Methodological Module Design Brief

Chris Henrick
Thesis Studio One
Scott Pobiner, Louisa Campbell
October 5, 2014

Design Questions

Currently there exists no intuitive or user-friendly method of mapping media such as photos, sound and video from various sources such as a user's personal computer or accounts from websites and apps such as Dropbox, Flickr, Instagram, YouTube, Soundcloud, etc. Furthermore, many platforms that offer the capability of embedding images or video into an interactive web-map leave the user with an unpleasant experience and poorly designed interface. These problems resulted in identifying the following questions:

- How can a web application be designed to engage more users in mapping media?
- What would a non-traditional / non-normative approach to mapping media that is more user friendly than the traditional model look like?
- How could such a tool allow for collaboration among different users?
- What type of user would such a tool benefit?

Research

Domains

The domains of this methodological module prototype are web-mapping, counter-mapping, narratives and media on the web.

Precedents

UI precedents. See Apendix for screenshots.

Web-Map Applications

As precedents I identified a number of applications that use traditional web-map UI which allows the user to accompish specific tasks or create visualtions:

- MapBox
- CartoDB
- OpenStreetMap's ID editor
- Google's My Maps
- Instagram's photo map
    - only available on the Instagram mobile application.

- Crowdmap.com
    - Is perhaps the most relevant platform I've discovered so far.
    - Made by the programmers at Ushahidi.
    - Currently in beta.
    - UI doesn't appear to let you set map zoom and center.
    - Does allow for adding data from instagram and twitter.
    - Appears to work on top of MapBox & Leaflet.

- Ushahidi: http://www.ushahidi.com/
- Gramfeed: http://www.gramfeed.com/instagram/map#/37.7749,-122.4194/1000/
- Openplans' Shareabouts: http://openplans.org/shareabouts/
- Tidepools http://tidepools.co
- Wikimapia: http://wikimapia.org/about/
- Wikimapping: http://wikimapping.com/
- Track Leaders: http://trackleaders.com/

Platforms for Creating Narrative Maps

The following platforms for creating narratives using web-maps were identified:

- Google Earth Tour Builder
- MapStory.org

- StoryMapJS
- Storytelling With Maps (ESRI, propriertary)
- Neatline (University of VA)
- Odyssey by CartoDB.

Successful Combinations of Web Maps and Media

The New York Times has published several pieces that successfully combine media with maps:

- The Russia Left Behind
- Riding the New Silk Road

Pro Publica has a successful piece on the disapearance of the Lousiana coastline:

- Losing Ground

Analysis of Precedents

In the precedents identified above the majority of the user interfaces follow a similar pattern. The user must navigate a web-map by panning and zooming to place markers and/or edit other features. In some cases the user may enter a place name or address into search box to zoom and pan the map to a specific location. These forms of interaction make up the traditional web-map user experience as first created by Google and refined since its original release in 2004.

Currently there are two primary design and UI trends for imbedding media into a map. The first is by inserting the media into a pop-up for a map feature such as a marker. The second is displaying the media in a side bar next to the map and linking the the media to a position on the web-map portion of the UI. Both of these methods are somewhat clunky and typically do not allow for visual media to be viewed at a large size. This typically makes for a poor user experience of viewing media with maps.

Project Concept

The first step was to diagram a workflow for possible methods for a user to add media to a

map on the web (see appendix for diagrams). Following the most simplistic scenario the steps needed for a user to add a single piece of media to a map were defined in a separate workflow. A paper prototype was then created that mimics an approach taken by traditional web-mapping applications in order to identify shortcomings and design to improve after user testing.

Methodology

The Methodology is as follows:

- Define a typical / normative user workflow
- Create a paper prototype that mimics this workflow
- User test the paper prototype
- Refine prototype based on user tests

Findings and Next Steps

User testing revealed that a persona and use case for the application need to be refined. The questions of who would use such a tool and why in the context of counter-mapping are critical and will be answered with further investigation stemming from interviews and additional user testing. Thus, following the first user tests the next steps are as follows:

- Narrow the user persona: who will this application benefit? why would they want to use it?
- Iterate on paper prototype: create a second paper prototype that uses a non-normative approach to adding locations to a map.
- Design a paper prototype for how the user's map will appear when shared publicly on the web.
- Perform further user testing.

Appendix

Cartographer vs. Counter Mapper Workflow

Workflow comparison identified after the methodological module workout session.

