

DETECTING BARRIERS TO MOVEMENT

GEO-TRACKING VIDEO APPROACH

Swiss Mobility Conference

29 June 2017, Lausanne

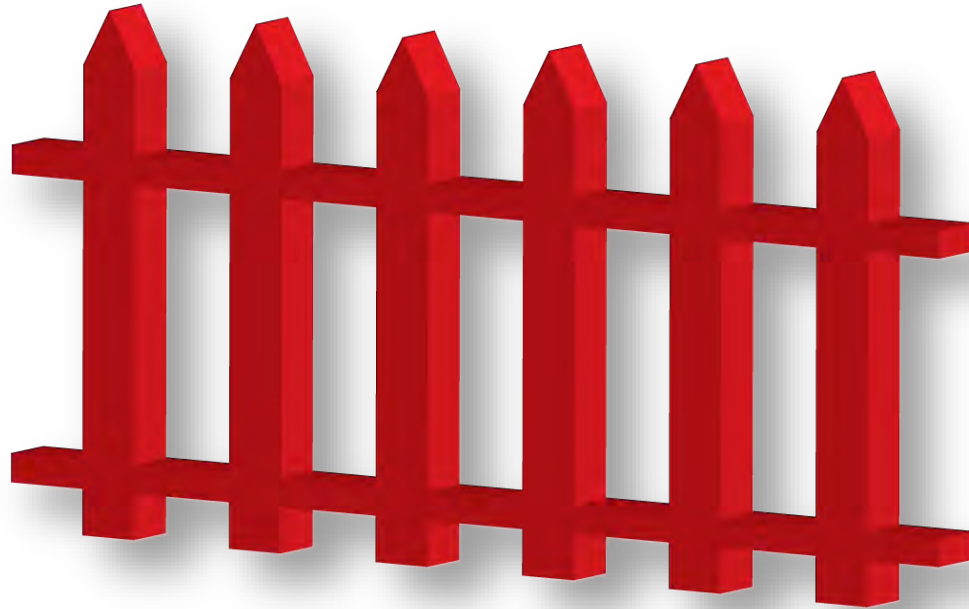
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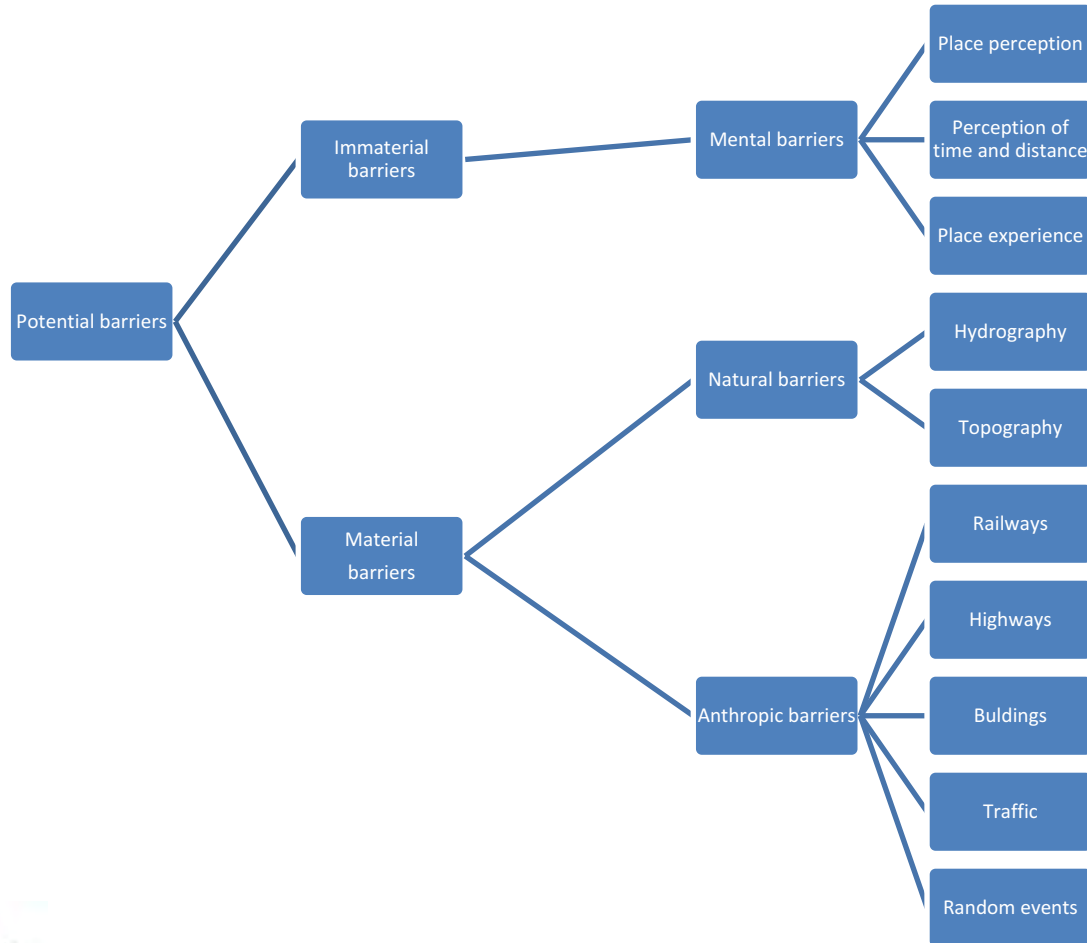


