

New Readers Offline Concept Evaluation



WIKIMEDIA
FOUNDATION

Intro



WIKIMEDIA
FOUNDATION

Background

The New Readers project is built off of [research conducted in early 2016](#).

The Reading product team is working towards providing a technical solution to one of the findings from that research.

“People are increasingly getting information online, then consuming or sharing it offline.”

We’ve built 3 prototypes to try to serve this need and are testing them with real users to see what they think.



Research goals

1. Gather use cases for taking and using offline content (both for content in general, and what kind and use cases for Wikipedia specifically)
2. Test usability and understanding of prototypes.
3. Prototype various methods of evaluative research with New Readers target users.



Mojave Desert

The **Mojave Desert** (*MO-HAH-VEE*) is an arid rain-shadow desert and the driest desert in North America. It is located in the southwestern United States, primarily within southeastern California and southern Nevada, and it occupies a total of 47,877 sq mi (124,000 km²). Very small areas also extend into Utah and Arizona. Its boundaries are generally noted by the presence of Joshua trees, which are native only to the Mojave Desert and are considered an indicator species, and it is believed to support an additional 1,750 to 2,000 species of plants. The central part of the desert is sparsely populated, while its peripheries support large communities such as Las Vegas, Lancaster, Palmdale, Victorville, and St. George.

The Mojave Desert is bordered by the Great Basin

https://wikipedia.org/wiki/Mojave_Desert

Personas

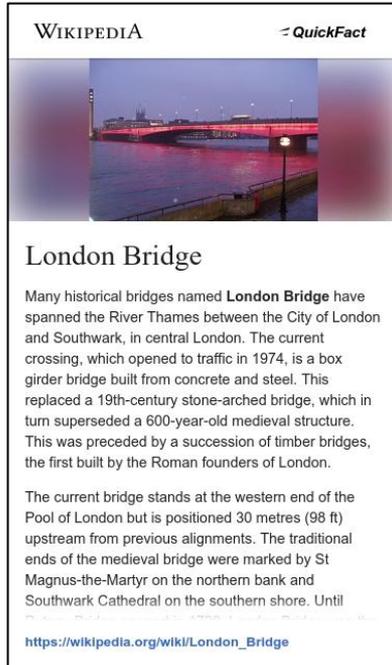
[Kumari](#) has very low access to the internet, so has a potentially high level of need for offline functionality. However, she has little awareness of Wikipedia, so might not have as much need to take Wikipedia content offline.

[Sandeep](#) has much more access to the internet, so potentially less need for offline access, though his access can be fractured. Sandeep is aware of Wikipedia, and uses it regularly for his research.

With the combination of these two personas, we will learn about current offline behaviors and needs, as well as use cases for offline Wikipedia.



Concepts



WIKIPEDIA QuickFact



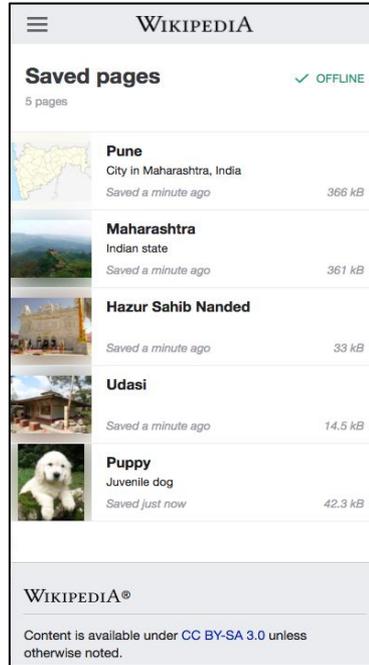
London Bridge

Many historical bridges named **London Bridge** have spanned the River Thames between the City of London and Southwark, in central London. The current crossing, which opened to traffic in 1974, is a box girder bridge built from concrete and steel. This replaced a 19th-century stone-arched bridge, which in turn superseded a 600-year-old medieval structure. This was preceded by a succession of timber bridges, the first built by the Roman founders of London.

