

A1: Visualization Curation and Analysis

CSE 412: Data Visualization

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Part 1: Data Collection & Curation

Screenshots, photos, and/or videos of visualizations that you encounter
in your life with a brief description of each and organized in a principled fashion.

You need at least 10 visualizations for Part 1

Organizational Tactic

How are the visualizations organized?:

For this assignment, I chose to divide the visualizations into four categories: navigation, weather, lifestyle, and entertainment.

Why were the visualizations organized this way?:

I decided to split up my visualizations into distinct categories, as it allowed me to encompass certain groups of visualizations with similar qualities and/or intentions into one large classification.

What do the different categories mean?:

Visualizations in the navigation category help me get from point A to B more efficiently. Those in the weather category give forecasts around my area to better inform how I spend my time and with what utilities. On the other hand, lifestyle visualizations show how I spend my time and money on specific necessities. Lastly, visualizations in the entertainment category, are purely for pleasure and happiness and do not serve a purpose beyond those extents.

GAIA GPS Search

Navigation Visualization

Map

1. Gaia GPS

Layers

Saved Items

Preferences

Create

Waypoint

Route

Area

Import Data

Print Map

Learn

Help

Granite Falls

Mount Pilchuck 5197

Mount Dickerman 5728

Sloan Peak 7835

Monte Cristo Peak 7021

Henry L Jackson Wilderness

Wild Sky Wilderness

Scorpion Mountain 5535

Startup

Olney Pass

Spada Lake

Bald Hill 712

Tualco Valley

Monroe

Index

4229

Mount Index 5991

Baring Mountain 6096

Marckworth State Forest

Duvall

South Fork Tolt

5 mi

Search bar

3D

Navigation icons

5 mi scale bar

Page footer: Privacy | Terms | Manage Cookie Preferences

This map visualization shows a navigation route from Monroe to Index, Washington, overlaid on a detailed topographic background. The route is highlighted with a blue line and includes several waypoints marked by red location pins. Key locations labeled include Granite Falls, Mount Pilchuck (5197), Mount Dickerman (5728), Sloan Peak (7835), Monte Cristo Peak (7021), Henry L Jackson Wilderness, Wild Sky Wilderness, Scorpion Mountain (5535), Startup, Olney Pass, Spada Lake, Bald Hill (712), Tualco Valley, Monroe, Index, 4229, Mount Index (5991), Baring Mountain (6096), Marckworth State Forest, and Duvall. A 5-mile scale bar is visible in the bottom left corner. The interface includes a sidebar with various functions like 'Map', 'Layers', 'Saved Items', 'Preferences', 'Create' (with options for Waypoint, Route, Area, Import Data, Print Map), 'Learn', and 'Help'. Navigation controls for 3D view and zoom are located in the bottom right corner.

Navigation Visualization

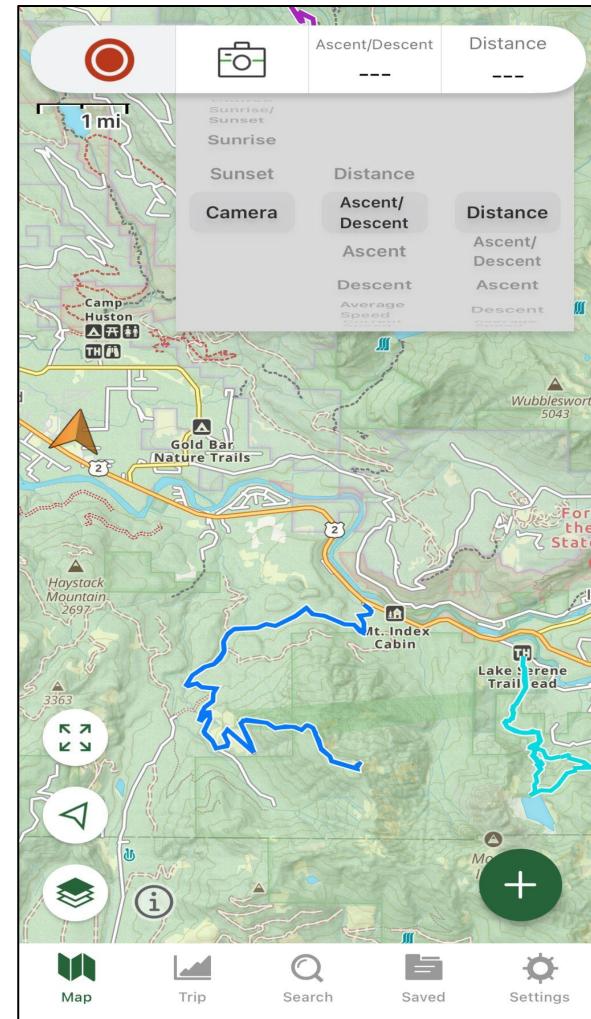
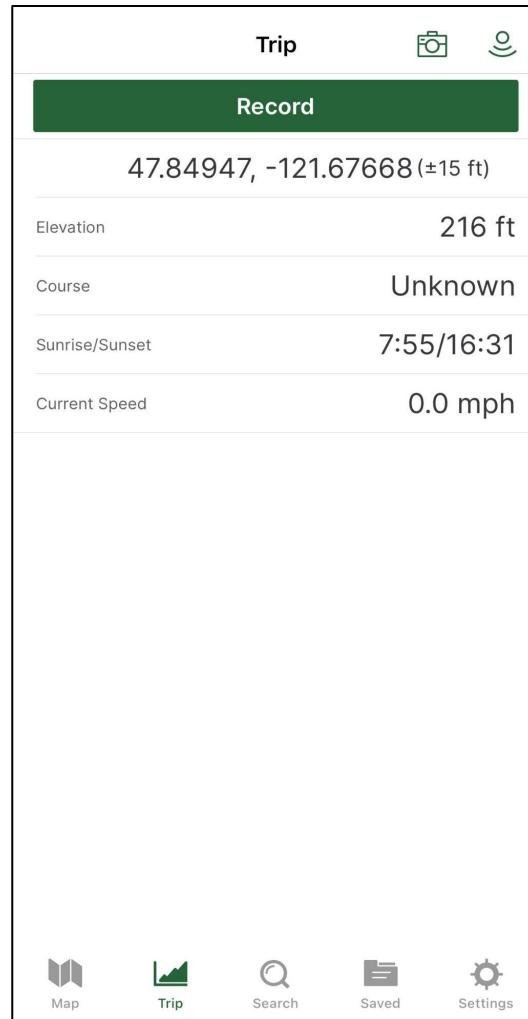
1. Gaia GPS

Brief description:

Gaia GPS is a website and phone app that allows users to map out trips using the desktop version, and simultaneously be used as an offline GPS for exploring the backcountry using the phone version. In essence, the Gaia GPS app acts like a Garmin when it comes to navigational tasks. These tasks include leaving a “breadcrumb trail” for easy retracing, and also includes a topographic map for route finding.

How does it relate to your life?:

As noted in the first quiz section slide deck, I am an individual who enjoys spending most of his time hiking and climbing. Thus, it is very important for me to have a functional GPS on my person at all times in case things go wrong out in the wilderness. Furthermore, Gaia is great for me as it is user friendly and can be used entirely on my phone.



Navigation Visualization

Gold Bar, Washington

Leave now

Send directions to your phone

Details

5:55 PM–6:27 PM 32 min

5:55 PM from 1st St & Hwy 2
\$2.50 ⚡ 8 min every 60 min

4:40 AM (Monday)–5:11 AM 31 min

via US-2 W and US-2 51 min

Fastest route now due to traffic conditions 13.4 miles

Explore Monroe

Restaurants Hotels Bars Coffee More

Park and Campground

Three Lakes

Snohomish Golf Course

Woods Creek Kennels

Myownly Boarding Kennel

Roosevelt

Evergreen Speedway

Hwy 2 & Chain Lake Rd

Reptile Zoo

Monroe

51 min 13.4 miles

North Sultan

Sultan Osprey Park

Sultan

Startup

1st St & Hwy 2

Gold Bar

Mystic Mountain Pet Retreat

Crescent Lake

High Rock

Dog Works Ranch

Mosswood Hollow Retreat Center

The Wallace Falls L Top rated

Layers

Map data ©2024 Google United States Terms Privacy Send Product Feedback 1 mi

This image shows a Google Maps navigation visualization for a trip from Gold Bar, Washington, through Monroe, Sultan, and back to Gold Bar. The total distance is 13.4 miles, with a travel time of 51 minutes. The fastest route is via US-2 W and US-2. The map also shows alternative routes and nearby points of interest such as Evergreen Speedway, Reptile Zoo, and Dog Works Ranch.

Navigation Visualization

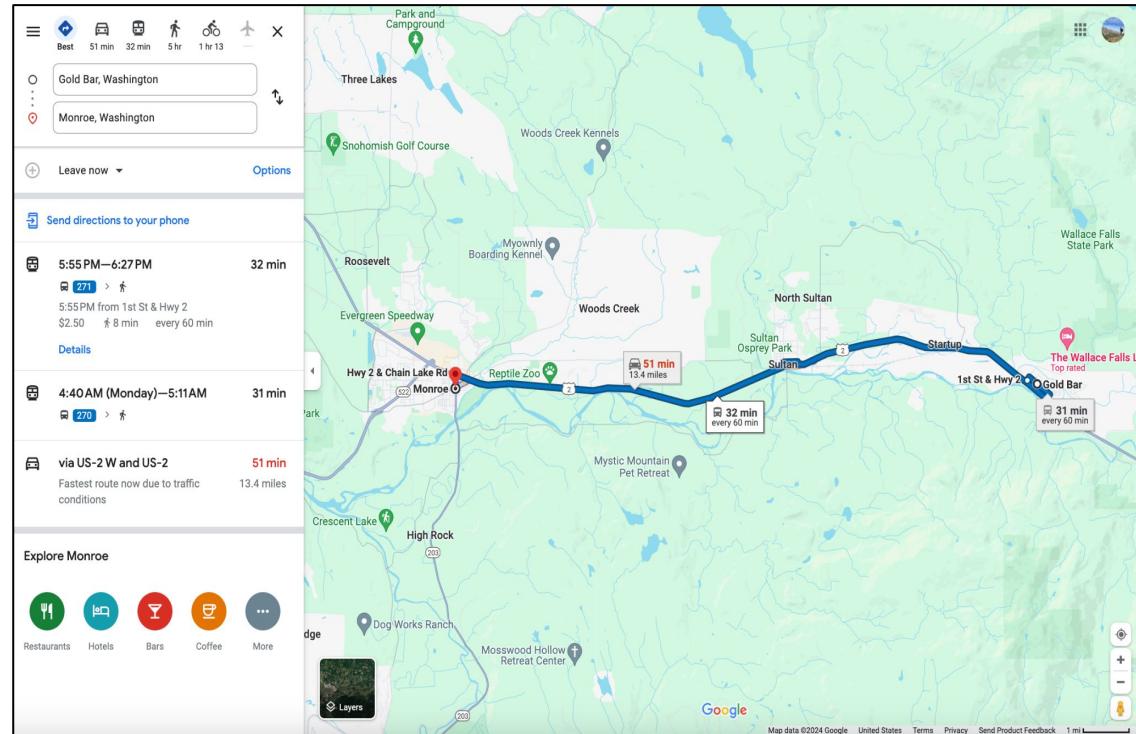
2. Google Maps

Brief description:

Google maps is a popular navigational resource for those looking to get to specific destinations in the most efficient way possible. Google Maps allows users to choose their mode of transportation and gives estimates for the total time of a trip as well as the best way to get to the destination through step-by-step instructions based on the user's current location. Unlike Gaia, Google Maps is only available for online use.

