

Section Translation Research

Product | Design Strategy | Language Team

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The screenshot displays the Wikimedia Translations interface. At the top, there's a header with 'W Translations', a notification bell, a chat icon, and a user profile dropdown. Below this is a '+ New translation' button. The main content area is divided into 'Suggestions' (based on previous edits, with a 'Change topic area' link) and 'New pages'. The 'New pages' section lists 'Golden toad' (Extinct toad), 'Big cat' (Larger felid species), and 'Monkey'. A 'Sections Ukulele' dialog box is open, prompting the user to 'Select a section to translate' between English and Javanese. The dialog lists various sections: 'Missing in Javanese', 'History', 'Construction', 'Types and sizes', 'Tuning', 'Related instruments', 'Audio samples', 'Notable musicians', 'Present in Javanese', and 'External links'. The 'Original' section is selected, showing the text: 'The ukulele is commonly associated with music from Hawaii where the name roughly'. Below the text is a rich text editor toolbar with icons for undo, bold, italic, link, unlink, quote, and insert. The translated text in Javanese is: 'Ukulele umume digandhengake karo musik saka Hawaii ing ngendi jeneng kasebut kasar minangka "lompat lompat", mungkin amarga gerakan driji pamuter.'

Introduction

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The communities

Problem Statement & Overview

Small wikis and the future of Wikipedia

Southeast Asia will have roughly 480 million internet users by 2020 (up from 260 million currently). Beyond internet use, we observe increasing populations throughout both Southeast and East Asia.[1] If the Wikimedia Foundation will achieve its goal of removing barriers to knowledge, it must address the needs of this region, home to many small, non-English wikis.

Southeast and East Asia are home to a number of “small” Wikipedias (wikis) with significant growth potential. “Small” defined as wikis with less than 100k articles and less than 100 translations per month. As for growth, there are at least two reasons to posit significant growth potential. First, some of these small wikis have more than 70 editors (>20 active editors), presenting opportunities to quickly grow aided by tools that make contributing easier and more efficient. Secondly, these wikis are in languages with millions of speakers, significant segments of the world’s population that would benefit from content creation and dissemination.[2]

In addition to the benefit of making knowledge more accessible in these communities, the communities would also be able to contribute local knowledge, otherwise not available to the global community. This content could then just as easily be translated into the languages of larger wikis, resulting in mutual benefit. In this way translation can also help counter colonial patterns of knowledge distribution.



“Inclusivity and new representation can [only] happen when there are lower barriers to entry, and that experienced users may need to accept less-than-perfect information in order to train and incorporate new users into the movement.”

Wikimedia Foundation 2017 Strategic Report[3]

One of the Wikimedia Foundation Language Team’s primary goals is to help facilitate the growth of content available in small wikis, particularly in East and Southeast Asia.[4]

Any viable approach/solution must consider:

- 1. More mobile-first design.** 5 of the top 10 countries with the most widespread smartphone use are in Asia.[5] More generally, almost 75% of the world will access the internet exclusively by smartphone by 2050, and - critically - most of this growth will come from India and Indonesia, amongst others.[6] Thus, a solution must not merely be ‘mobile-friendly’, but optimized for mobile use patterns and reading/editing behaviors in Southeast and East Asian communities.
- 2. Lower barriers to entry.** The barrier to editing might be lowered in a number of ways, from making the translation option more discoverable and transparent, to allowing contributors to add content without necessarily creating a new article.

[1] <https://theaseanpost.com/article/overview-aseans-digital-landscape>

[2] See analysis here: <https://www.google.com/url?q=https://docs.google.com/document/d/1XTMAgHKdzIzeDDInTvc7fahHGhzIfeIkwzHKBj6unak/edit%238sa=D&ust=1571859110868000&usq=AFQjCNE3eqDIAIPhiuoEZA60X9JHvpf-8w>
Certainly potential readers and editors are a subset of the total population. Moreover, future research efforts are needed to understand the unique challenges present in these communities.

[3] https://meta.wikimedia.org/wiki/Strategy/Wikimedia_movement/2018-20

[4] <https://docs.google.com/document/d/1XTMAgHKdzIzeDDInTvc7fahHGhzIfeIkwzHKBj6unak/edit#heading=h.vvt1m0p2t0i6>

[5] <https://www.thinkwithgoogle.com/intl/en-apac/tools-resources/research-studies/measuring-asias-mobile-transformation/>

[6] <https://www.cnn.com/2019/01/24/smartphones-72percent-of-people-will-use-only-mobile-for-internet-by-2025.html>

Executive Summary - *project overview*

Section translation aims to solve current limitations of content translation by

1. Allowing users to **create and modify sections, or snack-sized chunks, of articles**
2. Prioritizing **mobile-friendly design**
3. **Lowering the barrier to entry** for newer contributors.

This project evaluated current mobile prototypes with two targeted small wikis - **Bengali** and **Javanese**.

Using the Rapid Iterative Testing and Evaluation Method, Likert scale ratings, and interview data, the project evaluated not only initial prototypes, but also a number of design changes after each round of testing.

The project also supported design exploration by gathering interview data around critical assumptions of Section Translation, including the role of mobile and the relevance of article sections as a meaning unit of translation.

The screenshot shows a mobile interface for editing a Wikipedia article. The top section is titled 'Sections Ukulele' with a close button (X). Below the title is the instruction 'Select a section to translate' and a note: 'Pick a section below and check the contents in both languages to decide what to translate.' There are two language dropdown menus: 'English' and 'Javanese', with a right-pointing arrow between them. A list of sections is on the left, including 'Missing in Javanese', 'History', 'Construction', 'Types and sizes', 'Tuning', 'Related instruments', 'Audio samples', 'Notable musicians', 'Present in Javanese', and 'External links'. The 'Original' section is expanded on the right, showing the text: 'The ukulele is commonly associated with music from Hawaii where the name roughly'. Below this text is a toolbar with icons for undo, redo, bold, italic, link, quote, and edit. The Javanese text below the toolbar reads: 'Ukulele umume digandhengake karo musik saka Hawaii ing ngendi jeneng kasebut kasar minangka "lompat lompat", mungkin amarga gerakan driji pamuter.'

Executive Summary - *key takeaways*

Top 10 Key Takeaways

1. Users perceive value in being able to expand and create articles by focusing on specific sections. However, the unit of the article still has significant value because it's how small wikis are measured and track growth.
2. The unit of the article section matches existing editor workflows well, but participants varied in whether they translated at the level of the sentence or at the level of the paragraph (opting to paraphrase). While the desktop version of Section Translation will allow both options, the mobile workflows only currently support the sentence-by-sentence workflow.
3. Completing a section provides an easier, faster feeling of satisfaction. By highlighting progress, and progress towards high quality articles, we can help motivate editors and help them build habits.
4. The bulk of the usability problems discovered and fixed in this project were in the part of the mobile flows when the user is previewing and improving the proposed machine translation (machine translation interaction).
5. Because Section Translation targets a subset of article content, it raises questions around how editors may collaborate and co-translate articles and content. There is an opportunity to explore 'collaborative translation' features, such as key concept vocabulary flagging and dialectal variation tracking, among other possibilities.
6. Users are sensitive to content gaps and motivated by closing these gaps and providing access to knowledge not available for monolingual readers in their regions/language communities. There is an opportunity to better surface the impact of translators' work and progress through features such as translation views and thanks.
7. Current mobile-only users represent a growing segment and are underserved by current translation tools. At the same time, laptop editing is a strong preference among users with access to both types of devices. Section and article recommendations could be more successful by factoring in device type and more user editing patterns.
8. Device-specific adoption patterns of Section Translation are likely, as are device-specific feedback trends. Analytics and design research should collaborate to anticipate different ways of collecting initial feedback and understanding patterns of adoption, both by new and experienced translators.
9. The social side of contributing may take different forms depending on the cultural context. For example, Javanese editors frequently discussed the importance of this social component, which could be built into translation tools more overtly.
10. Although Content Translation gets equated with machine translation, users note many value props of the CX tool, including automatic references and interlinks as well as vocabulary suggestions and side-by-side presentation of the source and target text for faster translation.

Section Translation

Building on the success of Content Translations

To reduce content gaps and increase the number of articles, **Content Translation** was introduced in 2015 to make the process of translating an article from one language to another easier.

Previously, any translation had to be done by copying source text in one language, using an external translation service outside of the Wikipedia environment, and then pasting back in the translated content. Moreover, any images, citations, and references had to be provided again, forcing redundant work.

The content translation tool allows users to focus on the quality of their translation by providing a more integrated experience with Wikipedia article creation. For some languages, it also jump starts the translation process by offering up machine translated sections that the user simply needs to review and edit instead of starting from scratch.

Since 2015, more than half a million articles have been created with the Content Translation tool across a number of diverse language communities.^[7]

Current limitations of Content Translation

3 key limitations:

1. **Not mobile-friendly**
2. **Must create new articles in their entirety** and any additional article editing with CX overrides any changes made after the initial creation via CX
3. Recent preliminary analysis shows the content translation tool appears to have **steady growth among experienced contributors**, so how can we ensure the same trend for newer users?

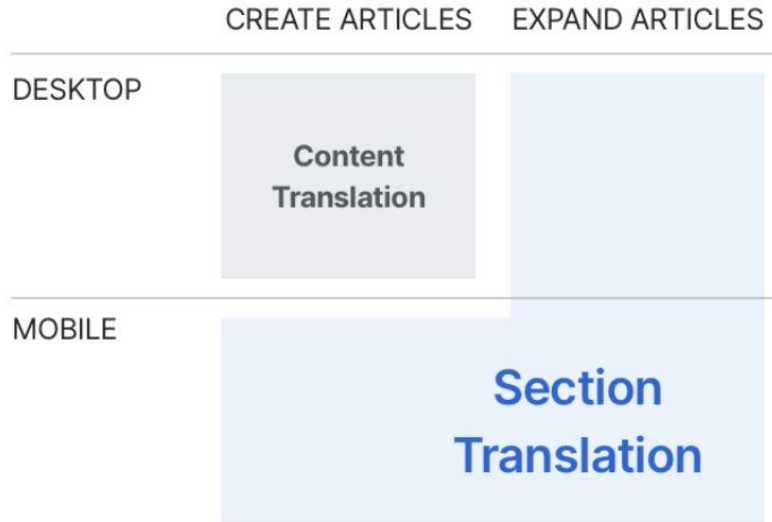
How Section Translation aims to solve these limitations

1. Section translation was **designed and prototyped with mobile-first design**. While it won't initially be developed as part of a native app, it is being designed for responsive web to help prioritize the needs of mobile device users.
2. Section translation **allows users to create and modify sections, or snack-sized chunks, of articles**. The feature does not require a user to create a new article like current content translation does.
3. By reducing the time commitment and being mobile-friendly, section translation aims to **lower the barrier to entry for new contributors, thereby growing the use of translation among more new and inexperienced editors**. The time commitment is reduced in so far as users can add content to existing articles and sections of new articles in smaller portions.

