

Usability Research Protocols

April 4, 2017

Example Video link:

The Research Plan

Homepage Template Evaluation for Intended Usability

The new home page for GeoNode provides new paths to user-defined goals through clusters of typical entry points, such as data stories, hazards, data category types, and search fields. This seeks to improve upon the existing home page while also giving each GeoNode flexibility for their own unique homepage. Usability testing seeks to define if there is a marked improvement between the existing homepage design and the new homepage by running users through a set of defined tasks within each design.

Goals:

- Test users ability to find and perform typical tasks from the GeoNode homepage.
- Evaluate effectiveness of new homepage design and features.
- Provide actionable recommendations for improvements to the homepage.
- Create generic workflow template for GeoNode for continued user testing.

Research Participants:

- Current users within OpenDRI projects and from survey population.
- New users recruited online via mailing system.

Expected Outcomes:

- Results of user testing analysis documented in Github
- Recommendations for improvements in Github tied to specific tasks/issues
- Documentation for generic user testing workflow template

Software Costs:

Subscription fee to tracking and user testing software. Initial review of costs range from \$49-200.

METHODS

Recording

Code was added to a copies of both the new and old Malawi GeoNode sites that allowed the recording of visitor actions. For the duration of the test, every user had their interactions with the site recorded. The resulting information collected includes the duration of the visit to the site, the order of pages and time on each page. Note, creating copies of the GeoNodes resulted in clean dataset from individuals participating in the study. Non-study activities were not recorded making comparison between the old and new homepage behaviors possible.

From this raw data some aggregate analysis can be quickly computed, including:

- Heatmaps of the mouse position
- Click data showing where participants clicked
- Scroll data showing how far down the page the user scrolled

Tasks

Participants were asked to complete the following five tasks:

1. Find MASDAP information

This is your first time to the Malawi website. Find out why MASDAP was created and what information is available to developers.

2. Contact Administrator

You have a question about a dataset you want to upload. Contact the MASDAP administrator with your question.

3. Find 2015 January Flood files

Malawi has very rainy and very dry seasons. Find and download the 2015 data set(s) showing the January flood risk.

4. Find the quantity of OSM files

MASDAP hosts Openstreetmap datasets. How many OSM files exist on MASDAP.

5. Find Bank dataset

You are developing a map of financial services in Malawi. Find and download a dataset showing the location of banks in the country.

Half of the participants got the tasks in this order. The other half started with Task 5 and then continued with Task 1 and so on. Some participants completed all tasks, while others only attempted their first assigned task and then stopped.

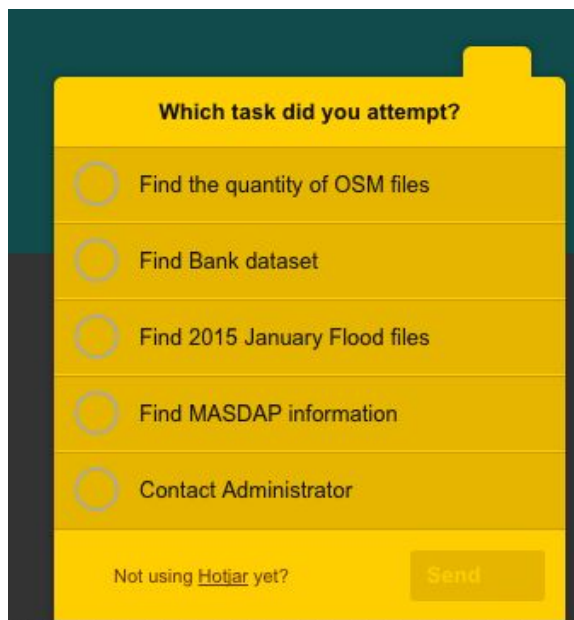
Each of the five tasks were designed to start from the homepage. Users were asked to return to the campaign email to click the task link to be taken to the website. Each time they were taken to the homepage.

Polls

In addition to the tracking and recording of site interactions, there was also a poll to collect the user's feedback on that task. After a specific duration on the site, one of two different polls will pop-up. Participants were asked to self-identify the task they attempted to accomplish, rank the ease of accomplishing their tasks (1-10, 10 = Easy) and invited to comment on the task.

