# Quarterly review Reading Community Tech

Q1 - 2016/17

Approximate team size during this quarter: 23 Reading, 5 Community Tech

(provisional) Key performance indicator

Global Pageviews

-0.7% YOY (estimate, ±1pp)
See appendix for more on traffic trends

# Reading





Engage and retain readers

Find new readers



# Strategic Initiatives

#### **Improve**

encyclopedia experience

Engagement and retention in current experiences

EXISTING USERS

#### Reach

new readers

Reach new readers in the "Global South"

**NEW READERS** 

#### Interactivity

with new experiences

Collaborative and interactive experiences

NEW MEMBERS









#### Strategic Initiatives

#### **Improve**

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### Interactivity

with new experiences

Collaborative and interactive experiences

NEW MEMBERS

Based on Foundational Work

**Understand our users:** Qualitative and quantitative research about our readers

Services: Build out services to support new experiences across all channels



### **Objective: Notifications**



Objective	Measure of success	Status
Notifications pilot	Continue to improve medium-term retention by piloting content based notifications or other push mechanisms. This pilot is in beta testing.	In Beta
Q3 holdover - Data layer migration	Improve performance and stability by adopting a new database layer. The last step was moving our feed to the new API. Current in beta as well.	In Beta

- Released lock screen widgets for Most Read and Continue Reading
- Featured on the front page of multiple app stores:
  - Featured in Europe and East Asia (particularly Korea) in back to school collections
  - Featured Worldwide as part of several iOS 10 related collections
  - Features generated an additional 155,000 additional installs\* in September
- Notifications for top read news items (a combination of wiki curation and pageviews API data) is now in beta. First ever official content push notification from Wikipedia.

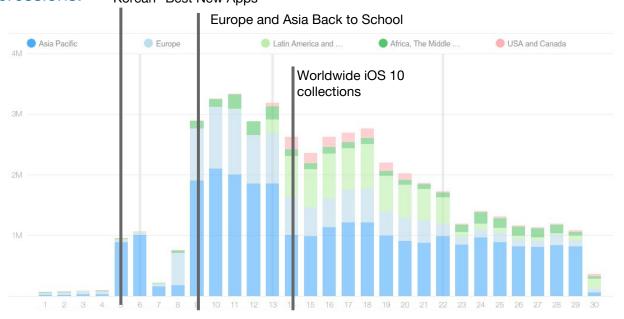
  \*Estimate; measured as "App Units" in iTun

### Q1 - Reading iOS



The iOS app was featured heavily in September by iTunes editorial team. By timing our roadmap with Apple's update we were recognized for our new widgets and our icon was seen by millions a day in East Asia, Latin America and the US. During this period we saw a 7000% increase over baseline impressions:

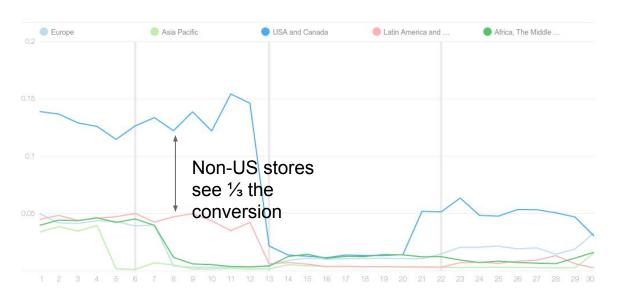
Korean "Best New Apps"



### Q1 - Reading iOS



This exposure was great recognition of the team's work, and an important bridge-building moment with iTunes and Apple Developer Relations team. It also highlighted that we need to do more to capture an international audience:





### **Objective: Navigation overhaul**



Objective	Measure of success	Status
Navigation overhaul	Increase engagement by centralizing more of the app's features into a single interface, and surfacing interrelated features more prominently.	Done
Launch Feed (holdover from Q4)	Drive user retention via Feeds on the app's home screen, with an emphasis on sharing the feed content. In the process, encapsulate as much feed generating logic in our RESTBase service, for use by Android, iOS, or other consumers.	Done

- Launched Feed early in Q1, with very positive media/user response. Seeing gradual positive growth in retention.
- Excellent collaboration with Comms: Wikimedia Blog post was most-viewed post of the year. Dozens of news articles from US, South America, and Indian media.
- Despite positive reception, surprisingly little impact on install numbers.
- Launched navigation overhaul at the end of Q1; still need additional data to measure impact on retention/engagement.

### Q1 - Reading Android

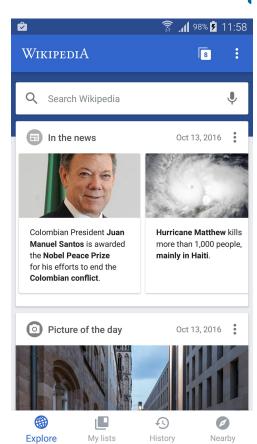


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- The Feed is responsible for a growing number of PVs in the app.
   Plenty of additional potential to be explored in coming quarters (e.g. improvements to Trending, news, on-this-day, etc.)
- Total installs climbing again, after having dropped since the Google hiccup in Q2 (see Metrics slides for more data):



- Featured in "Back to School" promotion on Google Play.
- Content Service gaining significant traction in other teams within the Foundation.



### Q1 - New Readers

#### **Objective: present research**



Objective	Measure of success	Status
Synthesize and present research from Mexico, India, Nigeria	All findings are available on meta, a workshop is presented and well attended by staff and volunteers.	Research synthesized and presented.

