



*Bringing ideas
to life*

Digital tools for innovative public engagement

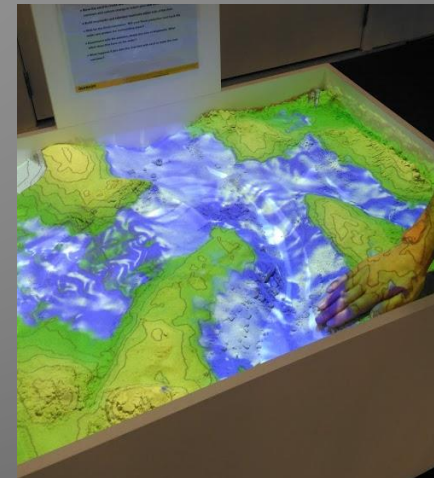
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Senior GIS Consultant

2/08/2019

 **aurecon**

Our contribution

- Support the public engagement initiative in Christchurch
- Create 3D animations
- Create Esri Story Map applications for an online exhibition portal
- Provide interactive content for an on-site public exhibition
 - Custom AR Sandbox
 - VR Kayak

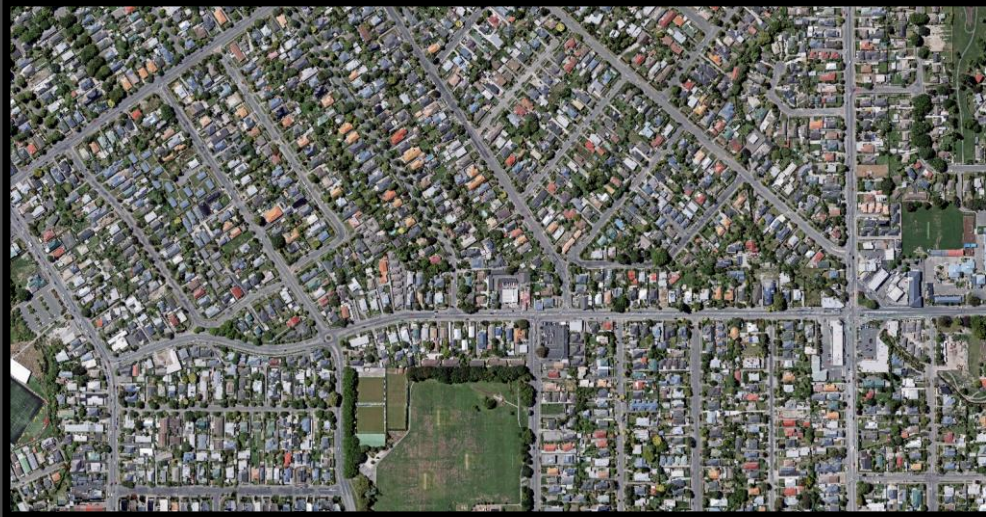


3D Animations



Spatial data inputs

Aerial Imagery



