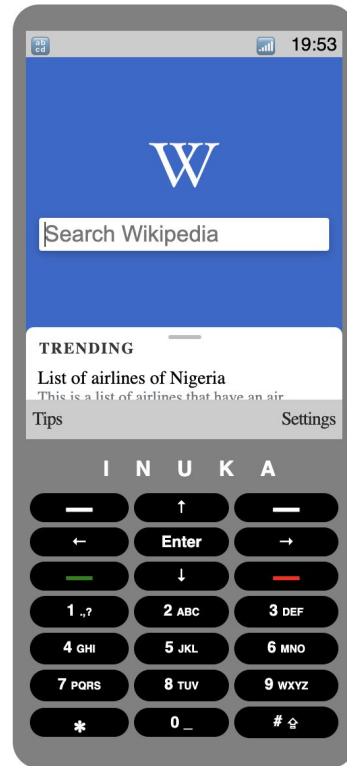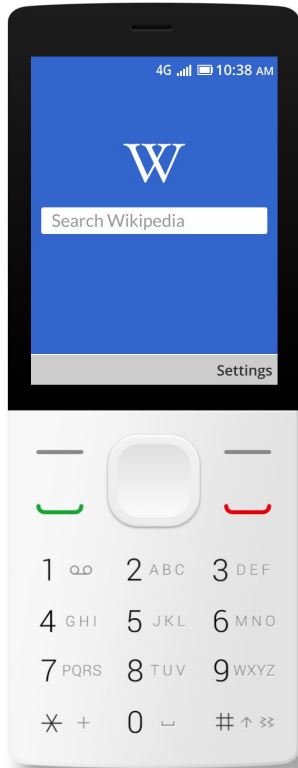# The motivation

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Background

Assumptions

- Users are interested in interacting with content that is already popular among other Wikipedia readers.

- Users are interested in interacting with content popular in their region.

- Users do not always come to the app to look for information, so an additional experience to interact with articles would be useful to them.

- Articles change often enough for the list to be different between **days.**

Measuring Success

- Providing a list of top read articles in the region will increase engagement by 10%

The method

Design principles

- Test things we could productionize
- Don't overinvest in experimental features

Focus countries

- India

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Focus countries

- ~~India~~
- Nigeria
- Pakistan
- Tanzania
- Uganda

Focus countries

English users in…

- ~~India~~
- Nigeria
- Pakistan
- Tanzania
- Uganda

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Our participants

Country	Participants (rounded)
Nigeria	14,400
Pakistan	47,000
Tanzania	32,800
Uganda	13,400
Total	107,600

Our participants

Country	Participants (rounded)
Nigeria	14,400
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Uganda	13,400
Total	107,600

50% control

50% trending articles

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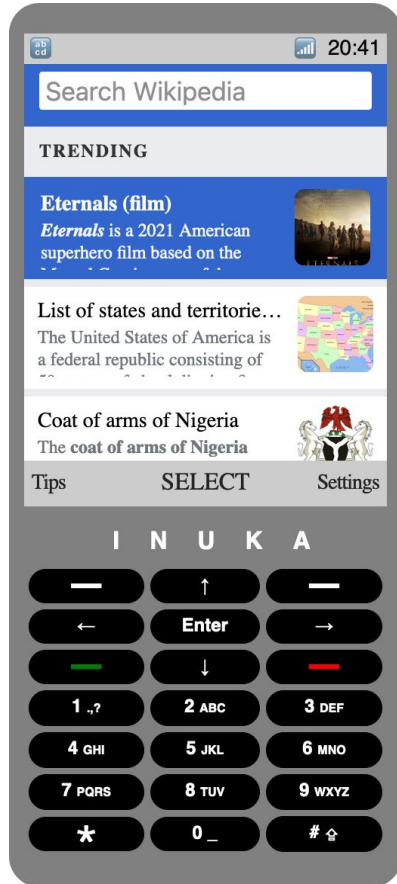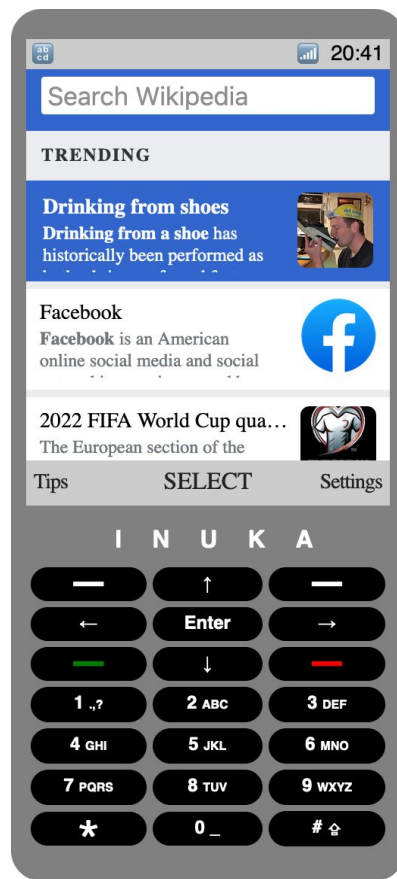
Local trending articles