- 11,000 phone surveys, 145+ in-person interviews, and community interactions across 3 countries were synthesized into 24 findings in multiple, accessible formats.
- Community and staff continue to engage with the research.
- The video is on <u>Commons</u> and <u>YouTube</u>.
- All content and findings are available: <u>https://meta.wikimedia.org/wiki/New\_Readers/Findings</u>



### Q1 - New Readers

#### **Objective: cross-team direction**



Objective	Measure of success	Status
Drive decision making for strategy for cross functional team for remainder of fiscal year	Narrowed strategic focus to 2-4 areas based on research findings. Plans in progress for all involved teams.	3 focus areas chosen.

- Phased approach with testing and community input throughout: build, awareness, launch
- We are focused on 3 main areas to target for the remainder of the year.
  - Lack of awareness and understanding of Wikipedia.
  - Supporting readers who want to curate offline content to read or share from the mobile web.
  - Affordability as a barrier to access.
- Next steps for Reading component:
  - Prototyping started at offsite in Berlin last week.
  - Testing and iterating with readers and community members in target countries during Q2.
  - Preparing for push to production first half of 2017.

### Q1 - New Readers

# Other successes and misses

#### Successes:

- Casual community engagement and follow up with regards to sharing research has been successful due to active management by Anne, Zack, and Joe.
- Reading related work is being done in public on Meta and phabricator, leading to richer and easier interactions with volunteers and staff.
- Collaboration with Communications, Design Research, Global Reach, and Community Engagement has lead to richer solution sets.

#### **Challenges:**

- Ownership across many teams is challenging, and requires active management.
- Formal community consultations have been hard to structure and kick off, which we will need to do this quarter.





#### **Objective: Language-Switching**

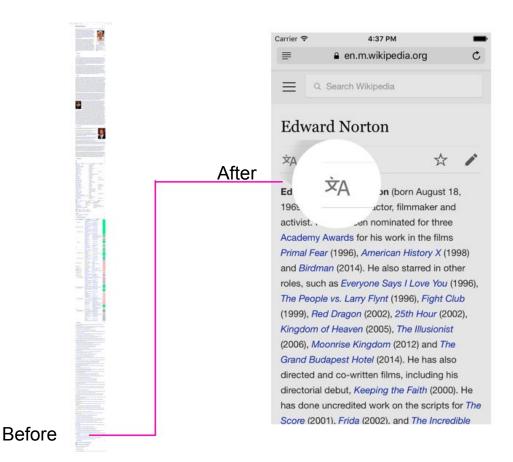


Objective	Measure of success	Status
Refine and move language switching improvements from beta to stable on most wikis	Easier language switching for our users is expected to lead to an increase in language switching	Shipped

- Goal: Improve reading experience for users who speak more than one language. Aid other teams in localization efforts
- Plan: Move language switching button from the bottom to the top of article and shift to new styling and search for easier language switching
- **Strategy:** Collaborated with community and language team to gain insight on best implementation and use cases
- Result: Button has better placement and increased usability, however, no significant increase or decrease in usage has been reported

#### **Objective: Language-Switching**





#### **Objective: Hovercards**



Objective	Measure of success	Status
Holdover from Q4: Increase learning by lowering cost of exploration	Launch hovercards beta feature on desktop web across multiple wikis, gauge improved reader satisfaction via survey	A/B tests and qualitative tests performed

- Goal: Reduce the cost of exploration of a link and promote learning by allowing readers to gain context of an article without navigating away from the original topic
- Q2 Plan: Refine current hovercards feature, test design thoroughly, and ensure code infrastructure meets quality bar prior to release







- Performed A/B test on hu.wikipedia.org no negative effect on fundraising
  - Performed donation test w/ Fundraising Tech and Online Fundraising. Full results here: <u>https://www.mediawiki.org/wiki/Extension:Popups/Fundraising\_test\_1</u>

#### Qualitative tests

- 13 out of 15 participants reported positive experiences with hovercards
- Gained insights on how hovercards change reading experience
- Full results here:
   https://www.mediawiki.org/wiki/Wikimedia\_Research/Design\_Research/Reading\_Team\_U
   X\_Research/Hovercards\_Usability

#### Next Steps - preparing for move to stable is goal for Q2:

- More detailed release criteria
- Involving the community early in the process
- Significant engineering work to meet quality bar
- Further quantitative data A/B tests in progress on it.wikipedia.org and ru.wikipedia.org with goals of replicating fundraising data and determining effect of hovercards on page and link interactions



Objective	Measure of success	Status
Holdover goal from Q4: Decrease load time and cost for low-resource environments	Lazy loading of images, and cutting default HTML size on Wikipedias, stable mobile web channel. https://phabricator.wikimedia.org/T113066	Launched on all projects

**Motivation:** In many parts of the world, high mobile data costs present significant barriers to accessing knowledge, preventing us from reaching new readers

**Goal:** Significantly lowering data costs on Wikimedia sites by preventing unnecessary image downloads via lazy loading of images

Plan: Release lazy loading of images on all Wikipedias

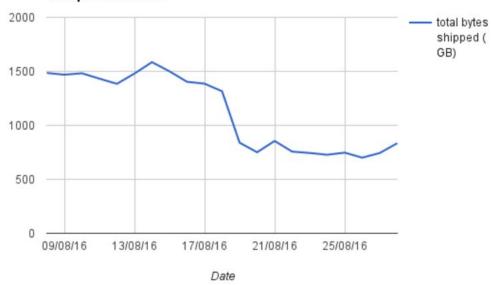
**Result:** Wikipedia pages on mobile now use less data and take less time to load. Over one week, we saw a 32% decrease on data usage in Indonesian Wikipedia, a 47% decrease in English wikipedia, and a 51% decrease in Japanese wikipedia





