Crossing Fonds: Widgets Workshop

Introductions, Explorations, and Prototypes

Widgets

- Leading JS Libraries
- Vast documentation and community

- Leaflet: Mapping
- D3.js: Data Visualization
- Mirador: Archive Sandbox

Outline

1. Core functionality
   - Workflow: initialization, accepted file types, interactivity
2. Initial explorations: crossingfonds.github.io

   - Set up widget foundation

   - Establish online presence on GitHub
3. Plugins/Examples
   - Demos
   - Potential functionality
4. Reactions:
   - What were your exceptions? Were those expectations met?
   - What potential archive experiences do these demos make you think of?

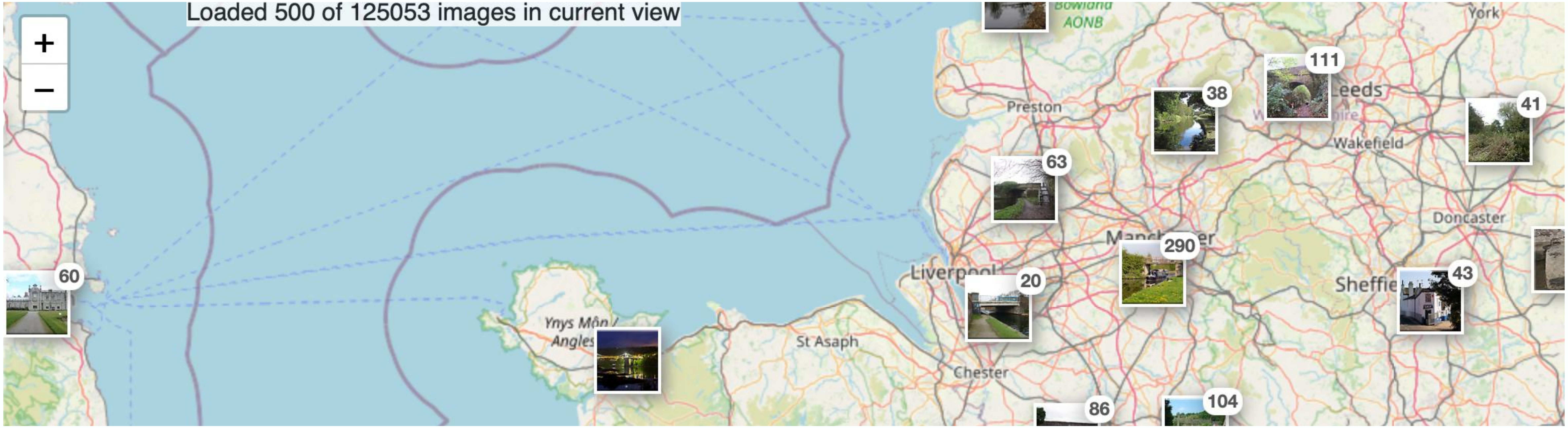
Widget Contextualizition

- Server: Stores files for online use
- HTML: Entry hub for websites
- CSS: Style, Interface feel and aesthetics
- Javascript: Introduces functionality and events
    - Libraries: New interfaces and functionality
        - Plugins: Customization

} Leaflet, D3.js, Mirador

Leaflet

- Interactive interface for displaying markers, images, descriptions, and shapes overtop and with map coordinates



Loaded 500 of 125053 images in current view

Leaflet - Workflow

1. Initialize map:
    - Link base map:
        - Tiled images
        - Default: OpenStreetMap
    - Set origin, zoom level, layers, preload marker and overlaid files
    - Geotagged Files -> GeoJSON, TopoJSON
    - Direct File Overlays -> PNG, JPG, GIF, MP4, WebM, Ogg, and SVG
2. Interactivity:
    - Built-in methods: hover/click events, popups, accessibility
    - Leaflet plugins: drawing tools, layout, mobility, publishing

Leaflet - Initial Prototype

https://crossingfonds.github.io/leaflet/index.html

- Layered markers and .jpg overlays
- Image Distortion plugin
  - moveable/scalable
  - Does not work in Safari, uses Chrome

Plugin Demos

Map and Paint: http://sintef-9012.github.io/Leaflet.MapPaint/

Geoman: https://geoman.io/leaflet-geoman

Geograph Photos: https://www.geograph.org/leaflet/Leaflet.GeographPhotos/GeographPhotos-example.html

https://www.geograph.org.uk

Environmental Layers: https://publiclab.github.io/leaflet-environmental-layers/example/index.html#lat=42.812&lon=-78.223&zoom=5&layers=Standard,Territories,Languages,Treaties