- Pages with the most non-bot views the day before
- Excluding:
  - Pages with <10% or >90% mobile views
  - Pages recommended in the past 7 days
  - 14 frequent bad recommendations (-, .xxx, Brazzers, Main Page, News, Pornography, Sex, XHamster, XVideos, XXX, XXX (film series), XXX: Return of Xander Cage, XXXTentaction, XXXX)
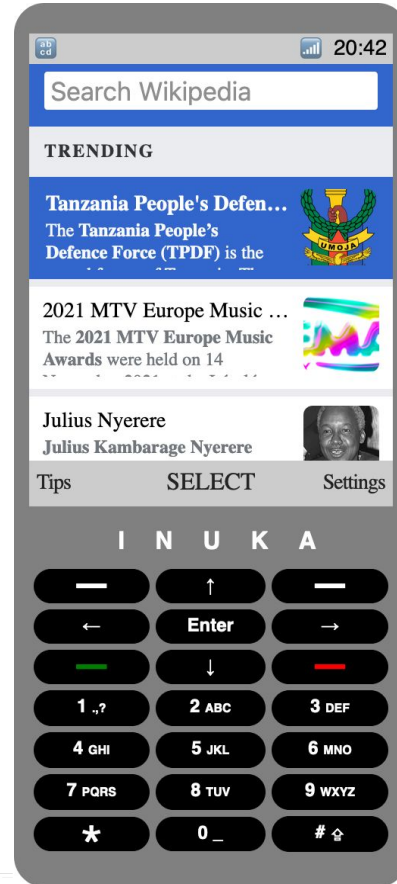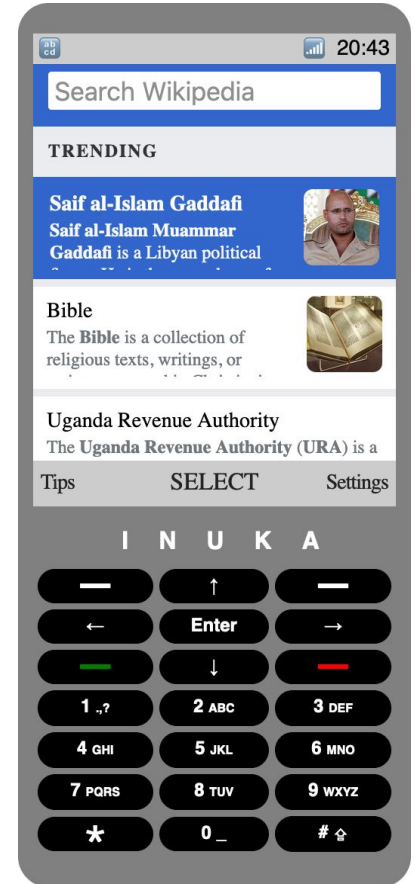
Nigeria

