

WEB MAPS FOR REAL-WORLD ACCESSIBILITY

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Monday, Sep 28, 2020

W3C/OGC Joint Workshop Series on Maps for the Web

w3.org/2020/maps/

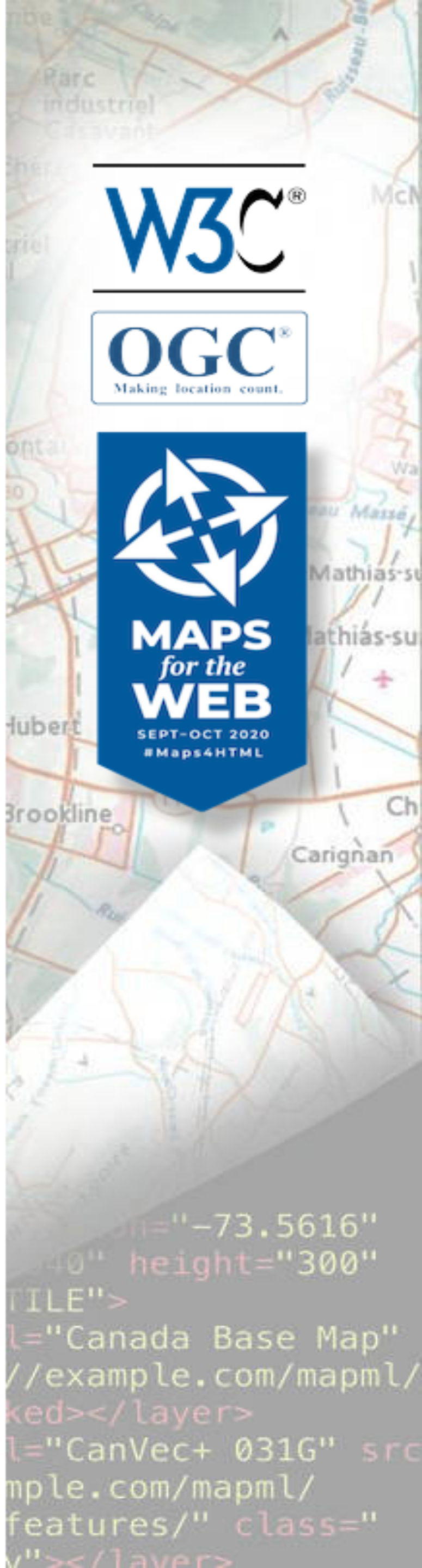


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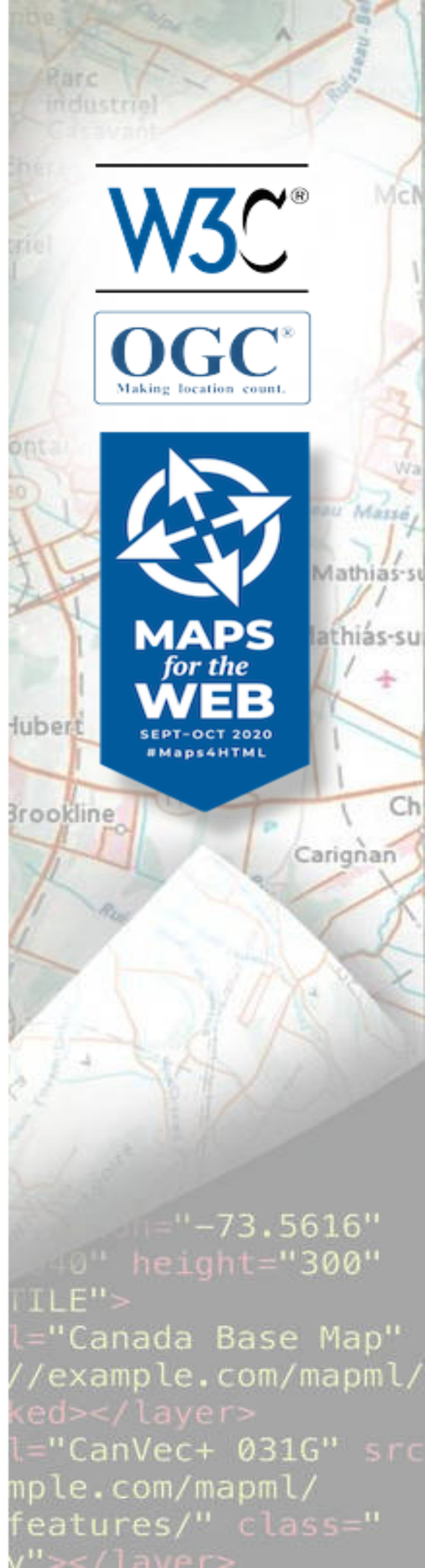
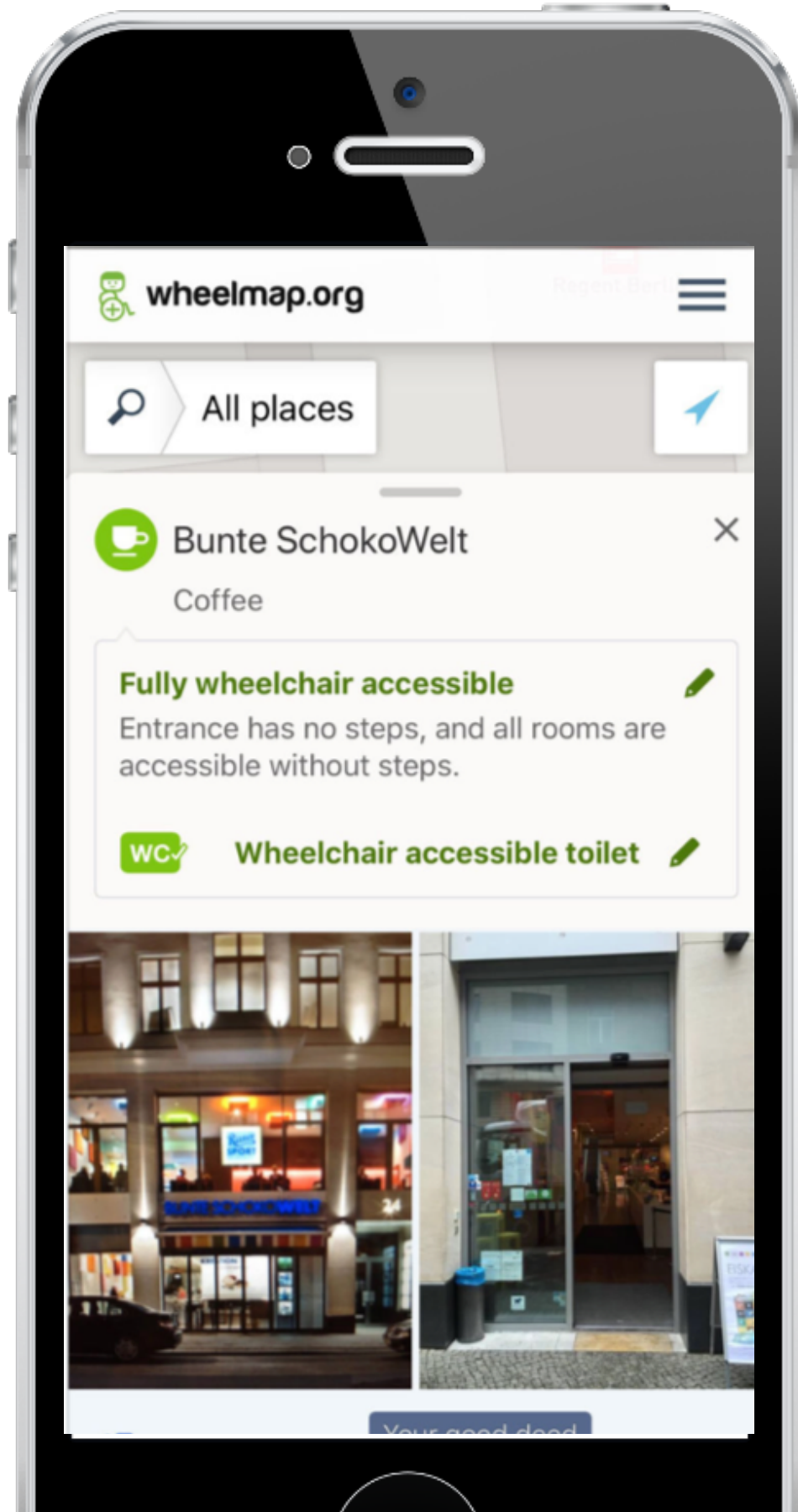
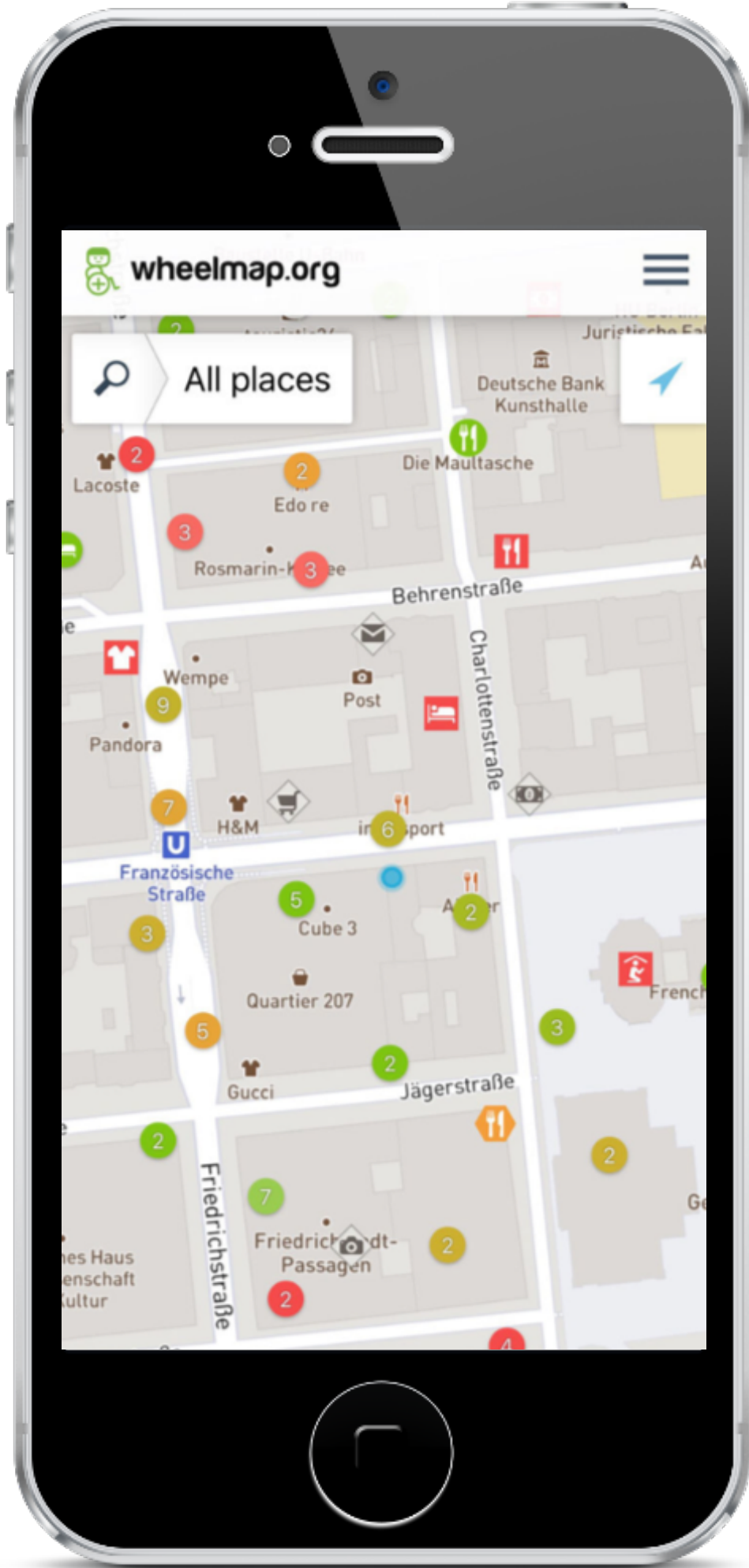

Can I get in?



Example: Many places have steps at the entrance, which is a barrier for wheelchair users.



Wheelmap.org - find accessible places



"Traffic lights" system

How wheelchair accessible is a place?



Fully



Partially



Not at all



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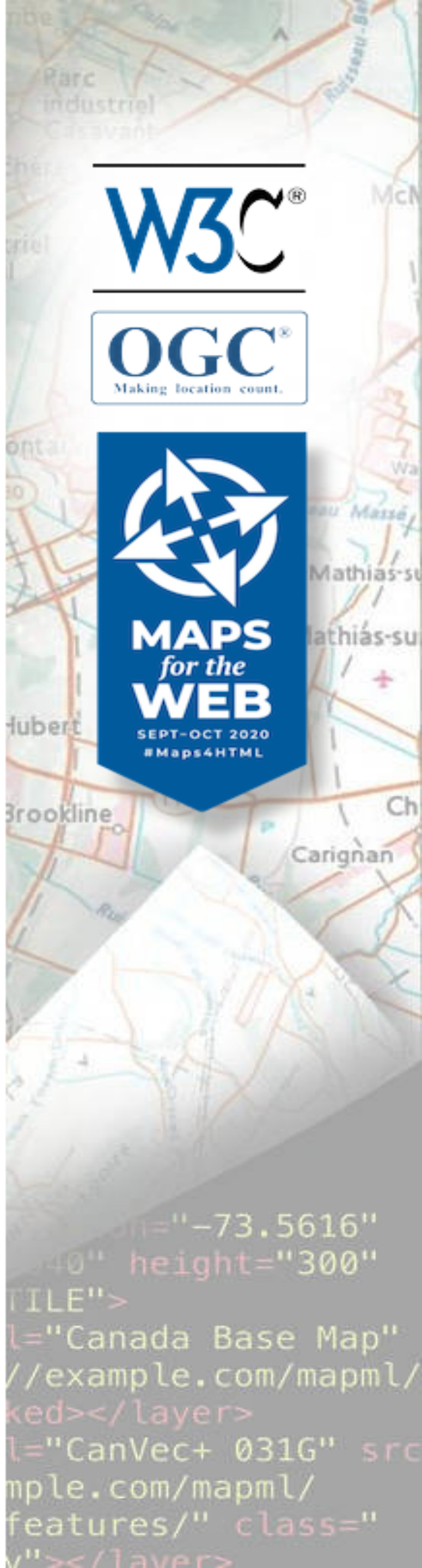
OGC®
Making location count.