"To illustrate this impact, as of June 2016, the article about Japan on the Japanese Wikipedia contained 1.4MB of images, 195KB of text, 157KB of JavaScript and 8KB of CSS. Without loading any of the images for the article, that would translate to about 0.03USD in mobile data costs (on a post-paid data plan in Japan) rather than 0.15USD with all the images loaded for the article."[1]

#### Bytes of images shipped daily on English Wikipedia Mobile



[1] Jon Robson. "How Wikimedia Helped Mobile Web Readers save on Data" *Wikimedia Blog*. Wikimedia, 19 Sept. 2016. Web. 18 Oct. 2016.

# Other successes and misses



#### Plan:

- Readers could benefit from an article description or summary before they begin reading
- Feature had been live on the apps wanted to successfully transfer to mobile web

#### Status:

- Deployed on all projects but top 6
   Wikipedias
- Began deployment on top 6 Wikipedias starting with Japanese and Spanish
- Waiting to hear from community about the remaining 4

#### **Related Pages**

 Collaborated with community liasons to establish rollout plan and feature reach

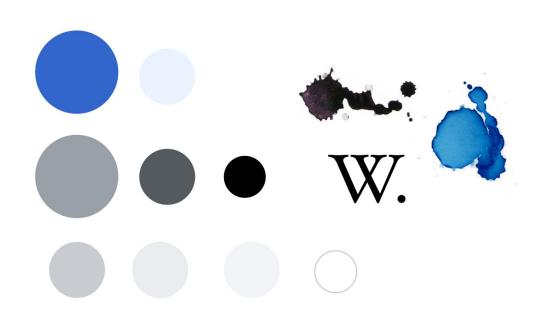


### Q1 - Reading UX



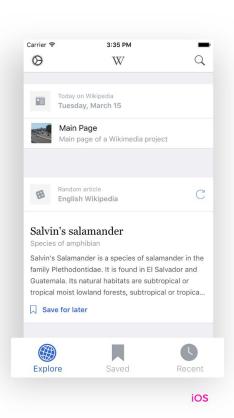
Reading UX cross team collab resulted in formulating guiding principles for design at the foundation. First responsibility was to update reading products based on it

- Design Principles
- Visual Design Principles
  - Color
  - Typography
  - Iconography
  - Layouts

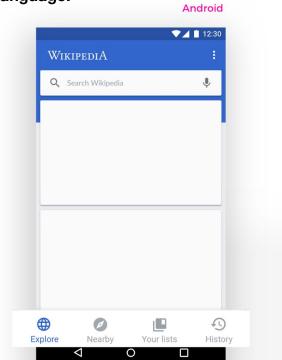


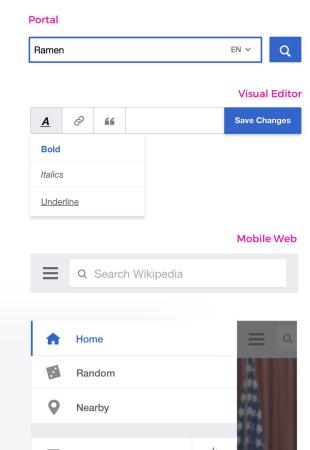
### Q1 - Reading UX





For the first time ever, we have a consistent color palette across various products. We are finally moving towards a consistent design language.





# **Community Tech**

#### Strategy: 2015 Wishlist Survey report



#### The top 10 from the 2015 survey:

- 5 wishes Granted!
- 1 wish Currently in progress, will continue into 2017
- 2 wishes Other teams working on these
- 2 wishes Declined as unfeasible

We've also been exploring other ways to do helpful work:

- Working with Support & Safety on blocking tools,
   and Learning & Evaluation on the Programs Dashboard
- Worked on a top request from a smaller group (Wikisource)
- Pop-up spot fixes on important community tools: Abuse Filter, New Page Patrol



There's more info in our latest Status report (Oct 2016): <a href="https://meta.wikimedia.org/wiki/2015\_Community\_Wishlist\_Survey/Status\_report\_3">https://meta.wikimedia.org/wiki/2015\_Community\_Wishlist\_Survey/Status\_report\_3</a> and an overview of the 107 wishes here: <a href="https://meta.wikimedia.org/wiki/2015\_Community\_Wishlist\_Survey/Results">https://meta.wikimedia.org/wiki/2015\_Community\_Wishlist\_Survey/Results</a>

#### Strategy: Here comes the future



#### 2016 Community Wishlist Survey coming soon!

- Proposal phase kicks off Nov 7th until Nov 20th
- Voting phase runs from Nov 28th to Dec 12th
- More emphasis on helping the community to collaborate on writing high-quality proposals
- In addition to the top 10 wishes, we're specifically allocating a portion of dev time for smaller groups' wishes
- Everyone please spread the word
- It is going to be awesome

https://meta.wikimedia.org/wiki/2016\_Community\_Wishlist\_Survey



Picture: https://commons.wikimedia.org/wiki/File:English\_cocker\_Jam.jpg by KateJam (CC BY-SA)

