


# Planning & Inspiration:

Social media has an abundance of content that is manipulated and irrelevant to people's real lives. We set out to create a photo sharing app that would allow people to engage with their local community and share what is actually around them. **Our idea for the app was to have users take photos exclusively within the app (Similar to Snapchat) and allow them to post photos to a public feed. Our vision for this feed was to have all pictures visible to every user, as long as they were taken within 1 mile of the user's location.**

At first we explored swift to build it as an Apple mobile application. We were unfamiliar with Xcode and Swift, the services used to build Apple applications, so our progress was slow. We decided to explore alternate methods of execution, so that we could build the best version of our concept within the time constraints.

We chose to build the service in the  a web application, since it is the medium we are most familiar with.

# Tools for development:

## Client-side application:



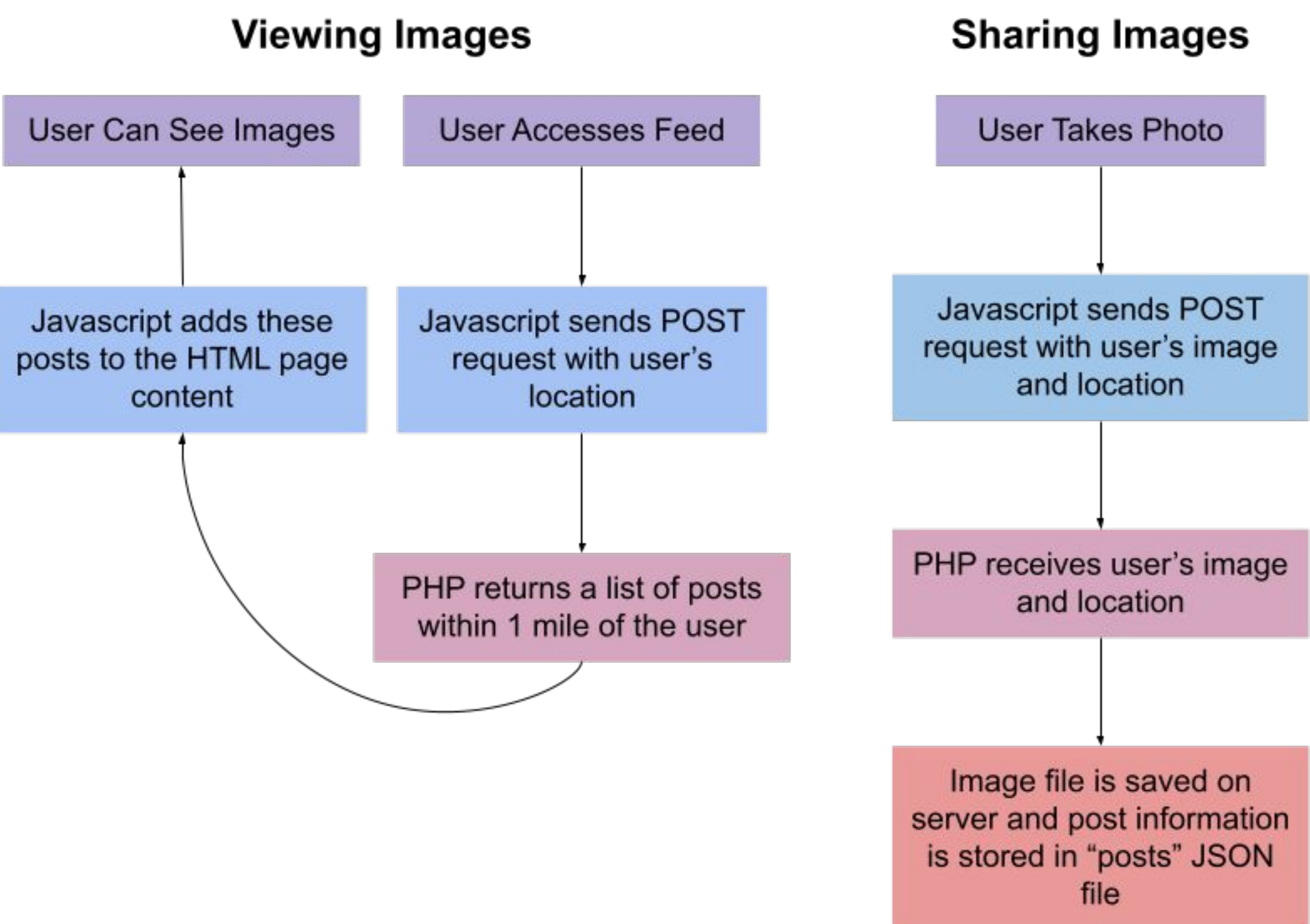
- HTML, to build the page content
- CSS, to style the page content
- JS, to run the programs required to take pictures and show posts