MAPS
for the
WEB
SEPT-OCT 2020
#Maps4HTML

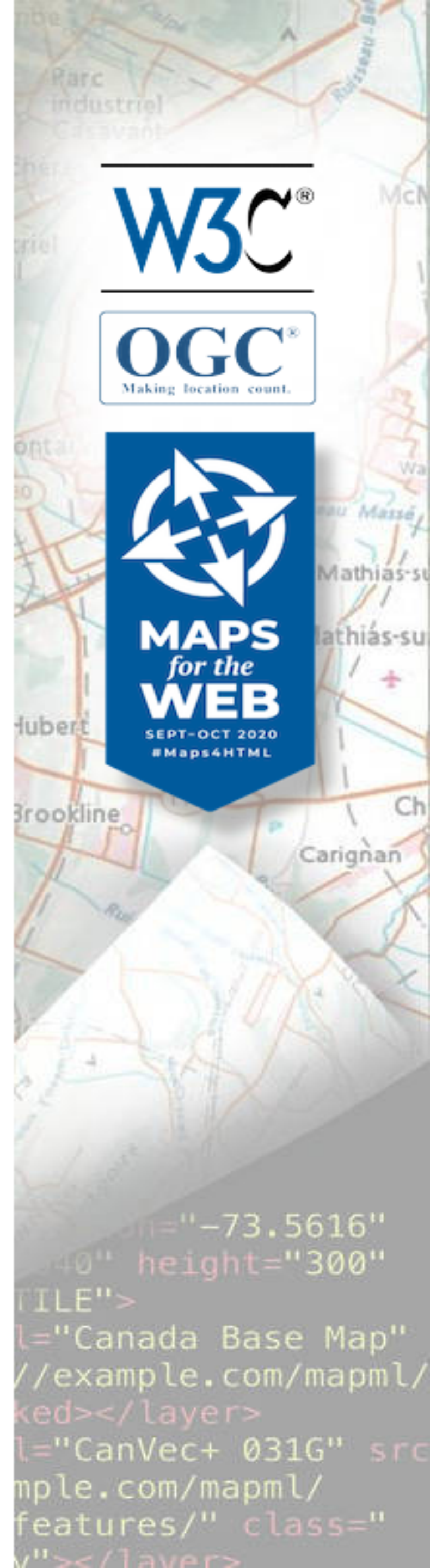
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```


Available in 32 languages

Arabic	English	Italian	
Bulgarian	Finnish	Japanese	Russian
Chinese (Taiwan)	French	Korean	Slovak
Chinese (Traditional)	German	Norwegian	Spanish
Chinese (Simple)	Greek	Polish	Swedish
Czech	Hebrew	Portuguese	Turkish
Danish	Hindi	Portuguese (Brazilian)	Ukrainian
Dutch	Hungarian	Romanian	Vietnamese

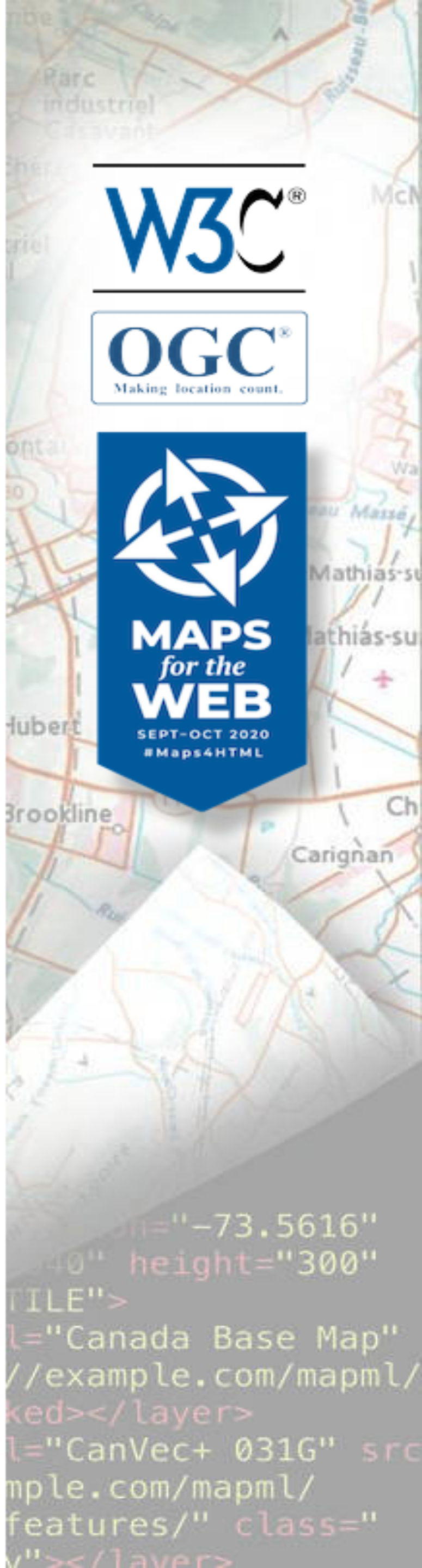


Based on OpenStreetMap.



Around one million OSM-based places.

Marked as fully, partially, or not wheelchair-accessible by users



Does this mean equal participation?



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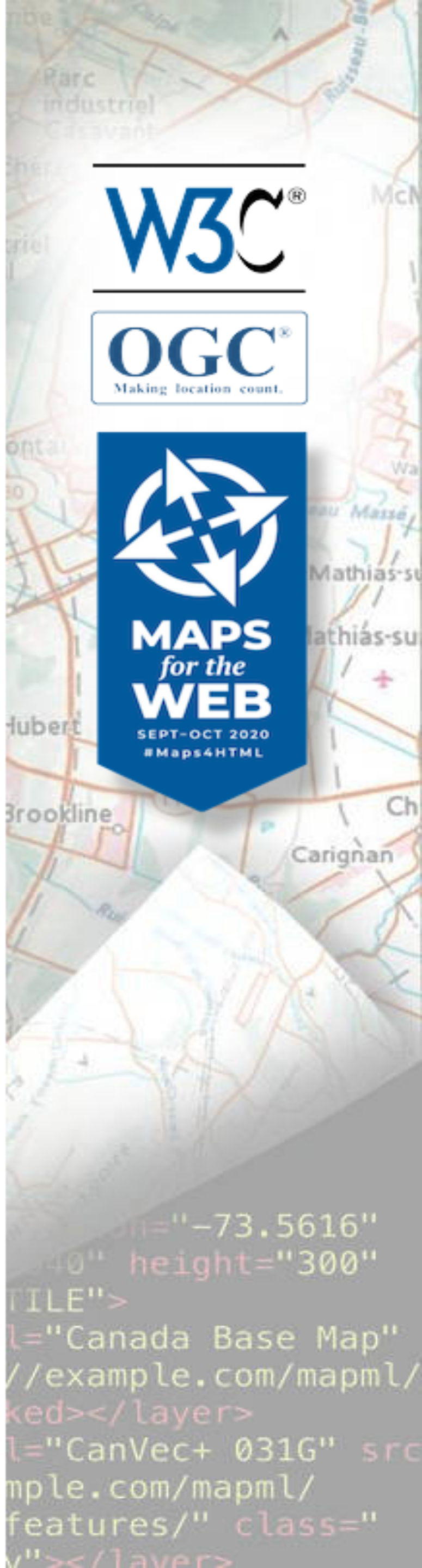
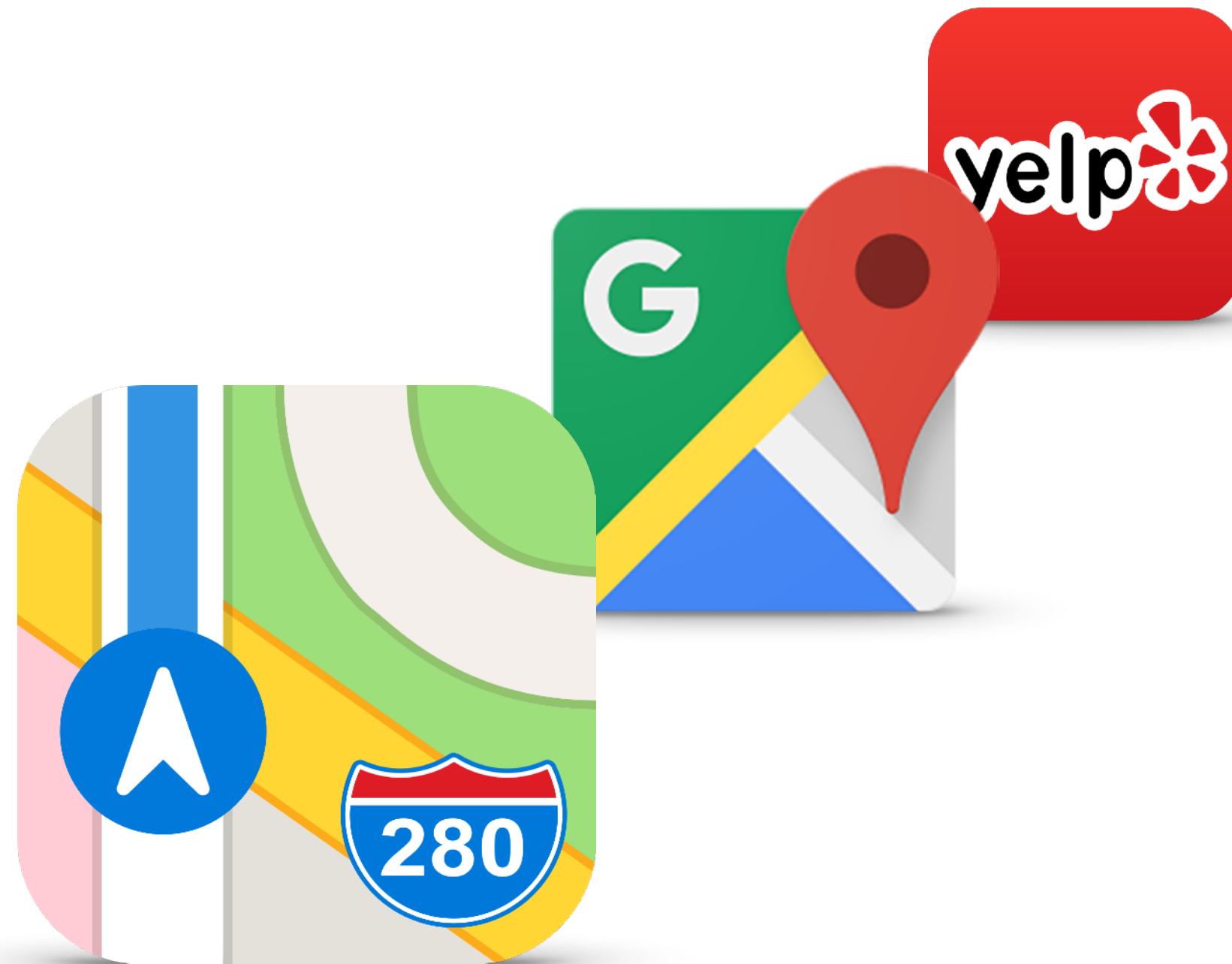
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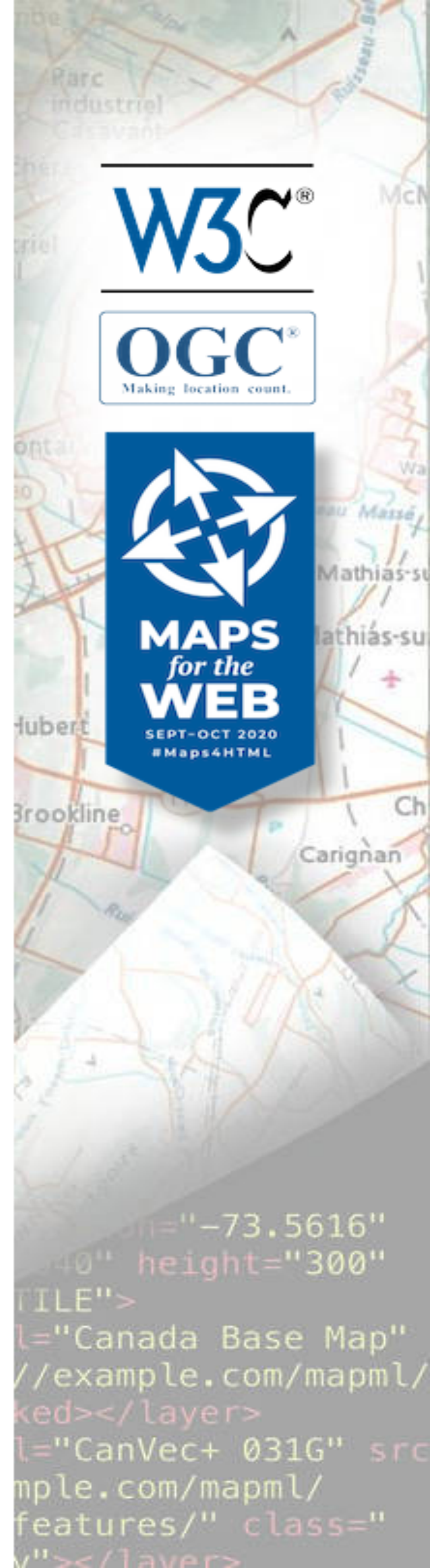

No.

We need disability mainstreaming:
All accessibility information should be available everywhere.



Maps4Web as disability mainstreaming?

Could we use Maps4Web specs to make accessibility information available everywhere?



Where to get physical a11y data?