^[7] <https://en.wikipedia.org/wiki/Special:ContentTranslationStats>

Section Translation

A helpful visualization of how Section Translation builds on the core experience of Content Translation



(Thanks to Pau Giner for this illustration)

Section Translation - Workflow overview

[Updated prototype](#)

(1) Select section and review contents....

W Translations

+ New translation

Suggestions
Based on previous edits
Change topic area

English → Indonesian

New pages

- Golden toad
Extinct toad
English → Indonesian
- Big cat featured
Larger feline species
English → Indonesian
- Monkey
English → Indonesian

Suggestions In progress Published

Ukulele 12

English → Indonesian

Select section to translate

7 sections missing in Indonesian

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Sections Ukulele

Select a section to translate
Pick a section below to check the contents in both languages and decide what to translate.

English → Indonesian

Sections missing in Indonesian

History

Construction

Types and sizes

Tuning

Related instruments

Audio samples

Notable musicians

Sections present in Indonesian

External links

← Back to all sections

Ukulele History

Translate this section

Review the contents in both languages.
Contents from the selected section may be already covered in the target article.

Section in English Full article in Indonesian

History

The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea"^[d] perhaps because of the movement of the player's fingers. Legend attributes it to the nickname of the Englishman Edward William Purvis, one of King Kalākaua's officers, because of his small size, fidgety manner, and playing expertise.

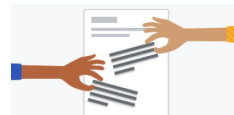
(2) Learn the process (the first time only)

Translating a new section is easy, quick and fun!



For each sentence, you'll get a initial automatic translation for you to review and improve.

Expand the knowledge one section at a time.



Publish when you are ready. Your translation will be added to the page, and you can pick another section next!

Start translating

(3) Preview & Improve Machine Translation

← Translate section Done

Original History

History

The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea", perhaps because of the movement of the player's fingers. Legend attributes it to the nickname of the Englishman Edward William Purvis, one of King Kalākaua's officers, because of his small size, fidgety manner, and playing expertise. One of the earliest appearances of the word ukulele in print (in the sense of a stringed instrument) is in the Metropolitan Museum of Art's Catalogue of the Pacific Islands.

Proposed translation from Google

Sejarah

Edit translation

← Apply Skip →

Original

History

Sejarah

The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea", perhaps because of the movement of the player's fingers. Legend attributes it to the nickname of the Englishman Edward William Purvis, one of King Kalākaua's officers, because of his small size, fidgety manner, and playing expertise. One of the earliest appearances of the word ukulele in print (in the sense of a stringed instrument) is in the Metropolitan Museum of Art's Catalogue of the Pacific Islands.

Proposed translation from Google

Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain.

Edit translation

← Apply Skip →

Original

The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea", perhaps because of the movement of the player's fingers. Legend attributes it to the nickname of the Englishman Edward William Purvis, one of King Kalākaua's officers, because of his small size, fidgety manner, and playing expertise. One of the earliest appearances of the word ukulele in print (in the sense of a stringed instrument) is in the Metropolitan Museum of Art's Catalogue of the Pacific Islands.

Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain.

Sejarah

Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain.

Edit translation

← Apply Skip →

(4) Preview, Publish, Repeat...

× Confirm publication ✓

Ready to publish? The section you translated will be added to the existing article.

Check the whole translation before publishing and make sure that you included all the relevant information from the original section.

Sejarah

Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain. Legenda menghubungkannya dengan julukan orang Inggris Edward William Purvis, salah satu perwira Raja Kalākaua, karena ukurannya yang kecil, sikapnya yang gelisah, dan keahlian bermain.

Ukulele History, dan A little History of Ukulele^[d]

Sejarah new

Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain. Legenda menghubungkannya dengan julukan orang Inggris Edward William Purvis, salah satu perwira Raja Kalākaua, karena ukurannya yang kecil, sikapnya yang gelisah, dan keahlian bermain.

Referensi

New section added
Your translation was added. Consider editing the contents further or moving them around.

Edit the page

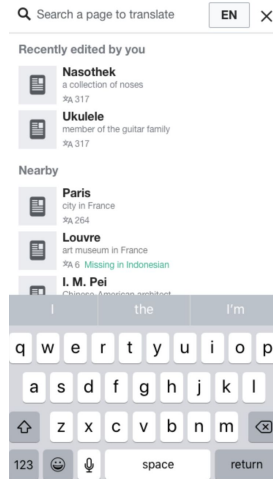
Add another section
+ Construction ... 5 other sections

Select section & review contents

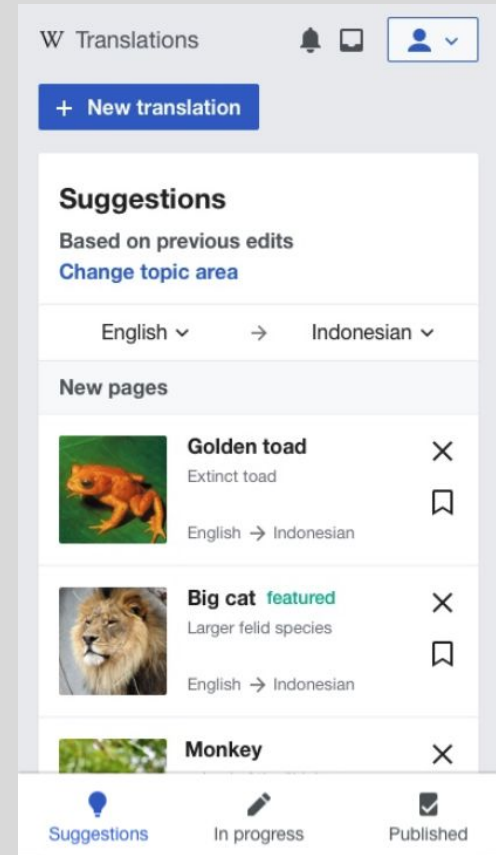
(1) Find article to expand with a section

Choose from suggestions, previous translations, or search

(optional) Search for an article



[02_NT_SEARCH]

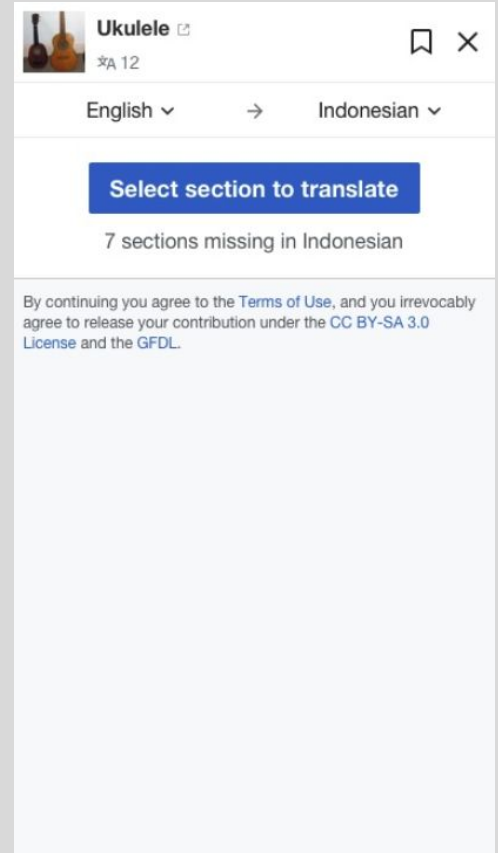


[01_NT_CTA]

Select section & review contents

(3) Expand sections to choose from

+ Preview how many sections are missing



The screenshot shows the Wikitext translation interface for the article "Ukulele". At the top, there is a header with the article title "Ukulele" and a small icon of a ukulele. Below the header, there are two dropdown menus for selecting the source and target languages: "English" and "Indonesian". A blue button labeled "Select section to translate" is prominently displayed. Below the button, it indicates "7 sections missing in Indonesian". At the bottom, there is a disclaimer: "By continuing you agree to the Terms of Use, and you irrevocably agree to release your contribution under the CC BY-SA 3.0 License and the GFDL."

[03_SELECTION_SECTION_1]

Select section & review contents

(4) Select a section to translate

Pick from multiple options and see what's already present (out of viewport in screenshot to right)

Sections
Ukulele ✕

Select a section to translate
Pick a section below to check the contents in both languages and decide what to translate.

English ▾ → Indonesian ▾

Sections missing in Indonesian

- History** >
- Construction** >
- Types and sizes** >
- Tuning** >
- Related instruments** >
- Audio samples** >
- Notable musicians** >

Sections present in Indonesian

- External links** >

[04_SELECT_SECTION_2_OPTIONS]

(5) Review the section contents

Review the section in the source language and full article in target language

← Back to all sections

Ukulele < >

History

Translate this section

Review the contents in both languages.
Contents from the selected section may be already covered in the target article.

Section in English Full article in Indonesian

History

The ukulele is commonly associated with [music from Hawaii](#) where the name roughly translates as "jumping flea",^[5] perhaps because of the movement of the player's fingers. Legend attributes it to the nickname of the Englishman [Edward William Purvis](#), one of King [Kalākaua](#)'s officers, because of his small size, fidgety manner, and playing expertise.


[05_SECTION_X]

Learn the process (first time only)

(6) Human & MT collaboration

The Machine Translation (MT) is there for me to improve, and to help speed up the process

Translating a new section is easy, quick and fun!



● ○

For each sentence, you'll get a initial automatic translation for you to review and improve.

>


[06_INFO_1]

Learn the process (first time only)

(7) Section-by-section

I can improve my wiki without having to create an article in its entirety

Expand the knowledge one section at a time.



○ ●

Publish when you are ready. Your translation will be added to the page, and you can pick another section next!

[Start translating](#)

[07_INFO_2]

(8) Review the automatic MT

Edit the MT, apply the MT (no changes), or skip the content

The screenshot shows a mobile interface for reviewing machine translations. At the top, there is a navigation bar with a back arrow, the text "Translate section", and a "Done" button. Below this, the title "Sejarah" is displayed. The main content area shows a preview of a Wikipedia article about the ukulele. The first paragraph is highlighted in yellow and contains the text: "The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea", perhaps because of the movement of the player's fingers." The second paragraph is partially visible: "Legend attributes it to the nickname of the Englishman Edward William Purvis, one of King Kalākaua's officers, because of his small size, fidgety manner, and playing expertise. One of the earliest appearances of the word ukulele in print (in the sense of a stringed instrument) is in the Metropolitan Museum of...". Below the preview, there is a section titled "Proposed translation from Google" with a three-dot menu icon. The proposed translation text reads: "Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain." Below the translation, there is a blue pencil icon and the text "Edit translation". At the bottom of the interface, there is a navigation bar with a back arrow, the text "Apply", and the text "Skip" with a right arrow.

