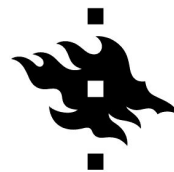




UNIVERSITY
OF AMSTERDAM



UNIVERSITY OF HELSINKI

Towards Digital Democracy

Christoph Becker & Yu-Shan Tseng

Re:public Tokyo & Hiroshima Prefecture
22/10/2021

Agenda & purpose

- I. Introduction
- II. Quantitative Evaluation of OmaStadi (Helsinki)
- III. Discussion

Agenda & purpose

- I. Introduction
- II. Quantitative Evaluation of OmaStadi (Helsinki)
- III. Discussion

Key purpose: Connecting practitioners and researchers

The wider context of digital participation

The rapid globalisation of using digital platforms for facilitating political participation since 2016

Now, more than 200 governmental institutions using open-source software (either Consul or Decidim; not including other similar digital tools)



The danger of this global hype

Are digital platforms really improving our democracy?

If one place's success means the same for other places?

Very few governments conducted evaluation of digital democracy:

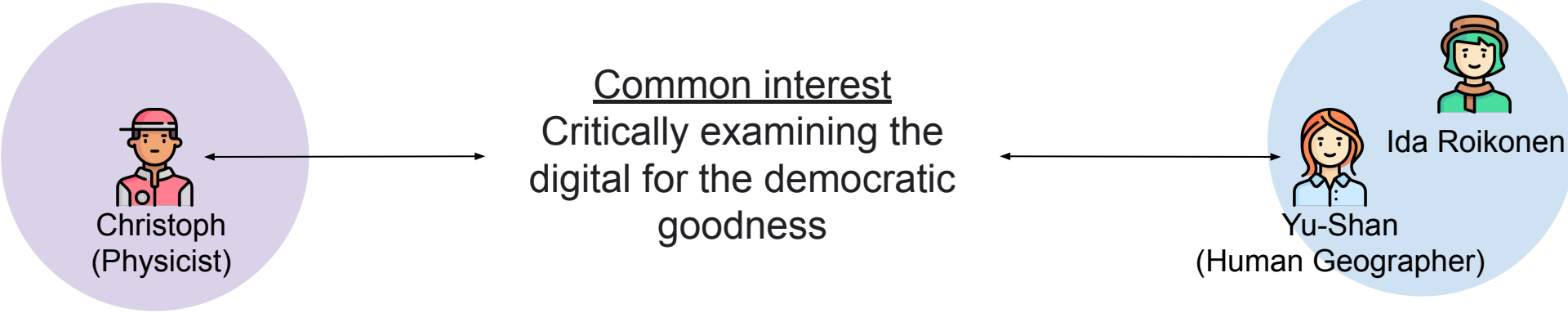
'[A] lack of data and formal evaluations of outcomes and impact' of digital platforms on democracy ([NESTA Digital Democracy, 2017](#)):

- 'currently so little attention is being paid to evaluating the outcomes of these digital initiatives themselves. In many of the cases we have looked at we do not even have the data to fully ascertain who is participating'.
- 'there are only a few examples of external evaluations of new tools and programmes. While they sometimes provide more detailed insight into participant profiles and motivations, [...], these represent only snapshots in time and do not provide a longer-term view of how participation is evolving'.

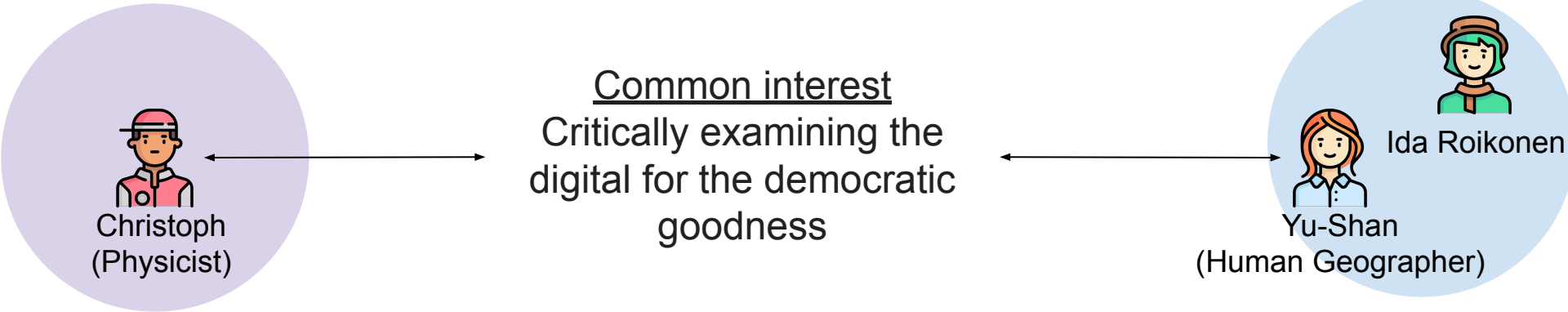
Why evaluating?

- Offer an evidence-based approach to policymaking and governance
- Increasing citizens' motivation and trust in the government
- Fighting against digital inequality
- Creating a sense of belonging and community
- Prove that digital platforms actually improve the quality of democratic participation
- Fulfill the claims that digital democracy is indeed a reality not just a propaganda

A little story behind our collaboration

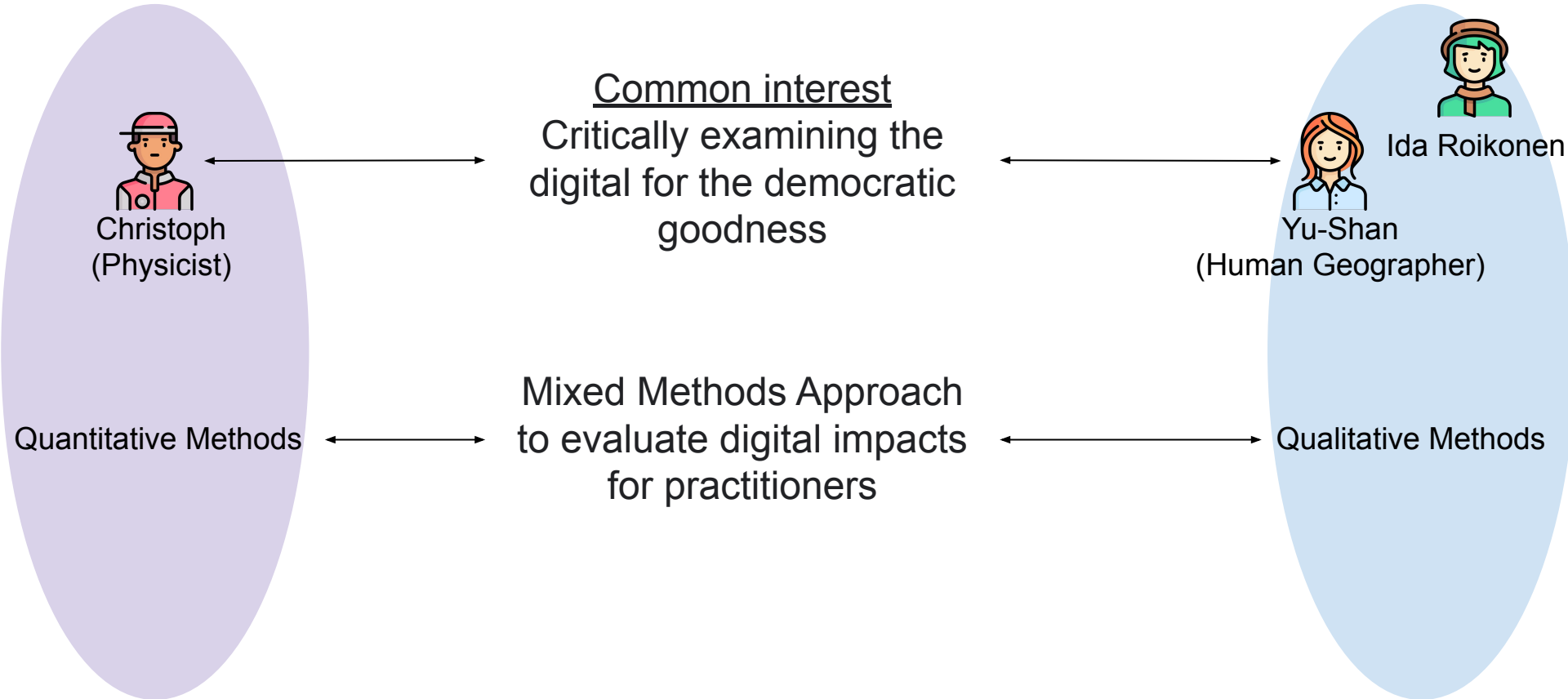


A little story behind our collaboration



How can we do something in practice?

A little story behind our collaboration

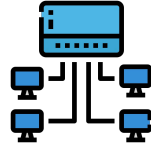
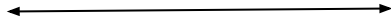


How to Evaluate?