OpenStreetMap

Hotel

Way

Subway
station

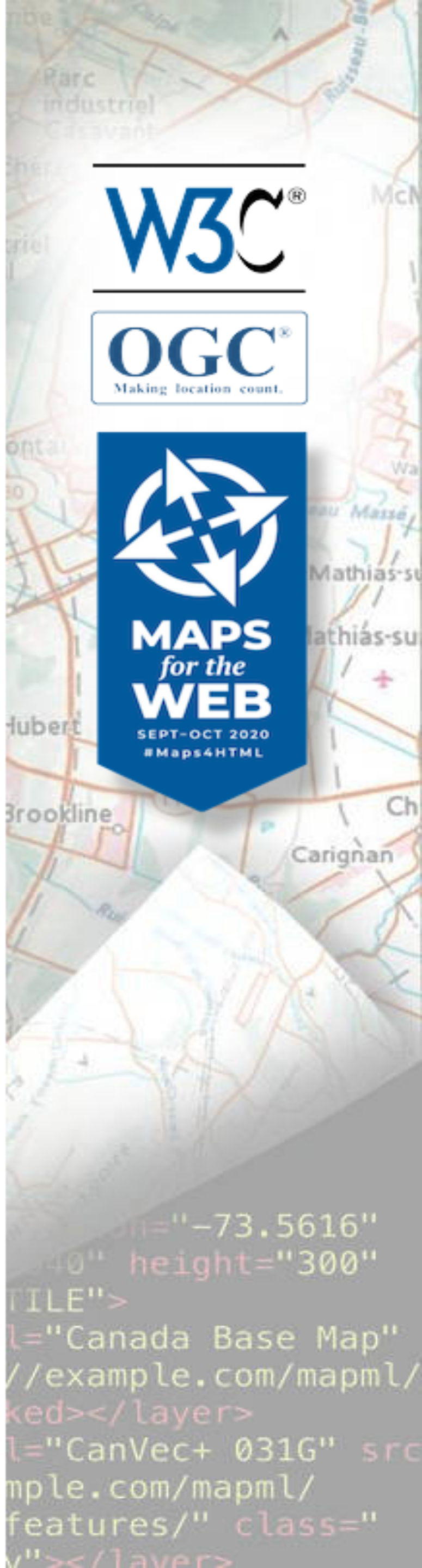
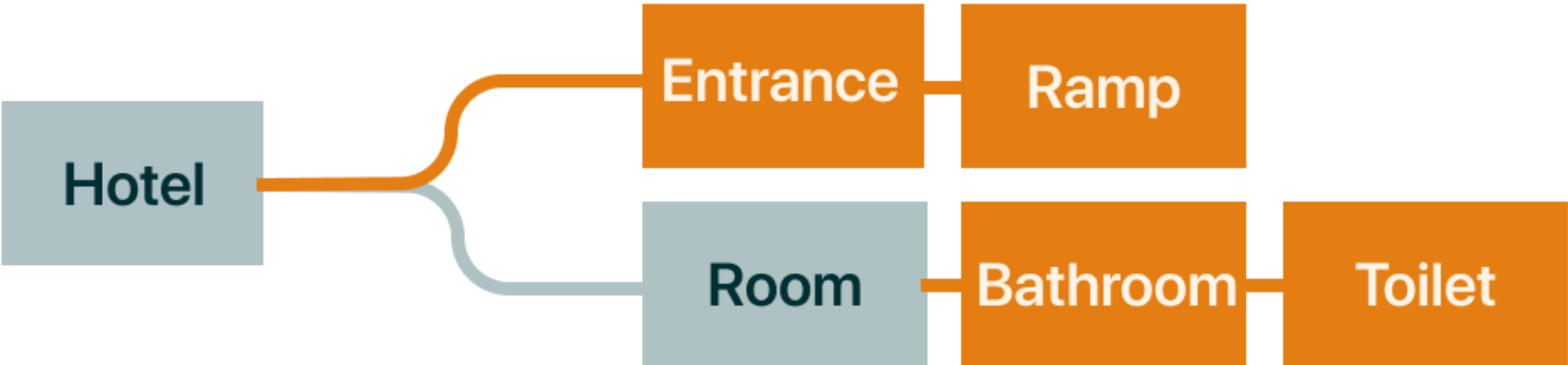
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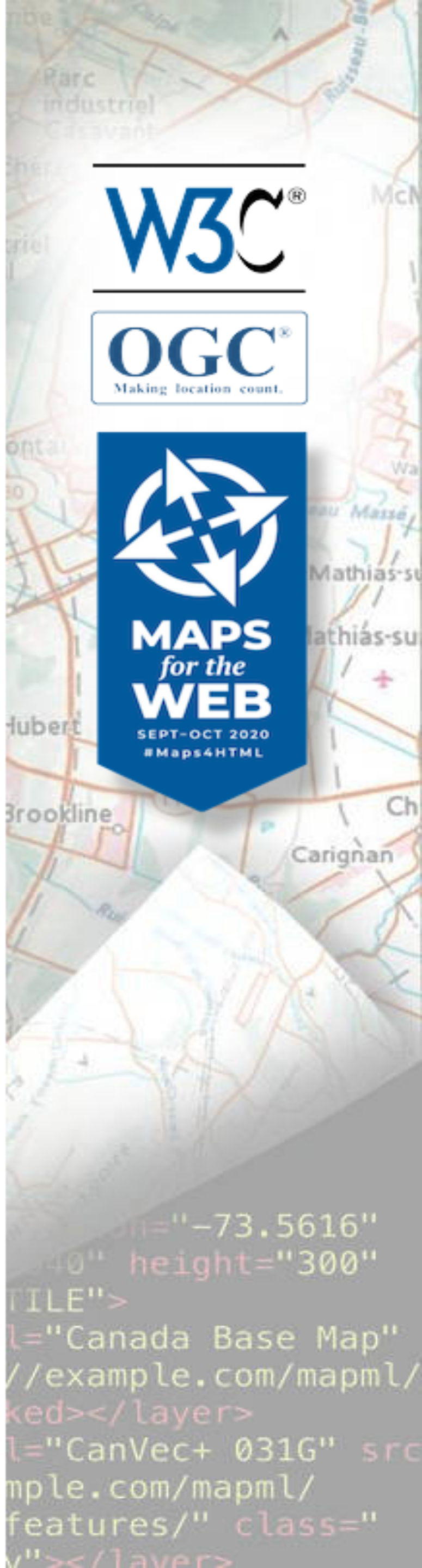
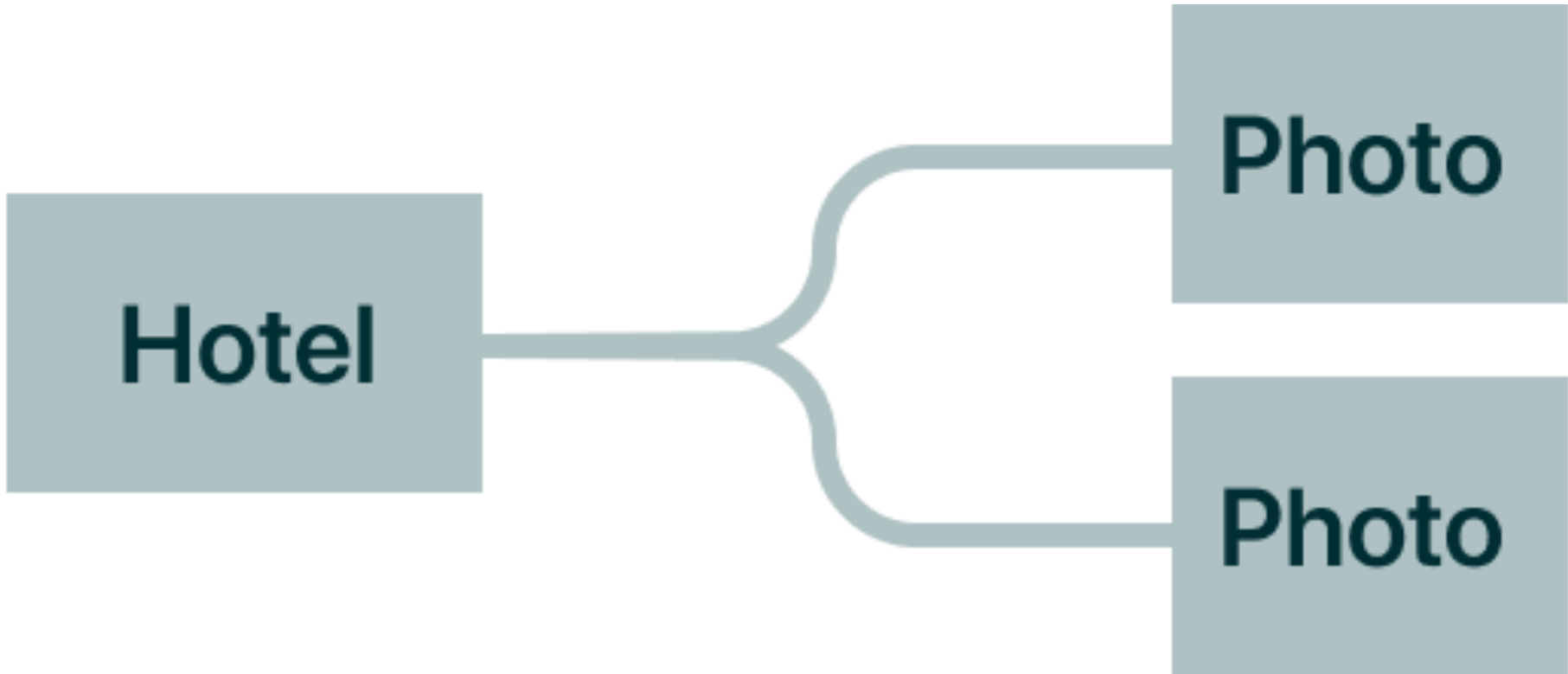
Where to get physical a11y data?

wheelmap.org



Where to get physical a11y data?

Hotel booking
platform



Where to get physical a11y data?