How does it relate to your life?:

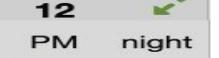
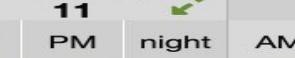
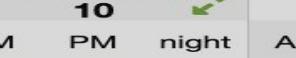
I use Google Maps, along with other similar navigational services such as Waze, for all of my driving/travel in well civilized areas. Given its step-by-step directions, Google Maps has single handedly saved me from making many navigational errors. It's easy to use and accurate street/geographical data allows me to reach my destinations with ease.





Change units

Weather Visualization

Sun
7Monday
8Tuesday
9Wednesday
10Thursday
11Friday
12

3. Mountain Forecast Dashboard

mph

5 ↗

5 ↗

10 ↗

15 ↗

40 ↗

35 ↗

50 ↗

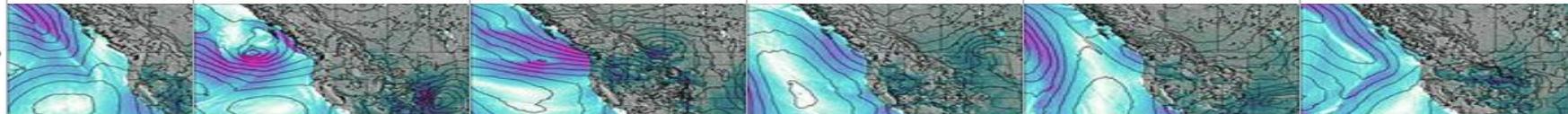
5 ↗

10 ↗

5 ↗

Wave Height Map

See all maps



* in ⓘ

—

1

1

2

8

2

2

2

2

3

in ⓘ

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—

—

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—

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—

—

—

max°F ⓘ

18

21

27

30

34

21

19

18

14

25

min°F ⓘ

18

19

23

28

21

21

19

18

9

10

chill°F ⓘ

10

12

12

18

-0

1

-4

1

-6

12

Powered by Mountain-Forecast.com

Powered by Mountain-Forecast.com

Freezing level ⓘ

1500

—

2300

3600

5200

2300

2300

300

1800

—

Cloud base ⓘ

2000

2100

2100

2000

1800

1800

2000

2000

2000

2300

15000ft

12000ft

9000ft

6000ft →

18

20

25

29

28

21

19

18

20

20

3000ft

25

30

34

34

28

28

25

28

26

24

Sea lvl

—

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7:54

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4:30

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4:31

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Weather Visualization

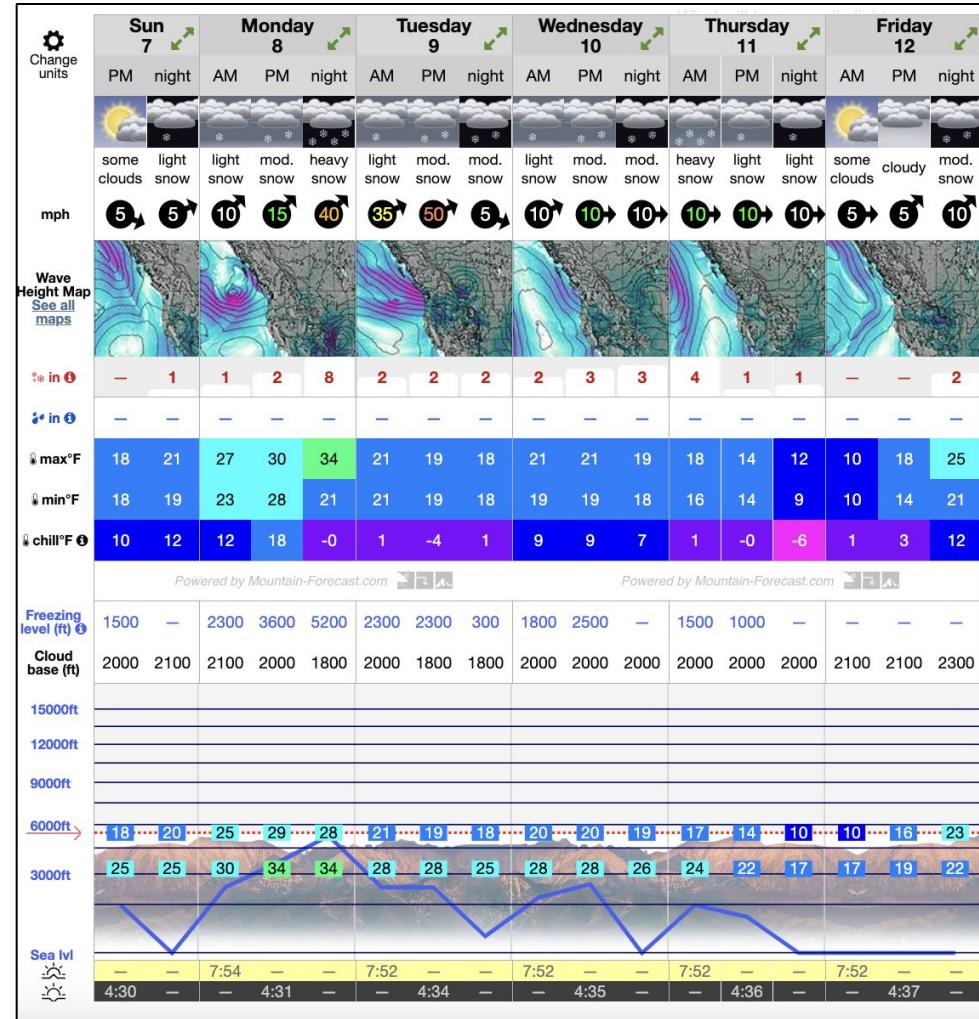
3. Mountain Forecast Dashboard

Brief description:

The above website (mountain-forecast.com) is a great website for mountain climbers to assess future conditions on peaks before embarking on a climb. In particular, the website boasts a great data visualization that presents information such as: weather forecast, wind speeds, precipitation totals, temperature ranges, wind chill factor, freezing level, etc. at several different elevations on a given mountain in the database.

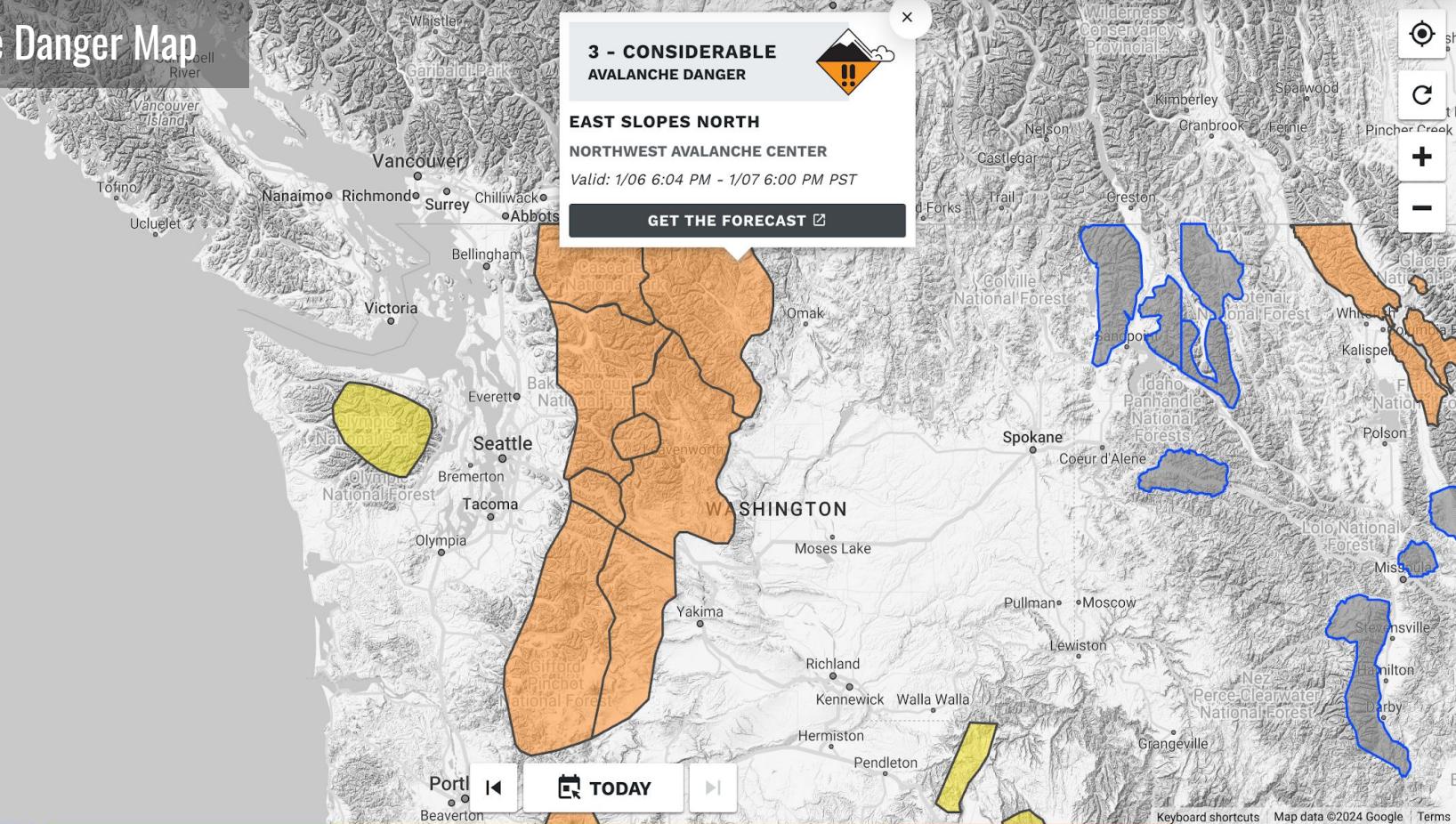
How does it relate to your life?:

As I am a new and aspiring mountain climber, I am constantly on this website using the featured visualization to assess mountain conditions and inform my decisions on the feasibility and safety of my intended adventures.





