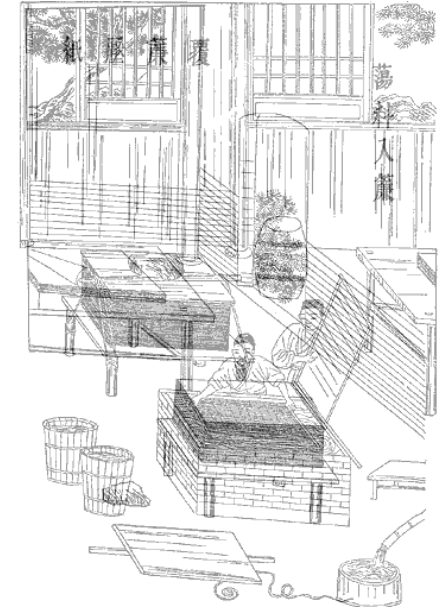


Geog183: Cartographic Design and Geovisualization Spring Quarter 2020

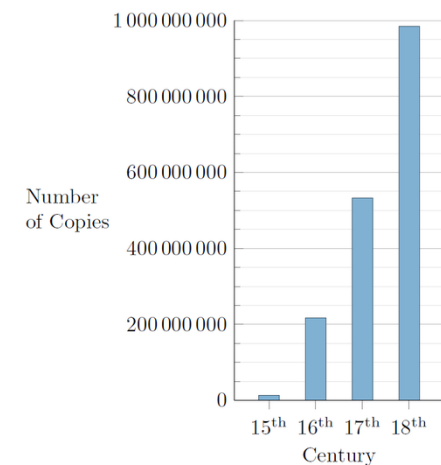
Lecture 10: Production, Reproduction and Dissemination

Historical development

- Ancient maps: many media and materials
- Papyrus used in Ancient Egypt 4th Century BC
- **Paper** was invented in ancient China during the Han Dynasty (about 100BC) using mulberry bark and hemp rags
- Printing press developed in China by the Han Chinese printer Bi Sheng between the years 1041 and 1048
- German printer Johannes Gutenberg in 1450
- Printing revolution
- Wood, stone, copper engraving
- Offset press in 1875 by Robert Barclay of England for printing on tin, and in 1904 by Ira Washington Rubel of the United States for printing on paper.

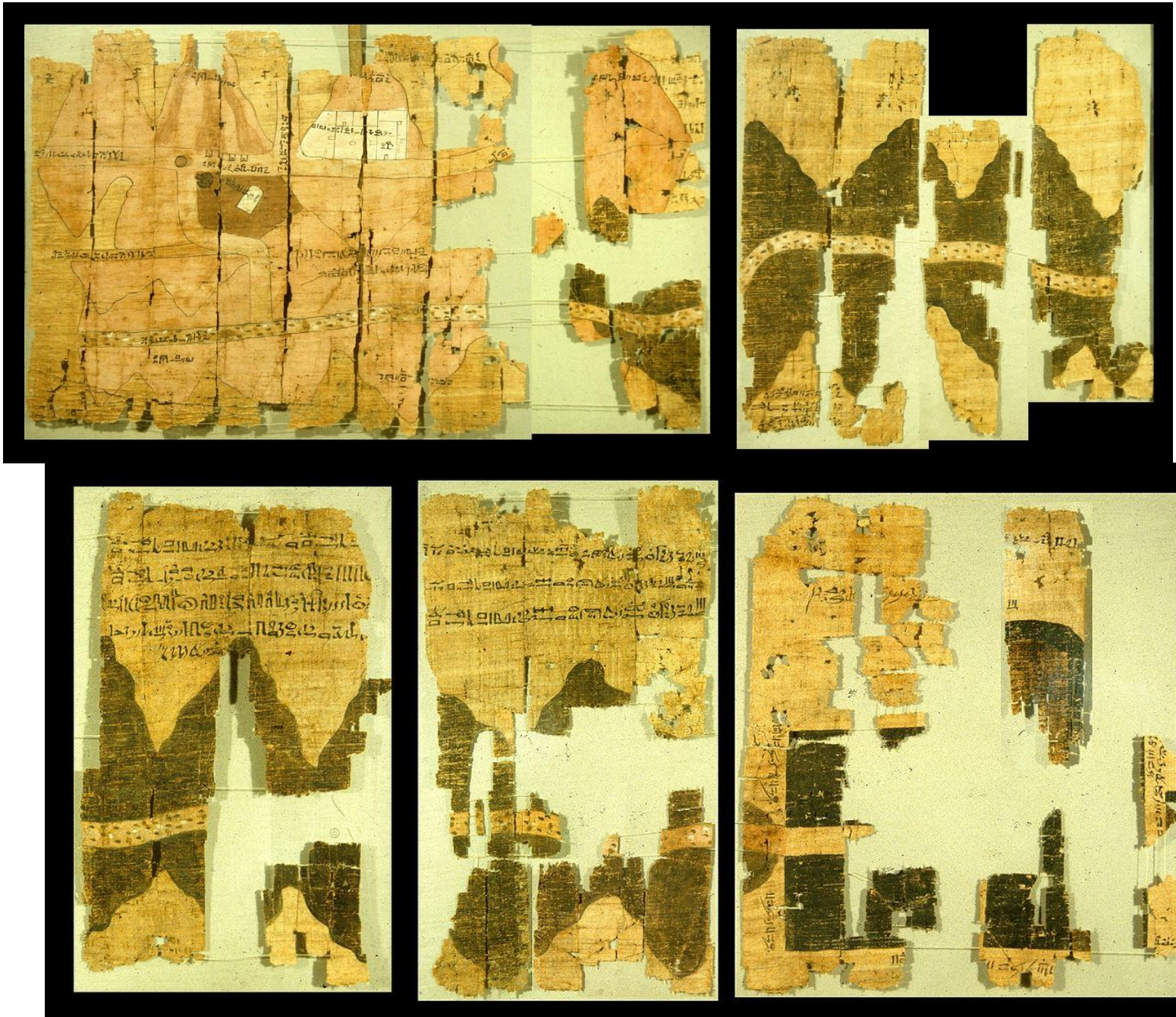


European Output of Printed Books ca. 1450–1800*

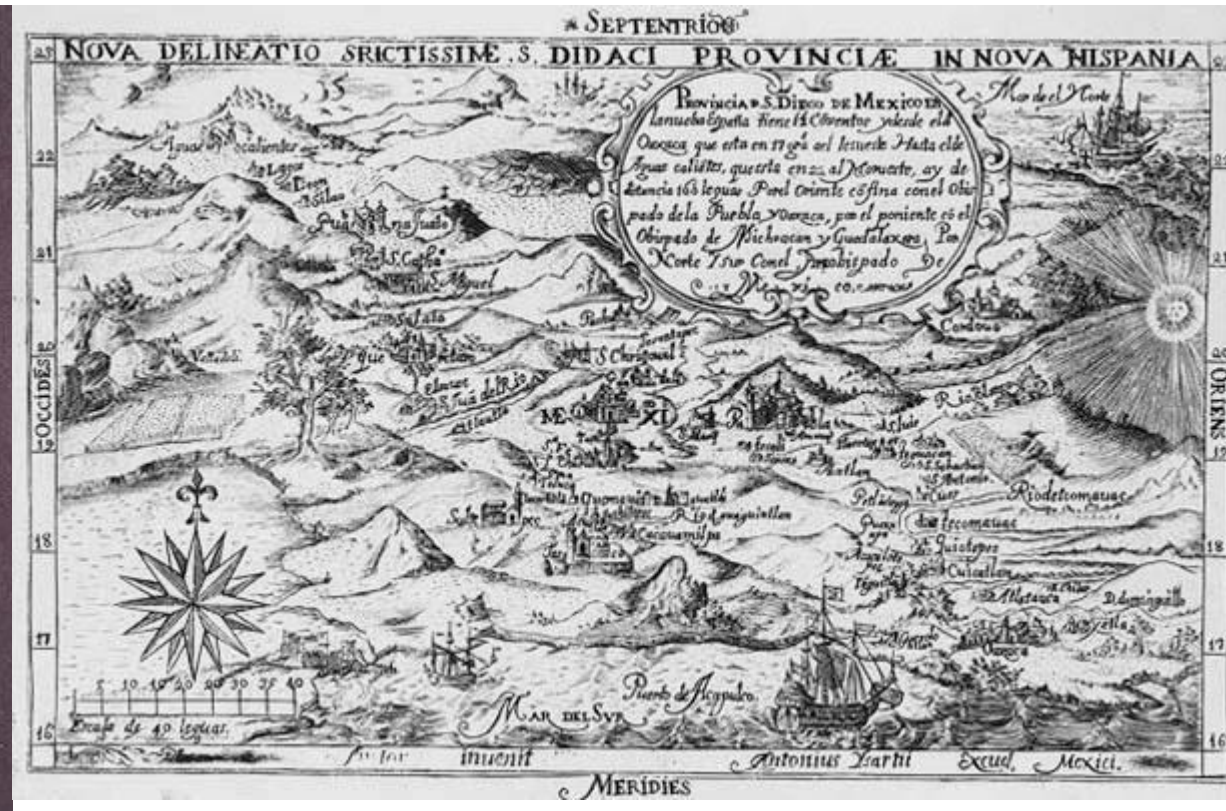


*without Southeast Europe (Ottoman realm) and Russia

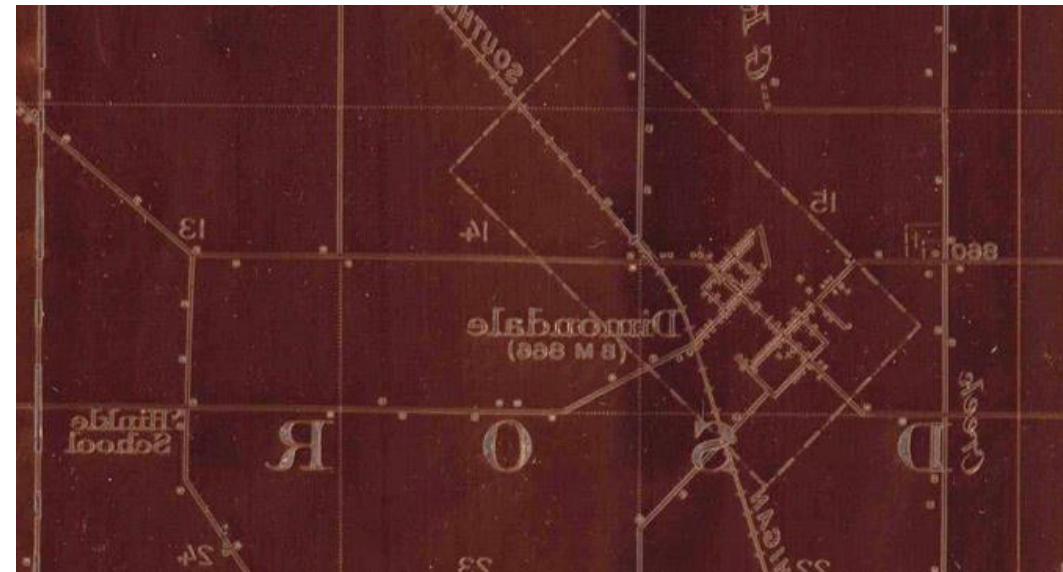
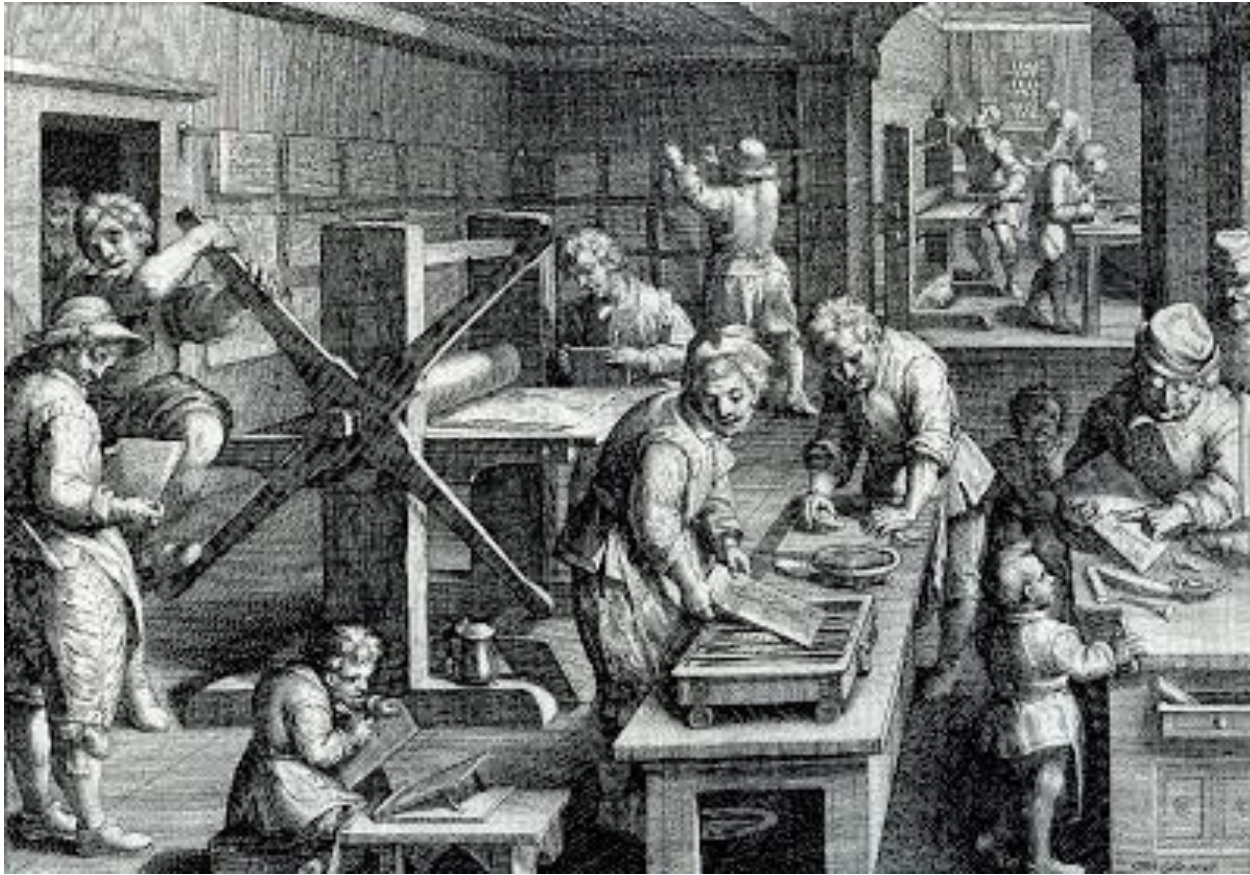
Turin Papyrus map
Ancient Egyptian map
Oldest surviving map of
topographical interest from the
ancient world
Discovered at Deir el-Medina in
Thebes
Drawn about 1160 BC by
Amennakhte
Prepared for Ramesses IV's
quarrying expedition to the
Wadi Hammamat to obtain
blocks of bekhen-stone



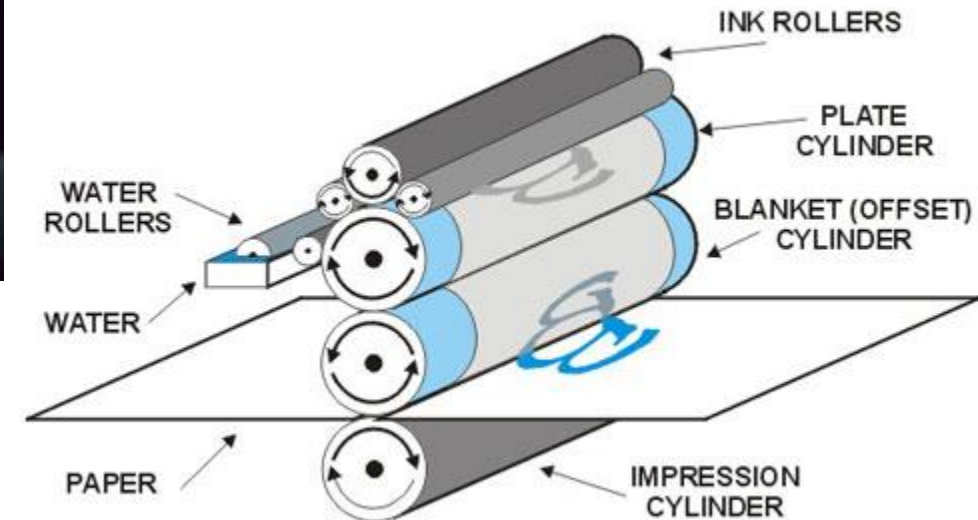
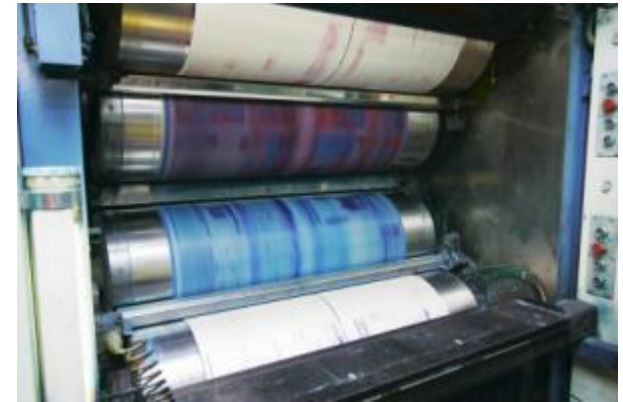
Copper plate engraving: Wax and oil + ink