Floating Text: https://dagjomar.github.io/Leaflet.ParallaxMarker/examples/floating-labels.html

Data Visualizing: https://ignaciofagian.github.io/L.LayerTreeControl/example/

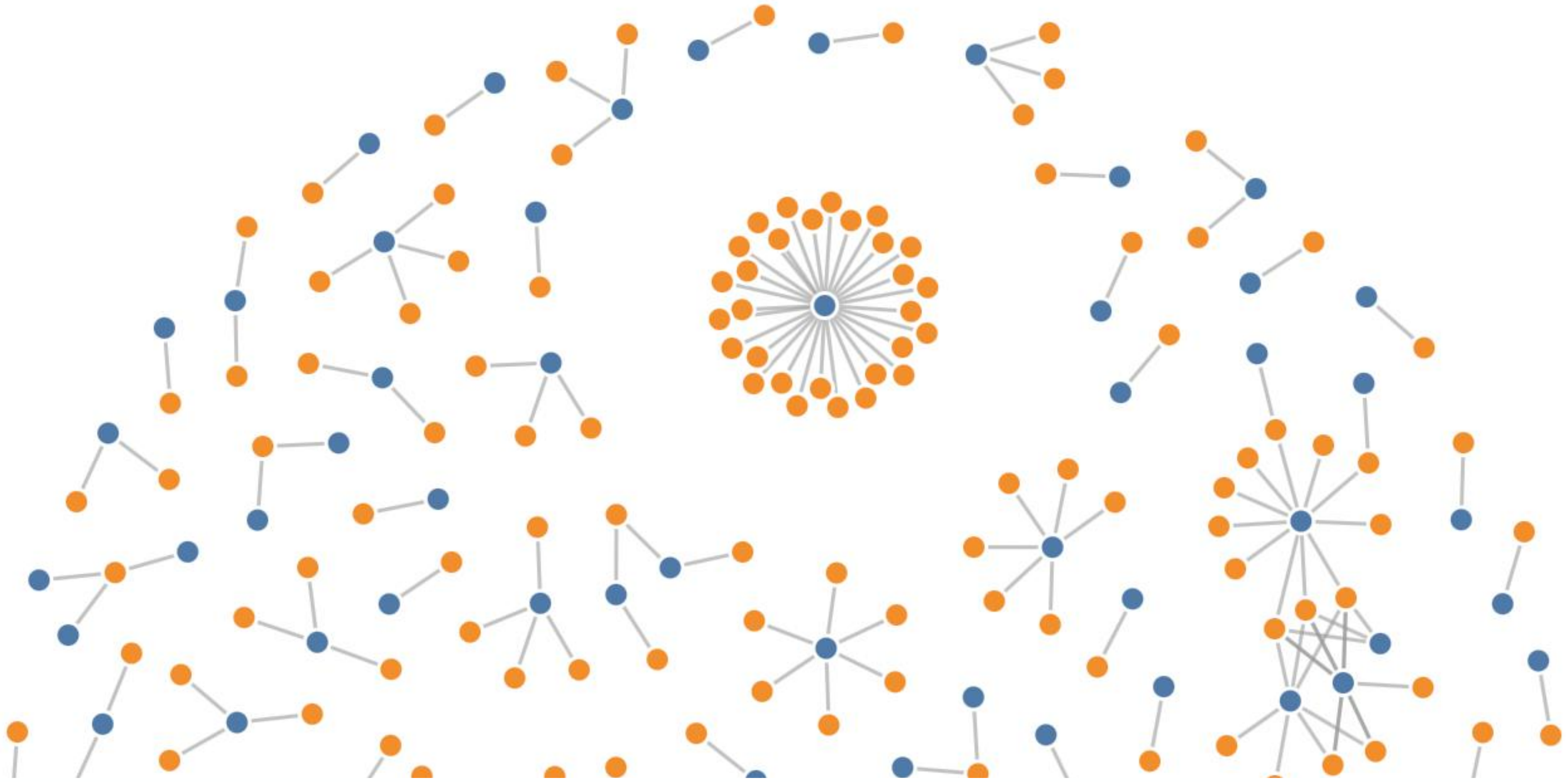
Geotagged Photos: https://utahemre.github.io/coordinatedimagepreviewdemo.html