Issues



Barrier to movement

Potential barriers



Some examples



Methodological issues

How to detect barriers to movement ?

**And use these detected barriers in the frame of
interviews ?**



Tools and methodology

Detecting barriers to movement

We need:

- **Indicator 1: individual's route**
- **Indicator 2: speed**
- **Indicator 3: events on the route**

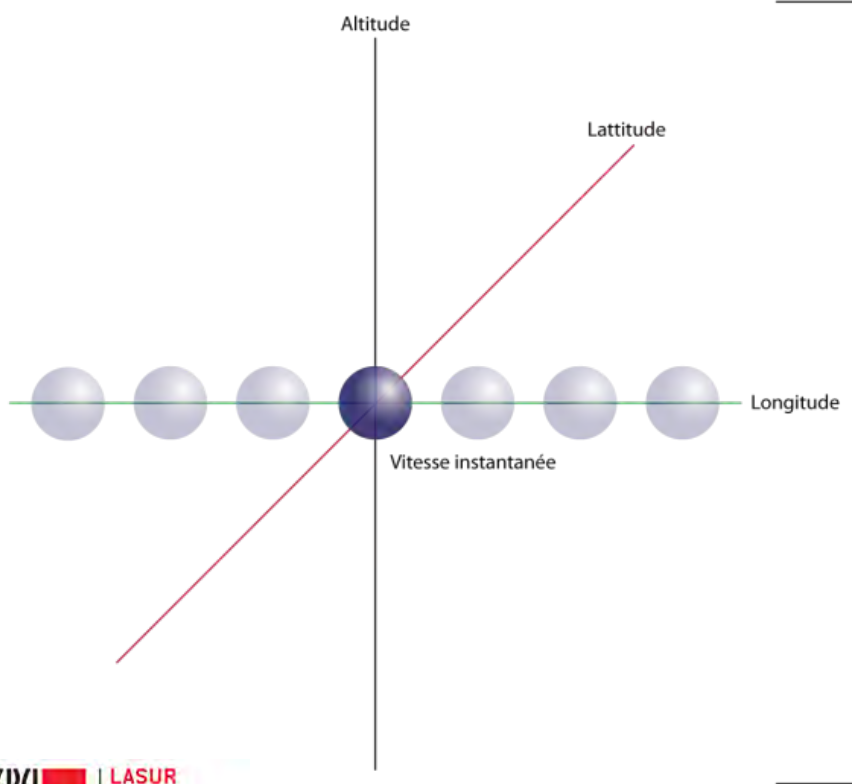
GPS tracking

Advantages:

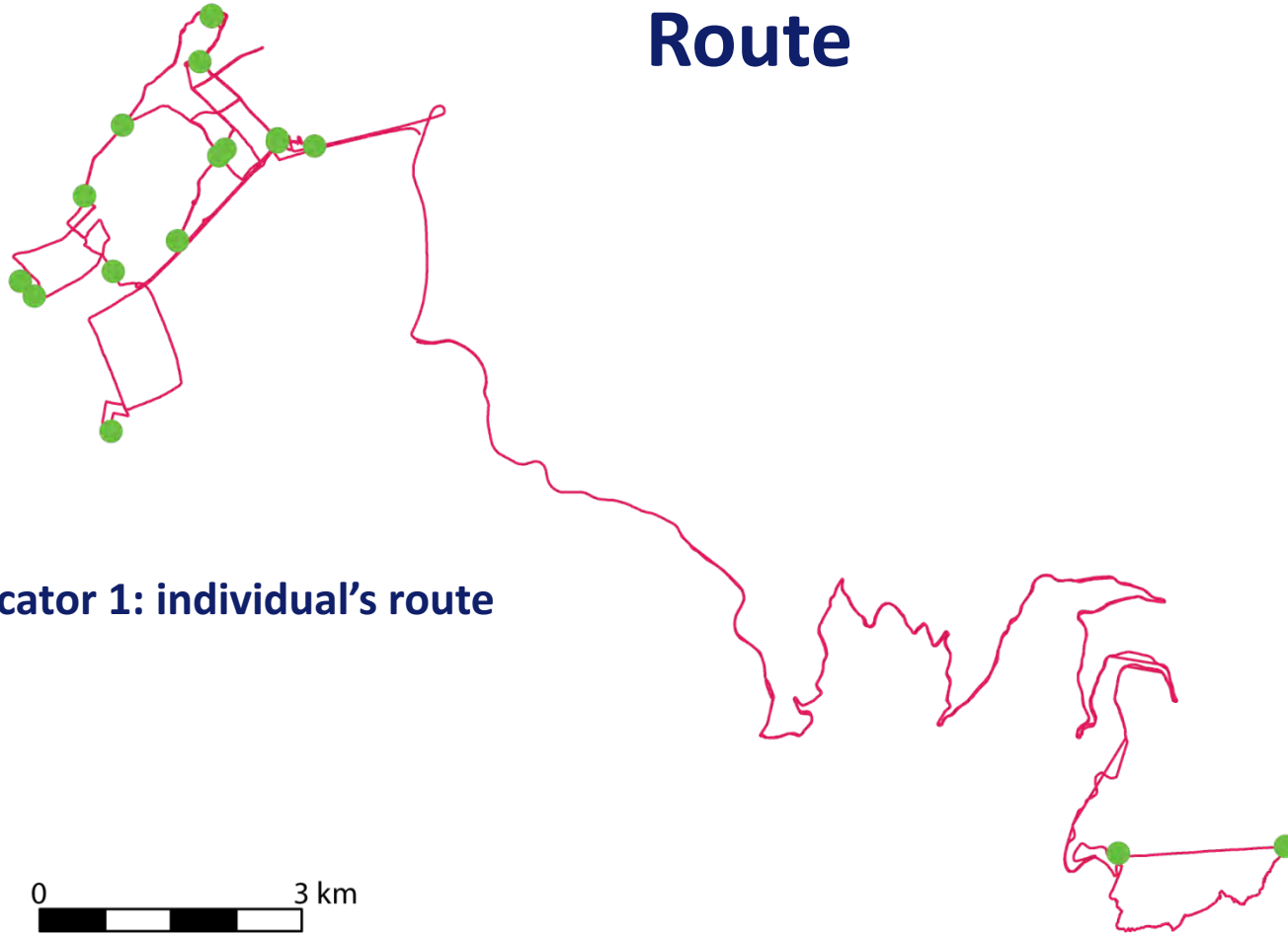
- Routes detecting
- Spatial precision
- Speed

Inconvenients:

- Data analysis
- Sample size
- Autonomy
- Intrusive protocol

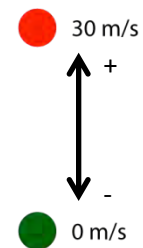


Route



- Indicator 1: individual's route

Speed



• Indicator 2: speed



Detecting barriers to movement

We need:

- **Indicator 1: individual's route**
- **Indicator 2: speed**
- **Indicator 3: events on the route**

