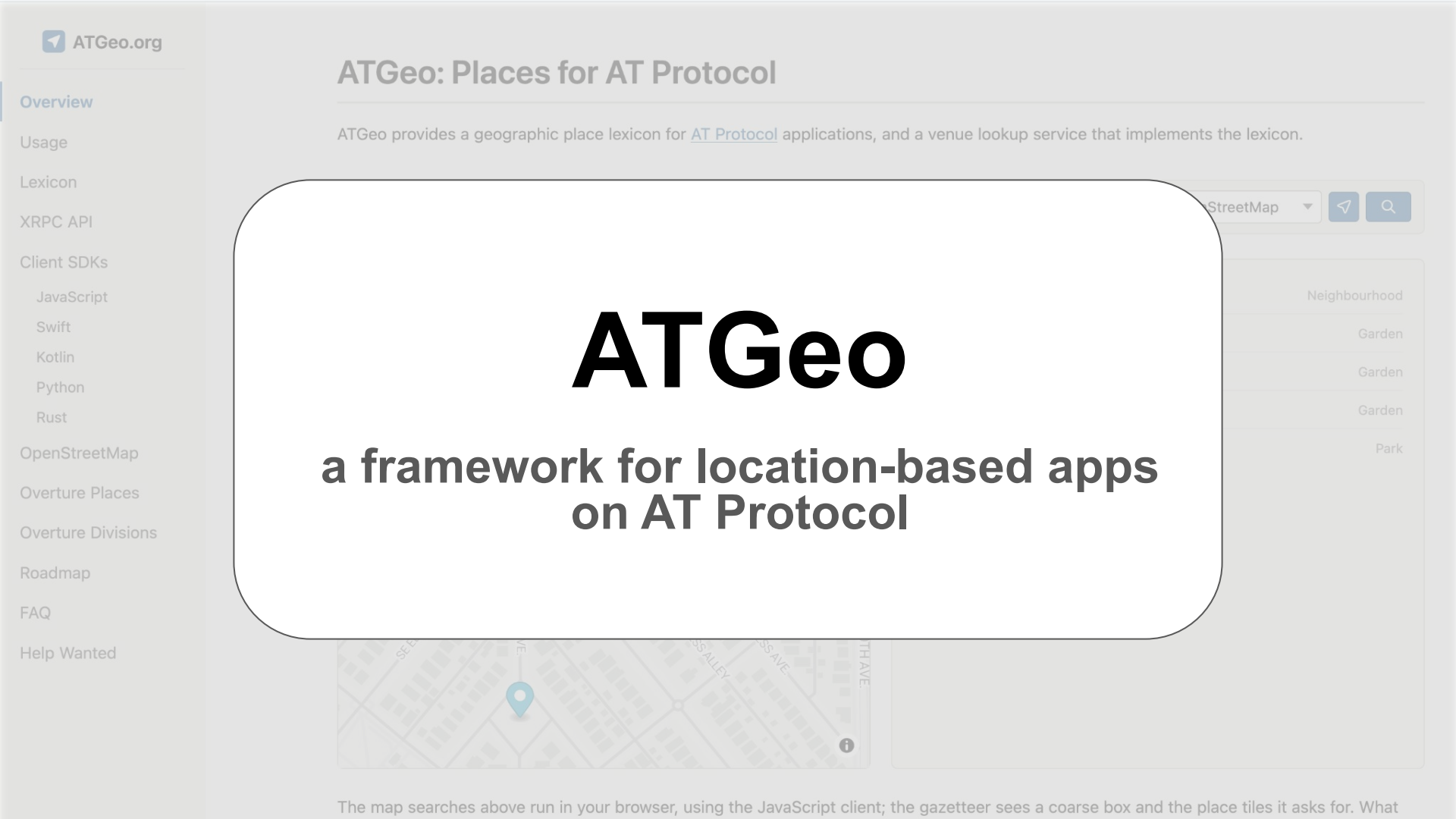
# ATGeo

## a framework for location-based apps on AT Protocol



# AT Protocol

not your father’s social network

- Optimistic, but not naïve
- Protect the user
- Discourage enshittification
- Decades, not product cycles

# Why are there (almost) no location apps on protocol?

# Not one hard problem

but two hard problems

- Venue databases
- Geographic representations
- Map clients and tilesets
- #whynofloats #ieee754

# Not one hard domain

but *two* hard domains

- GIS is 40+ years of accumulated mistakes
- Lexicons for distributed ledgers
- Distributed moderation
- Many experts, little overlap