accessibility.cloud

<https://accessibility.cloud>

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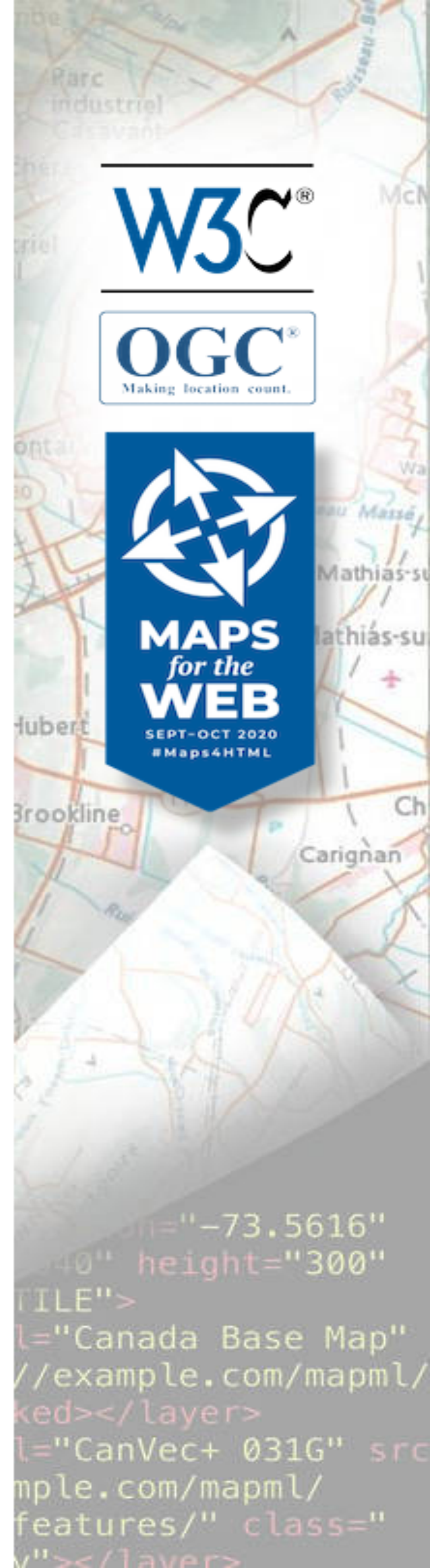
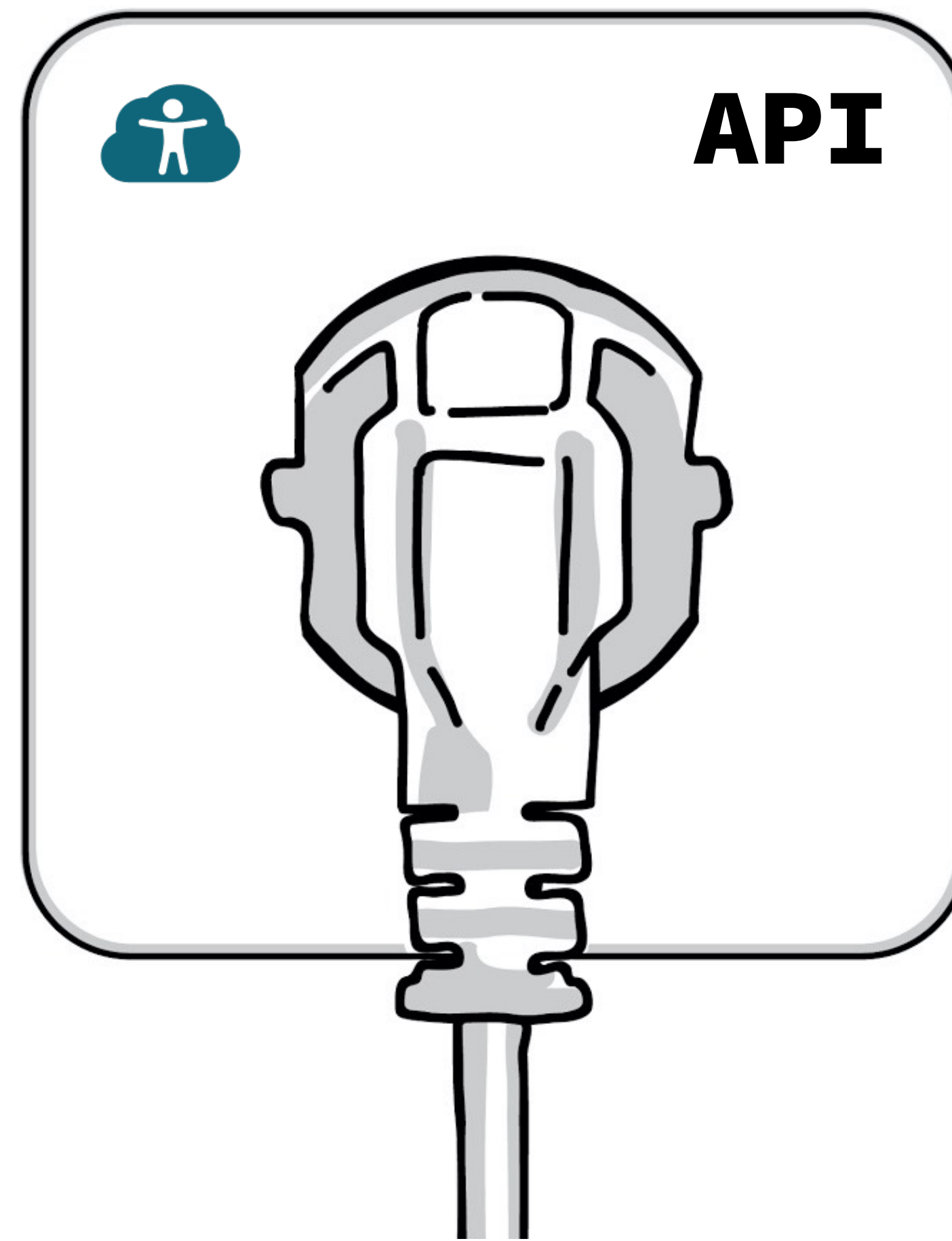
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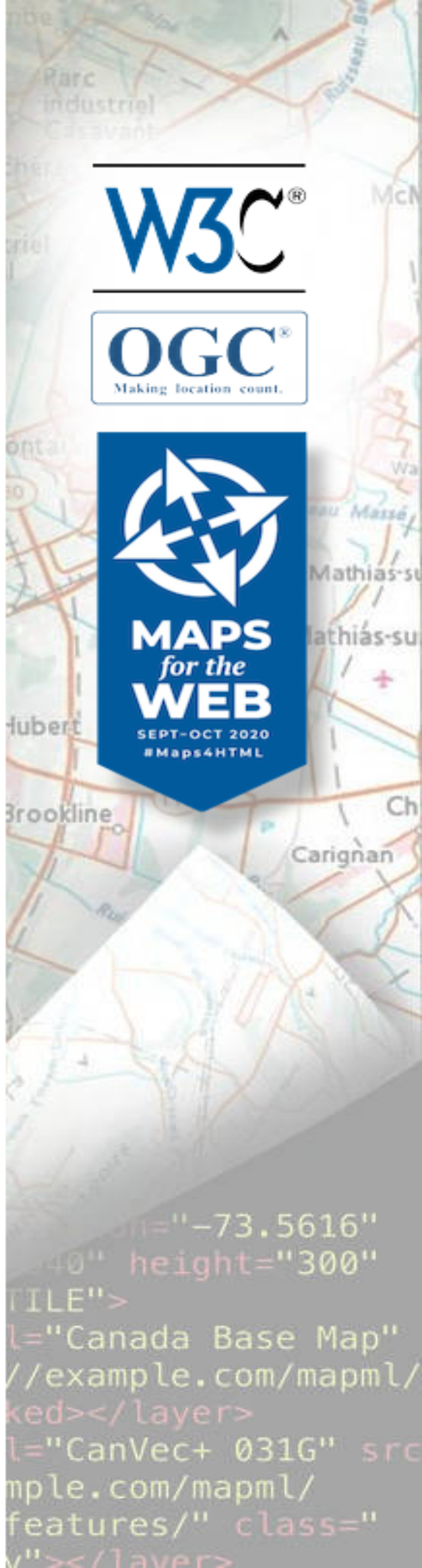
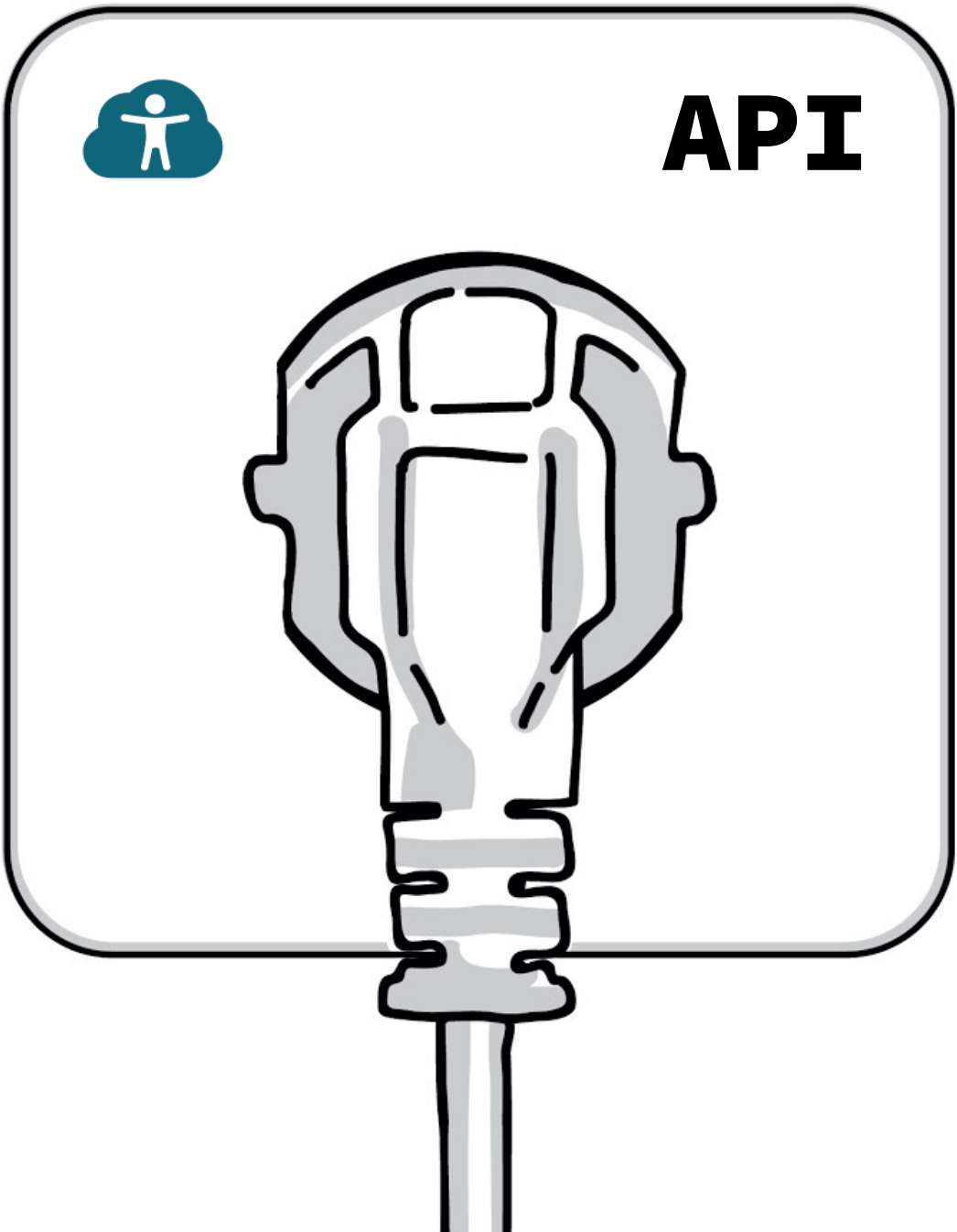
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```


Where to get physical a11y data?

```
$ curl -v https://accessibility-cloud.freetls.fastly.net/place-infos.json?  
appToken\=YOUR_APP_TOKEN_HERE&latitude\=48.2435\&longitude\=16.3974\&accuracy\=1000\&include  
SourceIds\=QGf3sjbSxSpkeNHFm&includeRelated=source | jq .
```



Where to get physical a11y data?



79 organizations

...contribute 1.3M places and 3.8K real-time elevators to Wheelmap via accessibility.cloud.

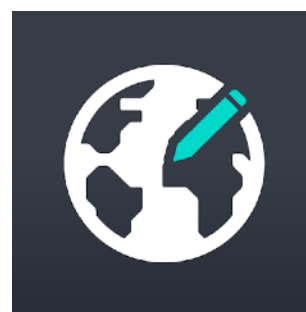


|Mapy|bez|bariér|

FOURSQUARE



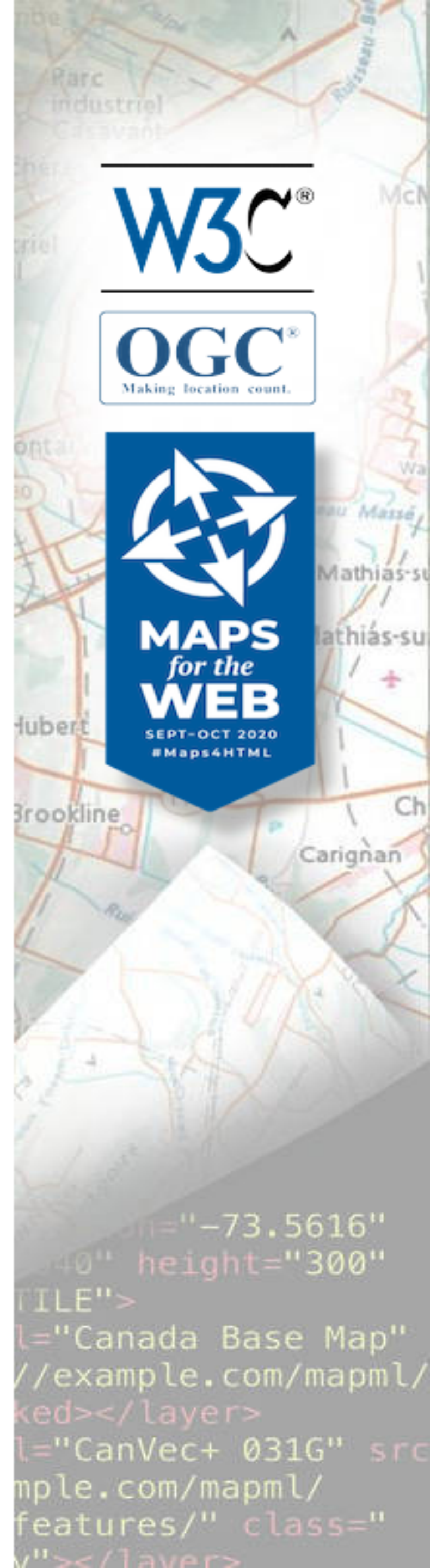
THE NATIONAL
PUBLIC TOILET MAP



data.gov.uk



Accessibility vocabulary varies...



...so we need to harmonize data.



A11yJSON

<https://a11yjson.org>

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Making location count.



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features/" class="  
y"></layer>
```


A11yJSON example

