ArcGIS Platform: A Developer's Introduction

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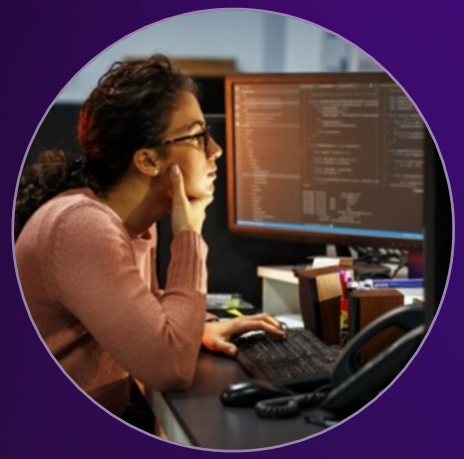
David Cardella

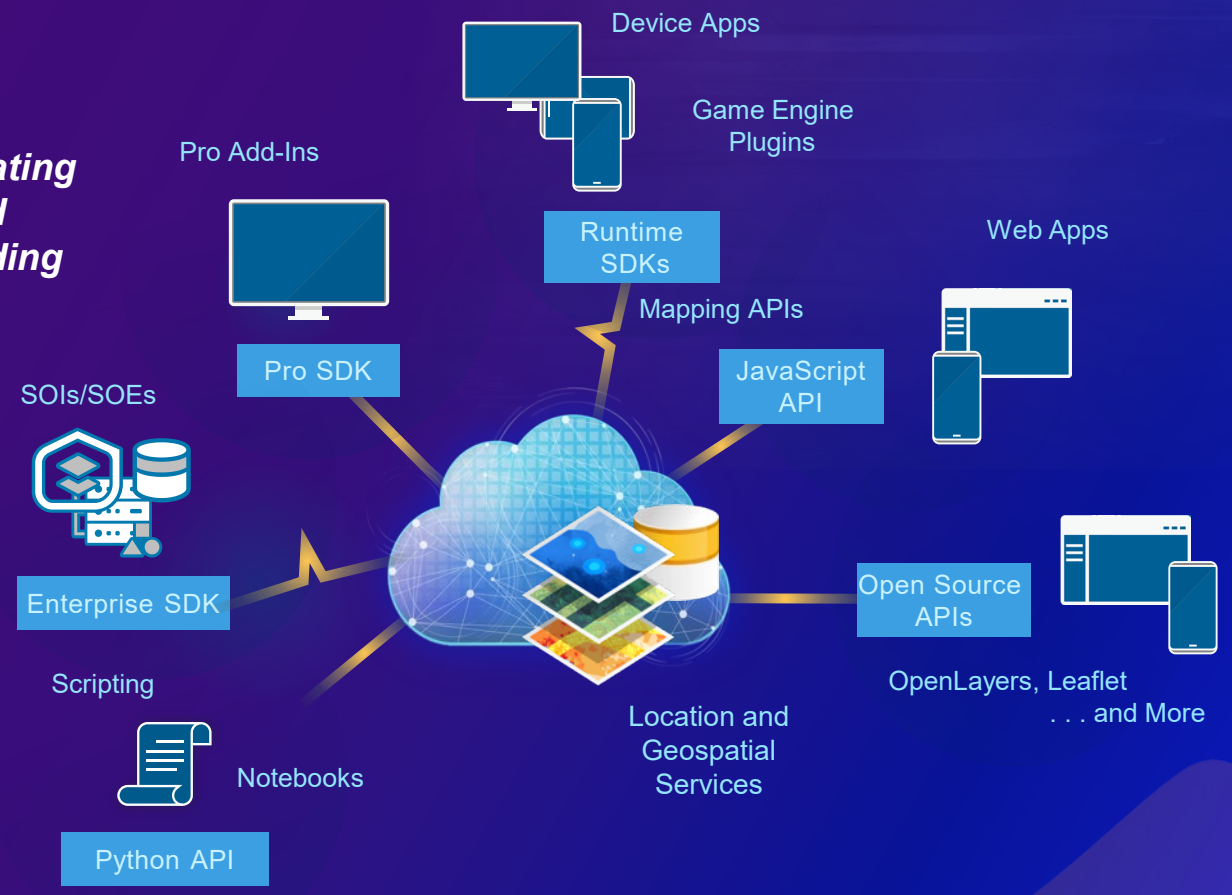
2021 ESRI USER CONFERENCE

ArcGIS Developer Provides Extensive Capabilities

APIs & SDKs for Extending and Automating ArcGIS
. . . and Creating New Apps

- High Performance
- Rich Data-Driven Visualization
- Sophisticated Analysis
- Premium Developer Experience
- Flexible Deployment