# Chicken <> Egg?

# A Lesson in How (Not) to Build a Community Lexicon, in Eight Easy Steps

# Procedure

1. Show up excited to a Geo BoF session at an ATmosphere conf
2. Talk everyone into agreeing that there's a set of common primitives and services to build
3. Invite a bunch of smart people who mostly don't have skin in the game to talk past each other for months on Discord *and* Discourse *and* Signal *and* Google Meet
4. #whynofloats #ieee754
5. The Lexicon Community steering group decides that someone needs to own this bullshit
6. Months pass, ADHD-driven anxiety and indecision take hold while ppl wander off
7. Many more months of learning and redesigning to new requirements
8. AT Protocol PDX meeting



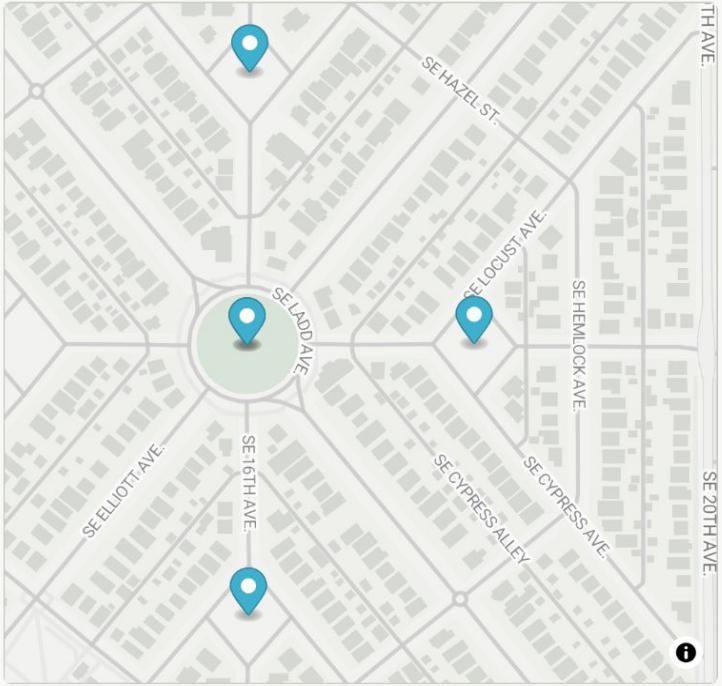
# Introducing ATGeo

Overview
Usage
Lexicon
XRPC API
Client SDKs
JavaScript
Swift
Kotlin
Python
Rust
OpenStreetMap
Overture Places
Overture Divisions
Roadmap
FAQ
Help Wanted

# ATGeo: Places for AT Protocol

ATGeo provides a geographic place lexicon for AT Protocol applications, and a venue lookup service that implements the lexicon.

ladds addition | OpenStreetMap




| | |
|---|---|
| Ladd's Addition | Neighbourhood |
| Ladd South Garden | Garden |
| Ladd North Garden | Garden |
| Ladd East Garden | Garden |
| Ladd Circle | Park |

The map searches above run in your browser, using the JavaScript client; the gazetteer sees a coarse box and the place tiles it asks for. What you type stays in your browser unless the nearby search finds nothing. Then the demo sends it to the gazetteer, first with the box you're looking at snapped to whole degrees, and if that finds nothing, with no box at all. A spinner in the map's corner shows while that request is out. The data

