Esri Best Practices: App Configuration, Customization, or Development

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Agenda

- Overview of App Implementation Options
- Gathering Requirements
- Configurable Options
  - Demo: Publish via Pro
- Advanced Configuration
- Adding Custom Code
  - Extending source code
- When Configuration isn’t enough
  - Deploy custom widget via Portal
- Develop from Scratch
Configure
- Use COTS templates
- Fast time to market
- Great for rapid prototyping
- No developer experience needed

Customize
- Extend templates with custom code
- Higher starting point
- Great when COTS meets most of the req.
- Provides foundation for novice developers

Develop
- Code from scratch using the Esri APIs
- Unique/Branded UI/UX
- Great for orgs with access to developers
- Deep development experience required
Where Do I Start?
How to ask the right questions
Gathering Requirements

“Measure twice, cut once”

- Work with sponsor, stakeholders, users, IT
- Focus on the requirements not the solution
- Types of requirements
  - Business
    - High-level vision statements
  - Functional
    - What the application should do (from a user perspective)
  - Non-functional
    - How the application does it (usability, security, performance, etc.)
- Prioritize!

courtesy: www.projectcartoon.com
ArcGIS Apps
Templates and other COTS apps
ArcGIS Apps

Field
- Navigator
- Workforce
- Collector
- Survey123

Office
- Maps for Office
- Dashboard
- ArcGIS Earth
- Explorer
- Insights
- Adobe Creative Cloud

Community
- Story Maps
- Open Data
- Crowdsourcing

Easy, Powerful, and Ready-to-Use

https://www.arcgis.com/features/apps/index.html
Solution Offerings

ArcGIS Industry Specific Maps and Apps

ArcGIS Solutions deliver Ready-to-Use Maps and Apps to jumpstart your work

FIND YOURS ↓
App Builders

Configurable Apps

Web AppBuilder

AppStudio

Providing Easy, Configurable, and Extensible Tools

HTML5/JavaScript

Widgets

Native Apps

(Apple, Android, Windows, Linux)

https://www.arcgis.com/features/apps/index.html
Deploy via Pro
Additional Considerations
Tips and tricks for selecting the right ArcGIS App
Advanced Configuration
Taking it to the next level...

Consider combining several configured web apps into one app

Sea Level Rise and Storm Surge Effects on Energy Assets: Boston

An analysis was conducted by the Energy Infrastructure and Modeling and Analysis Division (EIM) of the U.S. Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability (OED) assessing the potential sea level rise (SLR) and storm surge risks to energy assets in the Metropolitan Statistical Area (MSA) surrounding Boston, Massachusetts.

The analysis examines the National Climate Assessment’s (NCA) Intermediate-High SLR scenario which projects 1 foot of SLR in the Boston area by around 2050, and 4 feet of SLR by around 2100, and storm surge levels of Categories 1 and 4 hurricanes.

This analysis of the Boston MSA determines which large energy assets are threatened by SLR and storm surge. The Boston MSA is made up of seven counties:
- Essex, MA
- Middlesex, MA
- Norfolk, MA
- Plymouth, MA
Advanced Configuration

Taking it to the next level...

Add HTML, JavaScript, or other components during configuration

https://developerscorner.storymaps.arcgis.com/
When Configuration Isn’t Enough

Extend ArcGIS Apps with custom code

- Source code for many apps available for download from GitHub and ArcGIS Online
- Developer’s site provides documentation and sample code
- GeoNet a good resource for custom widgets and other components

Keep in mind…
- A web server may be required
- You will need someone who is comfortable in reading/developing code

https://developers.arcgis.com
Extend the Template
Customization or Development

What if I need more?
Developing from Scratch

Benefits to building an app from the ground up

• Choose the programming language that works for you
• Full control over UI/UX
  - Great for branding purposes
• No need to work in someone else’s code
• Build only the features that you need
  - Full control over implementing specific workflows/capabilities
• More interesting for developers!
Developing from Scratch
Web APIs

ArcGIS API for JavaScript

https://developers.arcgis.com/javascript
Developing from Scratch
Runtime SDKs

Android
Develop native mapping apps for Android devices with ArcGIS Runtime SDK for Android.
- Get Started
- Guide

iOS
Create mapping apps for Apple iPhone, iPad, and iPod touch devices with ArcGIS Runtime SDK for iOS.
- Get Started
- Guide

Java
Build and deploy to Windows, Linux, and macOS platforms with ArcGIS Runtime SDK for Java.
- Get Started
- Guide

macOS
Build Cocoa mapping apps for Macs using ArcGIS Runtime SDK for macOS.
- Get Started
- Guide

.NET
Deploy apps to Windows, Android, and iOS with ArcGIS Runtime SDK for .NET.
- Get Started
- Guide

Qt
Write once and deploy to Windows, Linux, Android, and iOS with ArcGIS Runtime SDK for Qt.
- Get Started
- Guide

https://developers.arcgis.com/arcgis-runtime/
Deploy Custom Widget
Please Take Our Survey on the App

Download the Esri Events app and find your event

Select the session you attended

Scroll down to find the feedback section

Complete answers and select “Submit”
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<td>• Esri Best Practices: Collect and Manage Requirements for Successful GIS Projects</td>
<td>• SDCC – Room 10</td>
<td>• Thursday 10:00 – 11:00</td>
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