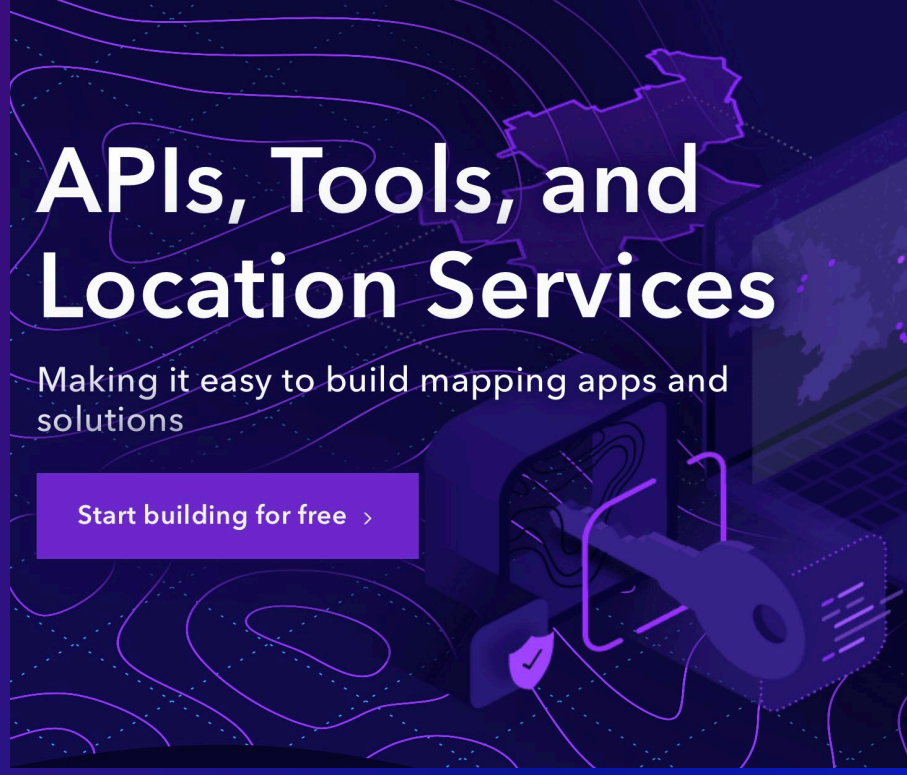




Bringing Powerful Spatial Tools and Location Services to All Developers

Developer Trends

- Developer influence
- May not want to invest in a full technology stack
- Open source is important
- May want to use their own client technology
- In many cases the form of an API is more important than the features it has
- Simple, easy to understand business model that reduces friction of entry



Introducing

ArcGIS Platform

ArcGIS Platform | A Location Platform-as-a-Service

Location Services

Content &
Capabilities

Developer Experience

Mapping APIs
Open-Source Mapping Libraries
Developer Resources

Business Model

Consumption-Based

An Intuitive Developer Experience
for Accessing and Using Location Services

Developer Experience | Mapping Libraries

Your preferred mapping library

- Esri's JavaScript and native APIs
  - Fully featured
- Leaflet
- OpenLayers
- Mapbox GL JS

