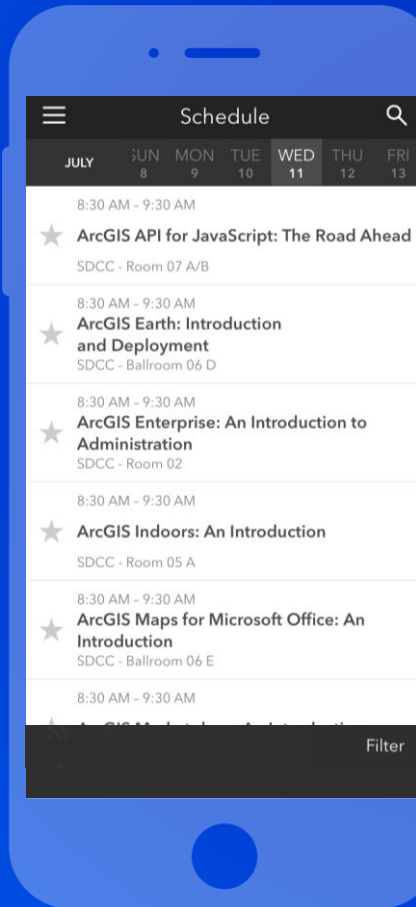


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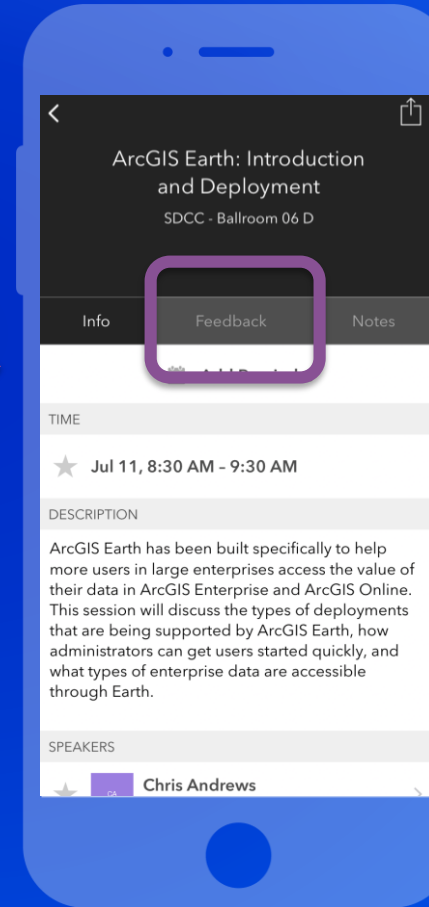
Download the Esri Events app and find your event



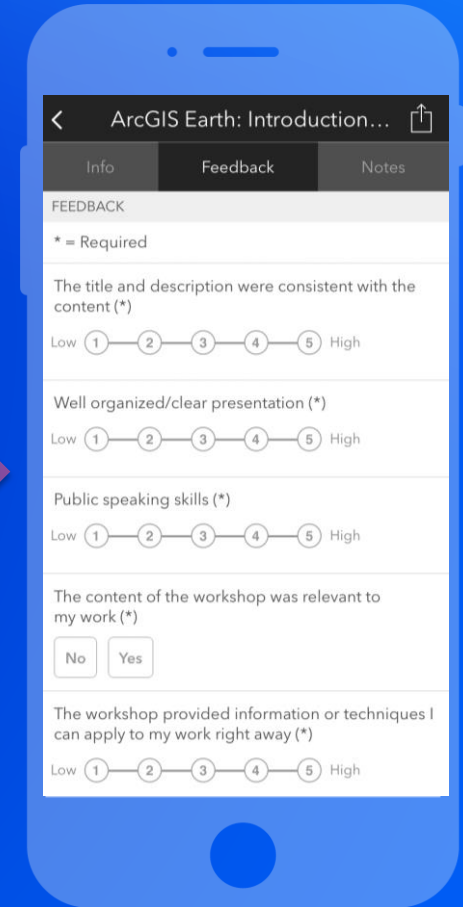
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Complete answers and select "Submit"





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