Quarterly review
Reading
Q1 - 2015/16

Approximate team size during this quarter: 27 FTE
Time spent: strengthen 60%, focus 20%, experiment 20%

Key performance indicator

Global Pageviews (provisional*)	15.3 B	-12.4% from Q4	approx. -7% YOY

Q1 - Reading

Objective	Measure of success	Status
Apps: Increase engagement via improved link preview (Android) *Team members involved: 5*	10% increase in Android app pageviews + link previews: (Full Pageviews + TextExtracts retrievals with link preview feature) >= 1.1 × (Pageviews prior to link preview)	Objective as stated has been achieved (increase of about 16%), but we didn't see nearly the amount of increased engagement we were expecting in Production.

- The Beta app should not be relied upon as a consistent indicator of user behavior in production (although the other metrics surrounding link previews are similar between beta vs. prod).
- Differences between Beta / Production tests indicate more opportunities for testing / improvements to user experience / better onboarding of users to this feature.
- Great press after strong collaboration with Communications (see appendix for details)
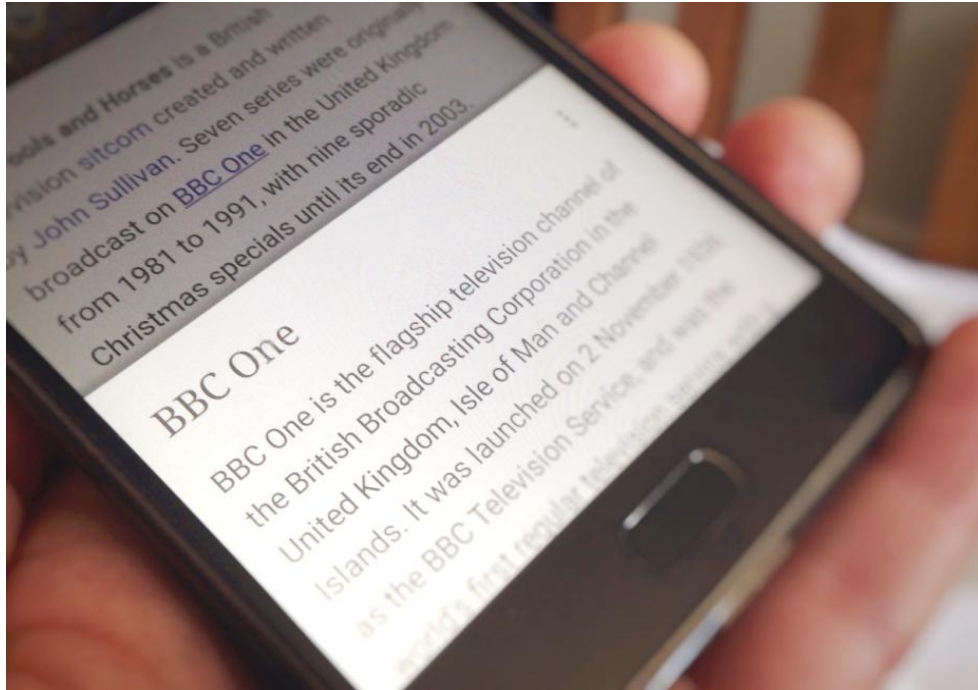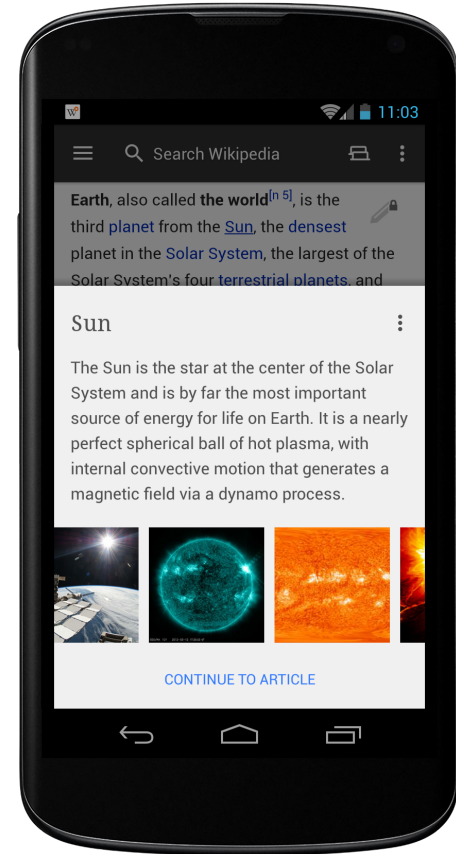
Q1 - Reading

Link Preview

image Credit: Paul Sawers / VentureBeat

Objective	Measure of success	Status
Web: Improve engagement via page load time decrease (mobile) *Team members involved: 3*	Time to first render on mobile does not take more time than desktop (as measured by graphite), given equal network speed	Objective achieved! (data in appendix). The impact was partially driven by a change made by the Performance team that mobile web was able to benefit from due to some changes made last quarter.

- Though it is hard to verify, there is some directional evidence to suggest that increased speed led to traffic boosts. We saw a ~5-10% increase in mobile web traffic in all continents except North America, but there is no evidence that it is related.
- Ultimately it is hard to nail down the impact of changes on users without being able to measure users or sessions.
- We benefit from dashboards and need checks to prevent regressions! Already caught and reverted some site-slowing changes made by another team.
- We are working with the performance team to ensure maximum ROI on additional speed improvements.
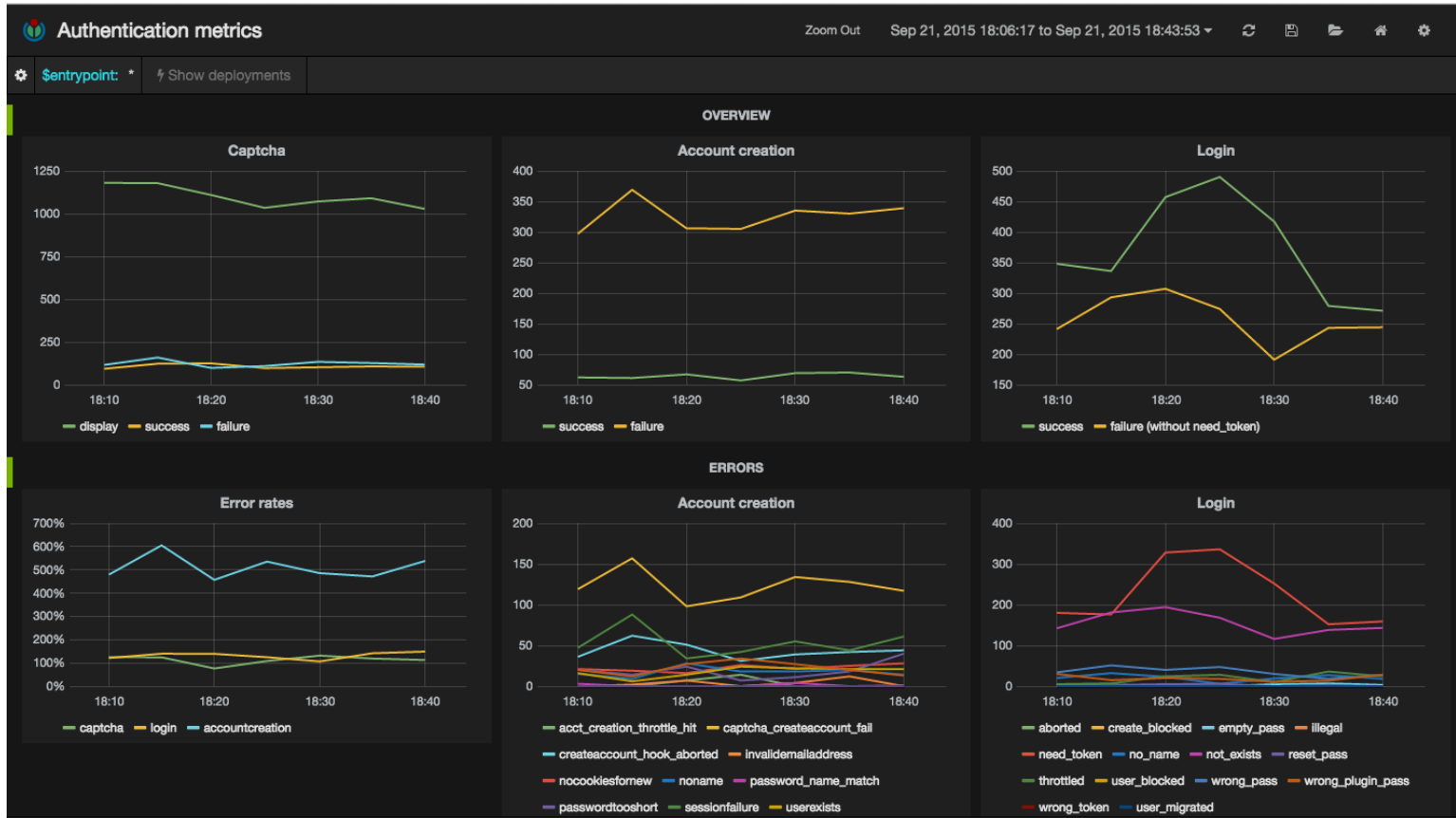
Q1 - Reading

