INFO 247 Final Project Report

Hey LA, Meet Your DA

Chris Kaiser-Nyman

Project goals 2
Related work 3
The Visualization System 5
  Header 5
  Iconographic story 6
  Introduction to LA’s DA 7
  Top 5 charges 8
  Tableau dashboard: top 20 charges 9
  Isotypic breakdown of charges: 10
  New section and tableau dashboard 11
  Wobbler analysis 12
  Diversion 13
  Conclusion / call to action 14
Description of Data Source 15
Tools Used 15
User Testing and Results 16
  Method 16
  Results 16
Things I wished I had been able to do but couldn’t 17
Division of Labor 18
Project goals

This interactive data visualization story (available at http://heylameetyourda.weebly.com) is inspired by work done by the ACLU to make the public more aware of the role, responsibilities, and abilities of California District Attorneys (DAs). This visualization has several goals:

- Educate users about what a District Attorney does, what their powers are, and inform them about the current Los Angeles District Attorney (LADA)
- Allow users to interact with real data collected by the LADA about cases they have prosecuted
- Help users decide whether their values align with how the LADA is prosecuting cases
- Encourage users to vote in the November DA election

The target audience of the visualization is individuals who are likely to engage in ACLU advocacy material: people aged mid-20s and older, with a college education, whose political views lean liberal. The visualization is not meant to exclude anyone, but the target audience is one that is generally informed about politics, but not necessarily the district attorney or Los Angeles specifically. It is also not meant to try to engage with individuals with intractable conservative political views. If it succeeds in engaging an unintended audience, that is an added bonus, but is not its primary objective.

This visualization was created with the intention of allowing users to interact in a simple way with the data, filtering for populations and types of crime that may be of particular interest to them. Because the intended audience has only a basic understanding of and experience with data, I did not want to make the interactions too complicated.
Related work

Because this system is a complement to an existing website (meetyourda.org, see screenshot below left), it is modeled closely after that site, using the same color palette, a similar font scheme, and some of the same images. I used the Digital Color Meter available on Apple’s macOS Catalina to match the yellow and blue from that website, and imitated the background at the top of the site using Adobe Illustrator to create a circular gradient.

![Left, meetyourda.org screenshot. Right, screenshot of my system.](image)

The color scheme at meetyourda.org, and therefore in my visualization as well, follows principles outlined in Maureen Stone’s piece Choosing Colors for Data Visualization, which recommends limiting a color palette to two or three colors, and grouping related items by color. My design uses blue for titles, and yellow for subtitles and as a way to draw specific text out to the reader. The visualization also follows principles of font selection outlined by Nayomi.
Chibana in her piece *A Non-Designer’s Guide to Pairing Fonts*. The title “Hey LA” uses a distinct “handwriting” style font, and is paired with a neutral font, which is used in the rest of the system.

The website also uses recommendations made in Cole Nussbaumer Knaflic’s text, “Storytelling with Data”. In Chapter 2, “Choosing an Effective Visual”, Knaflic states “The fact that you have some numbers does not mean that you need to have a graph!” (left top, from page 39 of Knaflic). Because the top 5 charges prosecuted by the LADA’s office do not need to be compared to each other, but are interesting for their size independently of each other, a single number suffices in order to inform the user of the magnitude of charges being processed. In another section, I compare the percent of all charges filed that fit into different categories. Here (left, bottom), the text accompanies a visualization that uses isotypes to represent the types of charges. The color of the text matches the color of the isotypes they describe.
The Visualization System

Header

The header of the system is modeled closely after the header of the system this one is based on, meetyourda.org. It uses the same image of a DA taking notes on a line of prisoners. The font adheres to the principles of font selection described by Nayomi Chibana in A Non-Designer's Guide to Pairing Fonts, pairing a distinct, handwriting-style font for the “Hey LA” portion, with a neutral font for the rest of the text.
Iconographic story

What is a DA?