```
{
  "geometry": { "type": "Point", "coordinates": [2.376757, 48.898991] },
  "properties": {
    "category": "cinema",
    "name": "Ciné XY",
    "accessibility": {
      "entrances": [
        { "name": "30th St", "isMainEntrance": true, "isLevel": false },
        { "name": "Side gate", "hasFixedRamp": true }
      ],
      "accessibleWith": {
        "wheelchair": true
      },
      "animalPolicy": {
        "allowsGuideDogs": true
      }
    }
  }
}
```

<https://a11yjson.org>



A11yJSON interface specs

Accessibility

AnimalPolicy

Elevator

Escalator

FoldingHandles

Ground

Media

Mirror

Parking

Pathways

Payment

PersonalProfile

PlaceInfo

Quantity

Ramp

Restroom

Room

Shower

Staff

Stairs

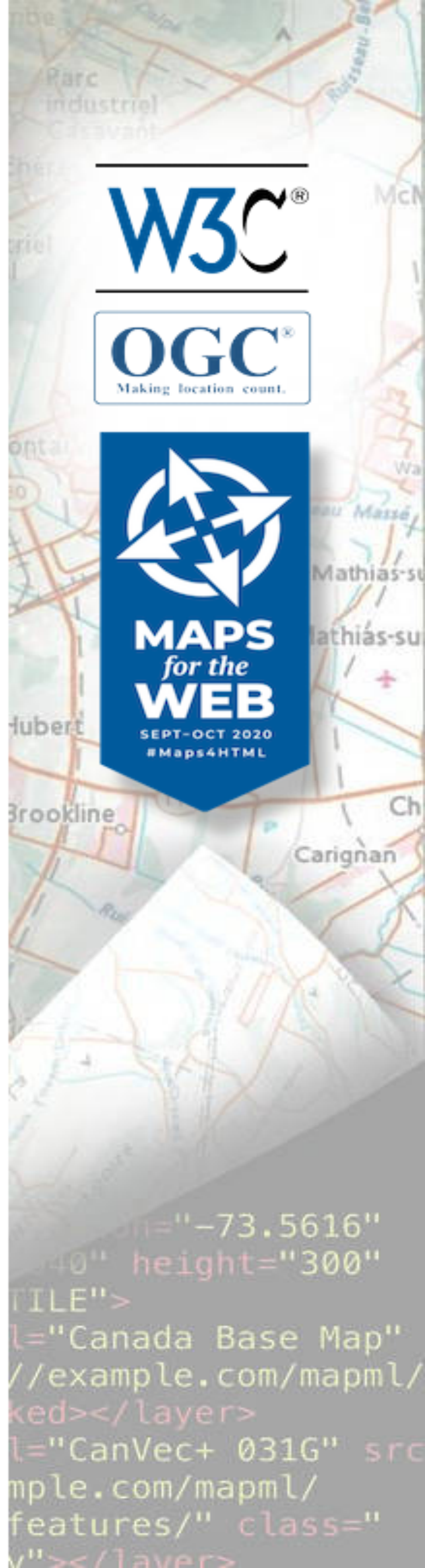
Tables

Toilet

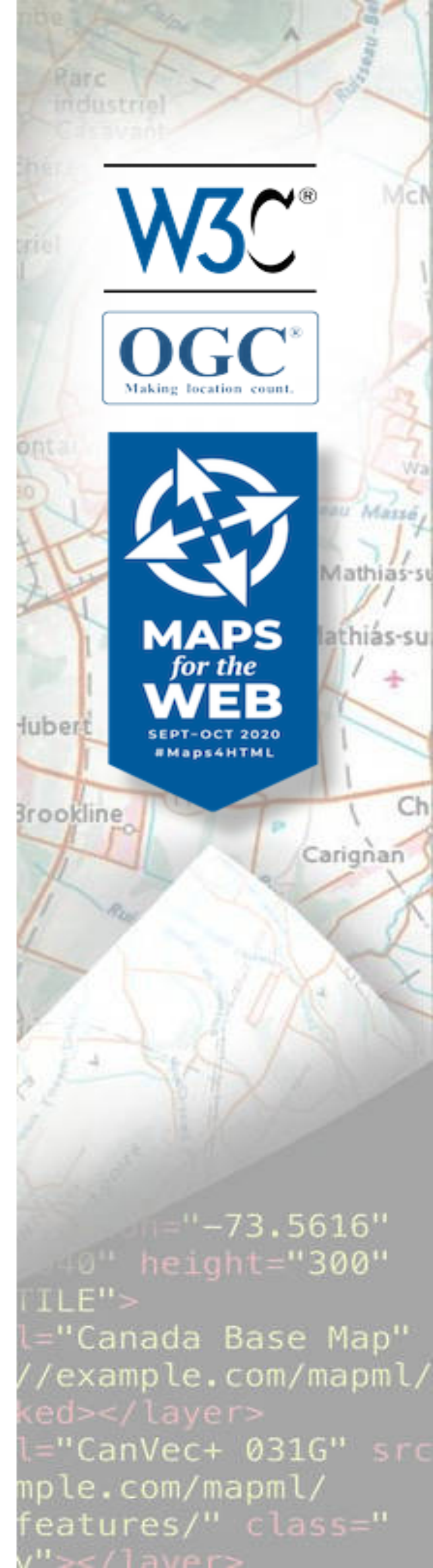
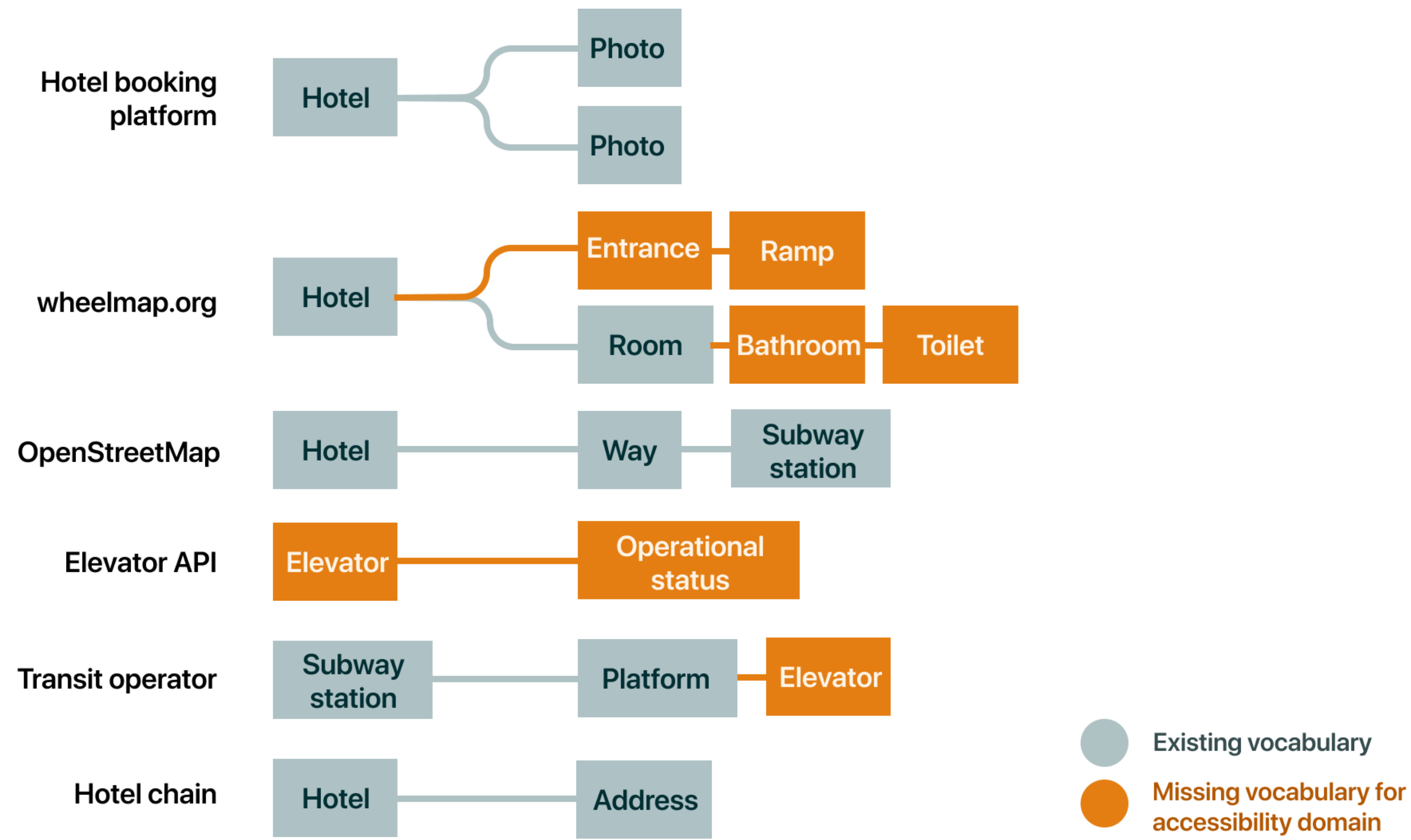
WashBasin

WheelchairParking

WheelchairPlaces

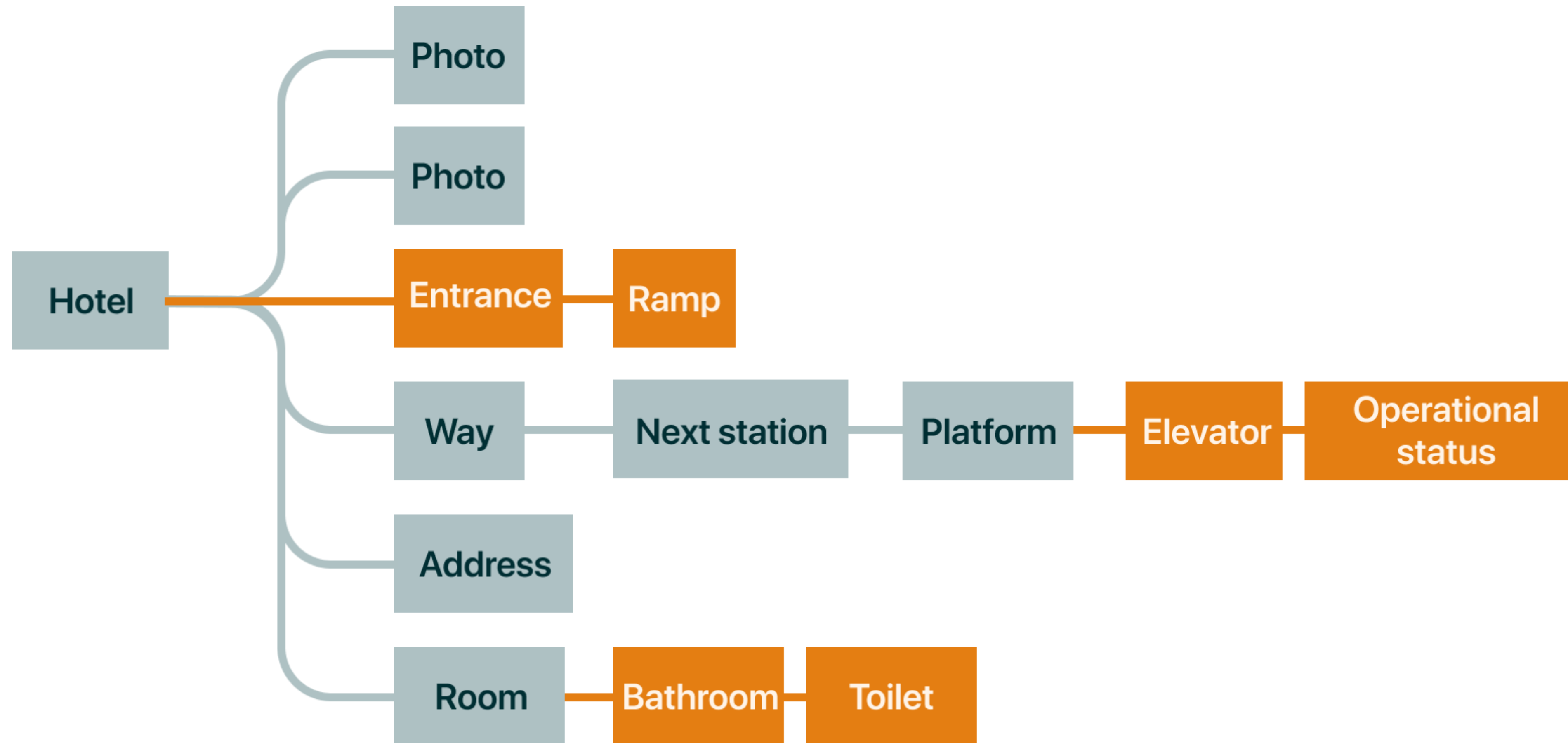


A user doesn't want this...

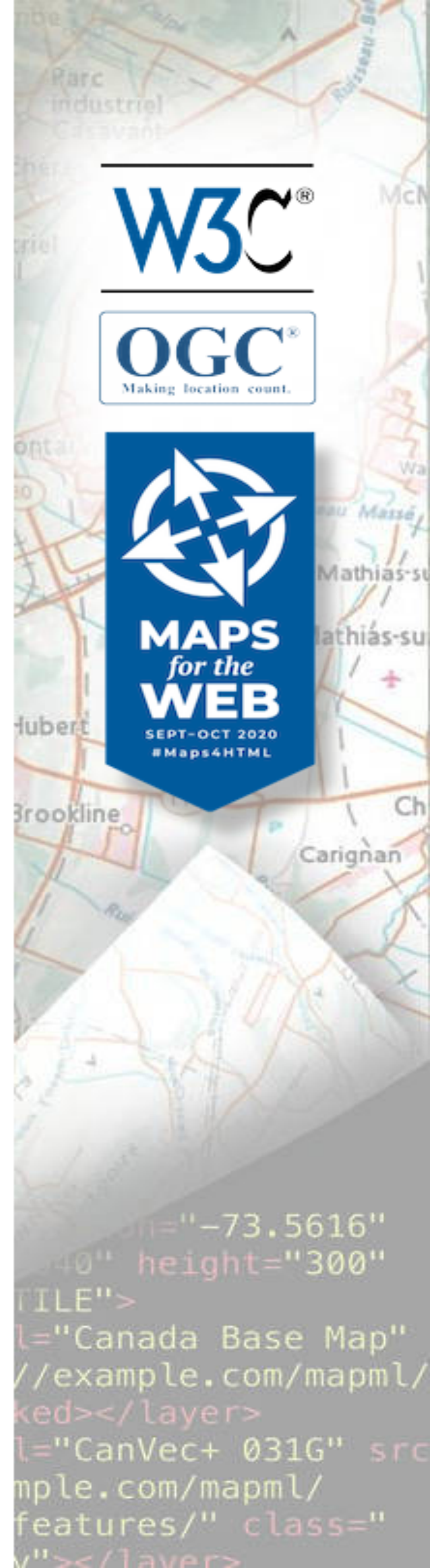


(Data about the same place from different sources/websites) (22)

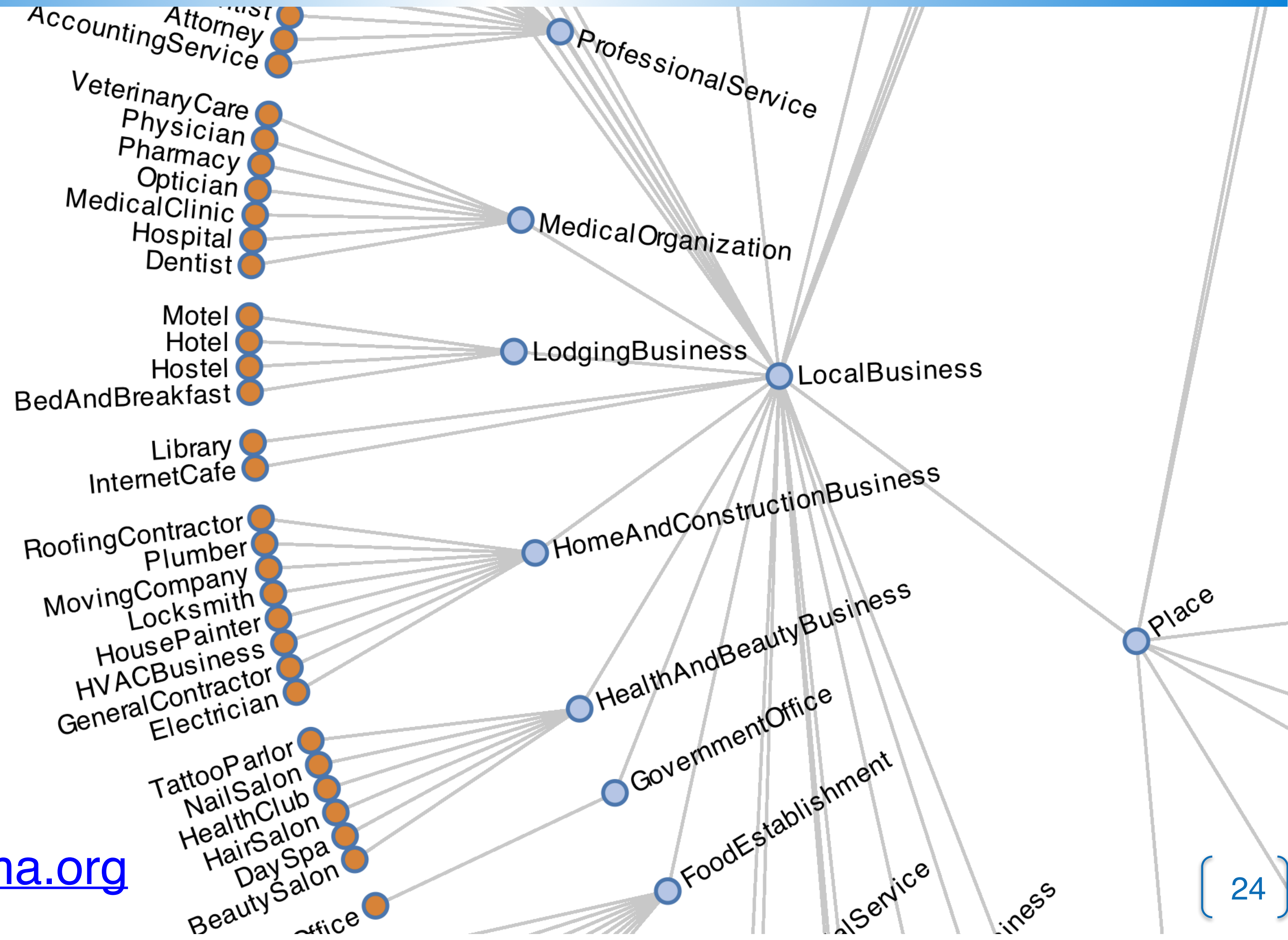
...but this.



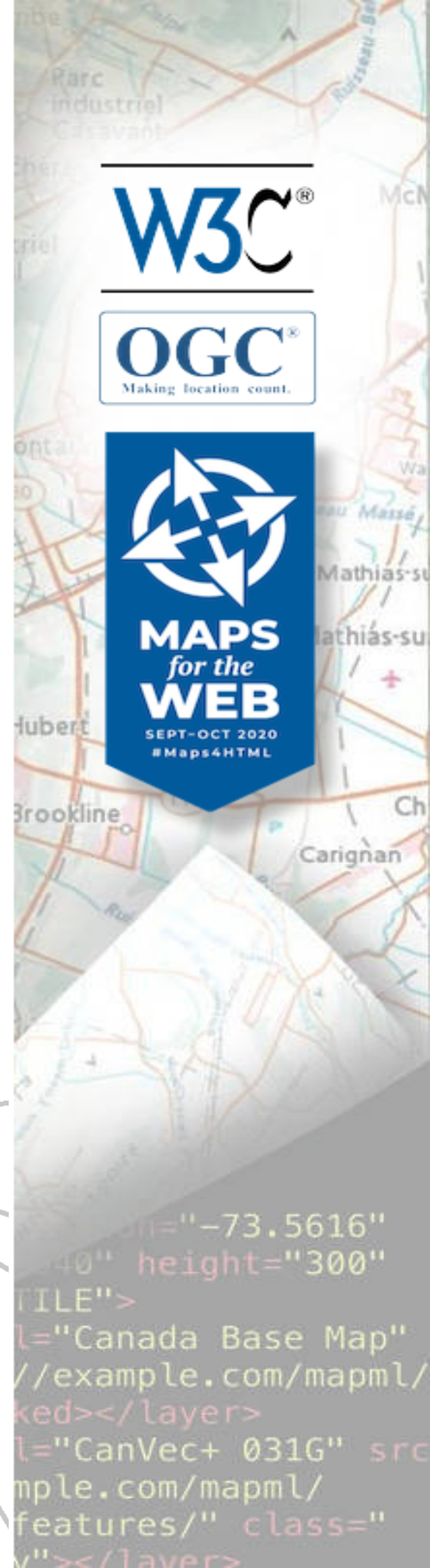
(= All data discoverable in the same UX context)



This is what Linked Data is for.

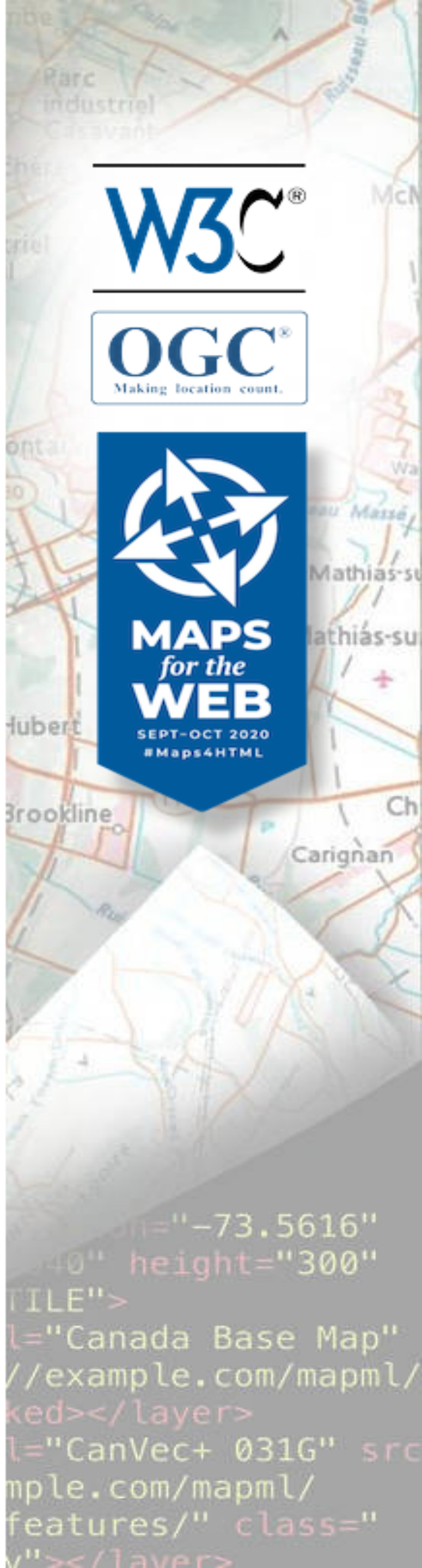


<https://schema.org>



So... how to describe physical a11y?

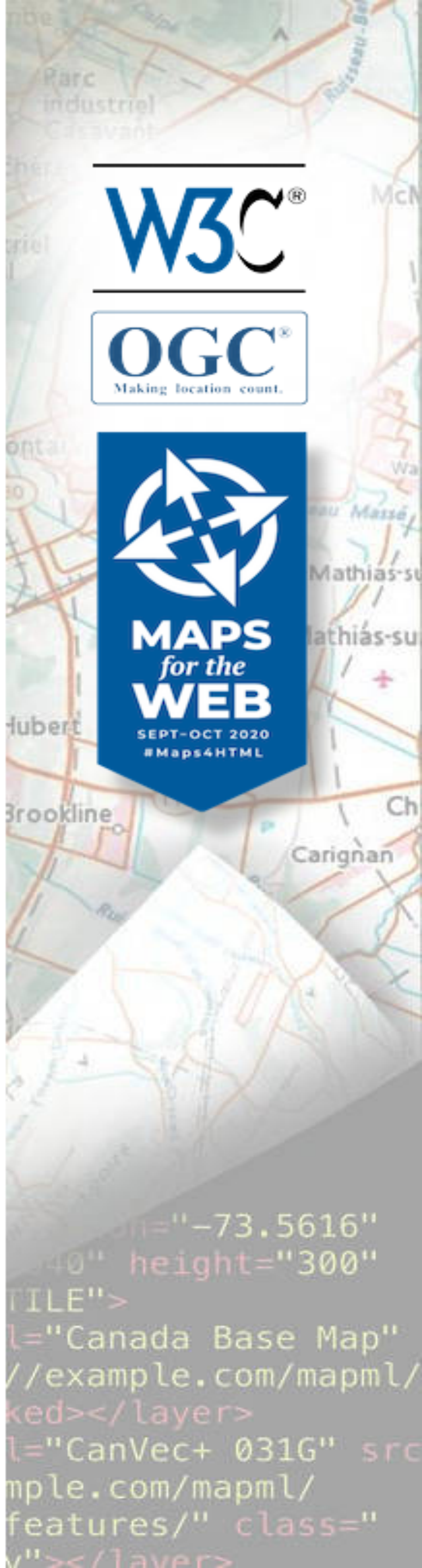
This is not standardized yet.



Example 1: Allow semantic info in MapML