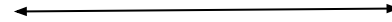
Lessons learned from vTaiwan, Decide Madrid, and OmaStadi



Voters



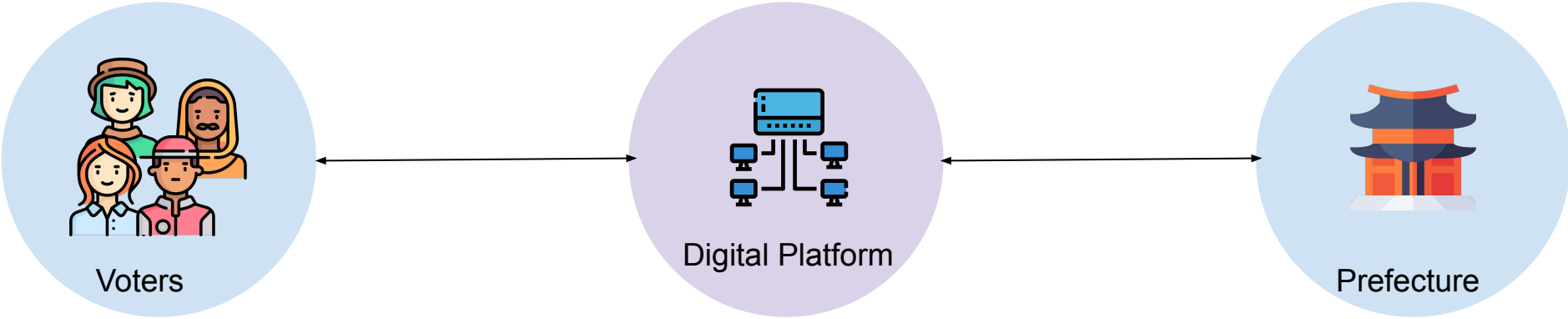
Digital Platform



Prefecture

How to Evaluate?

Lessons learned from vTaiwan, Decide Madrid, and OmaStadi



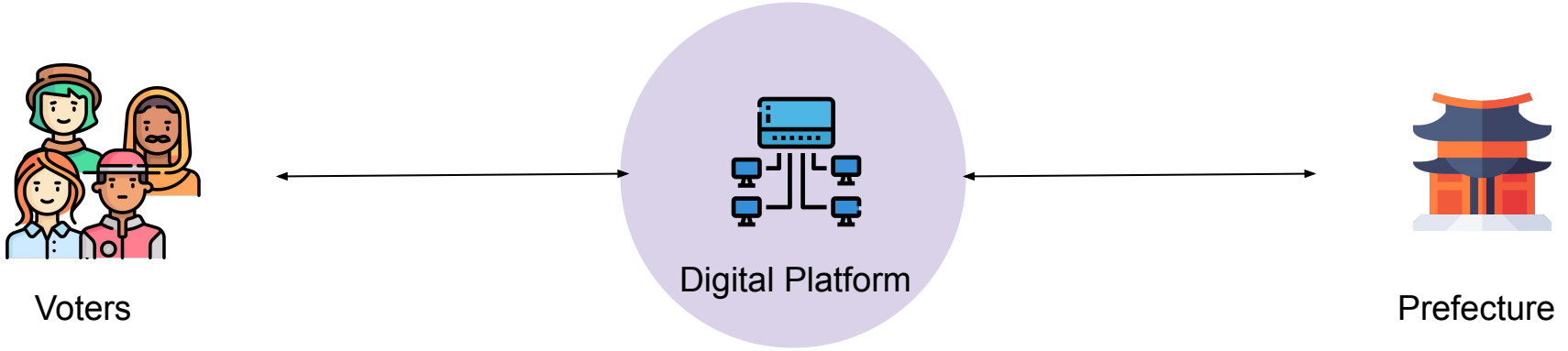
Yu-Shan: Ethnography, Fieldwork, Interviews, Mohawk



Christoph: GraphQL, Web Scraping, Snoopy, Matomo

How to Evaluate?

Lessons learned from vTaiwan, Decide Madrid, and OmaStadi

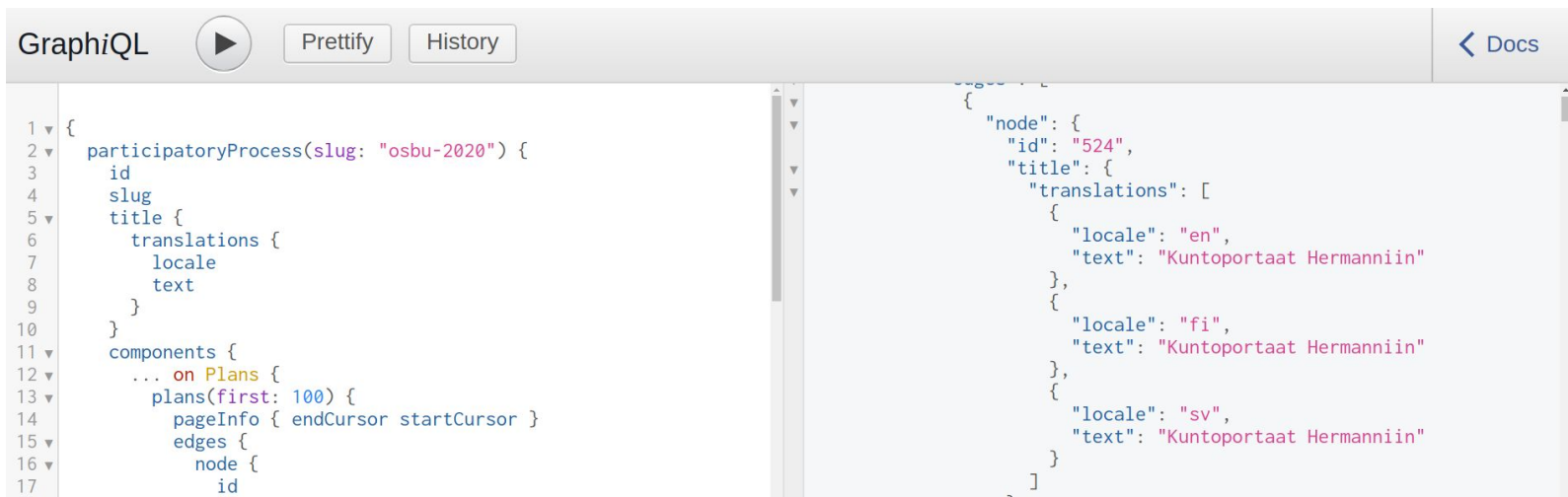


Christoph: GraphQL, Web Scraping, Snoopy/Matomo

How to Evaluate using GraphQL?

Lessons learned from OmaStadi

- [GraphQL](#) is an in-browser IDE for exploring GraphQL APIs
- [Decidim](#) comes by default with customisable GraphQL
- Used to obtain authors of proposals



The screenshot shows the GraphQL IDE interface. On the left, a query is written in a code editor with line numbers 1 through 17. The query is:

```
1 {
2   participatoryProcess(slug: "osbu-2020") {
3     id
4     slug
5     title {
6       translations {
7         locale
8         text
9       }
10    }
11   components {
12     ... on Plans {
13       plans(first: 100) {
14         pageInfo { endCursor startCursor }
15         edges {
16           node {
17             id
```

On the right, the JSON response is displayed, showing the structure of the data returned by the query. The response includes a node with id "524" and a title with translations in English, Finnish, and Swedish.

```
    "node": {
      "id": "524",
      "title": {
        "translations": [
          {
            "locale": "en",
            "text": "Kuntoportaati Hermanniin"
          },
          {
            "locale": "fi",
            "text": "Kuntoportaati Hermanniin"
          },
          {
            "locale": "sv",
            "text": "Kuntoportaati Hermanniin"
          }
        ]
      }
    }
  ]
```

How to Evaluate using GraphQL?

Lessons learned from OmaStadi

- [GraphQL](#) is an in-browser IDE for exploring GraphQL APIs
- [Decidim](#) comes by default with customisable GraphQL
- Used to obtain authors of proposals

	nickname	id
0	iunu	10381
1	terhi_2	1040
2	kirsi_2	1050
3	anja	1059
4	juhotik	1080
...
472	anna_arme	9416
473	ilari_scheinin	9486
474	maritta_hyvarinen	9630
475	jasmine	965
476	KL	995

How to Evaluate using GraphQL?

