

# Methodological Module Design Brief

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Thesis Studio One

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## Design Questions

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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

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### Domains

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

### Precedents

UI precedents. See Appendix for screenshots.

## Web-Map Applications

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

- [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 \(ESRI, proprietary\)](#)
- [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 disappearance of the Louisiana 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

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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

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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

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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

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### Cartographer vs. Counter Mapper Workflow

*Workflow comparison identified after the methodological module workout session.*

<b>Step</b>	<b>Cartographer</b>	<b>Counter Mapper</b>
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

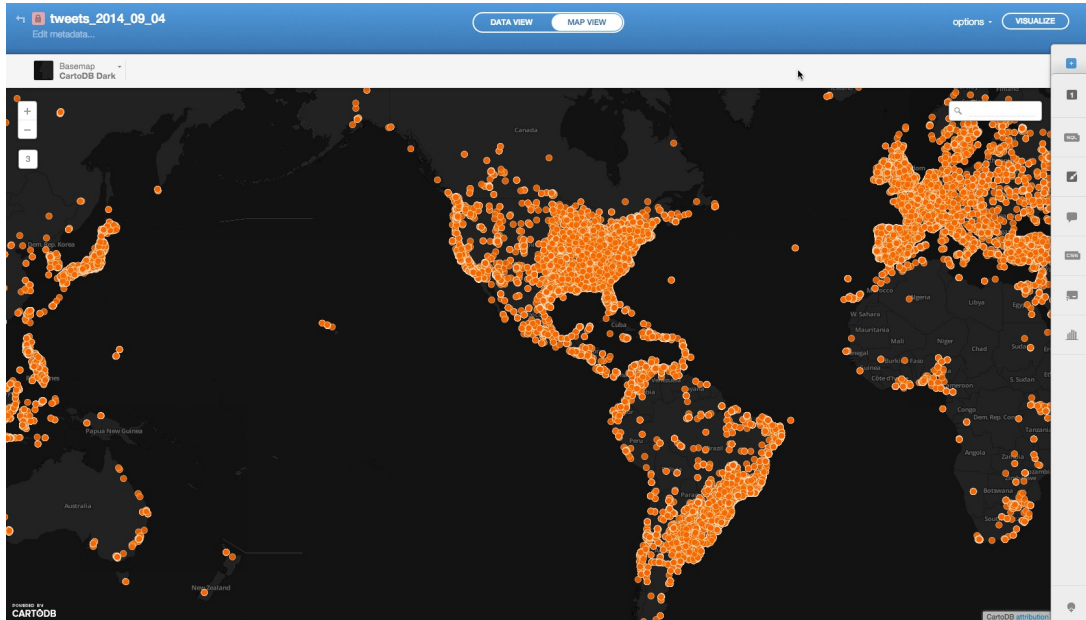
Design	conventions and aesthetics: precision of data, generalization of data, choice of features to include, use of color for emphasizing important part(s), using typographic hierarchy in labeling, etc.)	(could be a use of one or more of the following: aesthetics, form of map (eg: a non-euclidean map), 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)

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## Screenshots of Precedents