Objective	Measure of success	Status
Infrastructure: Improve MediaWiki security and extensibility by updating authentication framework *Team members involved: 3*	Creation of a metrics dashboard to track improvements to system.	Dashboard has been created.

- Implementation of AuthManager is ongoing. These are developer/sys admin facing changes that will increase the configurability of the on-wiki authentication process.
- When work finishes in Q2 the WMF will be able to start planning follow on work (e.g. two-factor auth for Stewards, password hash storage and verification service).
- Graphite infrastructure largely unowned and nearing breaking point for adding new measurements
- Operational monitoring in general is an ad-hoc effort by individuals and not a core service owned by WMF teams

5

Q1 - Reading - Authentication Dashboard

Q1 - Reading

Metrics

- [Weekly reading report](#)

Web

- Initiated browser testing, inspiring release engineering team to create framework for all teams
- Removed 'alpha' site after promoting and removing experimental code

iOS:

- 3 releases, improving Star Rating from ~2.5 to ~4.5
- Started on 5.0 (Shipping Q2) -->Home Feed, Simplify navigation

Android:

- Finland banner campaign (instrumentation and learnings)
- Tabbed browsing
- Featured in Google Play's "Back-to-school" promotion as a must-have app.

Infrastructure:

- ELK (Elasticsearch, Logstash, Kibana) cluster upgrade; ELK stack brown bag training
- Sentry puppetized for Labs deployments
- 10+ API feature and performance enhancements

Q1 - Reading

Category	Workflow	Comments	Type
Services and APIs	Content Services	Approximately 1.0 FTE from Reading Engineering was dedicated to a content service that aggregates API requests and responses. Personnel investment in this area will be emphasized more in Q2 and likely beyond.	N
	MediaWiki APIs	Approximately 0.5 FTE from Reading Infrastructure is dedicated to fielding, delivering on, and socializing maintenance requests for MediaWiki APIs. This work will continue to be a routine part of Reading Infrastructure.	M
Product Management	Engineering Product Owner	In order to address short term personnel gaps in product management, three software engineers used a significant part of their time on product owner duties. This model will largely continue in the Android discipline.	N (now M)
Distribution	Android distribution	In Q1 Reading Engineering - Android collaborated with Fundraising Tech on banner installation CTAs to get an understanding of user interest and retention in apps (approx. 0.15 FTE). Additionally, the team applied Material Design enhancements for featuring. Distribution related work on Android will likely continue into subsequent quarters.	N
Logging	ELK & Sentry	Approximately 0.35 FTE from Reading Infrastructure is dedicated to logging and monitoring.	M

Type: new, reactive, maintenance

Initiative Details

Strategy

Strategy Progress Update

Initial Strategic Problem: Our measurable impact isn't growing because...

1. Our core capabilities, infrastructures, and workflows are not optimized for emerging platforms, experiences, and communities

2. When users access content through third parties we:
   - Can't measure user value
   - Don't get contributors or donors
   - Can't ensure content is displayed in line with our values

Community and Foundation Feedback:
Too broad to be actionable/comprehensible

11

Core Strategic Problem: **Our Readership is declining**

Boost engagement and retention in current products
- Bring web and apps up to current interface expectations
  - Link Preview
  - Performance Improvements
  - Lead Image
  - Feeds and Notifications

Q1-3 Focus

Acquire new users in the Global South
- Start with Market analysis and user research
- Lots of questions at the moment

Q2 Kickoff

Find new and sticky ways to interact with content
- Learning/Edutainment (Break out of reference segment)
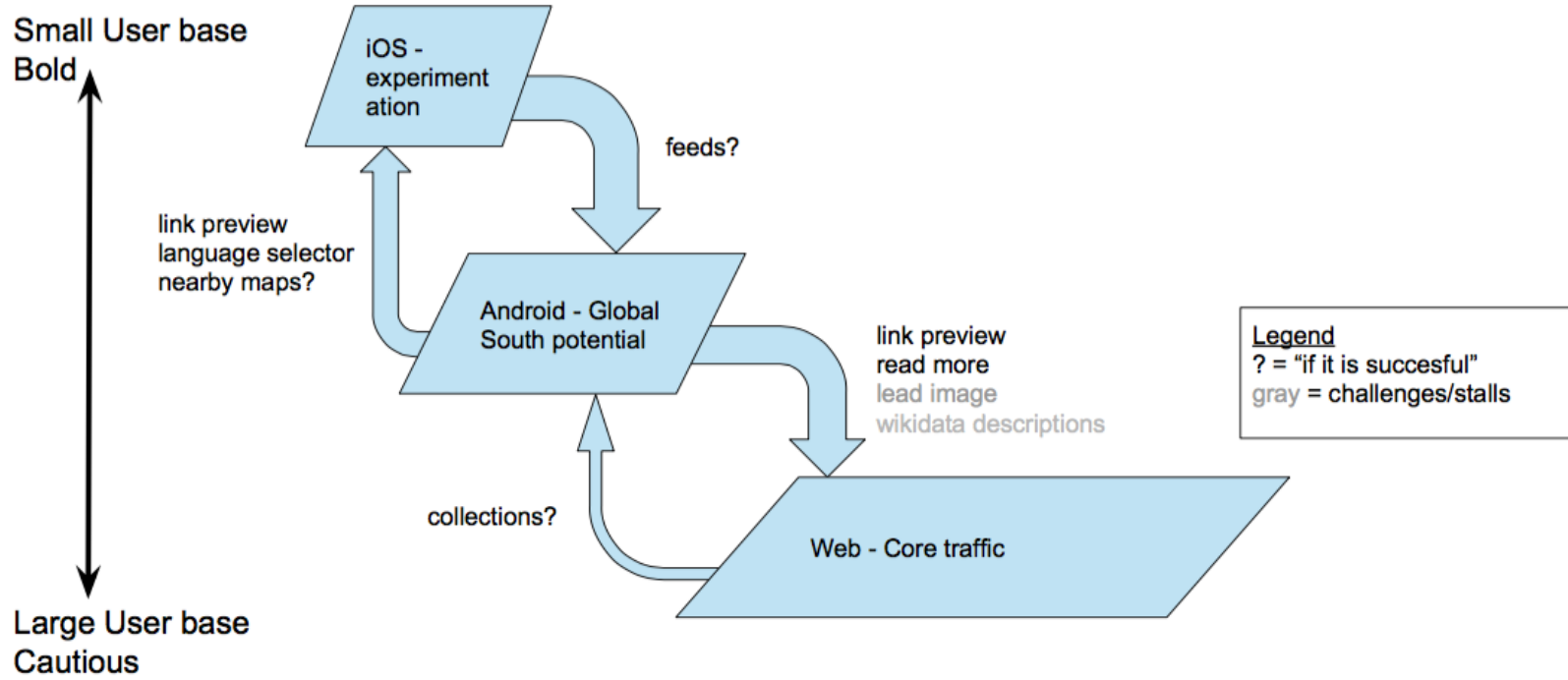- Rich media experiences

Q2 Kickoff
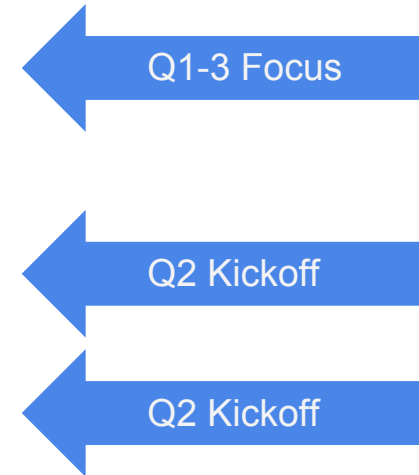
Tech Strategy: Build out services to support new experiences across all channels

In August, we identified the top issues that we believe negatively impact readership. We identified many that we could address in Reading.

