



Effective Designer-Developer Collaboration

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/kə'labə'rāSH(ə)n/

the action of working with someone to
produce or create something

*2021 ESRI
DEVELOPER SUMMIT*



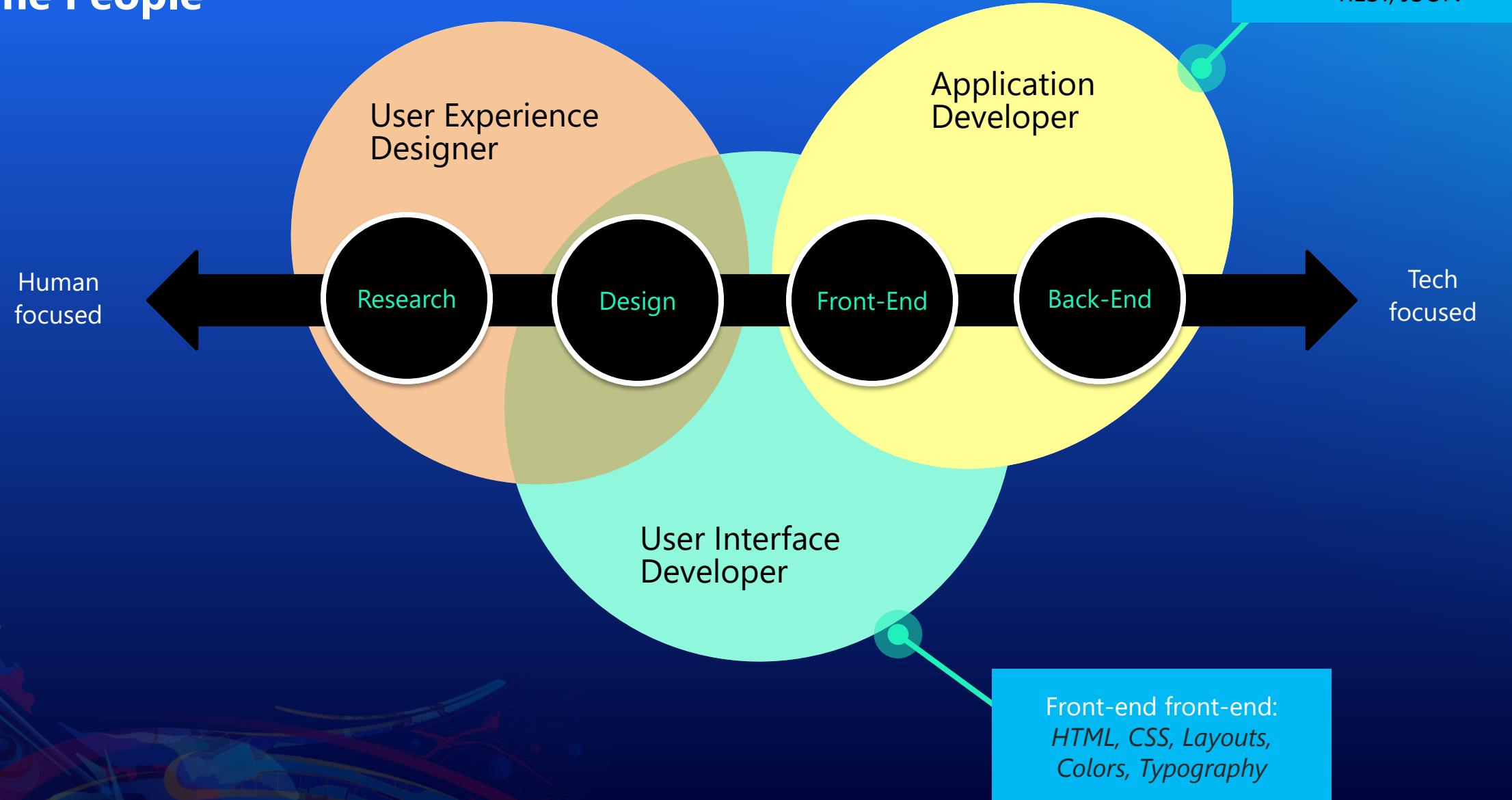
The Goal

- Make a successful product
- What makes a product successful?
 - The People
 - The Process
 - The Language