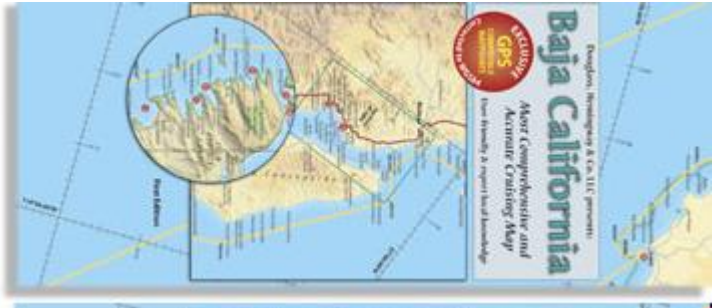
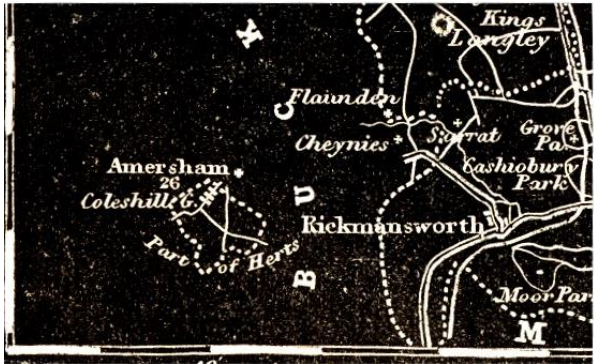
Intaglio



Offset printing: Uses CMYK color model



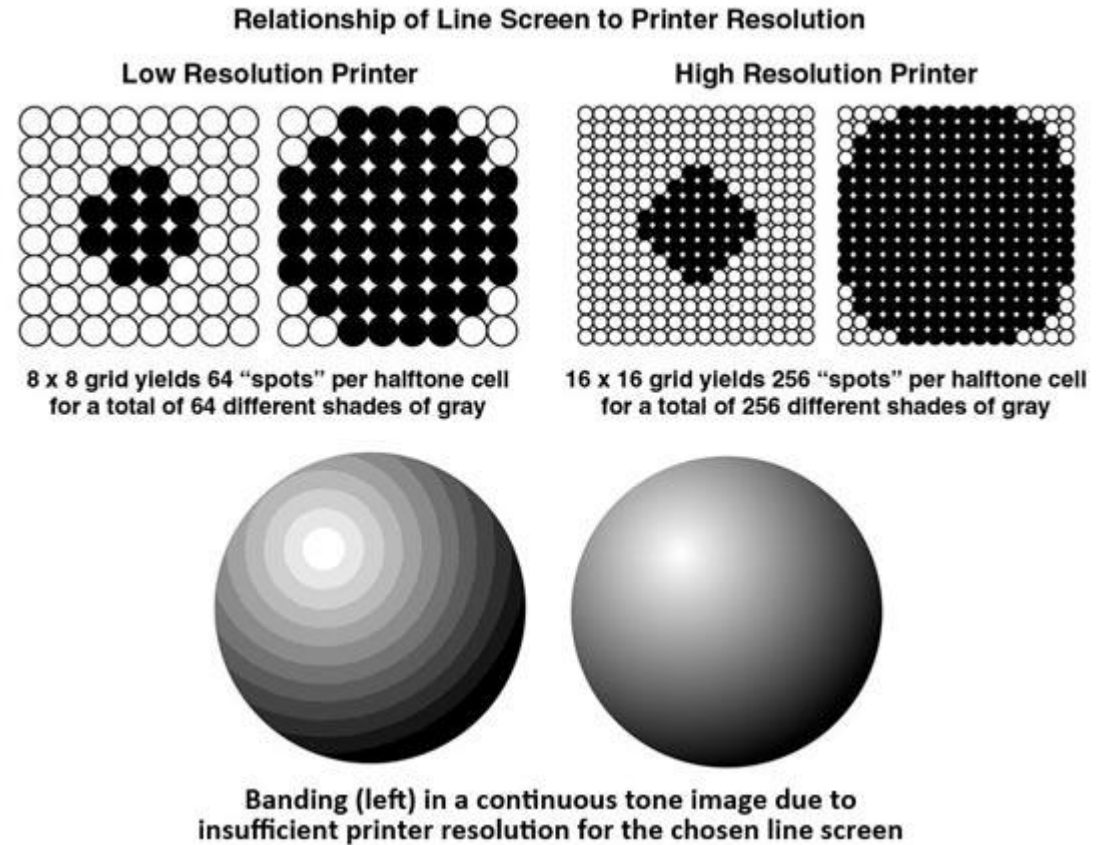
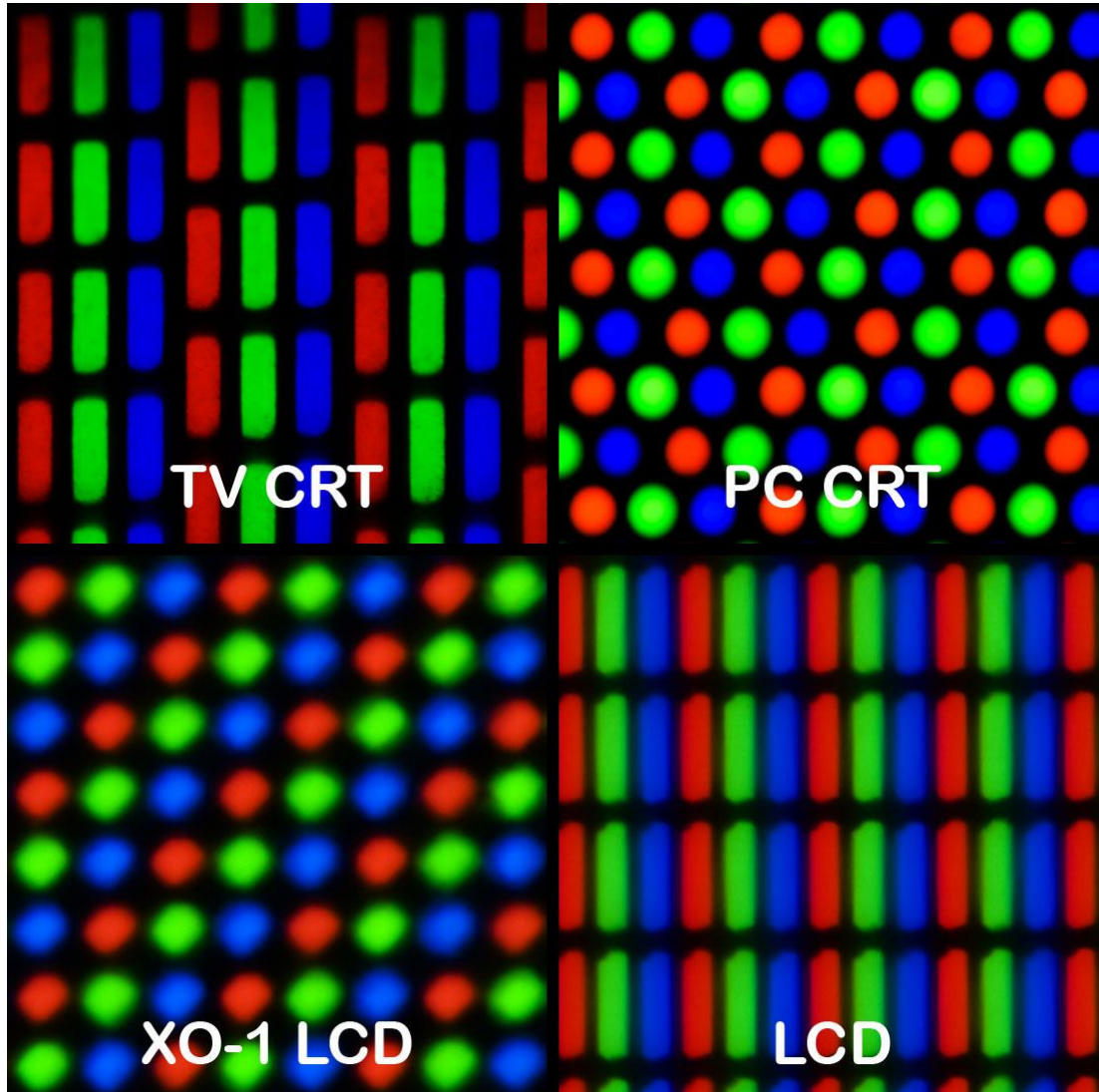
Lithography (Offset printing) and Photography



InkJet and LED displays/projectors



Technology dependence

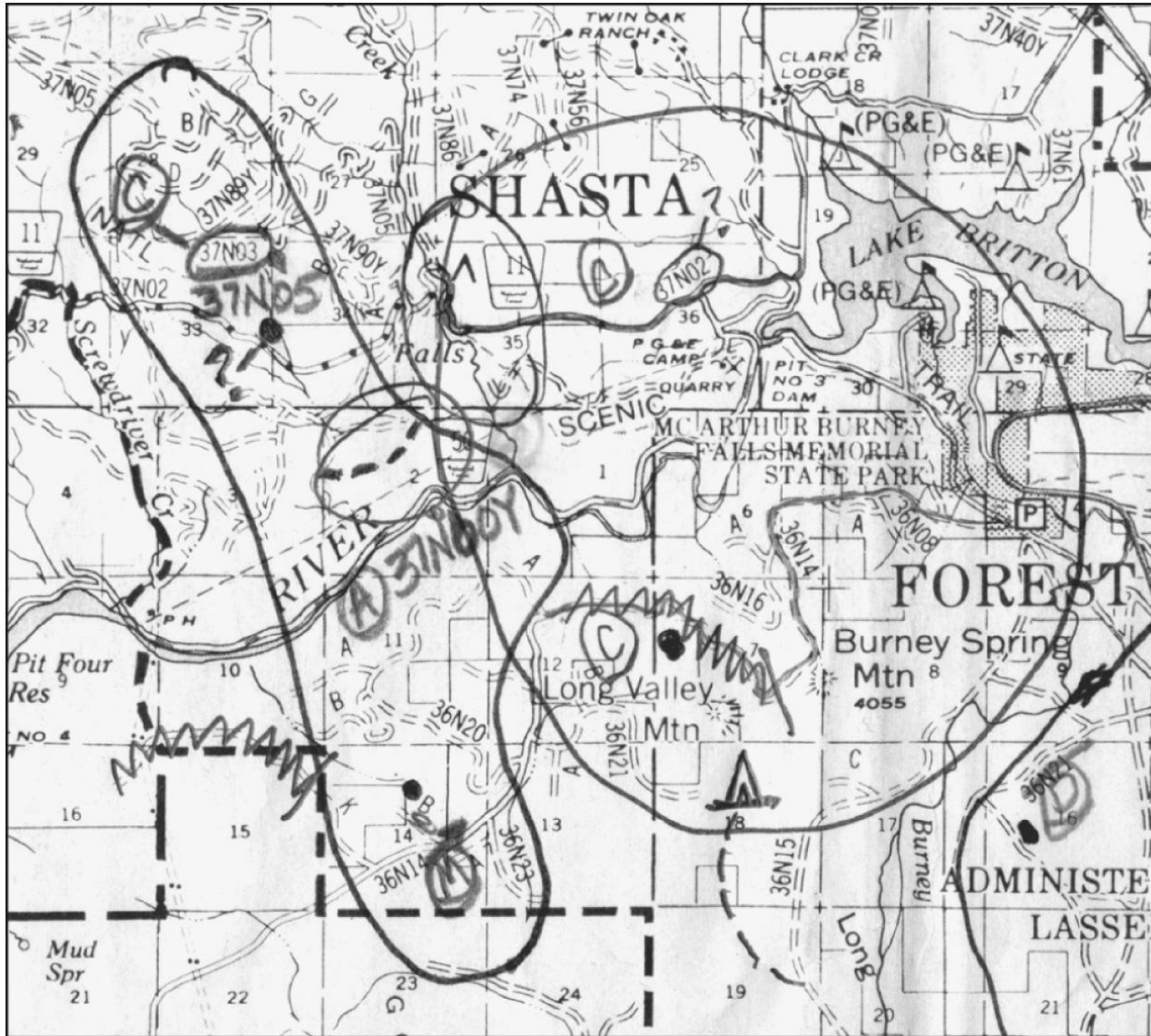


Dissemination

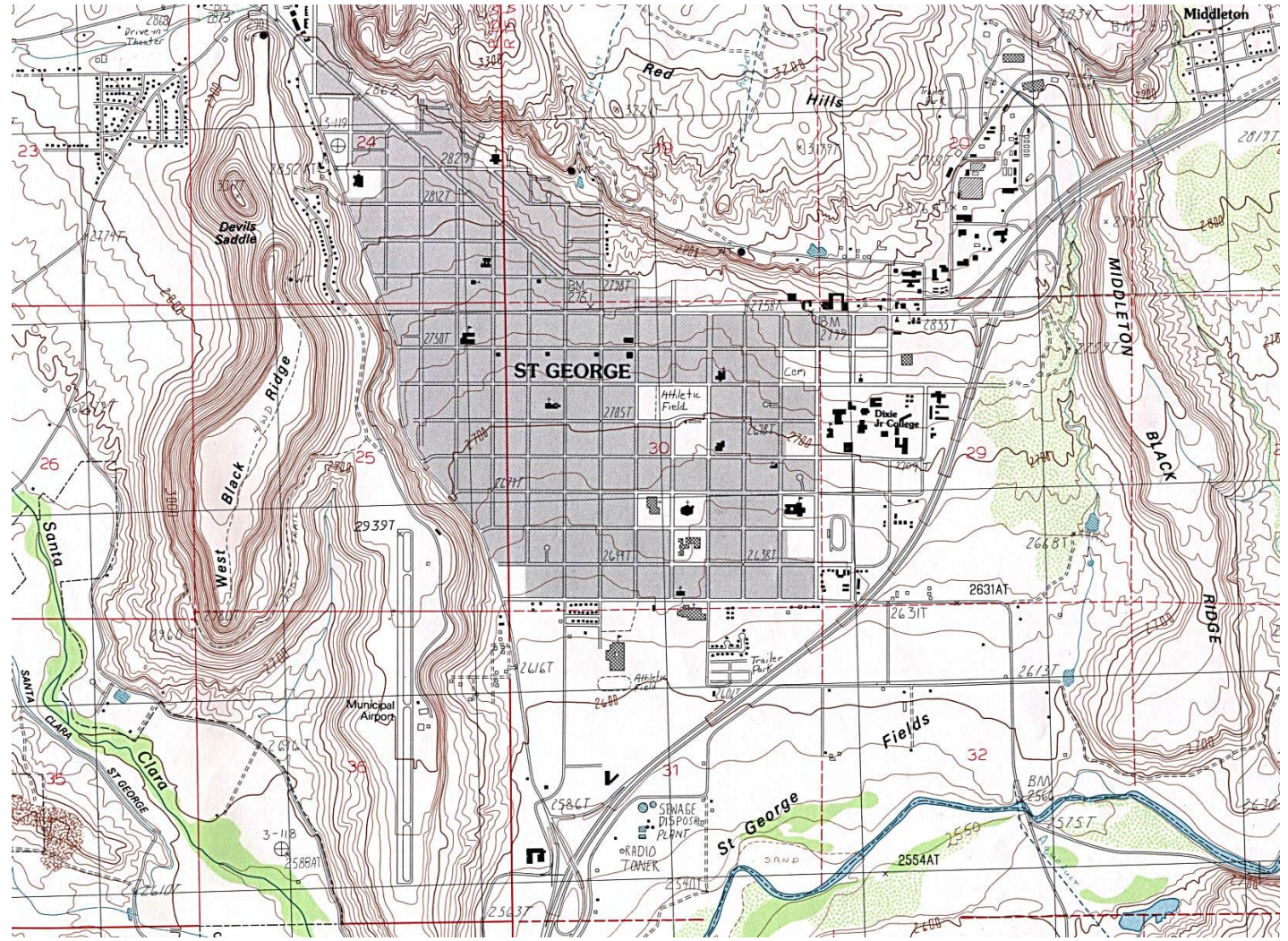
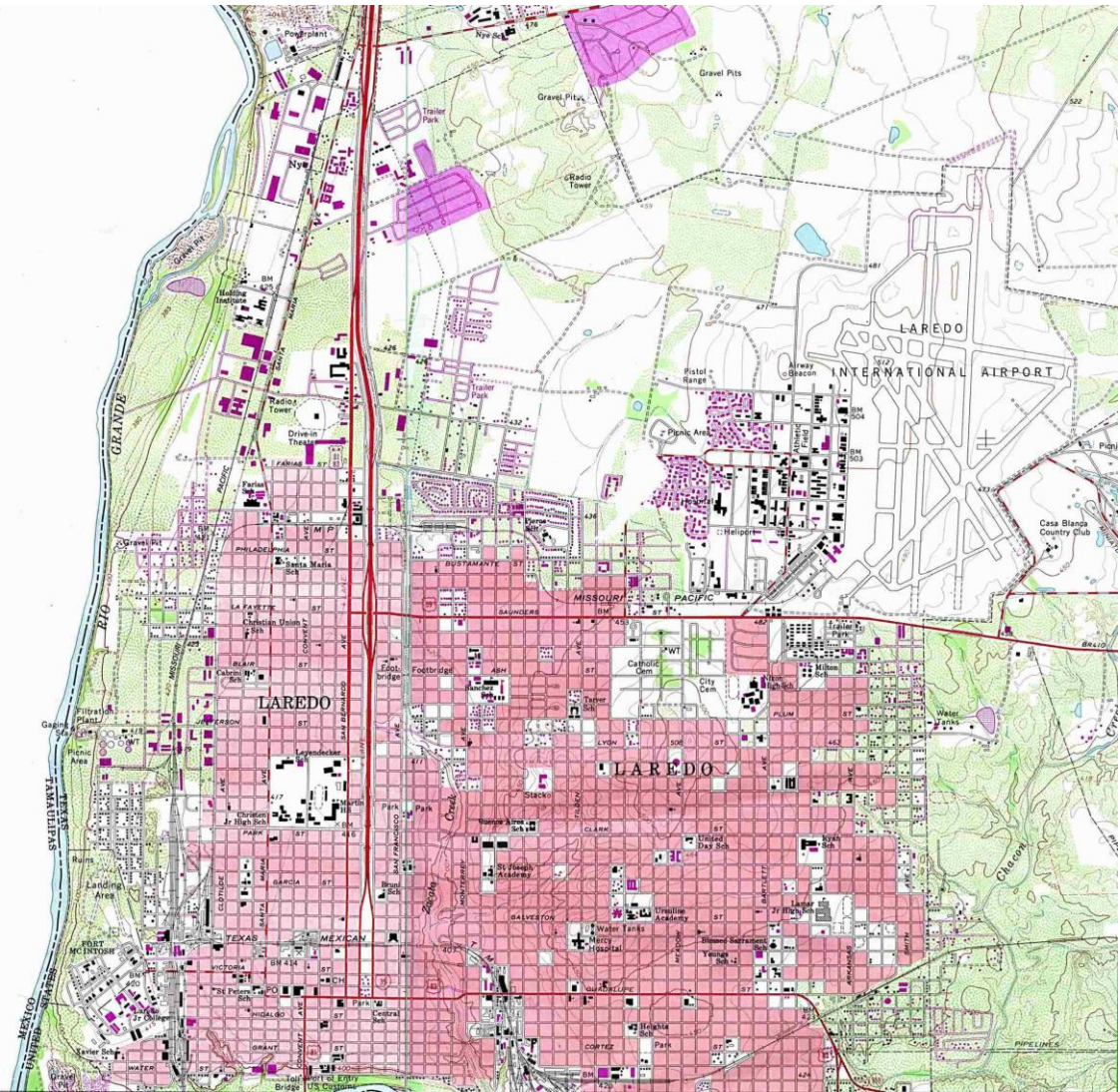
- Print for sales
- Print for other media, books, magazines, newspapers
- Often required continuous series and coverage
- Massive update problem
- Most maps sat unused (but lasted well)
- Atlas moved to digital then web
- Web mapping uses blogs, newsfeeds, social media, twitter, etc for dissemination
- Map providers now online powerhouses, Google, Here, Bing, Apple