### Traditional Web-Map App UIs

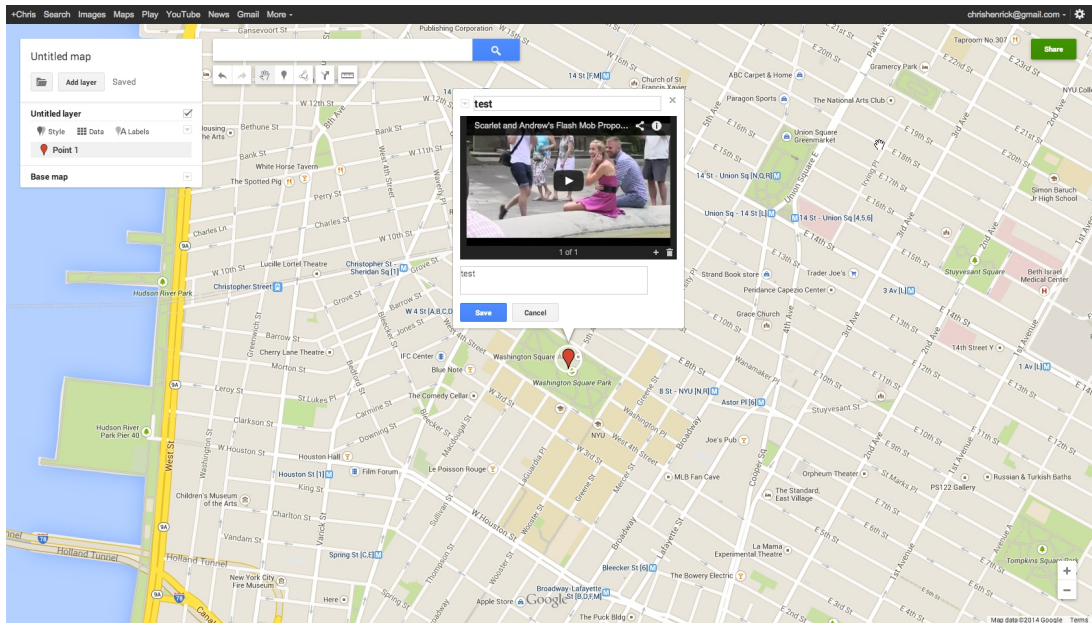
## CartoDB



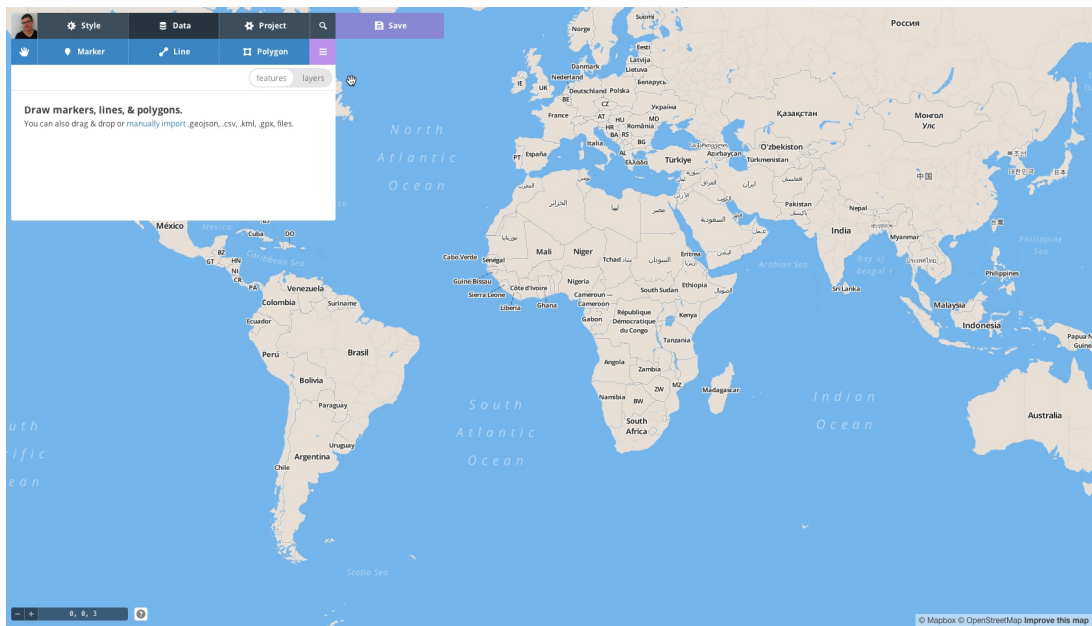
## CrowdMap



## Google's My Maps

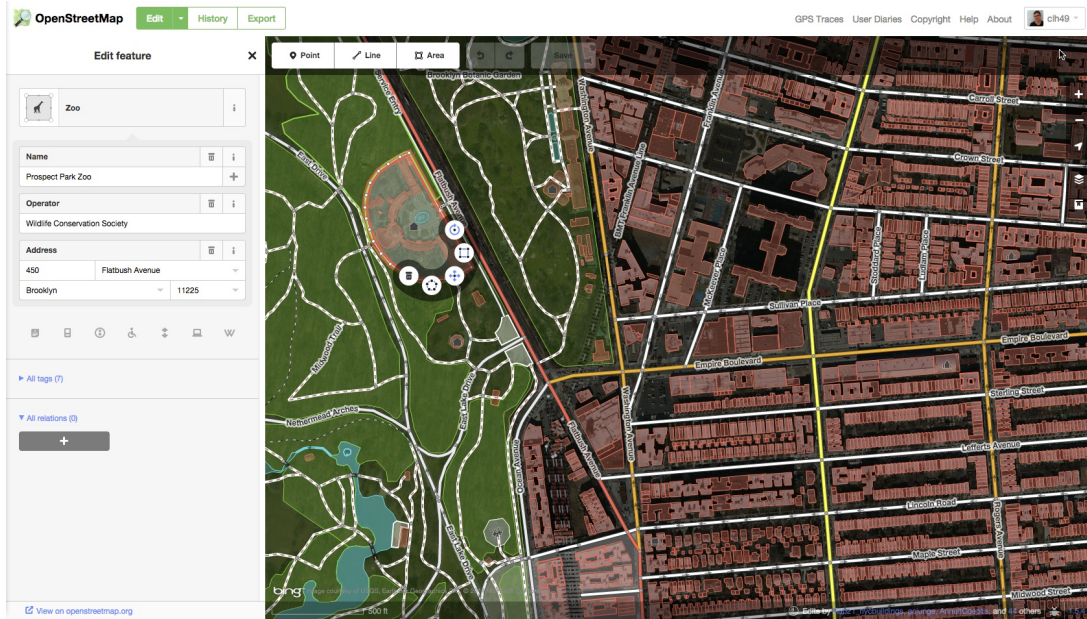


## MapBox



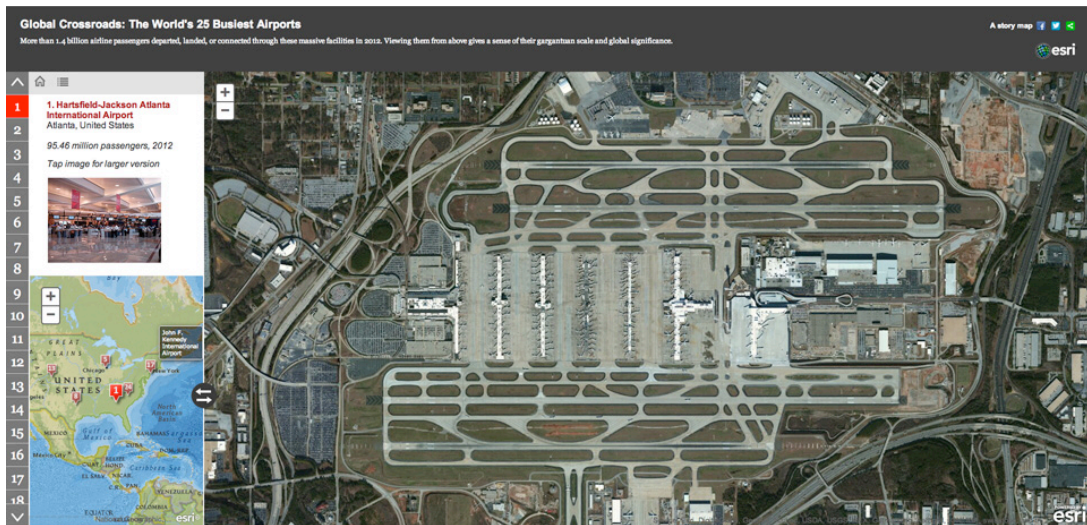
## OSM ID Editor





## Narrative UIs

### *ESRI's Story Telling with Maps*



### *Google Earth Tour Builder*

**Tour Builder** BETA a Google Earth experiment [Sign In](#)

Being a Post-9/11 National Guard Member [Play Full Screen](#) [CREATE NEW TOUR](#)