# Not one thing

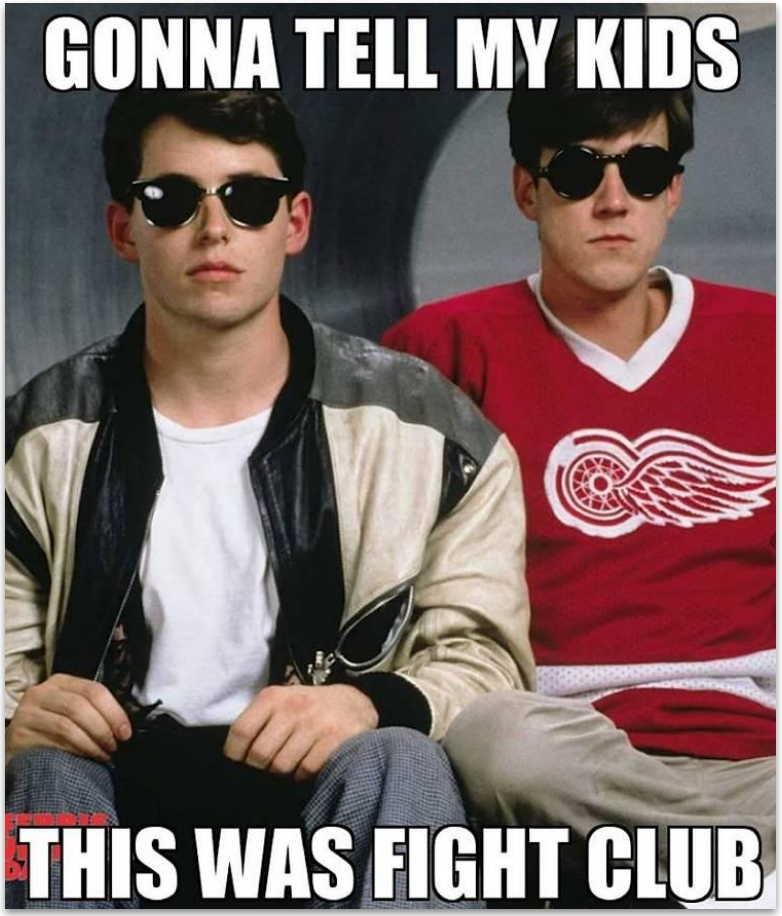
but several

- User security model
- Venue API for AT Protocol
- Lexicons for venues & search
- SDKs in JS, Swift, Kotlin, *etc.*

The first rule of user location is:

# You do NOT talk about a user's location

(until they say you can)



Users rarely form a threat model about social media until it’s too late

OK for shitposting, but **actually hazardous** for personal location

We have a moral duty as app developers to guard our users from making ignorant mistakes

**YOU** have a **moral duty** as app developers to **guard your users from making ignorant mistakes**

**If you can’t handle the responsibility…**

**don’t build the fucking app**

# Engineering the pit of success

1. Users aren’t babies
2. Posters gonna post
3. Ignorant mistake != safety hazard
4. Make disclosure a deliberate act
5. Doing the right thing should be easier than doing the wrong thing



# ATGeo

this is the way

- Never send user GPS coordinates over the network
- Even as a bounding box
- Venue sorting must be done client-side
- Posting locations must be **an affirmative, opt-in action**
- Ditto keyword searches

# The Pit of Success

location-based apps on protocol that respect user privacy

- Hosted venue lookup services
- Free data sources (OSM, Overture)
- ATProto-style venue objects
- Compressed JSON tiles
- Client SDKs handle:
  - snapping searches to grids
  - sorting by distance
  - safe keyword searches
  - #ieee754 #whynofloats

# Caveats

because of course there are

- Posters gonna post
- Devs want adoption not UX hurdles
- Tiles get unwieldy in dense areas
- Some searches still hit the network
- Internationalization is hard
- Venue categories are a mess
- No complex geometries (yet)
- AppView SDKs barely a WIP
- User generated venues, moderation? LOL

# ATGeo

not your grandfather's Foursquare

- Optimistic, but not naïve
- Protect the user
- Discourage enshittification
- Decades, not product cycles

ATGeo helps you build location-based apps that respect user safety

# ATGeo is ready for prime time

ATGeo is a
work in progress

# ATGeo is a developer education project

# ATGeo is an experiment in community hosting

# ATGeo is an experiment in community lexicons

# ATGeo is an experiment in app interoperability

# ATGeo needs your applications

# ATGeo needs your involvement

# Gratitude

in no real order

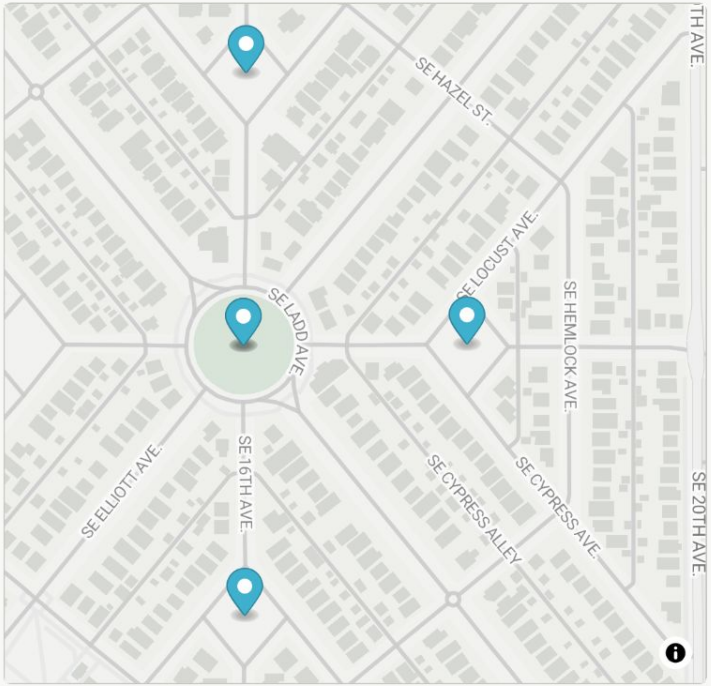
- Tom Coates
- Amber Case
- Boris Mann
- MsBoba
- Nick Gerakines
- Ted Han
- Aaron Straup Cope
- Michal Migurski
- Volker “IEEE 754” Mische
- Yoz Grahame
- anyone else I forgot (my bad)
- my very patient spouse