### **Objective: Wish fulfillment**

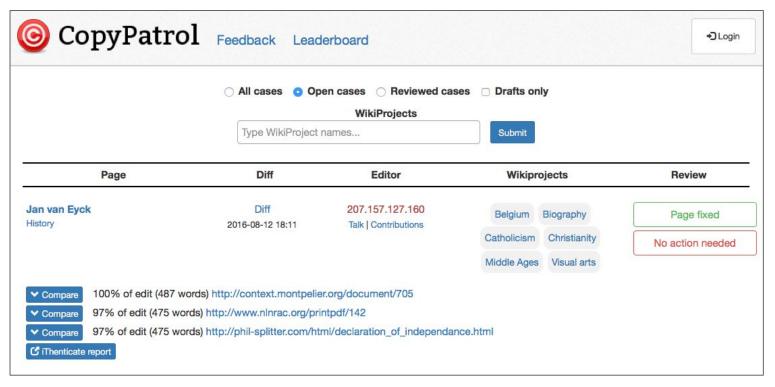


Objective	Measure of success	Status
Increase core contributors' productivity by shipping features and fixes related to three wishes in the Wishlist Survey top 10	Wish #9: Launch <b>CopyPatrol</b> , an interactive interface for the plagiarism detection bot	Wish granted!
	Wish #5: Deploy <b>numerical sorting in categories</b> on English WP & other languages	Wish granted!
	Wish #4: Define a technical plan for Cross-wiki watchlist	Completed!

#### **Objective: Wish fulfillment**



#### CopyPatrol (#9 wish):



### **Objective: Wish fulfillment**



#### Numerical sorting in categories (#5 wish):

Example: Category:1990s comedy films on English WP. Before we deployed our fix, the list said:

100% Arabica

101 Dalmatians

2 Little, 2 Late

20 Dates

3 Ninjas

3 Ninjas Kick Back

5 Men and a Limo

The 6th Man

8 Heads in a Duffle Bag

97 Aces Go Places

The new version, with numerical sorting:

#### 0-9

- 2 Little, 2 Late
- 3 Ninjas (film)
- 3 Ninjas Kick Back
- 5 Men and a Limo
- The 6th Man
- 8 Heads in a Duffel Bag
- 20 Dates
- 97 Aces Go Places
- 100% Arabica
- 101 Dalmatians (1996 film)

Currently live on English, Swedish and Macedonian WP.

**Coming soon** on French, Hebrew, Hungarian, Italian, Norwegian, Polish, Russian and Vietnamese.

More info: <a href="https://meta.wikimedia.org/wiki/Community\_Tech/Numerical\_sorting\_in\_categories">https://meta.wikimedia.org/wiki/Community\_Tech/Numerical\_sorting\_in\_categories</a>

#### **Objective: Wish fulfillment**



#### Cross-wiki watchlist (#4 wish):

Goal for Q1: Define a technical plan with the help of the Architecture Committee. {{done}}

**Goal for Q2:** Build a proof-of-concept prototype.

```
26 May 2016
               (diff I hist) . . Pride and Prejudice; 22:51 . . (+22) . . Ascenti (talk I contribs) (--> Major themes: clarify source of date and
               quote) (Tags: Mobile edit, Mobile web edit)
              (diff I hist) ... Categoria: Pagine in cui e citato Louis Pierre Eugene Sedillot; 20:20 ... (+33) ... (Carlavatti) (talk I contribs)
  EN:WP
              (diff I hist) ... List of Marvel Cinematic Universe films; 19:22 ... (+22) ... Johnnotjohn (talk I contribs) (Reverted edits by
               38.4.167.93 to last version)
  COMM
              (diff | hist) ... m File:18th century shoes sandals; 18:13 ... (+22) ... AuntSandra (talk | contribs) (Applied template)
  EN:WP
              (diff | hist) ... Brachiopod: 17:44 ... (+22) ... Johnnotjohn (talk | contribs)
              (diff I hist)
                               Talk: Community Tech/Migrate dead external links to archives: 16:18 ... (+22) ... Johnnotjohn (talk I contribs)
  COMM
              (diff I hist) ... m File:10th century cathedral demolition; 15:01 ... (+22) ... AuntSandra (talk I contribs)
  ES:WP
                              Discusión:Diccionario de la lengua española: 14:18 ... (+22) ... Phertt3 (talk I contribs) (Revertidos los cambios
               de Sed1mad)
```

In this wireframe, you're on English Wikipedia, so the EN:WP bubbles are light gray. Other projects use colors assigned on the fly.

#### **Objective: Tool Labs support**

Objective	Measure of success	Status
Improve volunteer developers' productivity, and encourage them to publish source code	Launch <b>Striker</b> , a tool that connects developers' LDAP account with their Wikimedia user account, and allows them to easily create git repositories	Striker is live!
Reduce barriers for new volunteer developers	Extend Striker to help new developers create an LDAP account, removing barriers in the new account creation process	Working on it
Encourage community maintenance of important tools	Lead a community discussion to <b>define a new policy</b> for how users can take over abandoned tools	Discussion underway



- PageAssessments: A simple extension for storing article assessments in a database table and
  making them available through an API. The extension is currently deployed to English Wikipedia
  and will be deployed to other wikis once full roll-out and beta testing is complete on English
  Wikipedia. This project was based on a request from WikiProject volunteers at Wikimania 2015.
- Google OCR for Indic-language Wikisources: This was #25 on the Wishlist Survey. The open-source OCR tool used by most Wikisource projects doesn't handle Indic languages well. Partnerships helped us to get free credits for Google's API, so that we could help Indic Wikisources access this much-needed service. Right now, our tool works on Bengali, Sanskrit and Tamil; more languages will be supported as Google improves their OCR services.