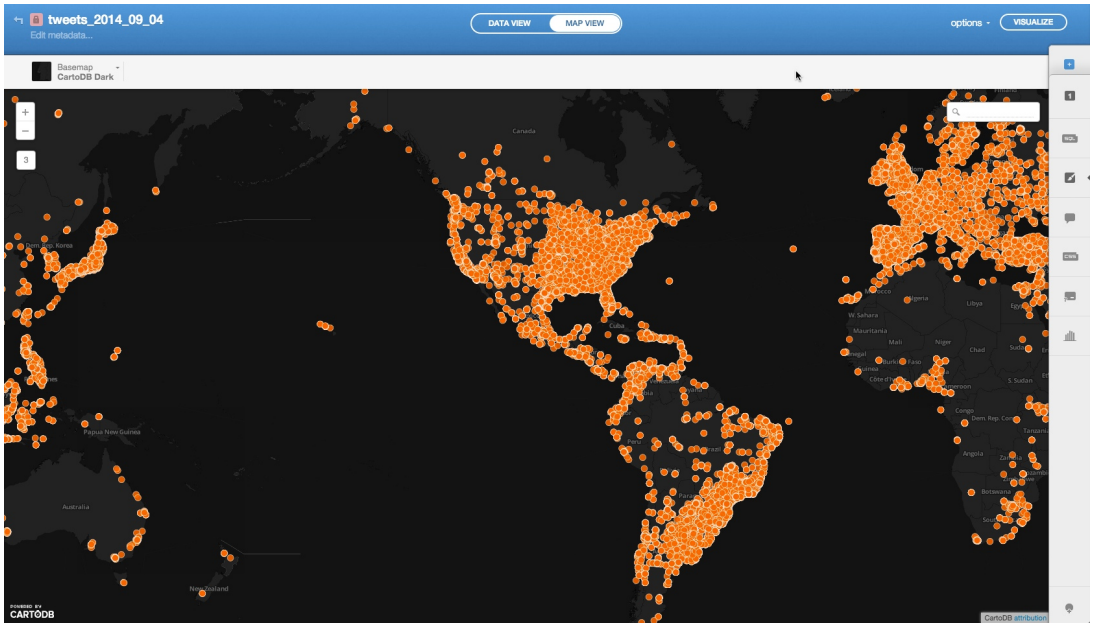
Step	Cartographer	Counter Mapper
Planing Stage	Determine the Objective and who the audience is. Usually this is determined by a RFP or Design Brief.	Decide what is "mappable." The audience is likely the general public / non-experts
Medium	Will the map be printed, online, interactive, part of an application?	Will the map be published in a book, online article, part of an organization's website, gallery or museum, as street art, etc.
Methods	Choose what technology will be implemented: proprietary or open-source GIS and cartographic software, or a combination of them.	Choose what technology will be implemented: proprietary or open-source software, GIS, illustrator, hand-drawn techniques or a combination of them.
Layers	Establish what features will be represented and their order on the map as layers.	What are the non-normative feature(s) the map will represent?
Data	Source data for each of the features from government agencies, open street map, or create custom data (eg: digitizing paper maps). Process and analyze data as needed.	Do research to acquire data as it's probably not easy to find. Could be primary research, qualitative research, participatory mapping or digging through city records in analog format.
	Begin Constructing map from data (following typical cartographic	Deciding how to make the map design non-normative

Design	conventions and aesthetics: precision of data, generalization of data, choice of features to include, use of color for emphasizing important part(s), using typographic hierarchy in labeling, etc.)	(could be a use of one or more of the following: aesthetics, form of map (eg: a non-euclidean map), functionality, experimentation, etc.)
Interaction (optional)	If interactive, determine interactivity and functionality (is it an App or just a map with pop-ups and mouseover events?)	If interactive, determine interactivity and functionality (is it an App or just a map with pop-ups and mouseover events?)
Critique	Print Out & Critique the map (if it's not just a typical GIS department and the experts have cartographic design skill) AND/OR user test an interactive version (the latter doesn't always happen).	Augmentation of the map, could be through writing, art-work, including other media such as video, sound, photography, etc
Iterate	Iterate (refine: data, aesthetic, interactivity)	Iterate (refine: data, aesthetic, interactivity)
Publish	Printed or digital version, is it confidential or open to the public, or for internal purposes (such as City Planning).	Releasing the map to the public: (this could be an article online or in a magazine or zine, printed in a book, displayed in an art gallery or museum, wheat-pasted on a wall)

