What’s wrong with this picture?
Measure Twice.
Cut Once.
Prototypes

What are they?
A prototype is…

• An early version of something

• Used for testing how something works or looks

• A model for future development
Prototype to final product
A software prototype is...

- Used for exploring UI/UX designs with testers
- Quickly generated using simple tools
- Functional enough to get the type of feedback desired
EWS BETA
Missed Trash

Early Warning System detected 4 Clusters of missed trash. See incident details below.

Cluster Map

About this Cluster

Cluster Name(ID): S0441-1
Cluster Condition: 4 Incidents within 1000
Open Incident Count: 7
Neighborhoods*: Capitol Hill-Hill East-Lincoln Park-Navy Yard-Near Southeast
SMDs: 6B04,6B06,6B07,6B09,8A01,8A02
Date/Time: 2015-04-30 03:44:45.000001
Comment Preview:
missed bags and bundles of yard waste and 1 tied bundle of tree branches...would like to have it collected. Collection was missed on April 23 as well. Trash collection was also missed Thursday, A. (see below for more)

Incidents in this Cluster

<table>
<thead>
<tr>
<th>Incident ID</th>
<th># of Calls</th>
<th>Description</th>
<th>Date</th>
<th>Status</th>
<th>Address</th>
<th>Zipcode</th>
<th>Ward</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-00104717</td>
<td>1</td>
<td>Trash Collection - Missed</td>
<td>2015-04-27</td>
<td>OPEN</td>
<td>1301 POTOMAC AVENUE SE</td>
<td>20003</td>
<td>6</td>
<td>None</td>
</tr>
<tr>
<td>15-00194699</td>
<td>1</td>
<td>Trash Collection - Missed</td>
<td>2015-04-27</td>
<td>OPEN</td>
<td>1517 K STREET SE</td>
<td>20003</td>
<td>6</td>
<td>None</td>
</tr>
</tbody>
</table>
Types of Prototypes

There are lots… and, yes, GIS can use them all
High Fidelity vs. Low Fidelity
## Low vs. High Fidelity

<table>
<thead>
<tr>
<th>Fidelity</th>
<th>Description</th>
<th>Time</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Wireframes, Sketchy</td>
<td>Quick &amp; Clean</td>
<td>Balsamiq, Mockup Builder, Proty</td>
</tr>
<tr>
<td>High</td>
<td>Emulates Final Design</td>
<td>Time Intensive</td>
<td>Axure, justinmind, jetstrap</td>
</tr>
<tr>
<td>Static</td>
<td>Interactive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------</td>
<td>---------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Interface (UI)</td>
<td>User Interface / User Experience (UI/UX)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page through to view</td>
<td>Click to experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Review</td>
<td>Test</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Interactive Example:

Clean City Collector App
Content Prototypes for Maps? Yep.

- Select and name key scale levels (not all)

- Consider: what questions is the user answering at each scale?

- Review and discuss with stakeholders, clients, colleagues, supervisors
## Content Prototype Example: Parks Map Service

<table>
<thead>
<tr>
<th>Visible</th>
<th>Not Visible</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Map Layers</th>
<th>Site</th>
<th>Neighbor-hood</th>
<th>Full Extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Playgrounds, Trails</td>
<td>Not Visible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benches, Lamps, Playground Equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park Boundary</td>
<td>Polygon</td>
<td>Polygon</td>
<td>Point</td>
</tr>
<tr>
<td>Tree Canopy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic Fields</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Prototyping Process
Prototyping Example:

Requirements Gathering for Clean City Collector App
How do you know if you might need a prototype?
If your build process is not well-defined

- When you have a clear picture of the final product, you need to make fewer decisions along the way.
- This lowers the error rate and increases efficiency
If you need fresh ideas

- Get developers out of their coding caves and let their ideas see the light of day
- Open design thinking to critique and collaboration
If you need a better range of design choices

- Prototypes can provide a common language for understanding design choices
- You can create and compare multiple prototypes for one solution
- Explore what ifs
Final thought
(a recommendation)
Let’s build libraries of standard prototyping templates and widgets for Esri dev tools and share them.
Thank You!

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