Search Wikipedia

TRENDING

Eternals (film)
Eternals is a 2021 American superhero film based on the

List of states and territorie…
The United States of America is a federal republic consisting of

Coat of arms of Nigeria
The **coat of arms of Nigeria**

Tips　SELECT　Settings

I　N　U　K　A

Pakistan

Search Wikipedia

TRENDING

Drinking from shoes
Drinking from a shoe has historically been performed as

Facebook
Facebook is an American online social media and social

2022 FIFA World Cup qua…
The European section of the

Tips　SELECT　Settings

I　N　U　K　A

Tanzania

Search Wikipedia

TRENDING

Tanzania People's Defen…
The **Tanzania People's Defence Force (TPDF)** is the

2021 MTV Europe Music …
The **2021 MTV Europe Music Awards** were held on 14

Julius Nyerere
Julius Kambarage Nyerere

Tips　SELECT　Settings

I　N　U　K　A

Uganda

Search Wikipedia

TRENDING

Saif al-Islam Gaddafi
Saif al-Islam Muammar Gaddafi is a Libyan political

Bible
The **Bible** is a collection of religious texts, writings, or

Uganda Revenue Authority
The **Uganda Revenue Authority (URA)** is a

Tips　SELECT　Settings

I　N　U　K　A

A simple script that:

- **Queries for trending articles**

```sql
-- Written for Spark 2.4.4
WITH views_by_page_title AS (
    SELECT
        page_id,
        page_title,
        SUM(view_count) AS views,
        SUM(IF(access_method = 'desktop', view_count, 0)) AS computer_views
    FROM wmf.pageview_hourly
    WHERE
        agent_type = 'user'
        AND project = 'en.wikipedia'
        AND namespace_id = 0
        AND country_code = '{country}'
        AND year = {year}
        AND month = {month}
        AND day = {day}
    GROUP BY
        page_id,
        page_title
    ORDER BY
        page_id ASC,
        views ASC
), views_by_canonical_title AS (
    SELECT
        -- Because of the ORDER BY in the previous CTE, the last title will be the one with the most views
        LAST(page_title) AS canonical_title,
        SUM(views) AS views,
        SUM(computer_views) / SUM(views) AS views_computer_proportion
    FROM views_by_page_title
    GROUP BY page_id
), filtered_views_by_canonical_title AS (
    SELECT *
    FROM views_by_canonical_title
    WHERE
        canonical_title NOT IN {bad_recommendations}
        AND views_computer_proportion BETWEEN 0.1 AND 0.9
        {not_recently_trending_clause}
), trending AS (
    SELECT
        -- If there are ties, ROW_NUMBER will break them so we can always get the same number of articles
        ROW_NUMBER() OVER (
            ORDER BY views DESC
        ) AS rank,
        canonical_title AS article,
        views,
        views_computer_proportion
    FROM filtered_views_by_canonical_title
)
SELECT
    DATE(CONCAT_WS("-", {year}, LPAD(CAST({month} AS STRING), 2, '0'), LPAD(CAST({day} AS STRING), 2, '0'))) AS d
    '{country}' AS country,
```

A simple script that:

- Queries for trending articles
- **Gets summaries and page images from the API**

```python
results = get_trending_articles(country, year, month, day, recently_trending)
records = results.to_dict("records")
for r in records:
    # We need to make sure the title is percent-encoded
    encoded_title = requests.utils.quote(r["article"], safe='')
    summary_data = REST_API_SESSION.get(REST_API_URL + "page/summary/" + encoded_title).json(

    # This title uses spaces rather than underscores and, if the initial title was a redirect
    r["title"] = summary_data["title"]

    # extract_html will be an empty string if there is no extract
    if summary_data["extract_html"]:
        r["description"] = summary_data["extract_html"]

    try:
        r["image_url"] = summary_data["thumbnail"]["source"]
    # Some articles have no thumbnail
    except KeyError:
        pass

def client_format(d):
    d_2 = {"title": d["title"]}
    if d.get("description"):
        d_2["description"] = d["description"]
    if d.get("image_url"):
        d_2["imageUrl"] = d["image_url"]
    return d_2

page_content = json.dumps([client_format(r) for r in records])

for page in lists[country]:
    page_title = "Wikipedia_for_KaiOS/engagement1/trending/en/" + page.lower()
    post_list(page_title, date, page_content)

results = pd.DataFrame.from_records(records)

try:
    archive = archive.append(results, ignore_index=True)
except AttributeError:
    archive = results
```