When police arrest people they believe may have committed a crime, they collect evidence and decide what charges to bring (for example burglary, assault, drinking and driving, etc.).

Police then hand the evidence over to the District Attorney (DA). It is the DA's office that decides whether to bring a case to court, what charges to bring if they do, and how to prosecute different accusations.

Only the DA, not the police or a judge, decides what cases will go to court to stand trial.

This section uses a series of icons to teach the user basic information about what a district attorney does. Without this context, the information and statistics in the rest of the system may not make users who do not already have a deep understanding of the criminal justice system.
Introduction to LA’s DA

Who is LA's DA?

Jackie Lacey

was elected by voters like YOU, and other LA County residents in 2012. She is up for re-election in November of this year. Do her practices align with your values?

From 2017-2018 Jackie Lacey’s office prosecuted

510,996 charges

against up to

266,389 people

*All data on this website comes from a dataset provided by the LADA’s office in response to a Public Records Act request

Because this system is designed to engage users not only with information about the role of the DA in general, but specifically LA’s DA, this section includes a photo of DA Lacey, and uses text that implicates the user in order to draw them into the story. It also contains high-level numbers, meant to make users think “wow, this is a lot of charges and a lot of people.” In order to ensure the data has credibility to skeptical users, this section contains information about where the data came from, but in a small, light font, as that information will only be of interest to select, more data-literate, people.
**Top 5 charges**

**What is Lacey's office choosing to charge?**

The district attorney's office has the power to prioritize the prosecution of serious crimes that affect large numbers of people, such as corporate fraud and human trafficking.

However, DAs can also use the public resources that fund their offices to pursue cases that primarily affect poor people, such as drug use and motor vehicle violations.

<table>
<thead>
<tr>
<th>Position</th>
<th>Charge Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Possession of drug paraphernalia</td>
<td>25579</td>
</tr>
<tr>
<td></td>
<td>(misdemeanor)</td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>Driving with a suspended license</td>
<td>24714</td>
</tr>
<tr>
<td></td>
<td>(misdemeanor)</td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td>Possession of a controlled substance</td>
<td>23460</td>
</tr>
<tr>
<td></td>
<td>(misdemeanor)</td>
<td></td>
</tr>
<tr>
<td>4th</td>
<td>Driving under the influence</td>
<td>17950</td>
</tr>
<tr>
<td></td>
<td>(misdemeanor)</td>
<td></td>
</tr>
<tr>
<td>5th</td>
<td>Driving without a license</td>
<td>16329</td>
</tr>
<tr>
<td></td>
<td>(misdemeanor)</td>
<td></td>
</tr>
</tbody>
</table>

This section gives users a sense of the magnitude of the number of charges in question here. The text gives context about what the DA has the power to do, and the data show what the DA actually does with that power.
Tableau dashboard: top 20 charges

Explore the top 20 charges filed by the LA DA's office in 2017-2018

This section allows users to view the top 20 charges filed by the DA’s office, and filter by age group, charge level, and sex. Users may be interested in more serious felony charges, or viewing the differences in charges between male and female-identifying individuals. While this graphic is not designed to directly compare between groups, it allows interactivity, and for users to view the data they want, rather than be limited by what I have presented.
Isotypic breakdown of charges:

59% of the charges Jackie Lacey’s office pursues are misdemeanors (things like possessing drug paraphernalia, driving with a suspended license, DUIs, and petty theft)

24% are nonviolent felonies (things like burglary, drug sales, and fraud)

9% are categorized as serious, violent felonies (things like attempted murder, pedophilia, armed carjacking)

This section uses 100 isotypes to show users visually what types of charges Jackie Lacey’s office is prosecuting. It uses color to link text to the images, and high-level numbers to show a part-to-whole relationship.
This portion of the system introduces a new section, “The Power of the DA”, and illustrates some of that power through a Tableau dashboard. The interactivity here mirrors the interactivity of the other dashboard to reduce cognitive load and ensure users’ brains can focus on the data, not how to engage with the system.
Wobbler analysis

How does Lacey’s office charge “wobblers”?