```
<mapml>
  <head>...</head>
  <body>
    <feature vocab="https://schema.org" typeof="Place">
      <meta property="name" content="An awesome hotel 🏨" />
      <meta property="amenityFeature" typeof="LocationFeatureSpecification">
        <meta property="name" content="Wheelchair-accessible Sauna" />
        <meta property="value" content="True" />
      </meta>
    </meta>
    <geometry>...</geometry>
    <properties>...</properties>
  </feature>
</body>
</mapml>
```

<https://github.com/Maps4HTML/MapML-Proposal>

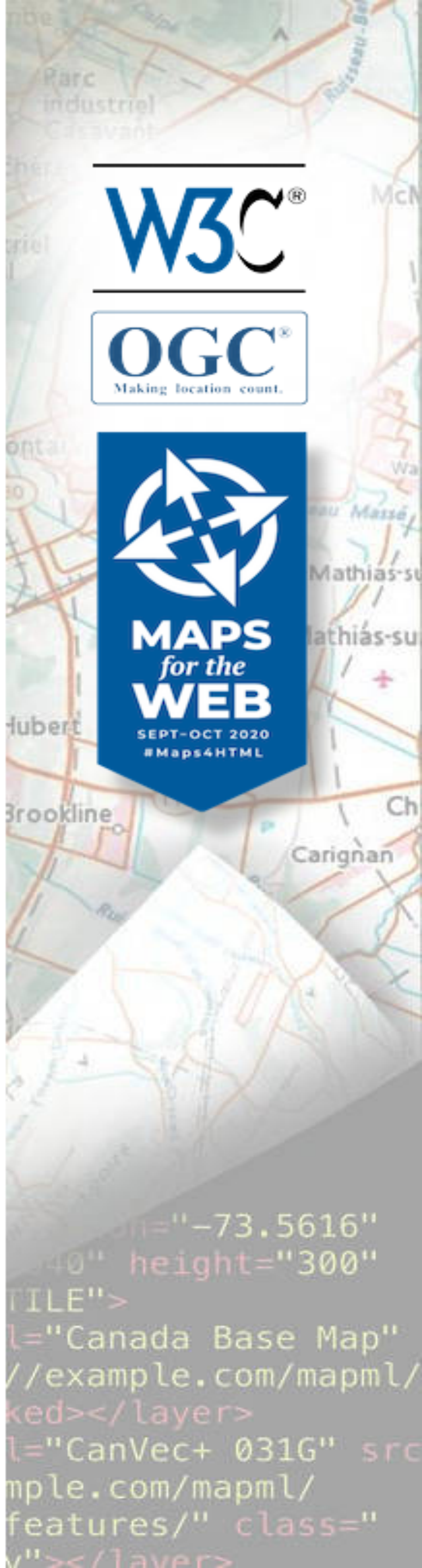


Example 2: Add A11yJSON in CityJSON