Leaflet - Applications

- View distribution of geotagged files
- User facilitated geotagging (arbitrary sandboxing, crowdsourced geotagging)
- Filtering/grouping collections, metadata, harmful language

D3.js

- Builds dynamic, web based data visualizations that streamline the pipeline between raw data and design elements
- Operates in real time



D3.js - Workflow

1. Acquire Data:
    - Link dataset -> JSON, CSV, TSV, XML, GeoJSON
2. Format Data:
    - Preprocess data into numerical data
3. Construct Visualization:
    - Applies data driven, visual attributes: colour, size, position
    - Charts (bar, stacked, pie, area, bubble), maps (heat, choropleth), diagrams (sankey, tree, network) timelines
4. Interactivity:
    - Time based data, animations/transitions, hover/click events
    - Input controls: sliders, filtering, dropdown menus

D3.js - Initial Prototype

https://crossingfonds.github.io/d3/index.html

- CSV dataset: VIVO's Sara Diamond Fonds metadata spreadsheet
- Data preparation and application
- Bar Graph, Pie Chart, Scatter Plot
- Static

D3.js - Examples

https://observablehq.com/@d3/stacked-to-grouped-bars

https://observablehq.com/@d3/hierarchical-edge-bundling

https://observablehq.com/@d3/arc-diagram

https://observablehq.com/@d3/disjoint-force-directed-graph

https://observablehq.com/@d3/force-directed-tree

https://observablehq.com/@d3/brushable-scatterplot-matrix

Archive Examples:

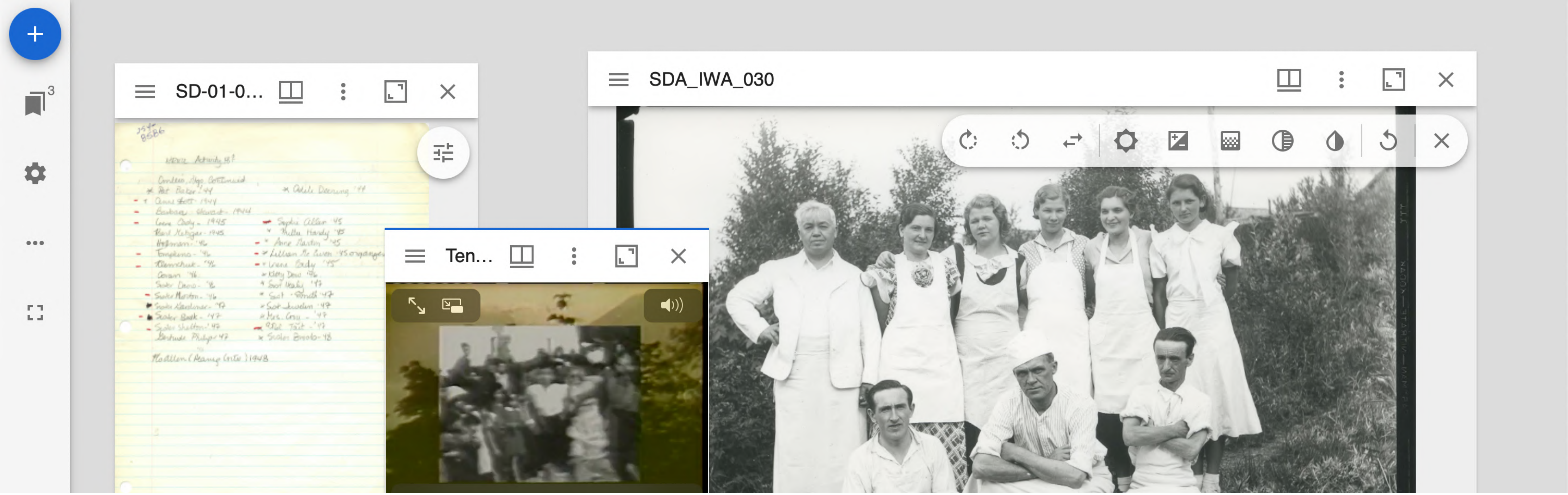
- https://www.slavevoyages.org/voyage/database#results

D3.js - Applications

- Visualize historical trends and archival relationships
  - Interactive timelines
  - Geographical distribution of records

Mirador

- Sandbox interface for digitized cultural heritage objects from multiple repositories to be connected, compared, and analyzed



