

# Datalititcs

## Senior Design Project



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### Team Members:

Justin Tse  
Jacob Kaseff

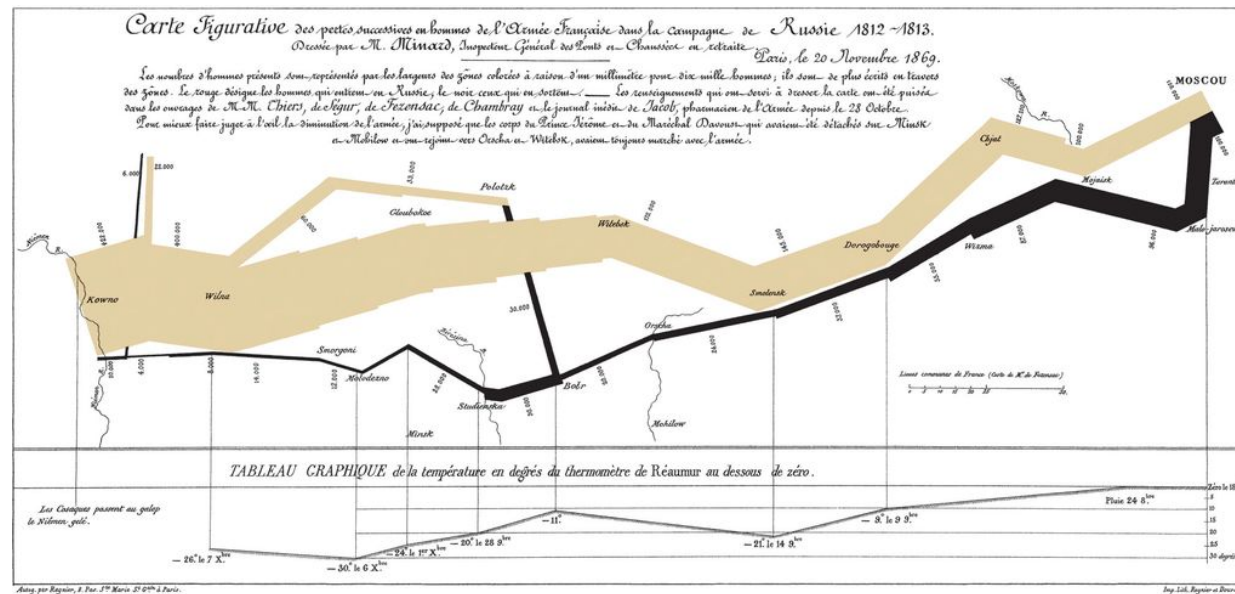
Diego Garcia  
Brian Liu

### Sponsors and Stakeholders:

Professor Jullig

# Application Domain

- There is a ton of data out there, but it is hard to interpret!
- There is a growing need for data presented in a human-understandable way.
- Good data visualization should convey the most amount of information efficient use of visuals.



# Process and Technologies

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- A complex geographical map interface to show how data changes over time
- A user interface, where users can submit their own dataset to visualize

# Using Technology to Answer a Problem

- Using data visualization, can we see the correlation between laws being passed (i.e. immigration) and demographics?
- Can we see how population makeup changes over time based on discrete time events?
- Can we take in an arbitrary set of data, and visualize it in a meaningful way?

# Project Goals

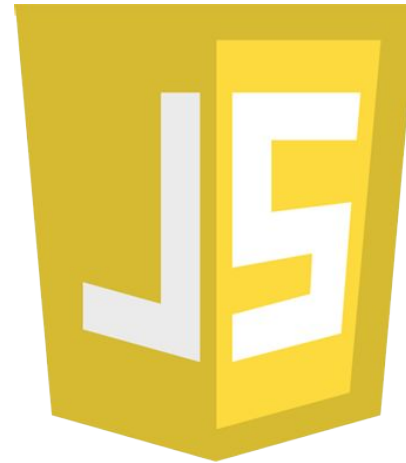
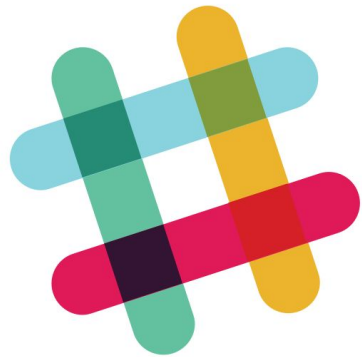
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- Goals for Release 1:
  - Fully functional data visualization platform built in Javascript
- Goals for Release 2:
  - Server side integration with Node JS, on a functional website

# Project Requirements

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- At the core of our project is JavaScript D3
  - JavaScript is a dynamic, interpreted programming language
  - D3.js is a javascript library that creates dynamic data visualizations in web browsers
- We plan to eventually further our project though a full stack expansion
- We are using Trello for our Scrum Board, and are using Slack to communicate.



