A MULTIDIMENSIONAL TOPOLOGY FOR CROWDSOURCED GEOGRAPHIC INFORMATION

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INTRODUCTION

- Crowdsourced geographic information (CGI) is now commonly used in the study of spatial processes
- There is an assumed consistency across CGI platforms in terms of ...
  - The nature of geographic information
  - How geographic information is produced
  - The characteristics of users
  - The behavior of users

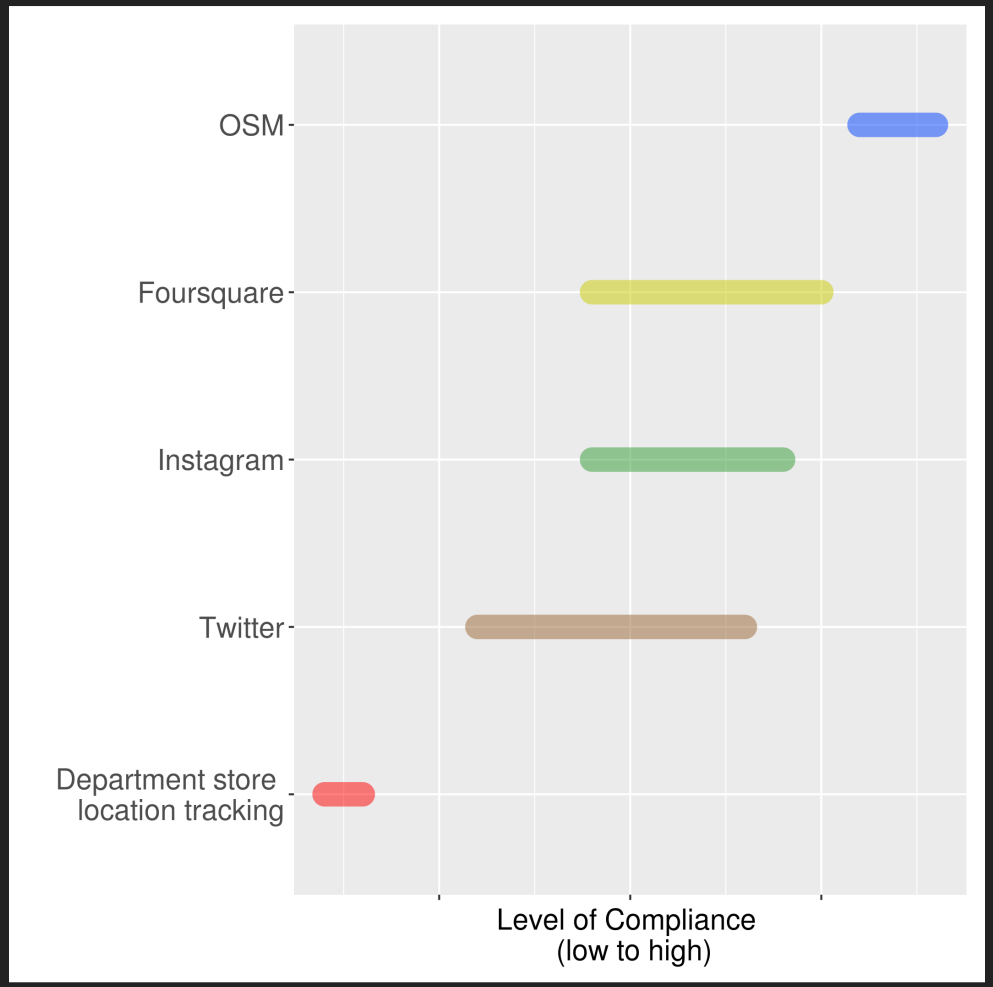
OUR PROPOSAL

- A multidimensional topology based on the characteristics of each platform
  - Level of compliance (x)
  - Scale (y)
  - Spatiality (z)

LEVEL OF COMPLIANCE (X)

- "Opt-out" vs. "Opt-in" platforms (Harvey 2013)
- From low to high compliance:
  - Department stores tracking shoppers' locations
  - Geotagging on a tweet-by-tweet basis
  - Volunteering building footprints to OSM