[08_WORKFLOW_1_PREVIEW]

(9) Edit the MT

Original

The ukulele is commonly associated with [music from Hawaii](#) where the name roughly

✕ ↶ A ↷ 🔗 “ ✎ >

Ukulele umumnya dikaitkan dengan [musik dari Hawaii](#) di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain.

[09_WORKFLOW_2_EDIT]

Preview, publish, repeat

(10) Finish and preview your completed section

✕ **Confirm publication** ✓

Ready to publish? The section you translated will be added to the existing article.

👁️ **Check the whole translation before publishing** and make sure that you included all the relevant information from the original section.

Sejarah

Ukulele umumnya dikaitkan dengan [musik dari Hawaii](#) di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain. Legenda menghubungkannya dengan julukan orang Inggris [Edward William Purvis](#), salah satu perwira Raja [Kalakaa](#), karena ukurannya yang kecil, sikapnya yang gelisah, dan keahlian bermain.

[1_WORKFLOW_4_CONFIRM]


'Finish' = 10_WORKFLOW_3_PUBLISH]

Preview, publish, repeat


(11) Preview your completed section

See your progress and add another section!


Ukulele History, dan A little History of Ukulele^[1]

^ **Sejarah** new 

Ukulele umumnya dikaitkan dengan [musik dari Hawaii](#) di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain. Legenda menghubungkannya dengan julukan orang Inggris [Edward William Purvis](#), salah satu perwira Raja [Kalakaa](#), karena ukurannya yang kecil, sikapnya yang gelisah, dan keahlian bermain.

^ **Referensi** 

✓ **New section added**
Your translation was added. Consider editing the contents further or moving them around.

 [Edit the page](#)

Add another section

+ [Construction](#) ... [5 other sections](#)

[12_WORKFLOW_5_COMPLETE]

The Communities

The Wikimedia Foundation Language Team used a number of criteria to identify which small wikis to focus on for initial efforts. The wikis identified are summarized in the chart to the right.^[9]

For this project, for reasons of scope and timeline, **we focused on Bengali and Javanese. Bengali and Javanese have the first and second largest speaker bases, respectively.**

This means, although not every speaker represents a potential contributor, they may have the best chances for organic growth based on raw numbers alone, and any content creation will benefit the greatest number of people.

In addition, **Bengali also has the highest number of users and editors per month.**

While these figures are lower for Javanese, culturally and geographically Javanese communities share commonalities with other language communities throughout Indonesia (the fourth most populous country in the world with 271,533,810 inhabitants).^[10] For this reason, the region should arguably have representation in initial feedback for the tool.

Language	Articles	Users	Editors/mo	MT	Mob. views	Speakers
Malayalam	63K	121K	87 (+14/mo)	✓	62%	35M
Bengali	65K	222K	187 (+46/mo)	✓	81%	260M
Tagalog	75K	99K	30 (+4/mo)	✓	65%	28M
Javanese	55K	39K	22 (+5/mo)	✓	38%	82M
Mongolian	18K	57K	21 (+5/mo)	✓	45%	5M
Albanian	74K	117K	59 (+14/mo)	✓	70%	5.4M

^[9] Chart originally produced at <https://docs.google.com/document/d/1XTMAgHKdzIzeDDInTyc7fghHGhzIfeIkWzHKB36unak/edit#>, along with a fuller description of the "small wiki" criteria.

^[10] <http://worldpopulationreview.com/countries/>

Research Approach

Objectives & Goals

Methodology

Participants

Data Collection Process

Objectives & Goals

Objective

The goal of this research project was to provide concept feedback and testing of current Section Translation designs through qualitative, task-based data collection with users.

Top 3 questions

1. Does Section Translation lower the barrier to entry to content creation and editing by (a) making the editing process easy for mobile users, and (b) requiring a lower commitment threshold (i.e., not requiring full, new article creation)?
2. What usability problems exist in the current prototypes, for editors with a range of experience?
3. Do users perceive value and meaning in editing content as small as an article section? Does a section represent a meaningful unit of contribution?

Hypotheses & related questions

HYPOTHESIS 1: Section translation offers value to contributors by allowing flexibility and less time-intensive tasks.

- Do contributors rate the value of section translation favorably?
- Is translating sections something users want to do? Does it make sense to only translate a specific section, and do users find value in this?
- Does section translation avoid preventable usability pitfalls?
- Does section translation provide the features desired by contributors?

HYPOTHESIS 2: Section translation has high usability on small screens.

- Do users experience difficulty with section translation due to screen size and general workflow, including how options are progressively displayed?
- Are there any mobile-specific pain points for section translation? (How could section translation be better optimized for small screen experiences?)

Methodology

Methods & approach

- Adapted Rapid Iterative Testing and Evaluation Method^[11]
Prototype v1 → Testing → v2 → Testing → v3 → Testing
- Likert scale ratings^[12]
- Pre-/Post-task interviews
- Sample sizes based on studies of probability modeling and usability^[13]
- Research Session Protocol^[14]
- Progress updates/Executive summaries delivered to design & language team along the way

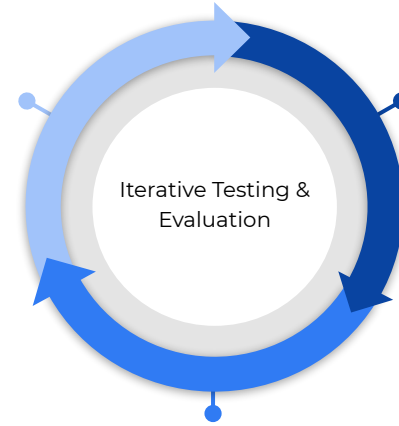
Research sessions



- Moderated, remote sessions using Zoom
Each session followed the same format: (1) pre-task interview, (2) prototype task, (3) Likert scale rating task, (4) post-task interview
- 14/19 participants joined via mobile device; all 19 used mobile prototype
- ~60 minute duration
- Recorded screenshare during testing of prototype

Evaluate

Identify problems and opportunities; modify designs



Prototype

(Updates per latest round of testing)
v1, v2, v3

Test

Task-based user feedback and observation

[11] https://en.wikipedia.org/wiki/RITE_Method

[12] https://en.wikipedia.org/wiki/Likert_scale

[13] <https://link.springer.com/content/pdf/10.3758/BF03195514.pdf>

[14] <https://docs.google.com/document/d/1dobbLb968wVJt5JrFrFEnsEXhiFDVT1NG3NiWFkZt9PA/edit?usp=sharing>

Participants & Data

Participant recruitment

- Community pump announcements combined with direct recruitment messages to contributor talk pages, all in the local language
- Potential participants identified through Quarry^[15]
- Indonesian affiliate provided supplementary support for Javanese recruitment
- Interested participants responded by completing Google Form; researcher then followed up with scheduling details
- Recruitment funnel stats^[16]

Data collection & analysis

- Approx. **20 hours of video** (observations & interviews) converted into **814 individual data points** organized in spreadsheet

Data type

- 361 data pts = interview responses and quotes
- 453 data pts = participant observation notes and quotes during prototype interactions

Data source

- 440 data pts = Bengali participants (~44/participant)
- 374 data pts = Javanese participants (~41/participant)
- Set of **descriptive** and **interpretive** codes applied to all data points



Participant Overview

Bengali Wikipedia Contributors (n=10; F=1, M=9)

- *Editing frequency:*
 - daily (3)
 - weekly (4)
 - monthly (3)
- *Locations:*
 - Dhaka, Bangladesh (6)
 - Kolkata, India (1)
 - Dubai (1)
 - Other (2)
- *Time as editor:*
 - ≤2 years (5); 'new'
 - ≥3 years (5); 'experienced'

Javanese Wikipedia Contributors (n=9; F=4, M=5)

- *Editing frequency:*
 - weekly (5)
 - monthly (3)
 - yearly (1)
- *Locations:*
 - Jakarta, Indonesia (2)
 - Central Java Island, Indonesia (7)
- *Time as editor:*
 - ≤2 years (5); 'new'
 - ≥3 years (4); 'experienced'

[15] <https://quarry.wmflabs.org/>; thanks to Amir Aharoni for assistance

[16] https://docs.google.com/document/d/1cPsvdotwhilihVgt7_M2ORYR5e_K1zcDwd-ZV8XF5c/edit#

* <https://docs.google.com/spreadsheets/d/1-0Ltdf-C3UYFGLaz0WTFb57piDromV57ixmadpqvQ8a/edit?usp=sharing>

Results

Testing key assumptions

Overview of improvements

Additional themes

Key takeaways

Limitations / Next steps

Role of Mobile

“I don’t have any laptop, I just use my phone” [P9, Bengali]

Consistent with data from the World Advertising Research Center around general internet patterns, there are Wikipedia users who access the internet solely via smartphones.^[17] We spoke with some of these users, including those who have used Content Translation (CX) on a mobile device - despite the fact that the CX interface is not currently responsive to device and screen size.

But, there are also new & experienced editors who prefer editing from laptops

At the same time, many users expressed a clear preference for editing from laptops. A few users expressed interest in Section Translation (SX), but concern it would only be available on mobile. The primary concerns about editing on mobile included:

1. Slow speed of typing
2. Errors while typing
3. Small screen size, but an editing task that is ‘complex’

Snackable chunks on mobile

Many participants - even those who strongly prefer to edit from laptops - described using mobile to make small edits. There is a subset of editing tasks that are more compatible with mobile devices.

RECOMMENDATIONS

1. Release SX as responsive web, as planned
2. Article/section recommendations should factor in content size/length based on user/device type
3. Leveraging correlations between topic genre and MT success would benefit mobile users who want to type less. In other words, recommendations should be sensitive to device type.