The current bridge stands at the western end of the Pool of London but is positioned 30 metres (98 ft) upstream from previous alignments. The traditional ends of the medieval bridge were marked by St Magnus-the-Martyr on the northern bank and Southwark Cathedral on the southern shore. Until

https://wikipedia.org/wiki/London_Bridge

[Quick fact](#)



WIKIPEDIA

Saved pages

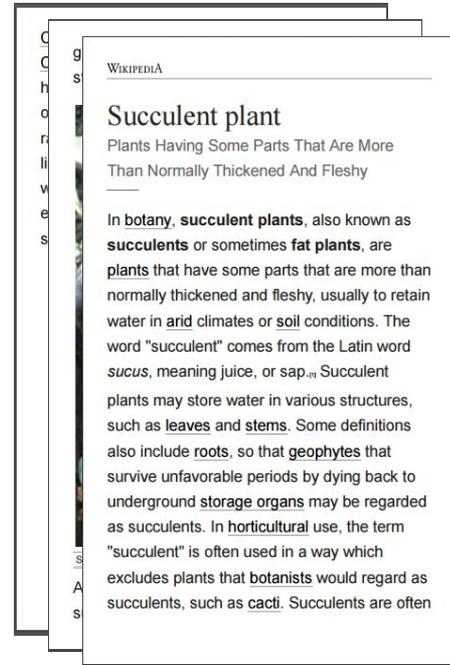
5 pages OFFLINE

	Pune City in Maharashtra, India Saved a minute ago 366 kB
	Maharashtra Indian state Saved a minute ago 361 kB
	Hazur Sahib Nanded Saved a minute ago 33 kB
	Udasi Saved a minute ago 14.5 kB
	Puppy Juvenile dog Saved just now 42.3 kB

WIKIPEDIA®

Content is available under CC BY-SA 3.0 unless otherwise noted.

[Saved Pages / PWA](#)



WIKIPEDIA

Succulent plant

Plants Having Some Parts That Are More Than Normally Thickened And Fleshy

In **botany**, **succulent plants**, also known as **succulents** or sometimes **fat plants**, are **plants** that have some parts that are more than normally thickened and fleshy, usually to retain water in **arid** climates or **soil** conditions. The word "succulent" comes from the Latin word *sucus*, meaning juice, or *sap-_n*. Succulent plants may store water in various structures, such as **leaves** and **stems**. Some definitions also include **roots**, so that **geophytes** that survive unfavorable periods by dying back to underground **storage organs** may be regarded as succulents. In horticultural use, the term "succulent" is often used in a way which excludes plants that **botanists** would regard as succulents, such as cacti. Succulents are often

[Wiklater / PDF](#)

Full concept details available on [Meta Wiki](#)

Research Methods

Initially, we planned to execute additional feedback channels, but due to time constraints narrowed into these two. More information about other potential ways to test in the appendix (p 46).

Concept and usability testing:

- Observe current workflows for taking content from online and finding and using it offline by talking with people in real time on video
- Observe people using all three prototypes, to assess usability of prototypes.
- Discuss utility of current workflows and experience with each of the three prototypes with users.

[Feedback on MetaWiki](#)

- Hear from community members
- Discuss utility of prototypes with community members
- Get feedback about critical issues

Concept & Usability Testing



WIKIMEDIA
FOUNDATION

Findings and recommendations



WIKIMEDIA
FOUNDATION

General findings

- It's a challenge to provide good options for offline because most participants have strong mental models and workflows already.
- Participants enjoy the benefits of links in online wikipedia, and miss them when they don't work offline.
- Awareness and concern about storage space on devices and cost of data demonstrates need to communicate about MBs being downloaded to assist users with making choices
- Many of these participants find more utility in a screenshot they can curate than a first paragraph of the article and an image. We need to think through the utility of quickfact vs. screenshots.

Detailed Findings



Current offline workflows / mental models

Most participants (8 of 13) have solutions they use frequently (creating strong mental models) for taking content offline and using it later.