## Server-side application:



- PHP, to store user's images and locations and to serve the user posts that are near them
- JSON, to format information and allow it to be easily used by the program

# System Structure:



# Additions Made During Development:

- We built a recommendation algorithm that sorts posts based on a combined standardized score of the post's recency and proximity to the user
- We added settings to the feed page that allow users to customize what posts are shown
- Added a system for concurrency control to our PHP program so that users wouldn't overwrite each other's pictures if they post at the same time
- Added a binary search to our PHP program that makes sure that post IDs aren't accidentally repeated
- We utilized CSS variables to change the site's color scheme to a light or dark version based on the user's device settings

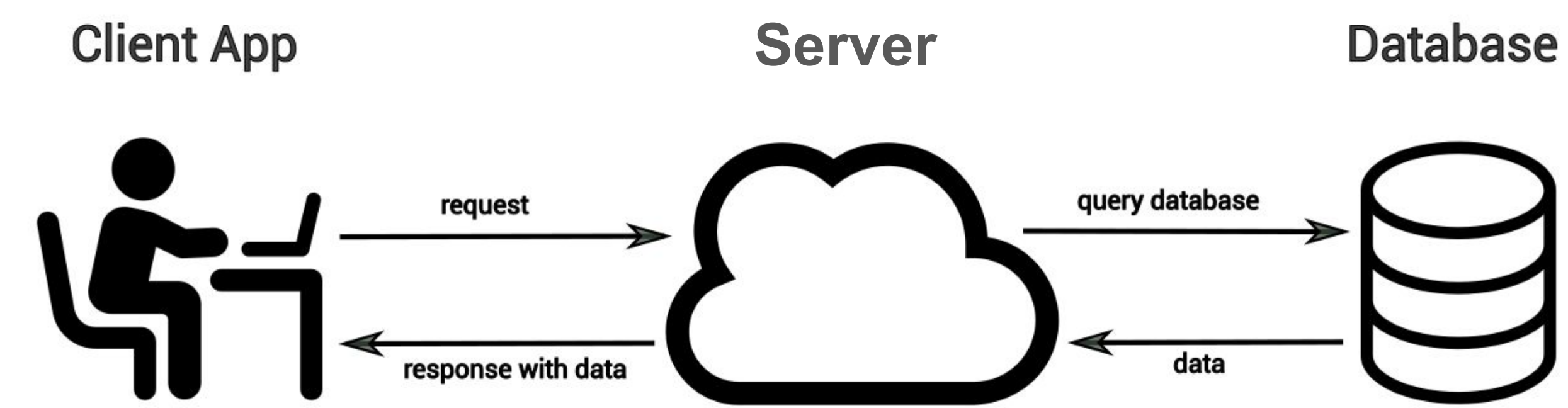


# Geo Gram

## A Location Based Photo Sharing Network Created By John Bulosan & Evan Masiello

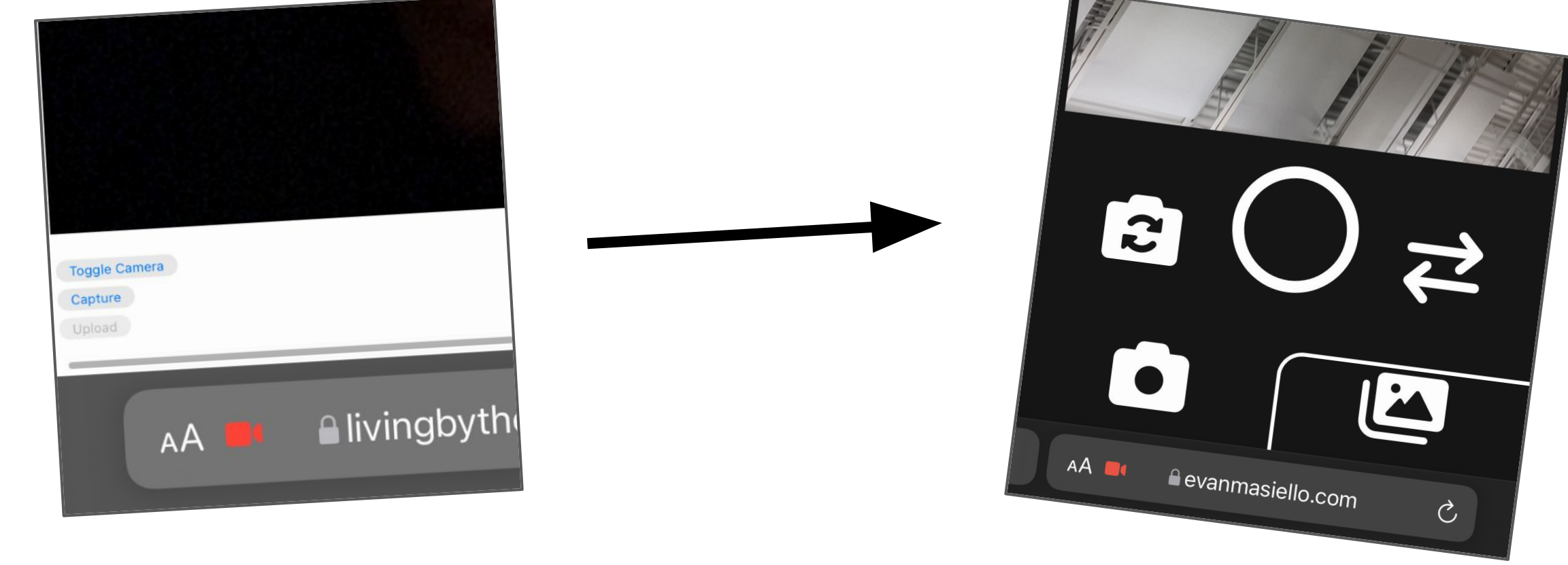
# Development Process:

- Our progress was much faster once we switched to a web app
- We didn't have much experience sending information from client side programs to server side programs, so learning how to utilize php POST requests was an important step in our development
- Once we had a php system to save post information in a JSON file we realized we needed to implement systems for concurrency control and primary key protection
- These database design concepts are something that we didn't expect to learn and use in our project, but they proved to be important



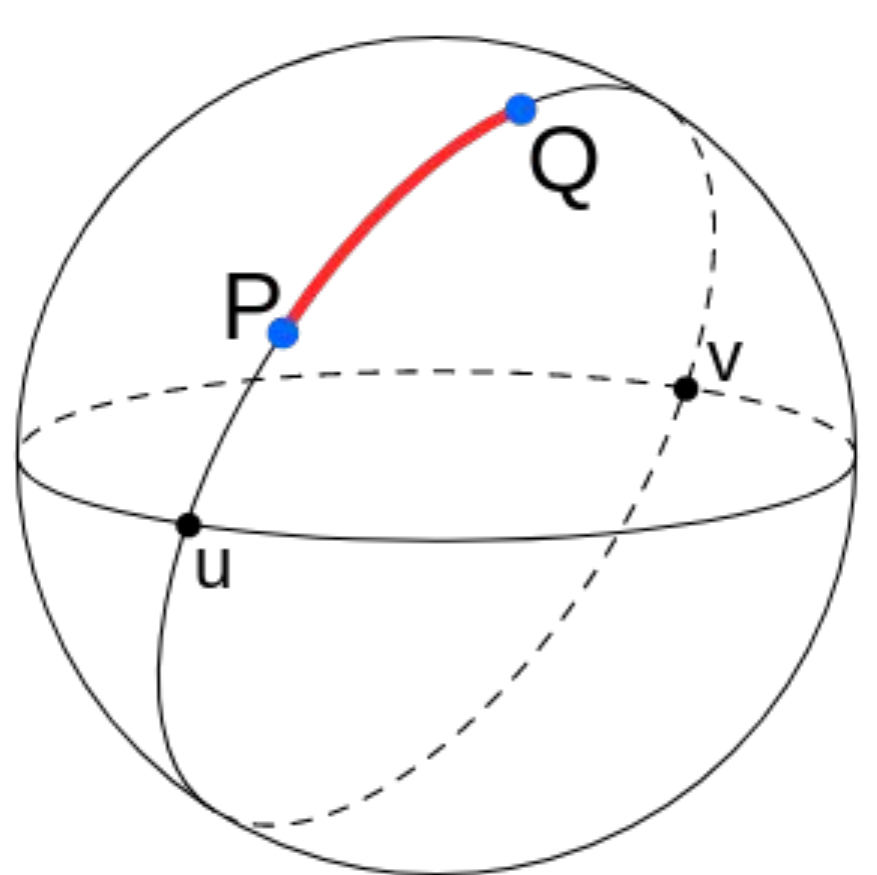
# Camera System:

- The user first sees a video that shows their camera in real time and there are three buttons: flip camera, take picture, and invert camera.
- After taking a picture, it simply asks the user whether it wants to upload or re-take the picture.
- An unexpectedly hard part of the project was making the transition between the video element displaying what the camera sees and the canvas element displaying the picture taken seamless.
- In the early stages of the project, we were given feedback from classmates who used the app that the buttons were hard to use, too small, etc.
- A lot of fine tuning – tinkering with sizes of the elements, etc. – in html and css was done in order to make the page clean and user-friendly.



# Location Filtering:

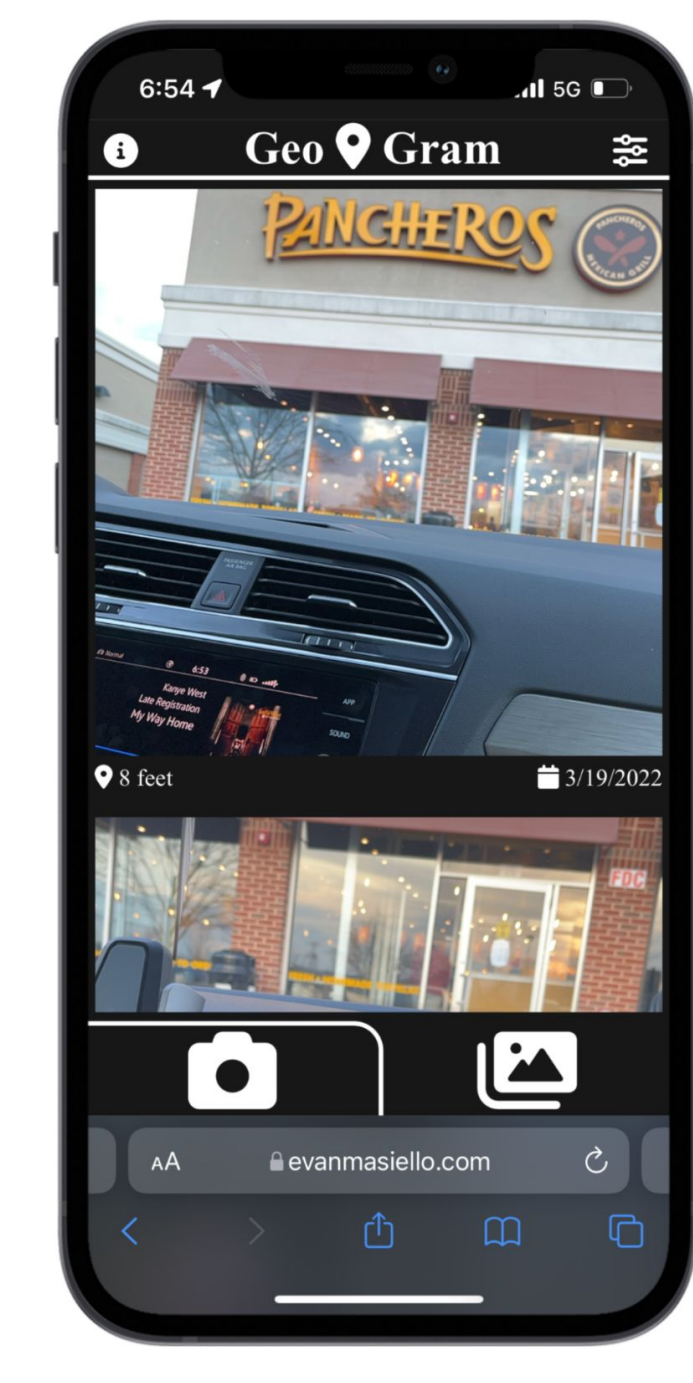
- We used javascript to fetch the user's current latitude and longitude location
- Implemented the Haversine formula to calculate the distance between the latitude and longitude of the user and the latitude and longitude of posts
- At first we performed this calculation on the client side, and didn't show posts that were more than 1 mile away
- We later moved this process to the server side so that client's devices wouldn't have to perform calculations for every single post