But these issues are organization wide:

1. Lack of feedback loops that effectively incorporate a variety of users
2. The internet is evolving and it's squashing our values
3. We lack an internal framework and culture of collaborative decision-making
4. People don't get us: Readers don't understand WP, Editors don't understand readers

How we optimize development for rapid learning:

Small User base
Bold

iOS - experimentation

feeds?

link preview
language selector
nearby maps?

Android - Global South potential

link preview
read more
lead image
wikidata descriptions

Legend
? = "if it is succesful"
gray = challenges/stalls

collections?

Web - Core traffic

Large User base
Cautious

Asks

Q1 - Reading

Metric	Web	Apps	APIs	Syndication
Page Views	Yes	Yes	Coming Soon(Q2)	No
Unique Clients (Daily/Monthly Actives/Reach)	No	Yes	No	No
Pages/Session; Session length/Time on site (Engagement)	No	Yes (limited)	No	No
Retention (7 Day/30 Day)	No	Yes	No	No
Referrals	Yes (limited)	No	No	No
Downloads/installs	NA	Yes (limited)	NA	NA

We need uniques to measure web traffic (99% of current page views) more meaningfully.

Resourcing

- We have 3 channels (web, Android, iOS), but only enough headcount for 3 Product Managers and 2 Designers.
- We need an additional design position or a loan of a resource from another team

Payoff

- **Improved Engagement and Retention**
  - Our main problems are that our experiences don't conform to modern expectations
  - We will be able to stay relevant to emerging user expectations much quicker.
  - Even if we have good ideas for features, if they are hard to use, or not engaging visually they will not get uptake
- **Faster Execution**
  - Much of what we're planning is about improving our on site user facing features. If we don't have enough design bandwidth, our iteration speed will be suffer
  - It will limit our ability to execute both a global south and new experiences, while also keeping our core going

App Distribution Experiments

Finland web -> app experiment

- Collaboration with Fundraising
- Test ran from August 27 - September 9 (~2 weeks)
- Users saw 1 of 2 banners
- Android supports deep-linking so web searches should drive retention
- Banner 2 was was 5x more effective at driving installs (not just clicks)

Banner 1 (top of screen)
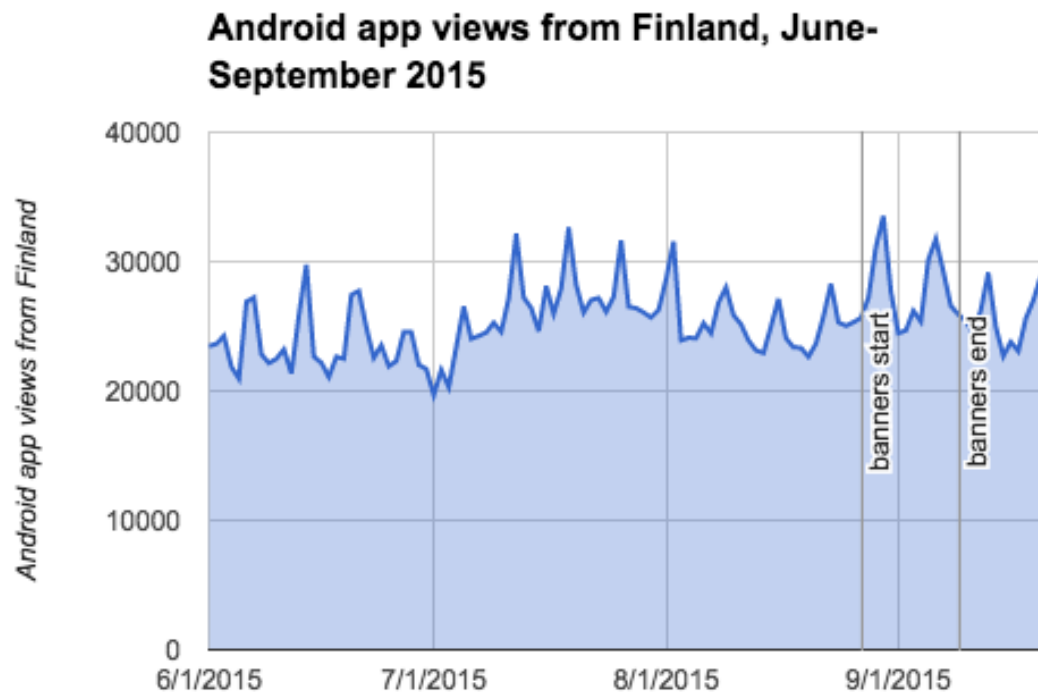

Banner 2 (full screen interstitial)

Consolidated data

19

Q1 - Reading

Impact on Installs
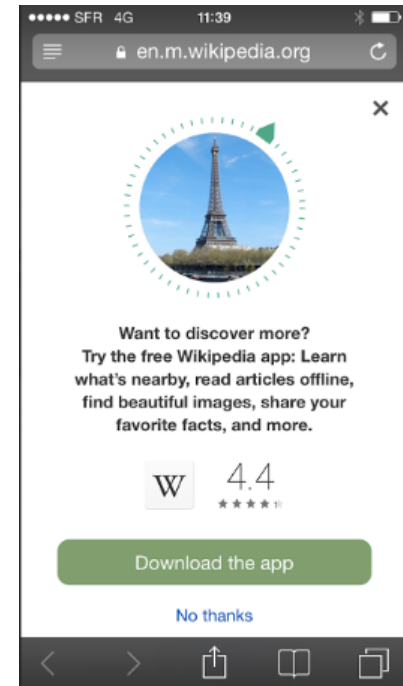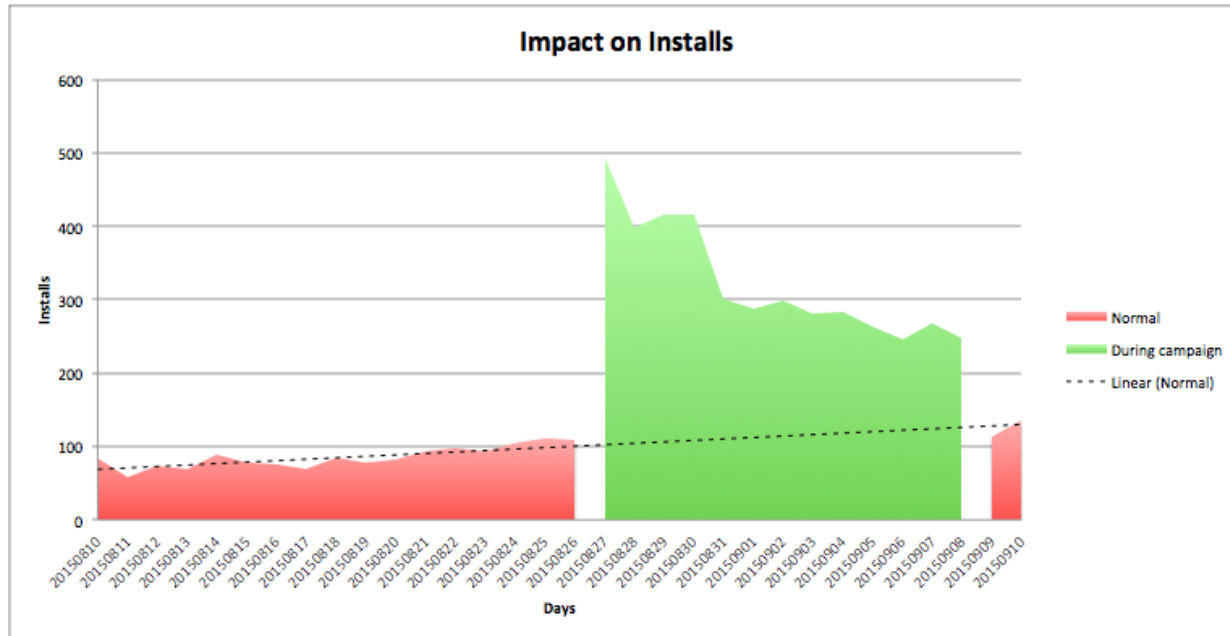
We estimated 2,704 installs from campaign.