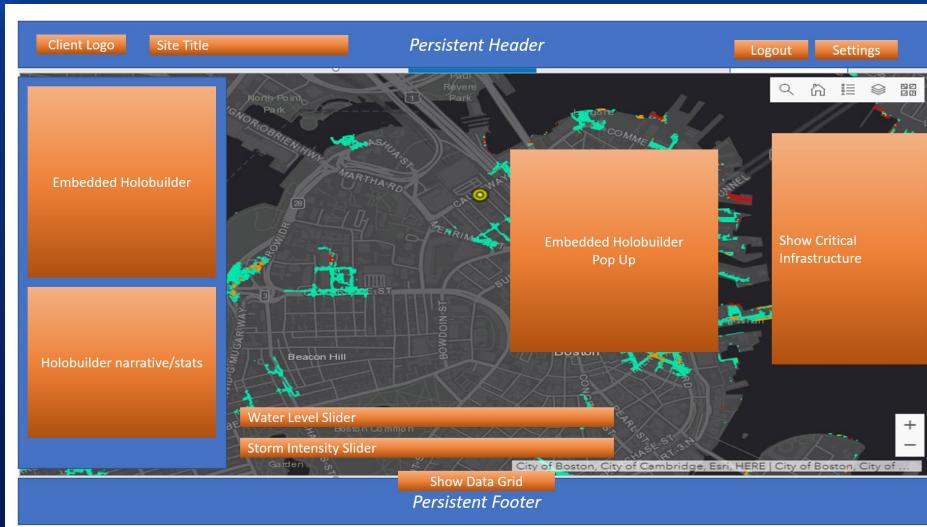
Quality
Product

The People



The Process – Approach 1

- “No design”



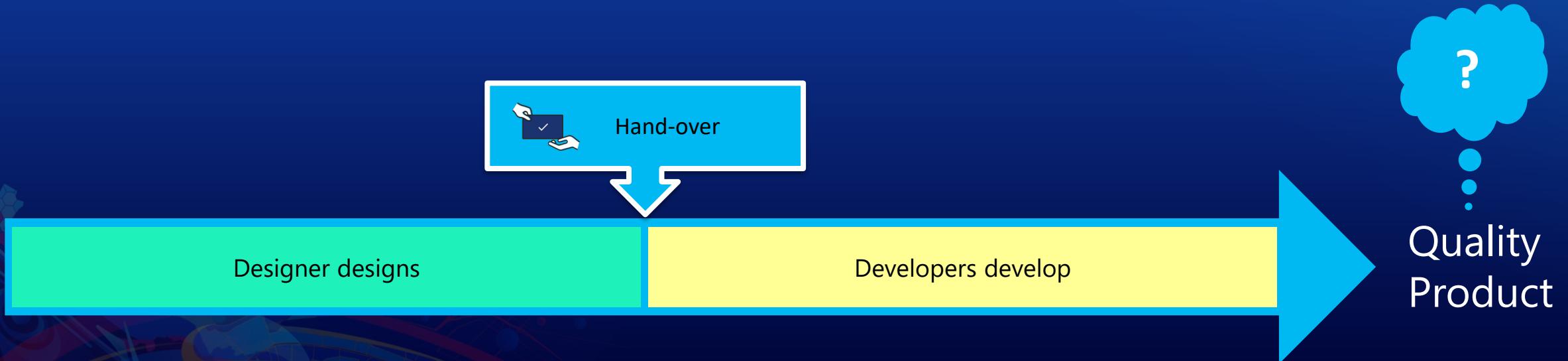
Developers develop

?