Some Bengali contributors ONLY have access to a mobile device

“I don’t have any laptop, I just use my phone” [P9, Bengali]

And, while half the participants showed interest in mobile editing

“It’s a good experience in doing the translation in this small screen, mobile [...] because I always keep my mobile with me and I can edit it anywhere I want” [P1, Bengali]

“I think it needs more support for mobile users because it’s difficult to edit from mobile” [P3, Bengali]

Other participants demonstrated a clear affinity for editing on their laptops

“I don’t feel comfortable editing on mobile device; I always edit on my laptop” [P8, Bengali]

“Do I have to use this [SX] using phone?” [P12, Javanese]

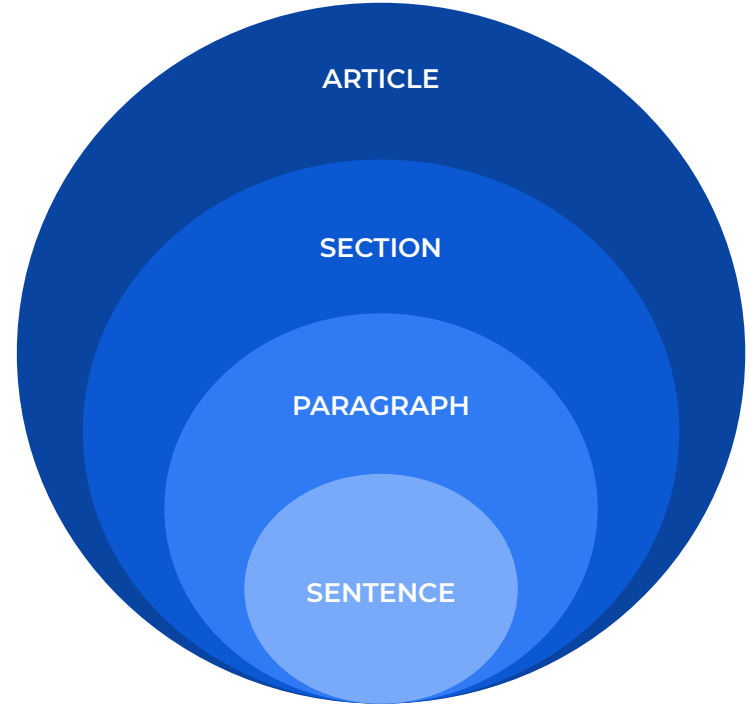
“I have tried, but I cannot [...] the screen is really small [...] it’s not for me” [P13, Javanese]

[17] <https://www.cnn.com/2019/01/24/smartphones-72percent-of-people-will-use-only-mobile-for-internet-by-2025.html>

Sentences, Paragraphs, Sections, and Articles

Before moving into more detailed feedback, let's consider the relationship between different content sizes and how workflows correspond to these. Note how these units are built into designs and to what degree they correspond to existing user workflows.

MEANINGFUL UNIT OF CONTENT PER DESIGN	OBSERVED UNITS IN USER WORKFLOWS ^[18]
Current Content Translation (CX) Targets only full articles, both for creation and revisions/edits (re-creation)	ARTICLE <i>Used widely and highly valued</i> because wikis are measured by article numbers and small wiki editors are very aware of current content gaps and the perceived benefits of having substantial Wikipedia content.
<i>(proposed)</i> Section Translation (SX) Targets sections of articles	SECTION "That's still a good amount of info," in one participant's words [P2]. <i>Currently unavailable</i> as a unit of translation in CX, but <i>valued</i> because it's more easily accomplished and provides a sense of progress.
<i>(proposed)</i> SX workflow on laptop/desktop Workflow moves paragraph-by-paragraph through individual sections	PARAGRAPH When participants translate on their own, they move paragraph-by-paragraph. Paragraphs are <i>very congruent</i> with existing workflows.
<i>(proposed)</i> SX workflow on mobile Workflow moves sentence-by-sentence through paragraphs/sections	SENTENCE Participants <i>vary</i> in terms of whether the sentence corresponds to their current unit of translation (in their existing workflows). (more on next slides)



[18] Generative research on current and potential editors' workflows is a rich area of investigation.

Sections

Initial reactions to translated sections were positive

Unprompted reactions to the section as a unit of translation came at varying times in the prototype and the idea was generally well met, as noted in a few of these sample quotes. It particularly appeals to users who make many smaller edits and aren't creating new articles for multiple reasons, often time-related or due to the complexity of publishing an article in its entirety. Participants showed sensitivity to the fact that when translating from larger wikis, articles can be very long. Sometimes these concerns were around translation effort, and other times noted as problematic for reasons such as data availability and speed.

The unit of 'article' still has significance for small wiki editors

A few reasons were noted for preferring to translate full articles. Participants discussed the need of increasing article counts on their wiki due to the large content gaps and benefits of being a 'larger' wiki. Creation of a full article is also accompanied by a great sense of accomplishment (e.g., P14 Javanese).

Users are thinking a lot about collaboration across sections

Other participants discussed concerns about connections and consistency between sections and paragraphs. For example, how did the author of a previous section translate key topic vocabulary? (e.g., P3 Bengali; P11 Javanese) Most participants expressed these items as concerns; one participant cited such concerns as a reason they prefer not to co-create articles: you don't have to worry about those other things.

Due to concerns about co-creation of articles with Section Translation, easy access to previously translated sections is particularly important to ensure coherent articles and consistent vocabulary choices. On top of these considerations exist variations in how wikis handle dialectal variation and speech levels. Javanese, for example, allows articles in any dialect, so long as there's consistency within an article; the same wiki strongly encourages editors write in the lower formality register.



“Oh! I can translate a section only?! That's amazing, instead of doing the whole article together translating, if I can do one section, it's much easier” [P4, Bengali]

“Oh, it's cool, I can go paragraph-by-paragraph. I think it's simpler than the previous one [CX] [...] I think it's more effective because it doesn't even take more than 15 minutes to publish one section” [P18, Javanese]

“Nowadays, I prefer small edits since I have little time to work with Wikipedia, so I prefer to do the small edits now” [P1, Bengali]

“I begin with paraphrase, and paraphrase that paragraph to Javanese” [P17, Javanese]

“I personally like to work on sections, not full articles” [P13, Javanese]

“One section is enough, that I disagree” [on importance of article quality] [P4, Bengali]

Sections, *continued...*

There is overlap between SX and existing user workflows

Users workflows already overlap with Section Translation flows around sections and paragraphs (small-mid size article chunks). Users are working at this unit of content largely due to reasons of ease.

It's giving me to translate the article in each sentence-by-sentence, that's actually what I'm doing in existing tools by myself one-by-one sentence because doing a sentence translation is easier than doing an entire article" [P4, Bengali]

"For me, it's ok, that's what I do when I edit, I work section-by-section. When I work offline, I copy the whole article and then write the sections, which I later copy and paste into the browser" [P17, Javanese]

But the sentence-by-sentence mobile flow could be overly-constraining for some users

Other participants reacted positively to the section-by-section nature of the workflow, but noted that being forced to proceed sentence-by-sentence could be overly-constraining because of how they paraphrase paragraphs. For example, multiple participants noted that they are working at the paragraph level when paraphrasing. Sentences may be combined or broken apart when moving to from the source to target language. These users would not encounter pain points on the desktop version, but would find the mobile sentence-by-sentence workflow overly-constraining.



OPPORTUNITIES

- 1. Completion of both sections and articles can be a strong motivator.** In addition to celebrating the completion of articles, articles close to a certain level of completion (e.g., '5 sections', 'same number of sections as other wikis on average', etc) could be prioritized in recommendations to provide motivational nudges.
- 2. Co-creation of content is core to Wikipedia.** However, for translation-purposes, **a set of 'collaboration' features could address concerns around consistent language choices.** For example, a user might flag a topic-specific vocabulary word of subsequent authors.
- 3. Implement analytics tracking for mobile and non-mobile use of SX, and collect post-release feedback to identify device-specific pain points.** For example, the sentence-by-sentence mobile workflow could warrant further consideration based on additional feedback and initial adoption patterns.

Section Translation - Workflow overview

[Updated prototype](#)

(1) Select section and review contents....

W Translations

+ New translation

Suggestions
Based on previous edits
Change topic area

English → Indonesian

New pages

- Golden toad
Extinct toad
English → Indonesian
- Big cat featured
Larger feline species
English → Indonesian
- Monkey
English → Indonesian

Suggestions In progress Published

Ukulele 12

English → Indonesian

Select section to translate

7 sections missing in Indonesian

By continuing you agree to the Terms of Use, and you irrevocably agree to release your contribution under the CC BY-SA 3.0 License and the GFDL.

Sections Ukulele

Select a section to translate
Pick a section below to check the contents in both languages and decide what to translate.

English → Indonesian

Sections missing in Indonesian

- History
- Construction
- Types and sizes
- Tuning
- Related instruments
- Audio samples
- Notable musicians

Sections present in Indonesian

External links

← Back to all sections

Ukulele History

Translate this section

Review the contents in both languages.
Contents from the selected section may be already covered in the target article.

Section in English Full article in Indonesian

History

The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea"^[1] perhaps because of the movement of the player's fingers. Legend attributes it to the nickname of the Englishman Edward William Purvis, one of King Kalākaua's officers, because of his small size, fidgety manner, and playing expertise.

(2) Learn the process (the first time only)

Translating a new section is easy, quick and fun!



For each sentence, you'll get a initial automatic translation for you to review and improve.

Expand the knowledge one section at a time.



Publish when you are ready. Your translation will be added to the page, and you can pick another section next!

Start translating

(3) Preview & Improve Machine Translation

← Translate section Done

Original History

History

The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea", perhaps because of the movement of the player's fingers. Legend attributes it to the nickname of the Englishman Edward William Purvis, one of King Kalākaua's officers, because of his small size, fidgety manner, and playing expertise. One of the earliest appearances of the word ukulele in print (in the sense of a stringed instrument) is in the Metropolitan Museum of Art's Catalogue of the Pacific Islands.

Proposed translation from Google

Sejarah

Edit translation

← Apply Skip →

Original

← Translate section Done

Sejarah

The ukulele is commonly associated with music from Hawaii where the name roughly translates as "jumping flea", perhaps because of the movement of the player's fingers. Legend attributes it to the nickname of the Englishman Edward William Purvis, one of King Kalākaua's officers, because of his small size, fidgety manner, and playing expertise. One of the earliest appearances of the word ukulele in print (in the sense of a stringed instrument) is in the Metropolitan Museum of Art's Catalogue of the Pacific Islands.

Proposed translation from Google

Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain.

Edit translation

← Apply Skip →

Original

Ukulele History, dan A little History of Ukulele^[1]

Confirm publication

Ready to publish? The section you translated will be added to the existing article.

Check the whole translation before publishing and make sure that you included all the relevant information from the original section.

Sejarah

Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain.

Legenda menghubungkannya dengan julukan orang Inggris Edward William Purvis, salah satu perwira Raja Kalākaua, karena ukurannya yang kecil, sikapnya yang gelisah, dan keahlian bermain.

Sejarah

Ukulele umumnya dikaitkan dengan musik dari Hawaii di mana namanya secara kasar diterjemahkan sebagai "jumping flea", mungkin karena gerakan jari-jari pemain. Legenda menghubungkannya dengan julukan orang Inggris Edward William Purvis, salah satu perwira Raja Kalākaua, karena ukurannya yang kecil, sikapnya yang gelisah, dan keahlian bermain.

Referensi

New section added
Your translation was added. Consider editing the contents further or moving them around.