Most charges are defined as either misdemeanors or felonies, but “wobblers” are charges that can either be tried as either. While any criminal record has a severe impact on people’s lives, a felony typically causes much more disruption in peoples’ lives, as it can prevent their ability to get a job or housing, and even restrict their ability to vote.

Wobblers are more often charged as misdemeanors than as felonies

The Tableau Story about wobblers has more interactivity, and also requires a higher cognitive load in order to understand. Because of this, I placed it toward the bottom of the page thinking that users who were more engaged with the information and data (and potentially more data literate) would be more likely to get that far down and have both the interest and ability to enjoy that part of the system. Less data-literate users, or users less engaged with the material will, at this point, have either left the system, or be scrolling through more quickly, so would be less likely to be frustrated with any inability to understand the data or interactivity.
Diversion

Who gets diversion?

Diversion is an alternative to punishment. Traditionally, when people break rules, they are punished. A growing body of evidence, however, shows that people may actually be less likely commit crimes if they are offered an alternative to prison or jail.

Rather than being removed from their community and job, humiliated by the criminal justice system, and locked up with other people who have committed crimes, diversion is an opportunity to offer people who have broken the law what they need in order to not break the law again. Diversion can involve community mental health, rehabilitation, and case management, among other things.

It is the district attorney who decides which people get diversion and which get incarceration instead. In campaign material, Jackie Lacey has said she prioritizes diversion, particular for individuals living with mental illnesses.

For every 200 charges Jackie Lacey’s office saw in 2017 and 2018

only 1 was recommended for diversion.

Like the previous section, this one has more context and is somewhat less friendly to the least engaged users. However, by making the contextual language in a small font, and increasing the font size of the data conclusion, this section still allows users scrolling quickly through this portion of the system to engage with the data presented here.
Conclusion / call to action

You Have The Power

This November, Jackie Lacey is up for reelection. Do her values align with yours, or would you prefer someone else to be the District Attorney for Los Angeles?

Learn what the candidates say about themselves:

Jackie Lacey

George Gascón

Don't live in LA County? Meet your DA here!

Make your voice heard on November 3rd and vote for your District Attorney.
Description of Data Source

The data used in this visualization was provided by the Los Angeles District Attorney’s office to the ACLU of Northern California in response to a Public Records Act request. The data represents every charge the LADA’s office prosecuted in calendar years 2017 and 2018. It was organized by charge, with a separate row for each unique charge, and included:

- case ID: unique ID for each separate case
- case severity (misdemeanor or felony)
- defendant ID (for multiple defendants within a case)
- the specified charge (as a California Penal Code)
- charge severity (misdemeanor, felony, or infraction)
- the sex and age of the defendant
- defendant plea (guilty, not guilty, etc)
- charge result (convicted, acquitted, dismissed, etc.)

To that data, I used R to merge in tags that indicate if a charge is a serious or violent felony based on the California Penal Code, whether it is a wobbler (meaning able to be charged as either a misdemeanor or felony, depending on the circumstances of the case), and whether it is a low-level crime as defined by the ACLU. I also had to merge in text descriptions of the charges, as the data only came in as California Penal Codes, with no layperson’s description.

Tools Used

All of the cleaning, merging, and analysis of the data was done using R. Data was then exported as a .csv and visualized in Tableau. I used Adobe Illustrator to create the yellow webpage header and isotypes representing 100 charges. Icons and isotypes were found on thenounproject.com and edited in Illustrator. The website was created using Weebly.com.
User Testing and Results

Method

A convenience sample of three participants was selected from the researcher’s personal network. The individuals were chosen due to the researcher’s belief that they were likely target audience members as described above. Participants were asked to complete a short pre-test, browsed the system website while on a video conference call with the researcher and narrating their experiences, completed a post-test, and responded verbally to a short series of questions about their experience using the system.