# **Appendix**



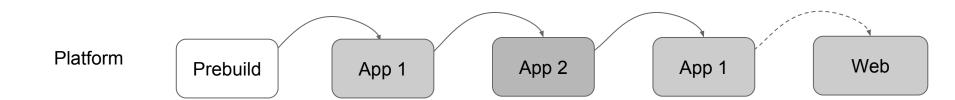
# Reading Overview

### Metrics highlights

- Overall traffic is flat (-1.1% compared to Q1 2015/16). We now have confirmation that the drop in 2015 was a one-time effect largely due to the HTTPS rollout and the block in China.
- Percentage of mobile pageviews was on the rise until the middle of the quarter, then began to drop slightly. Regarding unique devices, the majority is already mobile.
- After shrinking in Q4, the Android app's install base began to grow again this quarter

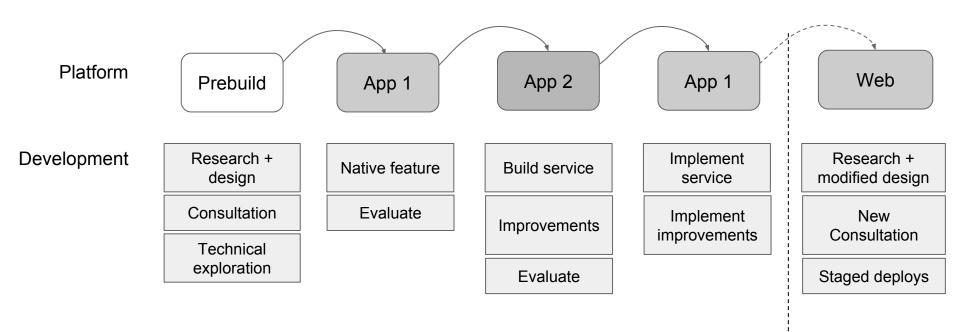


### We're developing a rhythm



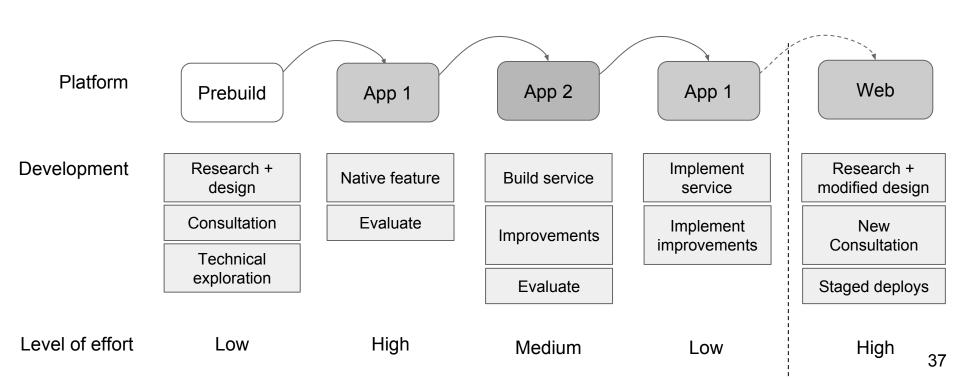


### We're developing a rhythm





# We're developing a rhythm





### Some issues this LAST quarter:

 Design research blocked: Qualitative analysis was blocked on recruitment almost the entire quarter

- Unblocked
- Mobile app analytics: The instance of Piwik did not scale well to our needs blocking feature-level analysis on iOS

Unblocked

 Core metrics: we continue to work with the analytics team on our desired core metrics

Making progress

 Quality assurance: There were several areas where we felt the existing process for assuring quality of releases was not sufficient. We are exploring new processes to ensure that all releases reflect our desired standards

Making progress: added manual QA regression test to web; exploratory QA TBD



#### Some highlights/issues this quarter:

- Team: Filled open headcount
- Metrics: Consistent delivery of features, not always impacting high level metrics
- Data: Analytics instrumentation and infrastructure hampered analysis
- Community: Lack of 'rules' for rolling out to community continues to challenge web development
- Collaborations:
  - New Readers
  - Nirzar
  - Worked with Ops/Services and Wikimedia De on PDF rendering issues
  - Worked with language team on compact language bar



### Non-feature programs in the coming quarters:

- Resourcing our services efforts
- PDF rendering service transition will be ongoing for 6 months
- Longitudinal opt-in app user study
- Retention and engagement metrics
- Reader contribution consultation
- Privacy by design compliance



# **Q2** Goals

## Q1 - Reading (Q2 Goals)

Team	Objective	Key result	Dependency
Web	Increase learning by lowering cost of exploration	Refine hovercards feature and remove all known blockers for moving from beta to stable	<ul><li>Results of a/b tests</li><li>Community</li><li>Liaisons</li></ul>
New Readers	Collect feedback on direction and implementation of proposed user-facing software changes from both potential end-users and community members.	Deliver a wrap up report of the feedback that was received and the changes that were made as a result.	<ul><li>Design Research</li><li>Community</li><li>Engagement</li><li>Communications</li><li>Partnerships</li></ul>
iOS	Enable location based exploration and search.	Add a Nearby tab (similar to Android) with map based search and browsing functionality.	Design Research

Source: https://www.mediawiki.org/wiki/Wikimedia\_Engineering/2016-17\_Q2\_Goals#Reading