Saw 1,949 opens as a result of campaign.

27% drop off between install and open.

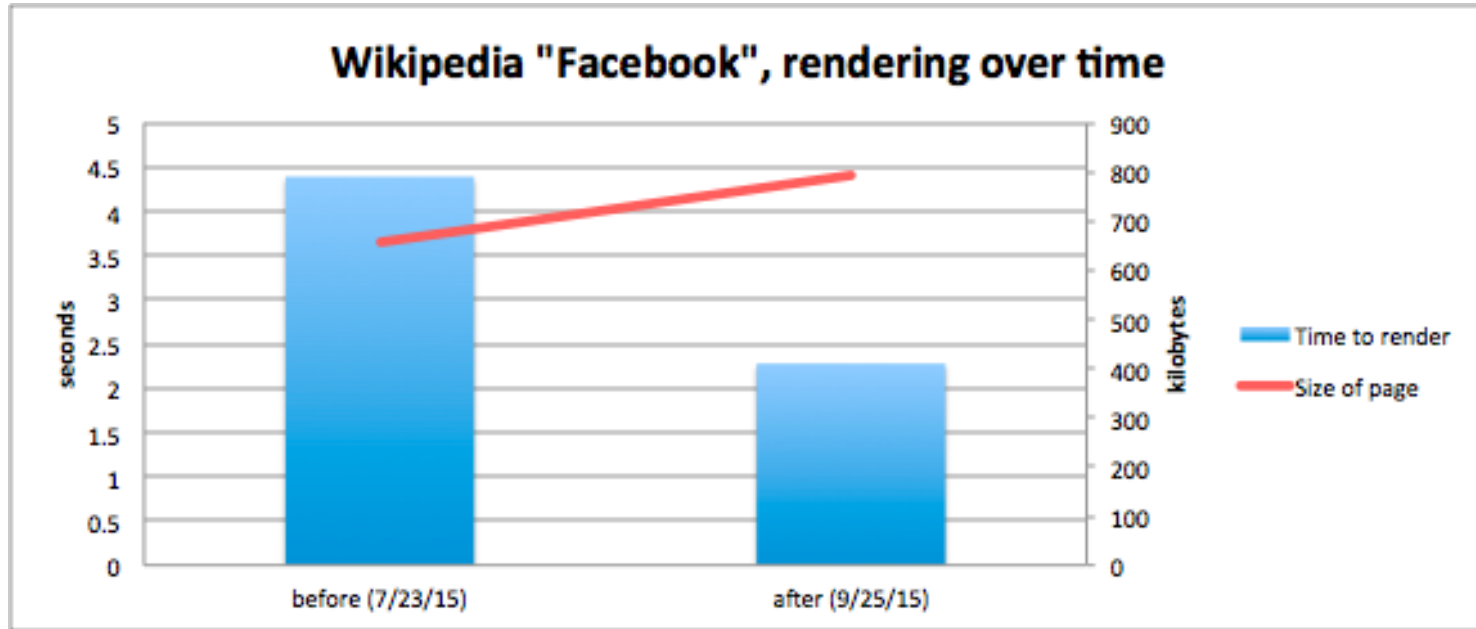Significant decay in campaign efficacy over time. Stabilized at low level of installs.

Source: Google Play store, event logs

20

Q1 - Reading

No appreciable lift
in pageviews

Android app views from Finland, June-September 2015

Source: Hive wmf.pageview_hourly

Web Performance

Time to render dropped ~50%, while page size grew ~20%

Wikipedia "Facebook", rendering over time

Chart legend: Time to render, Size of page

x-axis: before (7/23/15), after (9/25/15)

left y-axis: seconds (0 to 5)

right y-axis: kilobytes (0 to 900)

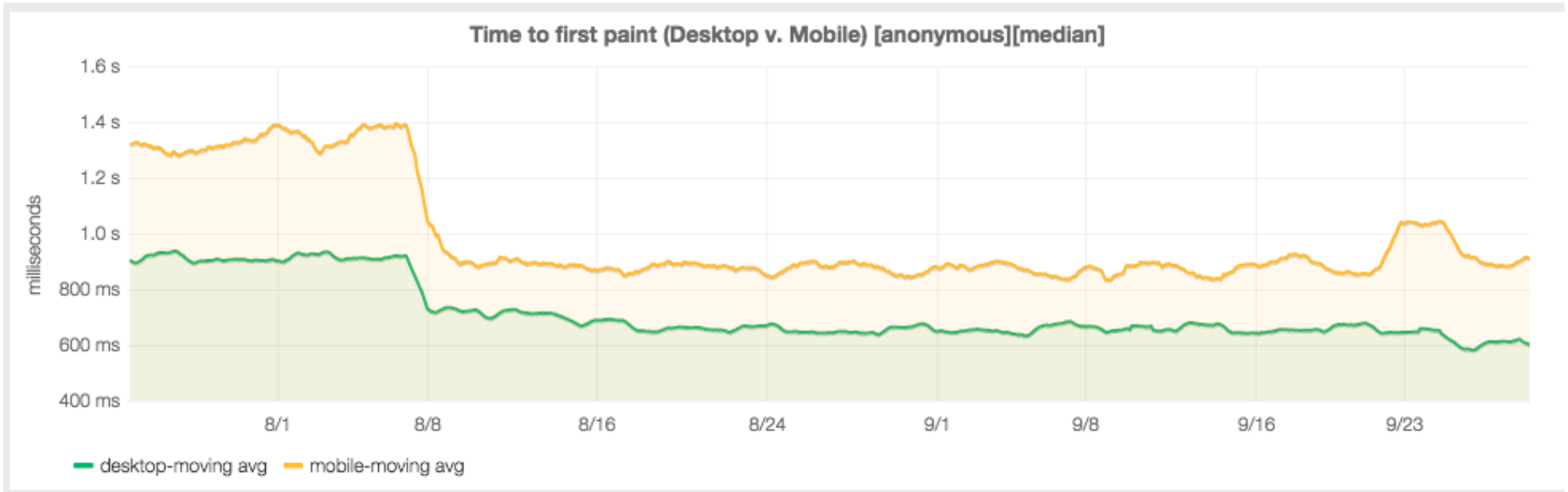*Using 3G-fast connection, from Dulles, VA, USA, tested on webpagetest.org pulled on the dates specified, for: https://en.m.wikipedia.org/wiki/Facebook

Q1 - Reading

Mobile is now faster than desktop by as much as 39% on the same connection.

