

Spatial Context

allows **Navigation**
Tracking

eg: Guiding Systems, Emergency Services, Gaming, Asset Management, Road Tax ...

HOW TO MEASURE

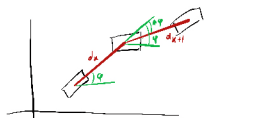
Positioning

Proximity

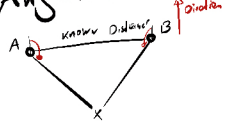
→ Active Beams/Grates

Finger Printing /

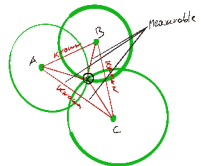
Dead Reckoning



Angulation



Trilateration



Visual Pattern Matching



can be described with

Physical Absolute

eg: GPS

eg: GPS

Symbolic Relative

eg: Post Address

Represented by

Relative to certain Point
eg: Indoors

- MAPS:

- Descriptive
- left after the Tree

- Coordinates

UTM, Gauss-Kruger, WGS-84



Why reveal location?

- To Access Services
- we leave traces } not apparent to some users, others don't care
- Built-in OS

Privacy

- Being in Control over one's information
- System design can protect, enable, ease, or hamper privacy
- ...

Location-Privacy

Reveal position and time to others

↳ Risks: Tracking + Identification through location

↳ BUT: Service/Privacy Tradeoff

Privacy can be achieved through:...

Anonymization

Pseudonyms

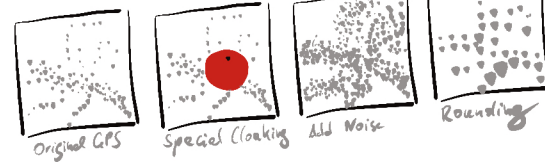
↳ Permanent

↳ Mix Zones (using multiple Pseudonyms)

- come cheap
- customizable
- Camera & Mics can still be anonymized
- Real world data is hard to anonymize

↳ could still be linked!

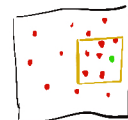
Location Anonymization



- Generalize (Clustering, Only use hyper nodes)
- Perturbation (add/delete nodes)

K-Anonymity

cloaked regions must contain at least K users
→ otherwise drop query or generalize clamping data



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0726/04