1. Taking a screenshot of just what is needed for offline or sharing. It's fast and easy to create, find and share. (5 of 13 described using screenshots. More might also use them.)
2. Using system tools for creating a pdf, or printing to paper. (6 of 13)
3. Use tools designed for taking content offline like, Instapaper, Telegram, or Paper (7 of 13)

People have figured out work arounds and use applications designed specifically for this task. They have well established workflows for accomplishing their goal of being able to use content from online, offline. If new offline functionality has a high learning curve, is difficult to discover, or creates extra work for users, there is little motivation for them to use the new solutions over what they currently use.

Current offline workflows / mental models

Recommendations:

Ensure discoverability by messaging and visual queues.

Make sure **usability issues are** found and **addressed** before production

Make it **intuitive to use**, and look for ways to connect it to larger workflows (for example organizational structures for content)

Learning from user workflows

One participant noted that printing a PDF uses less data than downloading a PDF. This is standard functionality in desktop browsers. Chrome for mobile also supports this, though it is not clear if people know about it widely.

Recommendations:

Because we know that it is important to help the users we are focusing on use less data, it will be useful to investigate “print to PDF” and see if it is something we might be able to implement.

This also relates to Affordability findings.

Use cases for taking content offline:

With this set of participants, we didn't hear of many used cases for taking Wikipedia articles, particularly, offline. Many would read an article while online, or navigate back to it to continue reading. This may be because most of these participants have consistent access to the internet, and most aren't too worried about cost. We will learn more on this topic in the next round of testing in India. This group of participants use cases for taking content offline revolve around things other than Wikipedia articles:

- Instructional content - 4 of 13
- When traveling and internet is not available (bus, airplane) 5 of 13
- Note that only 4 of the 13 are people who both take content offline daily and have unreliable internet.
- Being able to find or later refer to a piece of content pulled off the internet, to access or find it later. This use case is for both, people who have less concern about the cost of downloading or accessing content and usually have reliable internet access most of the time, as well as our target users who are more concerned about cost and storage of downloading.
- Sharing content with others. This is useful for everyone. It is not only our target users who do this. It is pulling something out of the river of the internet and sending it to a friend. It doesn't necessarily have to be off line to accomplish the task.

Links

- Participants have strong habits of using links on Wikipedia pages, and miss them when they don't function as expected (6 of 13 articulated concern that links didn't work in offline content). Also mentioned in meta feedback
 - links provide more information about something I need to know about
 - They are easy to click on and learn from without losing the context of what I am currently learning.
 - They are useful for rabbit holing if it isn't a hunt and peck situation
- Even when links are not blue - they are recognized as links, and participants still missed them.
- Participants were quickly vocal about the links not working in any of the offline concepts.
- Links are expected in many places in the internet, but are especially useful and their behavior is understood (and they don't pose a click bait risk) for people used to navigating in Wikipedia.

Links

Considerations for next test:

This group of people are largely aware of Wikipedia and use it pretty frequently, they have expectations for what a link in Wikipedia provides.

Those expectations are powerful, and are part of why people come to wikipedia - they can learn a lot in a compressed time, or take more time and learn more. We don't want to corrode that value.

We'll keep an eye on this as we continue to test, and consider messaging about why links don't work with offline content. Perhaps consider collections and ability to take collections offline.

How does this work in kiwix and other solutions? Has there been feedback?



The screenshot shows the Wikipedia article for "2017 Women's March". At the top, the Wikipedia logo is visible. The title "2017 Women's March" is followed by the subtitle "Worldwide Political Rallies For Women's Rights". Below the title, there are icons for search, download, star, and edit. The main text begins with "The **Women's March** (also called **Women's Marches** or the **Women's March on Washington** and its **Sister Marches**) was a worldwide protest on January 21, 2017, in support of women's rights and other causes including immigration reform, health care reform, protection of the natural environment, LGBTQ rights, racial justice, freedom of religion, and for workers' rights. The rallies were aimed at Donald Trump, immediately following his inauguration President of the United States, and especially at his statements and positions some regarded as anti-women or in other ways reprehensible. It is the largest one-day protest in U.S. history." Below the main text, there is a blue box with the title "2017 Women's March Women's March on Washington" and a subtitle "Part of the women's rights movement and protests against Donald Trump".