4. Avalanche Danger Map



Weather Visualization

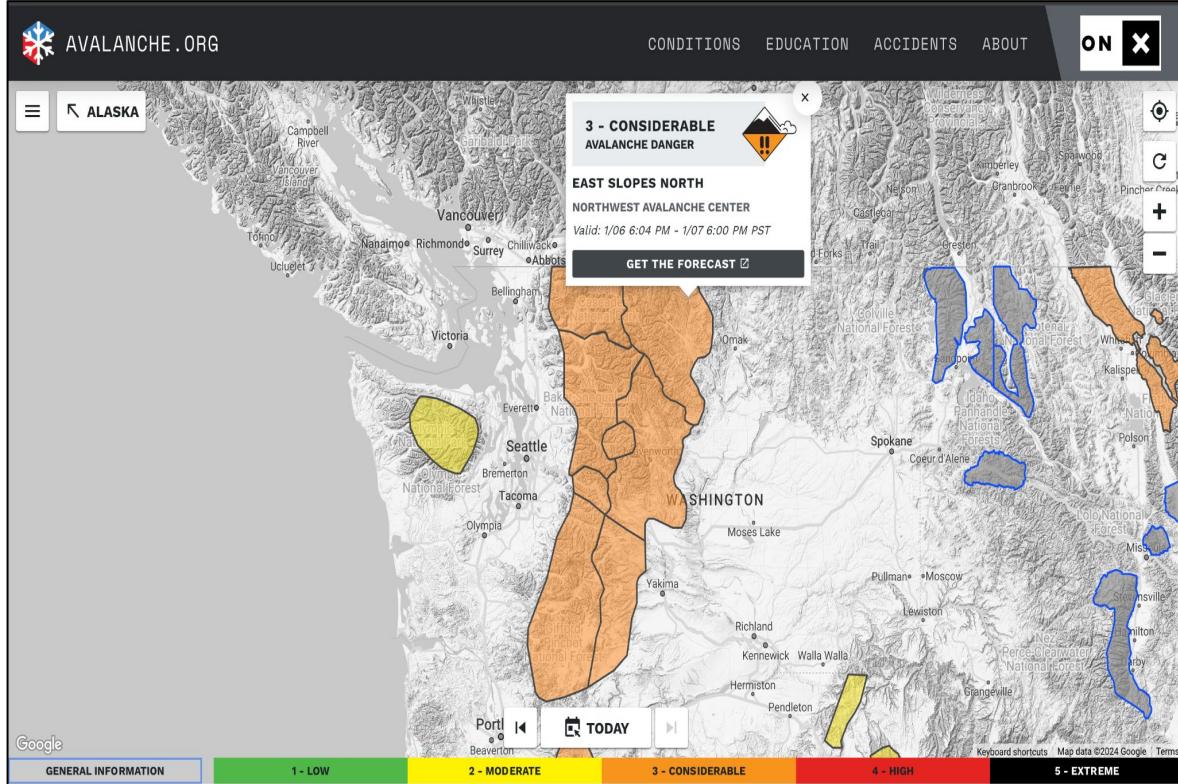
4. Avalanche Danger Map

Brief description:

The above website (avalanche.org) is a great tool for mountaineers and backcountry skiers alike to assess the current avalanche dangers before embarking on a trip. The darker the color, the more dangerous and unstable the avalanche conditions are in that region. By clicking on a certain region a more in-depth analysis of the conditions in that area are presented.

How does it relate to your life?:

Again, as someone who does a lot of outdoor activities in the mountains, as well as someone who is looking to get into serious winter ascents of local peaks, it is important for me to have an easy to understand/visualize and up-to-date forecast of the current and future avalanche conditions. Having such information could be the difference between safety and a serious injury.



Weather Visualization

My Location
Gold Bar
32°

Snow for the next hour H:36° L:30°

Cupertino 6:07 PM
6:07 PM

Clear H:54° L:33°

New York 9:07 PM
34°

Mostly Clear H:38° L:33°

Snow Forecasted

Snow for the next hour.



10-DAY FORECAST

Today	40%	30°	36°
Mon	85%	30°	44°
Tue	85%	33°	44°
Wed	65%	31°	36°
Thu	65%	23°	32°
Fri	15°	15°	23°
Sat	45%	15°	23°
Sun	15°	15°	29°
Mon	22°	22°	30°
Tue	25°	25°	37°

WANING CRESCENT

Illumination

14%

My Location

GOLD BAR

32° | Snow

HOURLY FORECAST

Now 7PM 8PM 9PM 10PM 11PM 12AM 1AM 2AM 3AM 4AM 5AM

44° 30° Conditions

Fahrenheit (°F)



Chance of Precipitation



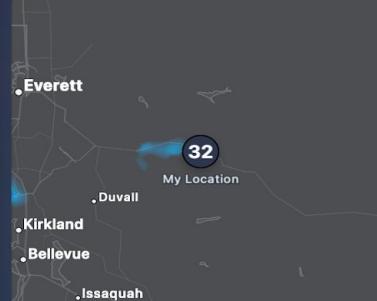
Precipitation Totals

Rain 1.3" Snow 1.25"

Daily Summary

Monday's low will be 30° at 12AM, and the high will be 44° at 12AM.

PRECIPITATION



FEELS LIKE

31°

Wind is making it feel colder.

PRESSURE

-1°

UV INDEX

0
Low

Wind for the rest of the day.

AVERAGES

Weather Visualization

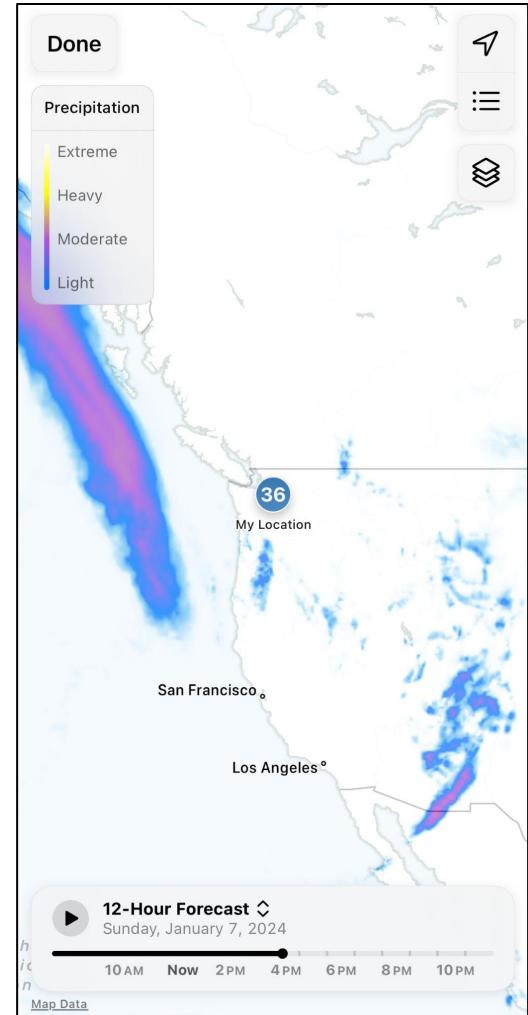
5. Apple Weather Forecast

Brief description:

The Apple Weather application is a quick and easy weather forecast that is available for any individual in possession of an Apple product. This application provides users up-to-date weather information for thousands of locations across the globe. Some specific features of the application that are shown on the right are: estimates of precipitation type and amounts per different time periods, estimate of wind speeds, as well as an interactive hour-to-hour picture of the incoming precipitation.

How does it relate to your life?:

In a similar fashion to the way I choose between Gaia and Google Maps for navigational tasks, whenever I am looking for weather forecasts in more urban/low-elevation places, Apple's Weather app is a quick and easy solution to this problem.



Lifestyle Visualization

Totals

Your Daily Goal

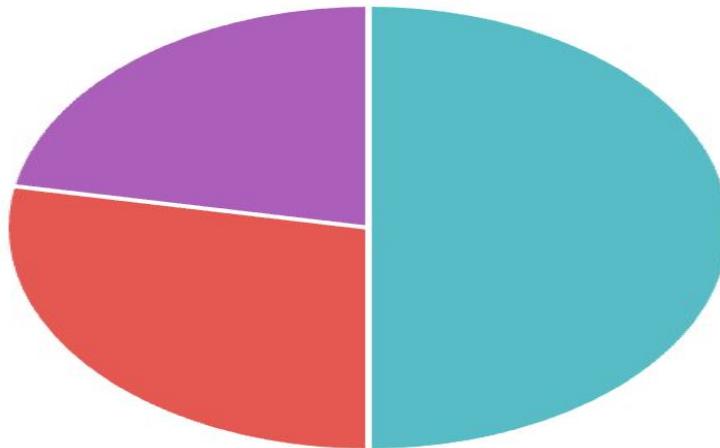
6. MyFitnessPal Tracker

Remaining

2,997	377	94	171	2,707	81
2,720	340	91	136	2,300	102
-277	-37	-3	-35	-407	21

Calories kcal	Carbs g	Fat g	Protein g	Sodium mg	Sugar g
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Carbs Fat Protein



If every day were like today... You'd weigh **152 lbs** in 5 weeks

Make Additional Entries

Lifestyle Visualization

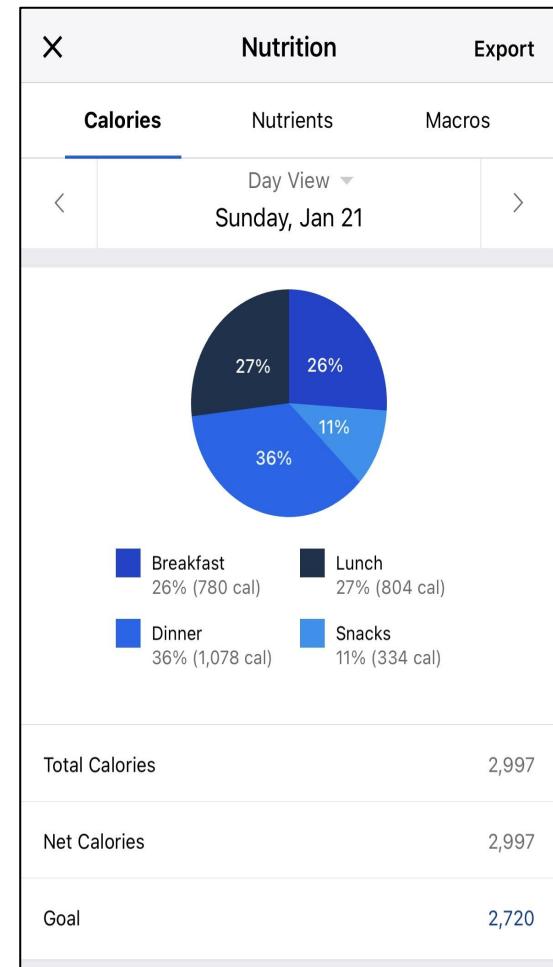
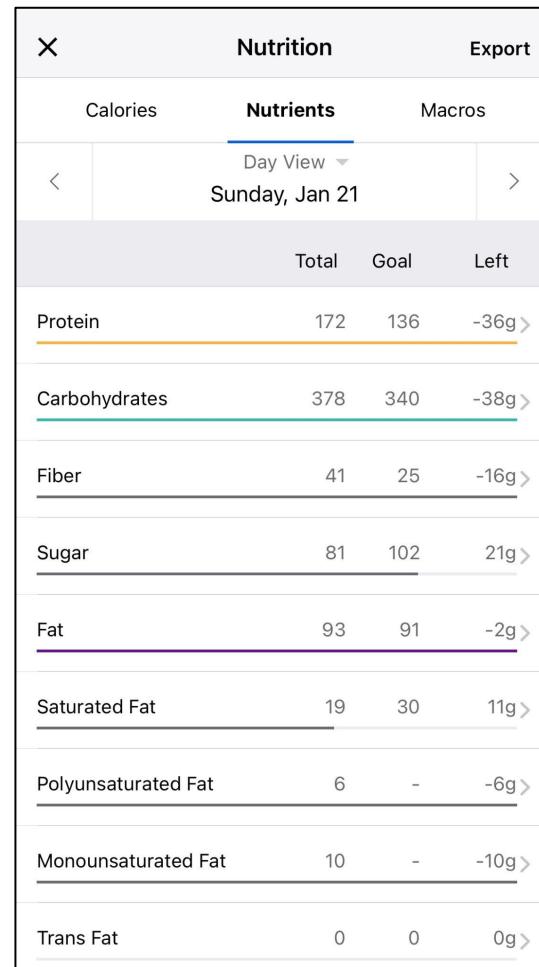
6. MyFitnessPal Tracker