On-board video



"View From The Road" (1958) - Kevin Lynch

Source: MIT Libraries, MIT Vidéo Productions

On-board video

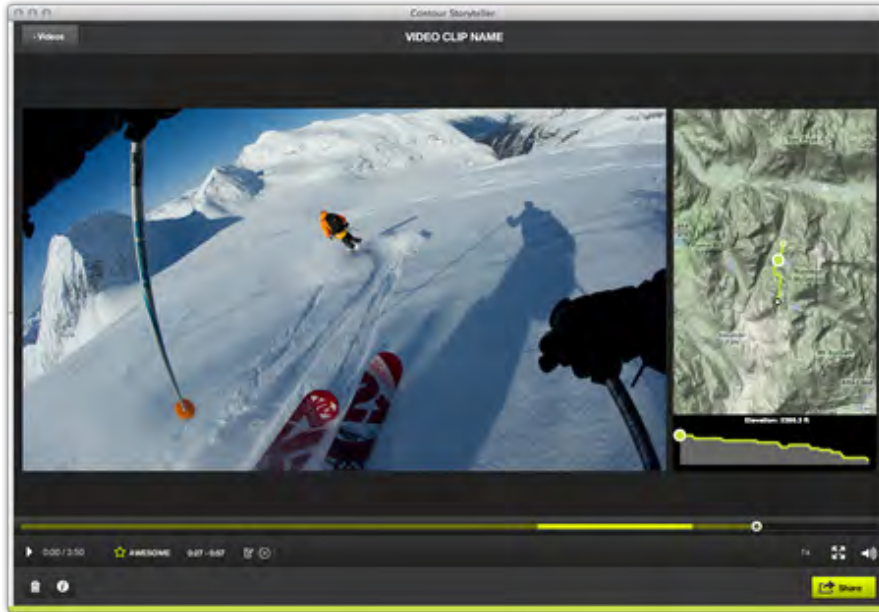


Source : © Roadeyescam

Safety device:

- Private uses
- Professional uses

On-board video

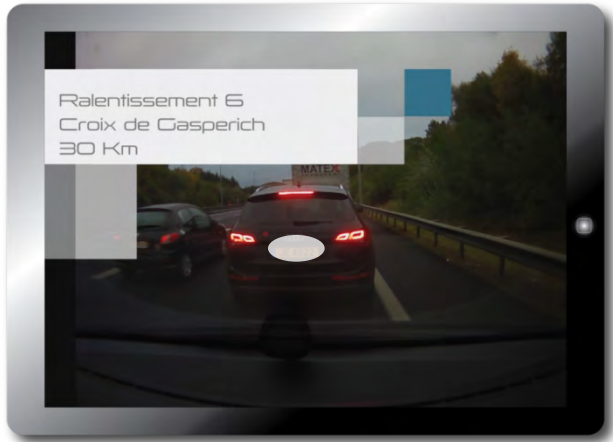


Sport device:

- Extreme sports

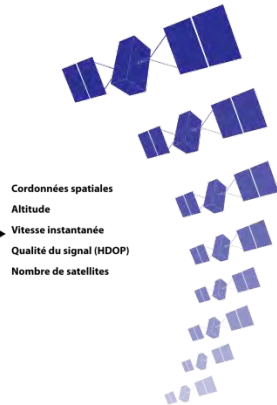
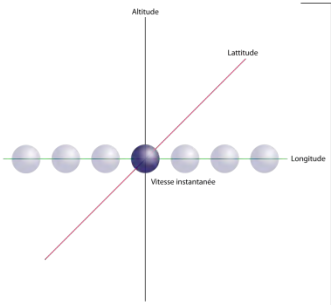
Source : © Contour

Video and GPS tracking



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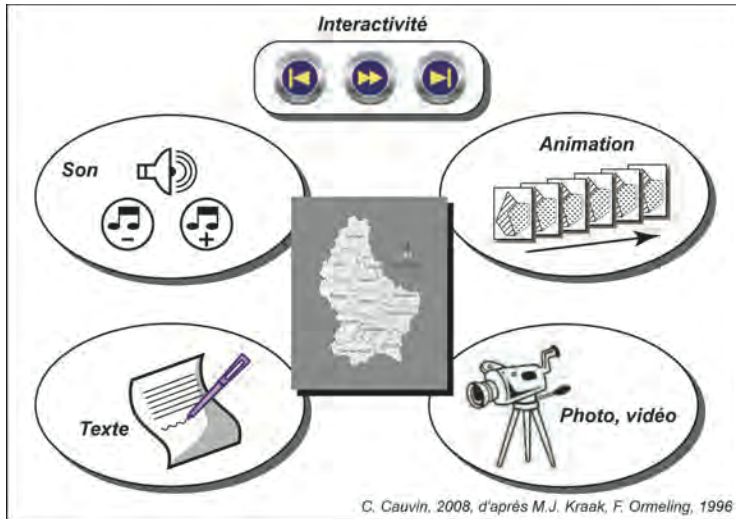
GPS camera