**Supporting the war in Afghanistan**  
Aug 31, 2004 - Jan 31, 2005

In the summer of 2004, my unit was called up and I volunteered for a five-month rotation overseas in support of Operation Enduring Freedom. I did not serve in Afghanistan but in a country in the Middle East where it is not officially acknowledged that we were flying missions. I was 20 and for the first chunk of the deployment, I was the only girl for a few square miles.

The work was physical, mechanical, and very stressful at times. I spent most of my time slowly driving above in the middle of the night to the flight line, towing bombs and missiles to the fighter jets. The rest of the time we napped or made fun of each other to pass the time.

I spent Thanksgiving, Christmas, and my 21st birthday in the desert. I returned home on a Friday afternoon and classes started on Monday. I had

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## MapStory

**MapStory** a public prototype in development [DONATE NOW](#) [Log In](#) [Register](#)

SECTIONS SEARCH MAPSTORY HOW TO ABOUT BLOG [FEEDBACK](#)

**Hugo**

Hugo passed over Puerto Rico as a strong category 2 hurricane. Hurricane Hugo caused 24 fatalities (dead by electrocution or drowning) in the Caribbean and 27 in South Carolina, left nearly 100,000 homeless, and resulted in \$12 billion (1989 USD) damage overall, making it the most damaging hurricane ever recorded at the time. Of this total, \$7 billion was from the United States and Puerto Rico. In Puerto Rico alone it cost \$1.5 billion (1989 USD) alone 12 deaths.

*Neatline*



**Lovecraft, Howard Phillips**

I - "Was born of old Yankee-English stock on August 20, 1890, in Providence, Rhode Island."

Anything with a coordinated interest...gave me the keenest delight

events of a highly melodramatic cast...

a kind of intoxication in being lord of a visible world (albeit a miniature one) and determining the flow of its events.

whose effect on my infant imagination was tremendous

losing myself in a timeless world at one with the past

if doubt be thick, the illusion still persists

This world, I felt, was a different one

It was part of me in a sense that no other scene ever was

I began to dream of myself in those scenes

When I was very small, my kingdom was the lot next my birthplace, 454 Angell St.

This was my aesthetic masterpiece

Adulthood is hell

II - "More youthful products - verse and essays - voluminous, valueless, mostly privately printed."

I felt I had lost my entire adjustment to the cosmos

*R.I. Journal of Astronomy*

there was the kick of writing out a mood on paper so that it could be recaptured

Astronomy had seized me in its spell

**Lovecraft, Howard Phillips**

Astronomy had seized me in its spell

when effect on my infant imagination was tremendous

Another one-42 was in the fall of 1906 with a fat old lady English teacher

I felt I had lost my entire adjustment to the cosmos

When I was very small, my kingdom was the lot next my birthplace, 454 Angell

Anything with a coordinated interest...gave me the keenest delight

## Odyssey

• • • • •

### Your first odyssey.js story

Move the map around and save the position by clicking on 'ADD'. Move map to the current position. As you can see, now we are highlighting San Francisco.

Then add here the description for your slide so it's shown on the left side box.

< >

**ODYSSEY SANDBOX** slide

```

<<<
- title: "Odyssey example FTW"
- author: "CartoDB"

#Your first odyssey.js story
- center: [37.7620, -122.4385]
- zoom: 9
- marker: [37.7620, -122.4385].actions.addRemove(s.map)

Move the map around and save the position by clicking on 'ADD'. Move map to the current position. As you can see, now we are highlighting San Francisco.

Then add here the description for your slide so it's shown on the left side box.

#How to add more states
- center: [40.7348, -73.9970]
- zoom: 9
- marker: [40.7348, -73.9970].actions.addRemove(s.map)

By adding new [markers] [http://daringfireball.net/projects/markdown/] in elements (#) you add new states to your story.

Adding images to your story
- center: [40.7365, -73.9982]
- zoom: 13

By default, images are also supported.
[New York] (http://www.boston-discovery-guide.com/image-files/new-york-1.jpg)

#Exportize your story

```

CartoDB Light

ODYSSEY EXAMPLE FTW BY CARTODB USING ODYSSEY.js

## Story Map

StoryMap JS Create Advanced Help knight lab

# StoryMap <sup>JS</sup>

Maps that tell stories.