Lessons learned from OmaStadi

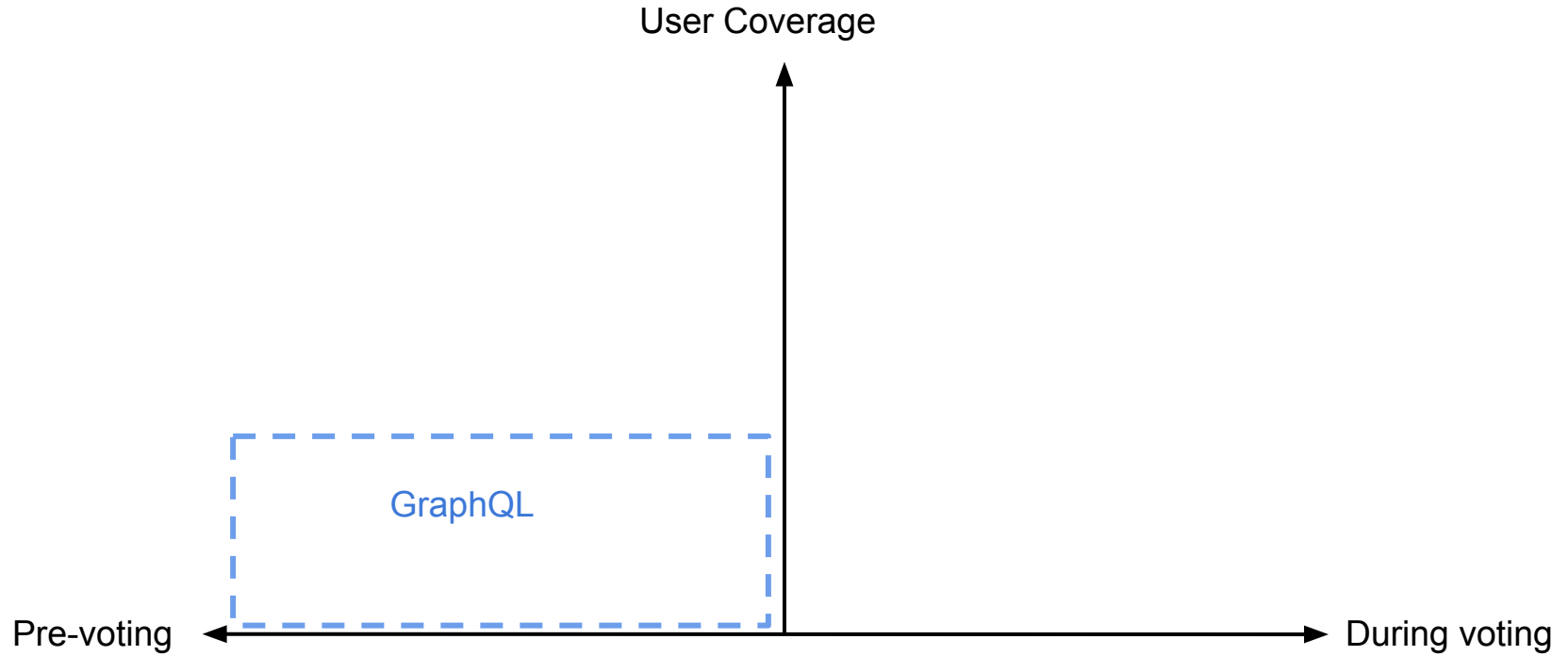
- [GraphQL](#) is an in-browser IDE for exploring GraphQL APIs
- [Decidim](#) comes by default with customisable GraphQL
- Used to obtain authors of proposals

	nickname	id
0	iunu	10381
1	terhi_2	1040
2	kirsi_2	1050
3	anja	1059
4	juhotik	1080
...
472	anna_arme	9416
473	ilari_scheinin	9486
474	maritta_hyvarinen	9630
475	jasmine	965
476	KL	995

476 authors in 2020/21, while there were 268 in 2018/19

What is Evaluated?

Lessons learned from OmaStadi



How to Evaluate using Web Scraping?

Lessons learned from OmaStadi

- Scrape information from users profiles using their IDs obtained through GraphQL
- Needs to be tailored to HTML code of website
 - Decidim platforms have very similar HTML code, therefore easy to tailor
- Only uses public data, no risk of harming privacy

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi

What we scrape from a user profile:

The image shows a user profile page for 'Virve Väyrynen' (@virve_vayrynen). The profile card on the left displays the name, handle, and follower/following counts (1 follower, 19 follows). The main content area shows a list of activity items. Three tabs are visible: 'Activity', 'Follows', and 'Followers', with 'Activity' selected. A 'SHOW:' dropdown menu is set to 'All types'. Two activity items are highlighted with pink boxes: the first shows a comment timestamp '5/04/2021 13:33' and the second shows '24/04/2021 11:05'. Labels 'Type' and 'Date & time' are placed next to these highlighted elements. The activity text includes 'New comment at Tanssille tilaa kaupunkiin!' and 'Olisiko Annan toiveelle tilaa tässä ehdotuksessa: "Vallilan ulkoleikkipuiston ku..."'.

Activity Follows Followers

SHOW: All types

Type

New comment at Tanssille tilaa kaupunkiin!
5/04/2021 13:33

Olisiko Annan toiveelle tilaa tässä ehdotuksessa: "Vallilan ulkoleikkipuiston ku..."

Date & time

New comment at Tanssille tilaa kaupunkiin!
24/04/2021 11:05

...tehdään paraveerata mahdollisimman pian. Olen tehnyt tänne pohjoiseen suurpii...

New comment at Tanssille tilaa kaupunkiin!

Virve Väyrynen
@virve_vayrynen

Followers 1 Follows 19

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi

What we scrape from a users activity (such as comments, ideas, proposals):

ID Area

#922

Southern

Category

22/02/2021

Sports and outdoor recreation - Sports facilities

You can participate either by submitting a comment or by asking for a permission to edit content directly.

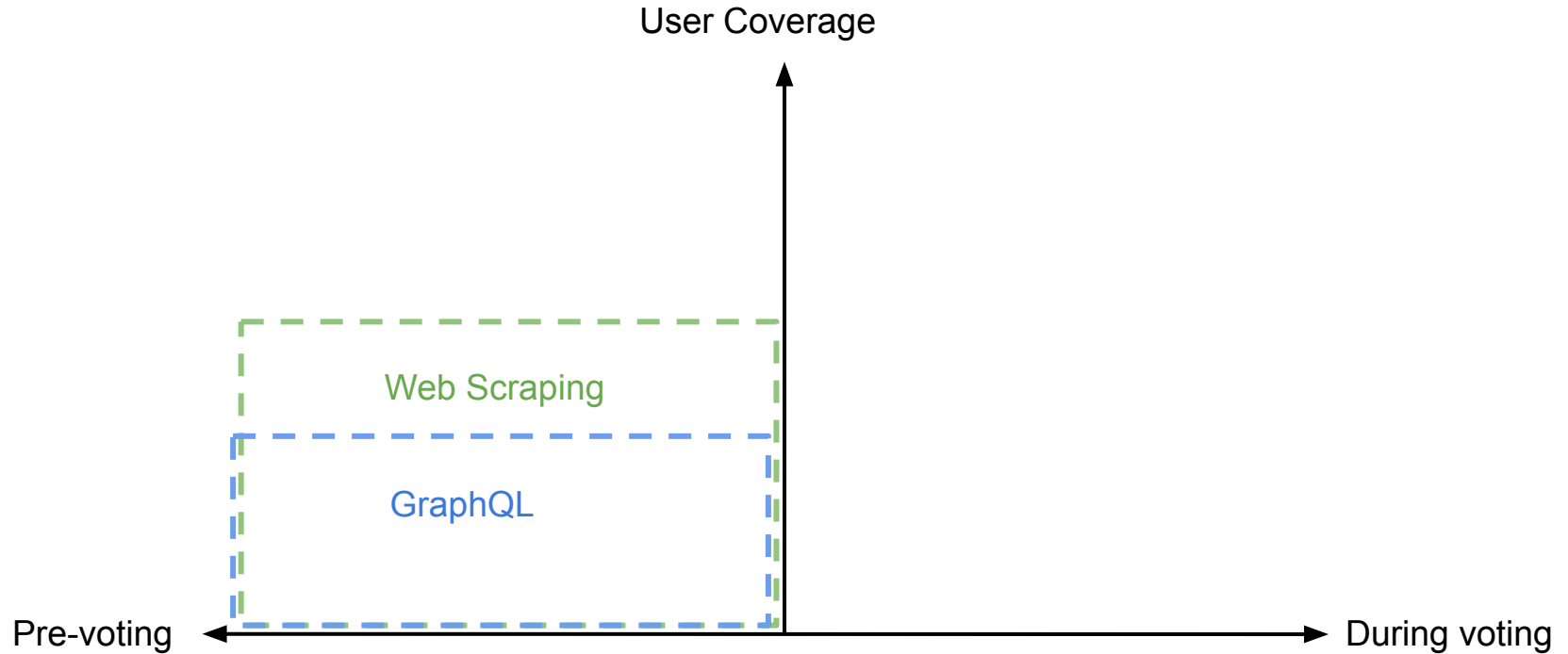
Tanssille tilaa kaupunkiin!

Put under vote

Luodaan kaksi tanssimiseen soveltuvaa, avointa ulkotilaa kaupunkiin. Tanssi on suosittu harrastus, mutta sille ei juurikaan ole sopivia ulkotiloja Helsingissä. Nurmikko, asfaltti tai hiekkakenttä eivät ole oivallisia paikkoja tanssimiseen.