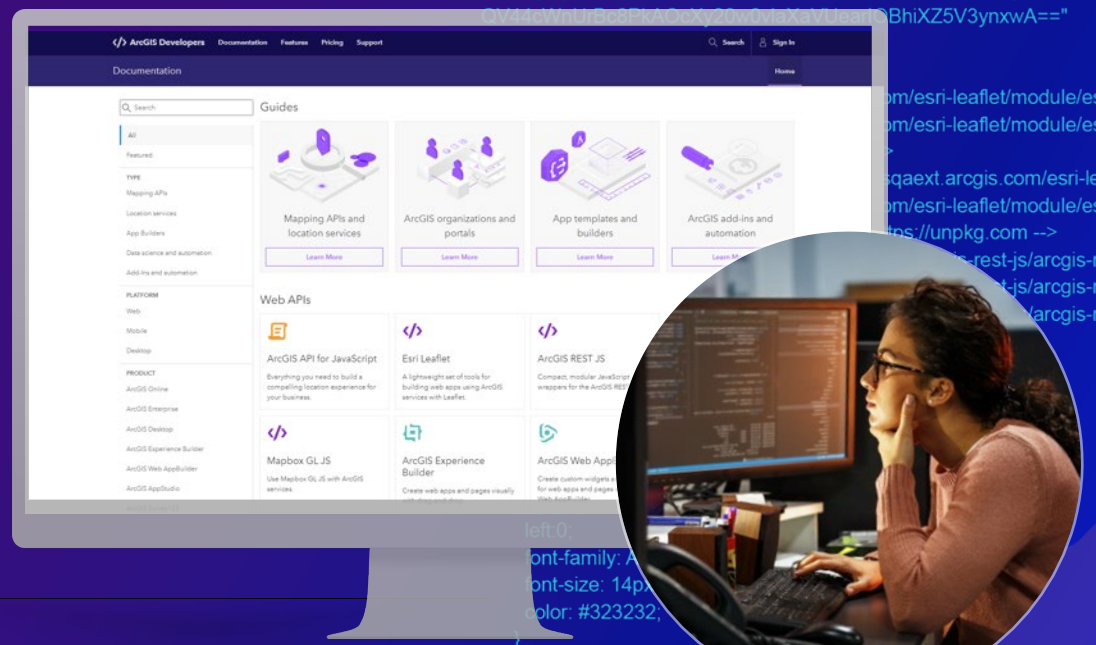
Developer Experience | Authentication

- All services require authentication
- Variety of authentication methods
- API keys (New) and OAuth
- Industry standard

Developer Experience | Resources and Tools

- Developer guide
- Extensive SDK documentation
- Tutorials
- Dashboard and tools

developers.arcgis.com



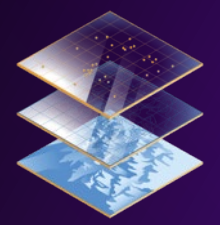
Create a free developer account

Developer Experience

Euan Cameron

ArcGIS Platform | A Collection of Location Services

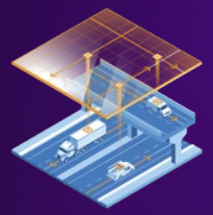
Extensive Content and Powerful Capabilities


Basemaps

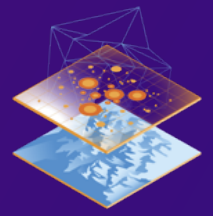
Data Hosting

Data Visualization

Geocoding & Search


Routing & Directions

Maps & Data


Spatial Analytics

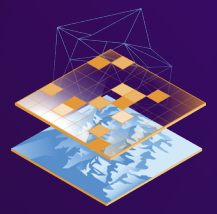


Image Analysis

Real-Time Mapping

IoT Integration

Deployment Options

Location Services | Basemaps, Data Hosting Visualization

Data Visualization

Data Hosting

Basemaps

- Visualize, Edit & Analyze
- Secure, Scalable, Performant
- Maintain Data Ownership

Library of
Pre-Styled Maps

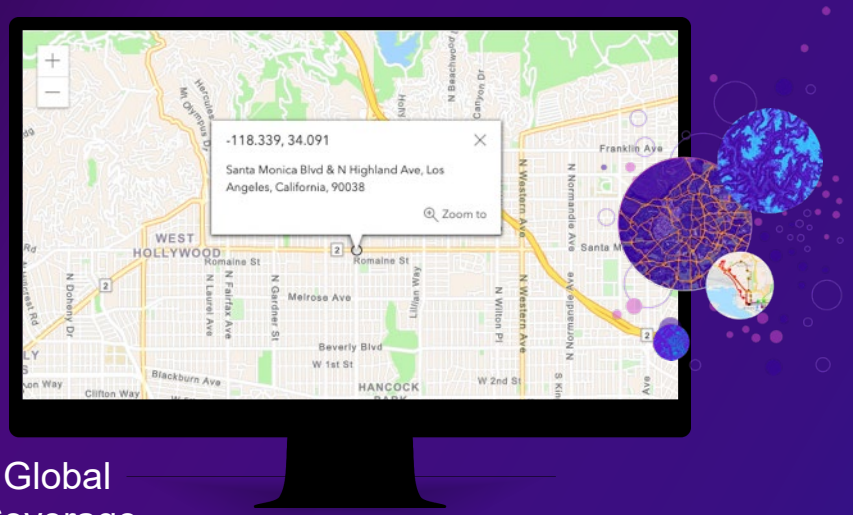
- Interactive Data-Driven Styling
- 2D and 3D
- Smart Mapping