## Q1 - Reading (Q2 Goals)



Team	Objective	Key result	Dependency
Android	Open up a new and simple way for readers to start contributing, and reinforce the idea that Wikipedia articles are editable by anyone.	Enable editing of Wikidata descriptions from the app.	<ul><li>Wikidata</li><li>Consultation</li><li>Design research</li><li>Community</li><li>Liaisons</li></ul>
Reading Infrastructure	Bolster MediaWiki API consumer (apps, bots, mashups, etc.) ability to obtain key revision quality and pageview stats	MediaWiki API endpoints are available and operate at scale for: Revision quality (T143895) + Pageviews and velocity (T144865)	<ul><li>Research (ORES)</li><li>Analytics</li></ul>
Mobile content service	Notify users that Wikipedia has the background info on the latest current events	Deploy real time Trending Page API based on the number of edits performed by users	Services

Source: <a href="https://www.mediawiki.org/wiki/Wikimedia\_Engineering/2016-17\_Q2\_Goals#Reading">https://www.mediawiki.org/wiki/Wikimedia\_Engineering/2016-17\_Q2\_Goals#Reading</a>

## Q1 - Community Tech (Q2 Goals)

Objective	Key result	Dependency	
Improve core contributors' productivity	Build a proof-of-concept version of Cross-wiki watchlist (#4 on wishlist), to determine the hardware requirements for the finished tool	<ul><li>Performance</li><li>Operations</li></ul>	
Help program leaders to organize and manage their programs	Make UI improvements to WMF's Programs & Events Dashboard	<ul><li>Learning &amp; Evaluation</li><li>WikiEd Foundation</li></ul>	
Include Wikimedia communities in goal development and prioritization	Conduct 2016 Community Wishlist Survey, in collaboration with contributors from all Wikimedia projects	Technical     Collaboration	

# Q1 - Tool Labs/CTech (Q2 Goals)

Objective	Key result	Dependency	
Reduce barriers for new volunteer developers	Extend Striker to help new developers create an LDAP account and manage their SSH keys, removing barriers in the new account creation process	<ul> <li>Security</li> </ul>	
Improve workflows for Tool Labs developers	Define evaluation criteria for evaluating Platform as a Service (PaaS) solutions	Tool Labs     Community	
Encourage community maintenance of important tools	Develop a takeover policy for abandoned tools, in collaboration with the Tool Labs community	Tool Labs     Community	



# **Key Metrics**

# Metrics highlights

- Percentage of mobile pageviews was on the rise until the middle of the quarter, then began to drop slightly. Regarding unique devices, the majority is already mobile.
- Overall traffic is flat (-0.7% compared to Q1 2015/16). We now have confirmation that the drop in 2015 was a one-time effect largely due to the HTTPS rollout and the block in China.
- After shrinking in Q4, the Android app's install base began to grow again this quarter, possibly helped by its inclusion in the Education category page in Google's Play Store.



	Monthly unique devices (desktop + mobile web) Average July-September	% mobile
English Wikipedia	587 million	65%
Spanish Wikipedia	119 million	61%
German Wikipedia	79 million	55%
Japanese Wikipedia	67 million	67%
Russian Wikipedia	63 million	55%

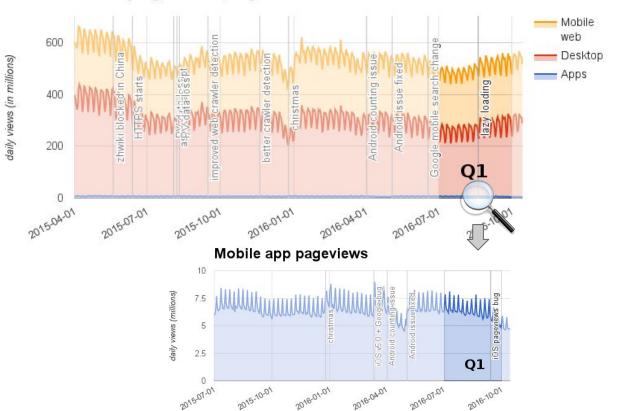
Monthly pageviews/device English Wikipedia Average July-September			
Desktop	20		
Mobile web 9			

(Top 5 projects by overall unique devices - no global number available)

New metric constructed by the Analytics team

NB: devices <> users

#### Total pageviews, by access method



### Appendix: Key metrics



Pageviews per month			
Total	15.0 billion* -0.7% YoY (est.)**		
Mobile web	6.9 billion +11.2% YoY (est.)**		
Desktop	7.9 billion* -9.2% YoY (est.)**		
Apps	189 million*** -5.4% YoY (est.)**		

All normalized to 30 days/month

<sup>\*</sup> Corrected for anomalies \*\* Corrected for estimated effects of pageview definition changes
\*\*\* Probably 1-2% too low due to apparent iOS pageview bug



General trends:

Globally, total readership has been **slightly declining** since 2013 (-3.1% yearly).

Likely attributable to two one-time effects:

- Block of zhwiki in China in May 2015 (est.
- -1.5 to 2% drop in total traffic)
- Converting our sites to HTTPS-only in June 2015

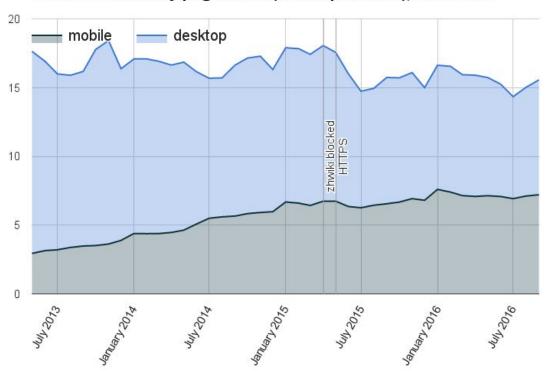
oillions (bots excluded, normalized to 30 days)

Mobile is increasing as desktop is declining.