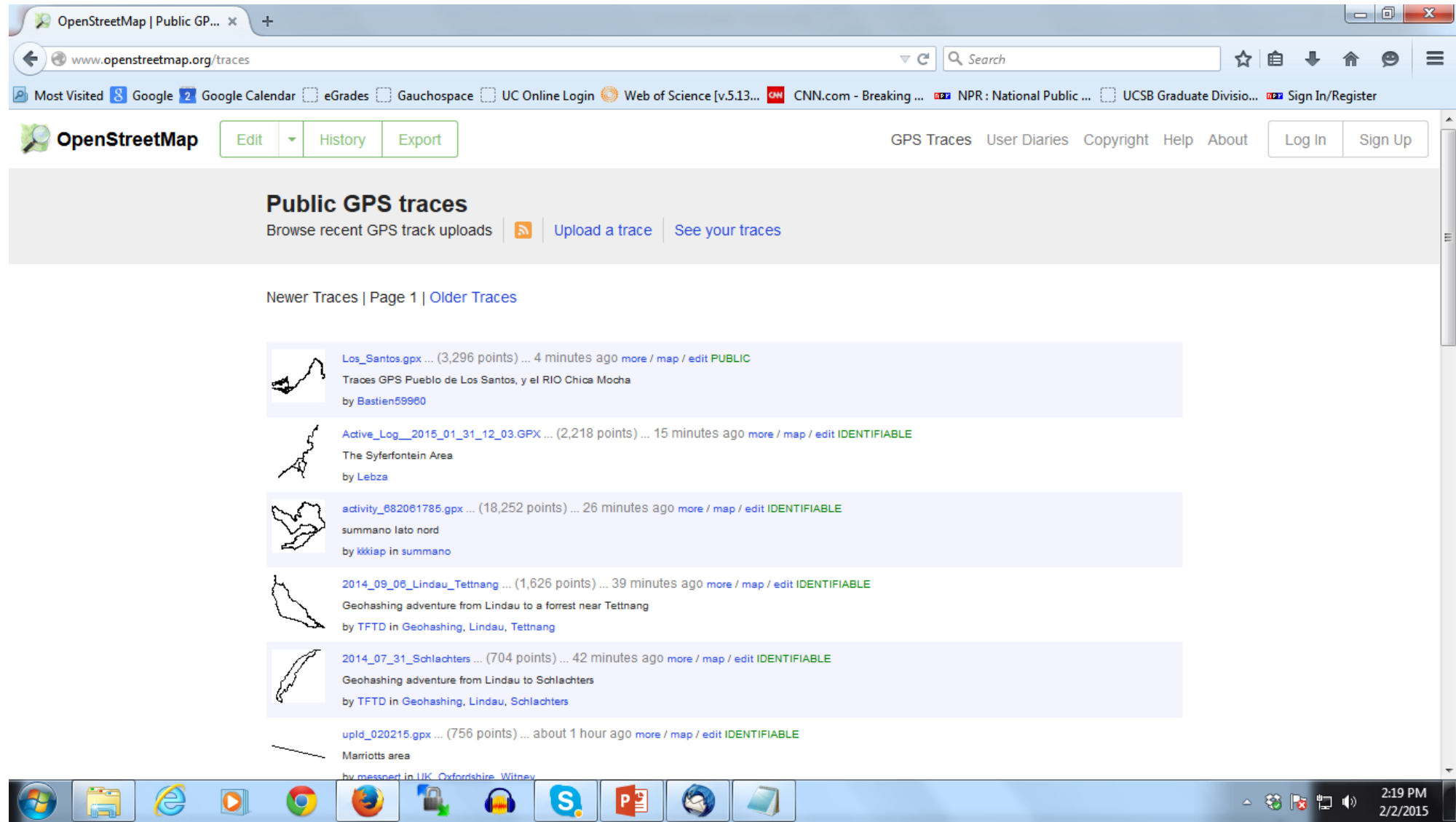
Map editing



Revision with images and provisional line maps



Revision to OpenStreetMap




The screenshot shows a web browser window with the URL www.openstreetmap.org/traces. The page title is "Public GPS traces". The navigation bar includes "Edit", "History", and "Export" buttons, along with links for "GPS Traces", "User Diaries", "Copyright", "Help", "About", "Log In", and "Sign Up".

The main content area displays a list of recent GPS traces. The first trace is titled "Los_Santos.gpx ..." (3,296 points) ... 4 minutes ago more / map / edit PUBLIC. The description is "Traces GPS Pueblo de Los Santos, y el RIO Chica Mocha" by Bastien59960. The second trace is "Active_Log__2015_01_31_12_03.GPX ..." (2,218 points) ... 15 minutes ago more / map / edit IDENTIFIABLE, titled "The Syferfontein Area" by Lebza. The third trace is "activity_682061785.gpx ..." (18,252 points) ... 26 minutes ago more / map / edit IDENTIFIABLE, titled "summano lato nord" by kxiap in summano. The fourth trace is "2014_09_06_Lindau_Tettng ..." (1,626 points) ... 39 minutes ago more / map / edit IDENTIFIABLE, titled "Geohashing adventure from Lindau to a forrest near Tettng" by TFTD in Geohashing, Lindau, Tettng. The fifth trace is "2014_07_31_Schlachters ..." (704 points) ... 42 minutes ago more / map / edit IDENTIFIABLE, titled "Geohashing adventure from Lindau to Schlachters" by TFTD in Geohashing, Lindau, Schlachters. The sixth trace is "upId_020215.gpx ..." (756 points) ... about 1 hour ago more / map / edit IDENTIFIABLE, titled "Marriotts area" by messor in UK, Oxfordshire, Witnev.

The Windows taskbar at the bottom shows the system clock as 2:19 PM on 2/2/2015, along with icons for various applications and system utilities.

OSM map parties

Let's put Beirut on the Map! OpenStreetMap.org 

Hamra/AUB sector
Saturday 29 August at 11:00 am

historic monument
name:en Clock Tower
name:ar الساعة


amenity embassy
country:it
name:en Embassy of Italy
name:it Ambasciata d'Italia
name:ar سفارة إيطاليا

highway residential
junction roundabout
oneway yes

highway residential
name:en de la mosquée El-Omari
name:ar شارع الجامع العمري

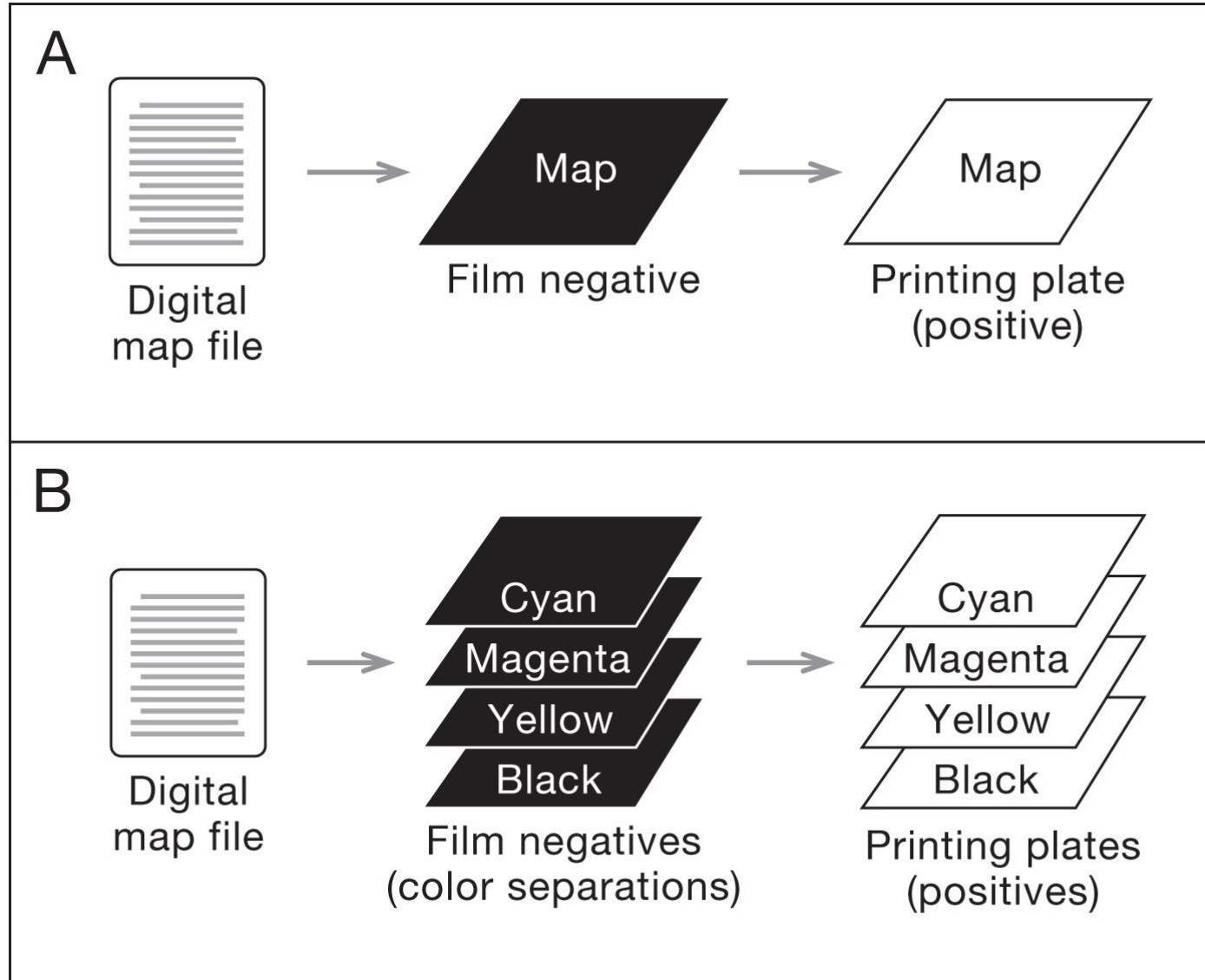
Original photo by Soheil Serrag. Design by Michel Barham