Screenshots of Precedents

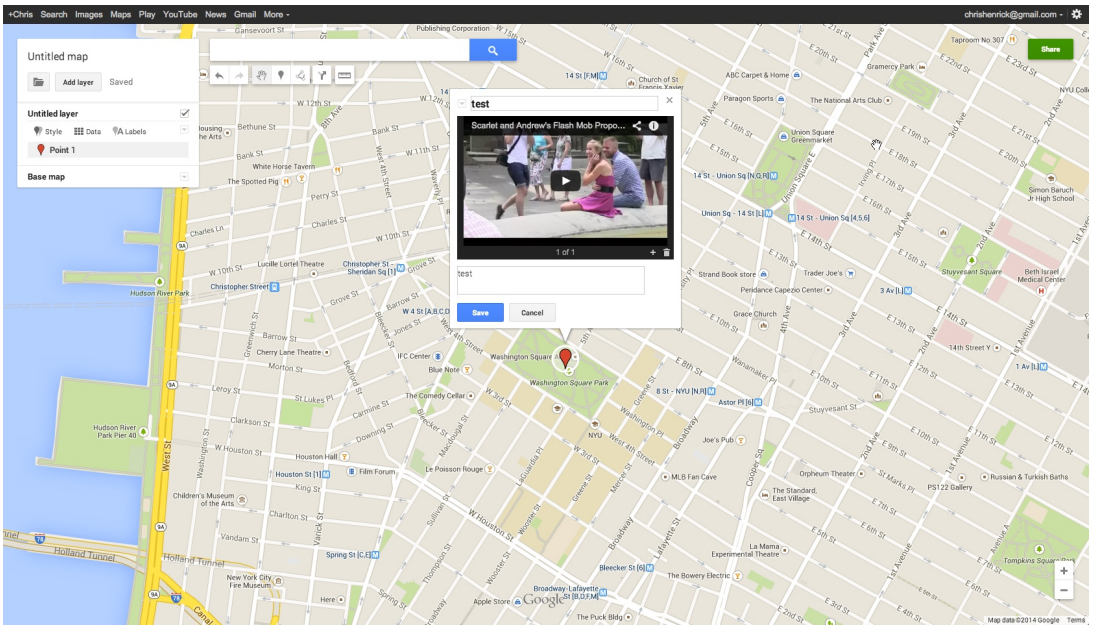
Traditional Web-Map App UIs

CartoDB

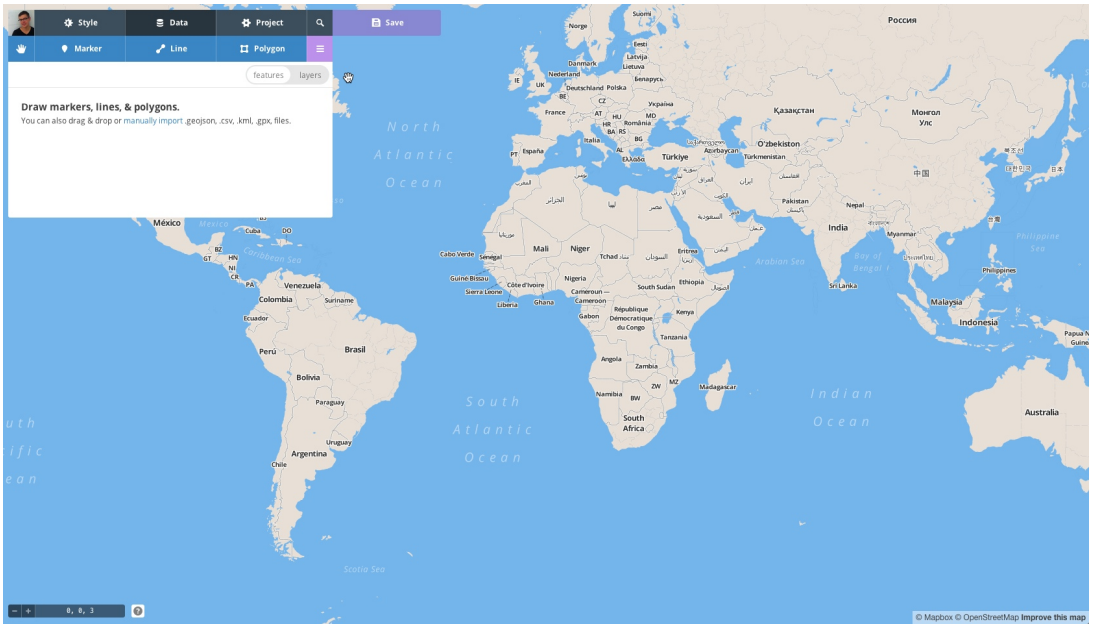


CrowdMap