Apply Your Own
Custom Style

Location Services | Geocoding/Search & Routing/Directions

Geocoding & Search

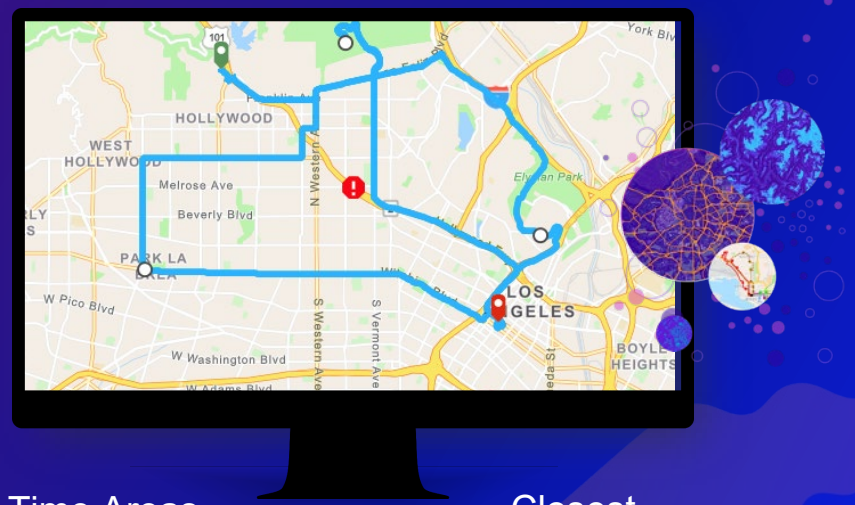
- Multiple Authoritative Sources
- Support for Local Languages and Address Formats



Global Coverage

Routing & Directions

- Point-to-Point
- Multiple Vehicles
- Optimized Routes



Drive-Time Areas (Isochrones)

Closest Facility

Origin-Destination Matrices

Location Services | Geocoding/Search & Routing/Directions

Maps
& Data

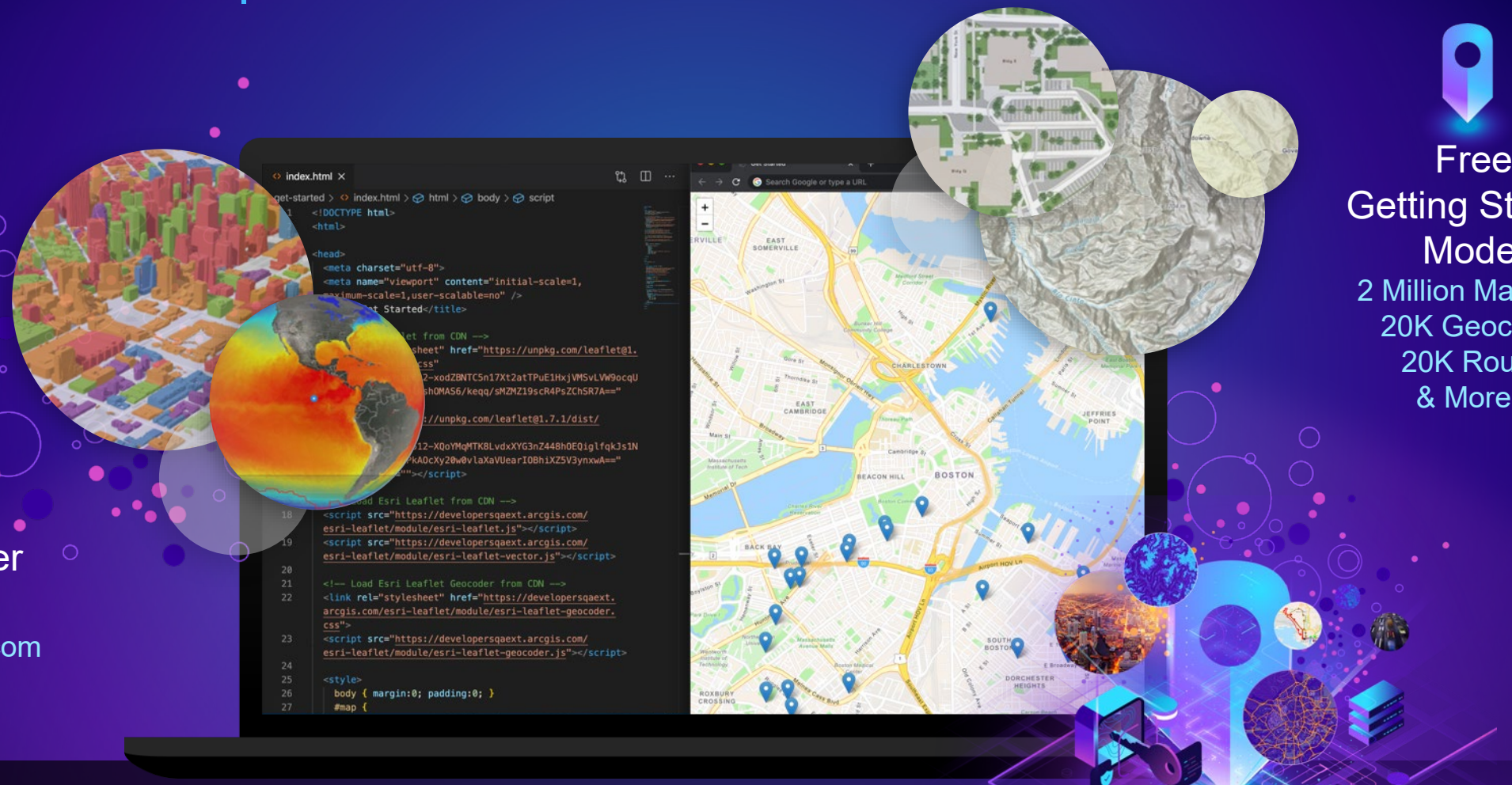
- Demographics and Statistical Data
- Live Feeds
- Imagery