Quality Product

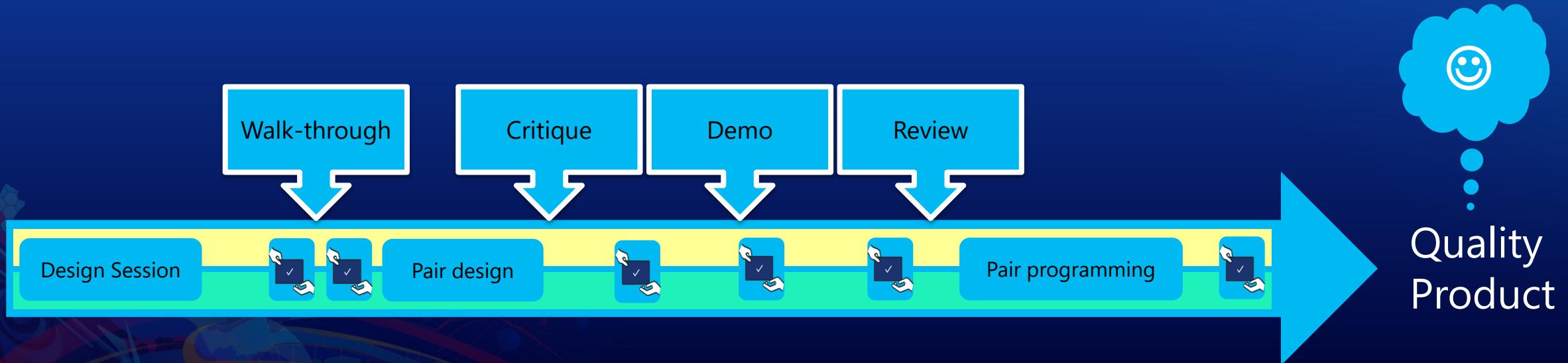
The Process – Approach 2

- “Design upfront”
- Single hand-over doesn’t work
- “We are worried about time”



The Process – Approach 3

- "Hot Potato"
- Need continuous involvement...
- ...and multiple design check-points



The Process – Pro's

- Understand constraints & limitations early
- Build the right thing
- Less risk & cost down the road
- Artefacts lead to stronger product
- Less broken windows towards the end

The Process – Con's

- A little clumsy/intimidating at first
- Takes more time up-front
- Not everybody can do everything
- Incremental over innovation
- Don't become a slave to the process

- ➡ Explain benefits & establish trust
- ➡ Some churn but leads to higher quality
- ➡ Close the gaps & expand our roles
- ➡ UX or PE need to keep track of vision
- ➡ Quality is still our priority

The Process – Hot Potato worked for us

Boston Water and Sewer Commission Inundation Model Viewer

Storm Analysis Results

- Flood Depth Less than 1 Foot
- Flood Depth Between 1 and 2 Feet
- Flood Depth Greater than 2 Feet

50 year / 2070 SLR + 100 year storm surge

1 Extreme Weather Event

2 Amount of Rainfall

3 Sea Level Rise (SLR) and Storm Surge from Baseline Condition

4 360 Tour
Click  on Map

5 Impact Forecast

School	Health Facility	Police Department
104	55	11
EMS/Fire Station	MBTA Station	
18	48	

Client Logo Site Title Persistent Header

Logout Settings

Find address or place

Critical Facilities

Embedded Holobuilder

Embedded Holobuilder Pop Up

Show Critical Infrastructure

City of Cambridge, Esri, HERE, City of Boston, City of...

POINT SHIRLE

TO

Quality Product

The Language



The Language – Terminology

- Speak the same language!
- Let's agree on terminology
- Study Pattern libraries

MAP UI PATTERNS

Best Practices & Design Principles. UI Patterns describe solutions to observed and recurring design problems. They provide a language for planning and building map apps.

Getting Started

Explore all Patterns



General UX

Explore all Patterns

(67 Map UI Patterns available, see [what's new](#))



Layouts

[Embedded Map](#)

[Focus on the Subject](#)

[Full Map](#)

[Kiosk Map](#)

[Mobile Map](#)

[No Map](#)

[Partial Map](#)

[Reference Map](#)



Layouts

[General UX patterns](#) describe

[Layout patterns](#) are the skeletons of



Workflows

[Workflow patterns](#) are more complex sections (organisms) that can be found in map applications.