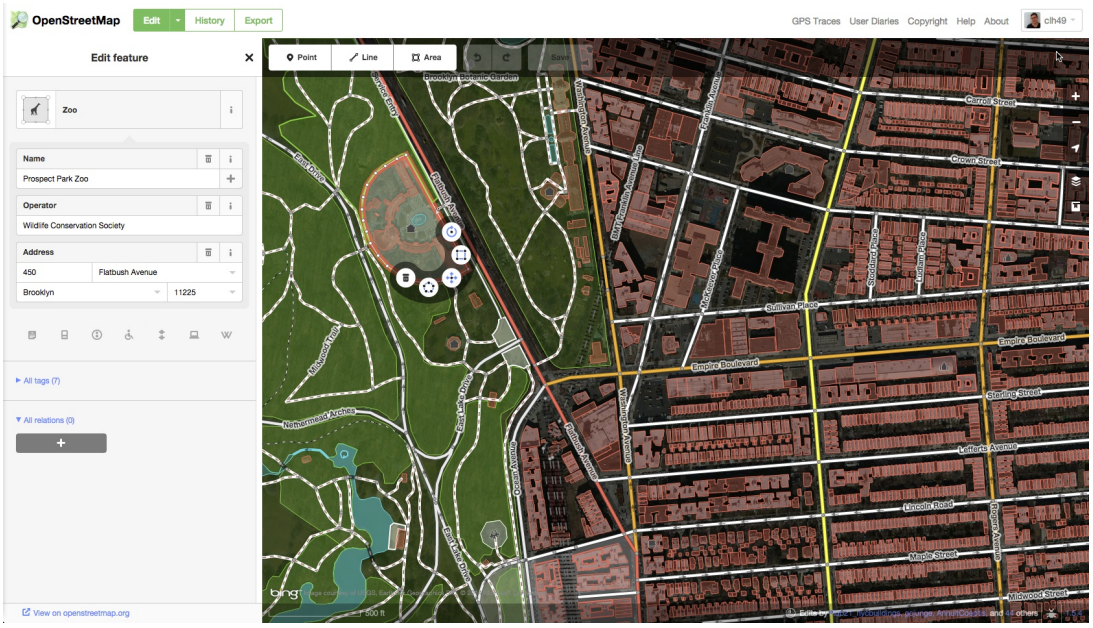
Google's My Maps



MapBox

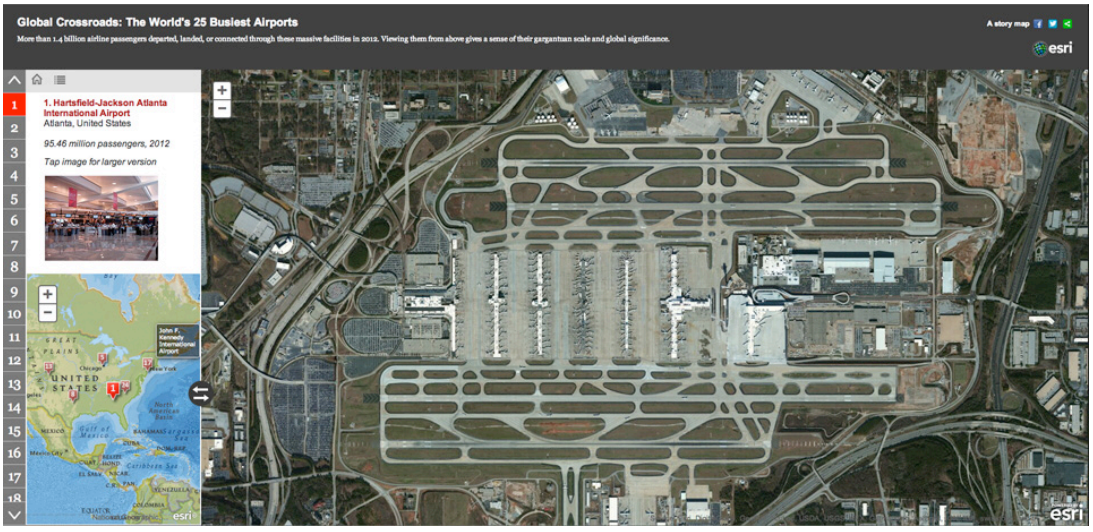


OSM ID Editor

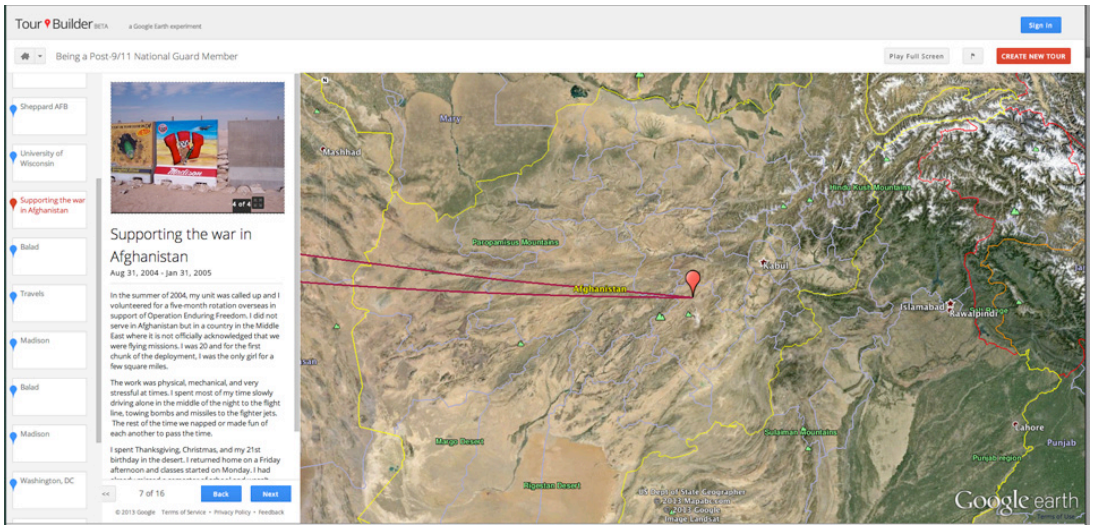


Narrative UIs