What is Evaluated?

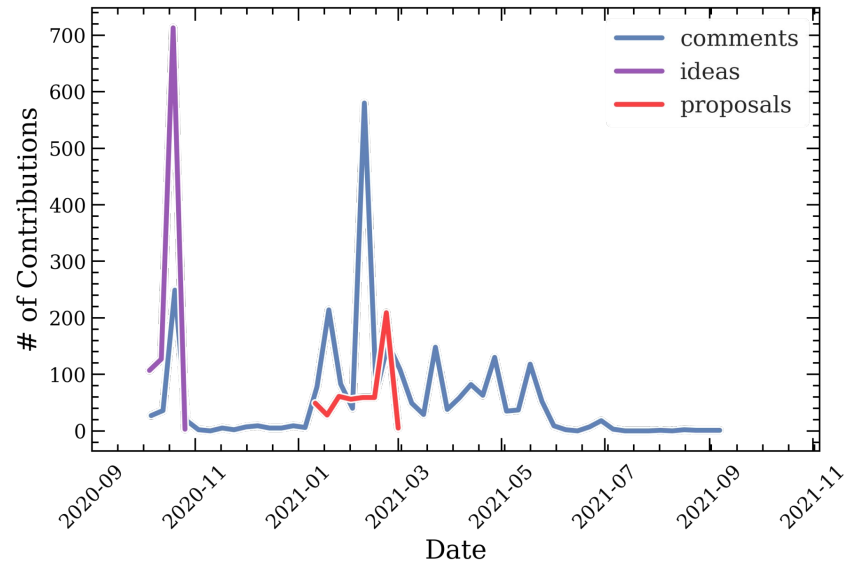
Lessons learned from OmaStadi



How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

Time series analysis of user contributions:



The OmaStadi budgeting process

1

Brainstorming

2020-10-05 - 2020-10-25

Ideas

2

Co-creation

January-April 2021

Proposals

3

Voting

2021-10-06 - 2021-10-28

4

Implementation

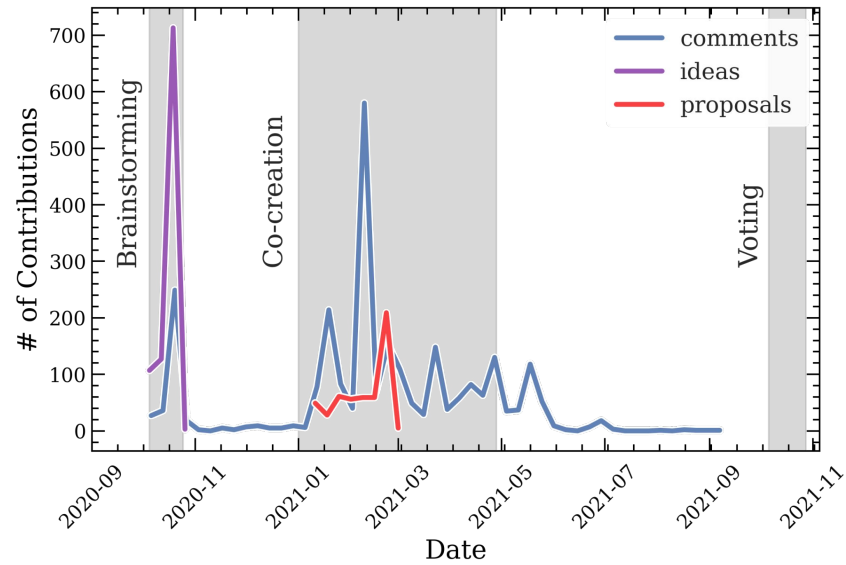
2022



How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

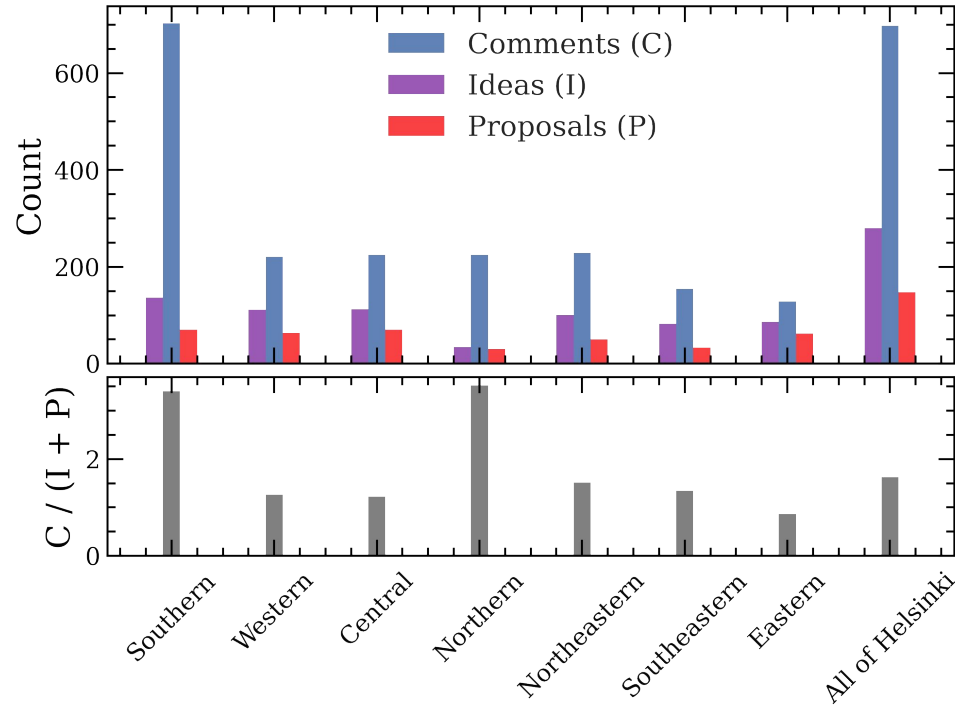
Time series analysis of user contributions



How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

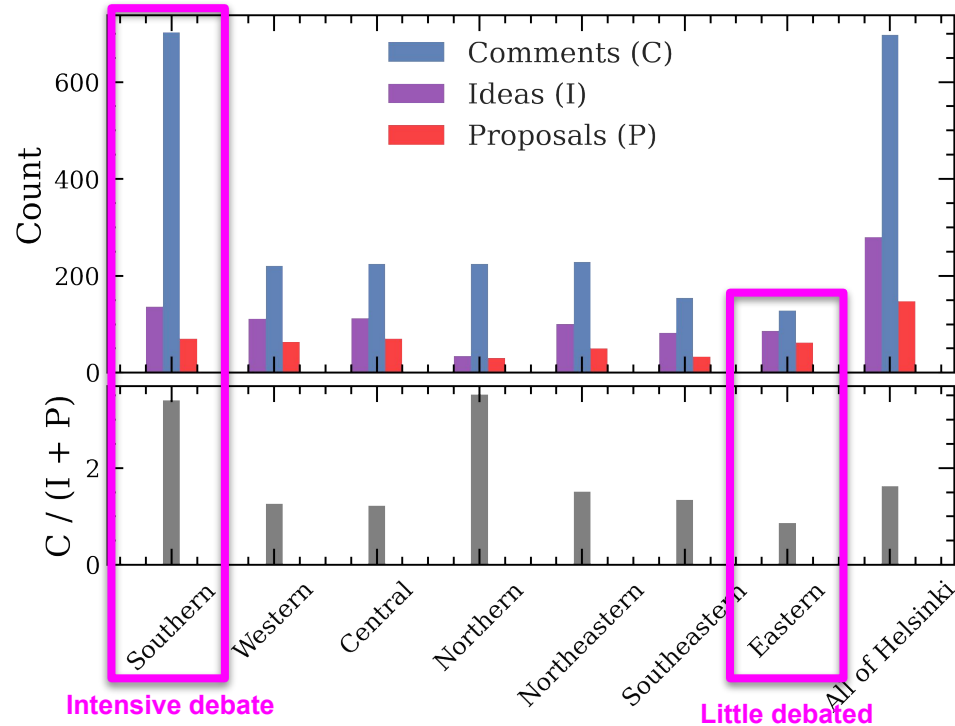
User contribution in each area:



How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

User contribution in each area:

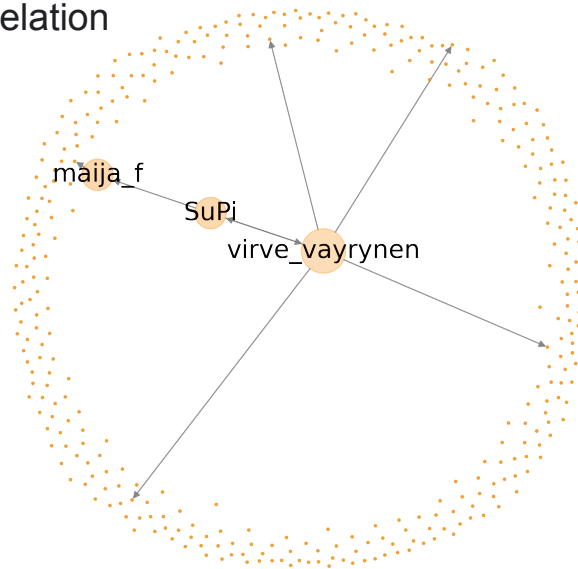


How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

Social network analysis: Who is following whom?