Brief description:

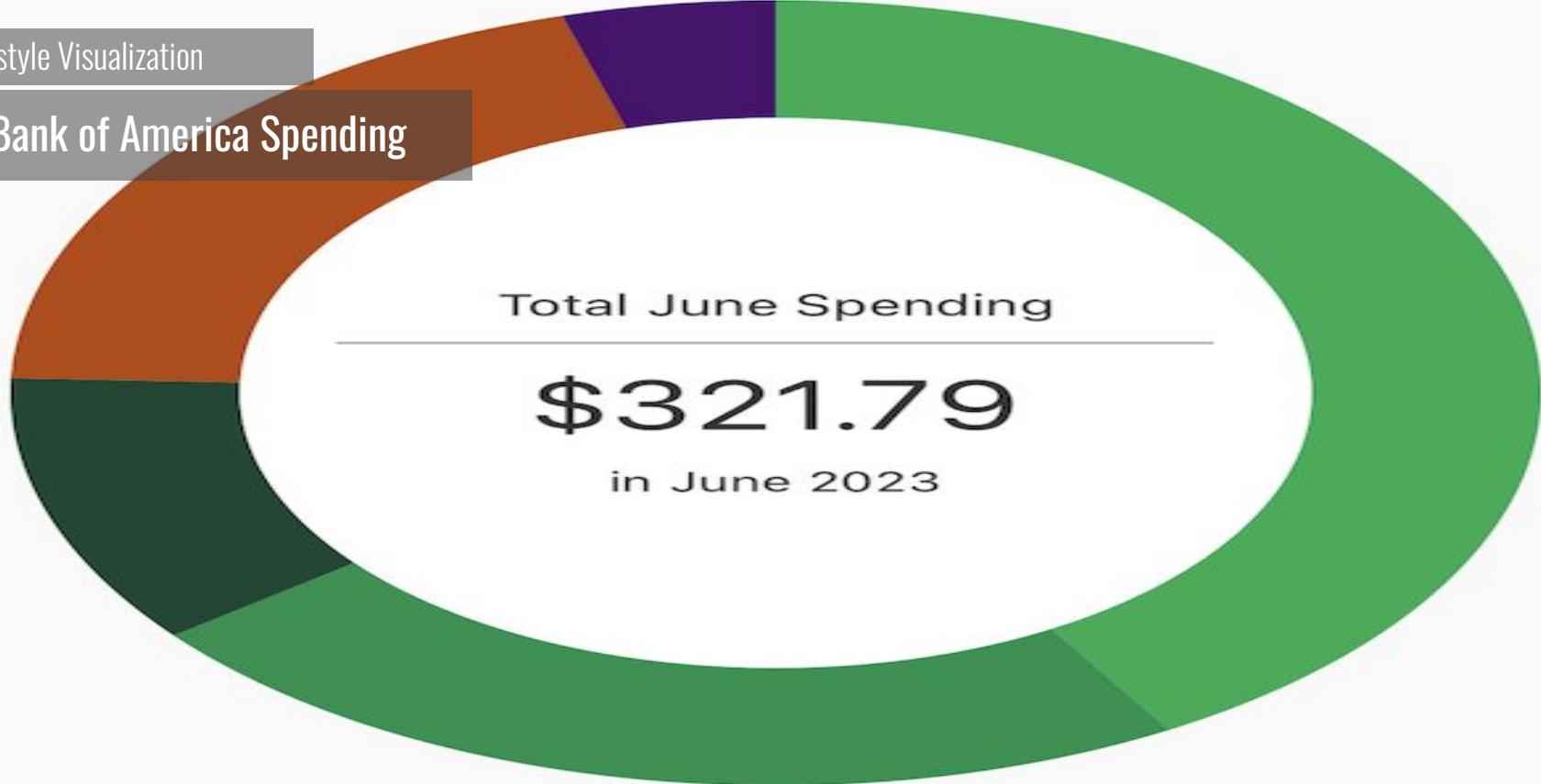
The above website (myfitnesspal.com) offers users the chance to track their eating habits and more efficiently attain their fitness goals. In particular, they offer daily breakdowns of nutritional counts such as the total number of macro and micro nutrients as well as calories. These counts and percentages are compared to the users predetermined goals in order to track progress. The way MyFitnessPal presents these results are in the form of pie charts and a form of a bar chart as seen on the right. These types of visualizations allow users to “spatially” see their progress and distance from their goals.

How does it relate to your life?:

Whenever I have a goal that relates to the gym, or any goal in which I need to be careful of my weight or eating habits, MyFitnessPal is my go to application to get this done. The reason for this is that the visualizations allow me to quickly see how “far away” I am from my goal in a multitude of categories.



7. Bank of America Spending



On average, you spend **\$602 more** than you deposit each month.

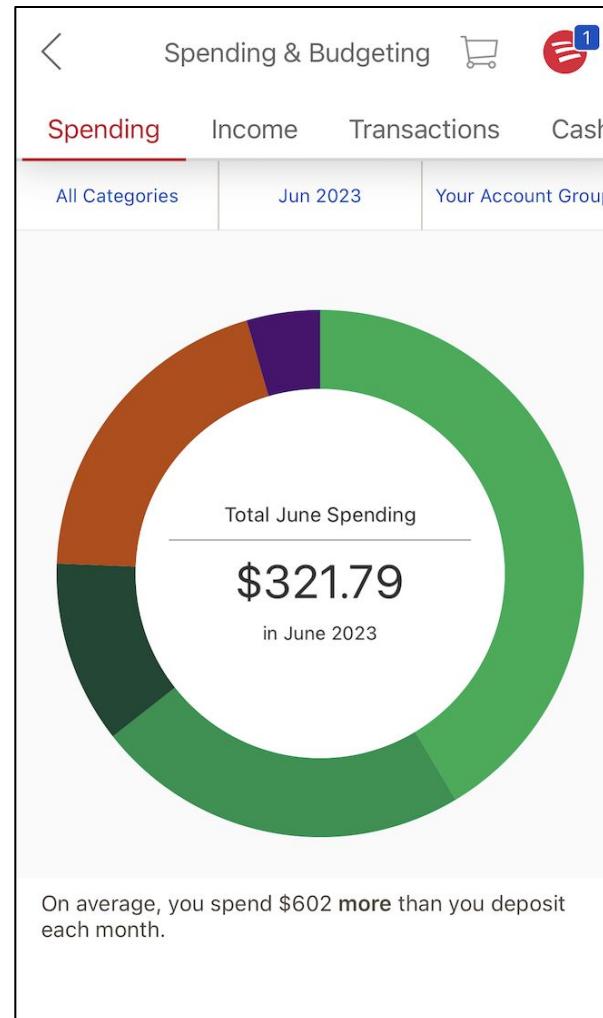
7. Bank of America Spending

Brief description:

Bank of America is one of the most popular banking institutions in the United States. On their online platforms they have a multitude of visualizations that aid users in gaining knowledge of their spending habits, allowing users the chance to become more fiscally responsible. In particular, by color coding different categories of spending in the form of a pie chart, this allows users to visualize and know how much of their spending is in certain categories.

How does it relate to your life?:

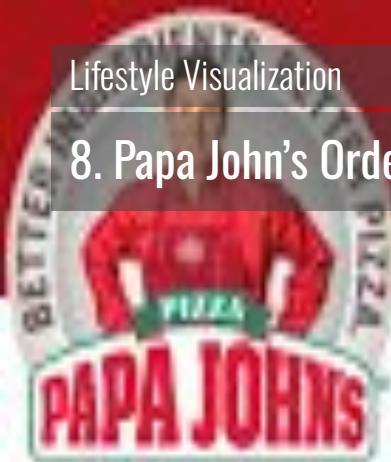
I like to think of myself as fiscally responsible individual, and that is in thanks to visualizations like this on the Bank of America phone app. By analyzing charts like this, I can more effectively see which categories I am spending the most on, and in turn I can use this data to find areas in which I can reduce spending and save more money in the long run.



Spending Categories	
Sort by	Default >
Transportation	\$133.24 spent
Groceries	\$74.00 spent
Health	\$36.05 spent
Cash, Checks & Misc	\$64.00 spent
Finance	\$14.50 spent

Show categories that do not have spending

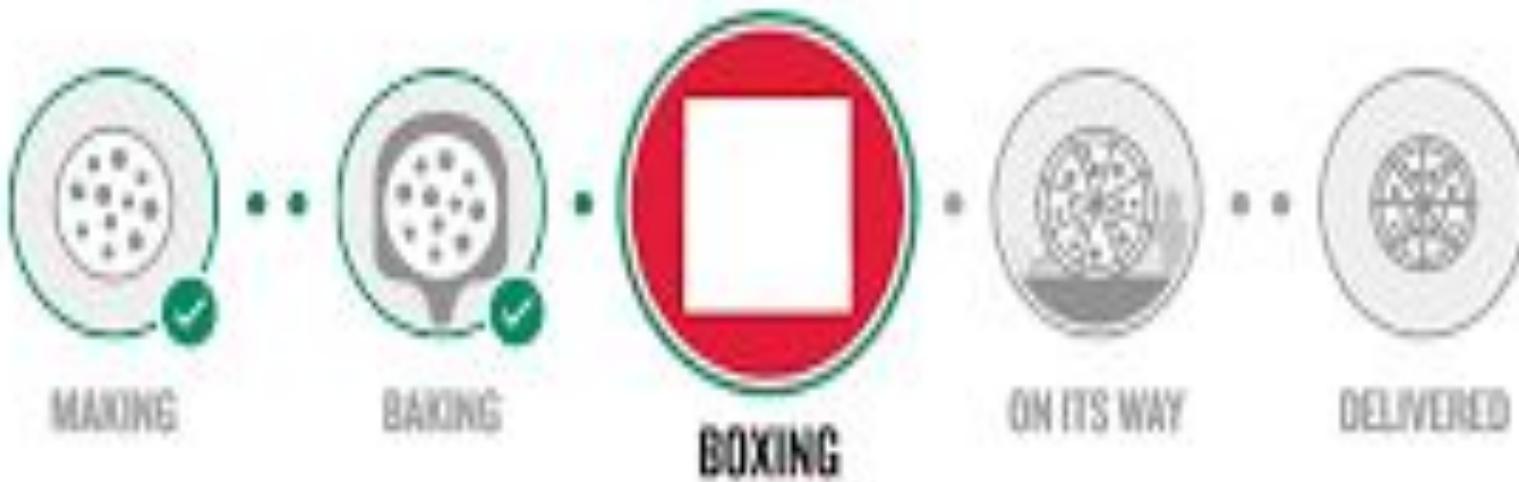
8. Papa John's Order Tracker



PAPA TRACK

ORDER #500627959

ESTIMATED DELIVERY 8:48 pm



8. Papa John's Order Tracker

Brief description:

Papa John's is a famous pizza restaurant chain around the globe, known for its reliability and cheaper prices. One of the key features that the Papa John's mobile app and website boasts is known as the "Papa Track" for mobile and delivery orders. Papa Track is a visualization that tracks where in the pizza making process the employees are at with your current order at any given time. Whichever circle is highlighted in red is the current step the employees are on in the process.