Make a storymap now

MAP OVERVIEW BACK TO BEGINNING HIDE MAP

## US MANIFEST DESTINY

MEAN CENTER OF UNITED STATES POPULATION

## Successful Combinations of Maps and Media

### *NY Times' A Russia Left Behind*

The New York Times | THE RUSSIA LEFT BEHIND f t v

CHUDOVO

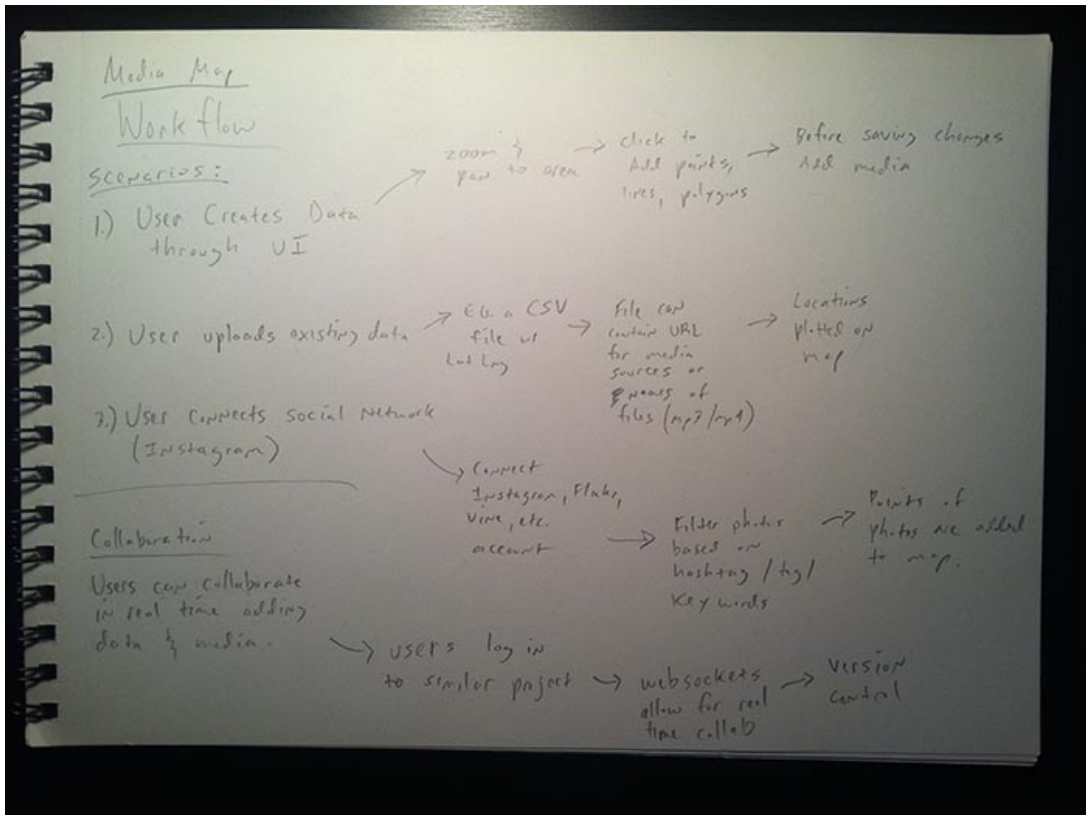
### A Wedding for a 14-Year-Old

**VIDEO** 8:59 A bride, 14, and her groom, 13, celebrated among their Gypsy community, which settled in Chudovo after the 1986 nuclear disaster in Chernobyl.