Edit the page

Add another section

+ Construction ... 5 other sections

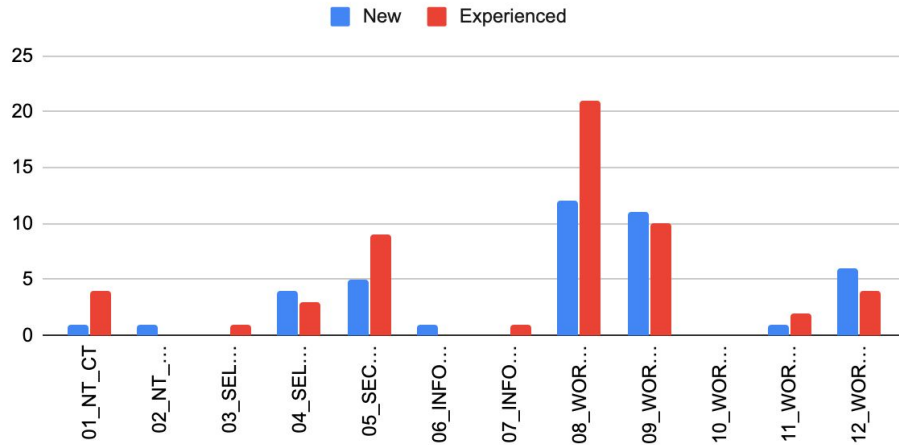
(4) Preview, Publish, Repeat...

Section Translation Workflows - Overview of Usability Issues

When and where did users encounter problems? How did the experience of new and experienced editors differ?

(graph shows number of observations, not unique issues)

Usability problems - new and experienced editors



Prototype Screen



Key Takeaways

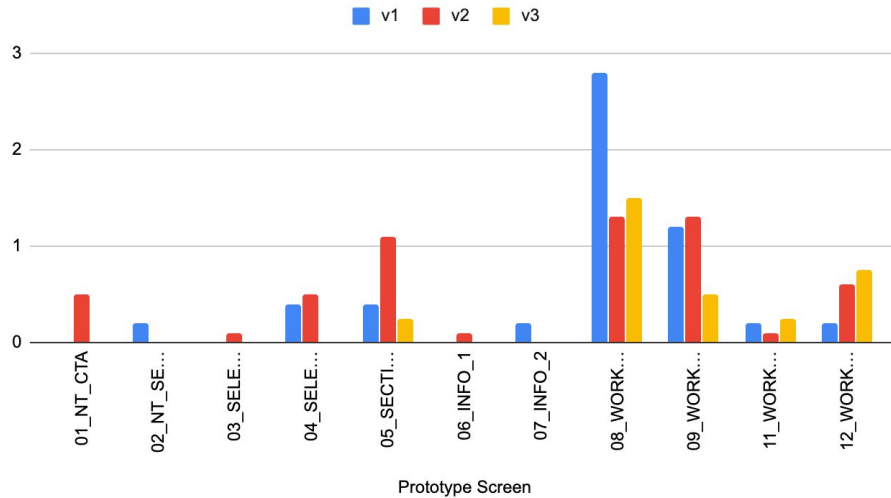
1. For new and experienced editors, the bulk of usability issues arose on the 'Review and Improve MT' [\[08-09\]](#) screens.
2. Experienced editors experienced more issues than newer editors on the screen where the user takes their first action upon seeing the proposed MT.
3. Other 'hotspots' for usability problems included the screen when users review the contents of the source and target language article [\[04-05\]](#) and land on the final screen [\[12\]](#).

Usability Issues Across Prototype Versions

How did the number of usability issues vary across prototype version?

(graph shows number of observations, not unique issues)

Usability problems by prototype version (average problems per user)



Key Takeaways

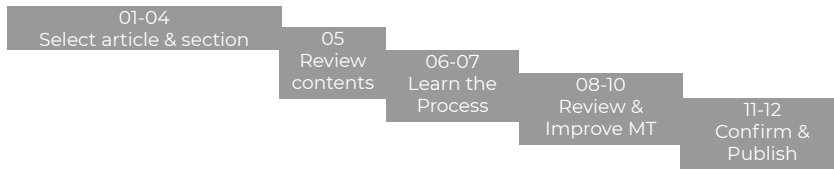
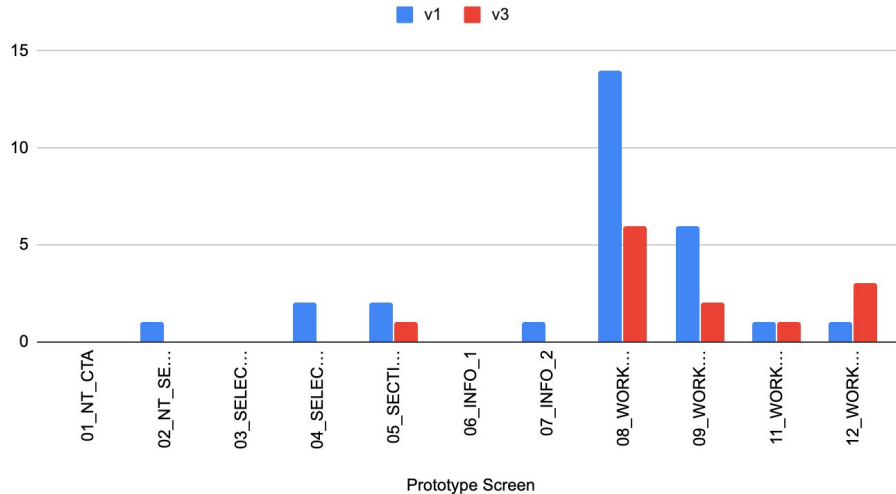
1. Usability issues in the early part of the process [01-07] were rarely noted by the time we reached v3 of prototype.
2. Some issues arose immediately (e.g., [08](#)), whereas other issues became more apparent with the observation of additional users (e.g., [05](#))
3. Issues associated with screens 05 ('Review contents') and 09 ('Edit MT') were reduced across prototypes, whereas some items for screen 08 ('Preview MT') and 12 remained by v3.

Comparing v1 and v3

Comparing where we started and finished for this project

(graph shows number of observations, not unique issues)

Usability problems - prototype v1 and v3 comparison, all users



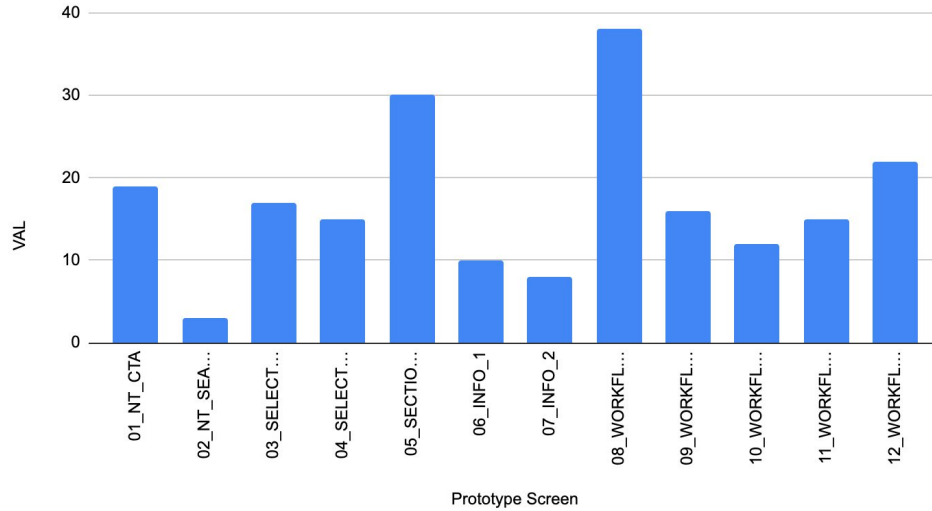
Key Takeaway

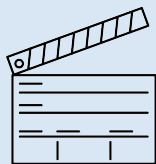
Number of usability issues reduced overall across v1 and v3 for all screens except screen 12

Tracking successful interactions and patterns

Because the absence of an observed usability problem ≠ a validated interaction. This graph shows observations of expected interactions and designs being used in expected/anticipated ways. In other words, examples of the designs and user expectations aligning.

Validated interactions by screen





Take 1 Highlights

Evaluate
Identify problems
and opportunities;
modify designs



Prototype
Updates per
latest round of
testing

Test
Task-based user feedback
and observation

What we learned along the way...

Highlights of design changes after Round 1 of participants (tested in round 2)^[19]

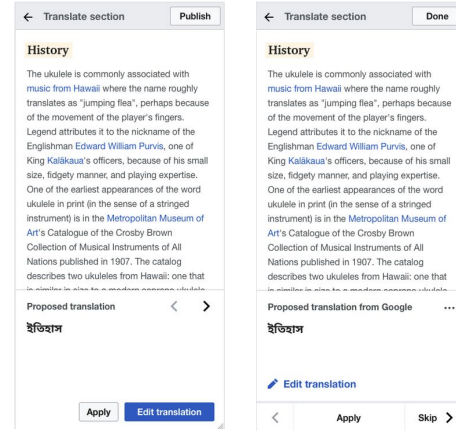


Interaction with the proposed machine translation (MT)

When a proposed MT was shown, participants tried to tap the white space, the text in the card, or the text in the article. Navigation options (“<”, “>”, “apply”) were not readily understood, and source of MT was questioned.

DESIGN CHANGES

- ⇒ Created single expanded action area and introduced card jump, triggered by tapping the highlighted sentence in the source language
- ⇒ Navigation options integrated with “apply” at bottom, and “>” labeled as “skip” to avoid confusion



Before

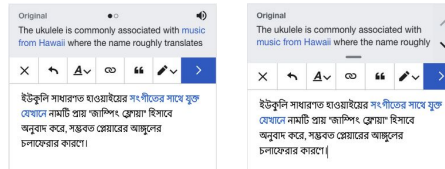
✓ After*

Accessing the source and target language “side-by-side”

Although it was present, 4 of the first 5 participants did not find the full source sentence. *“It’s important to see the whole sentence, otherwise I cannot translate it and do it naturally”* [P1, Bengali]

DESIGN CHANGES

- ⇒ Introduced more prominent label for the preview and modified controls to scroll and expand the section. This allows users to both focus on a specific part and give a quick peak to the whole sentence.



Before

✓ After

[19] https://docs.google.com/document/d/1O1pam7-SB1RMqZtauESczCrAYqG_8KDz1mly5z_nnU/edit#

* A green checkmark next to an ‘after’ view is used to mean that the design changes were subsequently successfully validated with the following round of participants.

What we learned along the way...

Highlights of design changes after Round 1 of participants (tested in round 2)



Publishing with confidence

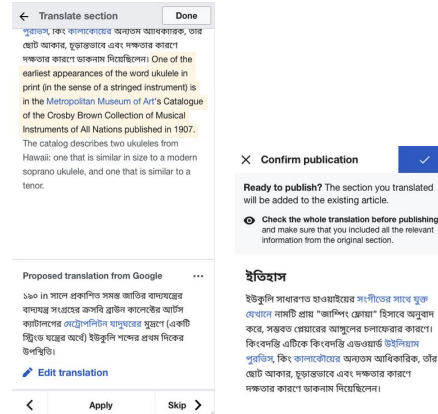
Participants were hesitant to click “publish”. As our very first participant put it, *“I don't want to publish before I can see the preview.”*

DESIGN CHANGES

⇒ Replaced “publish” with a more generic done, and simplified the preview screen to avoid the warning message, making it more positive while still encouraging the user to review.



