

Challenges in Recommending Venues within Smart Cities

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smart



Human as sensors: geolocated data

Suggestions for Best Nearby near Kelvingrove Park, Glasgow

Or try: [Food](#), [Nightlife](#), [Coffee](#), [Shops](#), [Arts](#), [Outdoors](#)

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1. Kelvingrove Park

8.2 14 Parkgrove Tce.
Park

Popular with out-of-towners

"... A CARGO! ITZ MARE FUN!! WOOP WOOPZI!" (1 tip)


Save



2. Marks & Spencer

7.5 165-169 Great George St. (Byres Rd)
Grocery Store

You haven't been here yet

 Stuart • August 7, 2011
Don't arrive hungry!

Save

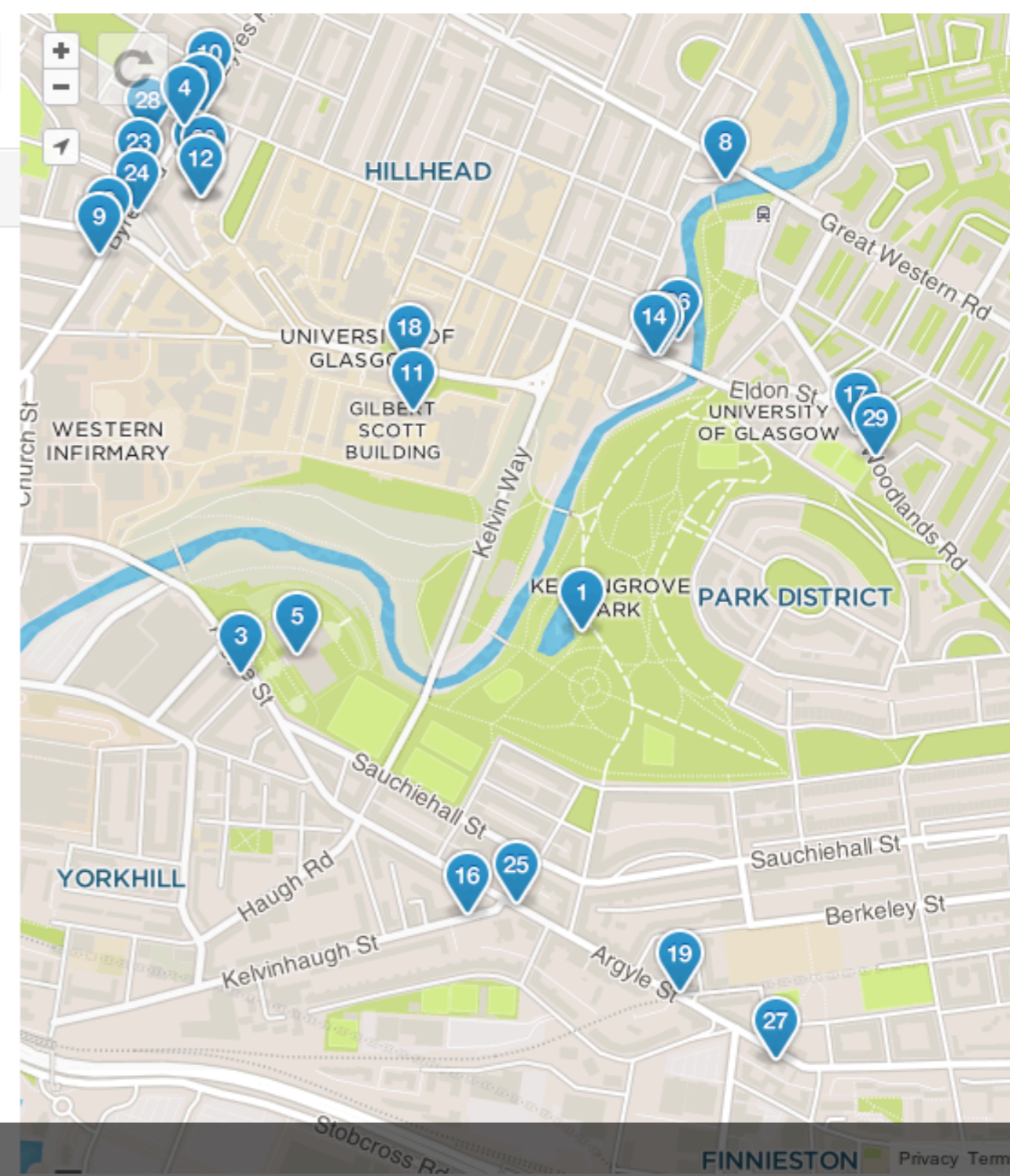


3. BrewDog Glasgow

8.6 1397 Argyle St
Bar • 1 • ££££




You haven't been here yet

"Try the **Killa Morchilla** burger. Yummy yummy...." (3 tips)



Location-based Social Networks (LBSNs)

- **Industrial** venue recommendation applications
- Only relying on user profiles
- Research directions: using the **digital infrastructure of smart cities**
- **Evaluation** challenges

