Wiki Loves...  
...in Numbers

Digging into the story of Wiki Loves photo competitions

Lodewijk Gelauff
Wikimania 2023
Singapore, 18 August 2023

Photo: Sheikh Lotfollah Mosque (WLM Iran) by Ara9979
Overview

- Background: Wiki Loves
- Banners
- Images
- Image views
- Participants
  - New contributors
  - Retention

Photo: Banded demoiselle (WLE Germany) by Sven Damerow
Big Picture

2009: Wiki Loves Art
2010: Wiki Loves Monuments NL
2011: WLM Europe, increasing from there
2013: Wiki Loves Earth. First Ukraine, quickly a complementary success!
2014: Wiki Loves Africa: continent wide, different themes each time

The name is used much more widely. We focus here on these three competitions for simplicity because they have so much in common.

Photo: ... by ...
Goals

From surveys and conversations, we know goals range widely. As WLM international team, we identified these goals:

- Images: quantity
- Images: quality
- New contributors
- Organizational capacity building
- Improvement of heritage data
Contributors: pipeline

- Banners
- Landing page
- Create photo
- Create an account
- Upload photo

After the competition:

- Keep contributing? → retention
- Participate again? Other competitions?
Initial participation: banners

Research project based on data collected for September/October 2021

- Lots of caveats, see meta
- We did learn a few things!

Photo: biblioteca no Rio de Janeiro (WLM Brazil) by Donatas Dabravolskas
Banner findings

I promised some numbers:

- 0.2 - 0.8% click on the banner
- Less than 1% continues from landing page to upload page
  - Big range between countries! 0.08% - 1.7%

About the pipeline:

- If a reader visits a WLM landing page, they are > 25x more likely to visit account creation page
- If a reader visits a WLM landing page, they are > 100x more likely to visit upload page
- If an account creation page visitor visits also WLM landing page, they are around 10x more likely to visit upload page
Banner findings

How many banners do we need?

- About half the visitors to WLM landing page saw more than 3 WLM banners in the 24h window. 24% had seen 10 or more banners.
- US introduced 'diet' in the middle of campaign: accidental experiment.
  - Significant drop in landing page visitors
  - Still see ~15% visitors that saw 10+ banners.
- Not a clean experiment → Need properly designed experiment
Banner findings: what did we learn?

- Every step of the pipeline we lose a lot of people
- Landing page design matters - a lot!
- WLM draws in people at higher rates than natural recruitment
- Showing banners multiple times does make a difference.
- Introducing a diet is probably not helpful for recruitment

But what happens with these participants?
* There is a known bug in the 2019 wlaf data.
Cumulative fraction of uploaders by number of uploads

- activity
- wlaf
- wle
- wlm

```
import matplotlib.pyplot as plt
import numpy as np

data = np.random.randint(0, 50, size=(100, 2))

plt.plot(data[:, 0], cumulative_fraction, label='activity')
plt.plot(data[:, 0], cumulative_fraction, label='wlaf')
plt.plot(data[:, 0], cumulative_fraction, label='wle')
plt.plot(data[:, 0], cumulative_fraction, label='wlm')

plt.xlabel('total_contribs')
plt.ylabel('cumulative fraction')
plt.legend()
plt.show()
```
Retention

- What do the participants upload?
- How many are new editors?
- Do they stick around? Return?
- What do they do if they return?

I looked at the following data:

- Images in the "Images from Wiki Loves …" categories
- Collect their uploaders, and find out if their first edit (all wikis) was in the same month. If yes, we call them a 'new editor'.
- This is 'month 0'. How many edits in month 1, 2 etc?
* There is a known bug in the 2019 wlaf data
There is a known bug in the 2019 wlaf data.
Retention over time

<insert graph of retention rate of 1+ edit: plot over time, per year WLM.>

<do the same for WLE, WLAf>

<can we make the same graph for activity/country combinations with sufficient participants?>
- m0 is month of competition
- Annual spike
- Another peak for WLE in May
- 2010/2011 higher, but stable after that
Very similar patterns if we look at 5 edits per month
Any edits across months

We see higher retentions across multiple months.