Online Wikipedia article



The screenshot shows the Wikiliter article for "2017 Women's March". At the top, the Wikiliter logo is visible. The title "2017 Women's March" is followed by the subtitle "Worldwide Political Rallies For Women's Rights". Below the title, there is a horizontal line. The main text begins with "The **Women's March** (also called **Women's Marches** or the **Women's March on Washington** and its **Sister Marches**) was a worldwide protest on January 21, 2017, in support of women's rights and other causes including immigration reform, health care reform, protection of the natural environment, LGBTQ rights, racial justice, freedom of religion, and for workers' rights. The rallies were aimed at Donald Trump, immediately following his inauguration President of the United States, and especially at his statements and positions some regarded as anti-women or in other ways reprehensible. It is the largest one-day protest in U.S. history."

Wikiliter article

Storage and the cost of downloads

- Participants who have limited data storage, or are constrained by the cost of data, are very aware of the mbs they download. (these are both cost concerns and storage space concerns.)
- 5 of 13 participants noted concern about hitting the upper limit of their device's storage.

Recommendation:

For next round of testing, keep things as they are in the prototypes.

Wikilater (PDF) feedback



WIKIMEDIA
FOUNDATION

Finding the pdf later

- 5 of 13 people had difficulty finding Wikilater on their phone. These participants are mostly people who don't use PDFs much for their offline content. Those who do use PDFs had less problems, but still experience a little learning curve to find their PDFs among the others in the file system on their phones (for example p3).
- 7 of 13 had no problem finding the PDF after downloading it.

Recommendation:

Investigate if we can make a specific folder on the device from our end.

Investigate creating descriptive names for PDFs so people can more easily find them in a sea of PDFs they have downloaded.

Page design: PDF vs live site

- 2 of 13 participants noted the variation in design of the PDF vs the live site, and directly requested it to be the same. (cut off infobox, large blank gaps on pages)
- 4 of 13 participants noted that the navigation of live wiki pages (ToC, collapsed section headings) are very useful for them to find the content they are looking for, and they are used to that kind of navigation. These participants directly asked for the navigation to be the same on the PDF version.
- Participants (10 of 13) of this study noted missing section headings and ToC. This is because they use those organizational structures frequently to their benefit. ToC and Section headings enable people to find what they want quickly, and reduce time and awkward interaction of scrolling too much.

Page design: PDF vs live site

Recommendation / to consider:

- Make the prototypes and the PDFs generated have the same design and navigation (whenever possible) of the live wikipedia articles.
- *General: As we move forward with delivering offline content, let's keep in mind the benefits of the current design.*

It is clear that people make good use of and have become accustomed to the navigation features, specifically, ToC and section headings, for finding the content they are looking for, or guiding their discovery. Let's make sure to not undo that good work by providing a separate (perhaps lesser) experience for people consuming articles offline.

Wikilater usefulness

6 of 13 explicitly said that Wiklater would not be useful for them:

They have other ways to save the data

Prefer to print to pdf rather than download

Basically just said it isn't too useful for them

Recommendation:

Continue testing with target users and see what we find from users in India around the usefulness of Wikilater.

Quickfact feedback



WIKIMEDIA
FOUNDATION

Rendering

Almost half (5 of 13) of the participants noticed that content was cut off, or stated they didn't like that the content was cut off in quick fact.

Recommendation:

Investigate parsing text so that sentences are not cut off.

Consider that any time we create an offline part of Wikipedia, it is still communicating the brand and experience of Wikipedia. It may be worth addressing this issue, to not poorly impact people's experience or perception of the quality of Wikipedia articles.

