ArcGIS Maps SDK for JavaScript: Using Arcade with your Apps

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2023 ESRI USER CONFERENCE

Session overview

- Introduction
  - What is Arcade?
  - Why do I need to use it?
- Learning the Arcade basics
- Using Arcade in the JavaScript SDK profiles
- Arcade executor APIs
  - Executing Arcade on your own terms
  - Creating custom profiles

What is Arcade

Create flexible content from existing data

- **Expression language** for…
  - calculating and formatting data values,
  - enforcing rules,
  - generating content elements, and
  - Creating any of the above conditionally.

- Works across ArcGIS applications
  - ArcGIS Pro
  - ArcGIS Online
  - ArcGIS Dashboards
  - Developer SDKs
  - … and more!

When should I use Arcade?

- Arcade is especially useful when…
  - You don't own the data
  - The data updates frequently
  - You want to view your dynamic content in other applications (ArcGIS Pro, Native Apps, etc)
  - You want to easily work with feature data to create custom content in your apps
    - Leverage simplified language syntax or convenient built in Arcade functions

Arcade Profiles: Self-contained environments for executing Arcade

Case study: Labeling

INPUT

$feature

```
AIR_TEMP: 37.20000076293945
ATM_PRESSURE: Null
AVG_PERIOD: Null
DEWPOINT_TEMP: Null
DOM_WAVE_PERIOD: 4
OBS_DATETIME: Jan 30, 2023, 4:00:00 PM
PRESSURE_TENDENCY: Null
R_HUMIDITY: Null
STATIONID: "22101"
TIDE: Null
VISIBILITY: Null
WATER_TEMP: 37.599998474121094
WAVE_HEIGHT: 0.5
WIND_CHILL: 26.799999237060547
WIND_DIRECT: 170
```

PROFILE

Core functions

Geometry functions

```
1   var f = $feature.AIR_TEMP;
2   var c = (f-32) * (5/9);
3
4   return Text(c, "#°")
```

OUTPUT

3° C

28 mph NW
19 mph NW
11 mph N
7 mph N
22 mph NW
37 mph W
30 mph NW
24 mph NW
30 mph W
46 mph W
15 mph NW
20 mph NW
31 mph W
37 mph W
17 mph NW
31 mph W
28 mph W
35 mph W
9 mph W
30 mph NW
22 mph NW
26 mph W
19 mph W
22 mph NW
17 mph W
19 mph NW
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11 mph W
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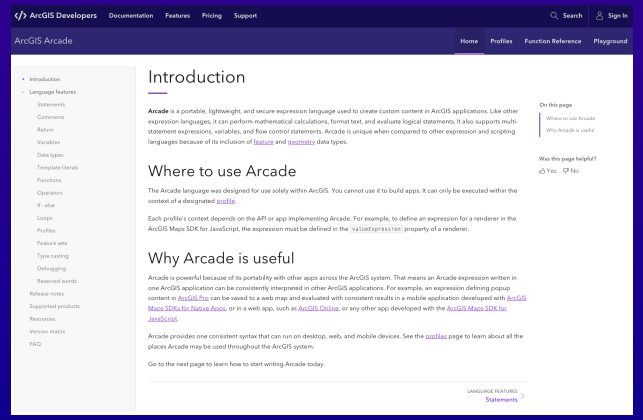
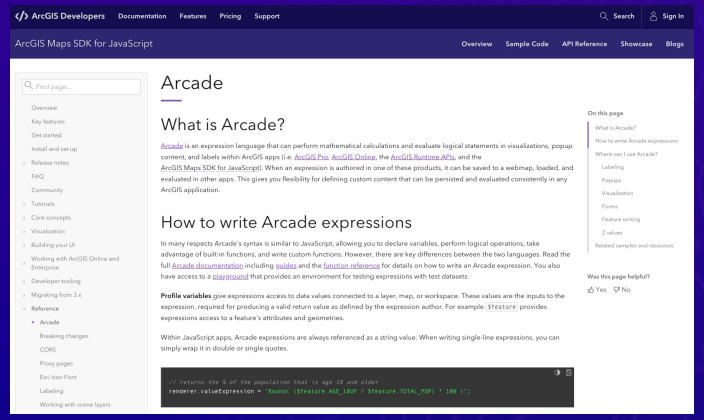
20 mph W
24 mph W
13 mph W
20 mph W
17 mph W
20 mph W
20 mph W
26 mph W
19 mph W
26 mph W
22 mph W
24 mph W
28 mph W
22 mph NW
26 mph W
17 mph NW
24 mph W
Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