How does it relate to your life?

As an avid pizza enjoyer, who is quite fond of Papa John's, visualizations like Papa Track allow me to time exactly when I should head to the location to pick up my order. Without this visualization I would simply be guessing on when I should leave to pick up my food based on previous experiences.





On average, you took 4,278 steps per day over the past 25 weeks.



A bar chart showing daily step counts for 25 weeks. The bars are light gray and vary in height, representing the number of steps taken each day. A red horizontal line is drawn across the chart at the level of the 4,278 steps mark, indicating the average daily step count.

4,278 steps

25 weeks

Lifestyle Visualization

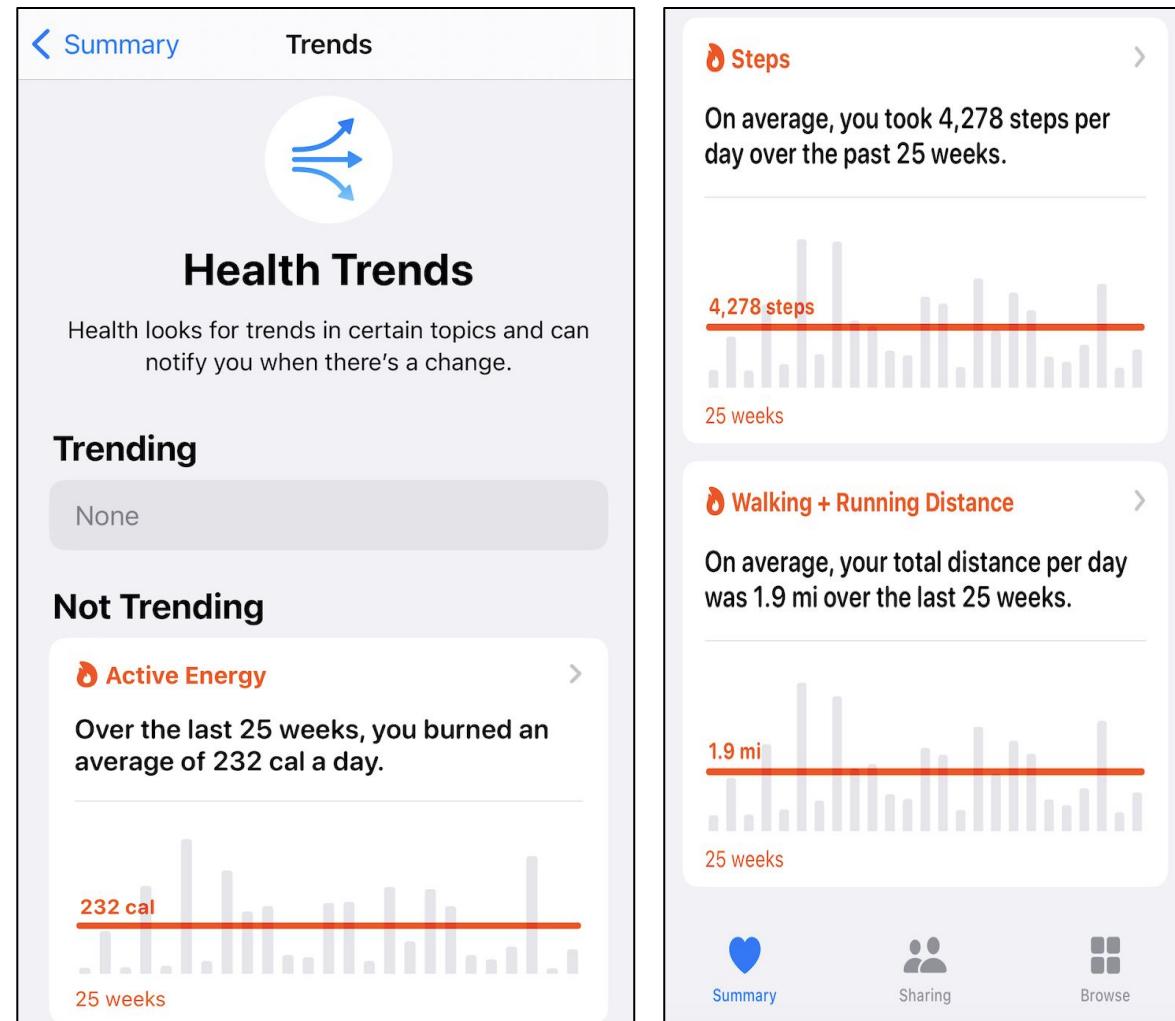
9. Apple Health Trends

Brief description

Similar to the Weather app mentioned above, Apple users have access to the Health app. In particular, the health app includes a panel on the users health trends. These trends are in the form of bar charts, with each bar representing the average of a certain health category in the previous 25 weeks. Furthermore, each bar chart has a horizontal line representing the cumulative 25 week average. Health categories that are tracked include: active energy, step, walking/running distance, etc.

How does it relate to your life?

The health app, and in particular the health trends panel, serves two purposes for me. The first, and main purpose, is that these trends satisfy my curiosity on how active I've been recently, and in comparison to other points in my past. But, the health trends visualizations also allow me to know when I've been too sedentary and allows me to act on it and change my current lifestyle.



Entertainment Visualization

10. ESPN NFL Playoff Machine

AFC

FIRST-ROUND BYES

1st Seed
Baltimore
Proj: 13-4

WILD-CARD GAMES

7th Seed
Pittsburgh @ 2nd Seed
Miami
Proj: 10-7 Proj: 11-5

6th Seed
Buffalo @ 3rd Seed
Kansas City
Proj: 10-6 Proj: 10-6

5th Seed
Cleveland @ 4th Seed
Houston
Proj: 11-6 Proj: 10-7

Current Playoff Picture



NFC

FIRST-ROUND BYES

1st Seed
San Francisco
Proj: 12-4

WILD-CARD GAMES

7th Seed
Green Bay @ 2nd Seed
Dallas
Proj: 9-8 Proj: 12-5

6th Seed
Los Angeles @ 3rd Seed
Detroit
Proj: 9-7 Proj: 12-5

5th Seed
Philadelphia @ 4th Seed
Tampa Bay
Proj: 11-5 Proj: 9-8

Projected Rankings

Standings and playoff seeds update automatically based on your picks.

[Copy URL](#) [Recommend 1.7K](#) [X Post](#)

AFC

AFC EAST	CUR	PROJ	AFC NORTH	CUR	PROJ
Miami	11-5	11-5	Baltimore	13-4	13-4
Buffalo	10-6	10-6	Cleveland	11-6	11-6
NY Jets	7-10	7-10	Pittsburgh	10-7	10-7
New England	4-13	4-13	Cincinnati	9-8	9-8
AFC WEST	CUR	PROJ	AFC SOUTH	CUR	PROJ
Kansas City	10-6	10-6	Houston	10-7	10-7
Denver	8-8	8-8	Jacksonville	9-8	9-8
Las Vegas	7-9	7-9	Indianapolis	9-8	9-8
Los Angeles	5-11	5-11	Tennessee	6-11	6-11

NFC

NFC EAST	CUR	PROJ	NFC NORTH	CUR	PROJ
Dallas	12-5	12-5	Detroit	12-5	12-5
Philadelphia	11-5	11-5	Green Bay	9-8	9-8
NY Giants	5-11	5-11	Minnesota	7-10	7-10
Washington	4-13	4-13	Chicago	7-10	7-10
NFC WEST	CUR	PROJ	NFC SOUTH	CUR	PROJ
San Francisco	12-4	12-4	Tampa Bay	9-8	9-8
Los Angeles	9-7	9-7	New Orleans	9-8	9-8
Seattle	8-8	8-8	Atlanta	7-10	7-10
Arizona	4-12	4-12	Carolina	2-15	2-15

Entertainment Visualization

10. ESPN NFL Playoff Machine

Brief description

ESPN is a very famous sports network that primarily focuses on American sports. One of the major sports they cover is American Football. In the NFL, 32 teams compete for 14 playoff spots. As the season winds down, many fans are curious how their team can make the playoffs. The ESPN NFL Playoff Machine does just this by allowing users to pick the winners of upcoming games, and see how these hypothetical results would impact the playoff picture if they were to happen.

How does it relate to your life?

As someone who used to play football, and as a consistent viewer of the NFL, it is safe to say that the game is a big part of my life. Interactive visualizations like the playoff machine allow me to get a better idea of what needs to happen in order for my team to make the playoffs. Furthermore, this visualization in particular, turns complicated scenarios into a visual that is easy to understand.

The screenshot shows the ESPN NFL Playoff Machine interface. At the top, there's a grid of 16 boxes representing NFL teams, divided into two rows: 'FINAL' (top) and 'MATCHUP' (bottom). Below this is the 'Current Playoff Picture' section, featuring a large Super Bowl trophy and the text 'SUPER BOWL'. It displays the AFC and NFC divisions with their respective first-round byes and wild-card games. The AFC section includes:

- FIRST-ROUND BYES:** 1st Seed Baltimore (Proj: 13-4)
- WILD-CARD GAMES:**
 - 7th Seed Pittsburgh @ 2nd Seed Miami (Proj: 10-7 vs 11-5)
 - 6th Seed Buffalo @ 3rd Seed Kansas City (Proj: 10-6 vs 10-6)
 - 5th Seed Cleveland @ 4th Seed Houston (Proj: 11-6 vs 10-7)

The NFC section includes:

- FIRST-ROUND BYES:** 1st Seed San Francisco (Proj: 12-4)
- WILD-CARD GAMES:**
 - 7th Seed Green Bay @ 2nd Seed Dallas (Proj: 9-8 vs 12-5)
 - 6th Seed Los Angeles @ 3rd Seed Detroit (Proj: 9-7 vs 12-5)
 - 5th Seed Philadelphia @ 4th Seed Tampa Bay (Proj: 11-5 vs 9-8)

At the bottom, the 'Projected Rankings' section shows the current standings and projected seeds for both the AFC and NFC. The text 'Standings and playoff seeds update automatically based on your picks.' is displayed above the table. The table has three main sections: AFC (with AFC East, AFC North, AFC South, and AFC West), NFC (with NFC East, NFC North, NFC South, and NFC West), and a summary section at the bottom right.

AFC			NFC								
AFC EAST	CUR	PROJ	AFC NORTH	CUR	PROJ	NFC EAST	CUR	PROJ	NFC NORTH	CUR	PROJ
Miami	11-5	11-5	Baltimore	13-4	13-4	Dallas	12-5	12-5	Detroit	12-5	12-5
Buffalo	10-6	10-6	Cleveland	11-6	11-6	Philadelphia	11-5	11-5	Green Bay	9-8	9-8
NY Jets	7-10	7-10	Pittsburgh	10-7	10-7	NY Giants	5-11	5-11	Minnesota	7-10	7-10
New England	4-13	4-13	Cincinnati	9-8	9-8	Washington	4-13	4-13	Chicago	7-10	7-10
AFC WEST	CUR	PROJ	AFC SOUTH	CUR	PROJ	NFC WEST	CUR	PROJ	NFC SOUTH	CUR	PROJ
Kansas City	10-6	10-6	Houston	10-7	10-7	San Francisco	12-4	12-4	Tampa Bay	9-8	9-8
Denver	8-8	8-8	Jacksonville	9-8	9-8	Los Angeles	9-7	9-7	New Orleans	9-8	9-8
Las Vegas	7-9	7-9	Indianapolis	9-8	9-8	Seattle	8-8	8-8	Atlanta	7-10	7-10
Los Angeles	5-11	5-11	Tennessee	6-11	6-11	Arizona	4-12	4-12	Carolina	2-15	2-15

11. Spotify Wrapped

Select a color



A portrait of Morgan Wallen, a man with a mustache, set against a colorful, abstract background of red, blue, and green. The Spotify logo is visible at the bottom left of the portrait.