Icons

Confusion about the bookmark icon, and it meaning “save for offline use” was observed:

- One person said that icon indicates a reading list, and that she doesn't use reading lists.
- Some hesitated to press it, because it wasn't necessarily saying “save offline” to them, or they would save offline in a different way, and were prompted to press the button by researchers (5 of 13)
- Some participants tested out the icon and discovered that it is a way to save offline. (5 of 13)
- Some articulated confusion about what the bookmark icon was for, and then pressed it to test. (3 of 13)



Icons

Recommendation / to consider:

- **Test star and bookmark with a larger selection of people from across cultures**, or do secondary research to inform the use of these icons side by side. (survey? This kind of research, if we decide to do it, needs to be done with more than a handful of people, and a cross section of people from various languages and cultures.)
- **Make the star icon active so we can test with both available** (for testing in India). When star doesn't work, it gives indication that it is not the correct icon. We want to see what people will do if both work, as they might in production. The findings will be more useful if we know what people perceive the star vs. the bookmark icon to be.
- **Do analysis on all the uses of the star icon** (watch list) and bookmark icon in a systematic way, considering all the uses of each, and make a decision on which icon should be used for what, or if there are any other icons that might be better and that we could use (depending on needs of the various use cases).

Finding content once offline

We observed people being confused about where to find wikipedia pages once their phone is offline. This may also be related to the confusing mental model of progressive web apps. People don't think of browsers as being able to be offline.

- A little over half (8 of 13) of the participants had difficulty finding the saved pages once they were offline.
- The rest (4 of 13) were able to find it just fine.

Recommendation:

Provide messaging, visual way-finding and a path for people to find the saved pages, and perhaps contribute to building a new mental model that browsers can be offline.

Messaging effectiveness

Animation

The animation that shows people where to find the articles they have saved offline moves too fast for people to comprehend. (4 of 13)

“Add to your desktop”

Some people did see the “add to your desktop” note (5 of 13), but were not clear on what it meant exactly. Some confusion about it being the app... It is not something people seem familiar with.

“You are reading offline”

Almost half (6 of 13) of the participants noticed the “you are now reading offline” message, and then knew they were not connected to the internet.

Messaging effectiveness

Recommendations:

Since there was some confusion about where to find content once device is offline, it is useful, and will save users (learning) overhead, to provide messaging or point to the location that the content can be found.

The animation is effective at this if it is slow enough, or repeated so people can comprehend it. It is a useful pointer and will speed up workflows, especially when people are new to taking wiki content offline.

Awareness of function

- The confusion about the bookmark icon indicating save for offline, may also be indicating confusion about the ability to take content offline without having to download it first. Downloading is a very frequent behavior for people who take content offline for later use.
- The concept of saving something offline without having to download is not necessarily well known or intuitive yet (at least for this set of users). PWA are not widely known yet... no strong mental models to work off.
- Note that at least one person (P7) mentioned that finding offline functionality in the app would make good sense. This is a hint at a potential mental model to leverage.



Awareness of function

Recommendation / to consider:

There is some similarity between a reading list and a list of articles to have available offline. Is there a way to indicate that the bookmark can be used for both? Perhaps some messaging to users (especially when the feature is new). Is this necessary?

Definitely continue testing (with star activated if possible) with users in India, and see what more we can learn.

Focus more on “saved pages” in this second round of testing (thank quick fact), and don’t test it last, so we ensure time to learn more in depth about saved pages.

There is an enormously strong mental model of going to Uncle Google through a smartphone to learn what you need to know. People land on mobile web Wikipedia pages through this path in big numbers. Mobile web might not be the best place to store offline content, apps are a lot easier (vs PDFs for example), but mobile web is a funnel of users we can address. How might we leverage this strong “Uncle Google mental model” to drive people who come in to Wikipedia via Google, to a more efficient and smooth offline experience in apps once they are in Wikipedia?

Bugs?

Mathematical / scientific symbols rendering incorrectly in pdfs.

Meta feedback



WIKIMEDIA
FOUNDATION

Outreach + participation

- Village pumps + mailing lists
- Limitations:
 - English only
 - Required on-wiki participation
- 4 total respondents

Saved Pages feedback

- Works well on Android
- Requests for downloading additional articles (category or linked articles)
- More UI optimization for offline mode
- Article UI updates
 - Link to licensing and contributors
 - Coordinates link to map
- Saved Pages UI updates
 - Additional sorting options

4 total respondents

[See the feedback here.](#)