LiDAR Derived Terrain/Surface



Building Footprints



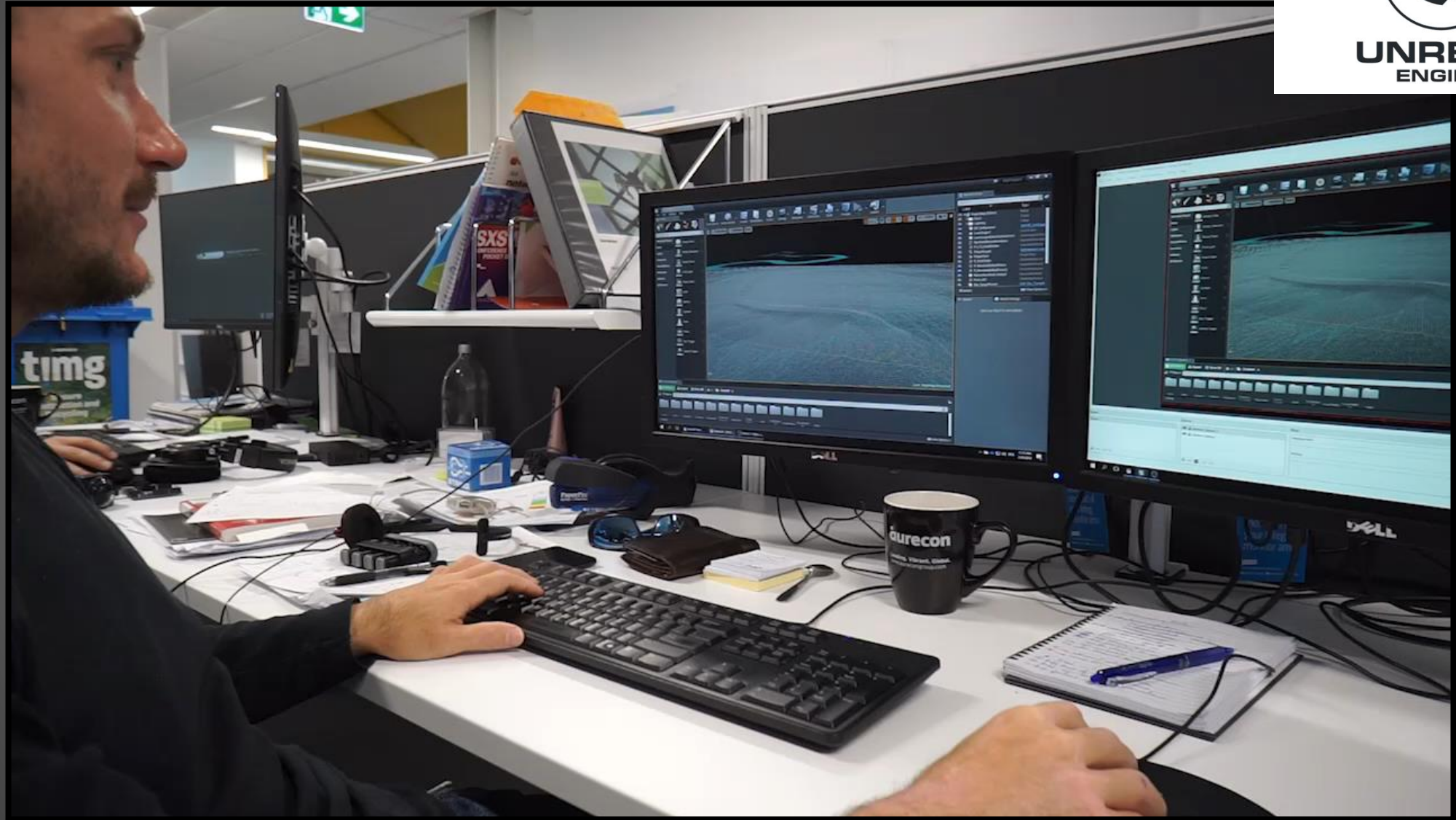
Procedurally Extruded Buildings



Concept Design



Building the 3D Model



Aerial Animation

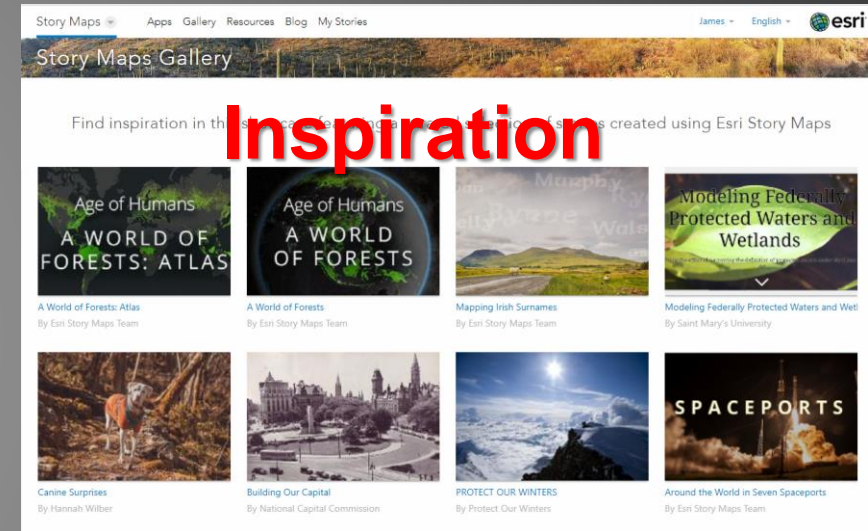


Stopbank Animation



Esri Story Map Applications