- Each dot represents a proposal author
- Each arrow represents their relation



2 May 2021

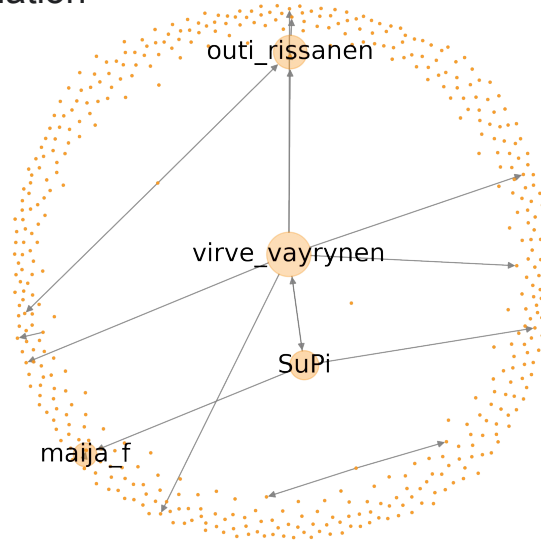
(after co-creation, before voting)

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

Social network analysis: Who is following whom?

- Each dot represents a proposal author
- Each arrow represents their relation



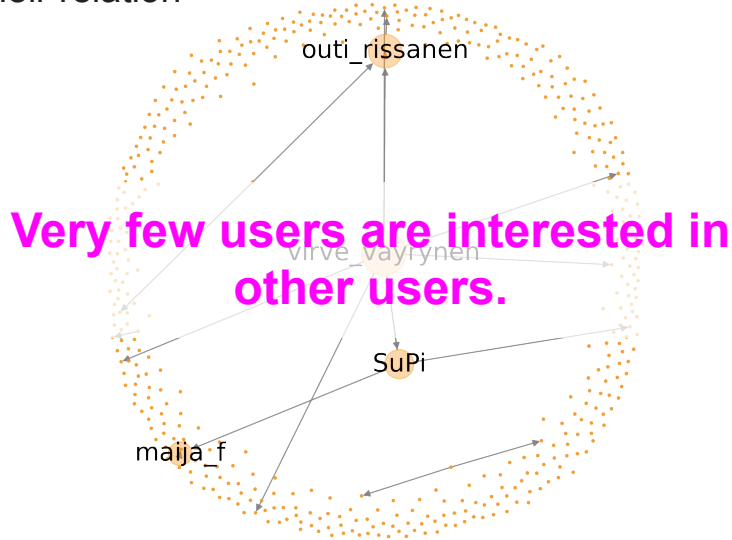
17 September 2021
(during voting)

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

Social network analysis: Who is following whom?

- Each dot represents a proposal author
- Each arrow represents their relation



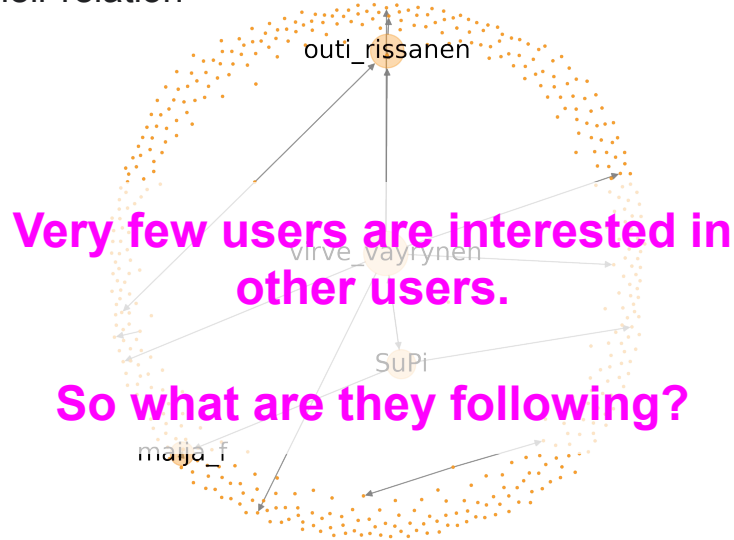
17 September 2021
(during voting)

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

Social network analysis: Who is following whom?

- Each dot represents a proposal author
- Each arrow represents their relation

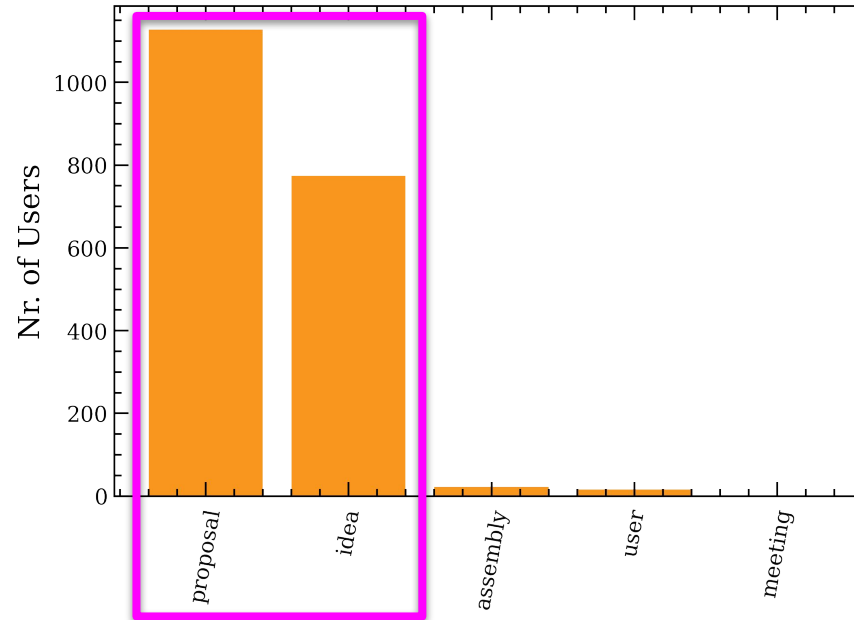


17 September 2021
(during voting)

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

What do users follow on the OmaStadi website?



17 September 2021
(during voting)

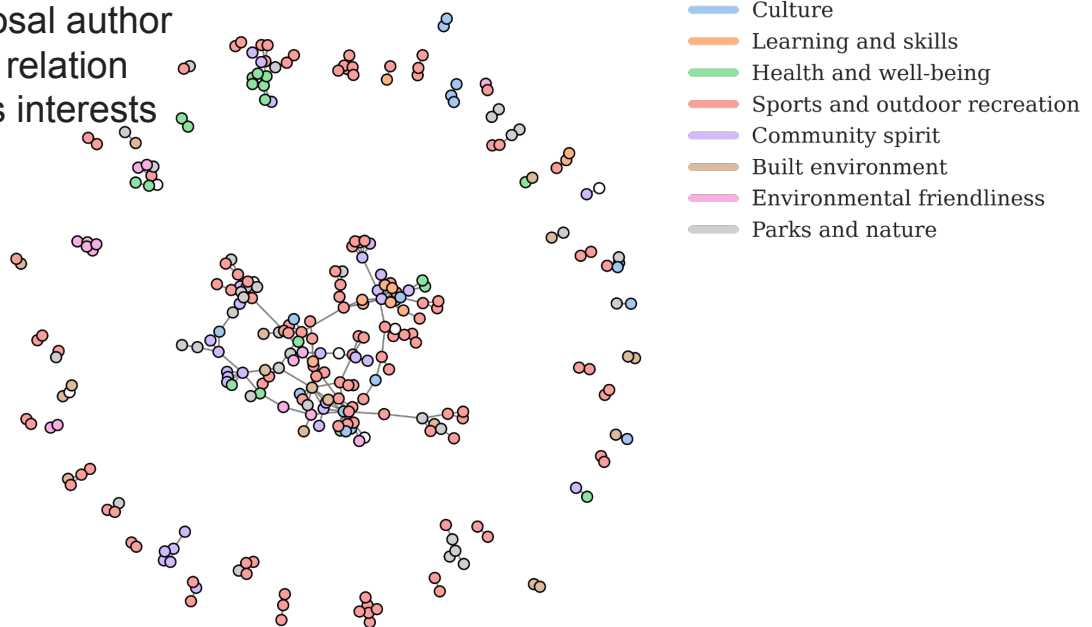
More interest for ideas/proposals than users

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

Social network analysis: Who is following whose idea/proposal?