It's fun. It's free. You can help. Check tr.im/mapbeirut

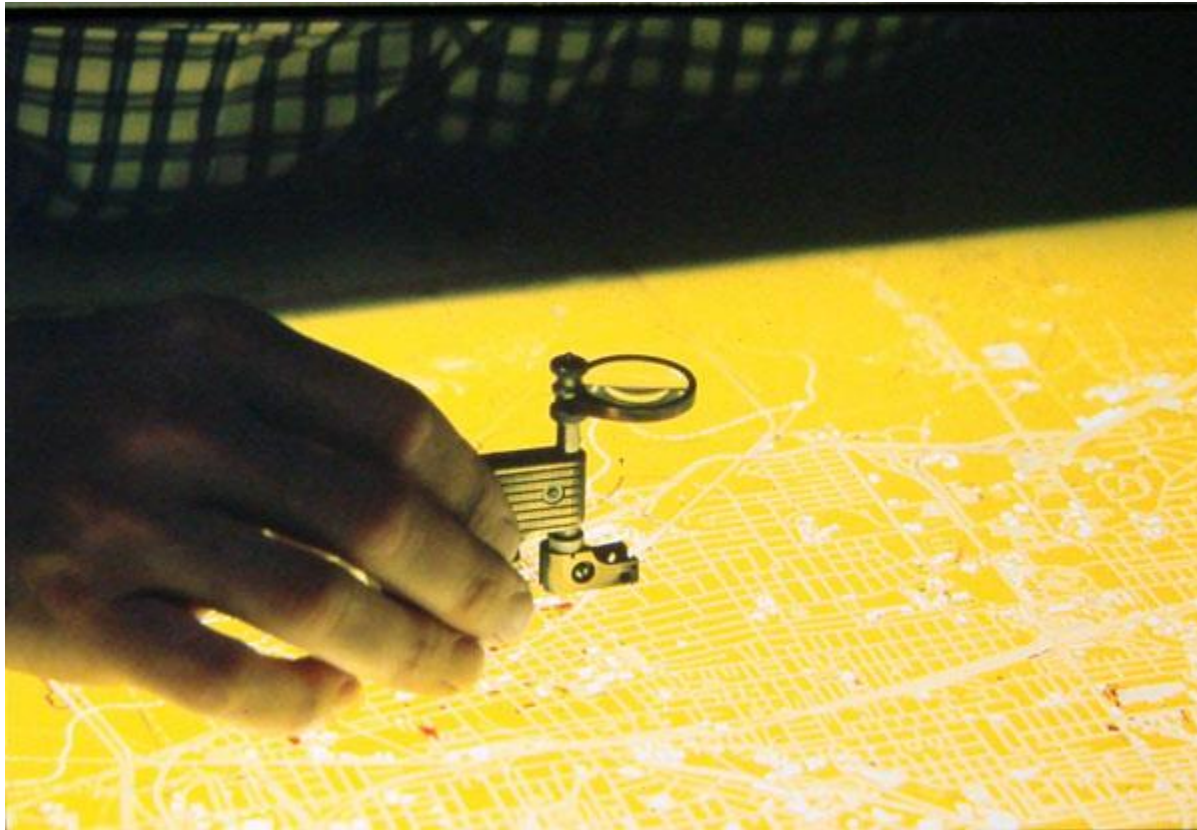
Sponsored by  social media exchange



Separations



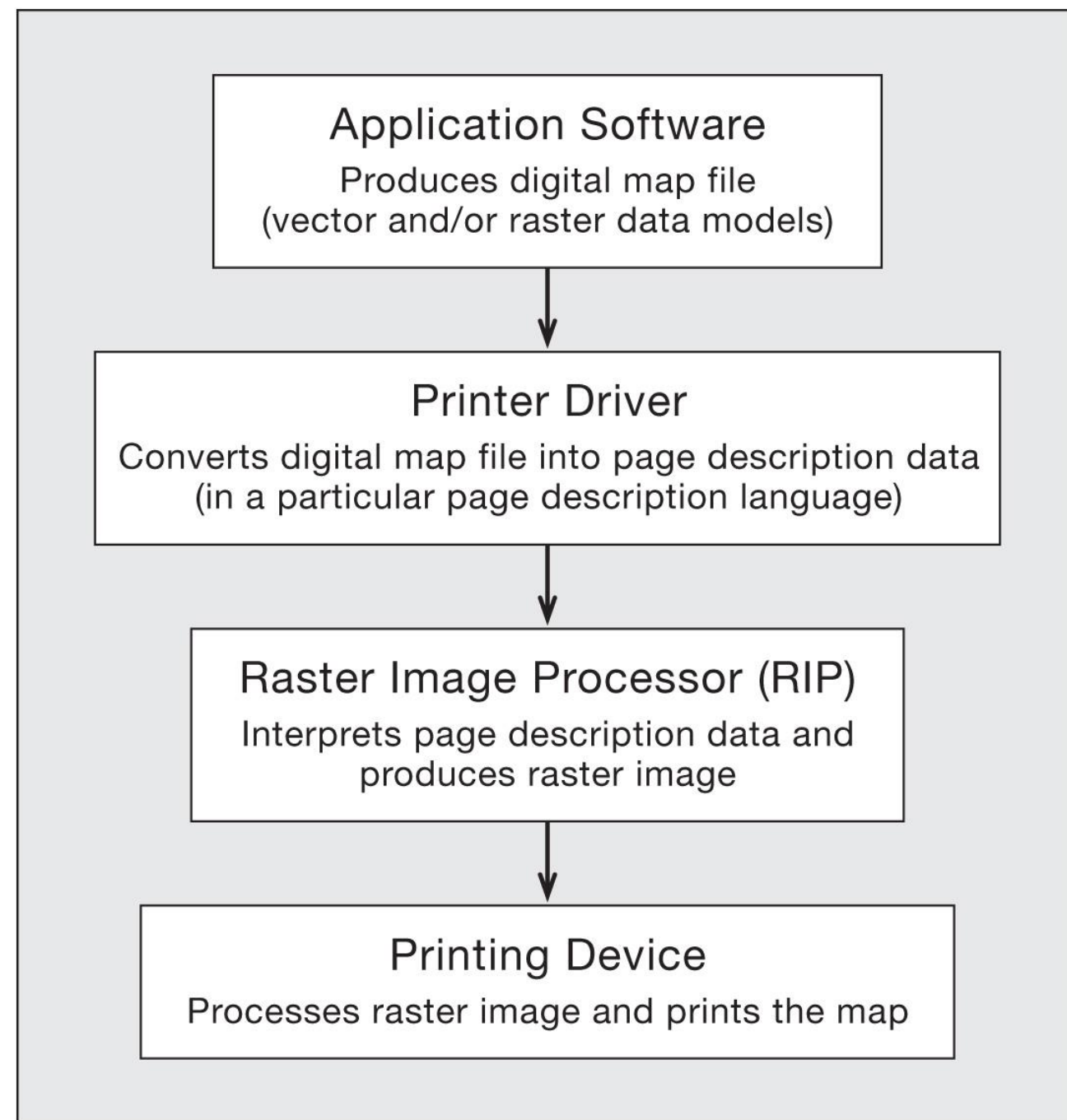
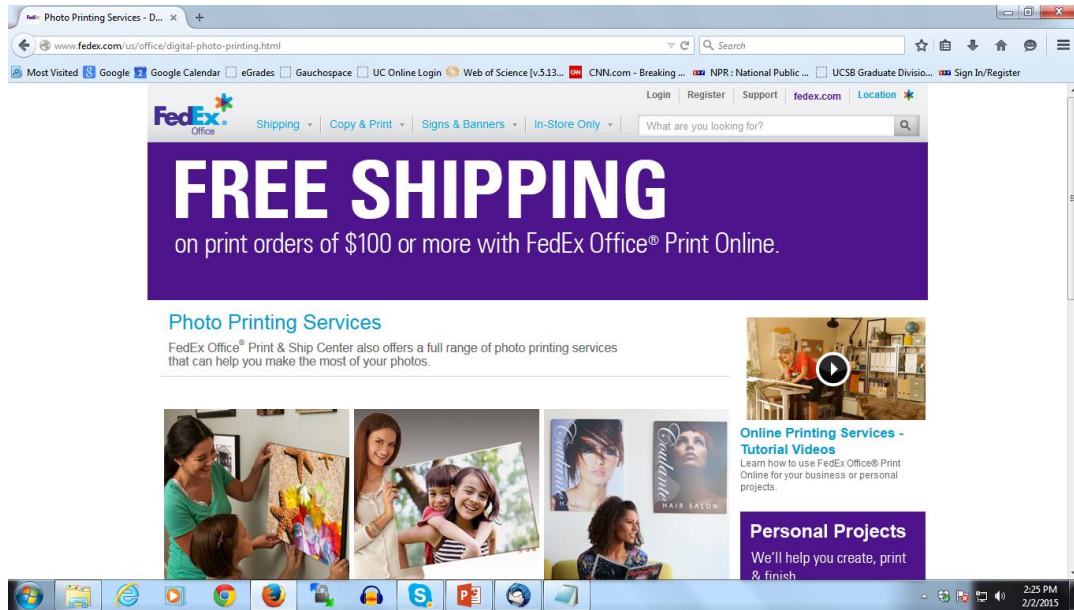
Mylar map separates--Scribing



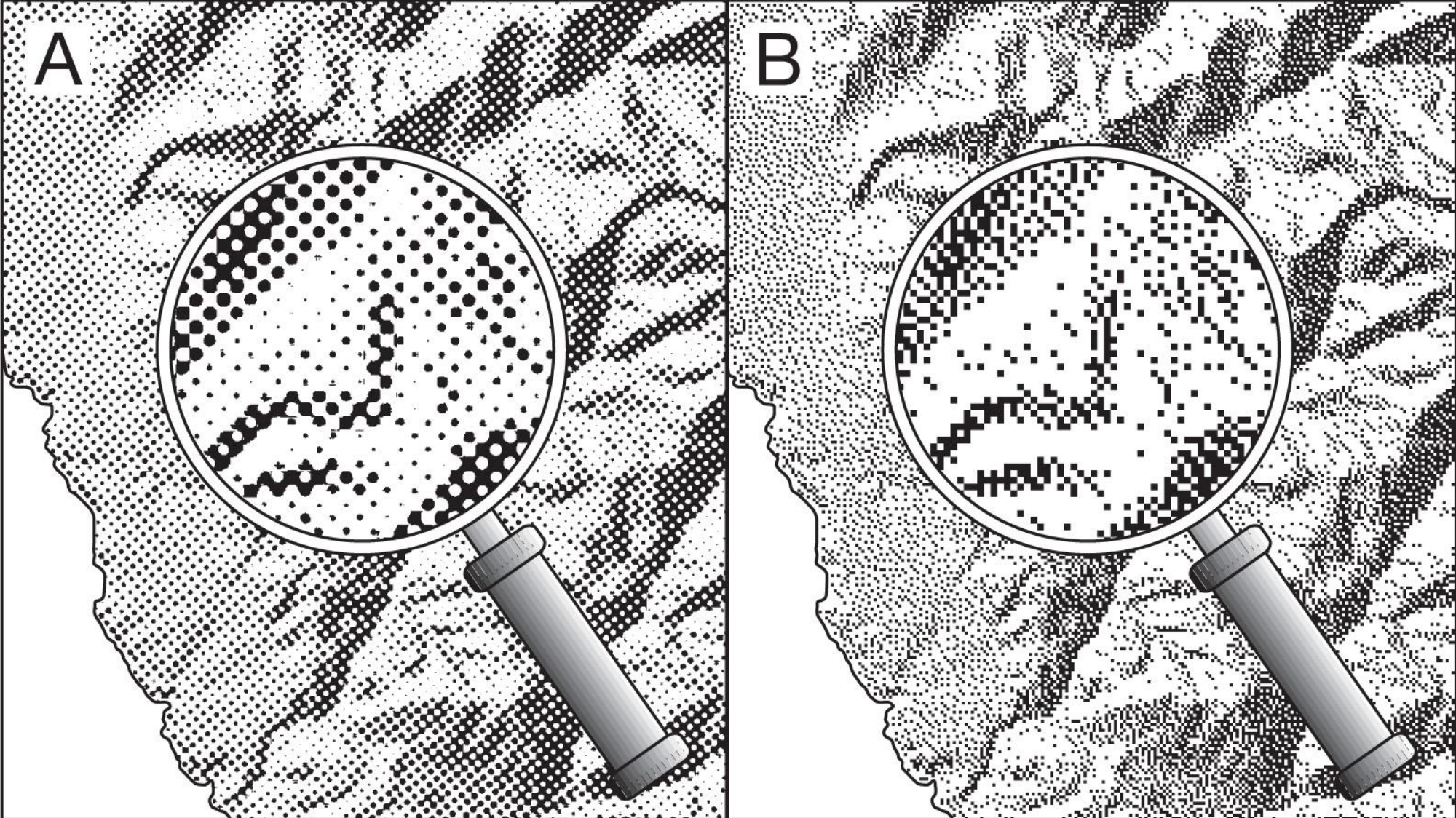
Dymo LetraTag LT-100T - DY-1733013



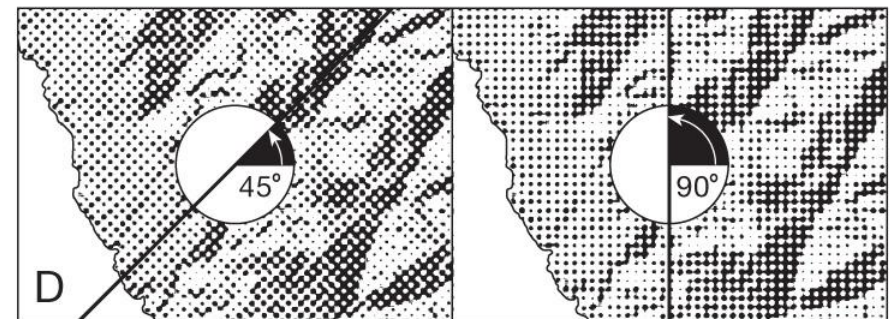
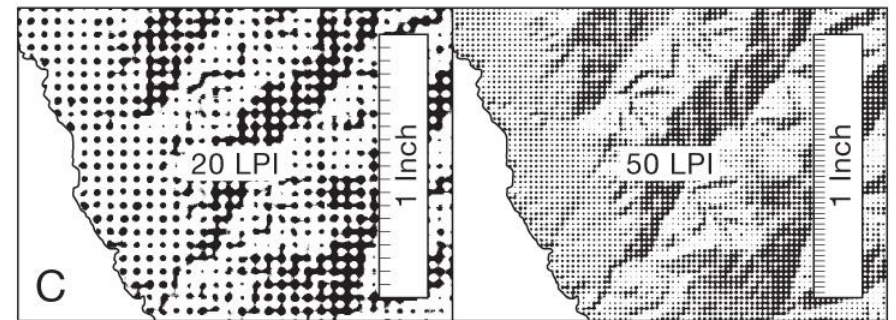
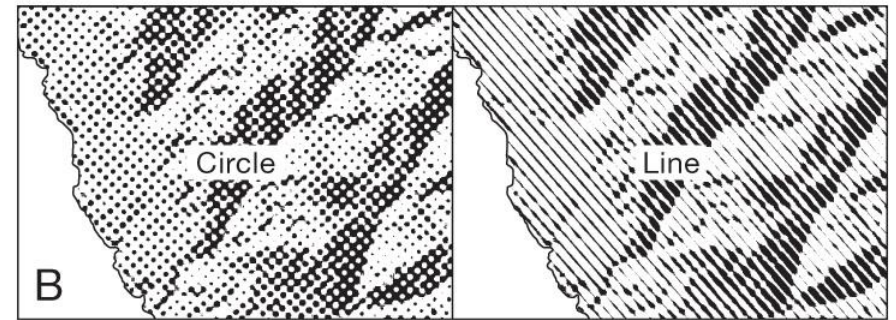
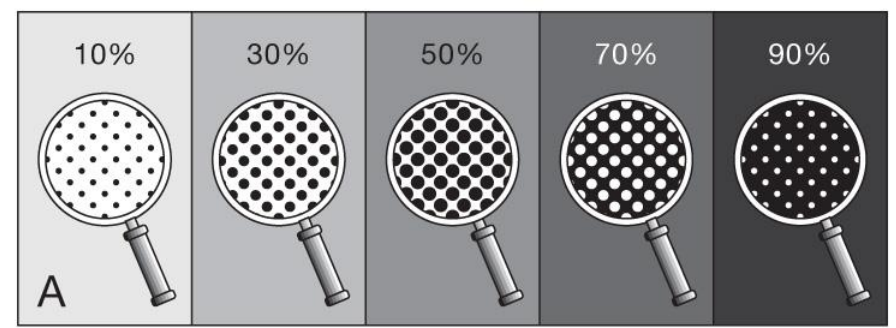
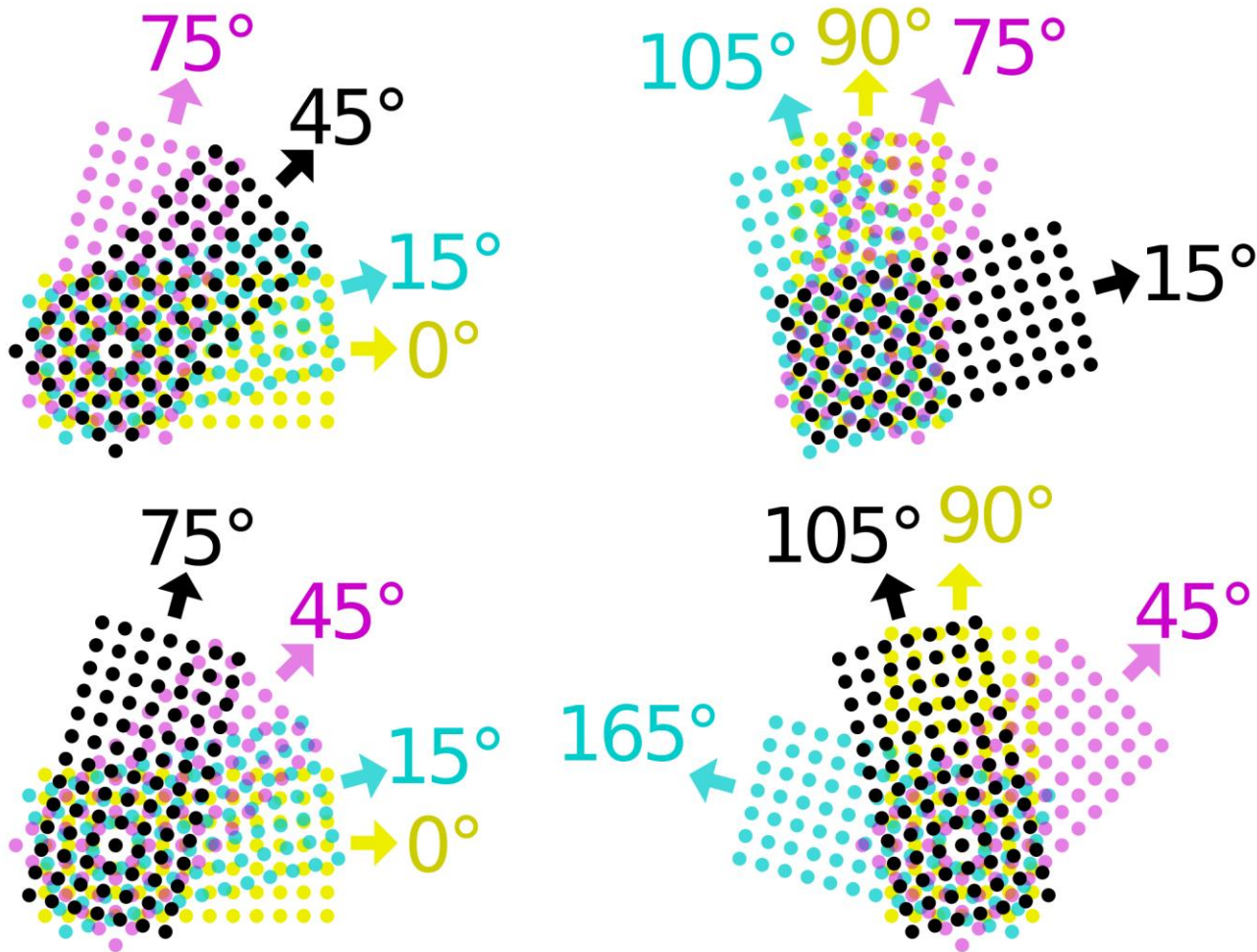
Mass reproduction