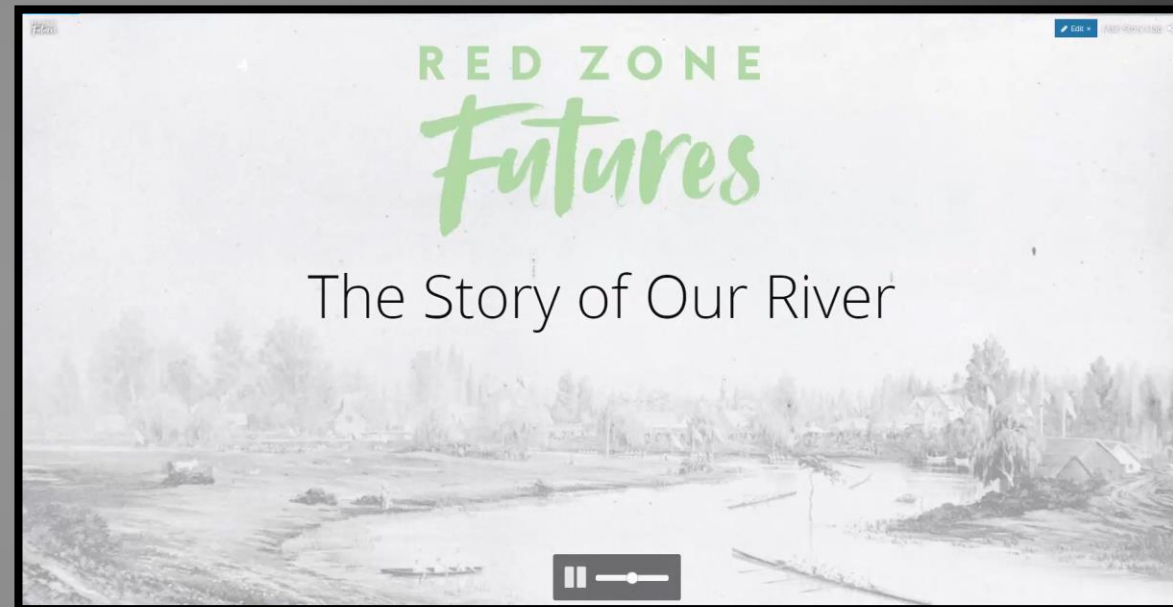
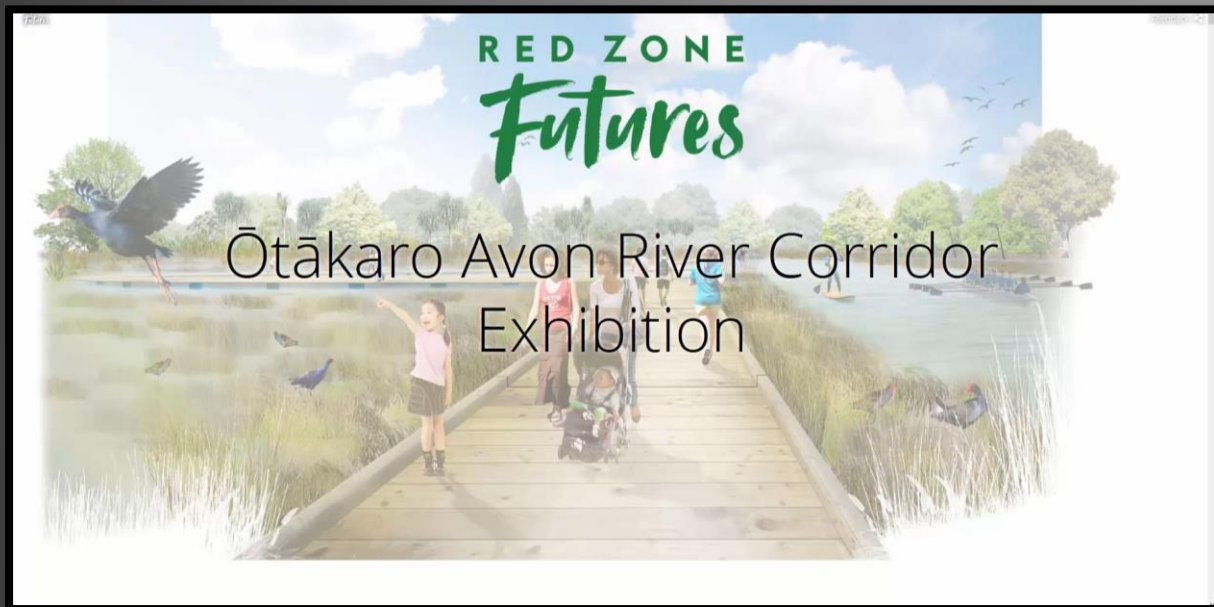
- Storytelling web application
- Integrates with ArcGIS Online
- Combine maps, text, images and videos
- No coding required
- Hosted in the cloud for public access
- Integrates with mobile devices