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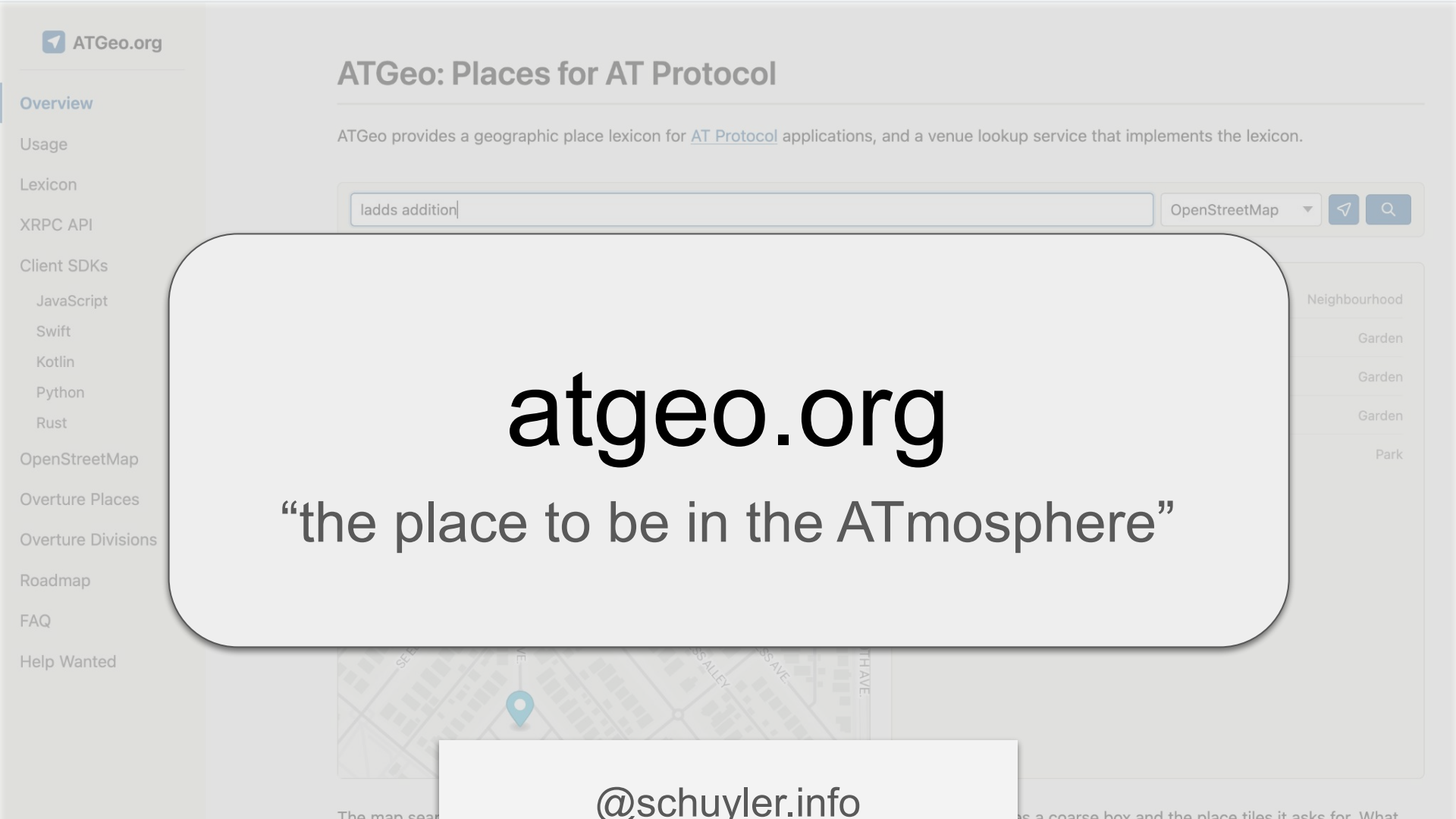
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“the place to be in the ATmosphere”
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