WIKIMEDIA
FOUNDATION

Wikilater (PDF) feedback

- PDF UI concerns:
 - Tables are an issue ([en:List of Show Mines](#))
 - Infobox issues
 - Section headings starting new page is making too much white space ([en:Frankfurt](#))
 - Images alignment ([en:Botany](#))
 - Not printable due to huge text and many pages
- Request for batch download
- Link to licensing and contributors
- Coordinates link to map
- Risky to assume that readers have PDF viewer

3 total respondents

[See the feedback here.](#)

Quickfact feedback

- Files are small, well designed visually
- Not very useful
 - Could use screenshot
 - Links don't work

2 total respondents

[See the feedback here.](#)

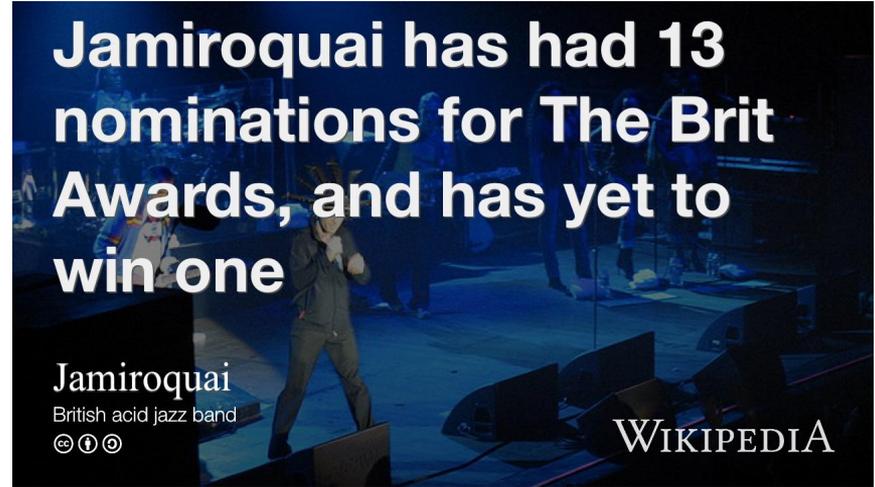
Attribution

Concern about no attribution going along with pdfs & images. In concept generation and evaluation we talked about the need to have the link of the article connected with the content.

Attribution is important for articles and images in general, and should be addressed. This was community articulated concern with Share a Fact.

For Share a fact, licensing is a flat image, and the attribution is added to each fact below the fact and image. (See share a fact in iOS, it is not there in Android.)

There are assets for all licensing needs.



Share a fact: this share has no image, it usually would contain the lead image, but currently there's a bug.

Currently the Android

Background image CC by SA 2.0 by ShadowHalo

Next steps



Prototypes: adding Hindi and collapsible sections.

Testing: working with a research firm in India to test with readers closer to the personas.

Remaining findings and feedback will be incorporated after testing in India.

Appendix



WIKIMEDIA
FOUNDATION

Feedback channels: unused

With New Readers, we're trying to reach people in the world that the Foundation doesn't have an existing relationship with. We need to learn how to connect with these people so that we can address their needs in our solutions.

These are other methods of gathering feedback that we considered this round and may use in the future:

- In-person testing with either Foundation staff or a research firm on the ground.
- Remote unmoderated testing - (because it is easier than video calls in unstable internet contexts).
- Structured feedback survey (even easier than user zoom or a video call in unstable internet contexts - can be completed asynchronously).

Recruit



WIKIMEDIA
FOUNDATION

What we did to recruit

Sent qualifying survey to...

- Community members to send to their contacts
- Facebook posts both country-targeted and globally
- Design research participant database

The recruit took about 2 weeks.

We looked for people who...

- Were able and willing to participate in an hour-long video call
- Were comfortable using and able to access video conferencing
- Had a laptop for the video call as well as a smartphone
- Say they use offline content at least weekly

What we got / who we spoke with

220 survey respondents

32 qualified respondents
to schedule

13 participants interviewed
over 2 weeks

10 men and 3 women
who mostly use Android phones
2 use iPhones

They take content offline:

Daily (1)
A few times a day (6)
Weekly (5)
Once a month or less (1)

They are in these countries:

Serbia, Peru, India (2), USA (4), Spain,
Israel, China, Indonesia