<https://storymaps.arcgis.com/en/gallery/>



Esri Story Map Applications



The Ōtākaro Avon River Regeneration Area

Web map content can be dynamically controlled via layer selection and location extents

- ☒ Tidal Limit
- ☒ Avon River Sections
- ☒ Ōtākaro/Avon Regeneration Plan Area
- ☐ Region Base Labels
- ☐ WaterCourse
- ☐ Flood Management Zones
- ☐ Region Base

View

- Reset Location
- Reset Layers
- Clear Pop-Up

Interaction

Interaction Disabled

Button to Enable

Interaction Enabled *

*Touch devices will show an interaction button.

POWERED BY
esri

Notable Features

- Hosted in the cloud for public access
- Support for images, videos and web map applications
- Customise through imbedded web applications
- Compatible with mobile devices



Story Maps Lessons Learnt

- Video content with auto play and repeat
 - YouTube, Vimeo or DIY?



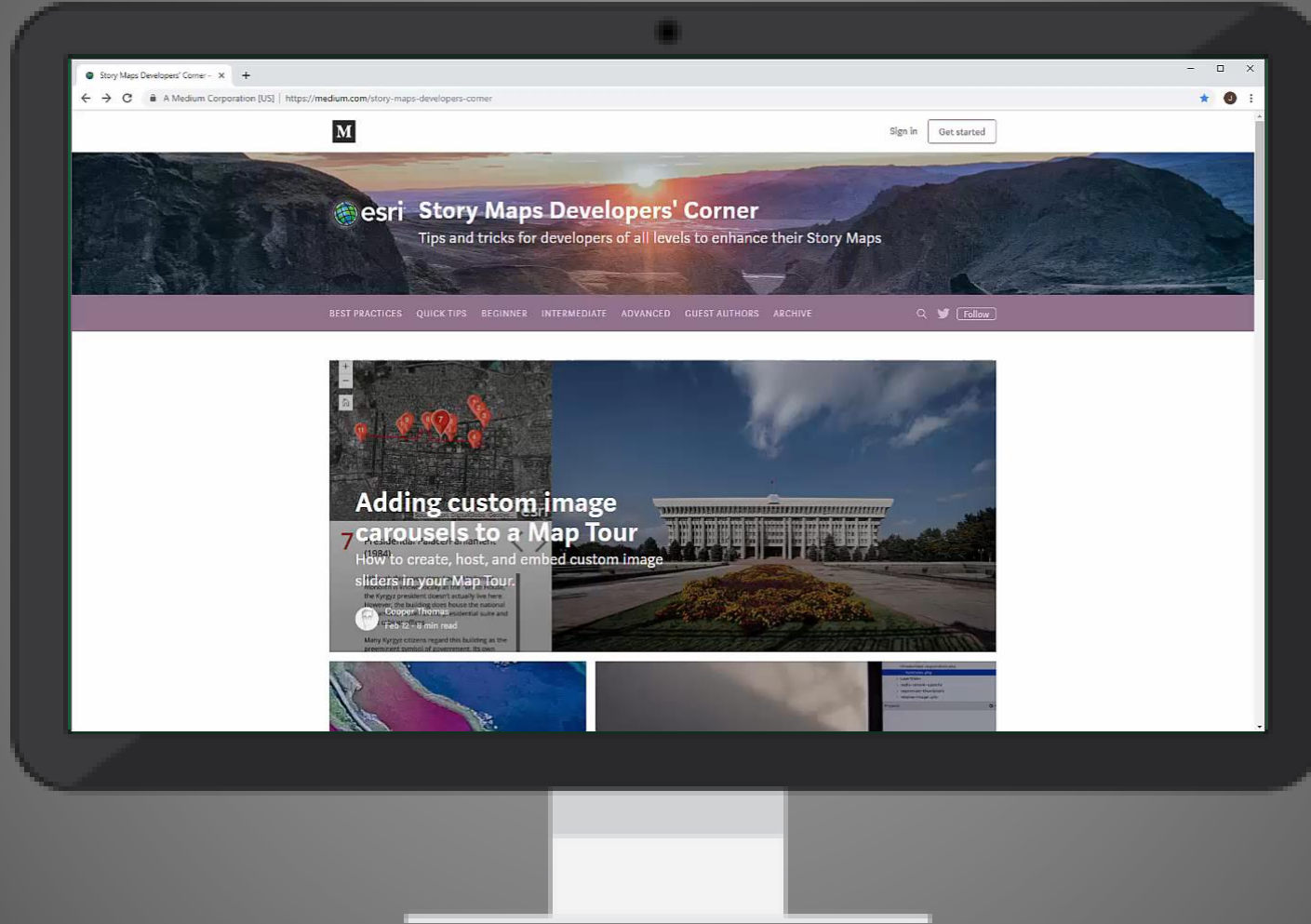
```
<video style="object-fit: cover; min-height: 100%; min-width: 100%;" loop autoplay muted preload="auto" autobuffer="true">  
  <source src="resources/Crystal Water clip.mp4" type="video/mp4">  
  Your browser does not support the video tag.  
</video>
```


Story Maps Lessons Learnt Continued...

- Embedding custom web applications
 - Using web mapping app excessive and time consuming to load
 - Simple static basemap with icons and popups
 - Tippy.js
- Undesirable results
 - Not mobile friendly
 - Inconsistent browser behaviour
 - AGOL Assistant to edit json code and replace iframe