Authoritative,
Comprehensive & Global

Spatial
Analytics

- Geometric Processing
- Attribute & Spatial Queries
- 2D & 3D
- Client & Server-Side Analytics

ArcGIS Platform | Business Model



Free Developer Account

developers.arcgis.com

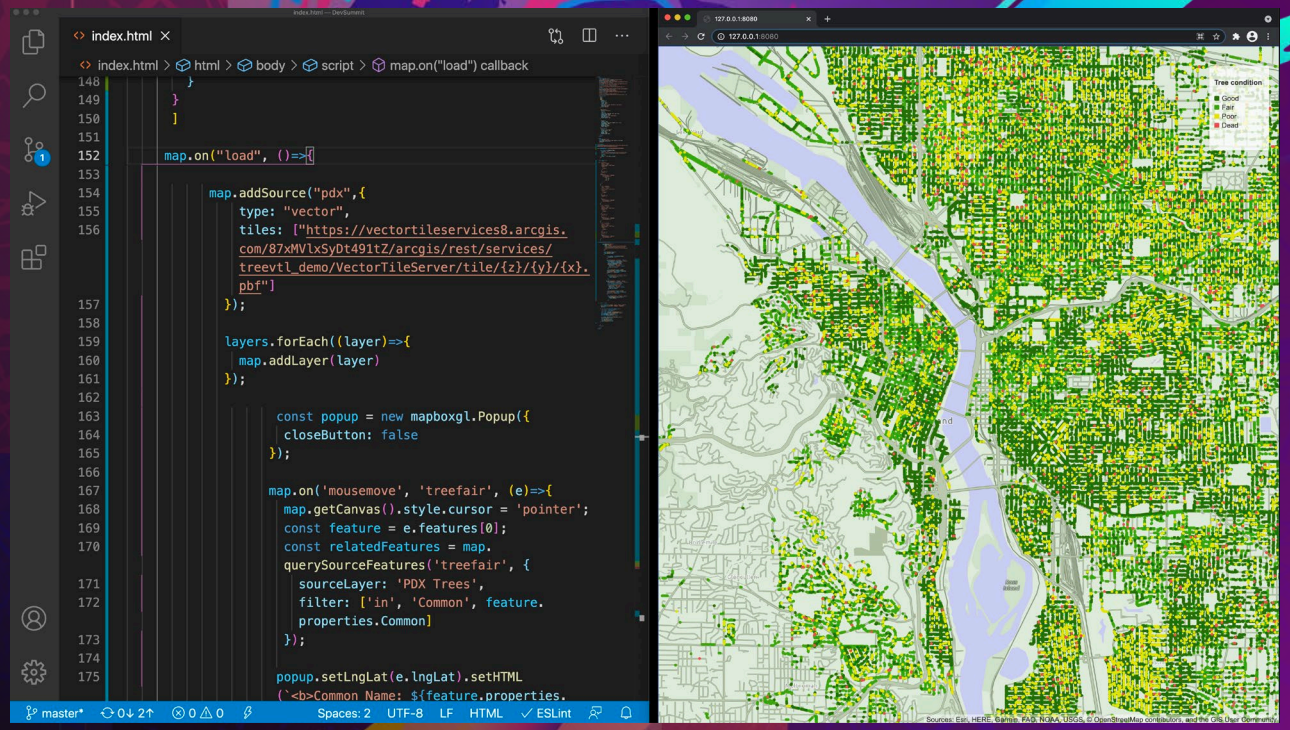
Free Getting Started Model

2 Million Map Tiles
20K Geocodes
20K Routes
& More…

Cost-Effective, Transparent Consumption-Based Pricing Model

Switching to ArcGIS Platform

- Existing ArcGIS apps easily updated to consume the new end points
- Many organizations use multiple mapping solutions
  - Decisions based on capabilities, business models and developer preference
- ArcGIS Platform Services engineered to support common mapping libraries
  - OpenLayers
  - Leaflet
  - Mapbox GL-JS
- Simple to pivot code to target ArcGIS Platform
- This approach leverages your investment