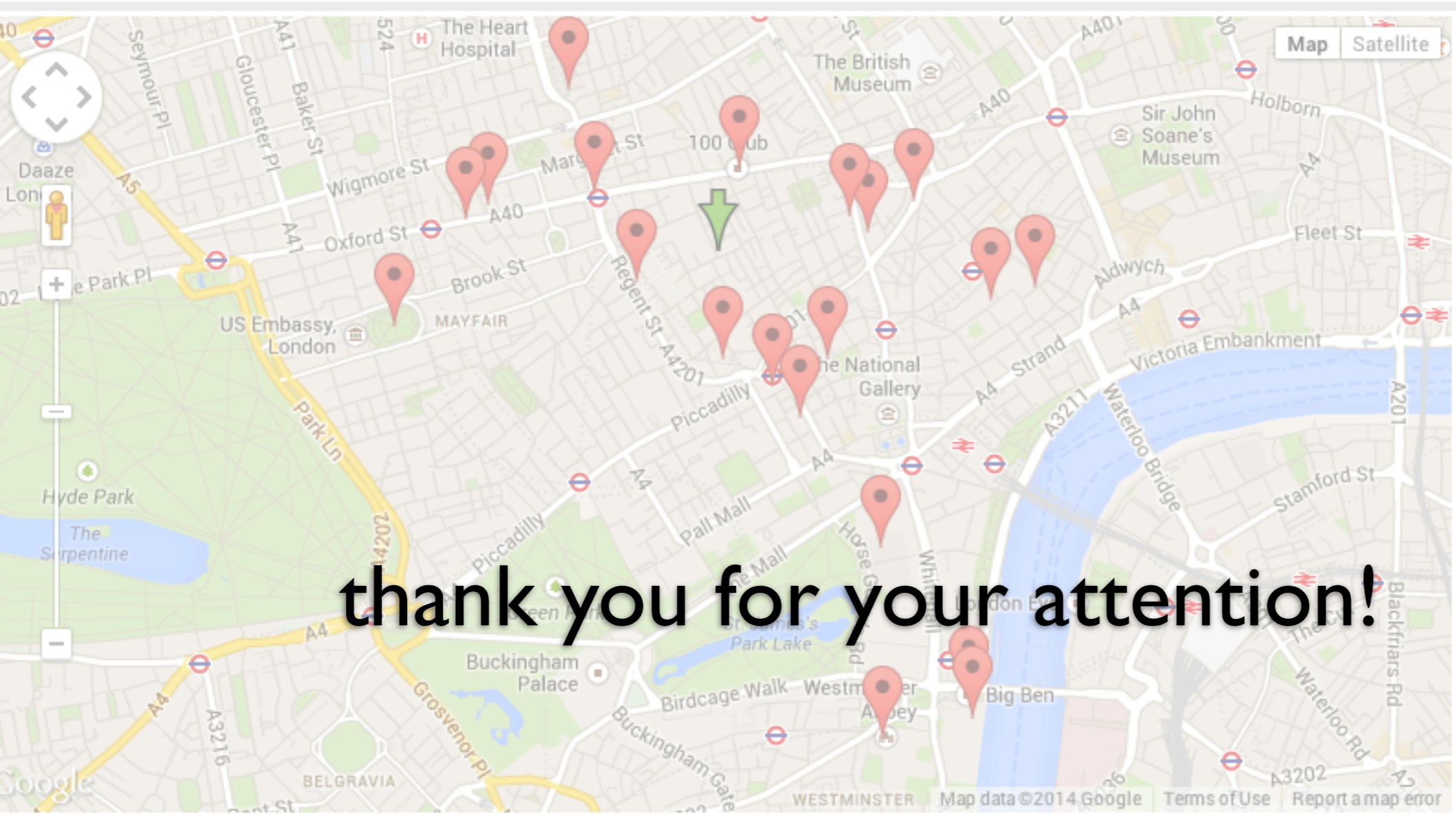
- Currently, only **social sensors** are used for recommending venues (user profiles)
- Combining sources   
- **Physical sensors**: cameras, microphones, rain/pollution meters, ...

- With a better representation of the **context** come better recommendations
- **GPS sensors** in public transport can help to identify traffic jams in **real-time**
- Provide recommendations for areas that can be reached more easily

- Challenges in **real-time storage and retrieval** of sensor observations
- Making sense of observations, **generate information**
- Using **past observations** to forecast “events”
- **Adaptive** knowledge bases, standard data formats to improve reusability

- Challenges in **evaluating** [1] venue recommendations in a **complex environment**
- An infinity of contextual attributes
- **Privacy** issues: personalisation as another parameter?

- Reusable **test collections** need to make **assumptions**, but simplifications may not reflect **real use cases**
- **Explicit** or **implicit** feedback from real users (mobile/web applications)
- GPS tracking after recommendations, A/B testing, interleaving, ...



thank you for your attention!

Suggested places

1. Hamleys
2. Debenhams
3. Oxford Circus
4. Forbidden Planet
5. Apple Store
6. M&M's World
7. Westminster Abbey
8. BBC Broadcasting House
9. Big Ben
10. Grosvenor Square
11. 100 Club
12. Whole Foods Market
13. Phoenix Theatre
14. Horse Guards Parade
15. Disney Store
16. Houses of Parliament
17. Foyles
18. Cineworld
19. Balthazar
20. Cool Britannia

Suggested places