Feedback

Please, please, please! Let me know what you think.



General UX

[Data-Ink Ratio](#)

[Desert Fog Problem](#)

[Empty State](#)

[Kitchen Sink](#)

[Onboarding](#)

[Progress Indicator](#)

[Task Oriented](#)

[Anti-Pattern: Empty Popup](#)



Layouts

[Embedded Map](#)

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[Full Map](#)

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[Reference Map](#)



Workflows

[List & Details](#)

[Meet in the Middle](#)

[Offline Maps](#)

[Route Directions](#)

[Route Positioning](#)

[Search & Edit](#)

[Store Locator](#)



Navigating the Map

[Floor Selector](#)

[Home Button](#)

[Placemarks](#)

[Scroll-to-Pan](#)

[Zoom Controls](#)



Orienting Yourself

[Browse Geographies](#)

[Focal Point](#)

[Locate me](#)

[Location Finder](#)

[Overview Map](#)

[Unified Search](#)



Visualizing Data

[Choropleth Map](#)

[Flowmap](#)

[Heatmap](#)



Views

[2-Dimensional \(2D\)](#)

[3-Dimensional \(3D\)](#)

[Augmented Reality \(AR\)](#)

[Basemap](#)

[Basemap Gallery](#)

[Basemap Toggle](#)



Interacting with Content

[Call-Out](#)

[Info Panel](#)

[Info Popup](#)

[Layer List](#)

[Legend](#)

[Marker](#)

[Marker List](#)

[Rich Marker](#)

[Search this Area - NEW](#)

[Visited Marker - NEW](#)



Exploring Spatial Content

[Buffer](#)

[Nearby](#)

[Small Multiples](#)

[Sparkmaps](#)

[Swipe](#)



Dealing with complex Data

[Attribute Filter](#)

[Chart Marker - NEW](#)

[Cluster Marker](#)

[Data Dimming](#)

[Extent-driven Content](#)

[Spatial Filter](#)

[Theme Toggle - NEW](#)