- Each dot represents a proposal author
- Each arrow represents their relation
- The color shows the authors interests



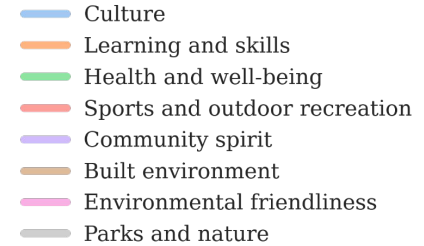
17 September 2021
(during voting)

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

Social network analysis: Who is following whose idea/proposal?

- Each dot represents a proposal author
- Each arrow represents their relation
- The color shows the authors interests



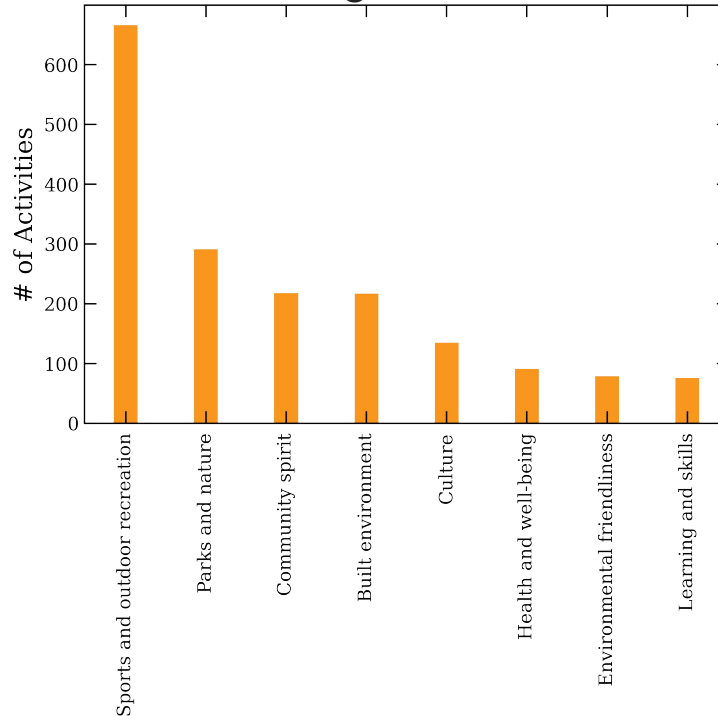
Many users are interested in
'Sports and outdoor recreation'

17 September 2021
(during voting)

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

To what categories are users contributing to with comments/ideas/proposals?

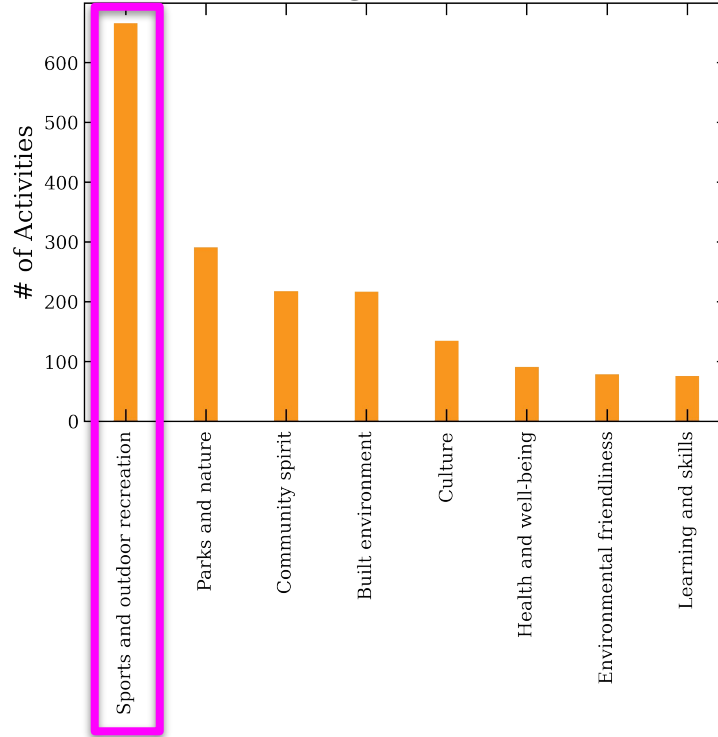


17 September 2021
(during voting)

How to Evaluate using Web Scraping?

Lessons learned from OmaStadi 20/21

To what categories are users contributing to with comments/ideas/proposals?

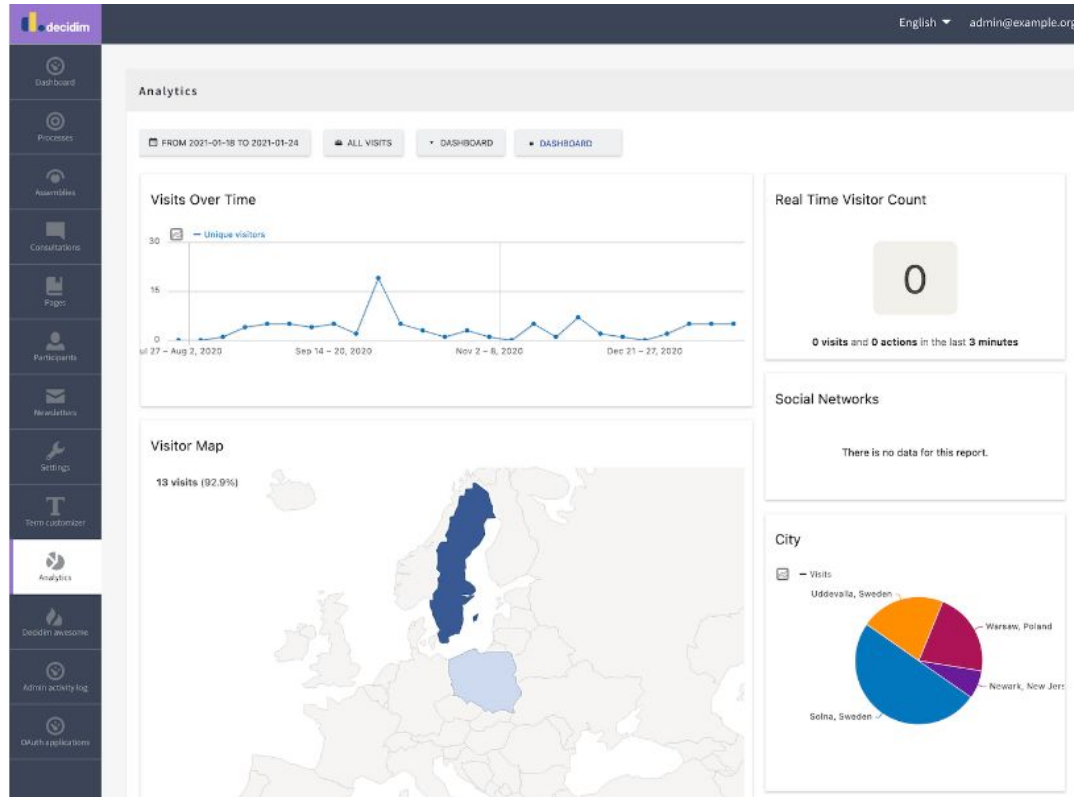


17 September 2021
(during voting)

How to Evaluate using Snoopy/Matomo?