Pivoting to ArcGIS Platform

Anita Kemp

ArcGIS Platform

Marketplace

Premium Data
Custom Solutions

App
Builders

Experience Builder
AppStudio

Design
System

Developer

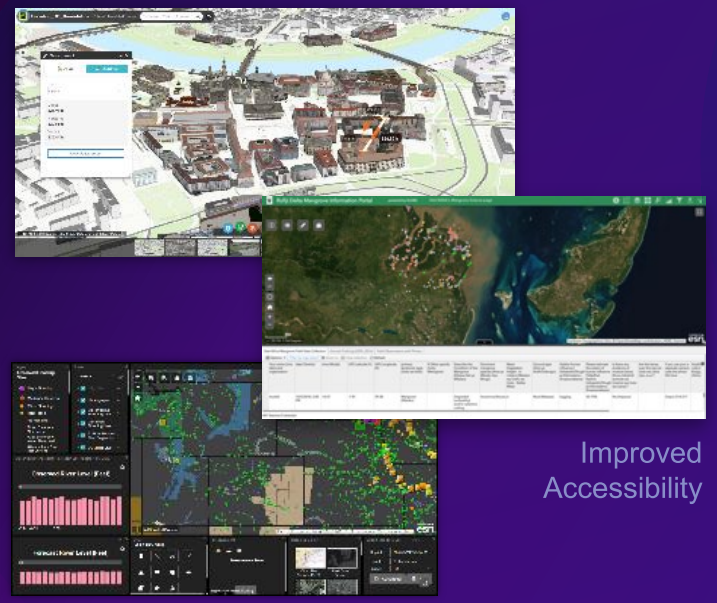
Experience

ArcGIS App Builders

Enabling Everyone to Build Apps

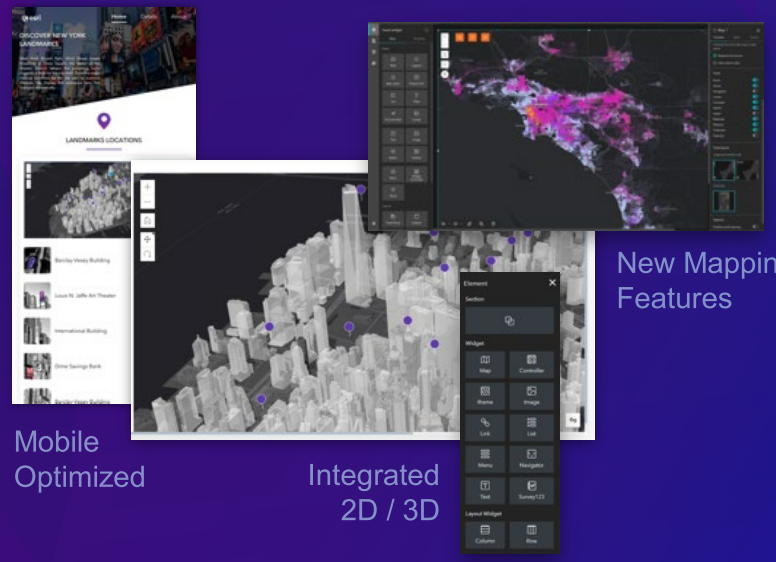
No Code / Low Code

Web AppBuilder



Improved Accessibility

Experience Builder



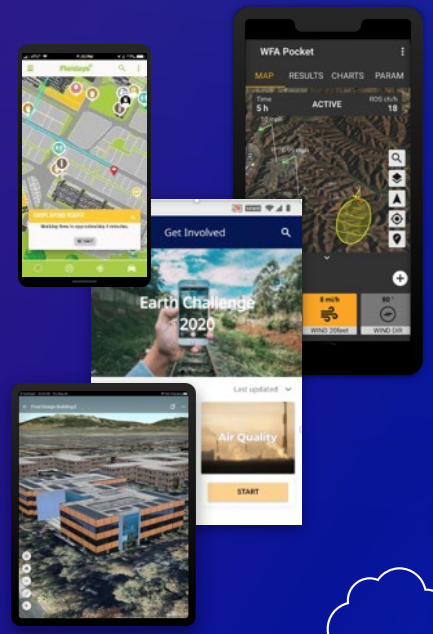
Mobile Optimized

Integrated 2D / 3D

New Mapping Features

Web

AppStudio



Cross-Platform Native Apps

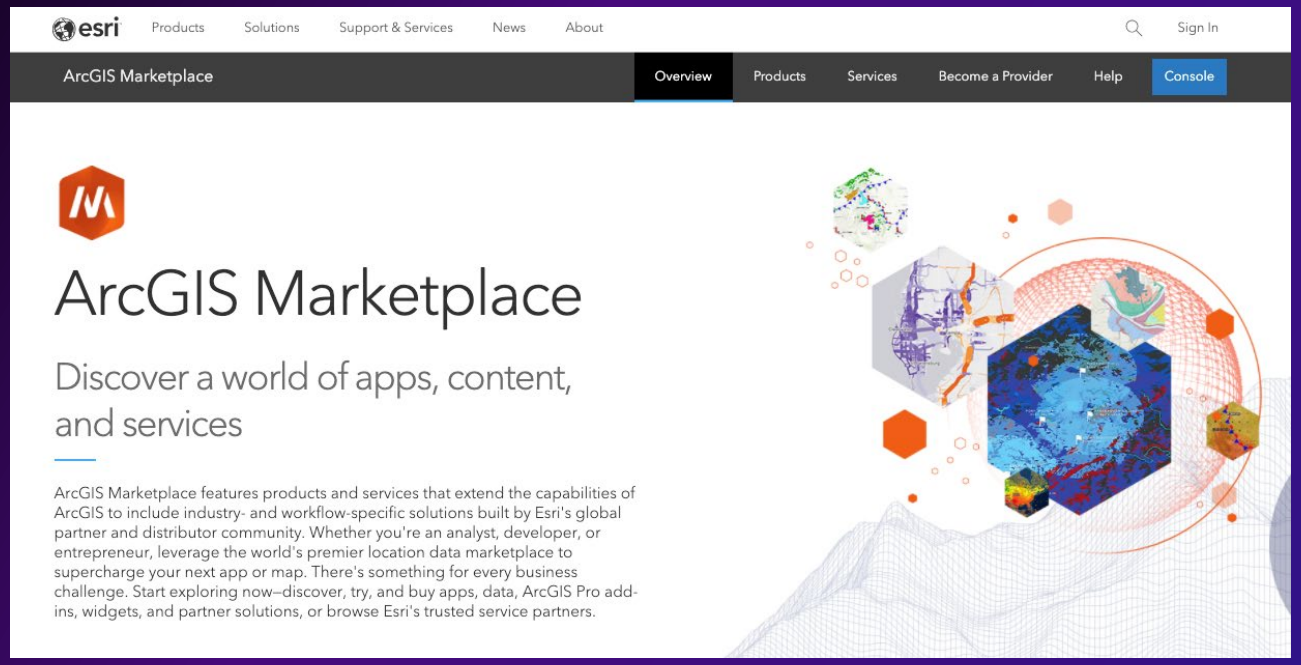
Leverages ArcGIS Runtime Capabilities

Easy Enterprise Deployment

Mobile

The ArcGIS Marketplace

marketplace.arcgis.com



Is an online destination that allows users to search, discover, and acquire apps, data, solutions, and professional services from Esri's broad ecosystem of providers