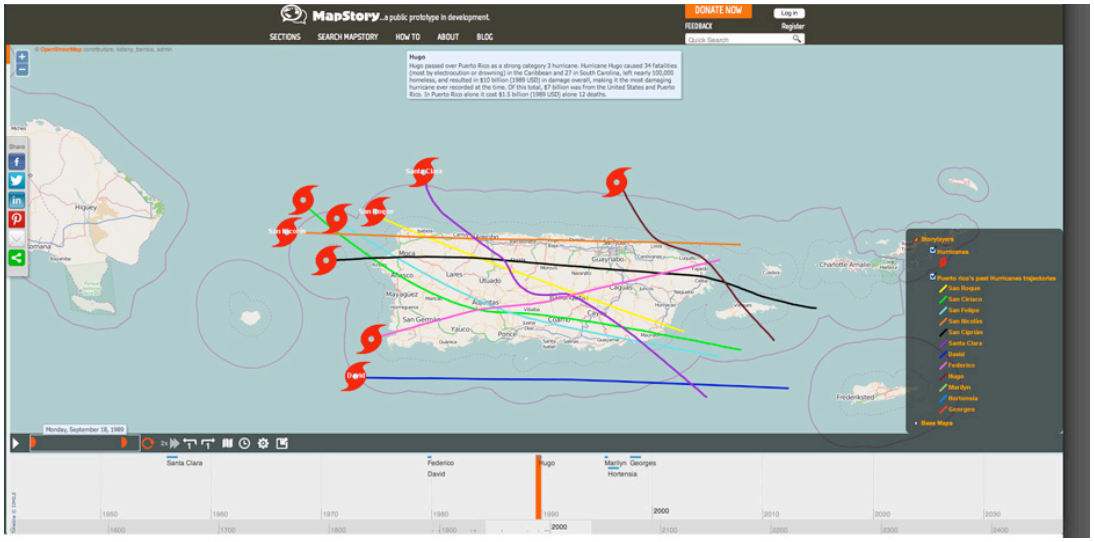
ESRI's Story Telling with Maps



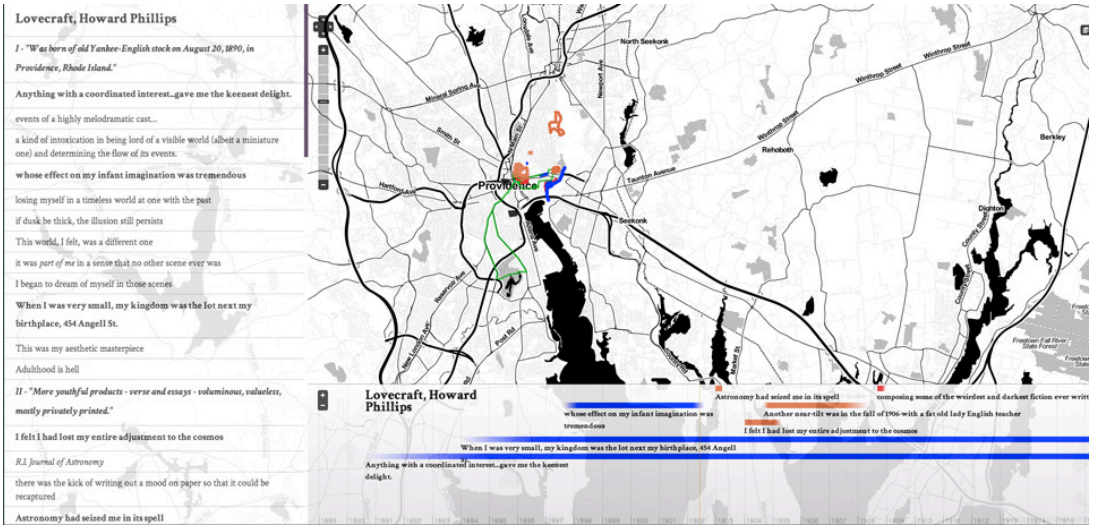
Google Earth Tour Builder



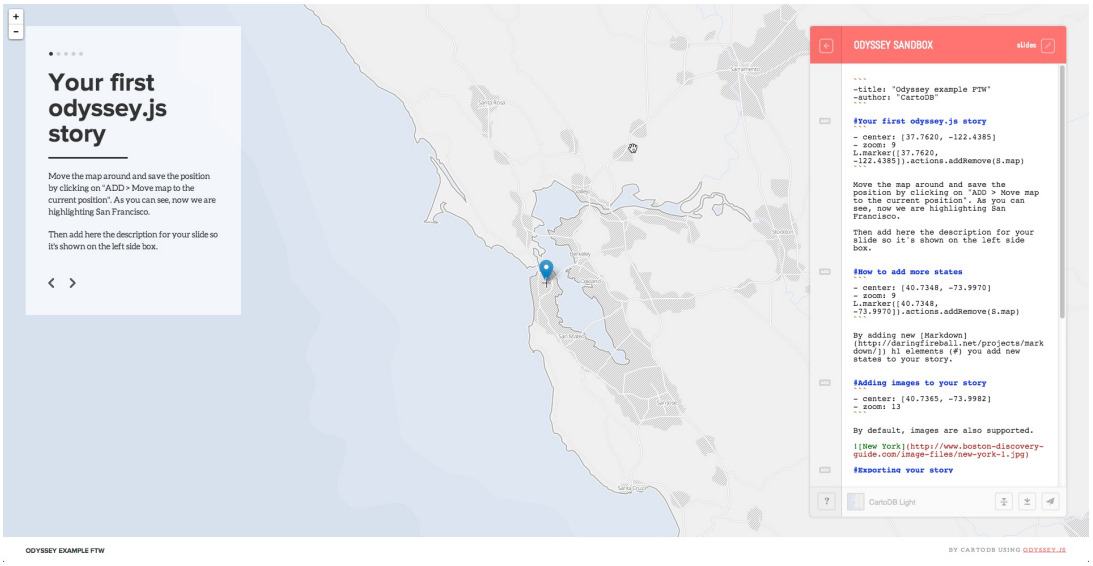