Median time to first 'render'

Median (seconds)

5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0

Facebook   Barack Obama   Blank Page
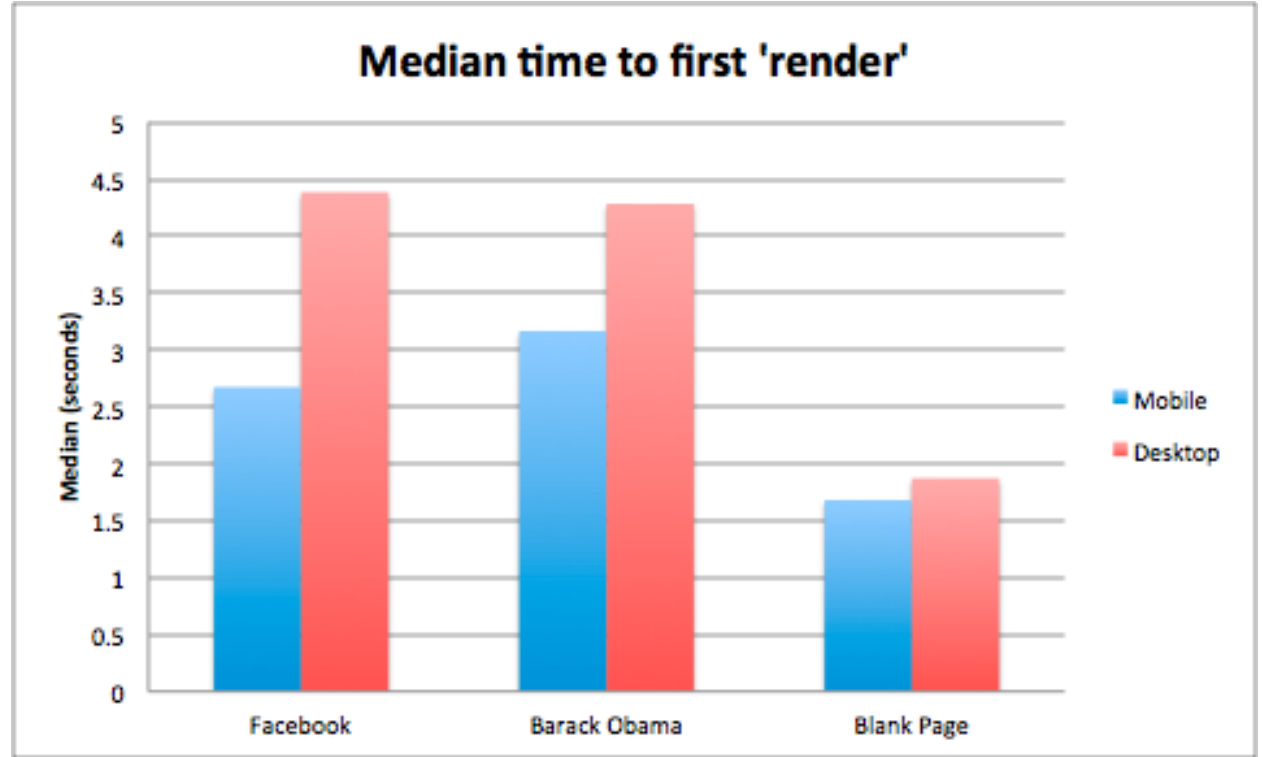
■ Mobile
■ Desktop

*Using 3G-fast connection, from Dulles, VA, USA, tested on webpagetest.org on 9/28/15 (full results in notes section)
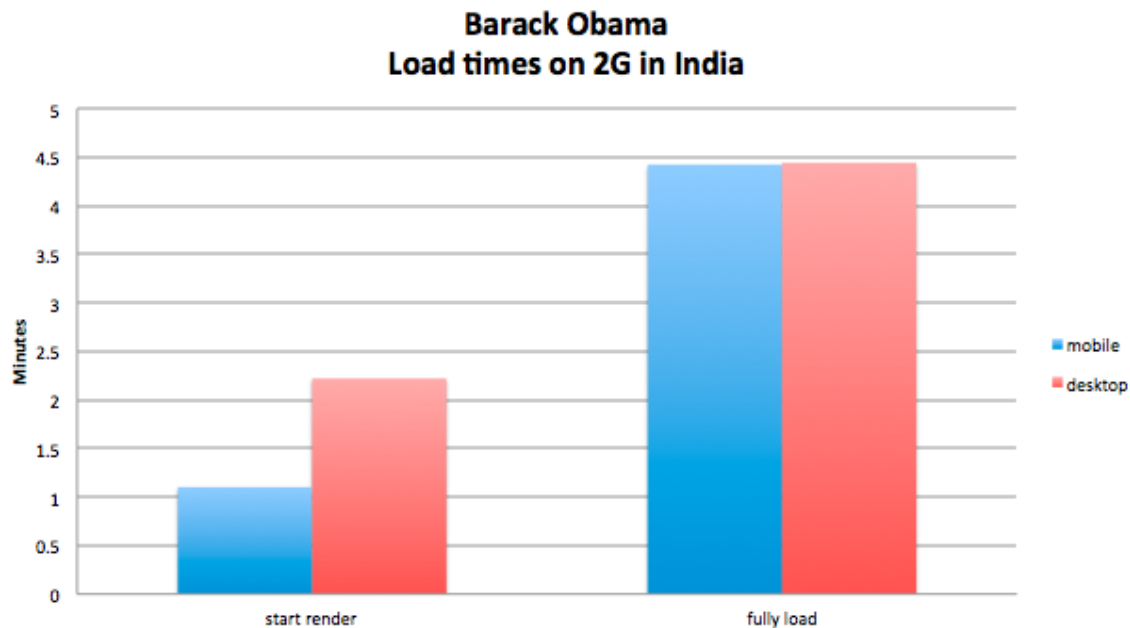
However, due to different connection speeds, mobile still lags behind desktop

Time to first paint (Desktop v. Mobile) [anonymous][median]

Source: https://grafana.wikimedia.org/#/dashboard/db/reading-platform, Jul 24, 2015 to Sep 29, 2015

25

And we have a lot more work to do!

2 minutes before desktop renders the page, 4 minutes to load

**Barack Obama
Load times on 2G in India**

Source:*Using 2G-slow connection, from India, tested on webpagetest.org on 9/29/15 (full results in notes section)

Health Metrics

Q1 - Reading

Appendix: Key metrics

Total pageviews, by access method
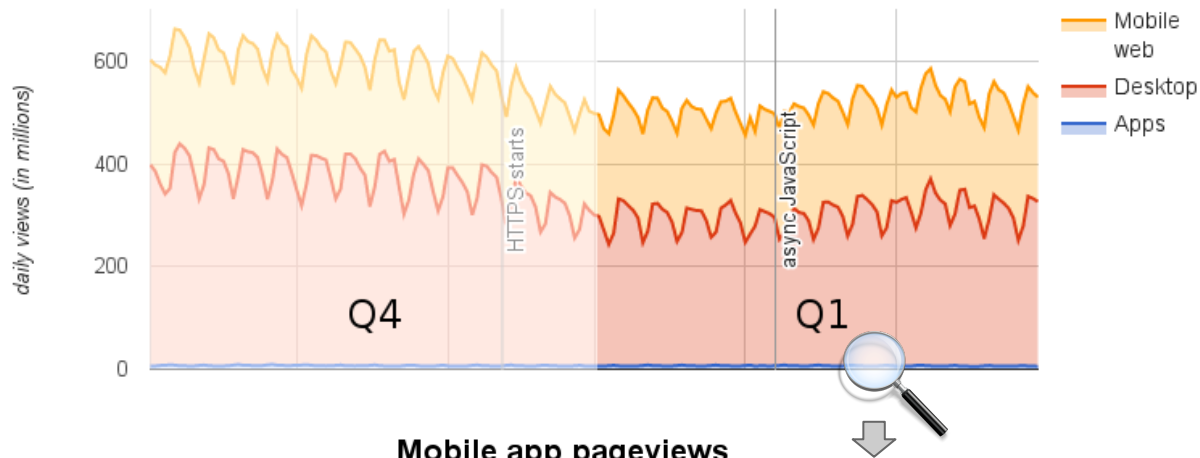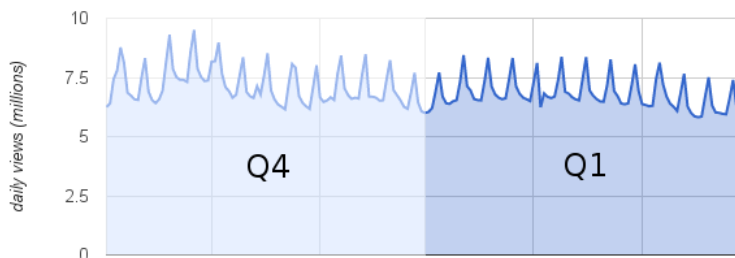
Pageviews per month	
Total	**15.3 billion** **-12.4% from Q4** **approx. -7% YoY***
Mobile web	6.3 billion -3.1% from Q4 approx. +13% YoY*
Desktop	8.9 billion -18.1% from Q4 approx. -18% YoY*
Apps	204 million -5.3% from Q4 approx. +32% YoY*