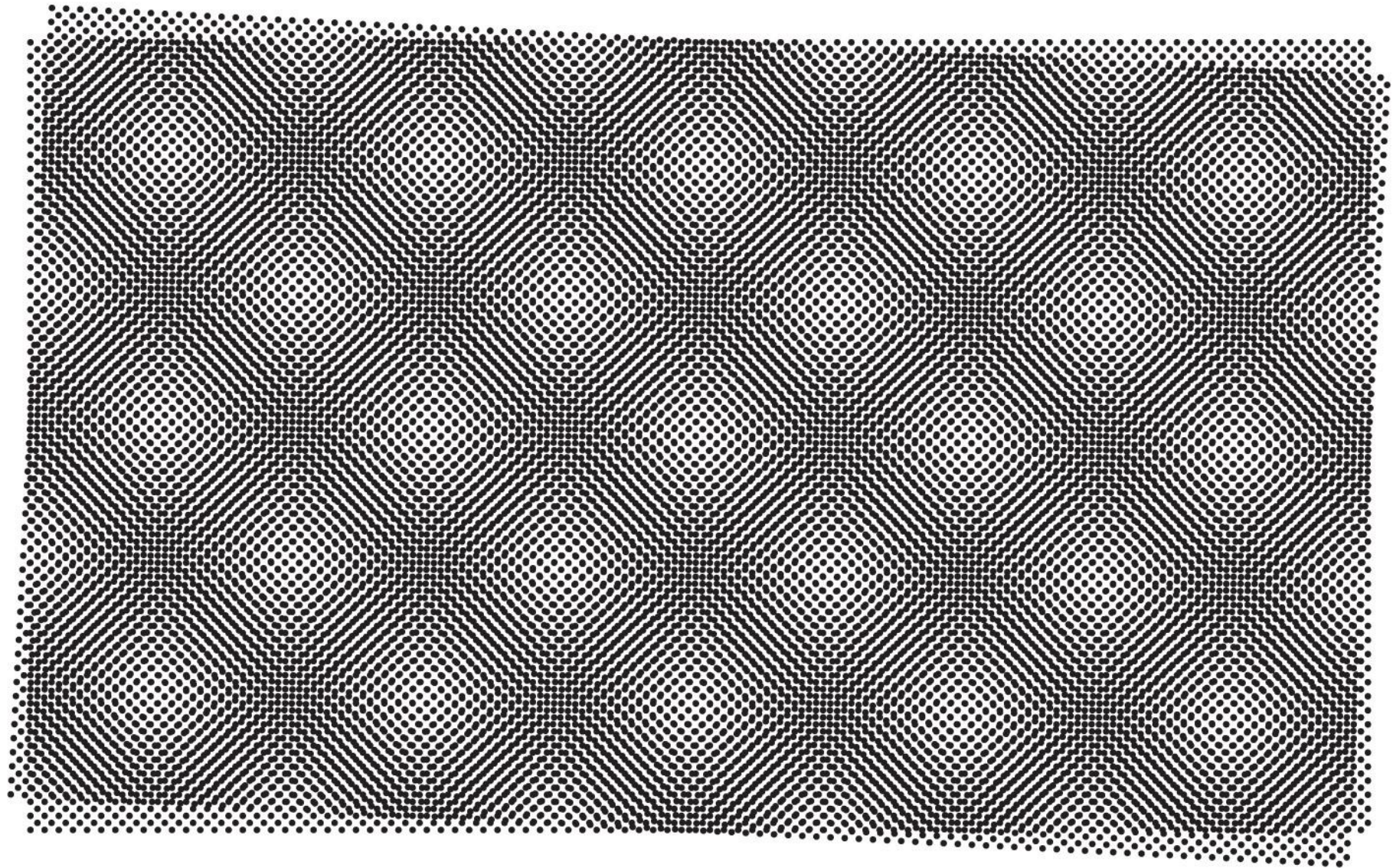


Dot screening



Density, screening





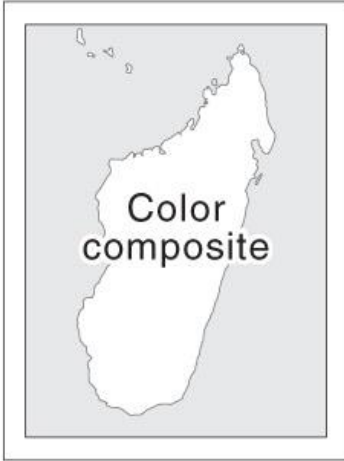
Pantone



Proofs

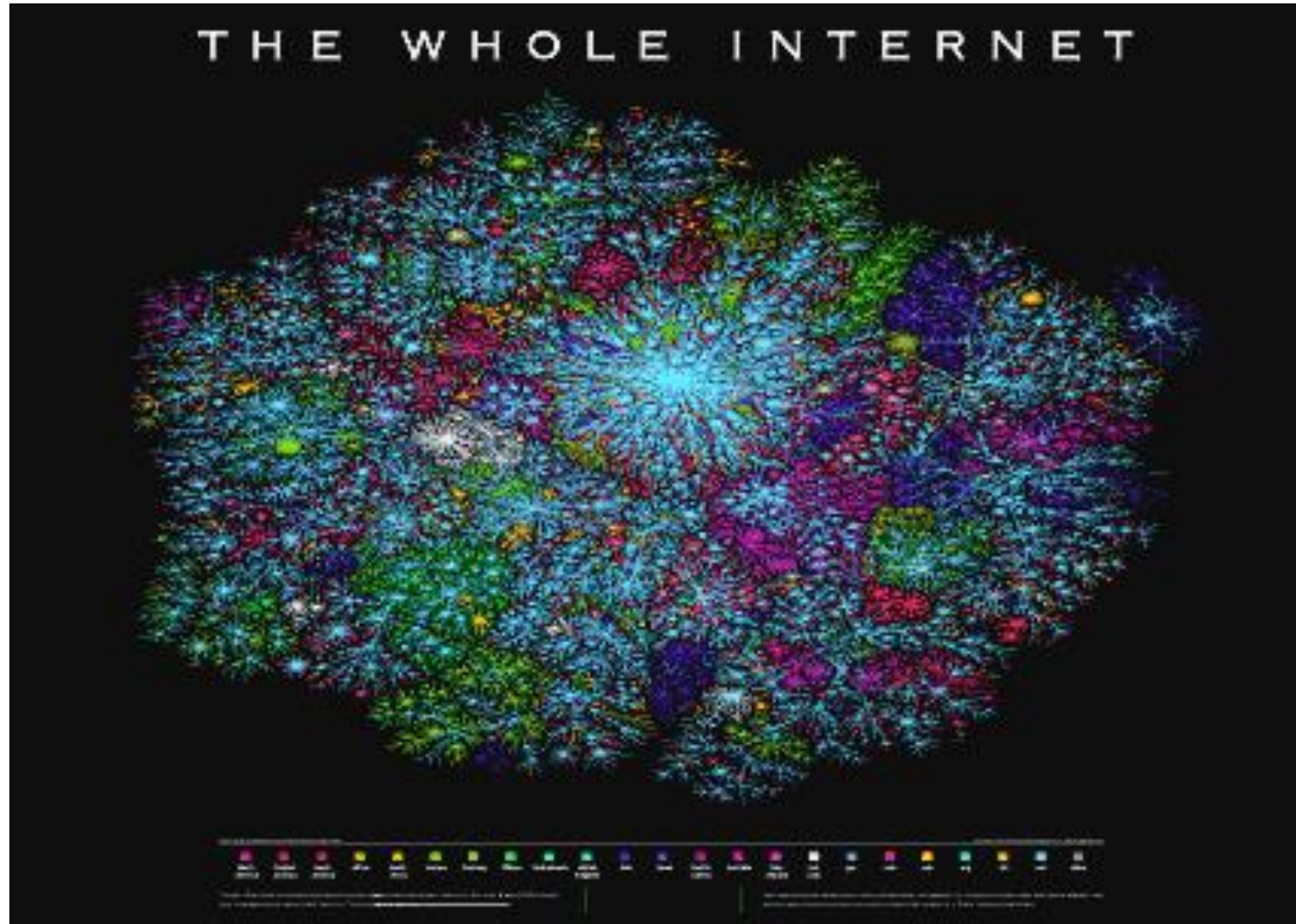


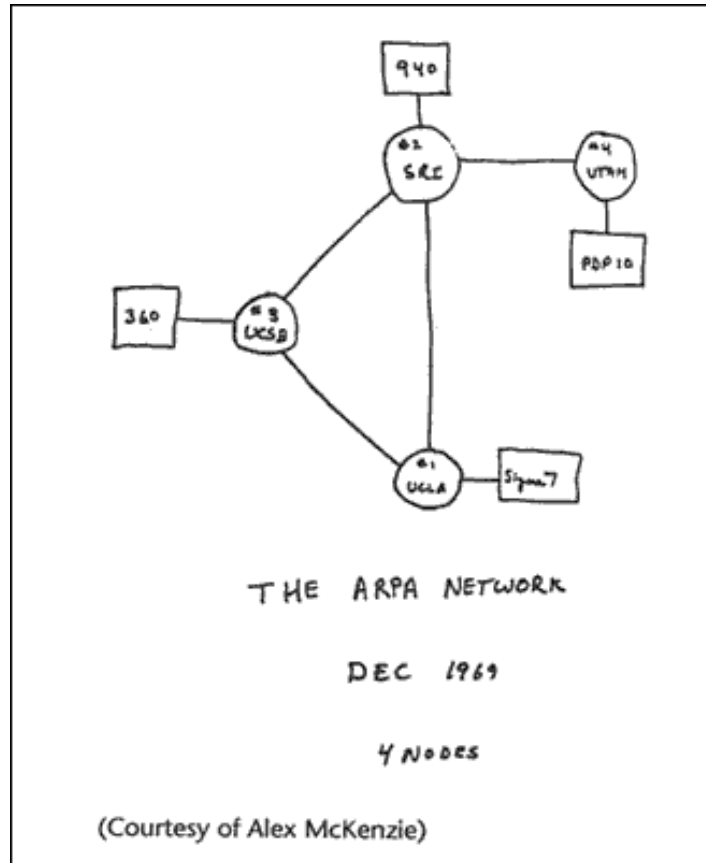
← Digital Proofs → ← Separation-Based Proofs →



