CrowDPLoS

Prénom	Nom	Abrév.	Institution	Responsable WP	
Alexandre	Cotting	ACG	HEVs	WP1	WP6
Jean-Christophe	Loubier	JCL	HEVs	WP2	WP5
Maria	Sokhn	MSN	HEVs		
Olivier	Ertz	OEZ	HEIG-VD	WP3	
Jens	Ingensand	JID	HEIG-VD	WP4	

Prénom	Nom	Abrév.	Institution	Team
Diego	Rojas	DRS	HEVs	WP2 (JCL)
Romain	Sandoz	RSZ	HEIG-VD	WP3 (OEZ)
Nicolas	Blanc	NBC	HEIG-VD	WP4 (JID)

??? Legal issues (privacy)

Judgment of the Federal Supreme Court on Google Street View:
Decisions on the processing of personal data
- Right to one's own image (BGE 138 II 346 E. 8)
- Data processing subject to the Federal Act on Data Protection (BGE 138 II 346 E. 3)
- Personal connection for photographs (BGE 138 II 346 E. 6)
- Use of information in the public domain (BGE 138 II 346 E. 8.2)
- Transparency in data processing and making the purpose known (BGE 138 II 346 E. 9.1 and E. 11)
- Overriding interests only reluctantly upheld (BGE 138 II 346 E. 10)
- Enclosed spaces, gardens and balconies as private areas (BGE 138 II 346 E. 10.7)
- Complete anonymisation where there is an increased interest in the total protection of privacy (BGE 138 II 346 E. 10.6.4)

ACG WP1: Admin

ACG WP6: Evaluation

Global evaluation + SNF

??? Potential partnerships

Associations of disabled people
Local government
Urban planners
➡ *could create valuable (g.t.) inputs !*
- vector paths
- features (re)def
- needs

JCL WP2: DPLoS model

5 features:
- curb ramps
- slope
- width
- coating
- crosswalks

(D)PLoS indicator

- *attractivity*

DPLoS model
DPLoS features def.

CV abilities

JCL WP5: Routing

Pedestrian network graph
➡ determine vertices and edges
➡ should be undirected

PostgreSQL GeoDB — DB with LoS value per edge

Route /w DPLoS ground truth
Format should be comparable to output of CV

OEZ WP3: Crowdsourcing

analyse workers' perf ➡ Assign difficult tasks to the best workers

3 research axis:
crowdsourcing, social sciences and user experience
declined in:
➡ *SotA regarding crowdsourcing tools and plateforms*
➡ *Which are the data to collect and how to simplify their gathering for the workers?*
➡ *What is the level of acceptance for data acquisition: annotation quality, image quality, ...*
➡ *How to reach this level?*

1 2 3

crowds. eval

test + crowd

Georef

Images

DPLoS Vector data

PostgreSQL GeoDB

JID WP4: Computer vision

from DPLoS def

1. Capture & upload positive images "train" (g.t.)
   → may be georef (GPS chip)
2. Acquisition on images → binary @img ∀ img / digitize features
3. Evaluation of CV results

Literature review:
➡ job done in the field?
➡ *which algos?*
Proposal of a methodology
Evaluate algos:
➡ *which benchmarks?*

Key words:
image segmentation
scene recognition
scence labelling
semantic recognition
object recognition
object detection
object segmentation
instance segmentation

Other sensing tech'?
- lidar
- radar
- sonar

Video based tech?

Image orientation?
- terrestrial / vehicle:
  from sidewalks? from middle street?
- aerial (UAV): *nadir / oblique*
- coupled

Raster data sources:
- *aerial (SI) -> $*
- *satellite (30cm!) -> $*
- *GSV -> permissions?*
- *Crowdsourced -> :)*

Vector data sources:
- *TLM -> $*
- *Cadastral -> $*
- *OSM*