* Guesstimate due to incomparable data; we consider up to +-5% divergence possible

Q1 - Reading

Pageviews: Global South vs. Global North
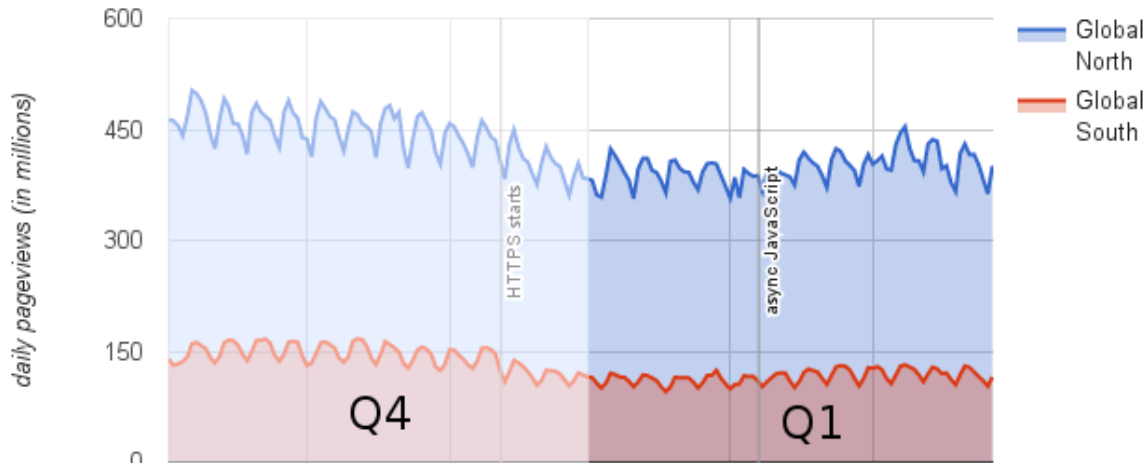
Global North ratio: 77.5% of total pageviews
(Q4: 75.7%)

| Pageviews per month	Global North	Global South
Total	**11.9 billion** -10.3% from Q4	**3.5 billion** -18.8% from Q4
Mobile Web	4.9 billion -1.4% from Q4	1.4 billion -8.6% from Q4
Desktop	6.8 billion -15.9% from Q4	2.0 billion -24.7% from Q4
Apps	163 million -4.7% from Q4	41 million -7.6% from Q4

Q1 - Reading

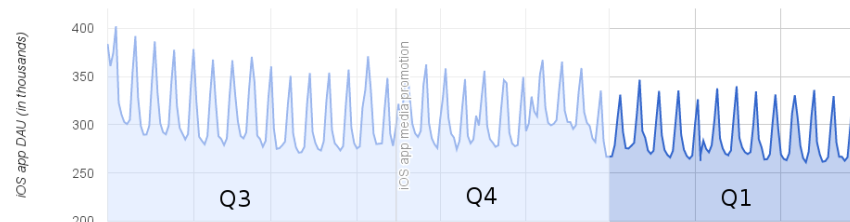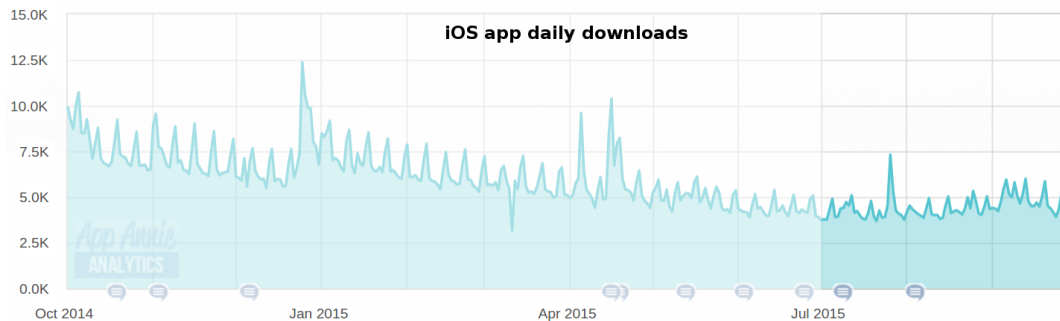| iOS app usage	
Monthly pageviews	43 million -15.7% from June
Daily downloads	4.5 k -12.3% from Q4
Monthly users	2.0 million -9.2% from Q4
Daily users	285k -7.8% from Q4

iOS app pageviews
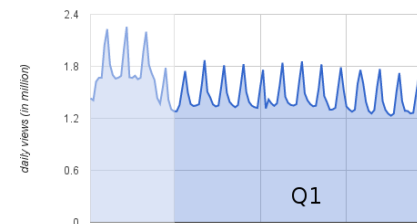
Wikipedia iOS app daily active users

iOS app daily downloads

30

Q1 - Reading
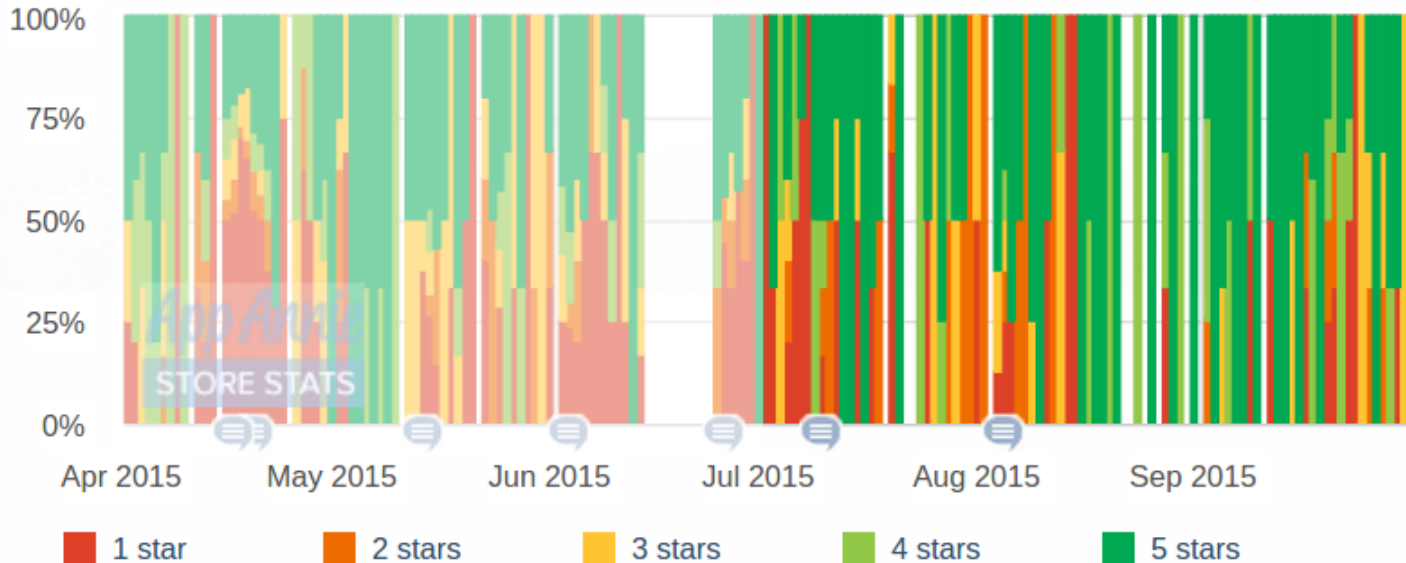
iOS reviews/rankings

~189 reviews in Q1
Average rating: 3.5 (Q4: 2.9, Q1 2014/15: 2.8)
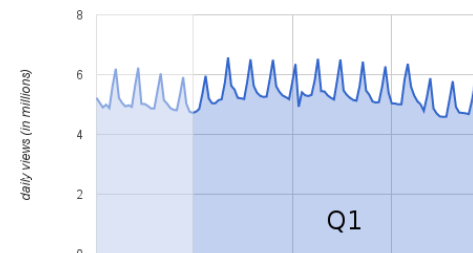

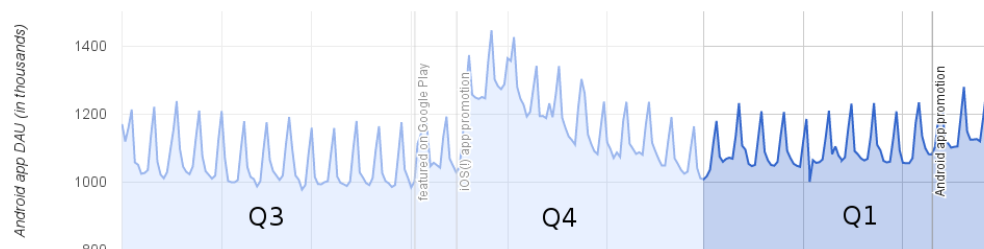Grey bubbles mark new version releases.