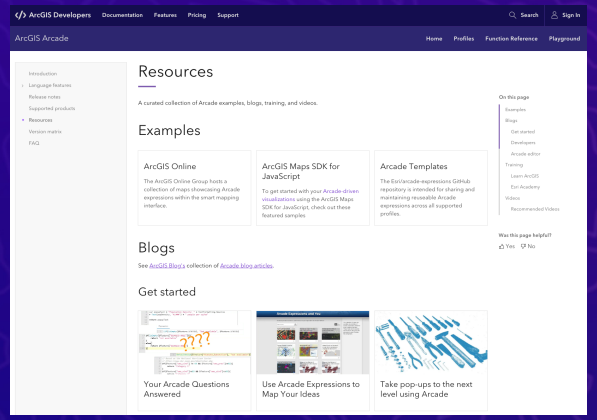
Demos

Resources

- Arcade documentation: https://developers.arcgis.com/arcade
- Using Arcade with the JavaScript SDK: https://developers.arcgis.com/javascript/latest/guide/arcade/
- Resources page with quick links to blogs, samples, trainings, and videos: https://developers.arcgis.com/arcade/guide/resources







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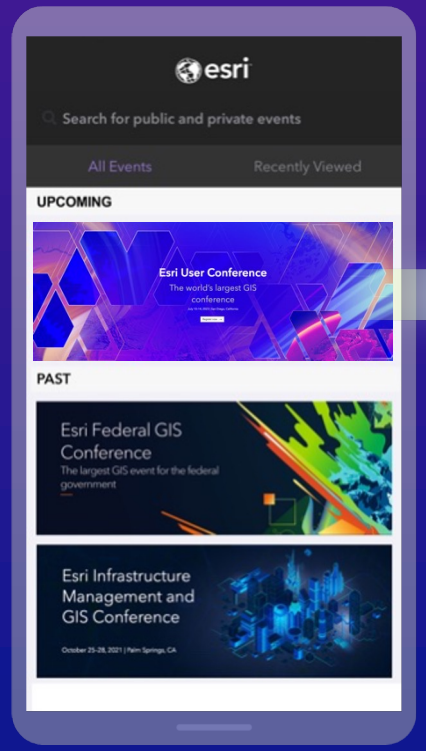

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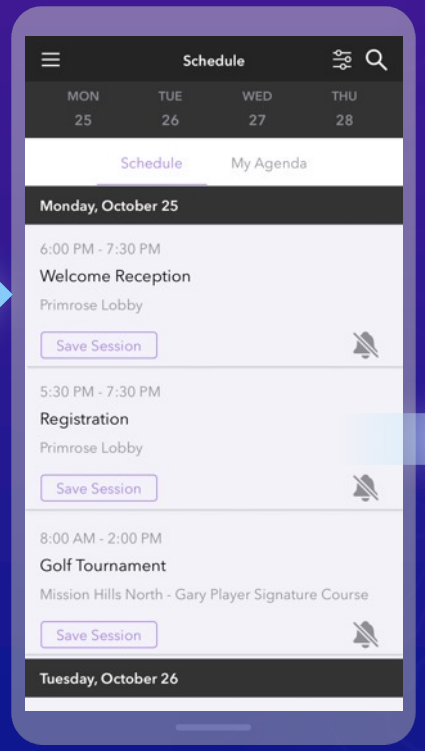

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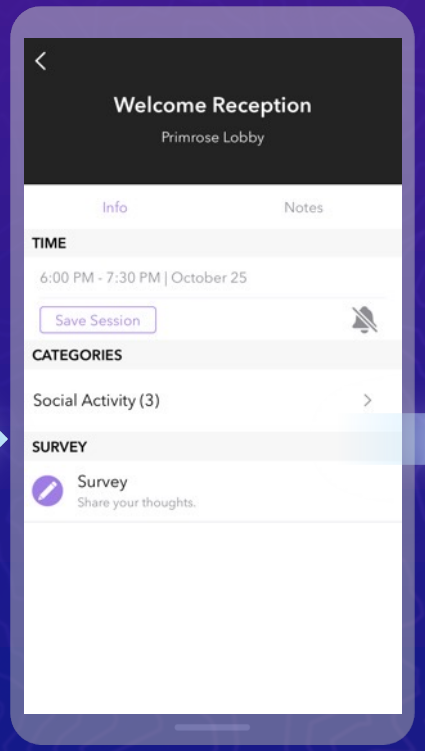

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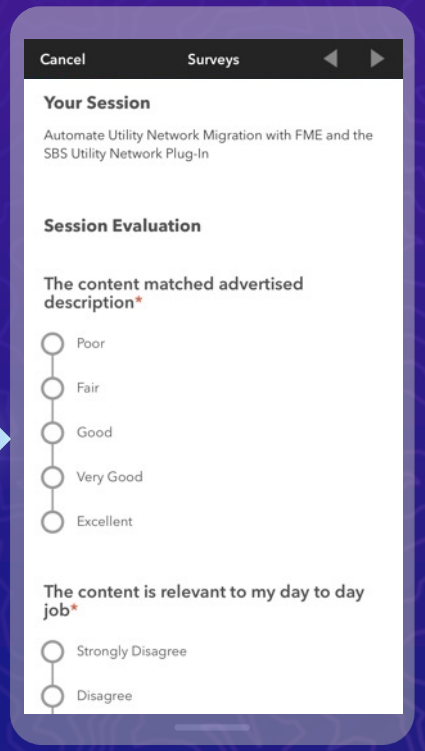

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