```
"CityObjects": {  
  "id-1": {  
    "type": "Building",  
    "children": ["id-2"]  
  },  
  "id-2": {  
    "type": "BuildingPart",  
    "parents": ["id-1"],  
    "accessibility": {  
      "accessibleWith": {  
        "wheelchair": true  
      }  
    }  
  }  
}
```

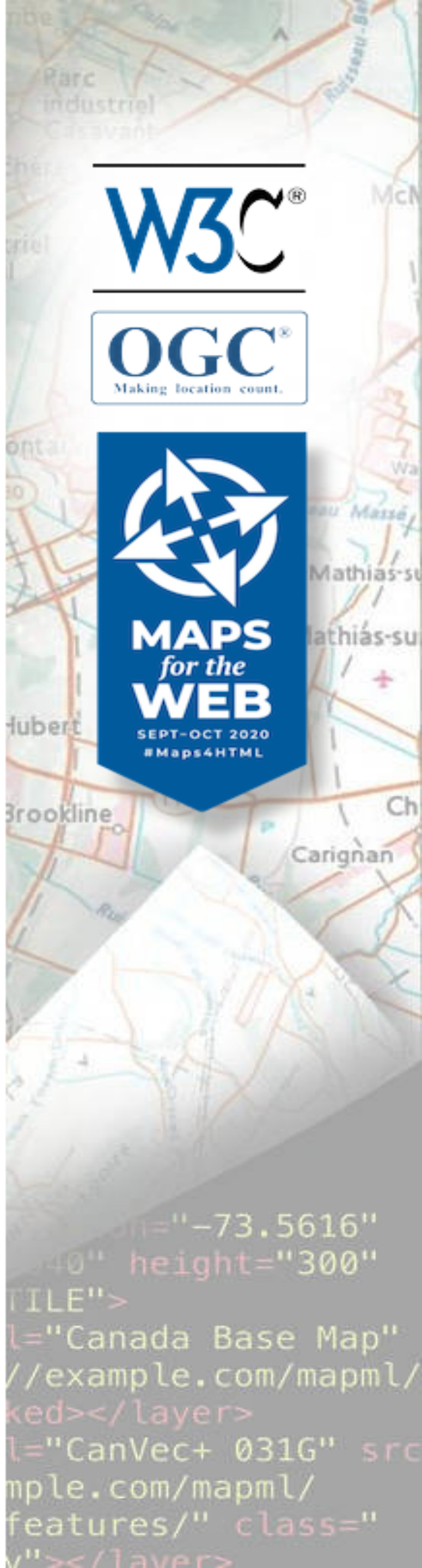


<https://cityjson.org>



Maps4Web + semantic data + browser extensions = 🐱💕

- Ranking places by accessibility incentivizes businesses to improve their accessibility
- Colorize place markers using a traffic light system (green = accessible, red = not accessible)
- Add indoor map context links to places
- Augment maps with accessibility features and hazards:
 - accessible toilets
 - elevators (with realtime operational status)
 - (in)accessible sidewalks, ramps, and stairs
 - environment noise levels
- Allow voice assistants to understand what map features mean



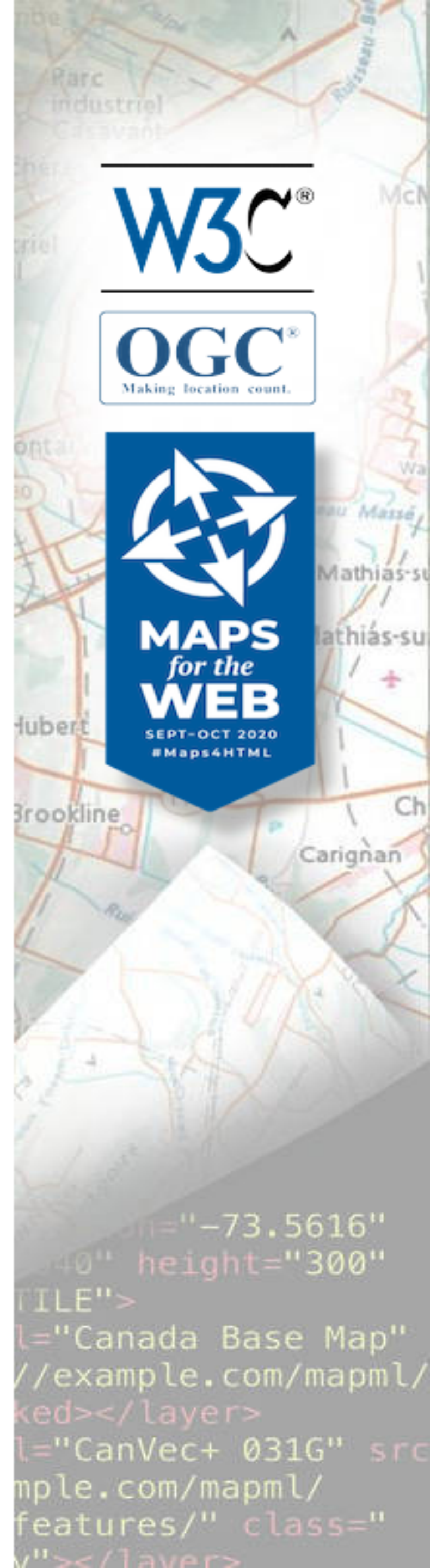
Health profiles and privacy

- All features need an extra layer of protection
- Like location, accessibility augmentation should be allowed/denied on a per-website basis
- Browsers / plugins should not reveal a user's health conditions to websites



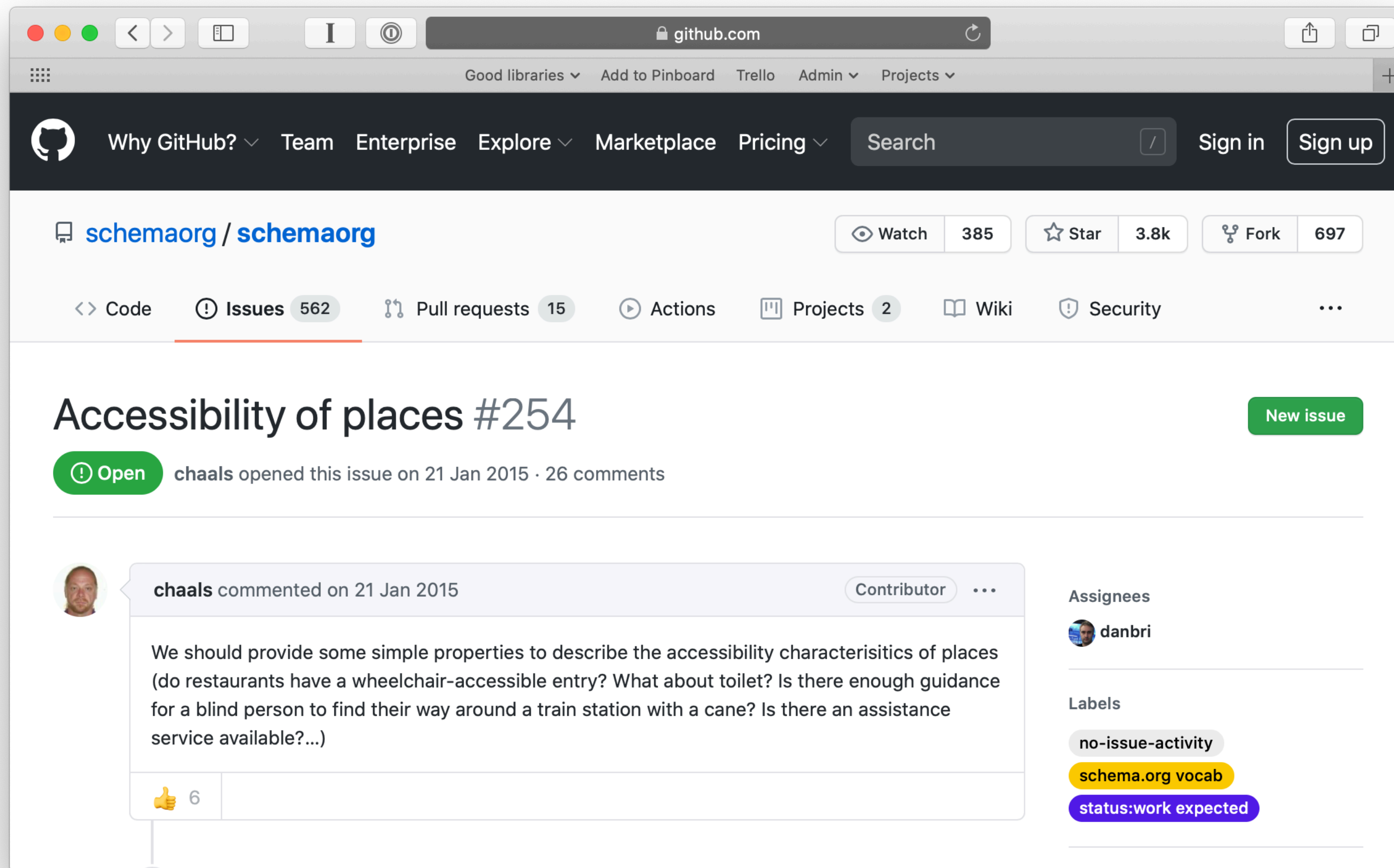
User intent vs. map author intent

- ARIA labels as hints for assistive tech
- Example declarations:
 - “The visual style of this <feature> is important to understand the map content”
 - “This <map> is a geodata visualization”
 - “This <map> is made for discovering places”

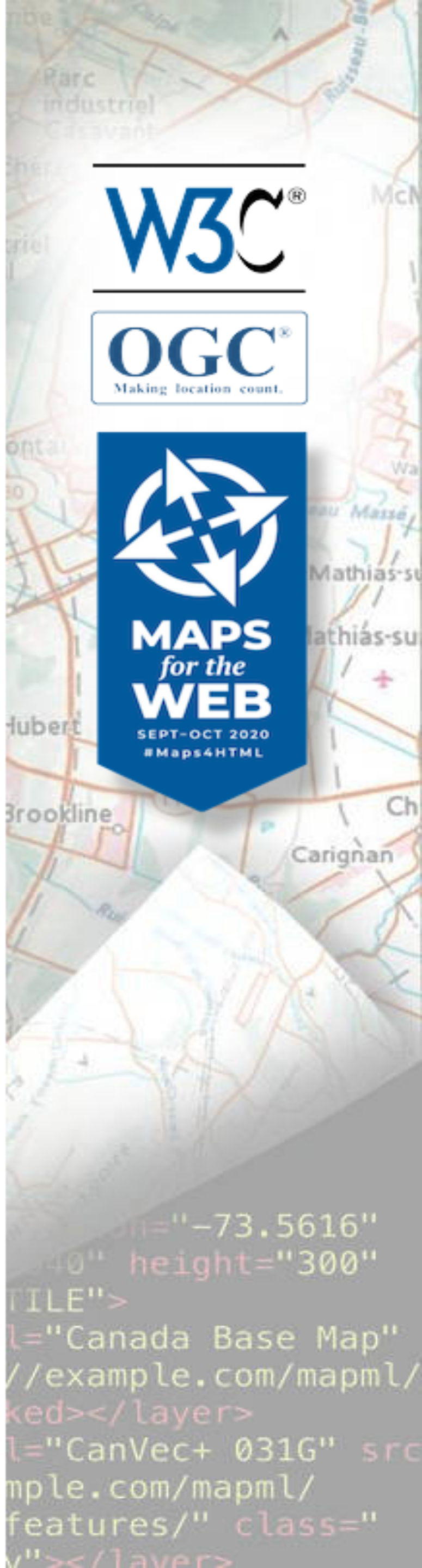


How you can help

Participate in schema.org [GitHub Issue #254](#)!

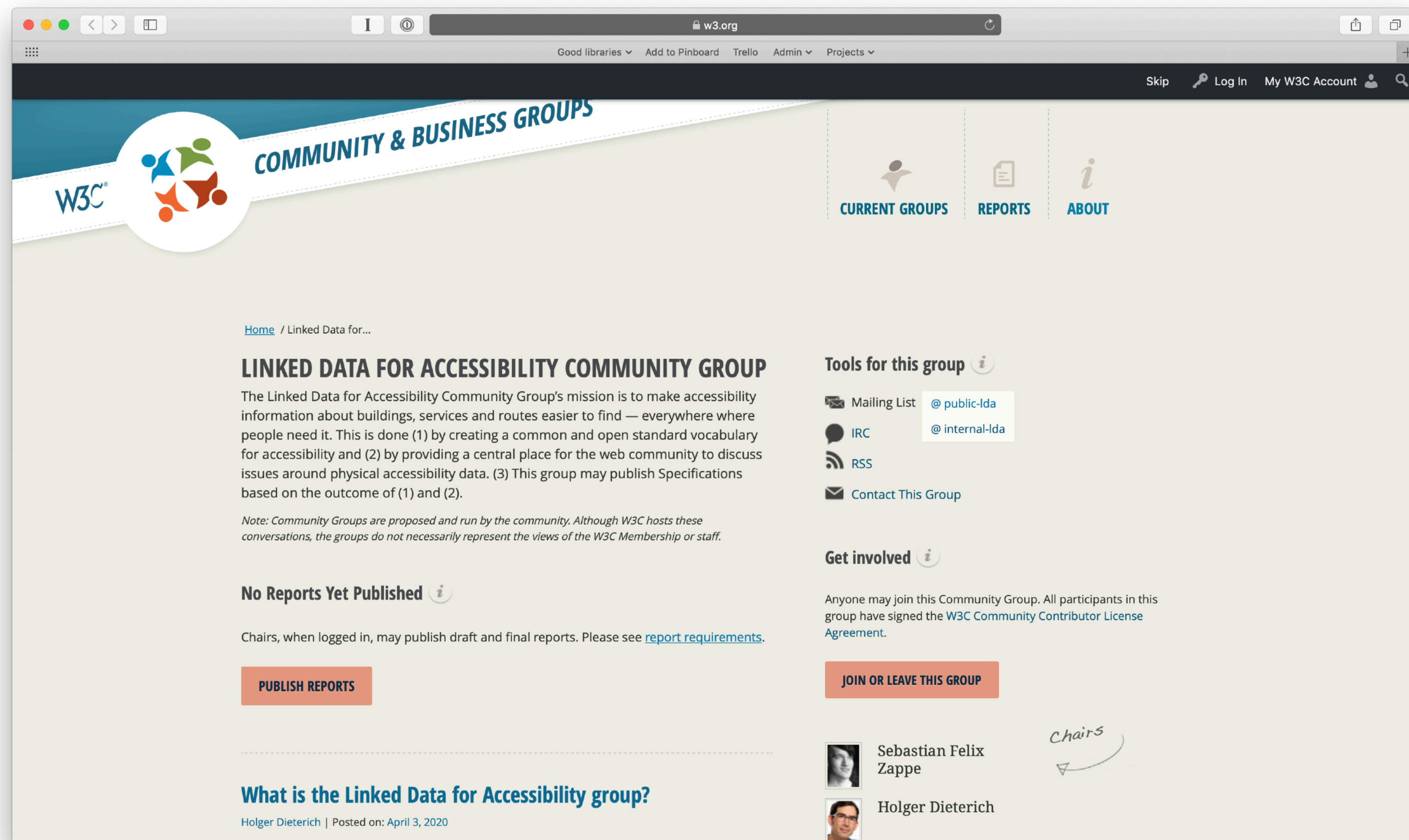


The screenshot shows the GitHub interface for the `schemaorg/schemaorg` repository. The issue title is "Accessibility of places #254", opened by `chaals` on 21 Jan 2015. The issue is marked as "Open" and has 26 comments. A comment from `chaals` on 21 Jan 2015 suggests providing simple properties to describe the accessibility characteristics of places, such as wheelchair-accessible entry, toilet availability, and assistance services for blind people. The issue is assigned to `danbri` and has labels: `no-issue-activity`, `schema.org vocab`, and `status:work expected`.



How you can help

Participate in the [W3C LDA CG!](#)



The screenshot shows the W3C LDA CG website. The header includes the W3C logo and a banner for 'COMMUNITY & BUSINESS GROUPS'. The main content area is titled 'LINKED DATA FOR ACCESSIBILITY COMMUNITY GROUP' and describes the group's mission. It includes a 'PUBLISH REPORTS' button and a 'What is the Linked Data for Accessibility group?' section. The right sidebar contains 'Tools for this group' (Mailing List, IRC, RSS, Contact This Group) and 'Get involved' information. A handwritten note 'Chairs' with an arrow points to the names of Sebastian Felix Zappe and Holger Dieterich.