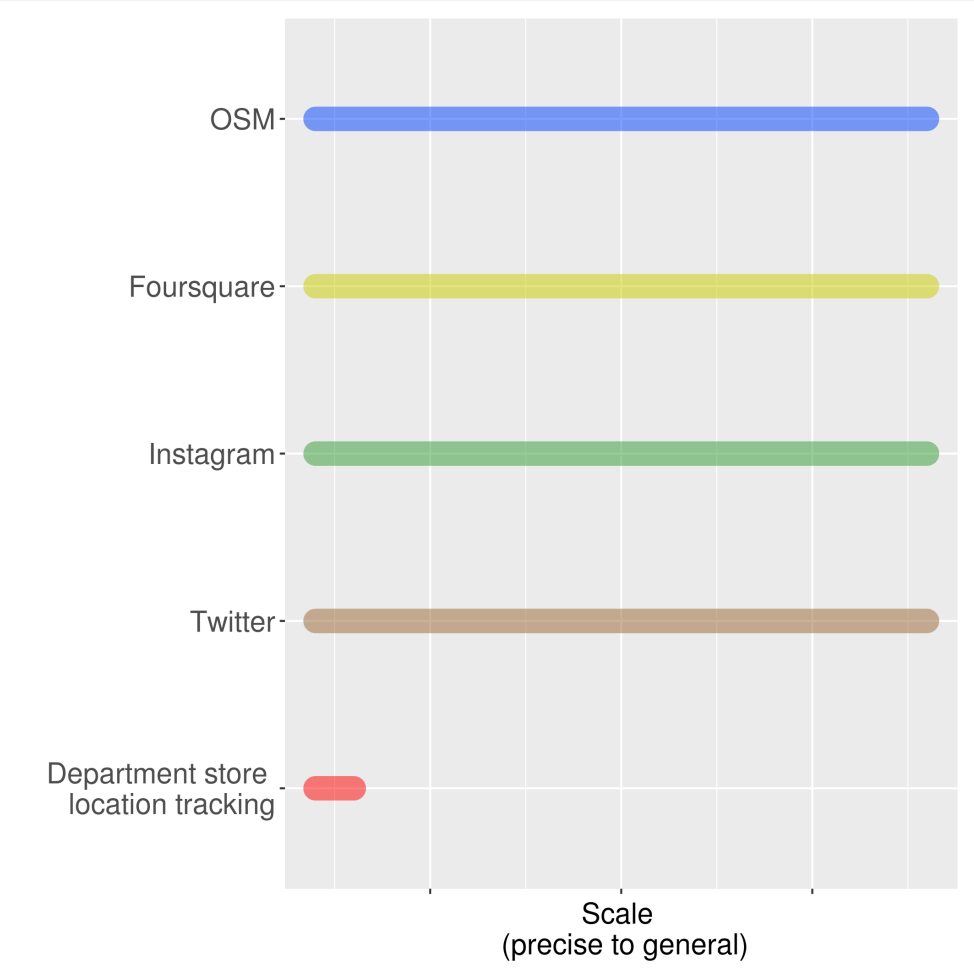
LEVEL OF COMPLIANCE



SCALE (Y)

- From precise to general:
  - Marking a point in OSM,
    Tweeting with precise location
  - Marking a neighborhood in OSM,
    Tweeting from a neighborhood
  - Marking a US state in OSM,
    Tweeting from "Oklahoma, USA"

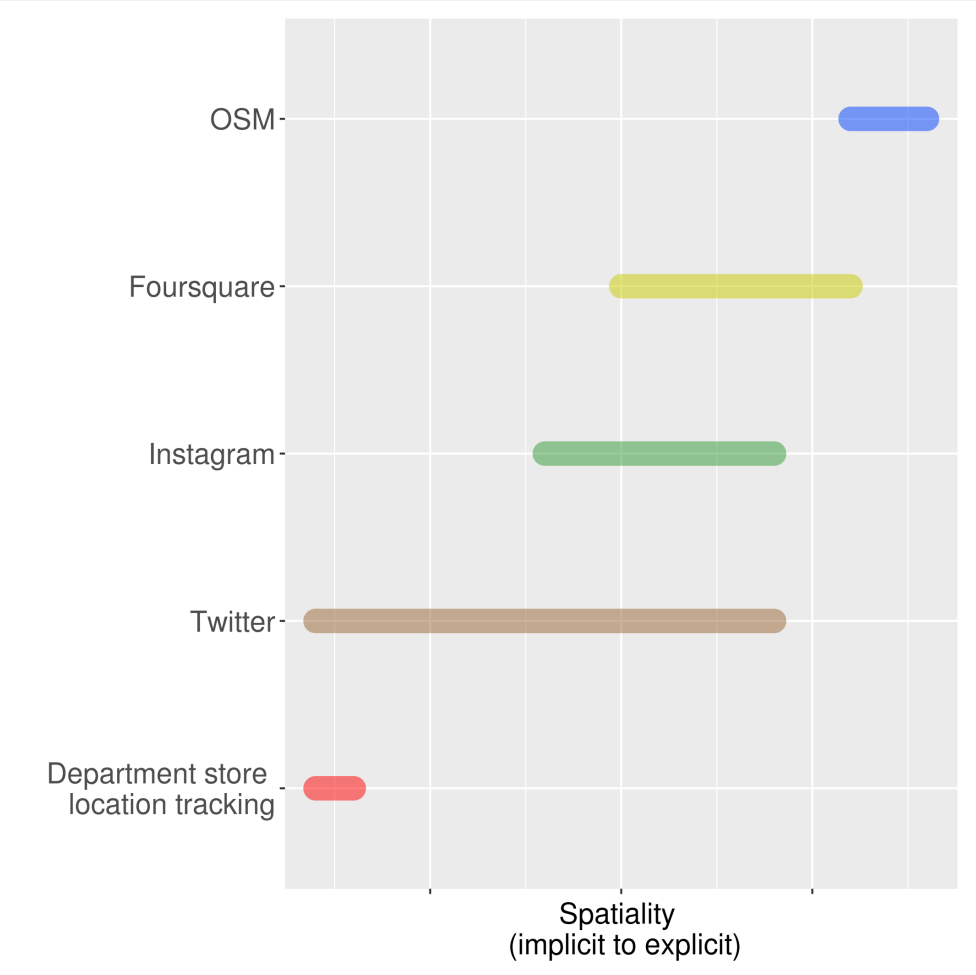
SCALE


OSM
Foursquare
Instagram
Twitter
Department store
location tracking
Scale
(precise to general)

SPATIALITY (Z)

- From implicit to explicit (Graham and Shelton 2013):
  - Tweeting "Watching TV with my cat"
  - Tweeting a photograph at a soccer game
  - Tweeting "Watching TV with my cat #dormlife #illinois #illini #uiuc"
  - Tweeting a photograph at a soccer game with text "Watching the Chicago Fire"

SPATIALITY


OSM
Foursquare
Instagram
Twitter
Department store
location tracking
Spatiality
(implicit to explicit)

CONCLUSION

- Platforms can vary greatly and change quickly
- Characteristics and purposes of users vary greatly
- Categorical combinations have implications

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