# Completed Application:



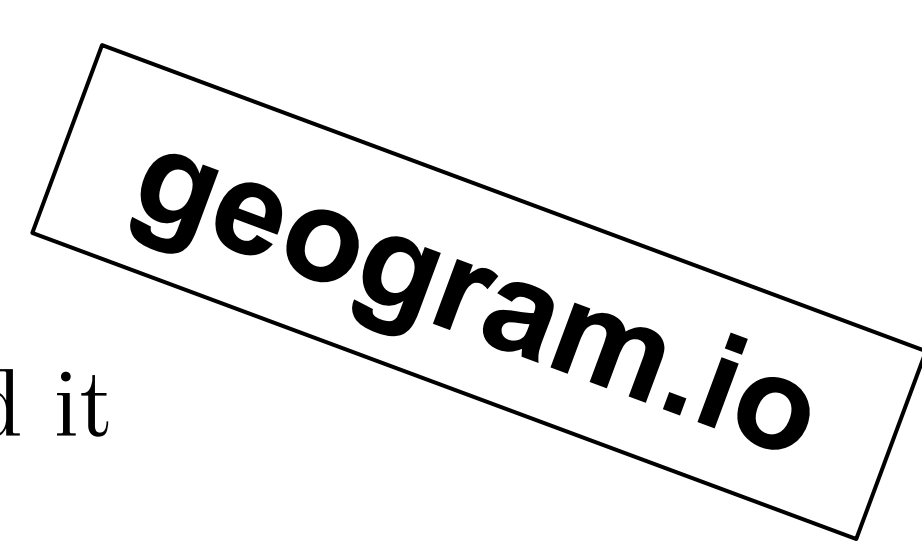
Camera Page



Feed Page

# Marketing & Testing:

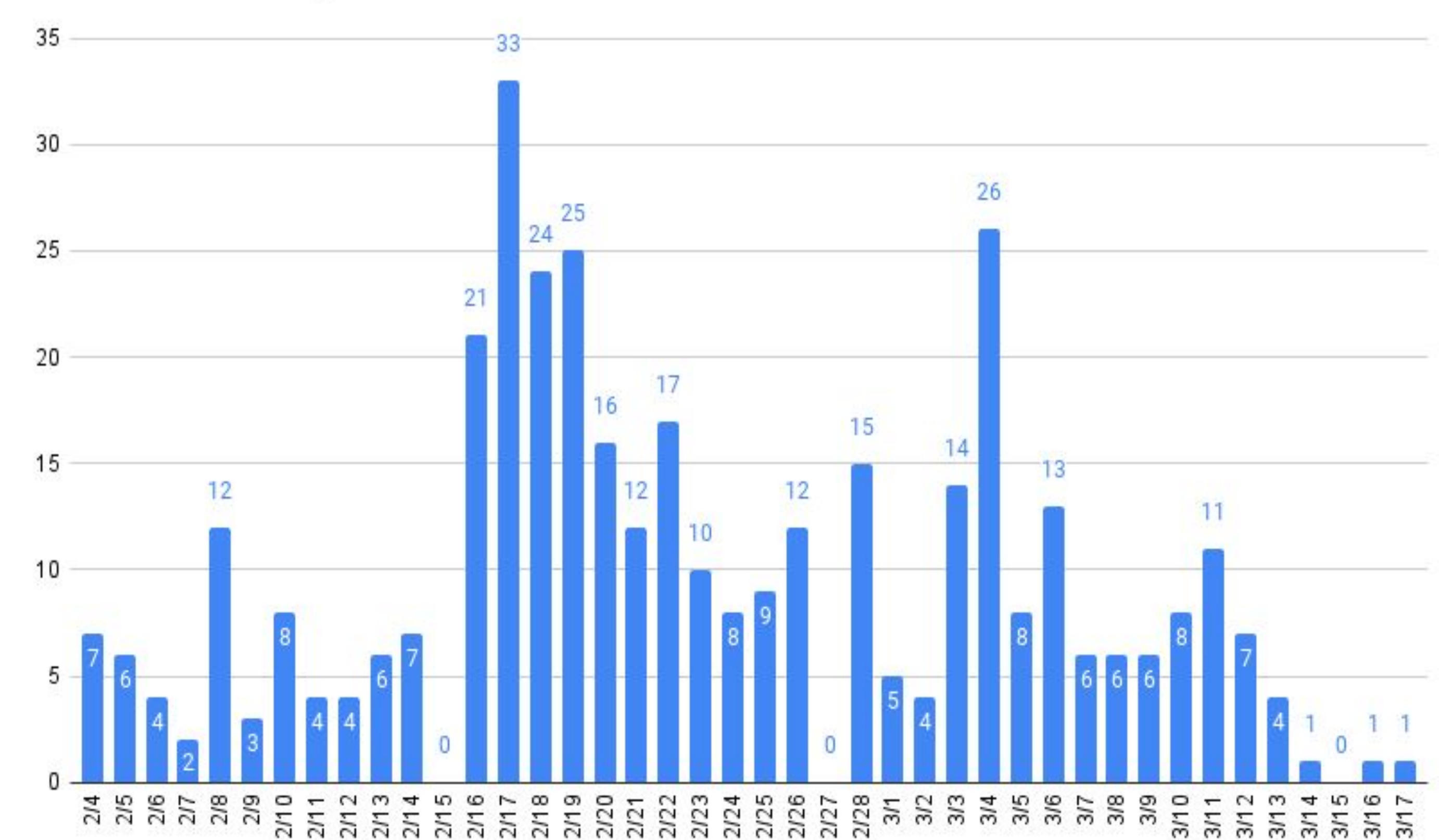
- We hosted the app at [geogram.io](http://geogram.io) and shared it with friends and family
- By sharing the service with others we were able to test the project through a multitude of users located in different areas
- We started spreading the app mostly by word of mouth. This was still during development and we unsure if we should have made it public before implementing all of the features we had planned
- Over 425 posts were taken on the site



# Public Reception:

- The friends and family that we shared the app with were impressed by the concept and implementation of our project
- Our testing group made taking pictures on the app a part of their social gatherings, and were especially excited to take pictures when they travelled
- The school did not react positively to the ease through which students could share pictures within the school, and requested that we take down the site.
- The friends and family that had used the app were disappointed by this outcome and have expressed their excitement for a potential return of the service
- Individual users posted very frequently, which shows how restricted viewing of images could alleviate insecurities commonly associated with posting on social media

New Posts Per Day



# Future Plans & Improvements:

- We still would like to add a system for liking posts, and take the number of likes into account when sorting the images displayed in the feed.
- There were location inaccuracies up to half a mile away with using GPS exclusively. A possible solution would be to incorporate bluetooth/wi-fi technologies in addition to the device's gps coordinates.
- We would like to add a flagging feature so that users can report posts that violate the guidelines.
- We hope to host the project publicly again after some modifications.
- We plan to develop Apple and Android applications that allow the service to be accessed outside of the web browser