Input & Output

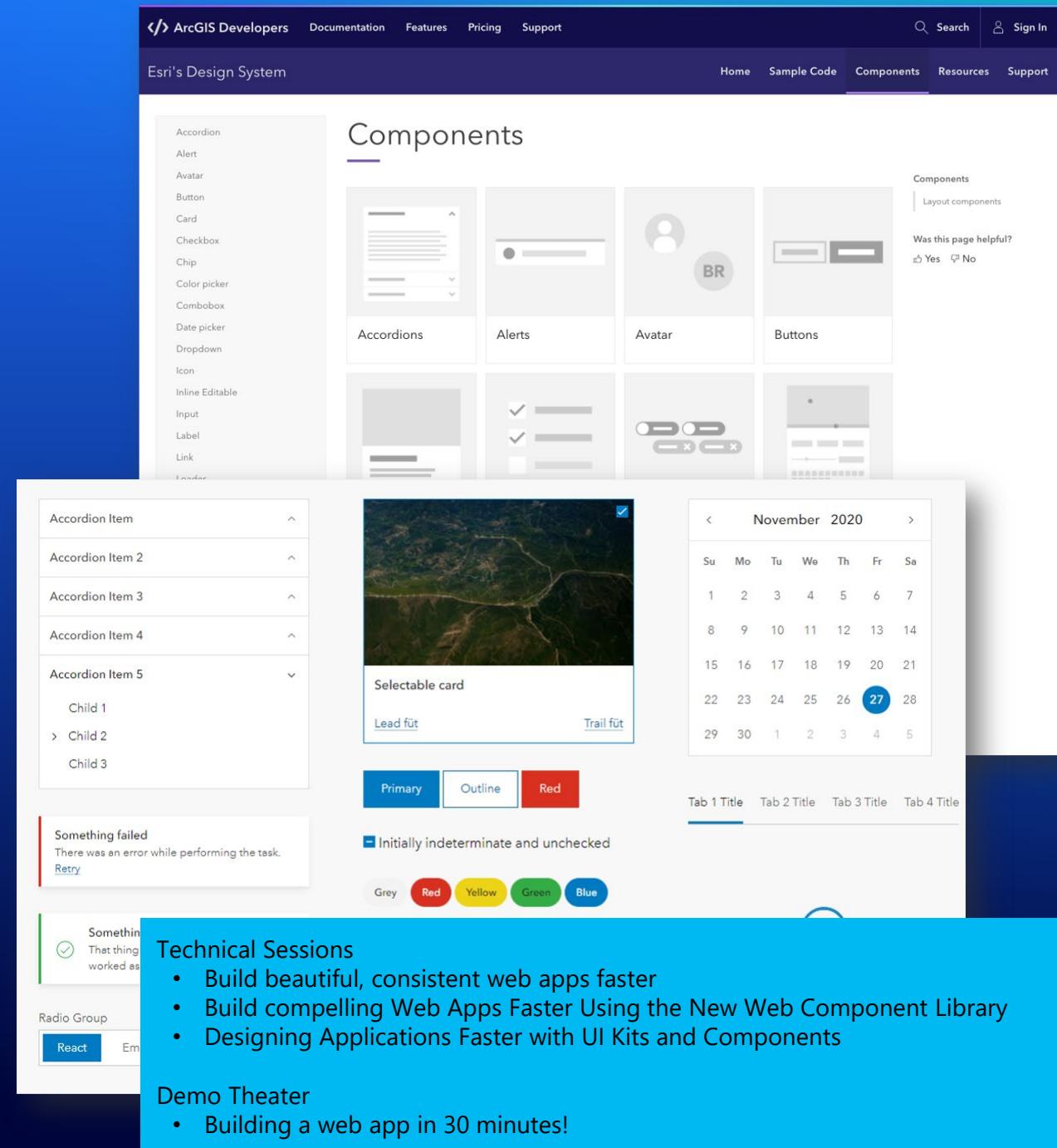
[Data Extract](#)

[Feature Selection](#)

<https://mapuipatterns.com>

The Language – Design System

- System of best practices
 - Design & UX
 - Implementation
 - Accessibility
- Speeds up the process
- Get more meaningful work done
 - Drive business value
 - Satisfy customer needs



The screenshot shows the Esri's Design System website. The top navigation bar includes links for ArcGIS Developers, Documentation, Features, Pricing, Support, Search, and Sign In. The main content area is titled "Components" and displays a grid of UI components. On the left, a sidebar lists components: Accordion, Alert, Avatar, Button, Card, Checkbox, Chip, Color picker, Combobox, Date picker, Dropdown, Icon, Inline Editable, Input, Label, and Link. Below this is a "Layouts" section. The main grid contains four rows of components: Accordions, Alerts, Avatar, Buttons; Selectable card, Lead füt, Trail füt, and a November 2020 calendar; and a "Something failed" error message, Radio Group, and a "Technical Sessions" section. The "Technical Sessions" section lists three items: "Build beautiful, consistent web apps faster", "Build compelling Web Apps Faster Using the New Web Component Library", and "Designing Applications Faster with UI Kits and Components". The "Demo Theater" section lists one item: "Building a web app in 30 minutes!". A sidebar on the right shows a "Components" section with "Layout components" and a "Was this page helpful?" poll with "Yes" and "No" options.

Accordions

Alerts

Avatar

Buttons

Selectable card

Lead füt

Trail füt

Primary

Outline

Red

Initially indeterminate and unchecked

Grey

Red

Yellow

Green

Blue

Something failed

That thing worked as expected

Radio Group

React

Ember

Technical Sessions

- Build beautiful, consistent web apps faster
- Build compelling Web Apps Faster Using the New Web Component Library
- Designing Applications Faster with UI Kits and Components

Demo Theater

- Building a web app in 30 minutes!

Components

Layout components

Was this page helpful?