Mirador - Workflow

1. Manifests
    - IIIF JSON that describes a digital resource
        - Metadata, size, type, embedded annotations, link to object file
    - Images: JPEG, PNG, GIF, BMP, TIFF, and SVG.
    - Videos: MP4, WebM, Ogg
    - Audio: MP3, WAV, Ogg.
    - Documents: PDF, TXT, XML
2. Establish a Digital Repository
    - Manifests must be housed in a server
3. Workspace:
    - Pull and compare resources from multiple sources
    - Interact with material: annotate, highlight, edit

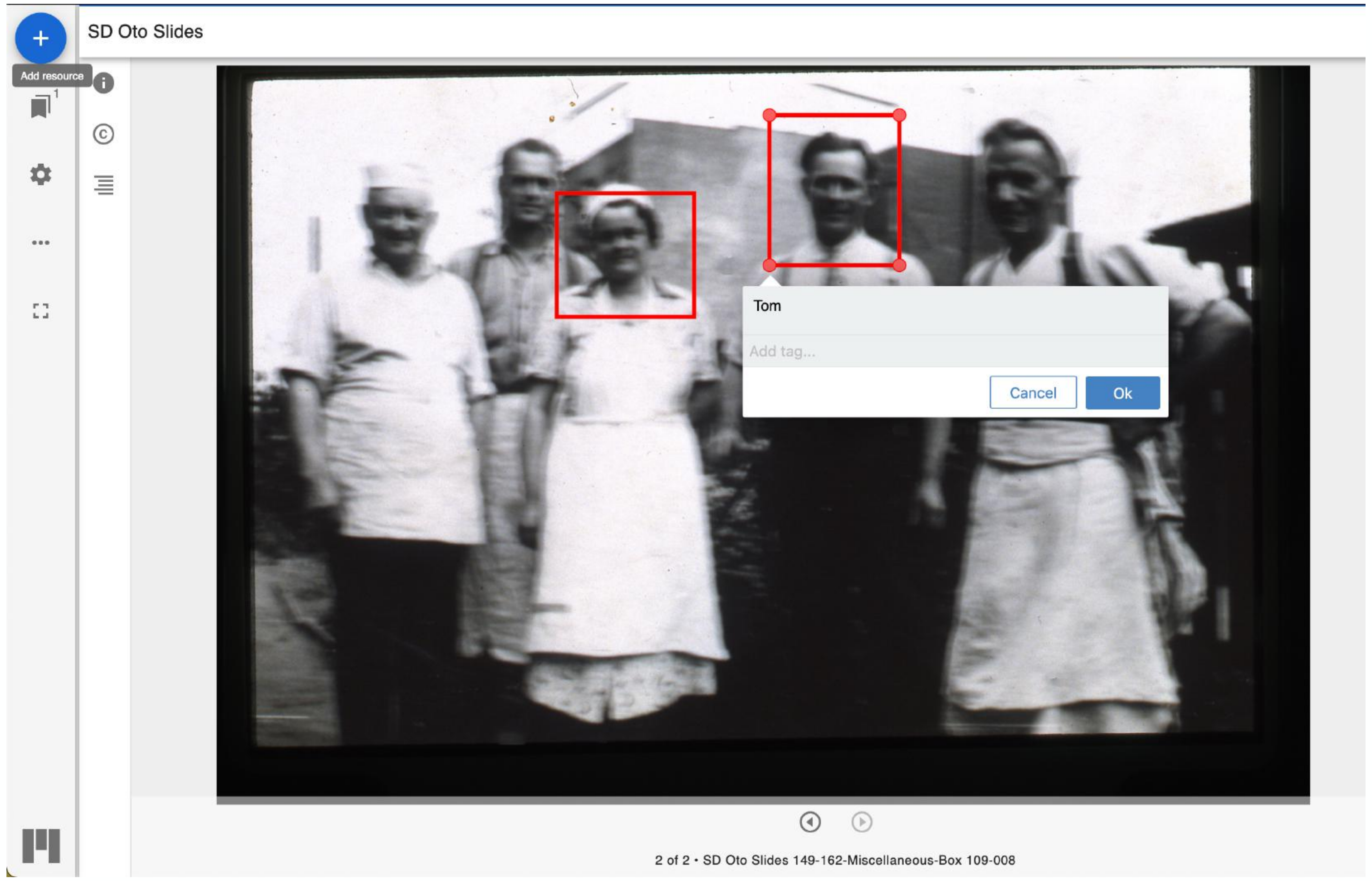
Mirador - Initial Prototype

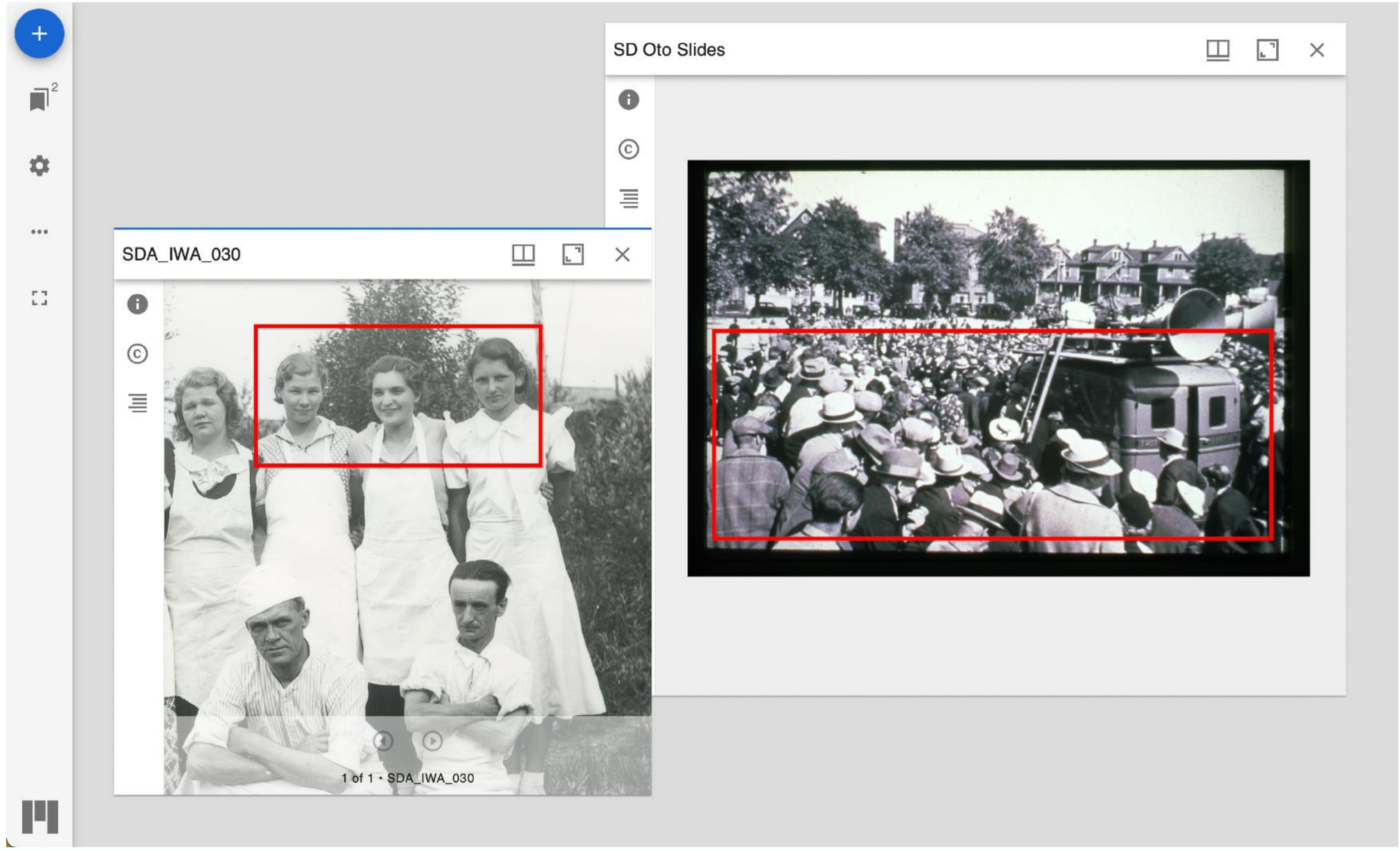
https://crossingfonds.github.io/mirador/index.html

- Preloaded CF material
- Images, documents, video, and audio
- Image Tools plugin

Mirador - Initial Prototype

- Mirador-annotorious plugin:





Mirador - Plugins and Examples

- https://mirador-textoverlay.netlify.app
- https://cudl.lib.cam.ac.uk