Mobile growth is **replacing desktop readership**, approaching parity in pageviews.

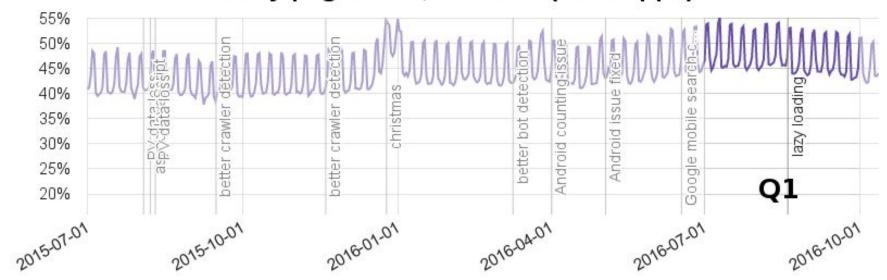
See the <u>August 2016 metrics presentation</u> for more detail

#### Wikimedia monthly pageviews (desktop+mobile), 2013-2016





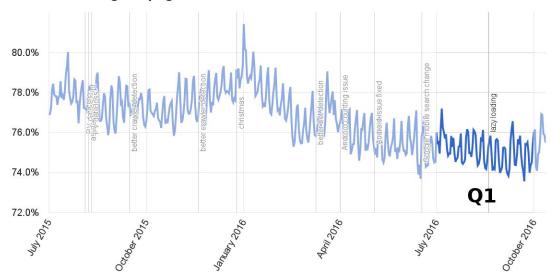
#### Wikimedia daily pageviews, %mobile (web+apps)



Some of the decrease since the middle of the quarter may be seasonal (higher mobile usage during vacation), but it's still more pronounced than last year.







Global North ratio: 77.8% of total pageviews
(Q4: 75.6%)

Pageviews per month	Global North	Global South	
Total	11.7 billion -0.3% YoY*	3.3 billion -2.2% YoY*	
Mobile Web	5.3 billion +8.4% YoY*	1.7 billion +26.7% YoY*	
Desktop	6.3 billion -6.7% YoY*	<b>1.6 billion</b> -17.5% YoY*	
Apps	159 million** -0.5% YoY*	30 million** -24.8% YoY*	

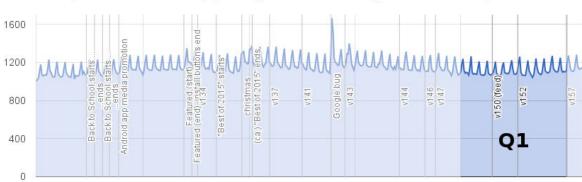
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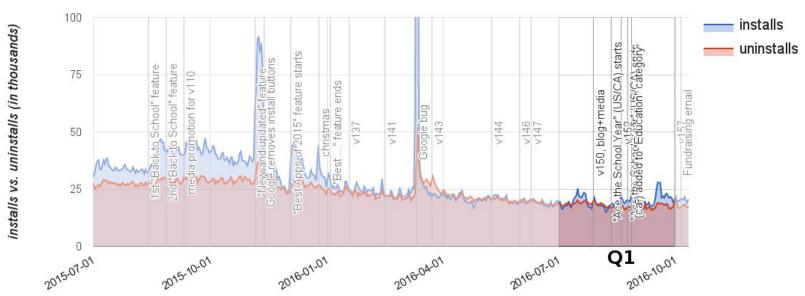
# Appendix: Key metrics

Android app usage			
Monthly pageviews	140 million* YoY: -12.8%		
Daily installs	<b>19.6k</b> -48.4% YoY		
Install base (September 30)	15.1 million devices -0.6% from Q4 +6.8% YoY		
Monthly users	6.6 million -6.8% YoY		
Daily users	1.12 million +0.9% YoY		





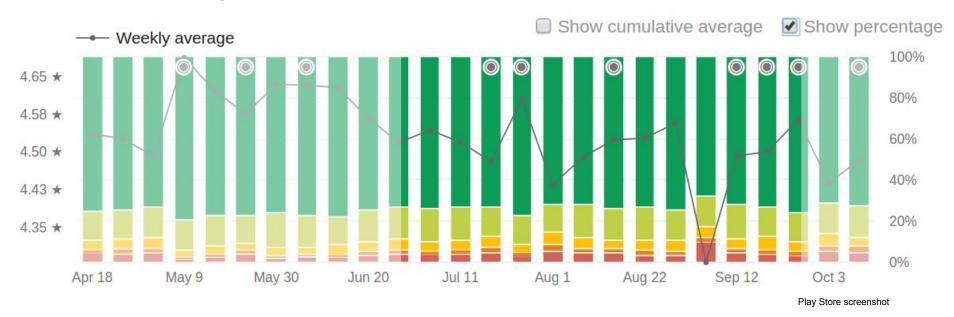
#### Wikipedia Android app daily installs and uninstalls (by device)



Successful media promotion of feed release did not convert to significant download numbers. After shrinking in Q4, the app's install base began to grow again this quarter due to rising download numbers, possibly helped by its inclusion in the <a href="Education category page">Education category page</a> in Google's Play Store.