Lowest ← Cost and Quality → Highest

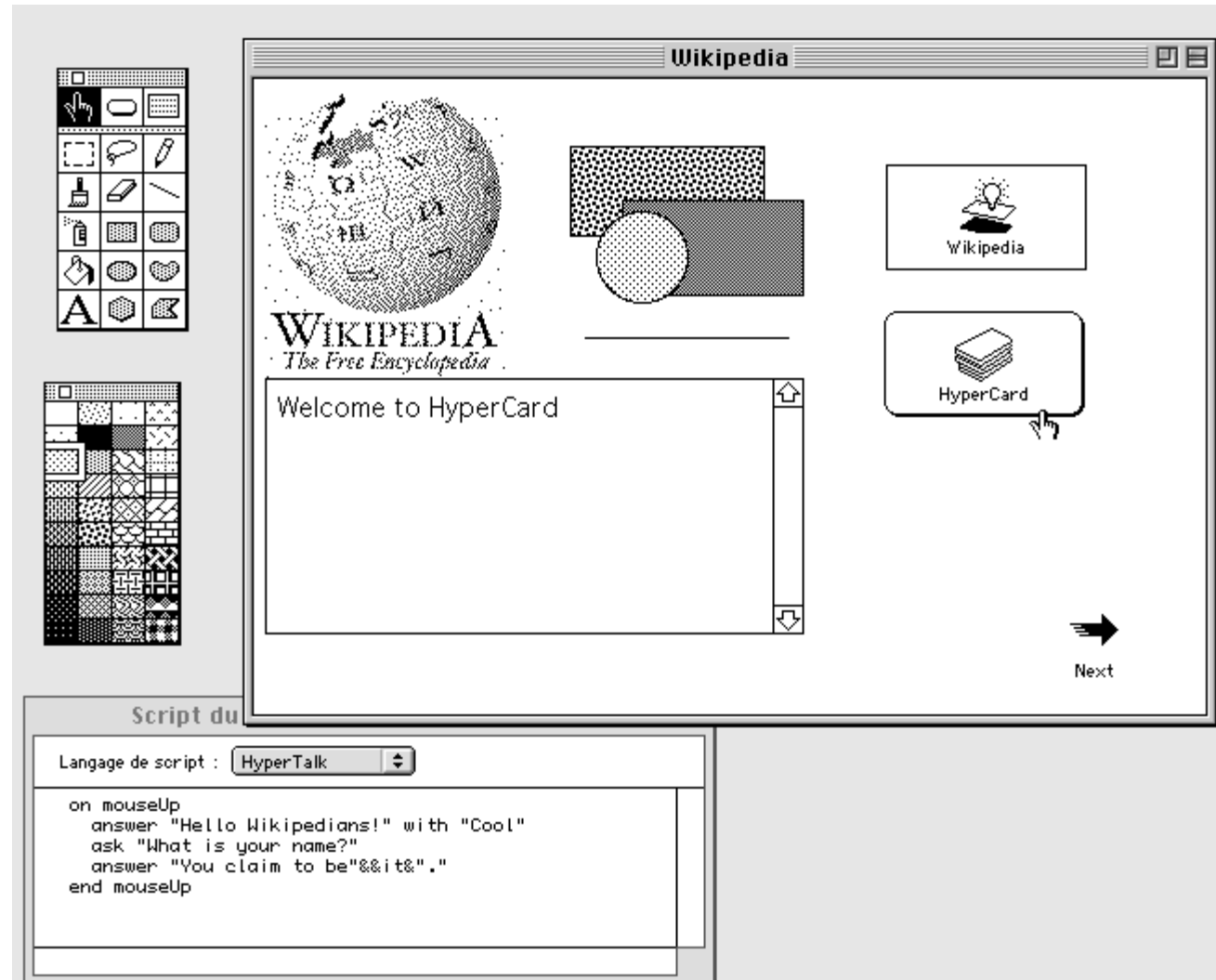
Enter the Internet





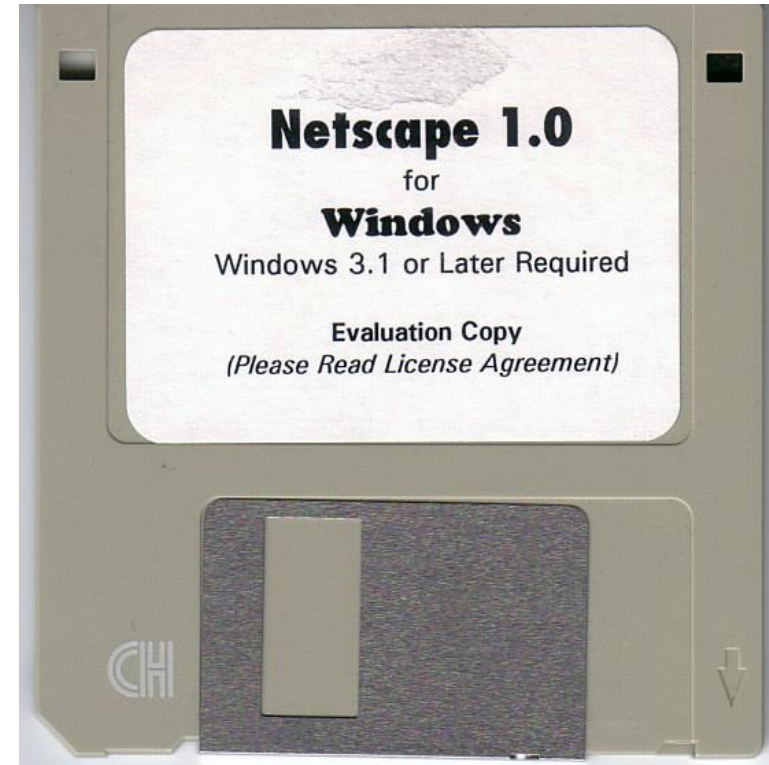
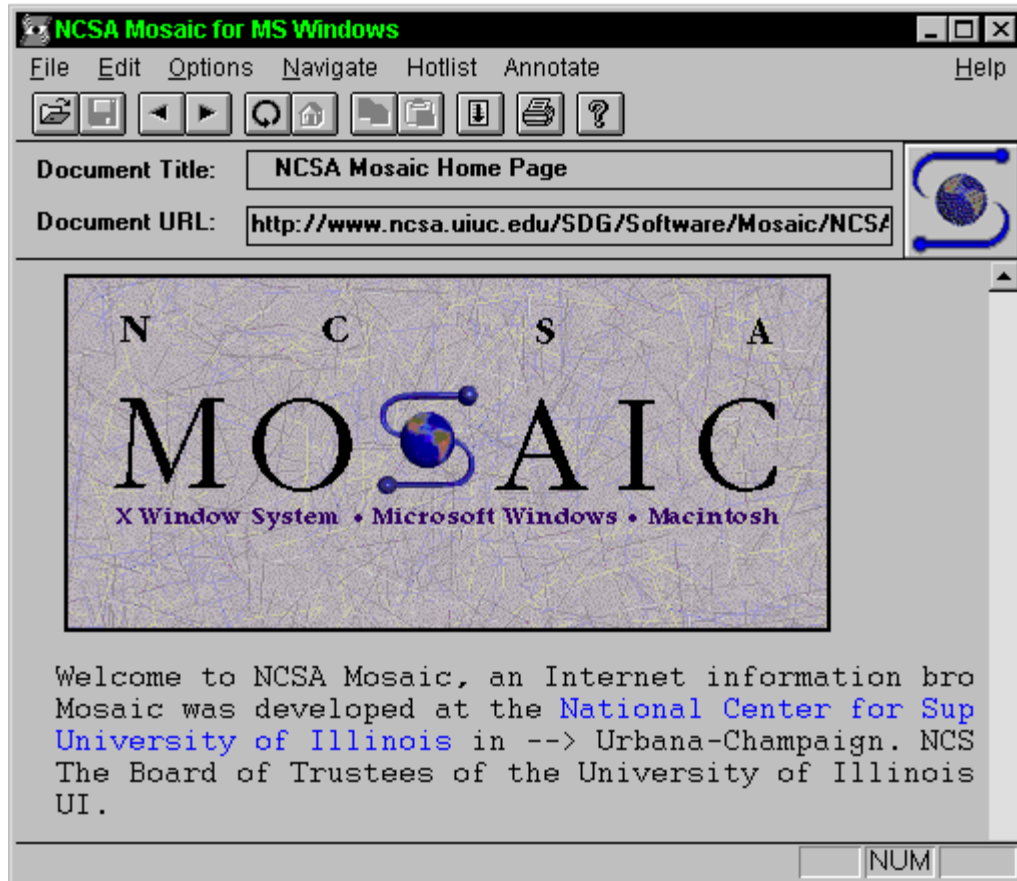
Leonard Kleinrock demonstrates how the first Internet communication was made with the help of an Interface Message Processor machine at his office at the UCLA Computer Science Department in Los Angeles 1969

Apple's Hypercard "Stacks"

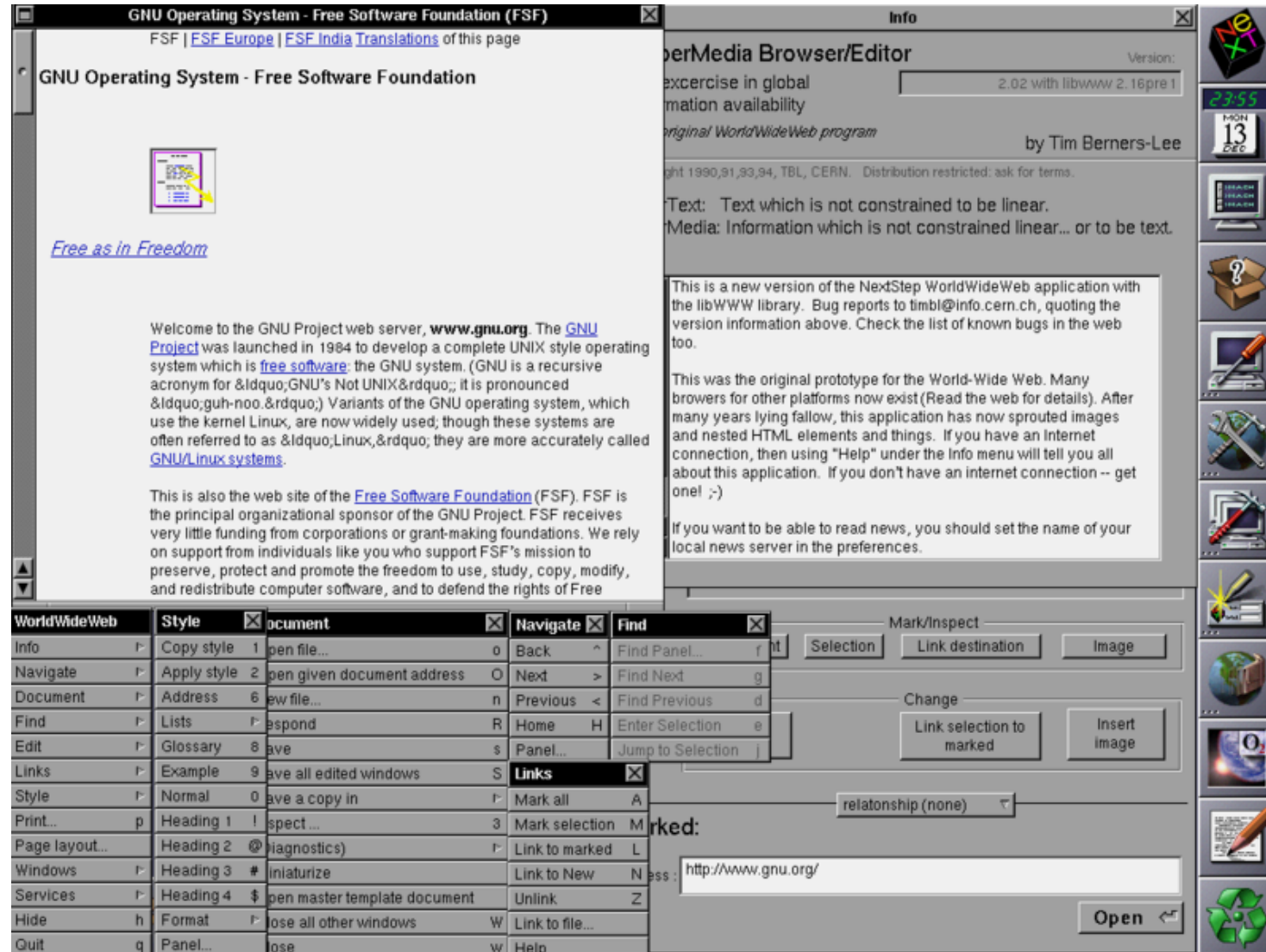


Arrival of the Browsers

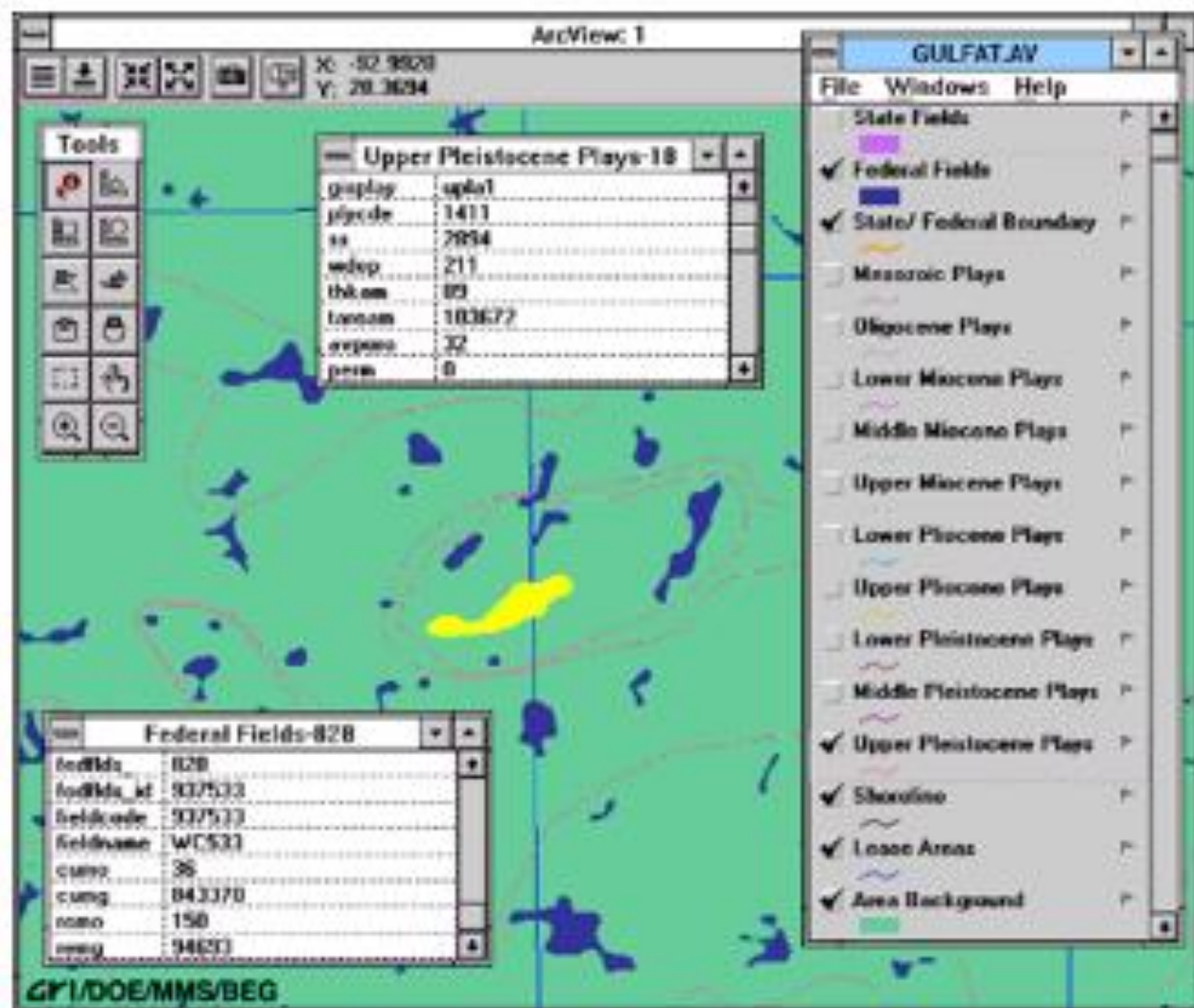
From Computer Desktop Encyclopedia
Reproduced with permission.
© 2004 National Center for Supercomputing Applications



WorldWideWeb for NeXT (1991)

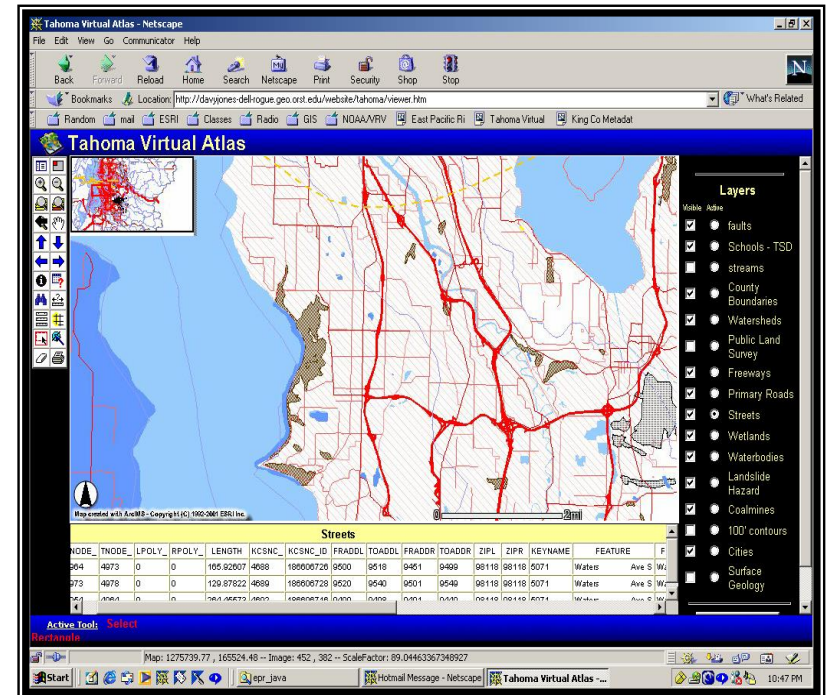


ArcView 1.0 1995



Arc Internet Map Server (ArcIMS)

- Advanced web GIS
- Product of ESRI
- Simplified ArcView
 - Basic GIS functions
- Single interface
- Uses ArcView Shapefiles
- June 2000



Software Mash-Ups

Homicide map - Homicide Report - Los Angel... +

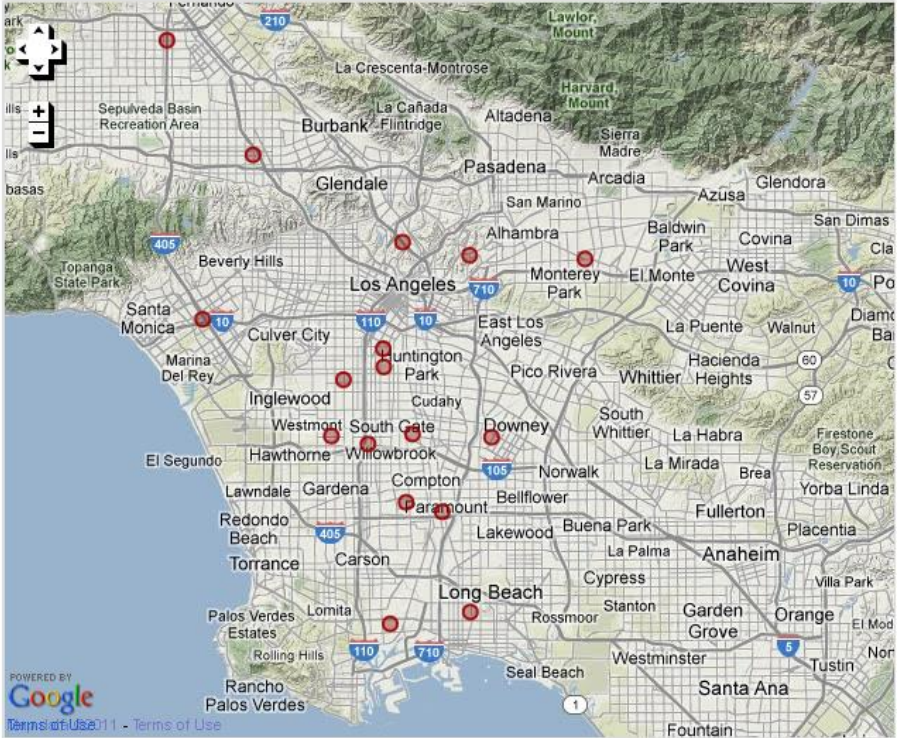
projects.latimes.com/homicide/map/

The Homicide Report

THE TIMES CHRONICLES L.A. COUNTY HOMICIDE VICTIMS

Showing 24 homicides from Jan. 1, 2012 to Jan. 15, 2012

Current view: 2012



Map showing homicide locations in Los Angeles County, California. The map is powered by Google and shows various cities and areas, including Burbank, Pasadena, Los Angeles, Long Beach, and Anaheim. Red dots indicate the locations of homicides.

Name	Age	Date
Gerardo Fernandez	20	1/8/12
Hector Hernandez	42	1/8/12
Alberto Cruz	38	1/7/12
Juan Nunez	34	1/7/12
Mark Miles	48	1/6/12
Jeff Pouncil Jr.	19	1/5/12
Richard Hughes	38	1/5/12
Jane Doe #1	0	1/4/12
Jazmyne Eng	40	1/4/12
Calvin Milner	62	1/3/12
Asia Sonnier	23	1/3/12
David Morales Jr.	18	1/3/12
Jimmie Jackson Jr.	21	1/2/12

Powered by Google
Terms of Use 2011 - Terms of Use

Homicides are grouped based on number of homicides in an area. Click a group to zoom there.

[View the complete list »](#)

Enter the GeoBrowser

- Google Local 2004-5
- Data “Portals”
- Data “Clearinghouses”
- NSDI -> GSDI
- Open APIs
- Discoverable data (Linked data)

Basic KML

```
<?xml version="1.0" encoding="UTF-8"?>
  <kml
    xmlns="http://earth.google.com/kml/2.2">
    <Placemark>
      <name>Simple placemark</name>
      <description>Attached to the ground.
      Intelligently places itself at the height
      of the underlying terrain.</description>
      <Point>
        <coordinates>
          -122.0822035425683,37.42228990140251,0
        </coordinates>
      </Point>
    </Placemark>
  </kml>
```



Web mapping

- Components
 - Server
 - User
 - Mapper
 - API/Software tools
 - Publishing tools
- Bonus
 - Interaction
 - Animation
 - Real time update
 - Full color and transparency support
 - Open, free, mobile

Linus' Law: Open Source code development

“Given enough eyeballs, all bugs
are shallow.”