MapStory



Neatline



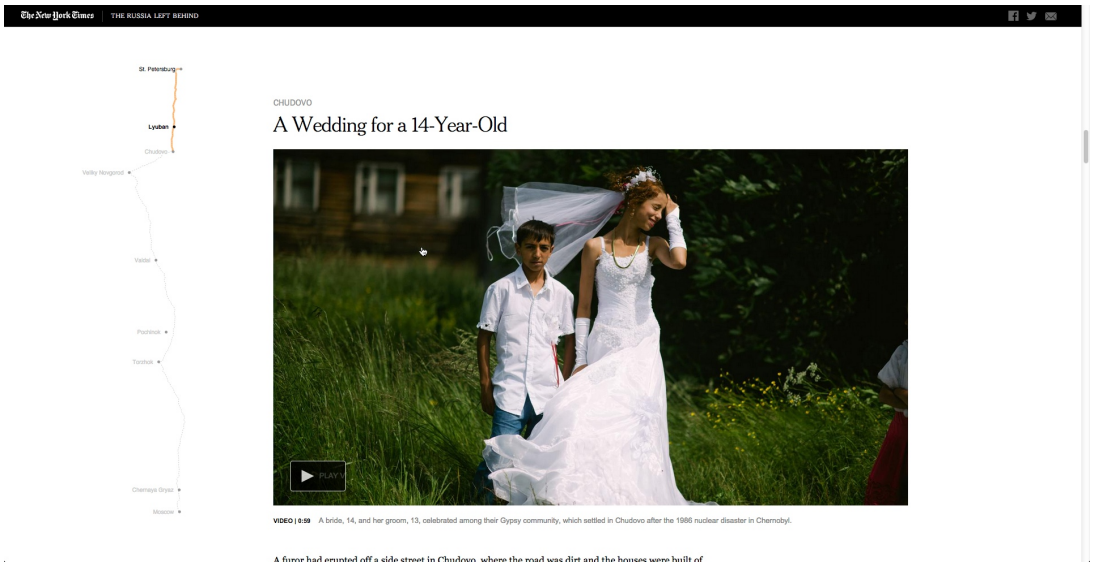
Odyssey



Story Map

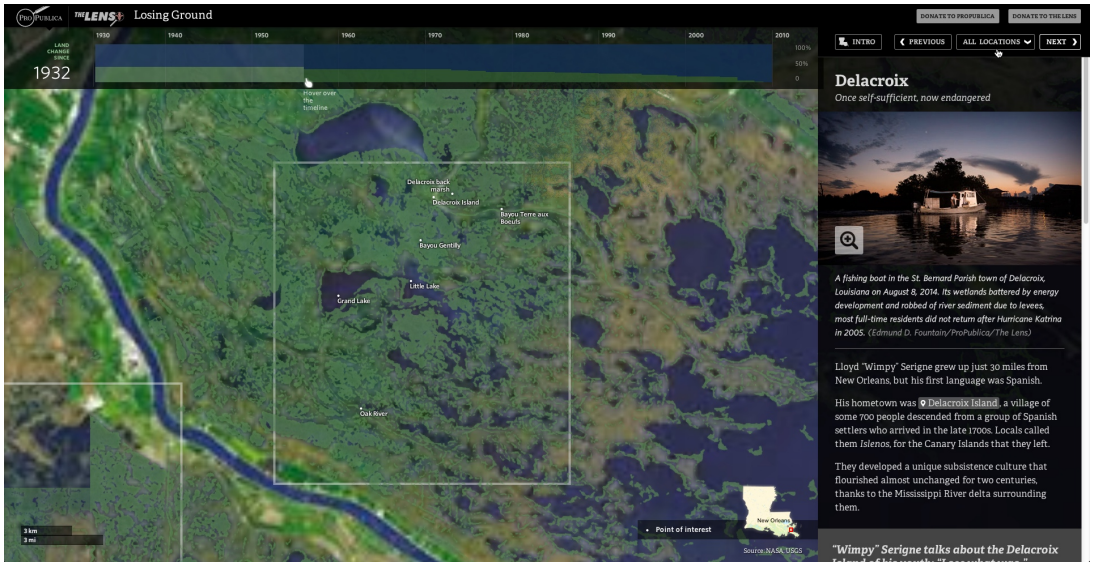
Successful Combinations of Maps and Media