Yes

No

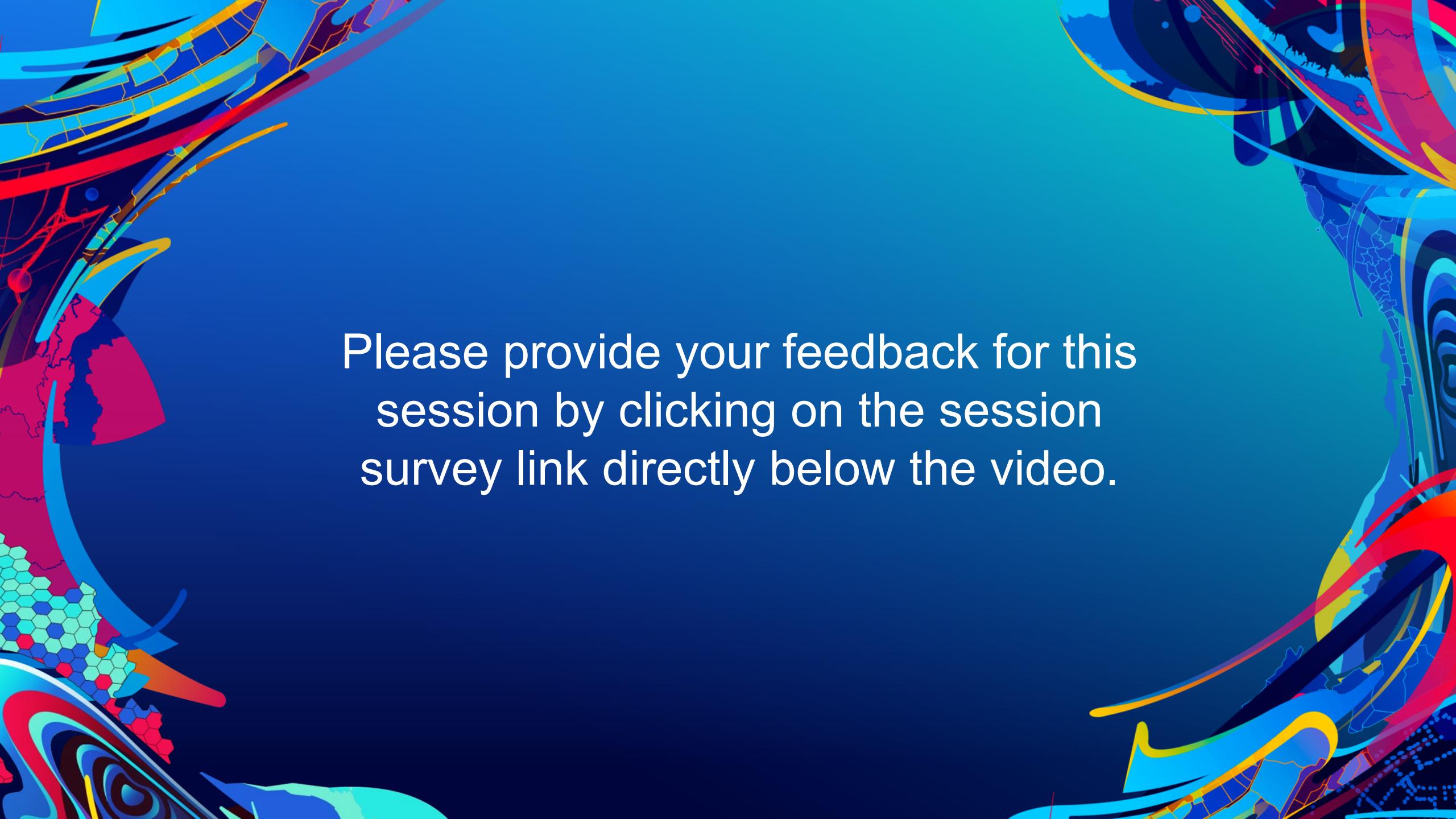
The Language – Tools

- Use the same tools
 - Github, VS Code
 - Balsamiq Cloud, Adobe XD, InvisionApp





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