Open Source GIS

- Basis in standards: OGC critical, but others e.g. GeoVRML, X11, GeoPDF, GeoJSON
- Includes code level tools, scripts, libraries, and utilities
- Clearinghouses for information: e.g. opensource.org
- Support fora, wikis, lists, etc
- Whole GIS systems e.g. GRASS, QGIS
- Whole web-based services e.g. MapServer, PostGIS

Sample code libraries

- cgal.org: CGAL Open Source Project to provide easy access to efficient and reliable geometric algorithms in the form of a C++ library
- OGR: Simple features library, C++ open source library (and command line tools) providing R/W access to vector file formats
- GEOS: Geometry Engine - Open Source, C++ port of the Java Topology Suite (JTS)

HTML: Extend with GML, SVG, PHP, JavaScript

Geog183Syllabus

www.geog.ucsb.edu/~kclarke/Geography183/Geog183.html

Apps Google Breaking News, U.S. Google Calendar Web of Science [v.5.1] The New GauchoSpace Course Login | Online eGrades ScholarOne Manuscript

GEOG 183
Cartographic Design and Geovisualization

POPULAR VOTE
Winner's Percentage by County*

DEMOCRATIC (Blue) 30% and over
REPUBLICAN (Red) 70%--75.0%
under 50%

TOTAL: 128,964,064

*** [Link here to student Assignments](#) ***

Class meets M W 3:30- 4:45 ELLSN 2620

When	What	Listen	Read
March 28th	Lecture 1: Scope of the class-- GIMP and Inkscape fundamentals	No Video	Read Manual Entries
March 30th	Lecture 2: The human vision system: vision, perception, cognition and behavior	Lecture Video here	Lecture Notes
April 4th	Lecture 3: Thematic cartography, geovisualization and visual analytics	Lecture Video here	Slocum Chapters 1, 2
April 6th	Lecture 4: A brief history of information graphics	Lecture Video here	Slocum Chapter 3
April 11th	Lecture 5: Choropleth and bivariate maps and classification	Lecture Video here	Slocum Chapters 4, 13, 18
April 13th	Lecture 6: Map types and Data types	Lecture Video here	Slocum Chapter 5
April 18th	Lecture 7: Color and its use	Lecture Video here	Slocum Chapter 10
April 20th	Lecture 8: Toponymy, typography and map text	Lecture Audio here	Slocum Chapter 11
April 25th	Lecture 9: Principles of map design	Lecture Video	Slocum Chapter

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
  <head>...</head>
  <body>
    <dd>...</dd>
    <dd>...</dd>
  </body>
</html>
```

html body

Styles Event Listeners DOM Breakpoints Properties

Filter + .cls

```
element.style {
}
body {
  display: block;
  margin: 8px;
}
```

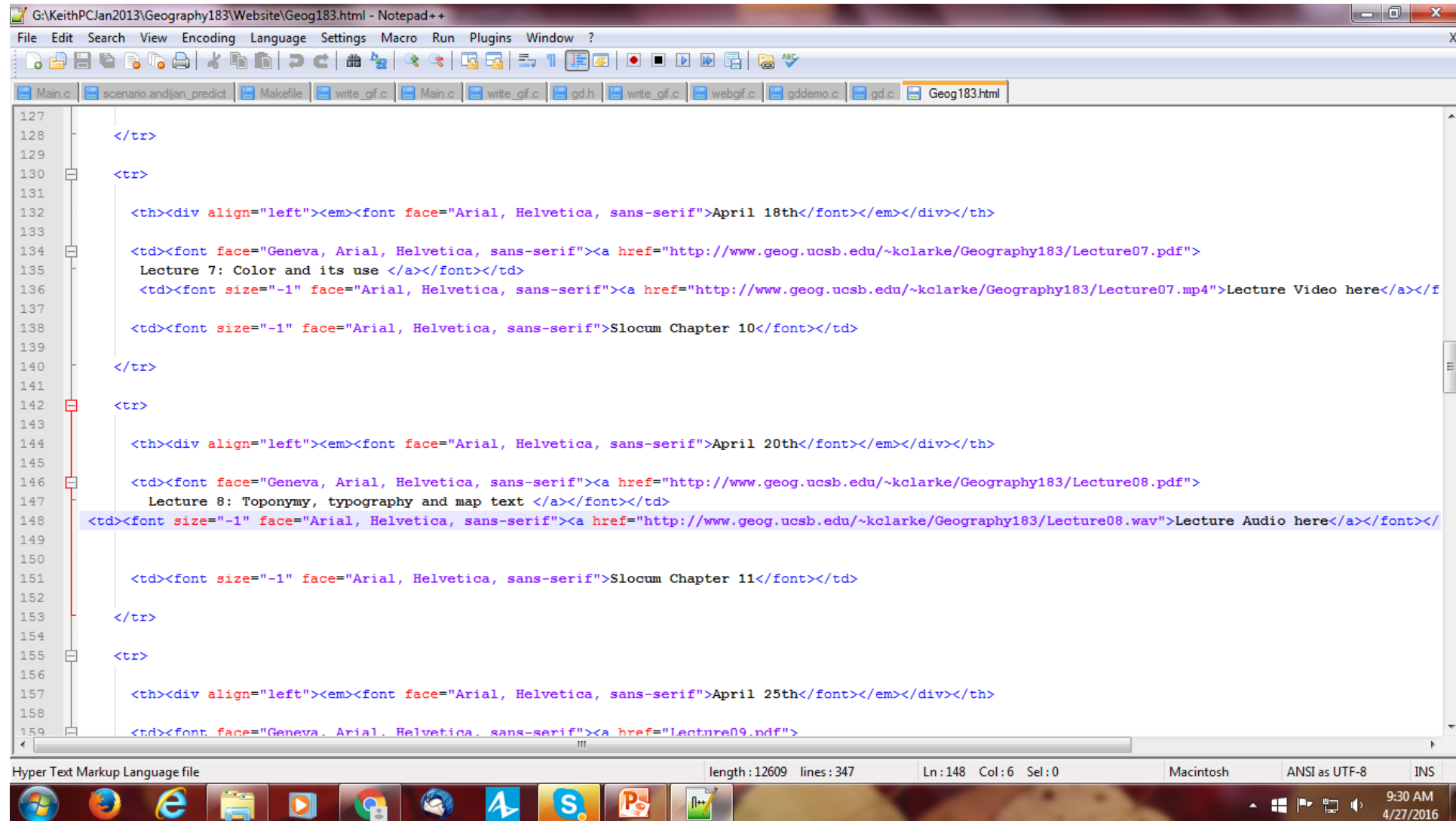
margin 8
border -
padding -
769 x 1239
margin-bottom 8px

Filter Show all

```
display: block;
height: 1239px;
margin-bottom: 8px;
```

9:29 AM
4/27/2016

Link to video, etc