Top Artists

- 1 Morgan Wallen
- 2 Luke Combs
- 3 The Kid LAROI
- 4 Post Malone
- 5 Joshua Bassett

Minutes Listened

32,157

Top Songs

- 1 Diamond In My P...
- 2 Where the Wild ...
- 3 Lifeline
- 4 LOVE AGAIN
- 5 Chasin' You

Top Genre

Rap

SPOTIFY.COM/WRAPPED

Share

⟳ Replay from beginning



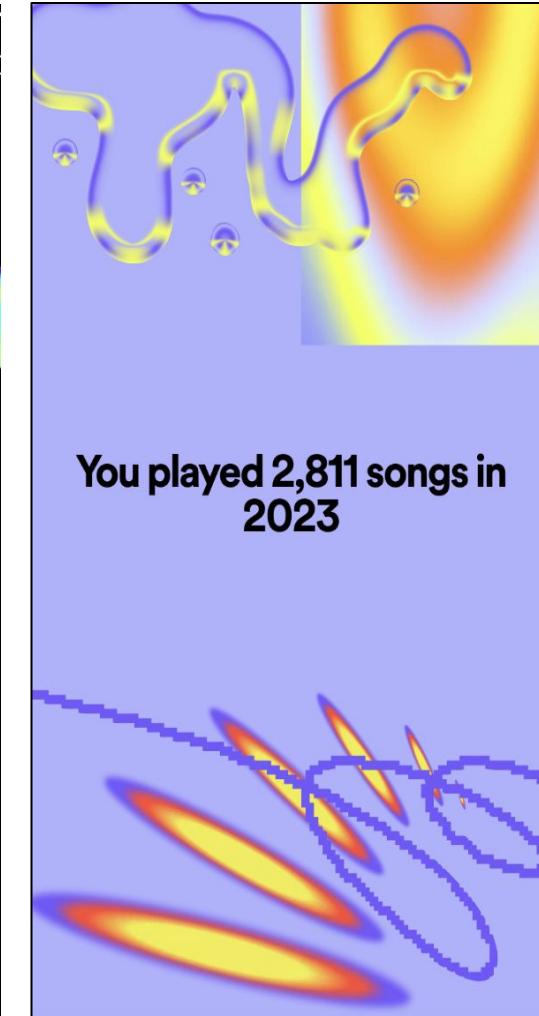
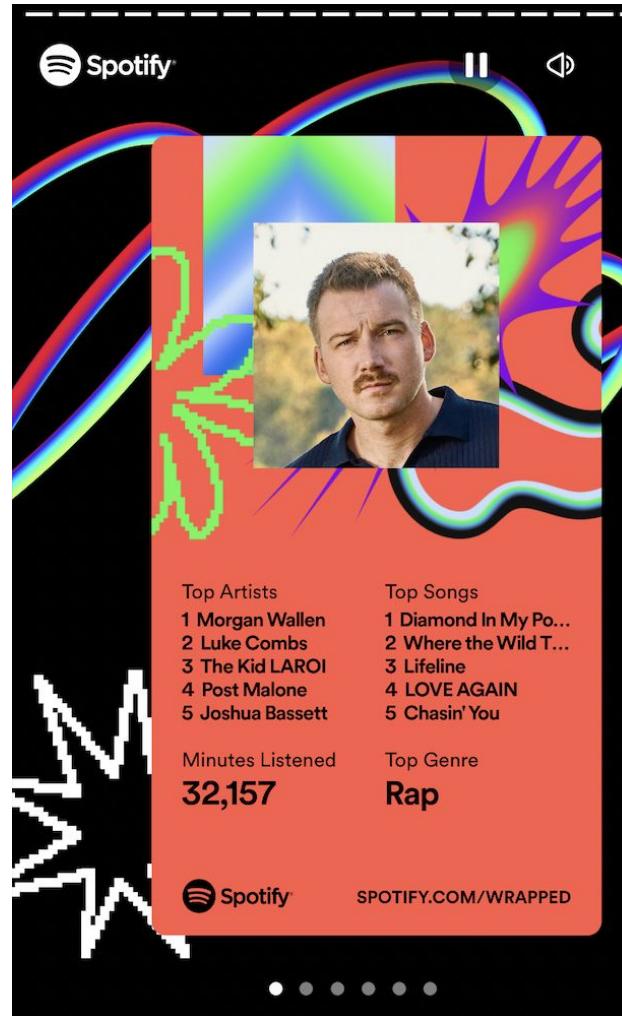
11. Spotify Wrapped

Brief description

Spotify is the world's most popular music streaming service, and at the end of every year they make a "year-in-review" music summary for all of their current users. Spotify wrapped is the name of this summary, and it presents to users information such as their top artists, top songs, total minutes of music listened, top genre, etc. This presentation is in the form of a colorful slideshow as can be seen in the photos on the right.

How does it relate to your life?

As mentioned in the introductory slideshow during our first quiz section, I am a frequent listener of music. Whenever I am not working, I am often listening to or playing music. Since music has played such a pivotal role in my enjoyment of life, data visualizations such as Spotify Wrapped allow me to understand what kind of listener I am, which in turn allows me to find more music that I am interested in.

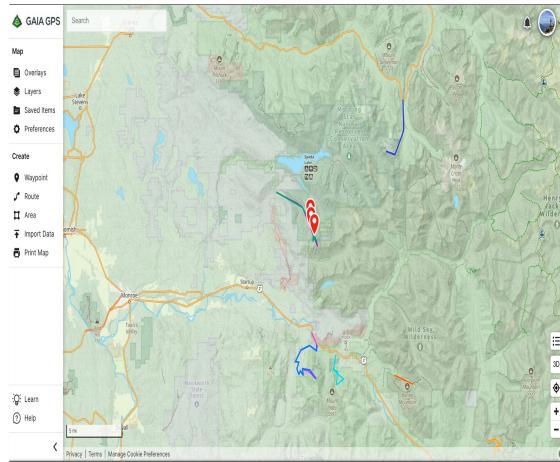


Part 2: Visualization Critique

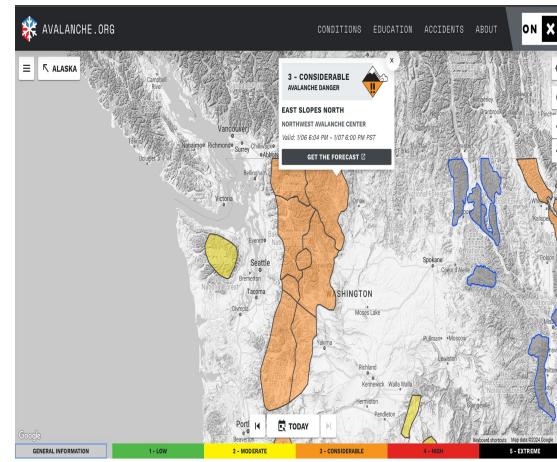
Select three visualization from your curated set to analyze and critique them.

Selected Visualizations For Critique

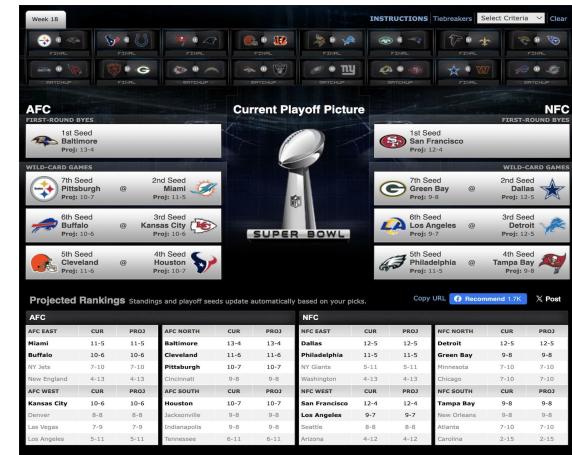
The visualizations I chose for the critique portion of this assignment are: Gaia GPS, the Avalanche Danger Map, and the ESPN NFL Playoff Machine. I specifically made sure that I chose three visualizations from three unique visualization categories. Furthermore, I chose visualizations that had a lot to analyze, and/or visualizations that have been the most influential in my life.