A farmer had oriented off a side street in Chudovo, where the road was dirt and the houses were built of

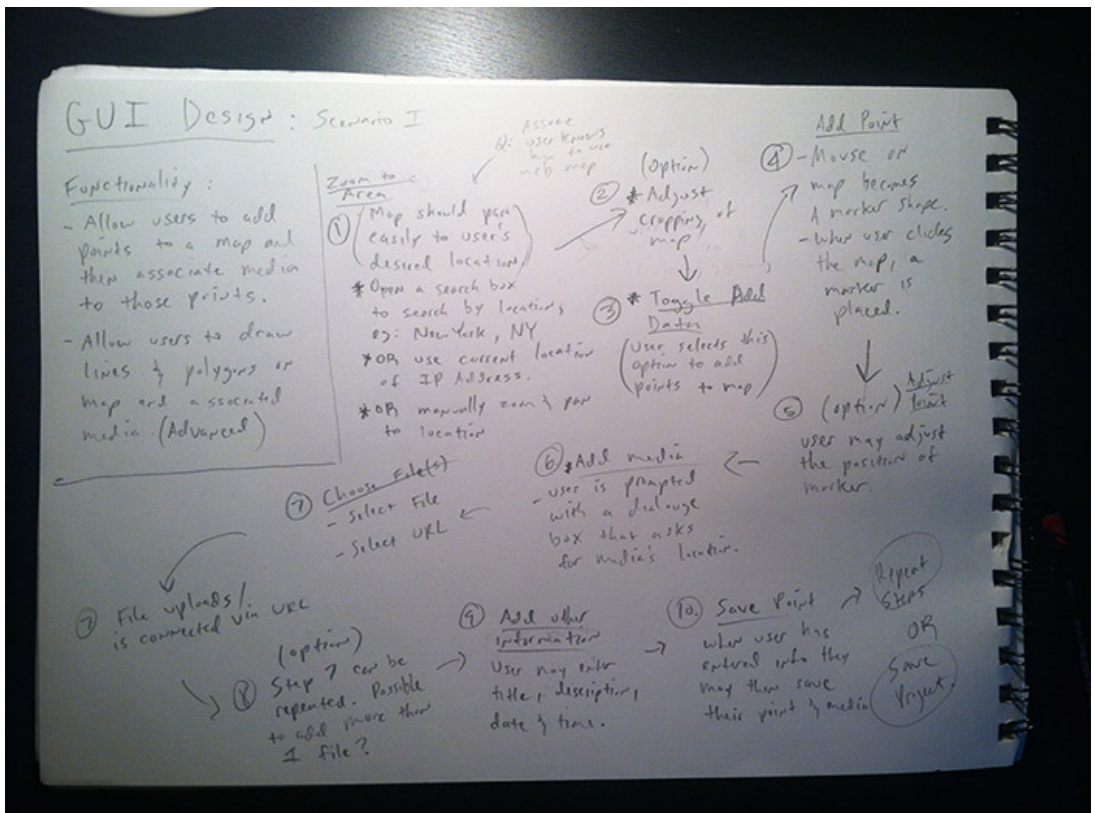
### *NY Times' The New Silk Road*





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	Maps
Photos	My Vacation
Video	Occupy Protest
Sound	+ Create New Map

Add Files

MM

Where's Your Media?

my.cru outlet

Notes:

- For Media:
- sort by type
  - sort by album
  - sort by date
  - sort by ???

Inspect Photos

MM

Media	Maps
Photos	My Vacation
Video	Occupy Protest
Sound	+ 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 getting into)

Georeferencing

- add examples of adding different types of Geography.
- otherwise detect geotagged photos

Nothing Added

MM

Photos	Maps
No Photos yet!! + Add Photos	No Maps yet!! + Create New Map
Sounds	
Video	

Display Map

MM