A simple script that:

- Queries for trending articles
- Gets summaries and page images from the API
- **Publishes to wiki pages**

☰ 🌸 MediaWiki   🔍 🗛 English   Neil Shah-Quinn ... 🔔 🗨 👤⌄

Page Discussion   Read Edit source View history ⭐ More ⌄

Wikipedia for KaiOS/engagement1/trending/en/tz

< Wikipedia for KaiOS | engagement1

title	"Tanzania People's Defence Force"
description	" The Tanzania People's Defence Force (TPDF) is the armed forces of They were set up in September 1964, following a mutiny by the former colonial force: the Tanganyika Rifles. From its inception, it was ingrained in the tr new TPDF that they were a people's force under civilian control. Unlike some neighbors, Tanzania has never suffered a coup d'état or civil war. "
imageUrl	"https://upload.wikimedia.org/wikipedia/commons/thumb/a/aa/Tanzania_People%E2 %99s_Defence_Force.svg/201px-Tanzania_People%E2%80%99s_Defence_Force.svg.png"

title	"2021 MTV Europe Music Awards"
description	" The 2021 MTV Europe Music Awards were held on 14 November 2021 at Papp Budapest Sports Arena in Budapest, Hungary. This marked the first time hosted the awards show. "
imageUrl	"https://upload.wikimedia.org/wikipedia/commons/thumb/2/24/MTV_EMA_2021.png/ MTV_EMA_2021.png"

title	"Julius Nyerere"
description	" Julius Kambarage Nyerere was a Tanzanian anti-colonial activist, and political theorist. He governed Tanganyika as Prime Minister from 1961 t then as President from 1963 to 1964, after which he led its successor state, President from 1964 to 1985. He was a founding member and chair of the Tanga National Union (TANU) party, and of its successor Chama Cha Mapinduzi, from Ideologically an African nationalist and African socialist, he promoted a po philosophy known as Ujamaa. "
imageUrl	"https://upload.wikimedia.org/wikipedia/commons/thumb /1/1a/President_Nyerere_van_Tanzania%2C_koppen%2C_Bestanddeelnr_928-2879_%28 /218px- President_Nyerere_van_Tanzania%2C_koppen%2C_Bestanddeelnr_928-2879_%28cropped"

The result

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Slightly more sessions

Control

2.03

2.5% increase

Trending articles

2.08

Longer sessions!

Control
2 min, 7 s → **2 min, 28 s**
Trending articles

17% increase

Lessons

Emerging market readers respond to locally-relevant reading suggestions

Lessons

We need an API for locally-relevant suggestions!

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```json
{
  "items": [
    {
      "country": "TZ",
      "access": "all-access",
      "year": "2021",
      "month": "11",
      "day": "14",
      "articles": [
        {
          "article": "Special:Search",
          "project": "en.wikipedia",
          "views_ceil": 7600,
          "rank": 1
        },
        {
          "article": "Main_Page",
          "project": "en.wikipedia",
          "views_ceil": 3900,
          "rank": 2
        }
      ]
    }
  ]
}
```

Further analysis

- Do the results differ by country?
- Better adjust for the fact that users were in the experiment for different lengths of time
- Provide context from Android and iOS apps

Further research

- Does the effect differ in languages other than English?
- Does the effect differ when baseline engagement is higher?
- How do locally-relevant suggestions compare to globally-generic suggestions?

Learn more

- [Spreadsheet of recommended articles](#) (May-June 2021)
- [Trending articles script and data analysis code](#)

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THANK YOU