ArcGIS Marketplace the most convenient way for our users to connect with Esri Providers to extend ArcGIS through their offerings

A Design System Is…

Calcite Design System

NEW

Design Principles

- Widely applicable laws, guidelines, and design considerations which designers apply with discretion.
- Two types of design principles: general, business specific

Design Guidelines (Designer Doc)

Recommendations on how to apply design principles to provide a positive user experience (do & don't help doc)

- Style & design
- Sound, motion, interaction
- Icon, UI components, design patterns
- Voice & tone
- Examples

Developer doc
Icon Library
Web components - UI Framework

Tools

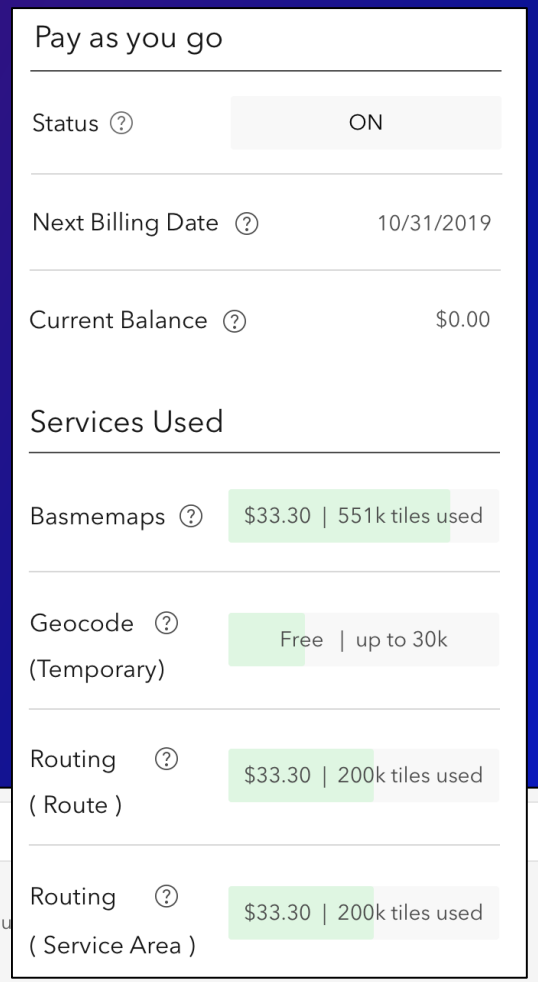
Color tool, color palette tool, type scale generator…