Before



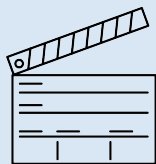
✓ After

Initial validations

1. Participants viewed sections as meaningful units of translation
2. Clear desire for easier mobile device contributions
3. Insight into new editor challenges (including references and media)

Watchlist after round 1

1. Do (and when) is access to the full article (both languages) most important to participants?
2. 'Quick tutorial' skipped by many experienced editors; how do newer editors respond?
3. Follow-up with participants about next steps when landing on final screen.



Take 2 Highlights

Evaluate
Identify problems
and opportunities;
modify designs



Prototype
Updates per
latest round of
testing

Test
Task-based user feedback
and observation

Round 2 highlights

Highlights of design changes after Round 2 of participants^[20]



Keeping primary Calls-to-action (CTAs) top of mind (and view)

After selecting a section, users access a preview step where they can check the contents in the original and target languages. The 'translate this section' button presents discoverability issues. It may not be apparent as the next step, and some users don't notice it when they scroll out of sight; other users (especially newer) are accustomed to searching for the pencil icon.

DESIGN CHANGES

⇒ Added pencil icon to make it easier to identify as a path to contribute with familiar icon. Introduced a sticky header when the call to action moves out of the viewport.

tingers. Legeno attributes it to the nickname of the Englishman Edward William Purvis, one of King Kailihaus's officers, because of his small size, fidgety manner, and playing expertise. One of the earliest appearances of the word ukulele in print (in the sense of a stringed instrument) is in the Metropolitan Museum of Art's Catalogue of the Crosby Brown Collection of Musical Instruments of All Nations published in 1907. The catalog describes two ukuleles from Hawaii: one that is similar in size to a modern soprano ukulele, and one that is similar to a tenor (see § Types and sizes).^[6]

Developed in the 1880s, the ukulele is based on several small guitar-like instruments of Portuguese origin, the machete,^[6] the cavaquinho, the timple, and the rajão, introduced to the Hawaiian Islands by Portuguese immigrants from Madeira and Cape Verde.^[7] Three immigrants in particular, Madeiran cabinet makers Manuel Nunes, José do Espírito Santo, and Augusto Dias, are generally credited as the first ukulele makers.^[8] Two weeks after they disembarked

Before

History Translate

Section in English Full article in Indonesian

ukulele in print (in the sense of a stringed instrument) is in the Metropolitan Museum of Art's Catalogue of the Crosby Brown Collection of Musical Instruments of All Nations published in 1907. The catalog describes two ukuleles from Hawaii: one that is similar in size to a modern soprano ukulele, and one that is similar to a tenor (see § Types and sizes).^[6]

Developed in the 1880s, the ukulele is based on several small guitar-like instruments of Portuguese origin, the machete,^[6] the cavaquinho, the timple, and the rajão, introduced to the Hawaiian Islands by Portuguese immigrants from Madeira and Cape Verde.^[7] Three immigrants in particular, Madeiran cabinet makers Manuel Nunes, José do Espírito Santo, and Augusto Dias, are generally credited as the first ukulele makers.^[8] Two weeks after they disembarked

After

Access to the full article is important when selecting sections

In the process of selecting the section to translate, it may be useful to have the possibility to open the whole article in a new tab for users to explore on their own. Participants mentioned the importance of seeing how key words had been translated in previous sections, etc... (collaborative translation).

DESIGN CHANGES

⇒ Added a 'more details' section after the list of sections and 'open in new window' action in the section overview page, both which allow options to open source and target articles and inspect contents.

Pick a section below and check the contents in both languages to decide what to translate.

English → Bengali

- Missing in Bengali
- History
- Construction
- Types and sizes
- Tuning
- Related instruments
- Audio samples
- Notable musicians
- Present in Bengali
- External links
- Structural behavior

Before

History

- Construction
- Types and sizes
- Tuning
- Related instruments
- Audio samples
- Notable musicians
- Sections present in Indonesian
- External links
- Structural behavior
- More details
- View article in English
- View article in Indonesian

After

^[20] <https://docs.google.com/document/d/1nWRDPvBtxsWnHbKkMvVpVf1JHeDYdW3Ei9us2ivkfc5o/edit#>

Round 2 highlights

Highlights of design changes after Round 2 of participants



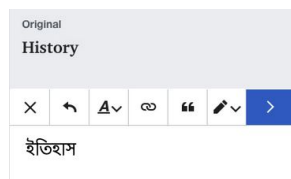
The “I’m ready to start editing the section” problem

The first element selected to translate is the title of the section. In the initial workflow, once clicking ‘edit the translation’, the expectation is to make any changes to the title, then confirm and continue to the next step - the first sentence of the paragraph/section. When clicking the first ‘edit translation’, participants expected to translate the whole section, and got confused because only the source section title appeared.

“I want to translate the section, so that’s why I’m clicking here” [P13 clicks on ‘edit’ and doesn’t realize they’re being prompted only to edit the section title]

DESIGN CHANGES

⇒ Added ‘section title’ label above the content the user is editing to signal it’s only the title they’re translating. Used serif font for the editor when editing the section title to align with their usual look in articles.



Before



After

Framing the value prop around MT

The initial machine translation requires editing with different perceptions for each participant.

“I think the translation is 90% correct” [P6]

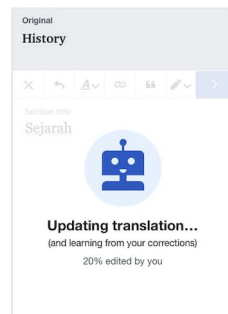
“It’s really bad [...] ok, not as bad as when I first read it; I’d say ¾ accurate” [P7]

P9 notes that MT is 50/50 correct/garbage

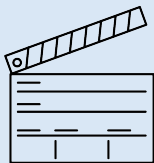
While the MT provides *speed* and *vocabulary options* (2 most commonly noted advantages of working with MT), participants find it laborious to work with MT output.

DESIGN CHANGES

⇒ Introduced automatic message after saving the edits on the initial translation to congratulate the user on their work and show why it matters.



✓ After



Take 3 Highlights

Evaluate
Identify problems
and opportunities;
modify designs



Prototype
Updates per
latest round of
testing

Test
Task-based user feedback
and observation

Round 3 highlights

Results of the most recent round of participants



Revisiting the “I’m ready to start editing the section” problem

This item remained a watchlist item after round 2. Participants in the last round more quickly learned the design of translating the section title first, but still showed some minor confusion. [P17, 18, 19]

“There is no text here after ‘sejarah’ [clicks ‘edit!..] ah, they only do the translation for the heading itself” [P17, Javanese]

“But the paragraph doesn’t appear here, so it just confuses me, I gotta edit this paragraph, but it doesn’t work” [P18, Javanese]

DESIGN CHANGES

⇒ As this is the first editing/translating interaction the user has, ensuring it is positive and smooth will provide motivation and positive confirmation that section translation is an easy process.

Possible next steps for this item include exploring further design changes (alternative UI or workflow patterns) and/or monitoring closely upon release, directly collecting feedback from the initial adopters.



Current

A possible mismatch of workflows for some users

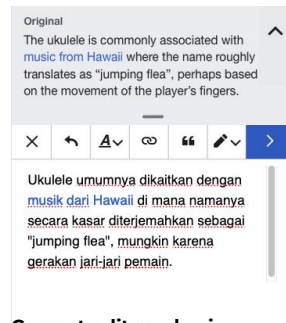
As noted previously, there is evidence that a sentence-by-sentence flow may be incongruent with some users workflows. These users generally paraphrase paragraphs and chunks of 2-3 sentences. This incongruence is specific to the mobile workflow; not desktop version.

“We usually go one paragraph by one paragraph” [P16, 17, Javanese]

“I think some people they will paraphrase the paragraph, not every sentence. Maybe in English it’s 3 sentences, but in another language we use only 1-2 sentences” [P19, Javanese]

DESIGN CHANGES

⇒ Possible design changes could include a ‘preview previous/following sentence’, an option to scroll further back/forward in the source language view, or any additional option that doesn’t restrict view/focus to a single sentence.



Current edit mode view, expanded source language text

Post-task ratings

Overview

After participants finished interacting with the prototype, they immediately rated their response to 4 short statements and responded with a short phrase description for 1 question. The statements addressed *article selection*, *overall ease of process*, *likelihood of adoption*, and *translation of sections*. The final question asked participants to select a single phrase description of how the demo experience compared to their usual translation process.

These results are presented next, along with highlights of the conversations that followed the post-task ratings. This task was a productive springboard into the post-task interview and allowed a way for participants' concerns and thoughts to naturally surface.

Post-task questions

1. How easy was it to select the article to translate?
2. How easy was the process you interacted with today?
3. How likely would you be to use this tool if it were fully developed?
4. How strongly do you agree/disagree with this statement: Creating individual sections was a meaningful activity *and* I didn't feel the need to reference the entire article.
5. How did this experience compare to how you usually translate articles?

How easy was it to select the article to translate? *

1 2 3 4 5

Easy Difficult

How easy was the process you interacted with today? *

1 2 3 4 5

Easy Difficult

How likely would you be to use this tool if it were fully developed? *

1 2 3 4 5

Likely Unlikely

How strongly do you agree/disagree with this statement: Creating individual sections was a meaningful activity and I didn't feel the need to reference the entire article. *

1 2 3 4 5

Agree Disagree

How did this experience compare to how you usually translate articles? *

About the same

Easier

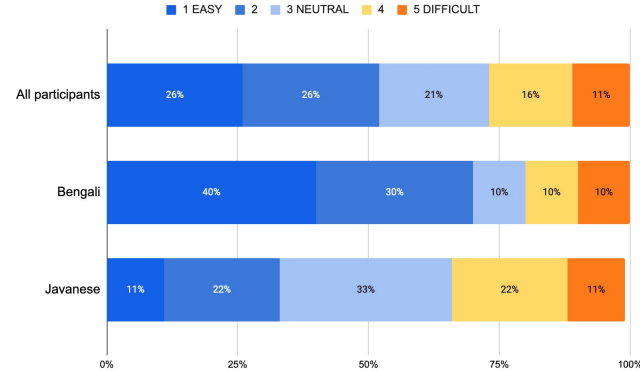
More difficult

Other: _____

Ease of article selection and overall process

How easy was it to select an article to translate?

Overall, **52%** of total respondents responded favorably, with 21% responding neutral. Bengali participants responded more favorably than Javanese participants. 70% of Bengali participants responded favorably, whereas only 33% of Javanese participants gave a favorable response.