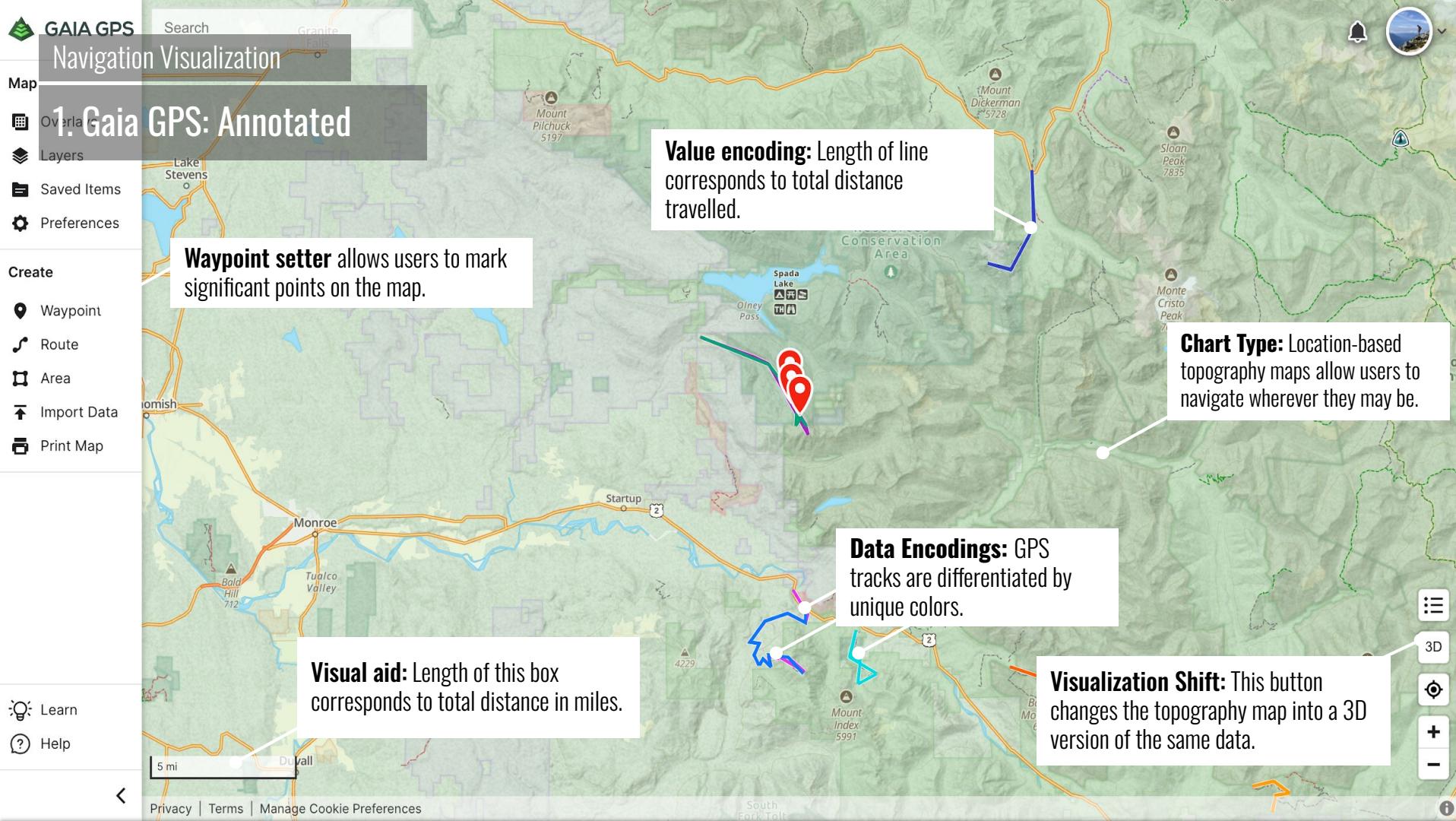
Gaia GPS



Avalanche Danger Map



ESPN NFL Playoff Machine



Navigation Visualization

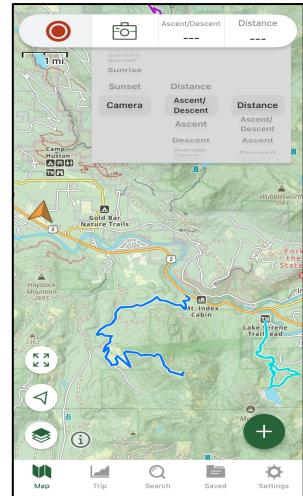
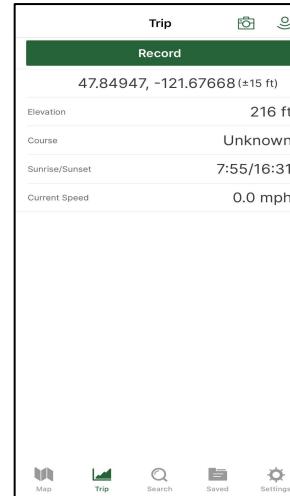
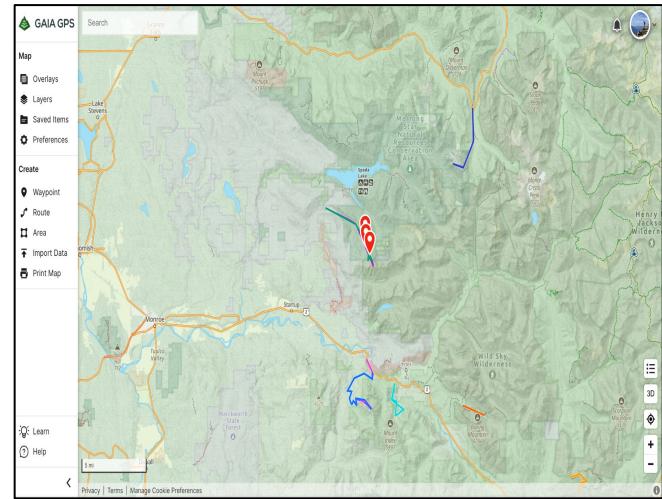
Gaia GPS CRITIQUE

What is the goal of this visualization?

The goal of the Gaia GPS website and phone application is to provide hikers and adventurers alike with accurate depictions of the topography and current location of the user, especially when the user has no cellular signal. By allowing users to accurately navigate themselves while offline, Gaia GPS decreases the risk of navigational errors, and in turn makes it less likely that users will get lost while exploring the wilderness. In summary, Gaia GPS promotes backcountry safety when it comes to navigational tasks.

How is the data represented—its visual encoding, graphical marks, color, etc.?

The main part of the data visualization, the map, is represented as a topographic map (can be 2D or 3D) which allows for the depiction of geographical features. Users can influence the visualization by adding colored GPS tracks that follow the users location while the recording option is selected. The length of the GPS tracks measure the total distance travelled in miles (or kilometers). Users can also add to the visualization by adding waypoints to the map that mark specific locations on the map with red and white markers. The phone version of Gaia GPS also keeps track of certain numbers such as current elevation, total elevation gain, total miles travelled, current coordinates, etc.



Navigation Visualization

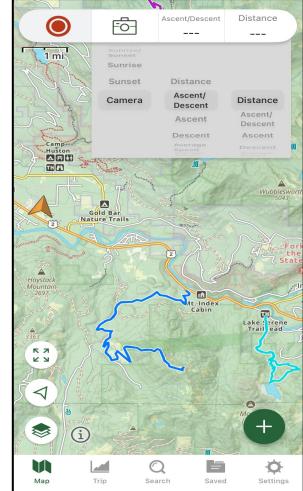
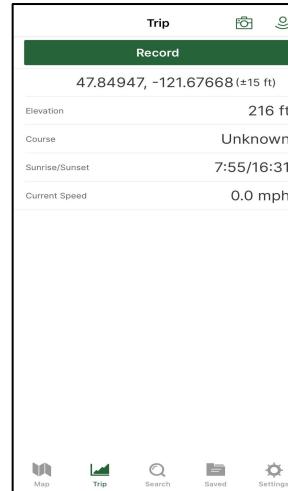
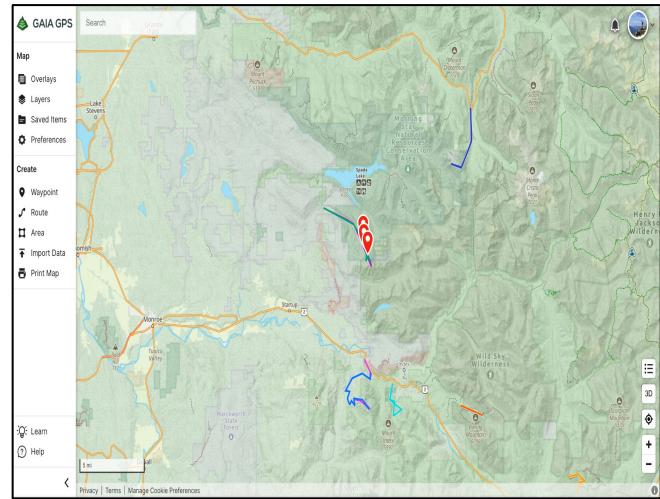
Gaia GPS CRITIQUE

What are some key strengths of this visualization and why?

- The ability to leave permanent colorful GPS tracks allows users to effectively “follow a trail,” even when there isn’t one present. The unique colors for different trips allows users to differentiate between these different trips, which can be useful when trying to reuse tracks.
- The accurate topography, with colors determining the type of terrain, allows users to gauge the steepness and the “roughness” of intended routes.
- The ability to place waypoints on the map, gives users the ability to stash and retrieve goods like bikes or backpacks with confidence that they’ll easily be able to find the items location again.

What are some key weaknesses of this visualization and why?

- Given that there are so many functionalities and widgets that a user can use to enhance their experience and the visualization itself, the map can get crowded very quickly, especially in well-travelled areas.
- The statistics and navigational quantities, as well as the GPS track itself, have a hard time visualizing small changes. This leads to slightly inaccurate tracking which can be crucial in tight quarters travel.



4. Avalanche Danger Map: Annotated

Value encoding: Color of the area corresponds to the level of avalanche danger in the mountains of that area.

Chart Type: Choropleth map, mountainous areas filled with colors based by forecasted avalanche danger.

3 - CONSIDERABLE AVALANCHE DANGER

EAST SLOPES NORTH

NORTHWEST AVALANCHE CENTER

Valid: 1/06 6:04 PM - 1/07 6:00 PM PST

GET THE FORECAST

Description Box: Text in the box gives information on the region and the forecast date, clicking the box gives the full forecast for the region.

Visual aid: Text in the box corresponds to the type of danger each color represents.

Weather Visualization

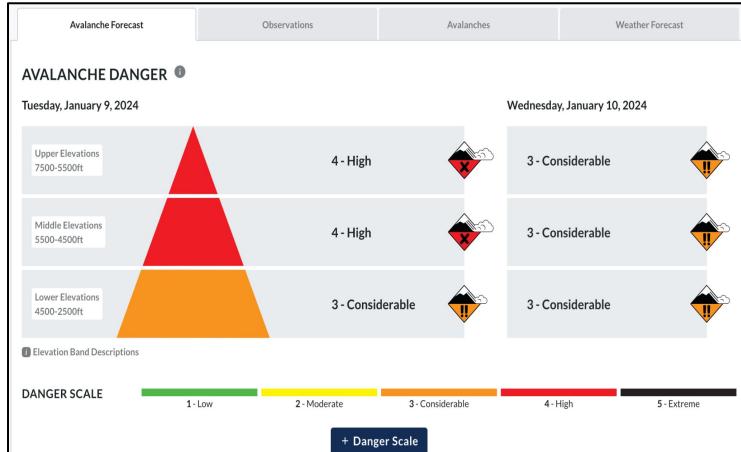
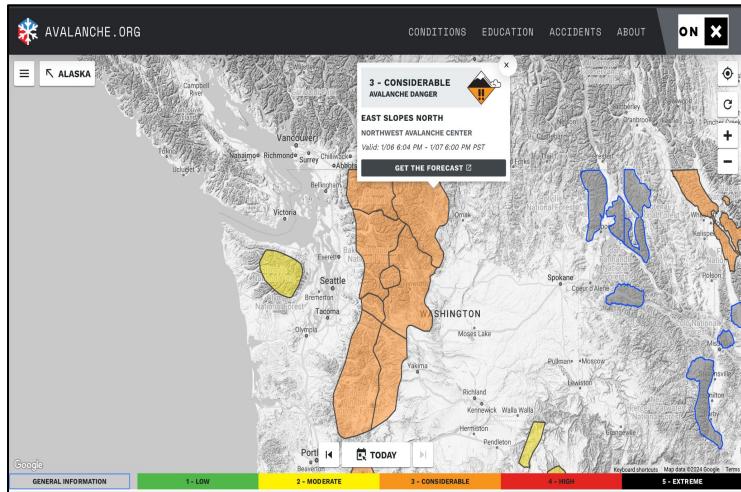
Avalanche Danger Map CRITIQUE

What is the goal of this visualization?

The goal of the avalanche danger map is to inform hikers, climbers, backcountry skiers, and all individuals who intend to travel in mountainous regions, about the current avalanche dangers in these specific mountainous regions. By offering accurate and up-to-date information on a dangerous phenomenon, adventurers are better equipped to make rational and safe decisions when it comes to travelling and entering snow packed areas, especially during the winter months.

How is the data represented—its visual encoding, graphical marks, color, etc.?

The main way in which the data is represented is through what is known as a choropleth map, also known as a heat map. A choropleth map is a data visualization tool that encodes certain areas of the map with shades of a color based on the level of a particular value of interest. In the case of the Avalanche Danger Map, the only areas that are shaded in are the mountainous areas of the United States, and these areas are filled in with different colors spanning from green to black based on the perceived avalanche risk in the corresponding area. In general, the darker the color, the greater the risk. Clicking on a specific area gives general information about the region, further clicking will lead to a more in-depth description of current conditions in said region (shown on the bottom right).