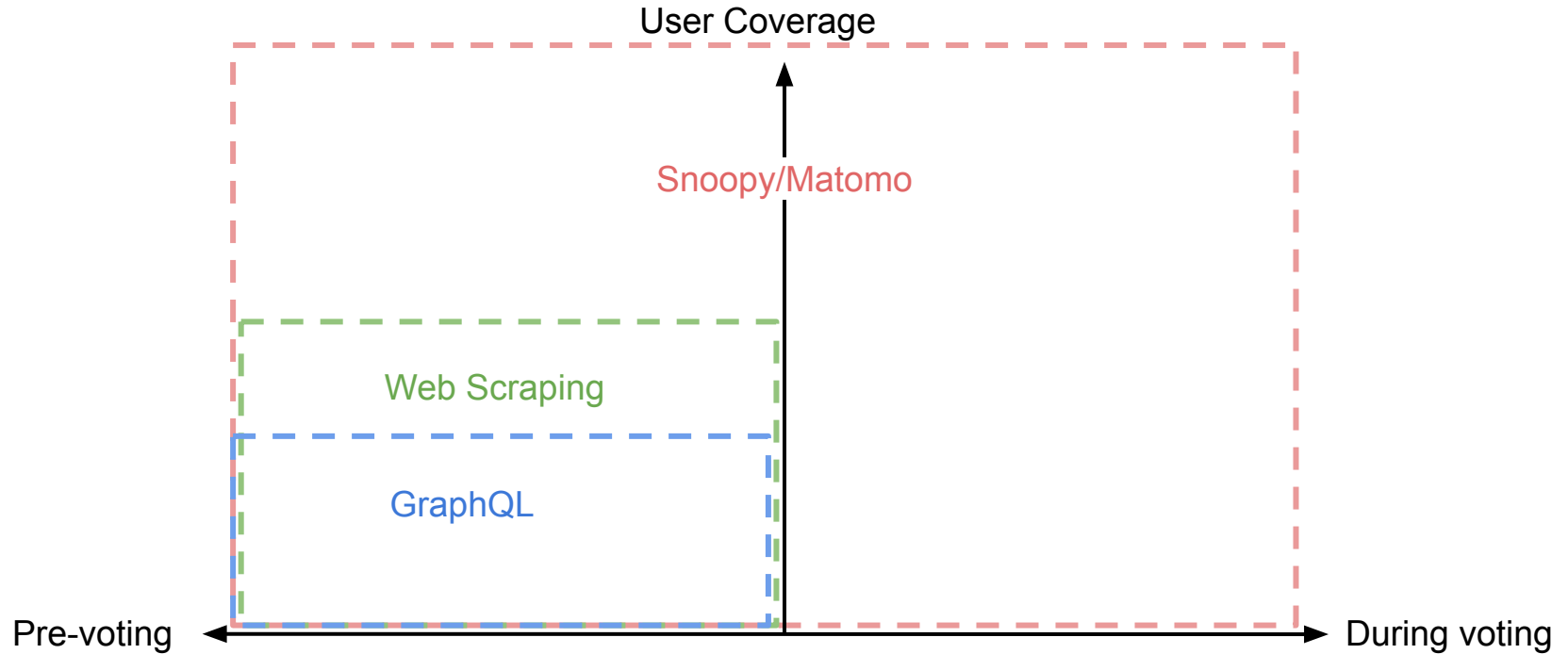
Lessons learned from OmaStadi 18/19

- User behaviour tracking
- Insights into how users engage with the website
- Data can make users identifiable
 - Requires safe handling of data
 - Close collaboration between practitioners and researchers



What is Evaluated?

Lessons learned from OmaStadi 18/19



How to Evaluate using Snoopy and Matomo?

Lessons learned from OmaStadi 18/19

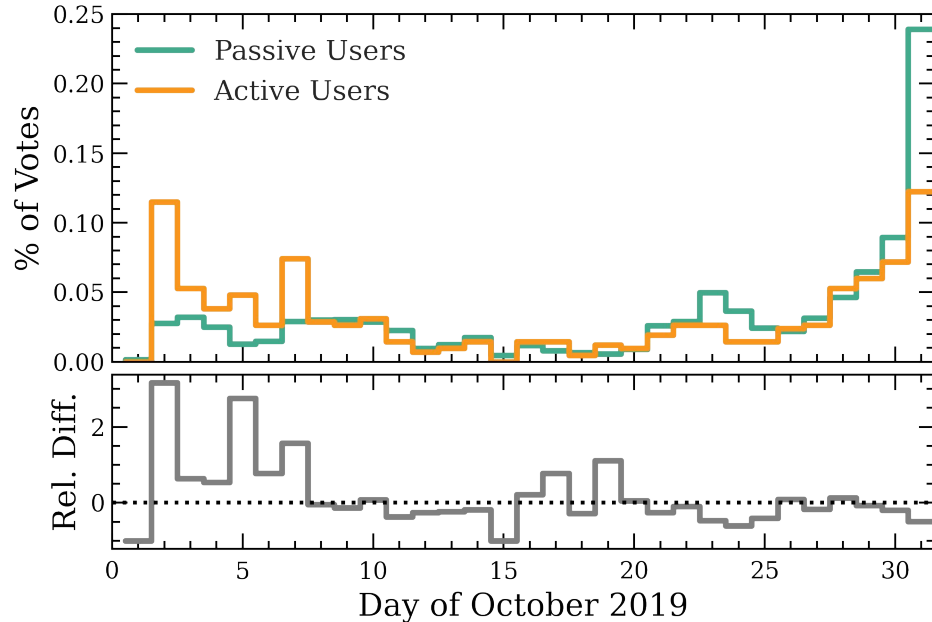
Time series analysis of votes

Passive User:

Users that only vote

Active User:

Users that vote and contribute with comments/idea/proposals



How to Evaluate using Snoopy and Matomo?

Lessons learned from OmaStadi 18/19

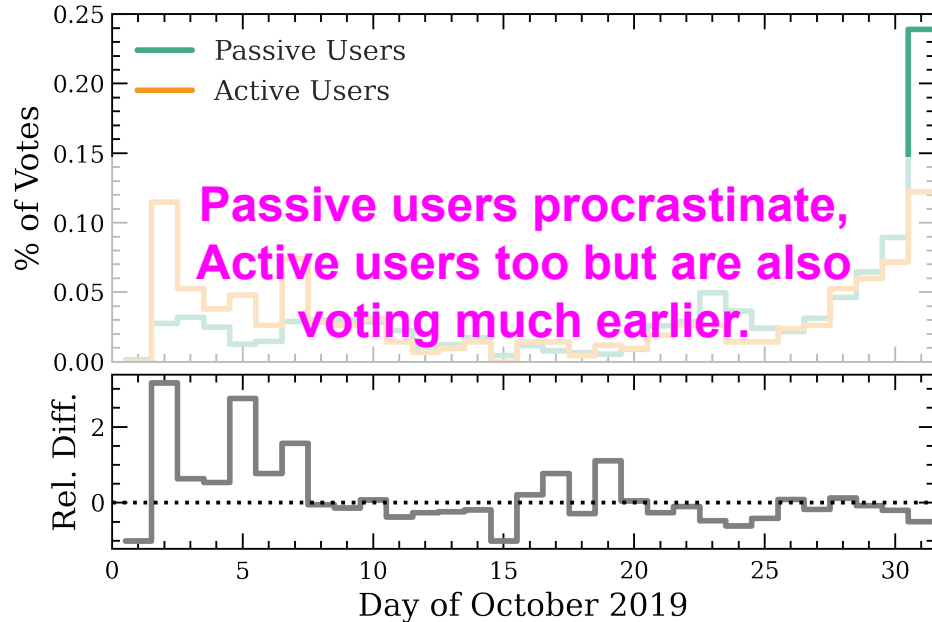
Time series analysis of votes

Passive User:

Users that only vote

Active User:

Users that vote and contribute with comments/idea/proposals



How to Evaluate using Snooply and Matomo?

Lessons learned from OmaStadi 18/19

Spatial analysis of users residence

Passive User:

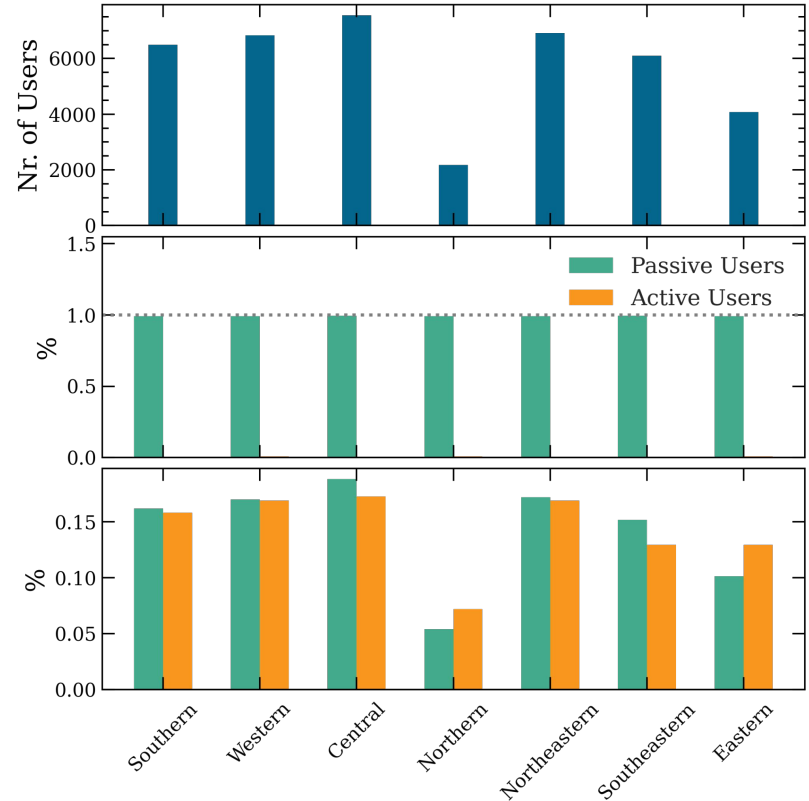
Users that only vote

Active User:

Users that vote and contribute with comments/idea/proposals

Of all users, how many belong to type

Of user type, how many live in area



How to Evaluate using Snooply and Matomo?