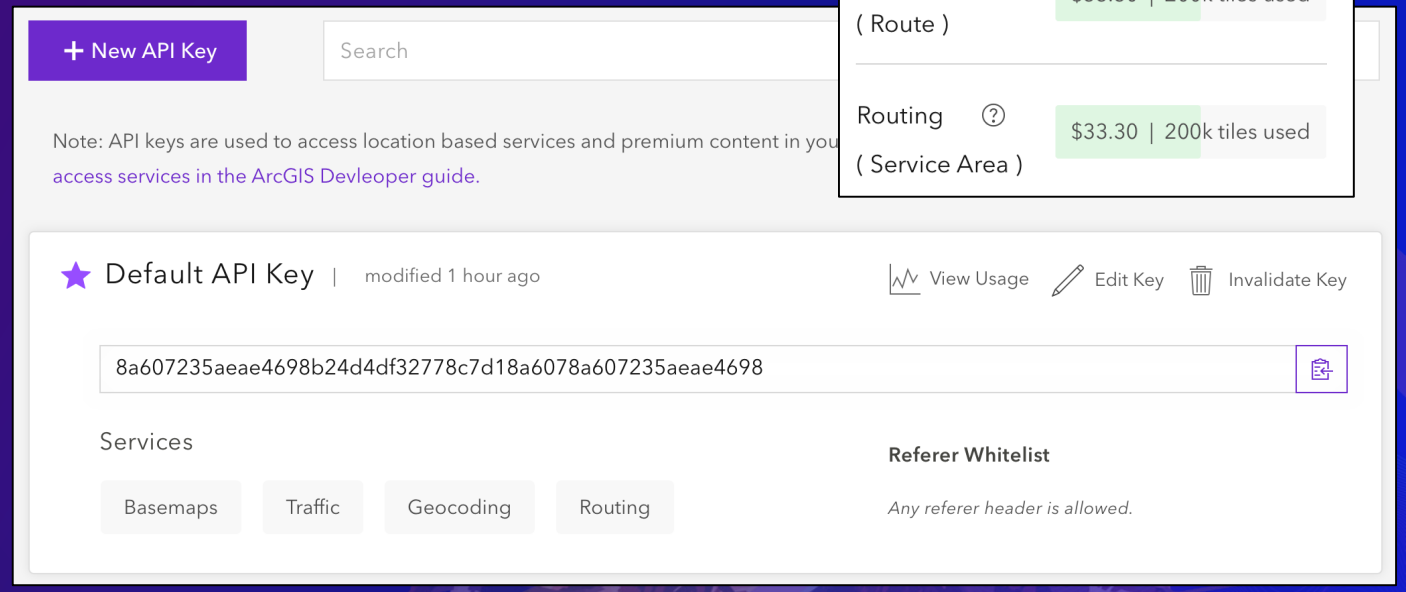
Components - UI Kit

What's new?

A New Developer Experience

- Support for 3rd party open-source mapping libraries
  - Open Layers, Leaflet, Mapbox GL JS
- Feature Services emit vector tiles
- Additional Authentication method (API keys)
- Detailed service usage
- Full consumption model
- Developer guide, design system





ArcGIS | A Developers View

Extend ArcGIS

ArcGIS Pro

Software

ArcGIS Online

Apps

Software-as-a-Service (SaaS)

ArcGIS Enterprise

Apps

Server Software

Location Services & Content

NEW

ArcGIS Platform

Platform-as-a-Service (PaaS)

Build Apps

Embed Location

System to System

ArcGIS Supports Services-Based Development

Providing a Rich Set of Services and Flexible Deployment Options

Location & Geospatial Services

Basemaps
Routing & Directions
Data Hosting
Geocoding & Search
Data Visualization
Maps & Data
Real-Time Mapping
Spatial Analytics
Image Analysis
IoT Integration

Developer Experience

ArcGIS Mapping APIs
Open-Source APIs

PaaS

NEW

ArcGIS Platform

Consumption-based

SaaS

ArcGIS Online

Users, Credits

Software

ArcGIS Enterprise

Users

… Geospatially Enabling All Developers

Why use ArcGIS Platform?

- ArcGIS Platform provides new opportunities
  - Location to compliment a solution
  - “I just need some vector tiles and a bit of Geocoding”
  - Want to use other mapping libs
  - Business model
    - Pure consumption-based business model
    - Dollars
    - Bill down stream

- Already know how to develop against the services

We want your feedback

Click on the Session Survey link below this video window

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