# Challenges

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- None of us have real experience with d3, or building larger-scale Javascript programs
- None of us have taken the data visualization class
- We have other classes that will take up time (of course..)

# Approach

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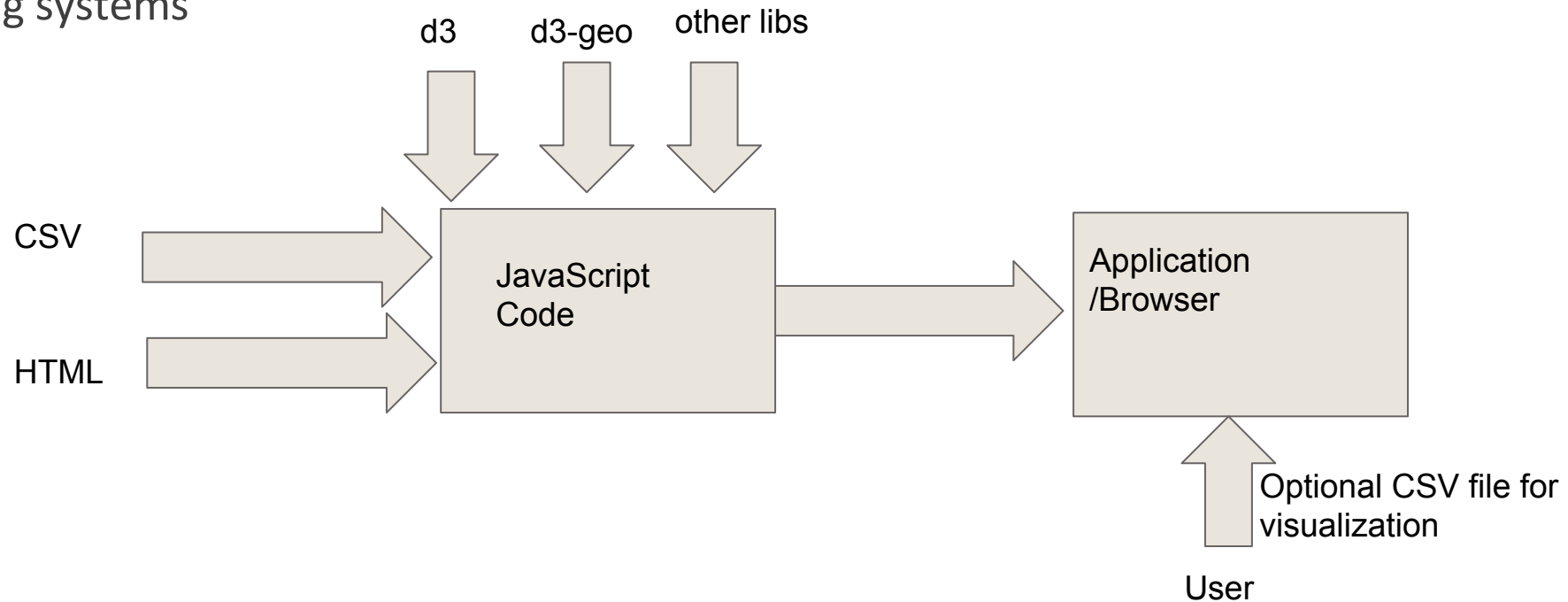
- Familiarize ourselves with the technology
- Understand key concepts of visualization
  - View resources given by professor
  - Ask TA for help on D3
  - Heavy individual and group research



# System Illustration

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- Illustrate your planned solution in action
  - Using appropriate means; e.g. existing prototypes, mock-ups, drawings, or comparable existing systems



# Project Management Meetings

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- Interaction with sponsor
  - We meet with Professor every Thursday during class time
- Team coordination
  - We meet Mondays 4:30PM, Wednesdays 5:00PM, Fridays 3:45PM for scrum meetings and general work
  - We believe pair programming is a good way to avoid progress plateaus
  - A slack channel keeps us informed on each other's work
  - Trello is used for organizing tasks

# Team collaboration/Working agreements

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- Team collaboration/Working agreements
  - Regular meetings
  - Javascript “1 dot per line”
  - Definition of Done - a working time series visualization that can work on all of our browsers
    - Should work on all Chrome and Firefox Browsers
  - Ensure same versions of software and versions
  - Complete code means it works on everyone's computer

# Release 1: High-level goals of Sprints

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- Sprint 1 - familiarize with tools and concepts
  - As a user I would like to see the data be represented in a meaningful way
- Sprint 2 - Have map visualization with bound data from CSV file(s)
  - As a user I would like to see a map of the US / California
  - As a user I would like to be able to see data on said map.

# cont.

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- Sprint 3 - Animate time series data
  - As a user I would like to see the change in demographics over time
  - As a user I would like to see fields that are being correlated to the map
- Sprint 4 - Polish and any unfinished touch ups and fix bugs
  - As a user I would like a streamlined and bug-free experience

# Questions?

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Comments?