NY Times' A Russia Left Behind



NY Times' The New Silk Road

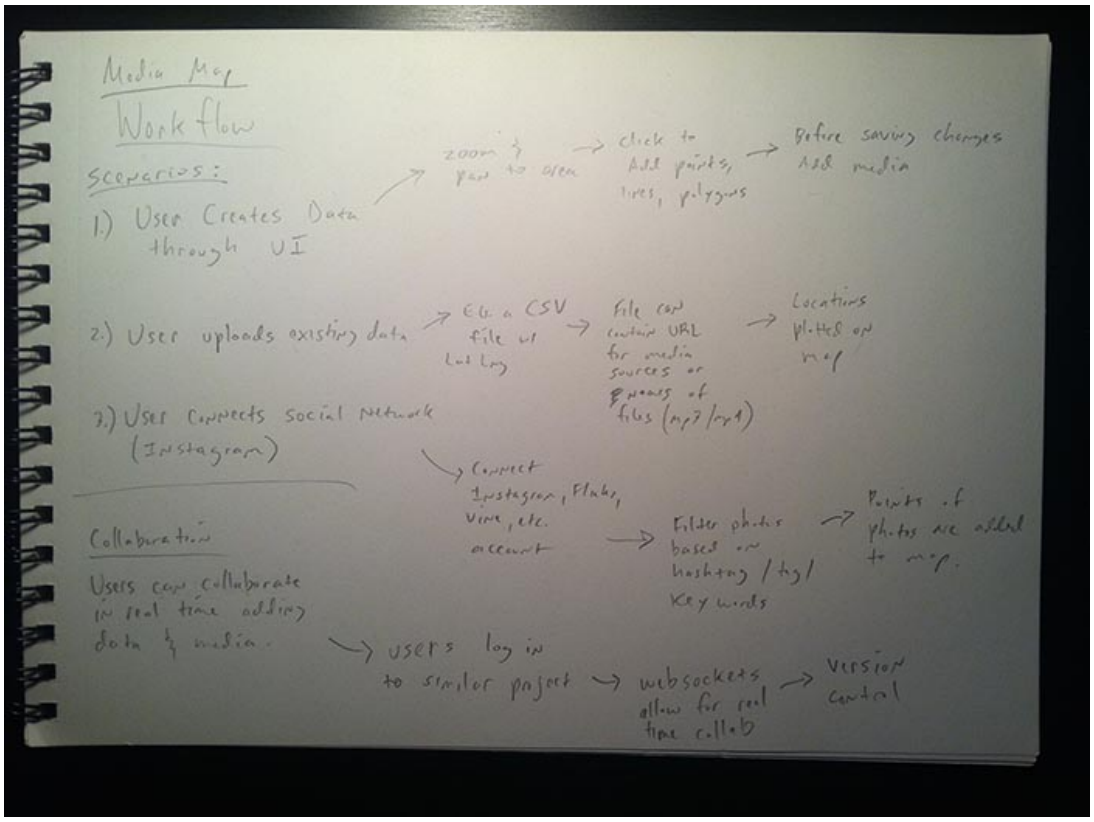
Pro Publica's Losing Ground



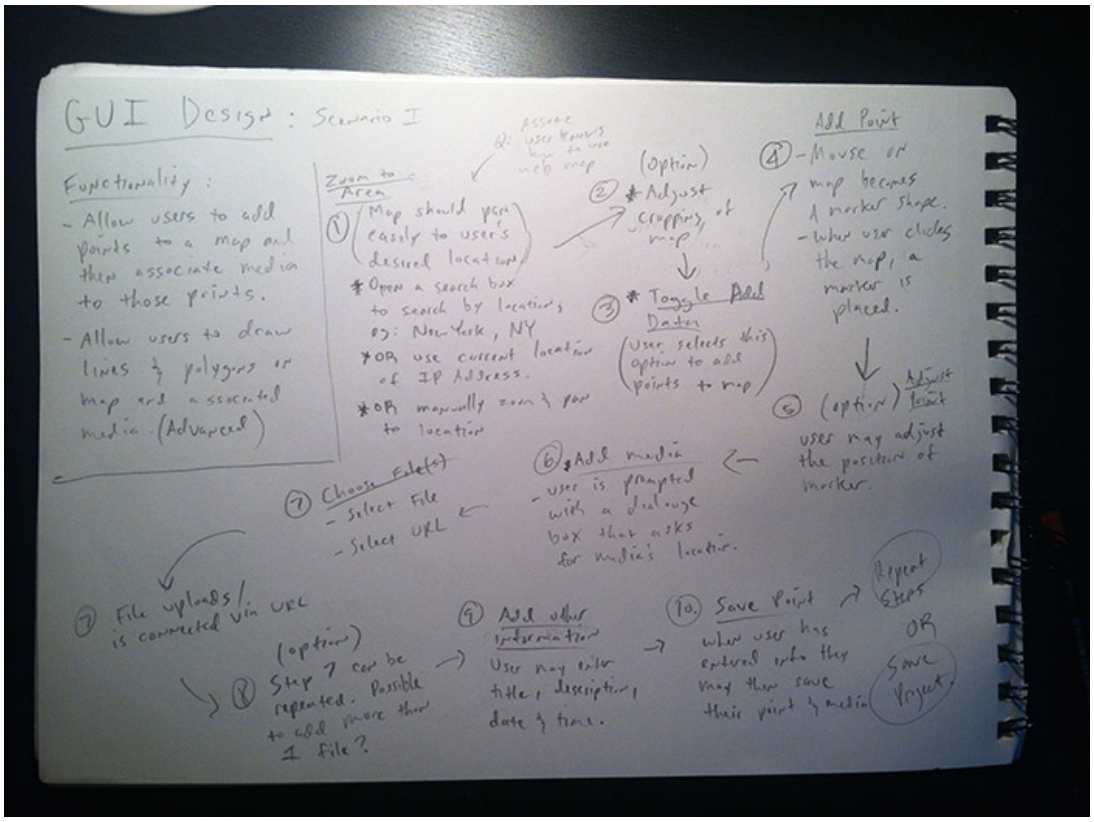
Paper Prototype Documentation

Workflow Sketches

Mapping Media Workflow



GUI design for scenario one

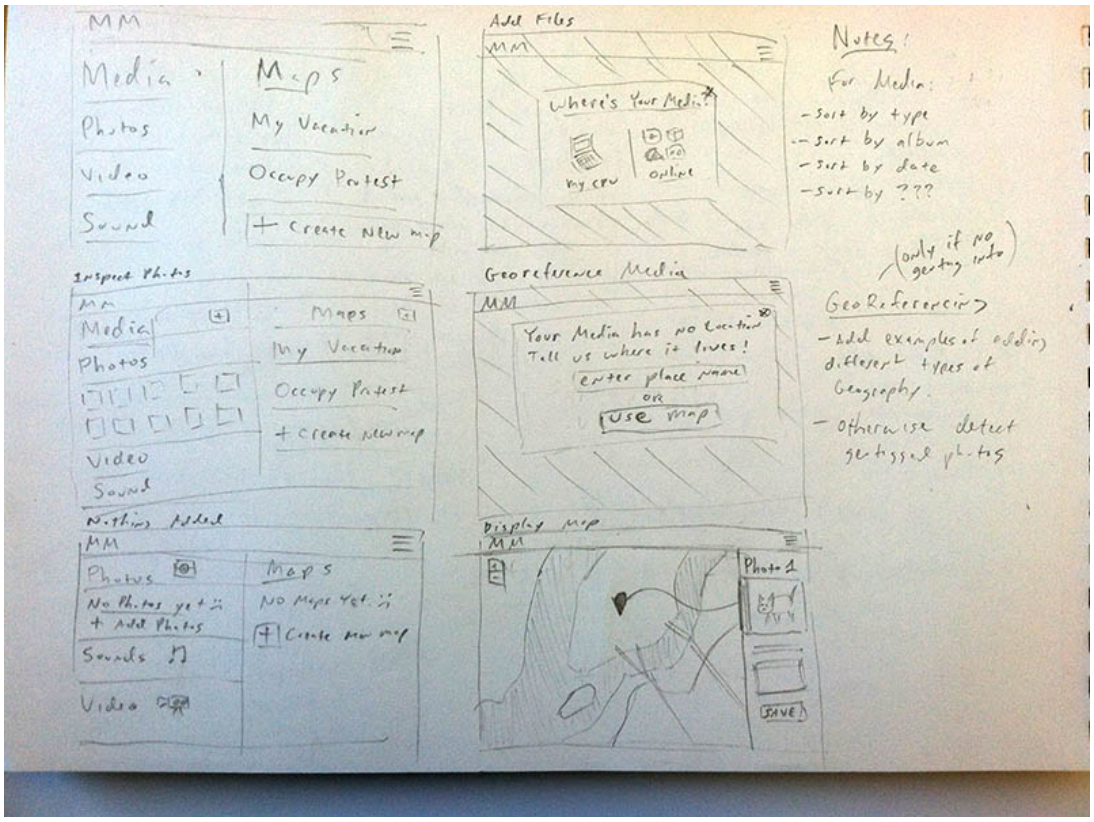


Paper Prototype

Sample interaction for the paper prototype

Revision to Paper Prototype

Beginning to sketch the app dashboard after the paper prototype


MM
Media
Photos
Video
Sound
Maps
My Vacation
Occupy Protest
+ Create New map
Add Files
MM
Where's Your Media?
My CPU
Online
Notes:
For Media:
- sort by type
- sort by album
- sort by date
- sort by ???
Inspect Photos
MM
Media
Photos
Video
Sound
Maps
My Vacation
Occupy Protest
+ Create New map
Georeference Media
MM
Your Media has no location
Tell us where it lives!
enter place name
or
use map
(only if no geotag info)
GeoReferencing
- add examples of adding different types of Geography.
- otherwise detect geotagged photos
Nothing Added
MM
Photos
No Photos yet :(
+ Add Photos
Sounds
Video
Maps
No Maps Yet :(
+ Create New map
Display map
MM
Photo 1
SAVE