Results

Analysis of the pre- and post-tests showed that, for four of the six knowledge-based questions (testing facts and information presented in the system), more users got questions correct after using the system than before, indicating that the system effectively transmits this information to users. For one of the questions, all respondents got the answer correct both before and after using the system, indicating that the system does not confuse or muddle knowledge about this information for those who already know it. For the last question, only one out of the three respondents answered correctly both before and after using the system, indicating that the system does not effectively teach that information.

Upon consideration of the question that had no increase (“Who is responsible for gathering evidence for a criminal case?”), I determined that, while something could be done to change the system to increase the likelihood that respondents are able to answer the question correctly after engaging with the system, the question itself does not represent priority information that this system is designed to show. Therefore, I did not attempt to make any changes to the system based on this feedback, as clarifying that information may actually end up detracting from other, more important information.

Participants were also asked to answer four questions on a likert scale about their enjoyment of using the site, if they learned as much as they wanted, and about their likelihood to vote in the DA election. Because results for these were generally positive, they did not provide much feedback that could be incorporated into improving the system.

The main feedback that could be incorporated to improve the system came from observing participants use the system while narrating their experience, and from the verbal feedback in response to the open ended questions asked at the end of each person’s evaluation. Based on feedback from participants provided in response to the open ended verbal questions, I added text at the beginning clarifying who made the project and why. I also added a link to the DA candidates’ websites at the bottom of the webpage so people could learn more about the
candidates, and changed the tableau story so it starts on the first dashboard rather than the second.

I changed the text of the system considerably, based on what participants narrated while browsing the site. I edited the “Who gets diversion?” section of the website to make it more neutral and less extreme based on feedback from study participants. I also added more text explaining what diversion is and does because respondents said that wasn’t clear. I changed the charge descriptions in the first Tableau Workbook to be even more descriptive than the ones originally merged onto the dataset, and decreased the number of charges shown so it does not include every single charge in the dataset. Within the Tableau Story, I changed the color-coding of the age-group breakdown so that instead of dual-coding age group by both color and proximity, they are now grouped by proximity, but misdemeanor bars are all the same color and felony bars are all another color. Finally, based on observing users interact with the Tableau dashboard filters, all filters were updated to be radio buttons rather than checkboxes.

**Things I wished I had been able to do but couldn’t**

Because of my own technical limitations, the fact that I completed this project on my own without a group, and limitations to my time (I began working on time-sensitive COVID-19 related work toward the end of this project), I was not able to include all the aspects of this system that I would have liked to have been able to create.

I would have loved to get an animated D3 visualization into the design. I had several ideas, including progressive disclosure of charges modeled after [Rob Schmuecker’s design](https://www.robschmuecker.com/d3/), and based on the case level, charge level, and then whether they are serious/violent felonies, or low-level crimes. I also would have liked to be able to include an animated version of the isotypic breakdown of charges. I imagine having 100 “document” isotypes on the left side of the page, and as the user scrolls, 59 of them move to the right side of the screen and turn into my “misdemeanor” isotypes. The text on the screen would be the same as it is now (“50% of the charges Jackie Lacey’s office pursues are misdemeanors…”). As the user continues scrolling, the isotypes moving across the page would change from the blue misdemeanor isotypes, to the yellow “nonviolent felonies” isotypes, and the text would change as well. It would continue with the orange “serious, violent felonies” isotypes, and finally the “other” isotypes. Inspiration for this was drawn from the [R2D2 animation](https://www.sciology.com/error/keep-walking/) on machine learning.

I also wish I could have done a comparison of the LA data with data from other counties. Unfortunately very few counties release district attorney charging data, and those that do typically have very limited data. The data for my system was released only under a legal obligation and threat of litigation by the ACLU. This surely would be interesting information to
some users of my system, but I felt that including it would detract from the overall message of the system, which was related specifically to the LADA and her policies and practices.

**Division of Labor**

I completed this project by myself.