

- Usability Testing Lecture Notes:
  - Primary/Secondary Users:
    - Tourists to Volcano & Tour Guides
    - Scientists studying the volcano
    - Individuals curious about volcano
  - User Goals
    - Take Photos of volcano (specifically for the timelapse with their photo)
    - View timelapse of volcano
    - Study morphological changes in volcano over time
    - Have good, consistent data (no screwy photos, no selfies, good aspect ratios/resolutions)
  - Usability concerns for the app
    - Non tech-savvy users may be confused by requesting camera perms or setting the correct aspect ratio if needed
    - Languages - what if a user doesn't know either English or Spanish?
    - How will we automatically filter out bad photos?
    - Some parts of site primarily for mobile, some for desktop, some for both
    - Poor cell signal may make upload/download difficult
  - In-Person or Remote
    - In-Person IN HOUGHTON
  - What Scenarios
    - 'You have gone to the volcano, and have heard about a citizen science project to monitor the volcano's shape. At the lookout point there is a stand that has a qr code for the app' - take a photo & upload it, get timelapse back; photo will need to be a stand-in for the actual volcano
    - 'You have heard of a project that has a timelapse of this volcano. You think it's interesting and go to check it out' - go watch the timelapse
    - Backend/admin testing - somebody's uploaded bad data, and you need to get it off the site.
  - Measurements that can be made
    - Time taken to get to desired pages (quant)
    - User sentiment about given task (quali) (post-test survey)
    - Number of clicks taken to get to desired pages vs. minimum required clicks (quant)
  - Any special testing setup
    - Stand-in photos for the upload photo test
    - Need a phone to test with (require testers have phones? idk)
    - Need laptop for the backend scenario

# 1: Site Navigation

**Test Goals for the scenario** Evaluate if users can successfully find and scan the QR code and verify they land on the correct site.

**Software or equipment required** User's phone, and a valid QR code

**Quantitative measurement list** Time taken from pointing the camera at the QR code to the homepage fully loading.

**Scenario Description** The user acts as if they are at the lookout point, see the QR code, and is able to navigate to that site from the volcano

**Qualitative measurement list** How obvious the QR code was and their confidence that they landed on the official project site.

**Potential observations of participant** struggling to get their camera to focus on the QR code, or confusion on the page loading

**Test set up details** A printed QR code is accessible to the user on paper. Scan with their phone.

Imagine you are a tourist who just hiked to the volcano lookout. You see a sign asking for volunteers to help monitor the volcano, and it has a QR code. Scan the code and get to the main homepage of the project.

# 2: Interfacing

**Test Goals for the scenario** See if the user understands the photo framing instructions and smoothly grants the browser/app permission to use their camera.

**Software or equipment required** Participant's smartphone.

**Quantitative measurement list** Number of times the user has to read the instructions; time taken to accept the permissions prompt.

**Scenario Description** Starting from the homepage, the participant navigates to the "Take Photo" section, understands the conditions for a good photo, and initiates the file upload

**Qualitative measurement list** Perceived clarity of the aspect ratio/framing rules and any hesitation when asked for camera access.

**Potential observations of participants** denying the camera permissions out of reflex, or out of denial to have access to permissions from the phone

**Test set up details** In-person on their laptop or phone

You've decided to contribute a photo to the project. From the homepage, find where to submit a photo, read the instructions on how to frame it, and open the camera app so you are ready to take the photo

### 3: Feedback and Submission

**Test Goals for the scenario** Determine if the user definitively knows whether their photo was accepted, rejected, or is still uploading (simulating poor cell signal).

**Software or equipment required** User's phone, and an accessible photo of the volcano (likely from google maps)

**Quantitative measurement list** Time spent staring at the screen after hitting "Submit" before realizing the process is finished.

**Scenario Description** The participant takes a picture of the stand-in volcano and hits submit. The system will process it and return whether or not the photo uploads

**Qualitative measurement list** User confidence level that the system successfully received their data (or didn't)

**Potential observations of participants** tapping the "Submit" button multiple times because the loading indicator is unclear, or closing the browser before the upload finishes.

**Test set up details** In-person, on their mobile device

You are ready to take your photo. Please take a picture of the 'volcano' (likely from maps), submit it to the system, and ensure the photo has reached the backend

### 4: Harmful Content and Spam

**Test Scenario Name** Bad-Data filter: Manual Intervention

**Test Goals for the scenario** Remove the spam photos of status from the admin panel

**Software or equipment required** Participant's computer and/or cell phone

**Quantitative measurement list** How much effort goes into finding the incorrect images, and deleting them from the server

**Scenario Description** The scientists notice that the filter is unable to take out photos of statues. They realize that the timelapse presents this to the user, so they enter the admin panel in an attempt to manually remove it from the server

**Qualitative measurement list** How easily finding the timelapse was and how easily the file was deleted from the server

**Potential observations of participants** Being unable to find the bad data from a list of files

**Test set up details** In-person, and on the admin panel from their laptop or phone

You are a scientist working with the volcano data. Upon looking at the timelapse, you notice that photos of statues are visible from the timelapse. It must have passed the filter, so you enter the admin panel to get rid of the bad data

## 5: Viewing the Time-Lapse

**Test Scenario Name** Timelapse Navigation and Viewing

**Test Goals for the scenario** Evaluate how easily a curious user can find and interact with the timelapse

**Software or equipment required** User's phone OR a PC

**Quantitative measurement list** Number of clicks/taps from the homepage to get the timelapse playing.

**Scenario Description** The user acts as someone purely curious about the volcano. They arrive at the homepage and must find the timelapse viewer, start it, and watch the morphological changes.

**Qualitative measurement list** Ease of finding the timelapse and satisfaction with the viewing controls

**Potential observations of participants** clicking on static images thinking they are videos, or struggling to find the playback controls (The bottom where a time lapse type is selected)

**Test set up details** In-person, on their laptop, or phone

You are sitting at home and are curious about the volcano. You've navigated to the homepage. Without uploading anything, find the timelapse of the volcano and play it so you can see how it has changed over time.