```
127
128     </tr>
129
130     <tr>
131
132         <th><div align="left"><em><font face="Arial, Helvetica, sans-serif">April 18th</font></em></div></th>
133
134         <td><font face="Geneva, Arial, Helvetica, sans-serif"><a href="http://www.geog.ucsb.edu/~kclarke/Geography183/Lecture07.pdf">
135             Lecture 7: Color and its use </a></font></td>
136         <td><font size="-1" face="Arial, Helvetica, sans-serif"><a href="http://www.geog.ucsb.edu/~kclarke/Geography183/Lecture07.mp4">Lecture Video here</a></f
137
138         <td><font size="-1" face="Arial, Helvetica, sans-serif">Slocum Chapter 10</font></td>
139
140     </tr>
141
142     <tr>
143
144         <th><div align="left"><em><font face="Arial, Helvetica, sans-serif">April 20th</font></em></div></th>
145
146         <td><font face="Geneva, Arial, Helvetica, sans-serif"><a href="http://www.geog.ucsb.edu/~kclarke/Geography183/Lecture08.pdf">
147             Lecture 8: Toponymy, typography and map text </a></font></td>
148         <td><font size="-1" face="Arial, Helvetica, sans-serif"><a href="http://www.geog.ucsb.edu/~kclarke/Geography183/Lecture08.wav">Lecture Audio here</a></font></
149
150         <td><font size="-1" face="Arial, Helvetica, sans-serif">Slocum Chapter 11</font></td>
151
152     </tr>
153
154     <tr>
155
156         <th><div align="left"><em><font face="Arial, Helvetica, sans-serif">April 25th</font></em></div></th>
157
158         <td><font face="Geneva, Arial, Helvetica, sans-serif"><a href="Lecture09.pdf">
159
```


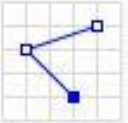
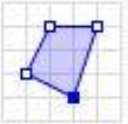

Hyper Text Markup Language file length: 12609 lines: 347 Ln: 148 Col: 6 Sel: 0 Macintosh ANSI as UTF-8 INS

9:30 AM
4/27/2016

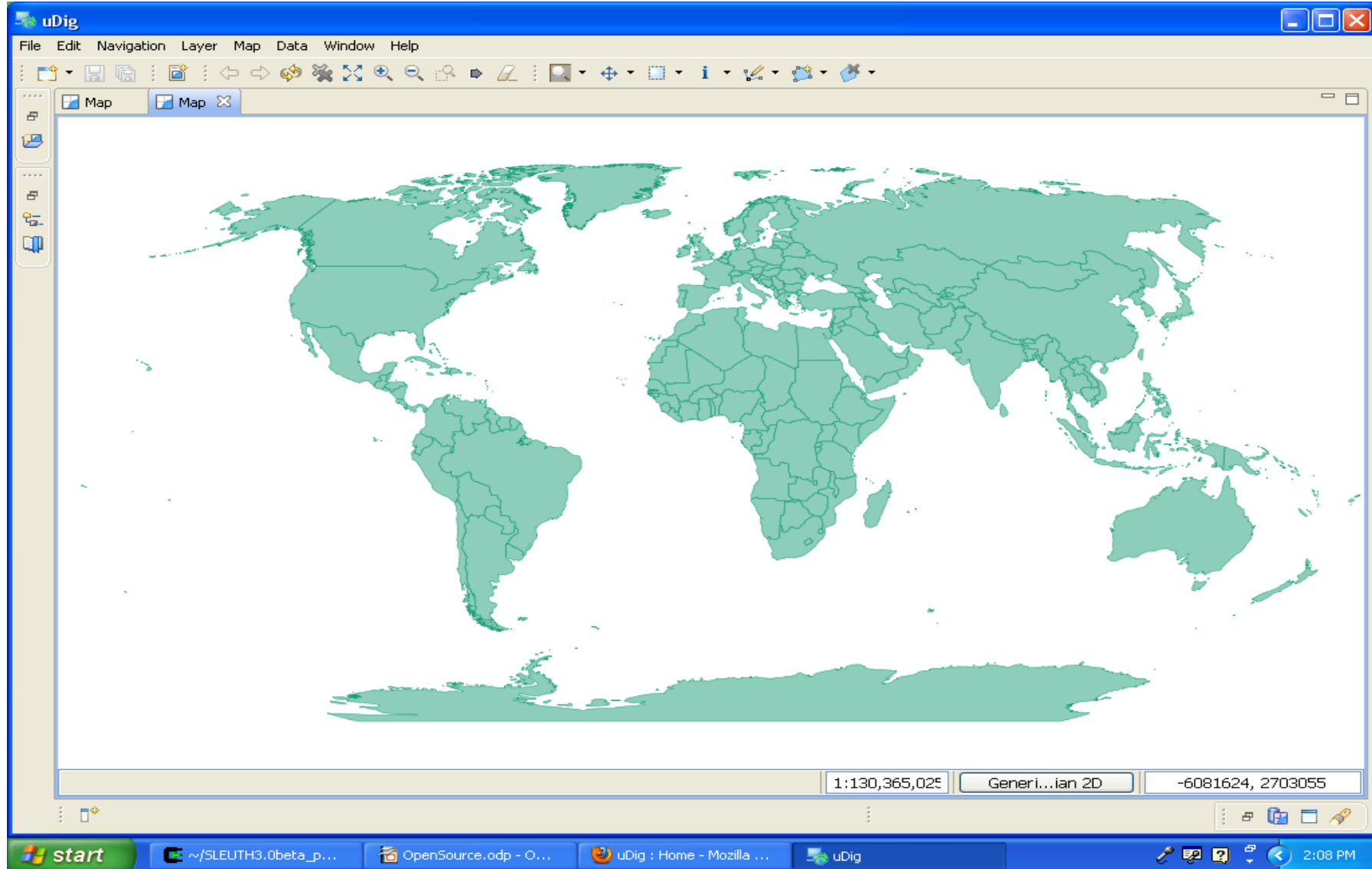
For example: GeoJSON is used by

- OpenLayers
- Leaflet
- MapServer
- Geoforge software
- GeoServer
- GeoDjango
- GDAL
- Safe Software FME
- CartoDB

GeoJSON simple objects

Geometry primitives		
Type	Examples	
Point		<pre>{ "type": "Point", "coordinates": [30, 10] }</pre>
LineString		<pre>{ "type": "LineString", "coordinates": [[30, 10], [10, 30], [40, 40]] }</pre>
Polygon		<pre>{ "type": "Polygon", "coordinates": [[[30, 10], [40, 40], [20, 40], [10, 20], [30, 10]]] }</pre>
		<pre>{ "type": "Polygon", "coordinates": [[[35, 10], [45, 45], [15, 40], [10, 20], [35, 10]], [[20, 30], [35, 35], [30, 20], [20, 30]]] }</pre>

For example: uDig



For example: Quantum GIS

The screenshot displays the Quantum GIS 0.9.1-Ganymede interface. The title bar reads "Quantum GIS - 0.9.1-Ganymede ('Ganymede') SantaBarbaraLU". The menu bar includes "File", "View", "Layer", "Settings", "Plugins", and "Help". The toolbar contains various icons for file operations, navigation, and editing. The main window is divided into several panels:

- Legend:** Lists four layers: "southcoast_lu75", "southcoast_lu67", "southcoast_lu61", and "southcoast_lu54".
- Identify Results - southcoast_lu...:** A dialog box showing the following data for a clicked feature:

Feature	Value
(clicked coordinate)	-119.85639526, 34.424176
AREA	5.09703e-05
(derived)	
Area	0.000 sq.deg.
AREA	5.09703e-05
L75_DDWS8	1036
L75_DDWSG_1	4029
LANDUSE_CO	63
PERIMETER	0.0434185
- Map View:** A large map area showing a colorful land use map with various colored polygons representing different land use categories.
- Scale:** 1:43102
- Coordinates:** -119.8862, 34.3791
- Render:** A button to refresh the map display.

Open data

The image is a screenshot of a web browser displaying the OpenStreetMap website. The browser's address bar shows the URL `www.openstreetmap.org/#map=14/34.4124/-119.7078`. The page header includes the OpenStreetMap logo and navigation buttons for 'Edit', 'History', and 'Export'. Below the header, there are links for 'GPS Traces', 'User Diaries', 'Copyright', 'Help', and 'About', along with 'Log In' and 'Sign Up' buttons. The main content is a map of Santa Barbara, California, showing a grid of streets and several highlighted routes in blue and red. Key landmarks like 'Santa Barbara Train Station' and 'Santa Barbara Cemetery' are labeled. The map includes a search bar at the top left and navigation controls on the right. At the bottom, there is a scale bar (500 m / 2000 ft) and a copyright notice: '© OpenStreetMap contributors | Make a Donation'. The Windows taskbar is visible at the very bottom, showing various application icons and the system clock indicating 2:00 PM on 2/2/2015.

Wikimapia

The screenshot displays the Wikimapia website interface. At the top, the browser address bar shows the URL `wikimapia.org/#lang=en&lat=34.432900&lon=-119.837100&z=12&m=b`. The Wikimapia logo and navigation menu are visible, including options for "Edit map", "Categories", "Login", and "EN". A search bar on the right shows "Like 87K". The main map area is a satellite view of the Santa Barbara, California coastline. A white rectangular box highlights a specific area in the ocean, with the text "Asphalt volcanoes, oil, gas, and tar seeps" overlaid. The map also shows the cities of Goleta, California, Santa Barbara, California, and Montecito, California. The bottom of the screen shows the Windows taskbar with various application icons and the system clock displaying "2:01 PM 2/2/2015".

ArcGIS Online

ArcGIS Online - Create We... x +

www.esri.com/software/arcgis/arcgisonline

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esri Industries Products Support & Services About Community Sign In

Products

ArcGIS Online

Sign Up for a Free Trial →

Main Features Showcase What's New Credits Pricing Free Trial

The Mapping Platform for Your Organization

ArcGIS Online gives you everything you need to create interactive web maps and apps that you can share with anyone. With ready-to-use content, apps, and templates, you can be productive right away. And no matter what you use—desktops, browsers, smartphones, or tablets—you always have access to your content.

1:48 PM
2/2/2015

Maya Forest GIS on ArcGIS Online

Federal Investigators Put x maya forest map | x GauchoSpace x

spatialdiscovery-ucsb.opendata.arcgis.com/datasets/maya-forest-map

Apps Google 2 Google Calendar CNN Breaking News, U.S. Breaking News and Web of Science [v.5] The New GauchoSpace Course Login | Online eGrades ScholarOne Manuscript

UCSB Open Data Find My Data Sign In

Site: El Pilar and Stratton Reserve Boundary

Site: El Pilar Large Structures

- Unclassified
- Berm
- Depression
- Looter's Trench
- Mound

Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA | Please acknowledge the MesoAmerican R...

maya forest map ☆ Favorite

Custom License Accessible to Everyone 4/26/2018 Web Map

The El Pilar Project has been conducting research at El Pilar, Belize and Guatemala since 1993, and was founded on a base of survey work that goes back to 1983. This unusual archaeological program recognizes the present environment as a part of the ancient Maya past. Our mission is the preservation and conservation of endangered resources through

About

Shared By: tdcimmel@umail.ucsb.edu_ucsb

10:01 AM 5/7/2018

Example: ICM for UCSB

The screenshot displays the UCSB Interactive Campus Map interface within a web browser. The browser's address bar shows the URL `map.geog.ucsb.edu/#`. The page header includes the UCSB logo and navigation links such as "Get Share Link" and "About this map".

The main map area shows a detailed campus layout with various buildings and green spaces. A search for "3621 Ellison Hall" is active, with the results listed in the left sidebar:

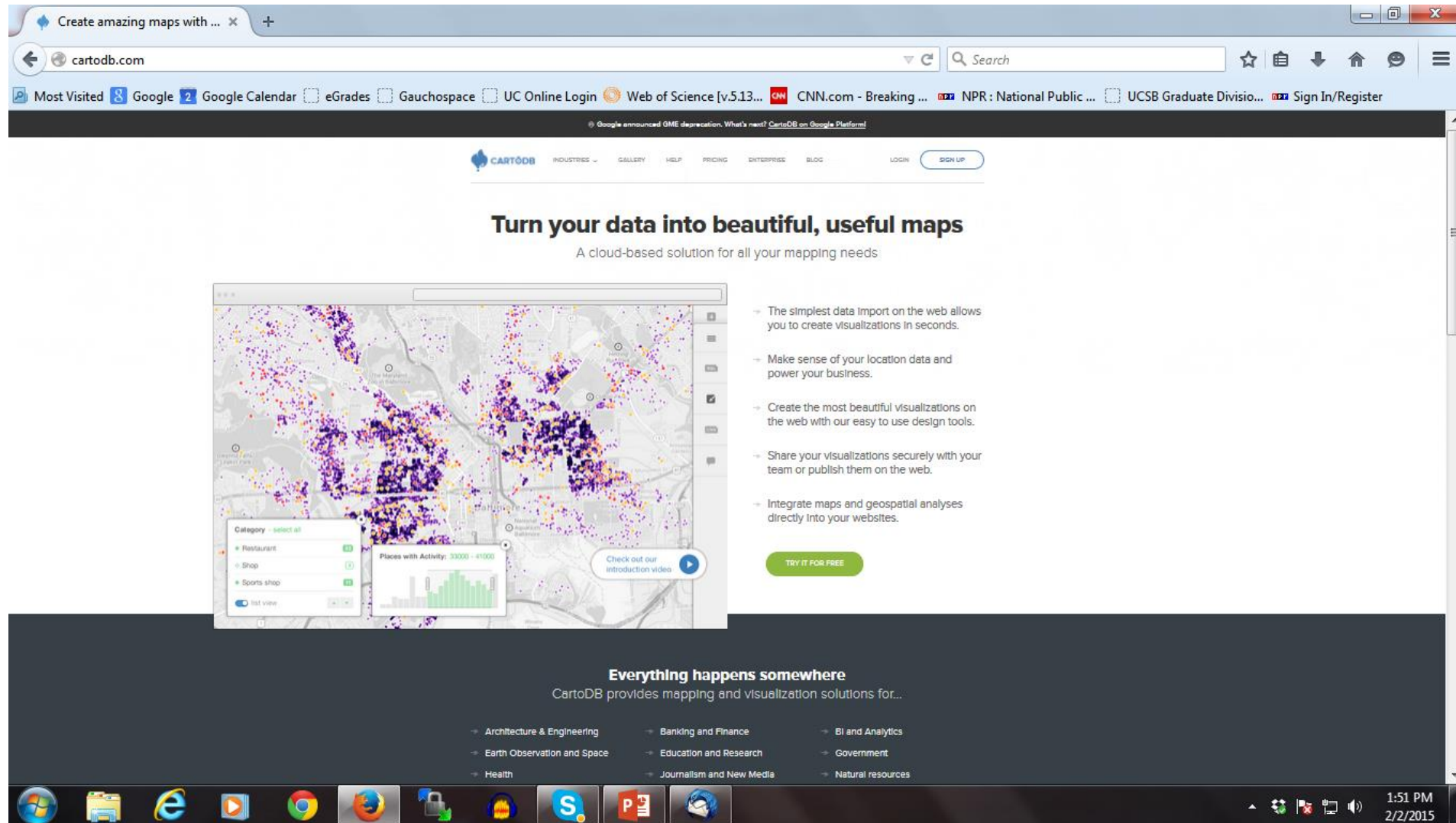
- Total Results (56)
- Buildings (10)
- People (10)
- Rooms (10)

The search results list includes:

- [ELLISON HALL 3621](#)
- [ELINGS HALL 3621](#)
- [ELLISON HALL 2626](#)
- [ELLISON HALL 2816](#)
- [ELLISON HALL 5911](#)
- [ELLISON HALL 7702](#)
- [ELLISON HALL 7846](#)
- [ELLISON HALL 7802](#)

The map itself shows several buildings, including Student Affairs & Administration Services (SAASB), Cheadle Hall (552), Campbell Hall (538), Phelps Hall (560), Buchanan Hall (573), Physical Science North (PSB North) (657), and Chemistry (557). A scale bar at the bottom left indicates distances up to 200 feet. The UCSB Geography Department logo and the Esri logo are visible in the bottom right corner.

CartoDB: Cloud model



The screenshot shows the CartoDB website interface. At the top, there's a navigation bar with the CartoDB logo and links for Industries, Gallery, Help, Pricing, Enterprise, Blog, Login, and Sign Up. Below this is a main heading: "Turn your data into beautiful, useful maps" with the subtitle "A cloud-based solution for all your mapping needs".

The central part of the page features a large map visualization showing a dense cluster of purple and yellow points on a city map. To the right of the map, there's a list of features:

- The simplest data import on the web allows you to create visualizations in seconds.
- Make sense of your location data and power your business.
- Create the most beautiful visualizations on the web with our easy to use design tools.
- Share your visualizations securely with your team or publish them on the web.
- Integrate maps and geospatial analyses directly into your websites.

Below the list is a green button that says "TRY IT FOR FREE".

At the bottom of the page, there's a section titled "Everything happens somewhere" with the text "CartoDB provides mapping and visualization solutions for...". Below this, there are several industry categories listed:

- Architecture & Engineering
- Banking and Finance
- Bi and Analytics
- Earth Observation and Space
- Education and Research
- Government
- Health
- Journalism and New Media
- Natural resources

The bottom of the screenshot shows a Windows taskbar with various application icons and a system tray displaying the time as 1:51 PM on 2/2/2015.


For example: Leaflet

The screenshot shows a web browser window displaying the Leaflet website. The browser's address bar shows 'leafletjs.com'. The website features the Leaflet logo, a navigation menu with links for Overview, Features, Tutorials, API, Download, Plugins, and Blog, and social media sharing options. A main text block describes Leaflet as a modern open-source JavaScript library for mobile-friendly interactive maps, developed by Vladimir Agafonkin. Below this, there is a list of users who employ Leaflet, including Flickr, foursquare, and Pinterest. At the bottom, a map of Hyde Park in London is shown with a blue location pin and a white popup box containing the text: 'A pretty CSS3 popup. Easily customizable.'

Leaflet - a JavaScript library... x +

leafletjs.com

Most Visited Google 2 Google Calendar eGrades Gauchospace UC Online Login Web of Science [v.5.13... CNN.com - Breaking ... NPR: National Public ... UCSB Graduate Divisio... Sign In/Register

Leaflet 

Star 9,619 Tweet Follow 11.8K followers Like 5.3k

An Open-Source JavaScript Library for Mobile-Friendly Interactive Maps

Overview Features Tutorials API Download Plugins Blog GitHub Twitter Forum

Leaflet is a modern open-source JavaScript library for mobile-friendly interactive maps. It is developed by [Vladimir Agafonkin](#) with a team of dedicated [contributors](#). Weighing just about 33 KB of JS, it has all the [features](#) most developers ever need for online maps.

Leaflet is designed with *simplicity, performance and usability* in mind. It works efficiently across all major desktop and mobile platforms out of the box, taking advantage of HTML5 and CSS3 on modern browsers while still being accessible on older ones. It can be extended with a huge amount of [plugins](#), has a beautiful, easy to use and [well-documented API](#) and a simple, readable [source code](#) that is a joy to [contribute](#) to.

Used by: Flickr foursquare Pinterest craigslist Data.gov IGN Wikimedia OSM Meetup WSJ Mapbox CartoDB GIS Cloud ...

A pretty CSS3 popup. Easily customizable.

1:47 PM 2/2/2015

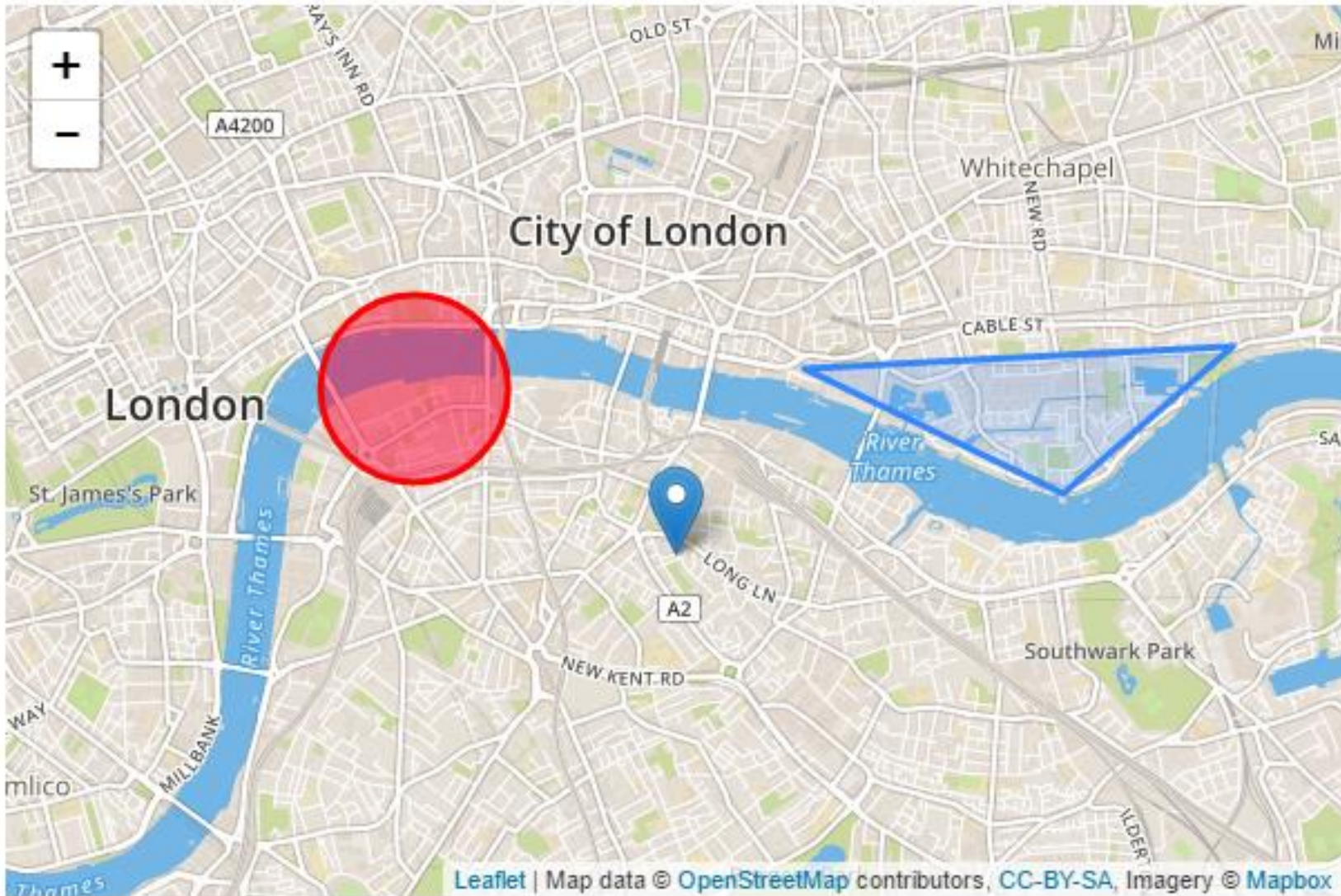
Components

- Mapbox: Bundles map tiles at URL
- CartoDB, MangoMap, Tableau
- Leaflet: Cascading Style Sheets and Javascript Library plus Java
- Many add ons
- Need server access (WAMPserver/Wordpress/Github)
- Embed scripts into HTML
- Uses some PHP, interprets SVG, uses Cloudmade

Example

```
<!DOCTYPE html>
<html>
<head>
  <title>Based on Quick Start Example on Leaflet Website</title>
  <meta charset="utf-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="stylesheet" href="http://cdn.leafletjs.com/leaflet-0.7.3/leaflet.css" />
</head>
<body>
  <div id="map"></div>
  <script src="http://cdn.leafletjs.com/leaflet-0.7.3/leaflet.js"></script>
  <script>
    var map = L.map('map').setView([34.41164, -119.86204], 13);
    L.tileLayer('https://{s}.tiles.mapbox.com/v3/{id}/{z}/{x}/{y}.png', {
      maxZoom: 18,
      attribution: 'Map data &copy; <a href="http://openstreetmap.org">OpenStreetMap</a> contributors, ' +
        '<a href="http://creativecommons.org/licenses/by-sa/2.0/">CC-BY-SA</a>, ' +
        'Imagery © <a href="http://mapbox.com">Mapbox</a>', id: 'kclarke.l38ndpcg'
    }).addTo(map);
    L.circle([34.41164, -119.86204], 500, {
      color: 'red',
      fillColor: '#f03',
      fillOpacity: 0.5
    }).addTo(map).bindPopup("I am a circle.");
  </script>
</body>
</html>
```


Presteps, then load page as source



Short step to Web Mapping Services

Ellison Hall, Santa Barbara, CA 93101

I.V. Theater, 960 Embarcadero del Norte, Santa Barbara, CA 93101

7 min 1.4 miles

7 min 1.5 miles

10 min every 20 min

placebook

Logged as Salkat Bana

35 unlocated friends

Mark O'Neill
current location: Würzburg, Bayern, Germany

In what countries are your friends?

United States 14 friends

United Kingdom 2 friends

Australia 2 friends

Belgium 1 friend

Germany 1 friend

Nigeria 1 friend

Uganda 1 friend

Canada 1 friend

Netherlands 1 friend

China 1 friend

Ireland 1 friend

Profitability Overview

Total Sales	Total Profit	Profit Ratio	Profit per Order	Profit per Customer	Average Discount	Quantity
\$2,297,201	\$286,397	12.5%	\$57.18	\$361.16	16%	37,873

Order Date: 1/4/2011 - 12/31/2014

Region: (All)

State: (All)

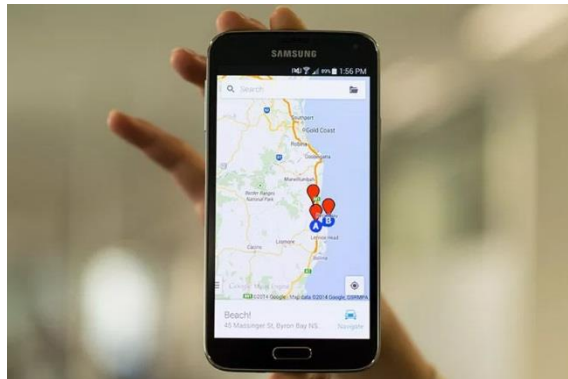
Profit Ratio: -270.0% to 50.0%

Profitability Legend: Profitable (Blue), Unprofitable (Orange)

Monthly Sales by Segment - States: All

Monthly Sales by Product Category - States: All

Product Categories: Furniture, Office Supplies, Technology



Summary

- Many past distribution and reproduction systems, based on ink and paper
- Still much offset lithography, but with digital and photo composition and separation, very low cost
- Since the Internet, possible to create, publish in one step
- Many tools and environments for doings so
- Model needs server, content, software or scripting and users
- Social media and web publishing ARE the new paper
- Advantages: real time, animation, feedback, low cost
- Massive growth industry!