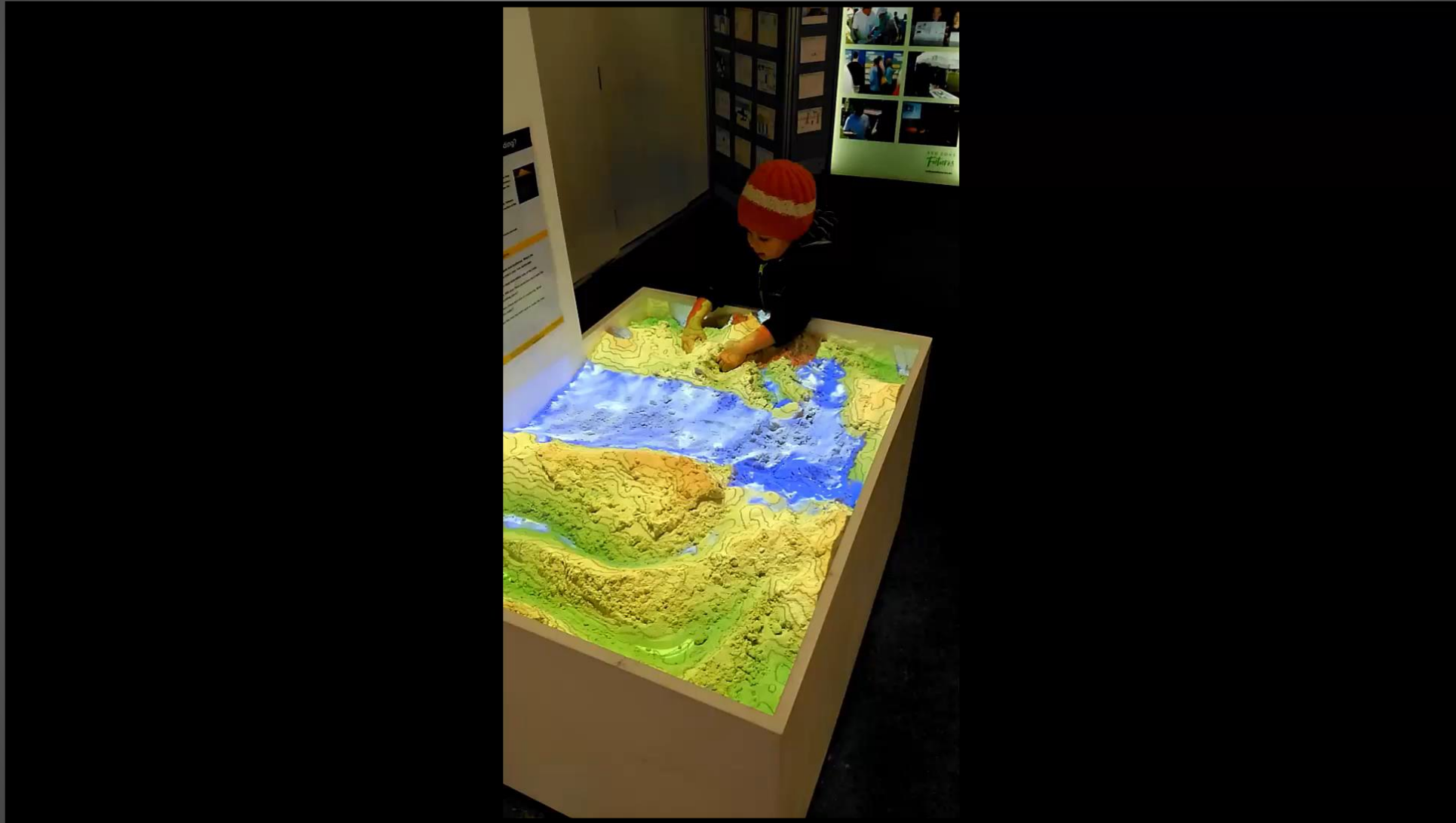


Online Resources



<https://medium.com/story-maps-developers-corner>

AR Sandbox Flood Simulation



VR Kayak Experience



Summary

- Successful public engagement with thousands of attendees both on site and online
- Spatial technology played a key role in the exhibition's success
- Custom tools allowed us to more rapidly build a 3D riverine model
- Mixed reality experiences allowed the public to be immersed within a future natural river environment to better understand key concepts

Questions



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