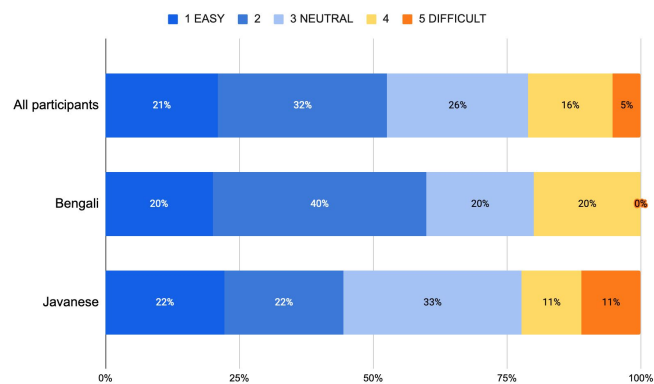
In general, Javanese participants showed a greater affinity for laptop editing, whereas Bengali participants were more receptive to mobile options. Although it's not possible to break down numbers by activity (editing vs. reading), this is consistent with how there are roughly 50% more mobile views on the Bengali Wikipedia than Javanese Wikipedia.[\[slide 18\]](#)

“This is my first time editing on phone, so it takes time to get used to. Usually we directly edit, but here there are some steps to go through”

[P16, Javanese]

How easy was the process you interacted with today?

Across all participants, **53%** of responses were positive, and 26% neutral. Similarly to the first post-task question, Bengali participants responded more favorably than Javanese participants, at 60% and 44%, respectively. This gap was narrower than for the first question.

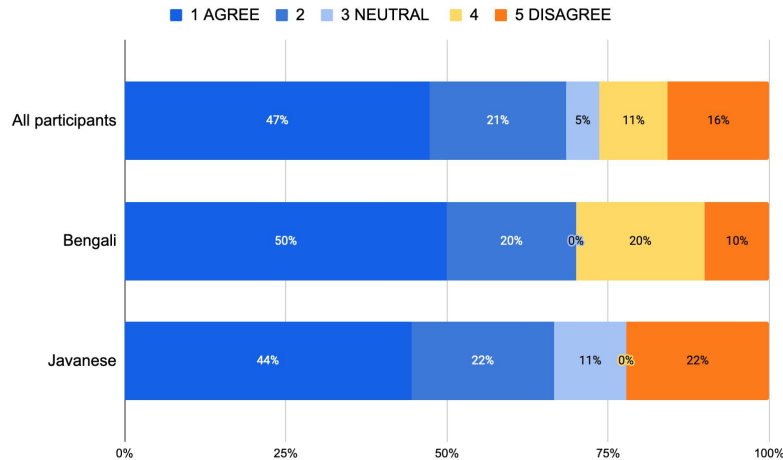


Most follow-up responses around how the demo could have been easier were around usability issues and preferences noted in previous sections of this document. Again, Javanese participants showed more reluctance to editing on a mobile interface. For example, a **common follow-up question from these participants was whether or not Section Translation would be accessible on their laptops and what that experience looked like.**

Likelihood of use

How likely would you be to use this tool if it were fully developed?

Overall, **68%** of participants responded favorably. Compared to the other post-task questions, there was less contrast between Bengali and Javanese participant answers.



Again, a noticeable difference between Javanese and Bengali participants was that the former frequently asked about the availability of a desktop version of Section Translation; this question never came up among Bengali participants.



“I want to see the whole section, even if it’s not the whole article”

Participant wanted to scroll up/down to see the whole section as they translated. (Similarly noted by P11, P19, Javanese) [P7, Bengali]

Especially among Javanese participants, there was great interest in seeing what Section Translation looked like on desktop

“It was a mobile view, so I wasn’t really into the interface because it’s mobile view” Participant prefers editing on laptop. [P13, Javanese]

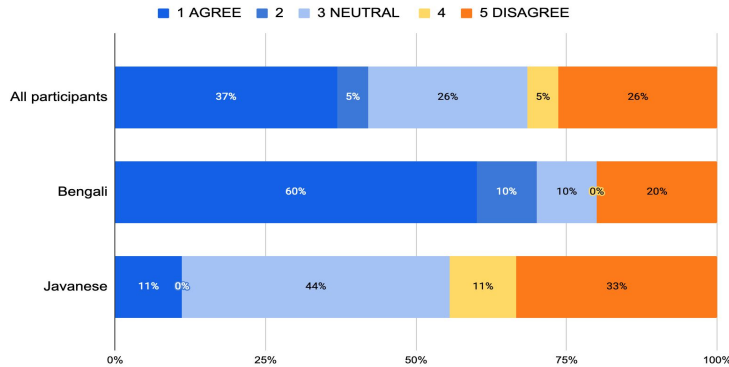
Other participants specifically called out the step-by-step workflow as the biggest positive for ease of use

“What made it easy for me was the step-by-step each sentence translating feature” [P4, Bengali]

Translation of sections & full article availability

How strongly do you agree/disagree: *Creating individual sections was a meaningful activity and I didn't feel the need to reference the entire article.*

The Bengali - Javanese differences for this statement were most striking, with Javanese participants responding overwhelmingly neutral or in disagreement. Bengali participants showed more agreement with the statement.



'I didn't feel the need to reference the entire article' was the part of this statement that participants disagreed with. Few, if any, disagreed with the first part of the statement. **Access to the full article** and section was a theme that also came up in observed interactions.

Users **want to edit sections** but have **lingering concerns about article cohesiveness** as articles become even more collaborative (compared to current CX experience).



Receptiveness to the section as a unit of translation is positive

"I think it's more effective because it doesn't even take more than 15 minutes to publish one section" [P18, Javanese]

"I don't mind editing as a section, but sometimes it helps to have the option to see the full article because maybe if I'm just translating one section, if I don't see the other sections, it may lose a bit of coherence [...] sometimes it may be a little confusing for the reader"

[P7, Bengali]

Primary concerns are around article cohesiveness and flow

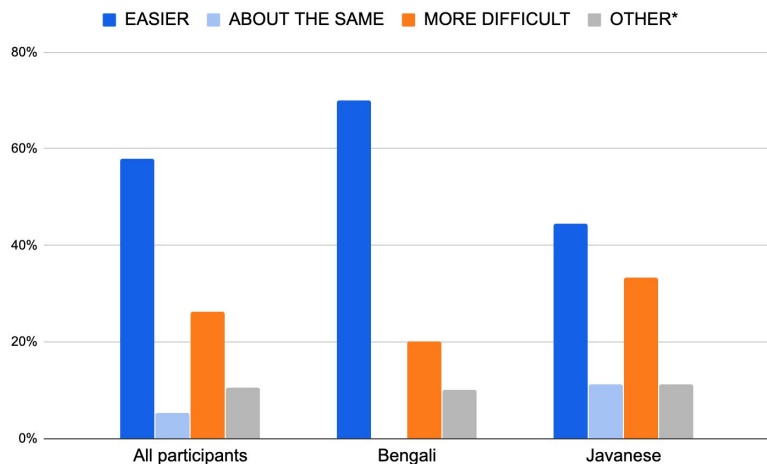
"I prefer seeing the full article, because when we just see one section, the connection between that section and another needs to be good"

[P11, Javanese]

How did this experience compare to how you usually translate articles?

Improving the translation experiences

Overall, most participants rated the experience they had with the demo as easier than their current translation process. This was more pronounced among Bengali participants than Javanese participants. Javanese participants were more divided on whether their current process was easier than the demo.



What made Section Translation easier than the participants' current processes?

1. References are added automatically
2. Source and target language are presented simultaneously
3. Mobile-friendly
"It's a good experience in doing the translation in this small screen...because I always keep my mobile with me and I can edit it anywhere I want"
4. Builds on how users are accustomed to translating
"It's giving me each sentence, that's actually what I'm doing in existing tools by myself, one-by-one sentence...because it's easier than doing an entire article translation"
5. Lower contribution threshold - translating a section requires a much lower commitment, and users get positive feedback
"It feels good, you can see the result of your work"

What made Section Translation more difficult than the participants' current processes?

1. Process (and steps) required learning a new process
"Easier but I think it should have fewer steps"
2. Freedom to add unique content
"I think we should be able to add a new line that's not in the English article"
3. General unease editing on a phone
"I dont' feel comfortable on phone"
4. Being required to work at the level of the sentence, not paragraph; some users like paraphrasing paragraphs
5. Lack of across-section collaboration features to ensure article cohesiveness and consistency across sections

* OTHER responses included:

"Easier, but I think it should have fewer steps"

"It gave me a new experience honestly. It was not easier because I still needed to work on some things before I could finally understand it, but it was not more difficult because once I understood it, it worked just as I expected"

Additional Themes

- (1) Translation in the context of general editing
- (2) Content Translation...it's more than the MT
- (3) Social aspects of editing, motivation, and nudges

Translation in the context of general editing

Translation fulfills multiple roles

1. Translation as a ‘fall back’ activity

Many participants reported that they used translation when they wanted to edit, but not face as high of a barrier to entry. With translation, they don't feel the pressure to do as much research or think as hard about what to write.

2. Translation as learning

Translation was even described by one participant as a way they might approach learning about a topic, whose contents were only available in another language.

Uncovering Content Translation value ... it's more than machine translation

Somewhat ironically, a few participants said that **machine translation was the biggest problem with CX**. Indeed MT limitations are (1) well-known and (2) one of the things most certain to change (for the better!) in the somewhat near future as technology improves.

There are a number of **features of CX that highly appeal to users, aside from the translation itself**. These are valuable to think about as CX will often get incorrectly equated with MT. For example, P11 referred to CX as ‘Yandex translator’ - by directly referencing the MT. Here are a few of the **CX value props** we observed appealing to users:

1. *Automatic references*
2. *Interlinks*
3. *Side-by-side presentation for faster translating*
4. *Vocabulary suggestions*
5. *General reduction of cognitive load*



Translation can be a fall-back activity

“When I don’t have time to do research, I usually go back to translating English or Indonesian Wikipedia” [P12, Javanese]

“If my brain is stuck, I translate...” [TinTin articles from English or French] [P17, Javanese]

“When I don’t know what to write, I’d use the tool [CX]” [P13, Javanese]

As well as a means of learning for users

“I use it [CX] when I think the content I don’t understand at all [...] once I got the idea, I write by myself” [P17, Javanese]

Through multiple interview sessions, it became clear that the machine translation feature of CX was just one of many value props and reasons participants had used the tool

“But if I use CX, these references are getting translated automatically” [P12, Javanese]

Indeed, multiple participants described, somewhat ironically, (machine) translation as the **“biggest problem with CX”**

The social side of editing and motivation

Social activities appear to help drive editing activity in the Bengali and Javanese wikis

While more research is needed, a social or community theme commonly arose in conversations with Javanese and Bengali editors. They referenced not only online communities and chats as a way of getting onboarding help, but frequently referenced in-person meetups, often monthly in the case of Javanese editors. These in-person gatherings came up as participants spoken not only about finding out about the wiki, but also as a way of getting important onboarding help from a mentor.