Lessons learned from OmaStadi 18/19

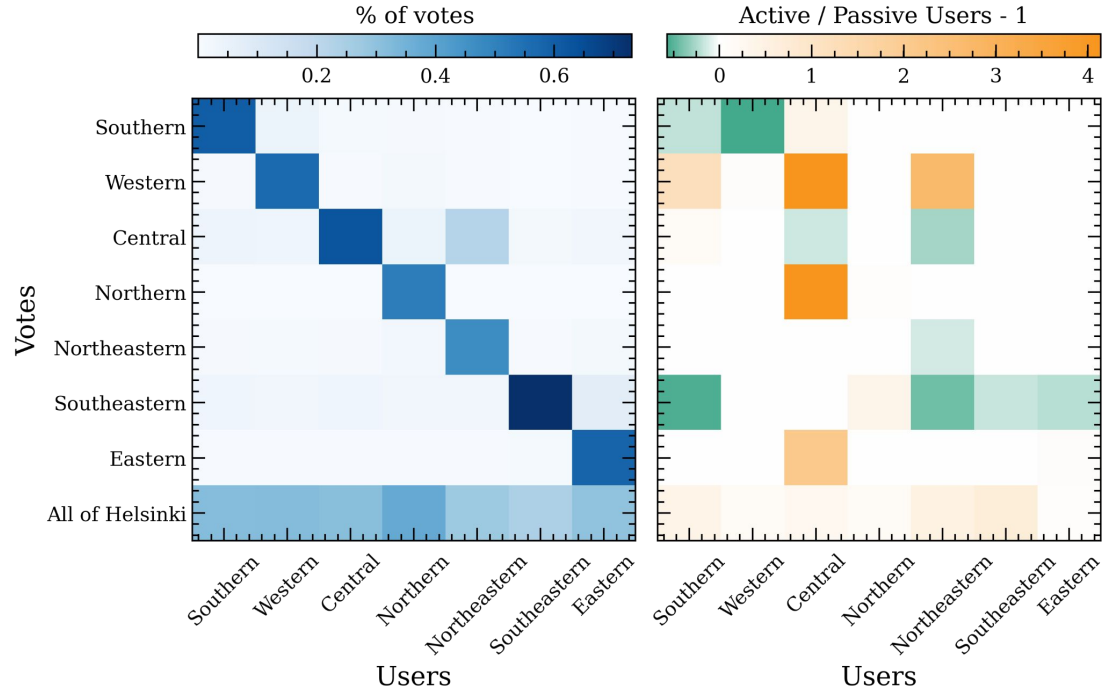
Spatial analysis of users residence and where want change

Passive User:

Users that only vote

Active User:

Users that vote and contribute with comments/idea/proposals



How to Evaluate using Snooply and Matomo?

Lessons learned from OmaStadi 18/19

Spatial analysis of users residence and where want change

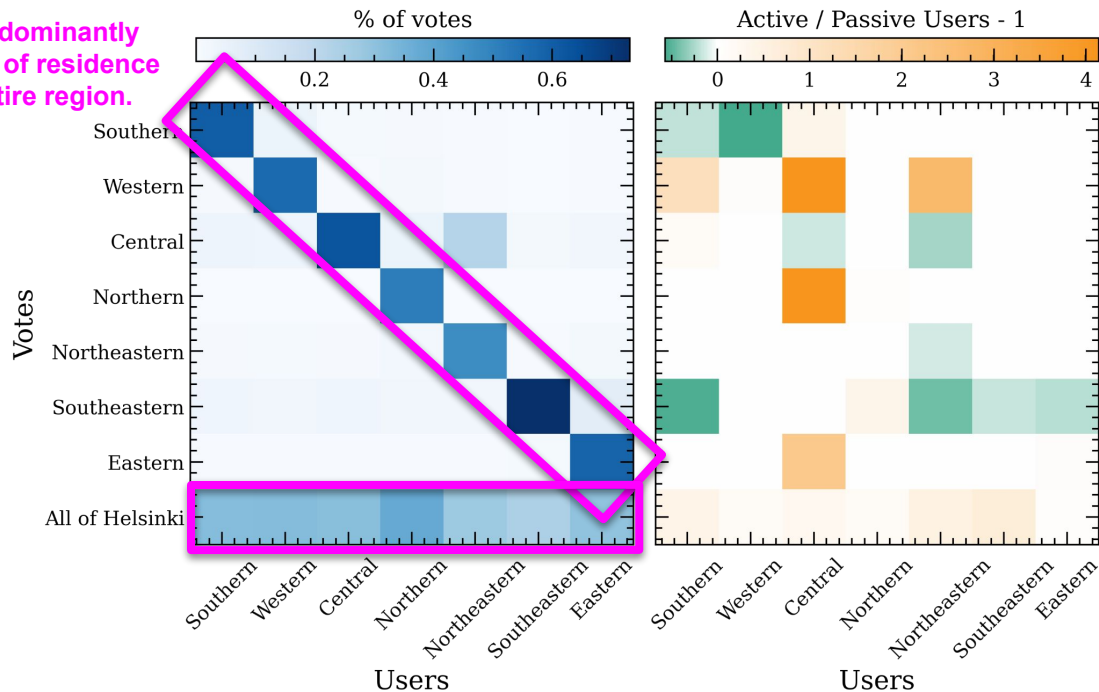
Passive User:

Users that only vote

Active User:

Users that vote and contribute with comments/idea/proposals

Users vote predominantly within their area of residence and for the entire region.



How to Evaluate using Snooply and Matomo?

Lessons learned from OmaStadi 18/19

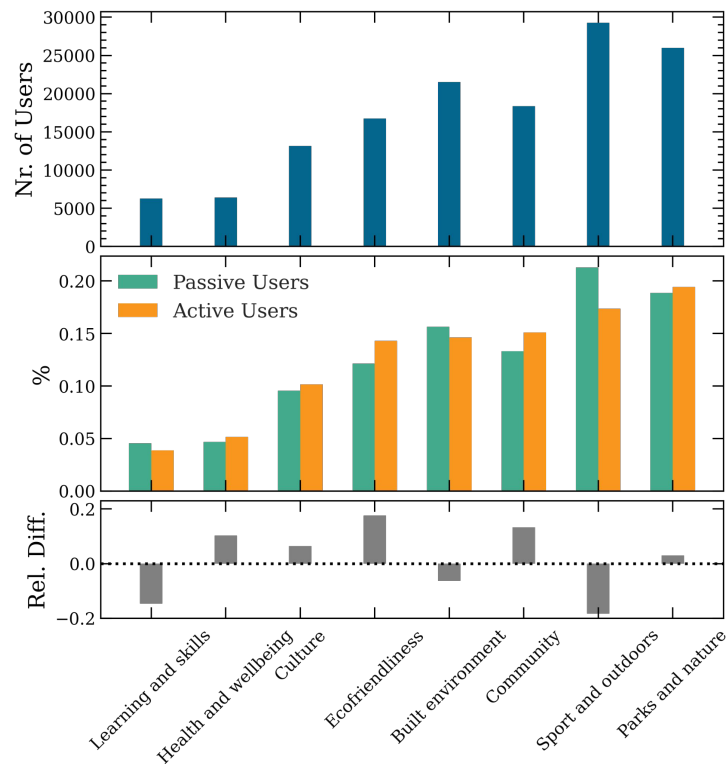
Spatial analysis of users residence

Passive User:

Users that only vote

Active User:

Users that vote and contribute with comments/idea/proposals



Discussion: how to make evaluation better?

Important to work with policymakers and consultants from the governments to decide what matters to them about evaluation

Each locality, with its unique culture, society, history, develops a specific set of possibilities and problems of digital technology

Questions:

What elements would be considered as good digital democracy for the Hiroshima prefecture, start-up and the Japanese public?

Which parts of digital participation are important for you to evaluate?

Appendix: Webscraping for Kagogawa

アクティビティ バッジ フォロー フォロワー グループ

表示: すべてのタイプ ▾

事務局_多田 @td

★ 加古川市

フォロワー 0 フォロー 18

バッジ



加古川河川敷のにぎわいづくり (かわかまづくりプロジェクト) での新しいディベート

24/08/2021 13:27

加古川・河川敷のにぎわいづくり アイデア発信フェーズやシンポジウム (6月27日開催)、ワークショップ (7月31日開催) では、多数の皆さまに加古川河川敷における「魅力」や「やりたいこと」について...

加古川市版Decidimへの意見・提案募集に新しいコメント

13/08/2021 13:26

ご意見ありがとうございます。いただいたご意見について回答させていただきますね。①
デンディムの単語の意味について「Decidim」という単語ですが、「決...

加古川市版Decidimへの意見・提案募集に新しいコメント

13/08/2021 13:01

ご紹介ありがとうございます。8月6日に公開されたようですね。加古川市は、国土交通省
が進める3D都市モデル整備・活用・オープンデータ化のリーディングプロジ...

Why Evaluate?

‘We are not *analysing* the world, we are *building* it.’

(Tim Berners-Lee, Message to W3C Technical Architecture Group mailing list, 2003)

‘We need social networks where bad things happen less.’

([Tim Berners-Lee, Interview with John Harris, The Guardian, 2021](#))