Some reactivation!

If they don't return in the first few months, we don't have to give up.

Cumulative contributions retained users:

- WLM: 5.7 M
- WLE: 1.7 M
- WLAf: 138 k

<table>
<thead>
<tr>
<th></th>
<th>New editors</th>
<th>m 2-11 retention</th>
<th>m 2+ retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>WLM</td>
<td>74 k</td>
<td>5.4 % (2.5 %)</td>
<td>11.6 % (6.8 %)</td>
</tr>
<tr>
<td>WLE</td>
<td>67 k</td>
<td>3.5 % (1.7 %)</td>
<td>6.9 % (3.8 %)</td>
</tr>
<tr>
<td>WLAf</td>
<td>8.5 k</td>
<td>6.0 % (3.0 %)</td>
<td>9.7 % (5.4 %)</td>
</tr>
</tbody>
</table>
Showing the countries with most new users

- Big differences between countries
- What's up Germany?
Pattern changes for WLE
Wiki Loves Africa is more noisy data.

What's happening in Nigeria?
Retention (5+ edits) by Month after Competition for wlaf

- Nigeria
- Kenya
- South_Africa
- Morocco
- Egypt
- Uganda
- Ghana

Graph showing retention rates over months for the mentioned countries.
Some observations

- For a non-competition month, we see ~ 1% of the new editors make at least 1 edit (WLE: 0.6%, WLAf 1%)
- Across months 2-11 we see 5.4% for WLM, 3.5% for WLE, 6% for WLAf
- Lifetime retention (any edit 2+ months after competition) is 11.6, 6.9 and 9.7%
- There is a retention bump around month 12: returning participants!
- We see a bump when other competitions happen: cross-participation!

Most of the retention happens on Commons (estimated 50-60% off cycle)

There's a few smaller countries who have even higher retention off-cycle than Germany! (cheers to Austria, the Netherlands and Norway!)
Some observations 2

- It is worthwhile considering contributions across all projects
- Big differences between countries: what can we learn?
- Reactivation is a big factor, how can we leverage this?
Future work? So many questions!

- What happened to the images (BaGLAMa)
- Which projects did people end up?
- What activities are successful at re-activating people
- How many users have an active email?
- Can we predict at all who remains active?
- What is a good benchmark?

Thanks to:

- WLM international team, WLx organizers and participants!
- Banner work: Martin Gerlach, Andrew Green
- Retention: Martin Urbanec, Danilo.mac and Bozzy

Photo: Yida refugee camp (WLAf South Sudan) by Marco Gualazzini
More pretty images?

https://commons.wikimedia.org/wiki/Commons:Wiki_Loves_Africa

https://commons.wikimedia.org/wiki/Commons:Wiki_Loves_Earth

https://commons.wikimedia.org/wiki/Commons:Wiki_Loves_Monuments

More detailed images: https://public-paws.wmcloud.org/409/output/figs/

Questions?

Photo: Saint John Church of Sohrol (WLM Iran) by Farzin Izaddoust dar
Images
How are the images used?

Category details for **Images from Wiki Loves Monuments 2020**
36 months have a data point, with 515,731,569 page views in total. Click on individual time points in the graph to see monthly data.

Category details for **Images from Wiki Loves Africa 2020**
33 months have a data point, with 160,955,827 page views in total. Click on individual time points in the graph to see monthly data.
How are the images used?

**Page views in 2023-01**

Total monthly page views: 27,069,048.
Download this table.

<table>
<thead>
<tr>
<th>Site</th>
<th>Pages</th>
<th>Views</th>
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<tbody>
<tr>
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**Page views in 2023-01**

Total monthly page views: 6,293,521. Download this table.

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