Opportunities to leverage what we learn about user motivation to provide nudges

Participants describe editing in order to shorten their bookmarked articles needing action. Most were not only sensitive to the content gap between their wiki and other larger wikis, but highly motivated to help close the gap. As we learn more about motivation among small wiki editors, we'll improve our ability to more successfully build in nudges to edit to translation interfaces and tools.



OPPORTUNITIES

1. If users view editing as a social activity, **how can we better embrace a collaborative translation experience** that is about co-creation of content and translation support for the community? This could take many forms, such as **collaboration features, sharing/invite options**, and sharing **new local knowledge articles** with potential contributors.
2. Users are motivated by helping others access content. We can **provide better tools and resources to help users understand their impact**. This could include readership and views of their translated content.



“When we meet together, we’re more focused on editing”

[P11, Javanese]

Motivation can be both altruistic and represent ways users are looking to improve themselves and benefit

“I try to create a lot of health-related articles [...] it’s not possible for people to get free clinical advice...maybe they can get some quick info to know if they want to go to the doctor”

[P2, Bengali]

“Bengali Wikipedia doesn’t have many articles, so I like to edit”

[P3, Bengali]

“English Wikipedia is richer than Bengali Wikipedia, so actually I want to contribute to Bengali Wikipedia to make it richer”

[P4, Bengali]

“...I believe that once I’m working on it...editing, I’m improving myself, I’m learning something, and I’m also helping others to learn”

[P5, Bengali]

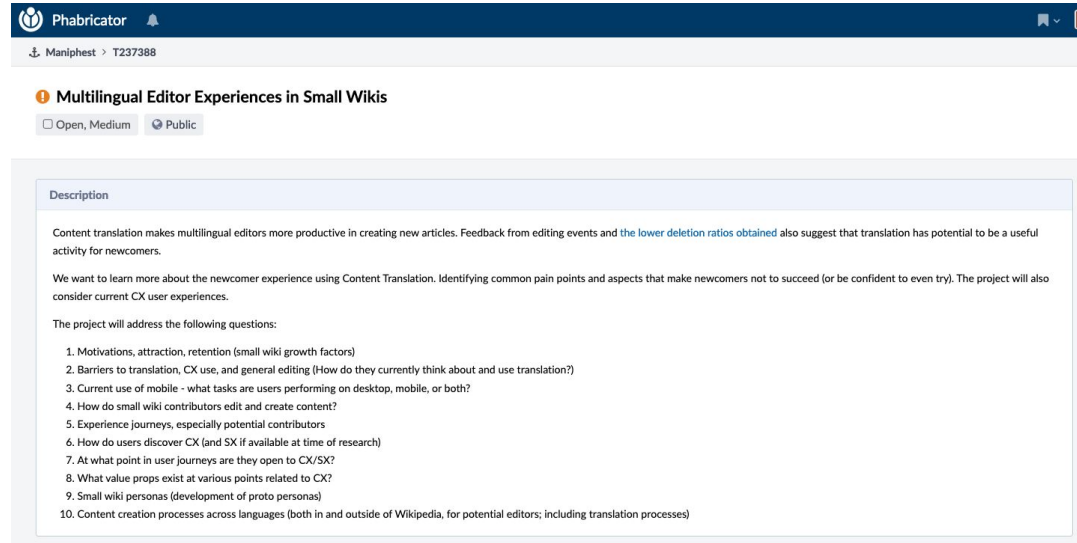
Key takeaways

Top 10 Key Takeaways

1. Users perceive value in being able to expand and create articles by focusing on specific sections. However, the unit of the article still has significant value because it's how small wikis are measured and track growth.
2. The unit of the article section matches existing editor workflows well, but participants varied in whether they translated at the level of the sentence or at the level of the paragraph (opting to paraphrase). While the desktop version of Section Translation will allow both options, the mobile workflows only currently support the sentence-by-sentence workflow.
3. Completing a section provides an easier, faster feeling of satisfaction. By highlighting progress, and progress towards high quality articles, we can help motivate editors and help them build habits.
4. The bulk of the usability problems discovered and fixed in this project were in the part of the mobile flows when the user is previewing and improving the proposed machine translation (machine translation interaction).
5. Because Section Translation targets a subset of article content, it raises questions around how editors may collaborate and co-translate articles and content. There is an opportunity to explore 'collaborative translation' features, such as key concept vocabulary flagging and dialectal variation tracking, among other possibilities.
6. Users are sensitive to content gaps and motivated by closing these gaps and providing access to knowledge not available for monolingual readers in their regions/language communities. There is an opportunity to better surface the impact of translators' work and progress through features such as translation views and thanks.
7. Current mobile-only users represent a growing segment and are underserved by current translation tools. At the same time, laptop editing is a strong preference among users with access to both types of devices. Section and article recommendations could be more successful by factoring in device type and more user editing patterns.
8. Device-specific adoption patterns of Section Translation are likely, as are device-specific feedback trends. Analytics and design research should collaborate to anticipate different ways of collecting initial feedback and understanding patterns of adoption, both by new and experienced translators.
9. The social side of contributing may take different forms depending on the cultural context. For example, Javanese editors frequently discussed the importance of this social component, which could be built into translation tools more overtly.
10. Although Content Translation gets equated with machine translation, users note many value props of the CX tool, including automatic references and interlinks as well as vocabulary suggestions and side-by-side presentation of the source and target text for faster translation. To what degree are these benefits currently socialized and promoted?

Next Steps

- Language team discussion of actionable insights identified in this deck to identify additional ideas and variations of proposals made here. This **ideation session** might be followed by a stack ranking of any such features based on user impact, development feasibility, and engineering resources required.
- Current work should be **followed with analytics tracking and user feedback when Section Translation is officially released and live; possibilities include:**
 - Targeted banner survey based on key events (successful publish, exit, etc)
 - Focused tracking set-up with assistance from analytics
- This was a primarily evaluative project targeting the Section Translation concept and designs. It has reinforced that **additional generative research is needed on the multilingual editor experiences in small wikis**. A [planned follow-up project](#) examines this topic, including the following topics:
 - SX/CX discovery and entry points
 - Small wiki multilingual editor workflows
 - Barriers to translation, CX use and general editing



The screenshot shows a Phabricator project page. At the top, the Phabricator logo and name are visible. Below that, the project name 'Multilingual Editor Experiences in Small Wikis' is displayed, along with a status indicator 'Open, Medium' and a visibility setting 'Public'. The main content area is titled 'Description' and contains the following text:

Content translation makes multilingual editors more productive in creating new articles. Feedback from editing events and [the lower deletion ratios obtained](#) also suggest that translation has potential to be a useful activity for newcomers.

We want to learn more about the newcomer experience using Content Translation. Identifying common pain points and aspects that make newcomers not to succeed (or be confident to even try). The project will also consider current CX user experiences.

The project will address the following questions:

1. Motivations, attraction, retention (small wiki growth factors)
2. Barriers to translation, CX use, and general editing (How do they currently think about and use translation?)
3. Current use of mobile - what tasks are users performing on desktop, mobile, or both?
4. How do small wiki contributors edit and create content?
5. Experience journeys, especially potential contributors
6. How do users discover CX (and SX if available at time of research)
7. At what point in user journeys are they open to CX/SX?
8. What value props exist at various points related to CX?
9. Small wiki personas (development of proto personas)
10. Content creation processes across languages (both in and outside of Wikipedia, for potential editors; including translation processes)

Discussion

Questions, Comments, Feedback



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Bethany Gerdemann - coordination with legal

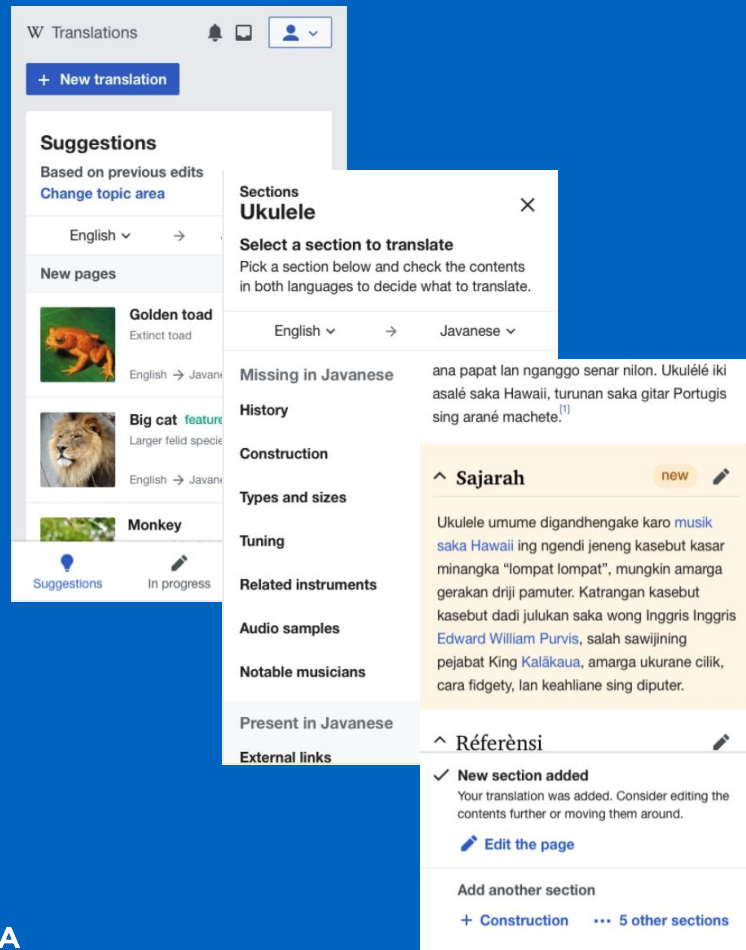
Santhosh Thottingal, Niklas Laxström, Kartik Mistry, Abijeet Patro, José Pita - input & feedback



Thank you

Product | Design Strategy | Language Team

Direct questions & comments to:
easikingarmager@wmf.org



The screenshot displays the Wikimedia Translations interface. At the top, there's a header with 'W Translations', a notification bell, a chat icon, and a user profile dropdown. Below this is a '+ New translation' button. The main content area is divided into 'Suggestions' (based on previous edits, with a 'Change topic area' link) and 'New pages' (listing 'Golden toad', 'Big cat', and 'Monkey'). A 'Sections Ukulele' dialog box is open, prompting the user to 'Select a section to translate' between English and Javanese. The dialog lists various sections: 'Missing in Javanese', 'History', 'Construction', 'Types and sizes', 'Tuning', 'Related instruments', 'Audio samples', 'Notable musicians', 'Present in Javanese', and 'External links'. The 'Sajarah' section is expanded, showing a paragraph of text in Indonesian. A 'New section added' notification is visible at the bottom of the dialog, along with an 'Edit the page' link and a '+ Construction' button.