Weather Visualization

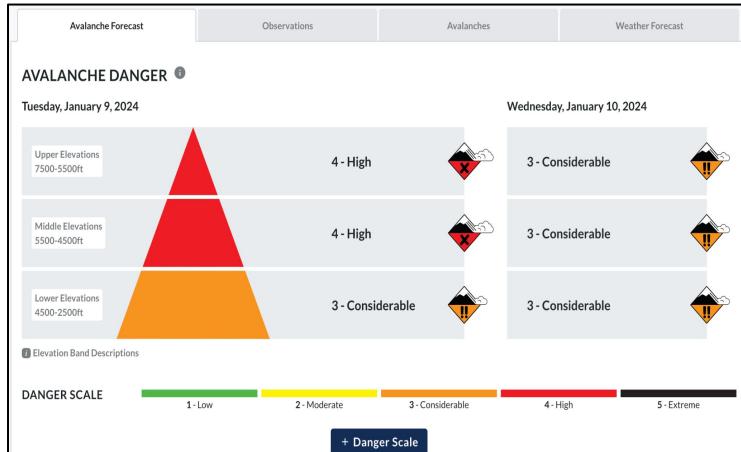
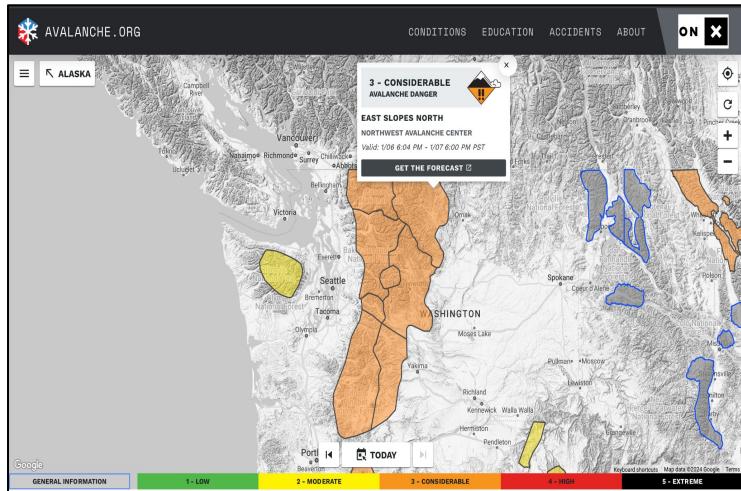
Avalanche Danger Map CRITIQUE

What are some key strengths of this visualization and why?

- Since there are only five discrete colors, and all of the chosen colors are unique, it is easy for users to decipher which region corresponds to which specific value, as opposed to a more continuous color encoding.
- By creating pop-ups whenever a user hovers over a region, which in turn leads to further and more descriptive forecast after clicking, allows users to do further research after initially assessing conditions with the choropleth map.

What are some key weaknesses of this visualization and why?

- Since a new user won't understand the exact meaning of the warning labels (low, moderate, considerable, etc.), this leads to the visualization being "incomplete" or "less useful" to users who haven't previously been on the website and/or done prior research.
- Due to the small amount of danger categories, some cases/areas getting the same label might not be "equal" in the sense that one could be more dangerous than the other. Users might not know this from the visualization itself, and instead would need to do a lot more further research.



Entertainment Visualization

IFC

FIRST-ROUND BYES

 1st Seed
Baltimore
Proj: 13-4

WILD-CARP GAMES

7th Seed Pittsburgh @ **2nd Seed Miami**

 6th Seed
Buffalo
Proj: 10-6 @  3rd Seed
Kansas City
Proj: 10-6

Data Encodings: Potential playoff matchups also update

Projected R

AFC

REG. EAST

AFC EAST		between teams (shown by logos):			
Miami	11-5		11-5		Baltimore
Buffalo	10-6		10-6		Cleveland
NY Jets	7-10		7-10		Pittsburgh

100

New England	4-13	4-13	Cincinnati
AFC WEST	CUR	PROJ	AFC SOUTH
Kansas City	10-6	10-6	Houston
Denver	8-8	8-8	Jacksonville
Las Vegas	7-9	7-9	Indianapolis
Los Angeles	5-11	5-11	Tennessee

Current

Widgets: Clickable widgets allow users to choose the winner (or tie) in each game of the current and future weeks to see how they would impact standings and playoff matchups.

Additional Links: Additional links allow new users to understand how the playoff machine works, as well as allow current users to understand the current tiebreakers being used to present the data.

Data Encodings: Potential playoff matchups also update based on the hypothetical game picks listed above. They take the form of ordered matchups between teams (shown by logos).



off seeds update automatically based on your picks.

[Copy URL](#) [Recommend 1.7K](#) [Post](#)

Chart Type: Data tables in the form of divisional standings update based on the hypothetical game picks listed above.

TH	CUR	PROJ
e	13-4	13-4
d	11-6	11-6
h	10-7	10-7
	9-8	9-8
TH	CUR	PROJ
le	10-7	10-7
lis	9-8	9-8
e	9-8	9-8
	6-11	6-11

NFC				
NFC EAST		ORTH	CUR	PROJ
Dallas	12-5	12-5	12-5	12-5
Philadelphia	9-8	9-8	9-8	9-8
NY Giants	7-10	7-10	7-10	7-10
Washington	7-10	7-10	7-10	7-10
NFC WEST		NFC SOUTH	CUR	PROJ
San Francisco	12-4	Tampa Bay	9-8	9-8
Los Angeles	9-7	New Orleans	9-8	9-8
Seattle	8-8	Atlanta	7-10	7-10
Arizona	4-12	Carolina	2-15	2-15

Entertainment Visualization

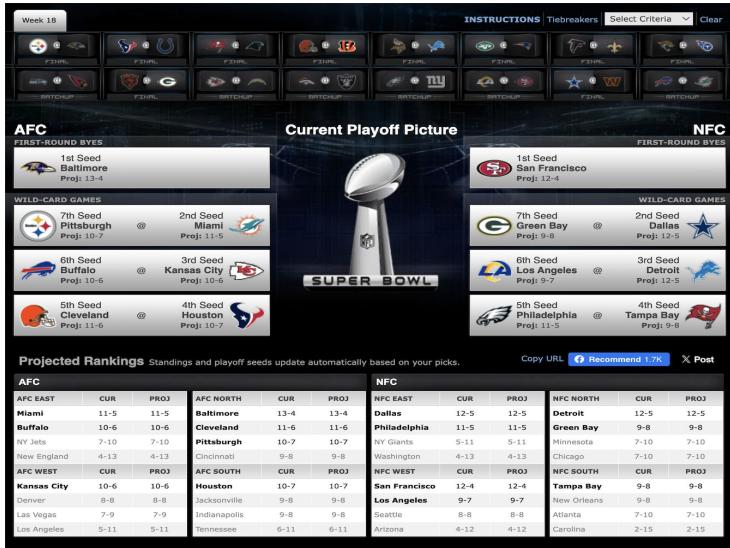
ESPN NFL Playoff Machine CRITIQUE

What is the goal of this visualization?

The goal of this visualization is to allow interested NFL fans the ability to understand how the playoffs and divisional standings would change based on how the fan believes current and future games will pan out. Furthermore, due to confusing tie breaking criterion, the playoff machine allows the user to comprehend how these convoluted rules work through experimentation.

How is the data represented—its visual encoding, graphical marks, color, etc.?

Since this visualization is different from most usual data visualizations, due to being so domain specific, it's hard to give the visualization a name. With that being said, the main part of the visualization are the data tables storing division standings, as well as current playoff matchups, both of which depend on the clickable widgets at the top of the visualization. Further information like instructions, tiebreakers, and criteria for selecting winners are presented as links and a scroll down list in the top right of the visualization.



Welcome to the ESPN.com NFL Playoff Machine

See what the latest playoff picture looks like and simulate your own playoff scenarios!

1. Start your simulation by deciding which available factor will determine the outcome of each game. For example, selecting "Home" means the home team will win every matchup.
2. Adjust the winners of individual games week-by-week by clicking the logo of the team you think will win.
3. Projected playoff matchups and standings will update automatically! Can your team earn a 1st-round bye?

Choose a starting point

Preselect winners for upcoming games based on one of the following:

Select Criteria ▾

*Click "Copy URL" to share your custom playoff scenario with your friends!

*Click "Tiebreakers" to see the rules associated with your scenario.

Entertainment Visualization

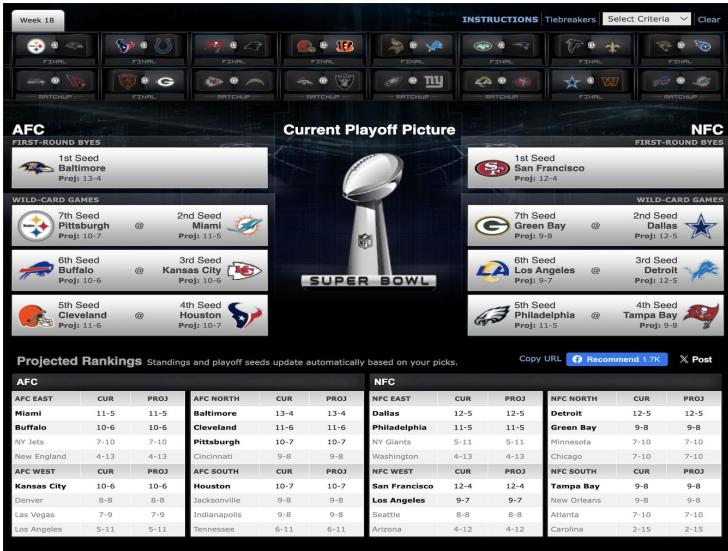
ESPN NFL Playoff Machine CRITIQUE

What are some key strengths of this visualization and why?

- Due to the fact that the visualization abstracts all of the tiebreakers and calculations, users only need to choose who they think will win each game, without worrying about complicated semantics deep in the NFL rulebook.
- The quick links in the top right corner of the visualization allow new users to gain the information they need to properly use the allotted tools without having to “dig” too much to gain understanding.
- The ability to predict games several weeks in the future allows users to gain a more in-depth understanding of what’s at stake in the near future. On that same token, this allows the visualization to be relevant for a longer period of time.

What are some key weaknesses of this visualization and why?

- By not allowing users the option to see how a certain team can make the playoffs from the beginning, this leaves users with a lot of “trial-and-error” that could be time consuming.
- Due to how abstracted the calculation process is with very little description of how the tiebreakers work in each instance, users have to blindly trust that the developers understood and implemented the rules correctly.



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Learning reflection

In this assignment, I learned just how pervasive data visualizations are in our day-to-day lives without us ever paying much attention to them. Due to how immersed our society is in technology, we have become desensitized to data visualizations in the sense that we hardly ever consider that what we are looking at is in some way a data visualization. With that being said, due to this desensitization, it turned out to be quite difficult for me to find these ten unique and interesting visualizations. Due to how many options I had, it seemed like there were none at all.

This assignment also allowed me to critically analyze these visualization that I use everyday in a way that I haven't felt necessary before. After about the fifth visualization that I had analyzed/described, I found myself thinking how the visualization could be made better. On the contrary, I also looked at which pieces/functionalities of the visualization kept me coming back time and time again. By taking stock of the pros and cons of each visualization, I now know certain feature I will implement in my own visualizations, as well as those that I will steer clear from.