Q1 - Reading

Android app usage	
Monthly pageviews	161 million +3.1 from June
Daily installs	37.9k -24.3% from Q4
Install base	14.2 million devices +6.3% from Q4 +38.0% YoY
Monthly users	7.1 million -4.8% from Q4
Daily users	1.10 million -5.0% from Q4

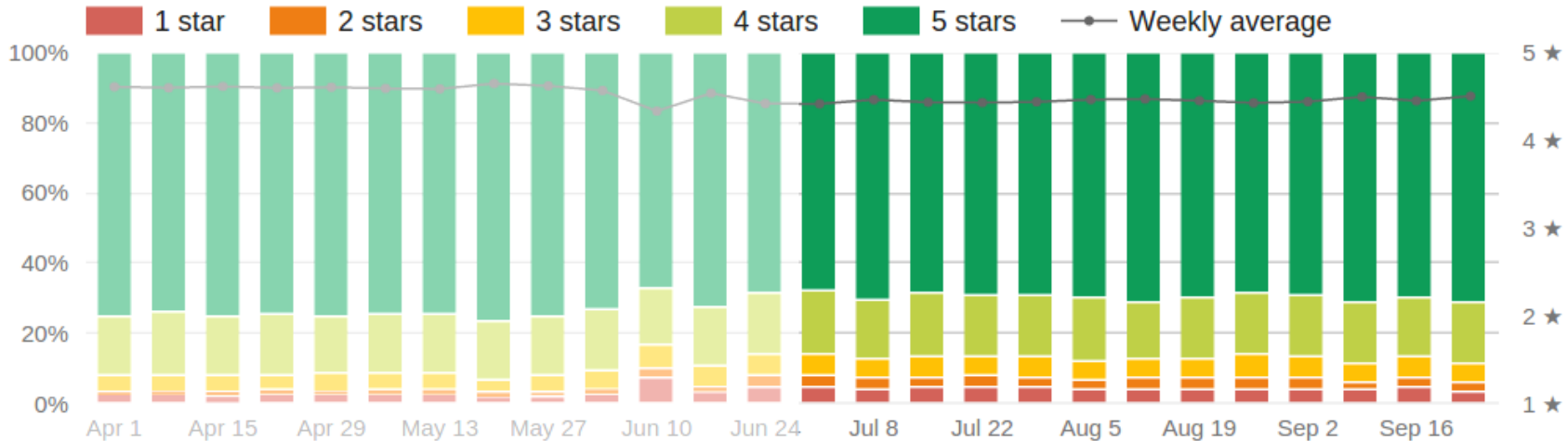**Android app pageviews**

Wikipedia Android app daily active users

Android app daily installs

Q1 - Reading

Android reviews/rankings

~6,500 reviews in Q1
Average rating: 4.5 (Q4: 4.5, Q1 2014/15: 4.4)

Q1 - Reading

App session length is commonly 2-3 pageviews, and 3 minutes. A typical user had 3-4 sessions per month. We want this data for web.

Metric for Aug 30-Sep 28, 2015	10th Percentile	50th Percentile	90th Percentile
Pageviews per session (session ends after 30 minutes of inactivity)	1-2	2-3	6-7
Session Length	13-14 seconds	176-178 seconds	1472-1504 seconds
Sessions per user	1-2	3-4	16-17

Note: 30 day sliding window (calculated weekly). The median session length has risen considerably since the end of last quarter (3 vs. 2 minutes). On the other hand, 90th percentile pageviews decreased slightly from 7-8 to 6-7.

# Next Quarter

Q1 - Reading (Q2 Goals)

| Q2 Goal	Measurement of Success	ETA	Dependency	Status
Goal 1 - **STRENGTHEN** Drive engagement by launching Link Preview on mobile web beta and Read More on web beta	Engagement (5% increase in links clicked) in beta or on non-EN Wikis	EOQ	- Community Liaisons	Start in Q2
Goal 2 - **EXPERIMENT** Drive app retention via feeds and modern UX (notifications Q3)	iOS App overhaul released 7 day 15% of users retained (up from 10% in Sept '15)	EOQ	- User Research	In Progress
Goal 3 - **FOCUS** Measure MediaWiki API usage, and data dump loads.	Availability of usage metrics on Hadoop warehouse for analysis.	EOQ	- Partnerships - Analytics team	In Progress
Goal 4 - **STRENGTHEN** Investigate migrating API traffic to Oauth.	Measurable impact TBD (% based on current usage of Oauth)	EOQ	- Partnerships - Analytics team	Not Started
Goal 5 - **STRENGTHEN** Release AuthManager: MediaWiki plug-in security architecture	Usage (# of services using new architecture)	EOQ	- Mediawiki extension developers - Security team	In Progress
Goal 6 - **EXPERIMENT** Prototype services based architecture for web and apps (T114542)	Working web app with feature parity of current mobile web stable reading experience (not scalability, quality)	EOQ	- Services team	Not Started

Appendix to the Appendix

Link preview results:

- Upon releasing link previews we observe a slight drop in pageviews (as expected), but an overall increase in combined pageviews + link preview requests (~16% increase):
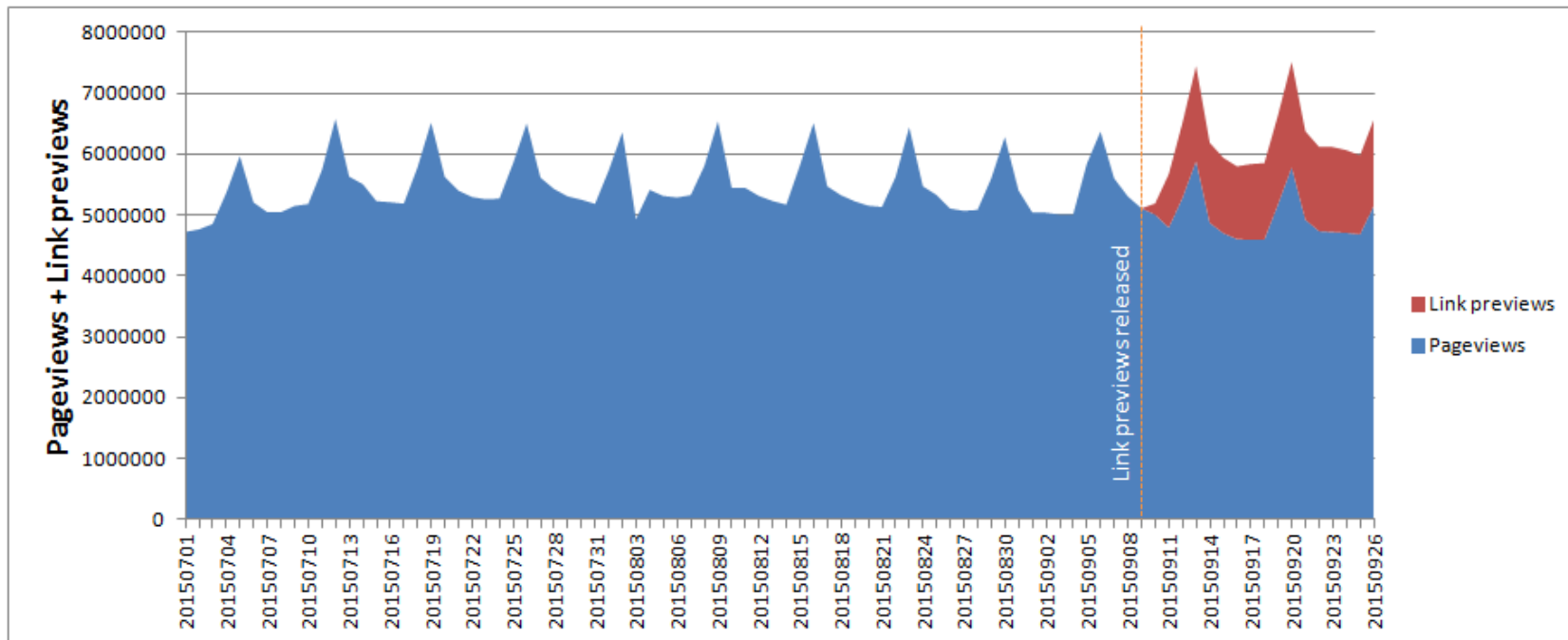
Link preview results:

- For reference, here are the results that we observed from the Beta app. Notice the appreciable increase in the number of links clicked for users who were shown link previews, versus users who weren't: (the average increase is about 22%, with some days seeing more than 30% increase)
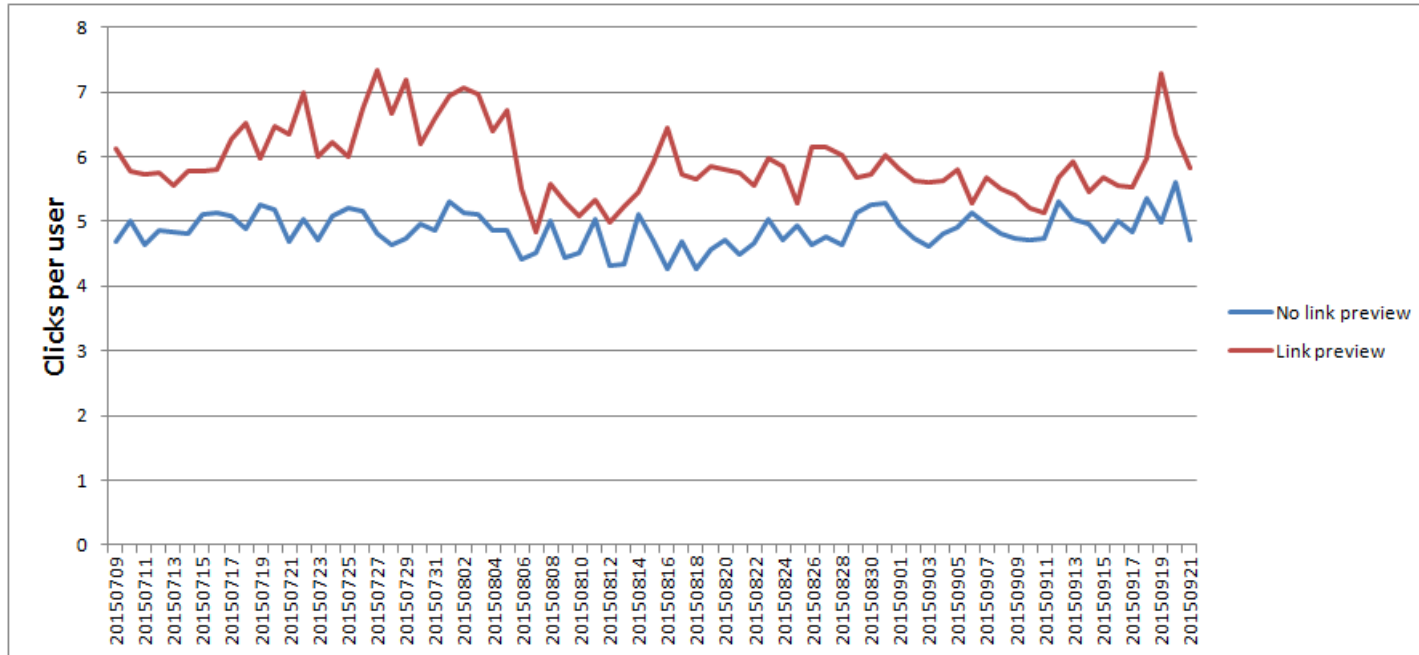
Link preview results:

● However, the number of links clicked per user per day doesn't seem to have increased (in fact it may even have declined slightly), contrary to our observations of users in the Beta app:

40

Q1 - Reading
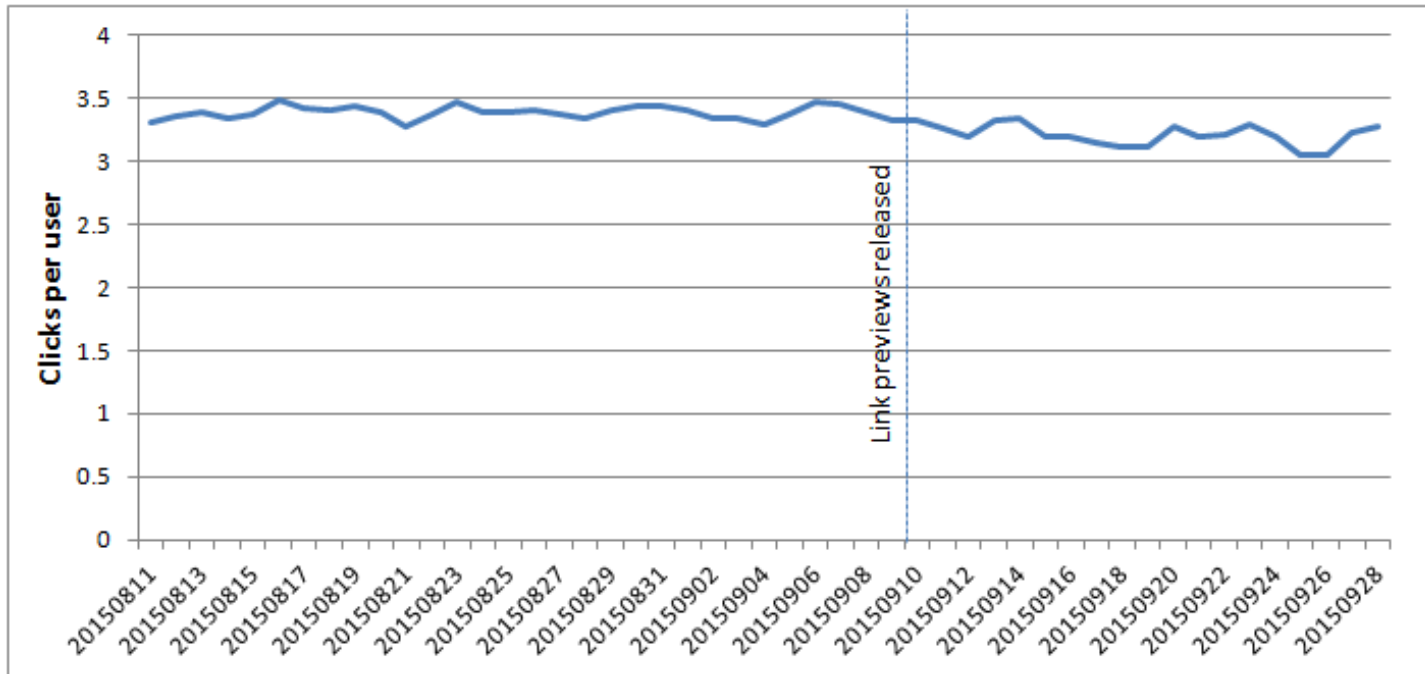
Positive, limited press response to link preview (overview and excerpts in notes): VentureBeat, The Next Web, AndroidPolice, AndroidWorld (in Italian!)

Wikipedia Android app daily active users

No measurable impact on installs

Android app DAU (in thousands)

1400

1200

1000

800

featured on Google Play

iOS(!) app promotion

Android app promotion

Q3

Q4

Q1