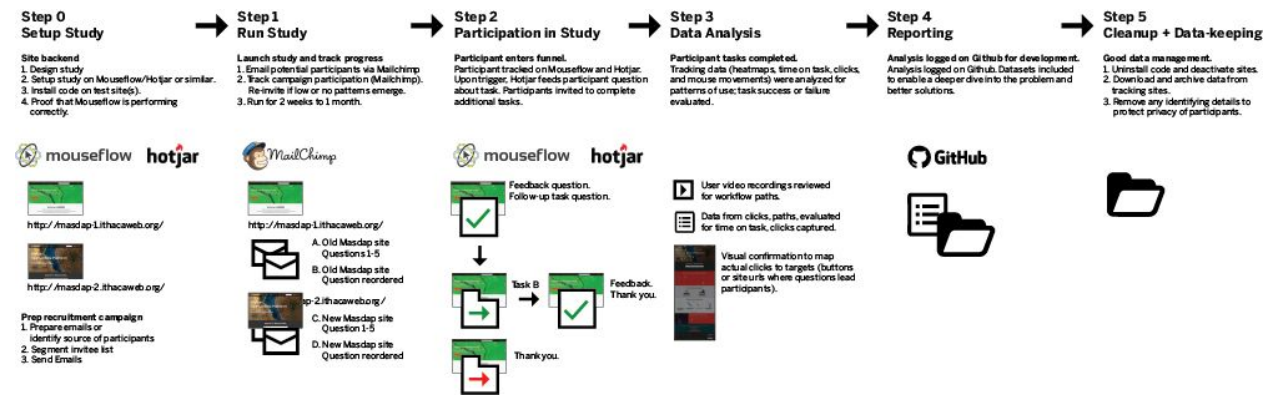
Two identical polls were created and placed on both the new and old template sites. The success poll launched five seconds if a user landed on a target page indicating they have successfully completed the task. The failure poll launched after 60 seconds on a page, indicating that they had given up on the task. Data from each was compared to identify patterns.

Poll form



The image shows a screenshot of a poll form. The form has a yellow background and a dark teal header. The title of the poll is "Which task did you attempt?". Below the title are five radio button options, each on a separate line. The options are: "Find the quantity of OSM files", "Find Bank dataset", "Find 2015 January Flood files", "Find MASDAP information", and "Contact Administrator". At the bottom of the form, there is a link that says "Not using [Hotjar](#) yet?" and a "Send" button.

Research Process:



Tools Used:

User tracking software:

- Mouseflow (consistent user recordings)
- Hotjar (user poll software)

Email software:

- Mailchimp

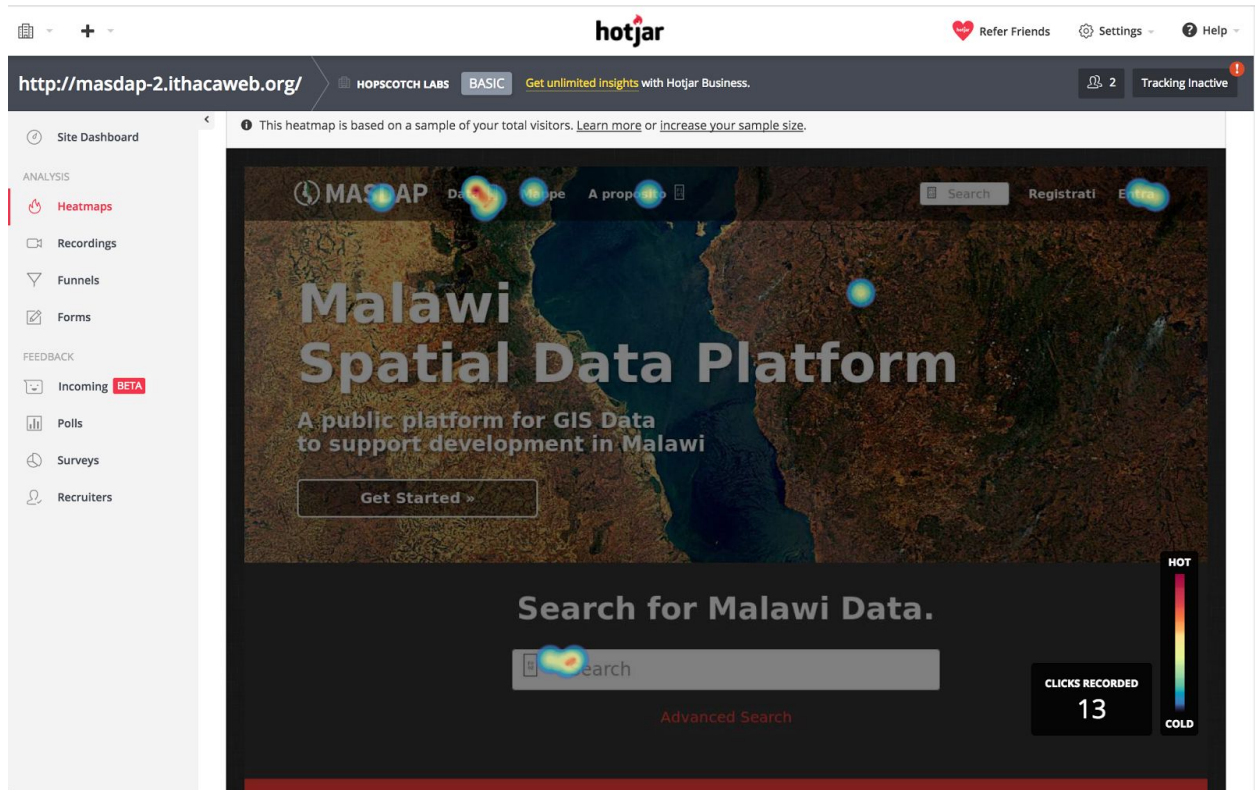
Analysis software:

- Microsoft Excel
- Google Sheets

Reporting:

- Github

Example Outcomes:



PAGE	VIEWS	VISIT TIME	ENGAGEMENT	CLICKS	SCROLL
/	41	18.7s	7.6s	66	38%
/layers	23	1m 8s	17.9s	64	59%
/search	19	19.5s	12.1s	47	59%
/maps	17	25.8s	9.7s	23	75%
/layers/geonode:banks_osm	15	30.5s	21.8s	45	63%
/layers/geonode:major_lakes	12	1m 20s	17.1s	45	52%
/layers/geonode:all_roads_osm	6	4m 58s	34.9s	22	67%
/maps/new	6	1m 42s	1m 18s	128	96%
/contact	5	1m 29s	20.5s	15	83%
/maps/348	5	8.9s	8.0s	15	60%
/layers/geonode:forest_osm	4	1m 49s	20.0s	19	66%
/layers/geonode:major_lakes/metadata	4	11.3s	8.0s	13	75%
/people	4	3.5s	3.5s	3	92%
/gs/geonode:major_lakes/style/manage	3	1m 25s	1m 8s	30	87%
/maps/348/view	3	9m 47s	1m 44s	69	100%
/developer	2	51.2s	29.7s	7	86%
/groups	2	2.5s	2.5s	2	100%
/account/signup	1	2.4s	2.4s	2	100%
/documents	1	1.6s	1.6s	1	8%

Setting up a Usability Test

Testing New Features with End Users

Add user feedback to your process. User research supports product development by helping designers and developers move beyond their own knowledge, experience and bias. It helps product teams understand how other people live their lives and how the product is used in the real world, enabling teams to respond more effectively to user needs with informed and inspired design solutions.

Steps to including user research in your process:

1. Name the problem you have been solving for, and what users can do if that problem is eliminated.
2. Setup your test. Include a scenario or reason to aid understanding; and a task or goal. For example: *“Your colleague is developing a street map of Kathmandu. You remember seeing an OSM file on Kathmandu in an online database. Find the URL to send to your colleague.”*
3. Run the test. You'll need 3-5 actual end users to properly test. It's also helpful to pre-test it with a friend or colleague to improve your results. The easiest method for testing is using Skype or a similar screen sharing video technology that allows the user to show you and talk to you about what they're doing on the screen as they're doing it. If you don't care about the qualifications of the tester, you can use UserTesting.com which will run generic users through a series of activities, providing you a video after.

What to know going into the test:

1. The workflow. Define the workflow (step A leads to step B...) a user would need to take. List the pages a user needs to visit and those they may visit by accident, and the button or module the user should engage with etc.
2. The purpose. Describe the reason a person needs to do this user testing to see if users of the website can accomplish _____.
3. The typical/expected user. Who are you expecting to use this feature?
4. Your reporting needs. Who will see the data later? Who needs to be convinced? This will tell you what kind of software and documentation you need to maintain.

Resources

“Selecting an Online Tool for Unmoderated Remote User Testing” June 1, 2014
<https://www.nngroup.com/articles/unmoderated-user-testing-tools/>