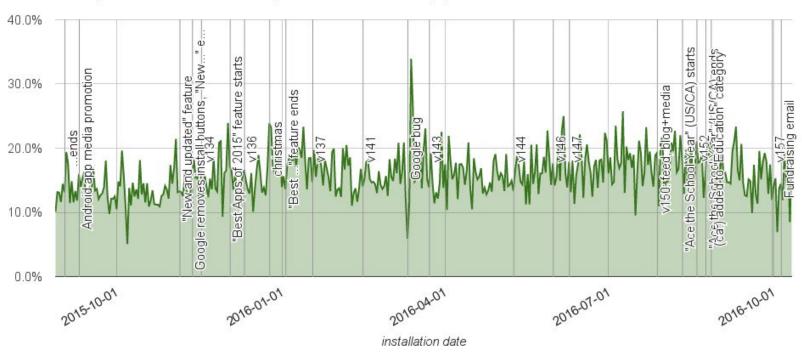
#### Android reviews/ratings



Average daily average [sic] rating in Q1: **4.5** (Q4: 4.6) Note: Cumulative quarterly #'s unavailable due to limitations of Play store analytics

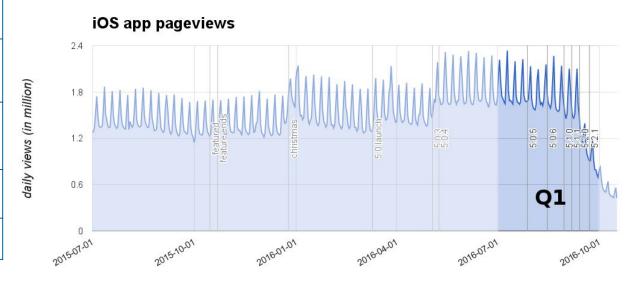


#### 7-day retention of Wikipedia Android app users



Retention dropped in September after having gradually grown earlier. Introduction of feed appears to have had no impact on 7-day retention. (But: see below)

iOS app usage			
Monthly pageviews	5.2 million* YoY: +13.0%		
Daily downloads	5.4 k +20.3% YoY		
Monthly users	N/A		
Daily users	N/A		

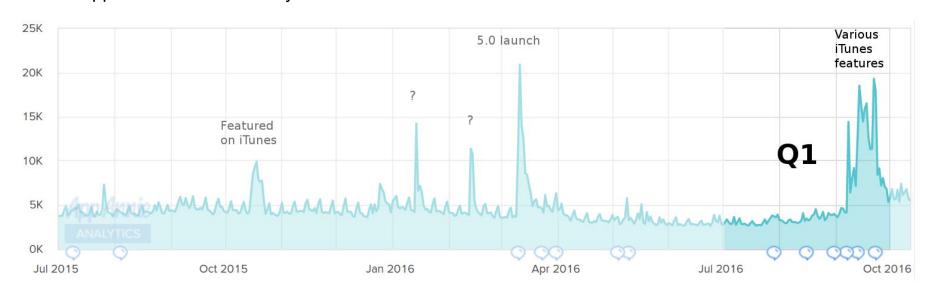


<sup>\*</sup>Not yet corrected for apparent pageview counting bug

The iOS app's pageviews decreased sharply in September after the rollout of version 5.2.0, probably due to a <u>pageview counting bug</u> (still being investigated).

The iOS app switched to opt-in usage data collection in Q3. This means that the internal active users metrics we have been relying on so far are no longer useful for measuring absolute usage.

#### iOS app downloads since July 2015



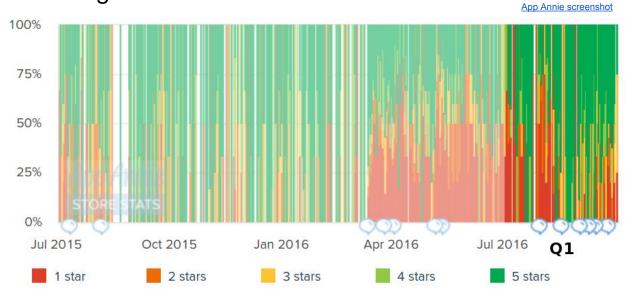
Grey bubbles mark releases of new versions of the app.

Source: App Annie

Huge impact of app being promoted in iTunes in September (twice as many downloads as Sept 2015)

# Appendix: Key metrics

iOS Ratings



341 reviews in Q1

Average rating: 3.4

Grey bubbles mark releases of new versions of the app.

Quarter	2014/15: Q3	Q4	2015/16: Q1	Q2	Q3	Q4	2016/17: Q1
Average rating	3.8	2.9	3.5	3.9	3.3	2.7	3.4



In a typical session on Android, 1-2 pages are viewed; on iOS, 2-3. But median session length increased on Android and is now higher (3.7 min) than on iOS (3.2 min). A typical user had 2-3 sessions per week.

For September 18-24, 2016	10th Percentile	50th Percentile	90th Percentile
Pageviews per session (session ends after 30 min of inactivity)	Android: 1-2 iOS: 1-2	Android: 1-2 (Q4: 2-3) iOS: 2-3	Android: 5-6 (Q4: 6-7) iOS: 6-7
Session length (s = seconds)	Android: 20-21s (Q4: 15-16 s) iOS: 14-15s (Q4 11-12 s)	Android: 222-224s (Q4: 184-188 s) iOS: 192-196s (Q4: 148-150 s)	Android: 1568-1600 s (Q4: 1504-1536 s) iOS: 1472-1504 s (Q4: 1376-1408 s)
Sessions per user (during that week)	Android: 1-2 iOS: 1-2	Android: 2-3 iOS: 2-3	Android: 7-8 iOS: 6-7



#### Why did session lengths increase on Android?