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COMMUNITY & BUSINESS GROUPS

Home / Linked Data for...

LINKED DATA FOR ACCESSIBILITY COMMUNITY GROUP

The Linked Data for Accessibility Community Group's mission is to make accessibility information about buildings, services and routes easier to find — everywhere where people need it. This is done (1) by creating a common and open standard vocabulary for accessibility and (2) by providing a central place for the web community to discuss issues around physical accessibility data. (3) This group may publish Specifications based on the outcome of (1) and (2).

Note: Community Groups are proposed and run by the community. Although W3C hosts these conversations, the groups do not necessarily represent the views of the W3C Membership or staff.

No Reports Yet Published

Chairs, when logged in, may publish draft and final reports. Please see [report requirements](#).

PUBLISH REPORTS

What is the Linked Data for Accessibility group?

Holger Dieterich | Posted on: April 3, 2020

Tools for this group

- Mailing List: [@public-lda](#)
- IRC: [@internal-lda](#)
- RSS
- Contact This Group

Get involved

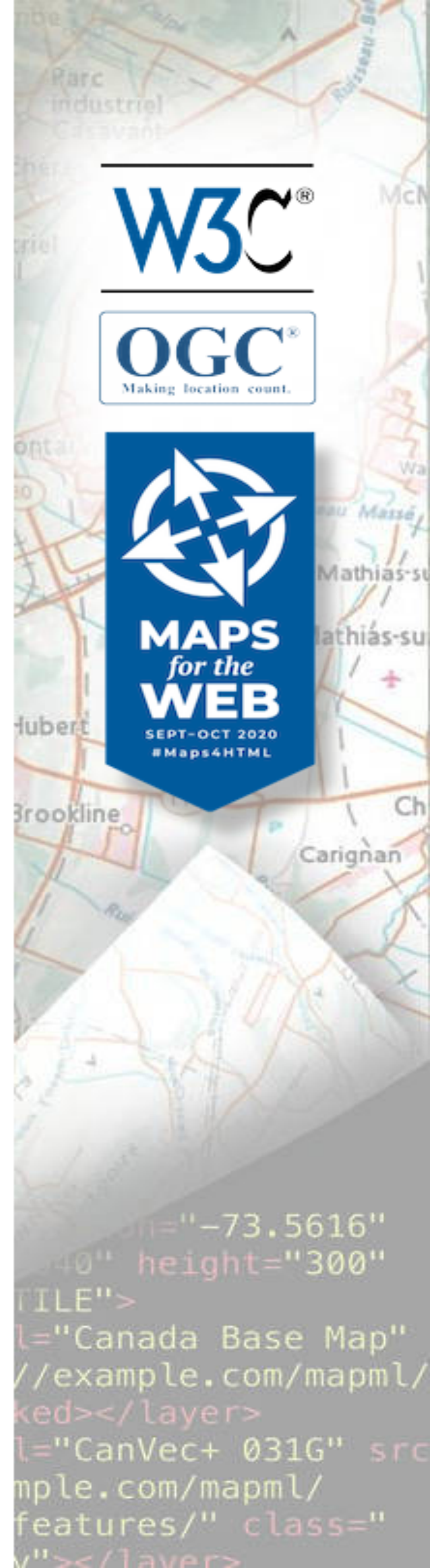
Anyone may join this Community Group. All participants in this group have signed the [W3C Community Contributor License Agreement](#).

JOIN OR LEAVE THIS GROUP

Sebastian Felix Zappe

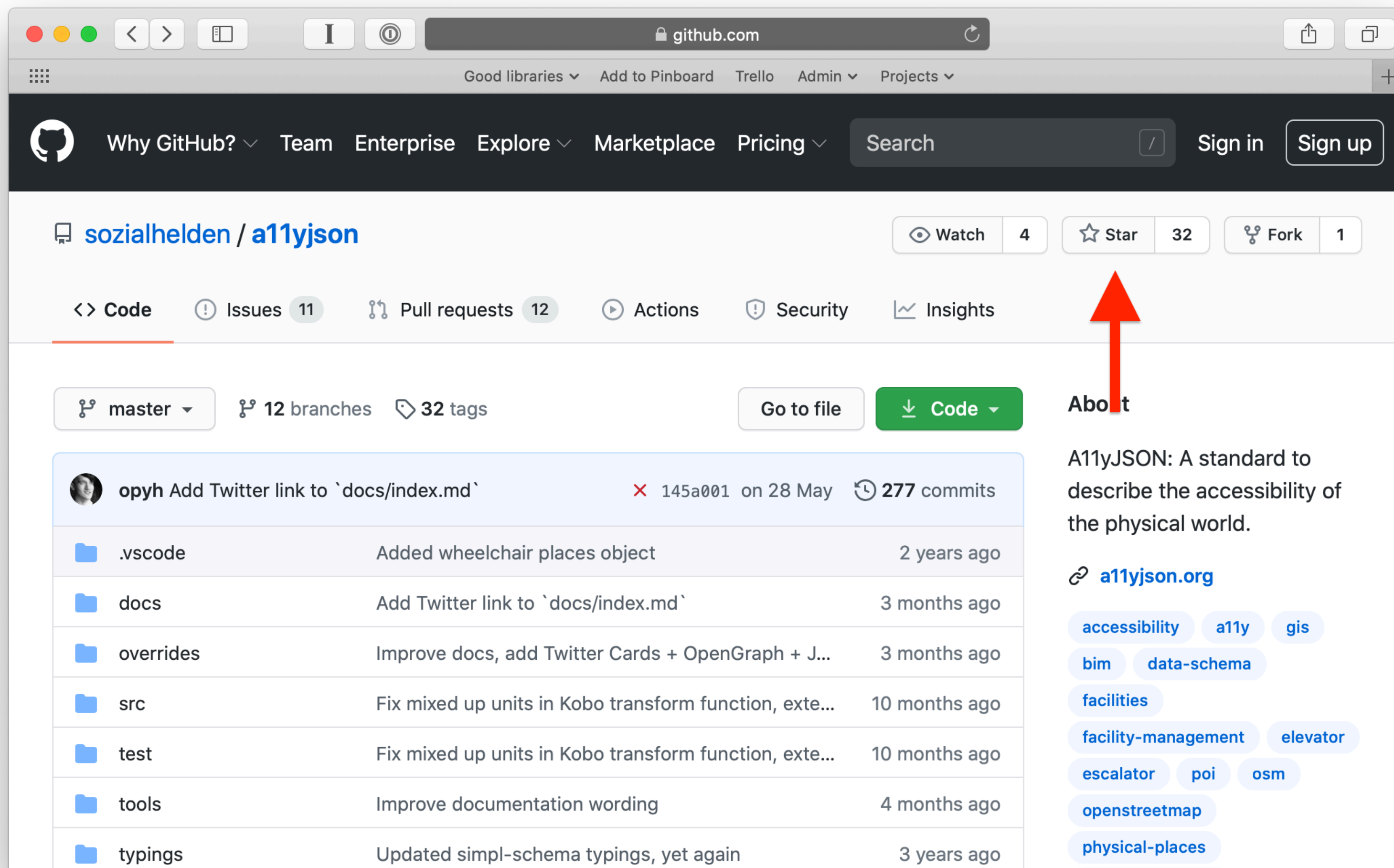
Holger Dieterich

Chairs



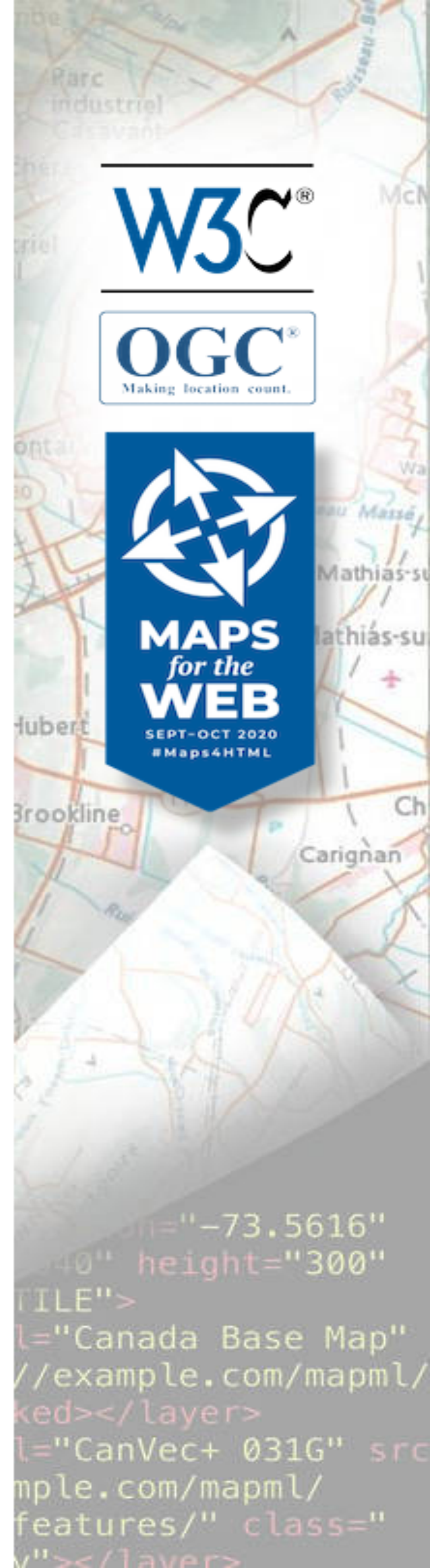
How you can help

[Give A11yJSON a ★ on GitHub!](#)



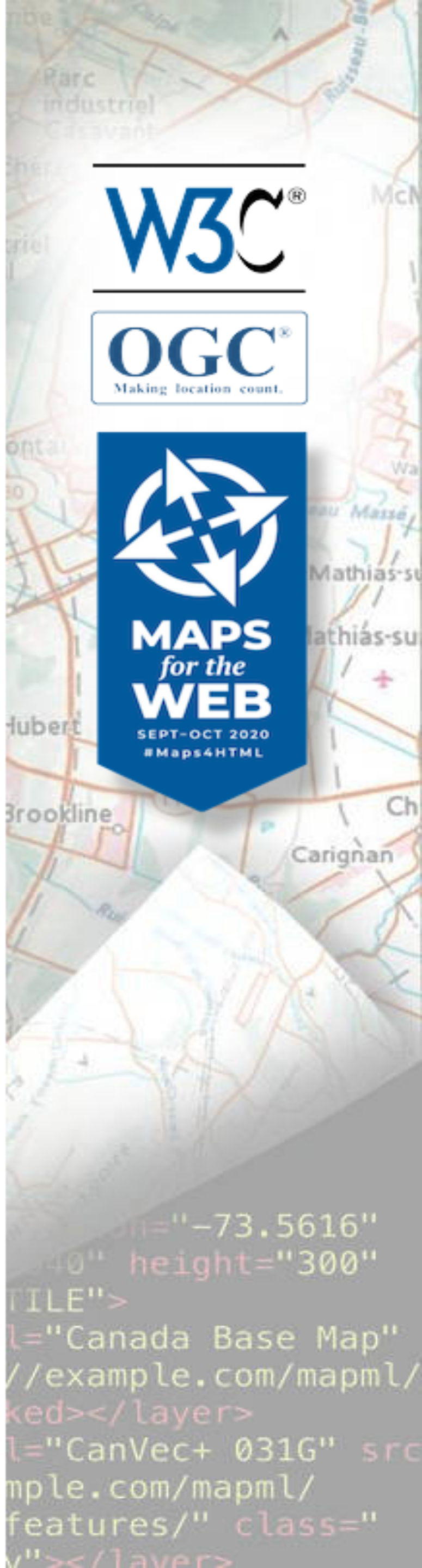
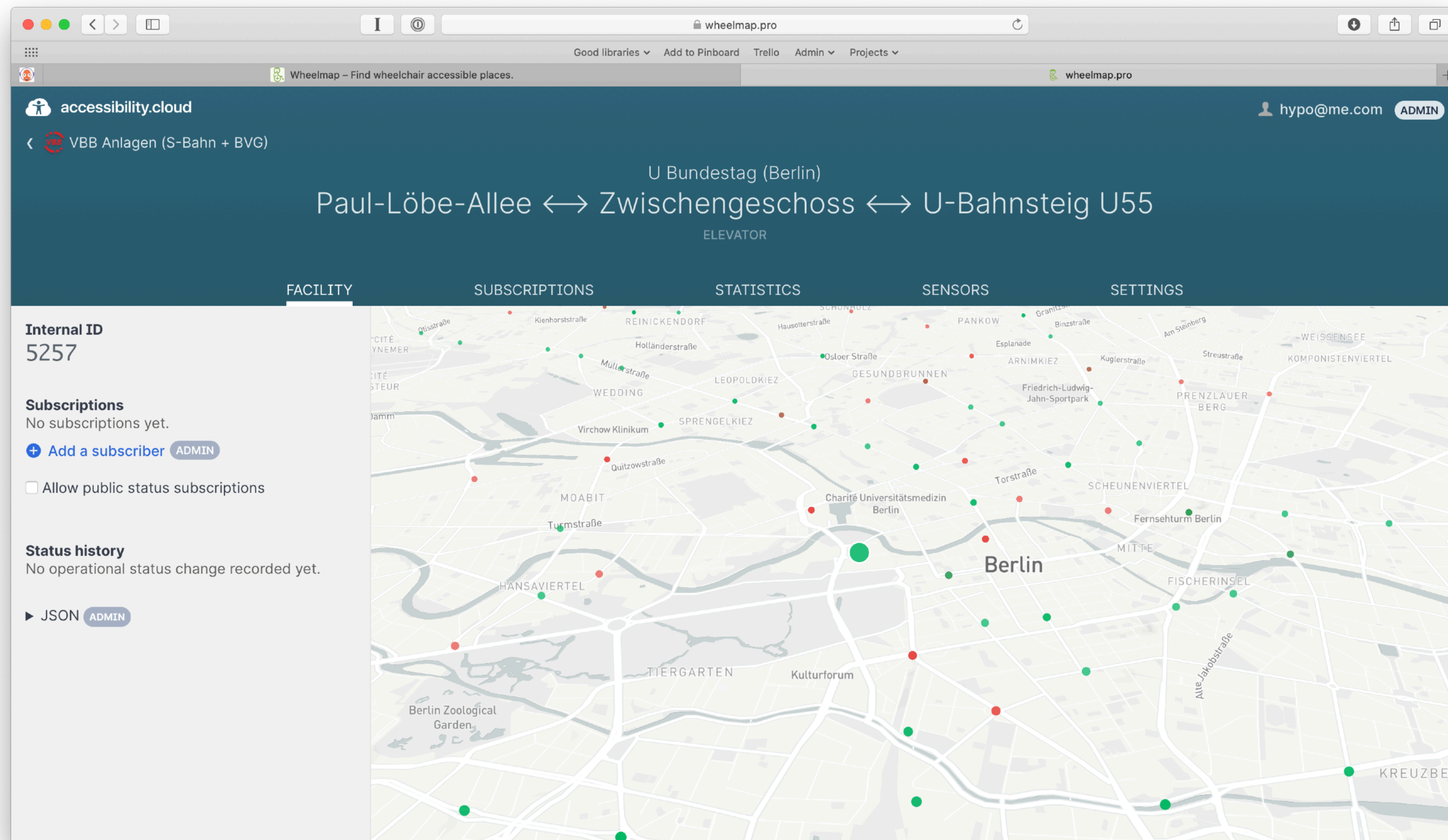
The screenshot shows the GitHub repository page for `sozialhelden / a11yjson`. The repository has 4 watchers, 32 stars, and 1 fork. The 'Star' button is highlighted with a red arrow. The repository description is: "A11yJSON: A standard to describe the accessibility of the physical world." The repository includes a list of files and folders with their commit history:

File/Folder	Description	Commit Date
<code>.vscode</code>	Added wheelchair places object	2 years ago
<code>docs</code>	Add Twitter link to `docs/index.md`	3 months ago
<code>overrides</code>	Improve docs, add Twitter Cards + OpenGraph + J...	3 months ago
<code>src</code>	Fix mixed up units in Kobo transform function, exte...	10 months ago
<code>test</code>	Fix mixed up units in Kobo transform function, exte...	10 months ago
<code>tools</code>	Improve documentation wording	4 months ago
<code>typings</code>	Updated simpl-schema typings, yet again	3 years ago



How you can help

Add place and elevator/escalator realtime datasets on accessibility.cloud!



THANK YOU!

sebastian@sozialhelden.de ([Twitter](#))

holger@sozialhelden.de ([Twitter](#))

Monday, Sep 28, 2020

W3C/OGC Joint Workshop Series on Maps for the Web

w3.org/2020/maps/



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