Detecting barriers to movement

We need:

- Indicator 1: individual's route
- Indicator 2: speed
- Indicator 3: events on the route
- Geo-visualisation device for interviews protocol

Geovisualisation device



Combination:

- **Audio**
- **Video**
- **Interactivity**



Data structure

Data structure

OBJECTIFS

Révéler les barrières au
déplacement pour mieux

- les identifier
- les caractériser
- les communiquer
- les réactiver

Data structure

OBJECTIFS → COLLECTE DE DONNEES

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Data structure

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STRUCTURATION DES DONNEES



Data structure

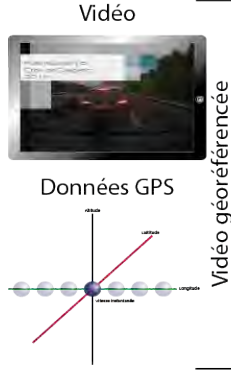
OBJECTIFS → COLLECTE DE DONNEES

STRUCTURATION
DES DONNEES

VISUALISATION

Révéler les barrières au
déplacement pour mieux

- les identifier
- les caractériser
- les communiquer
- les réactiver



Entretiens

Reflexion

Communication



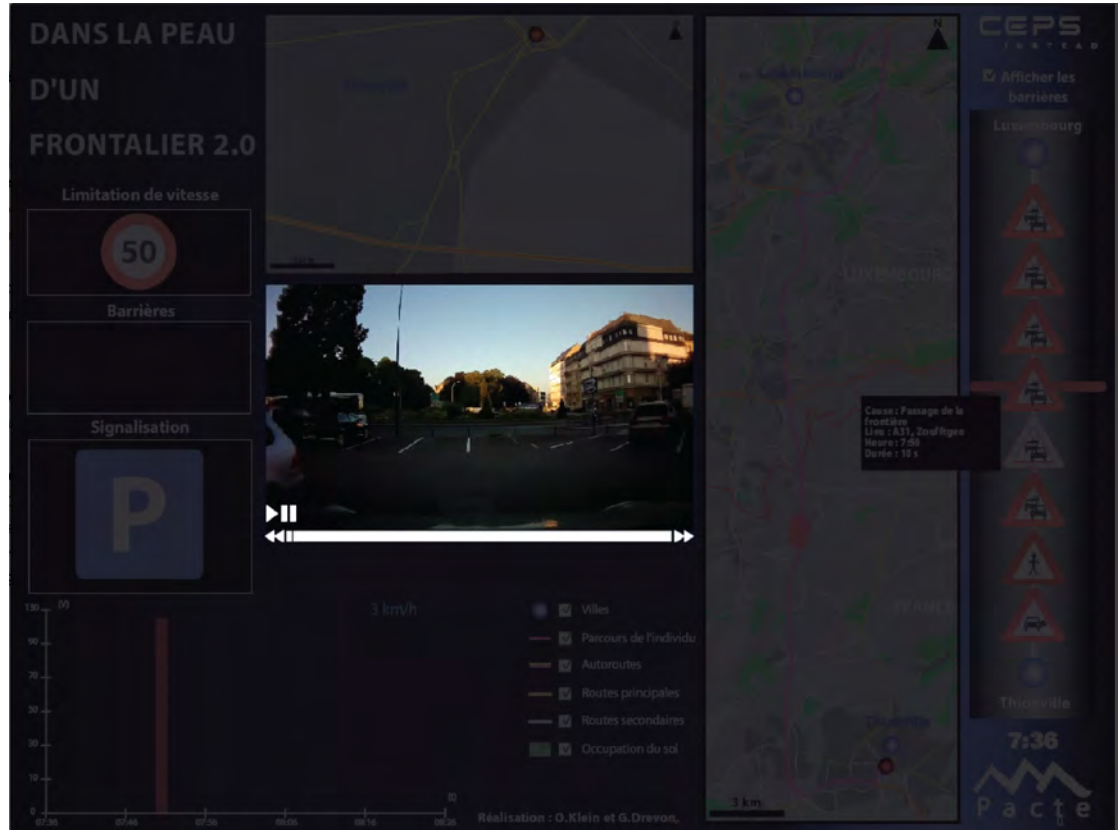
Prototype

Interface



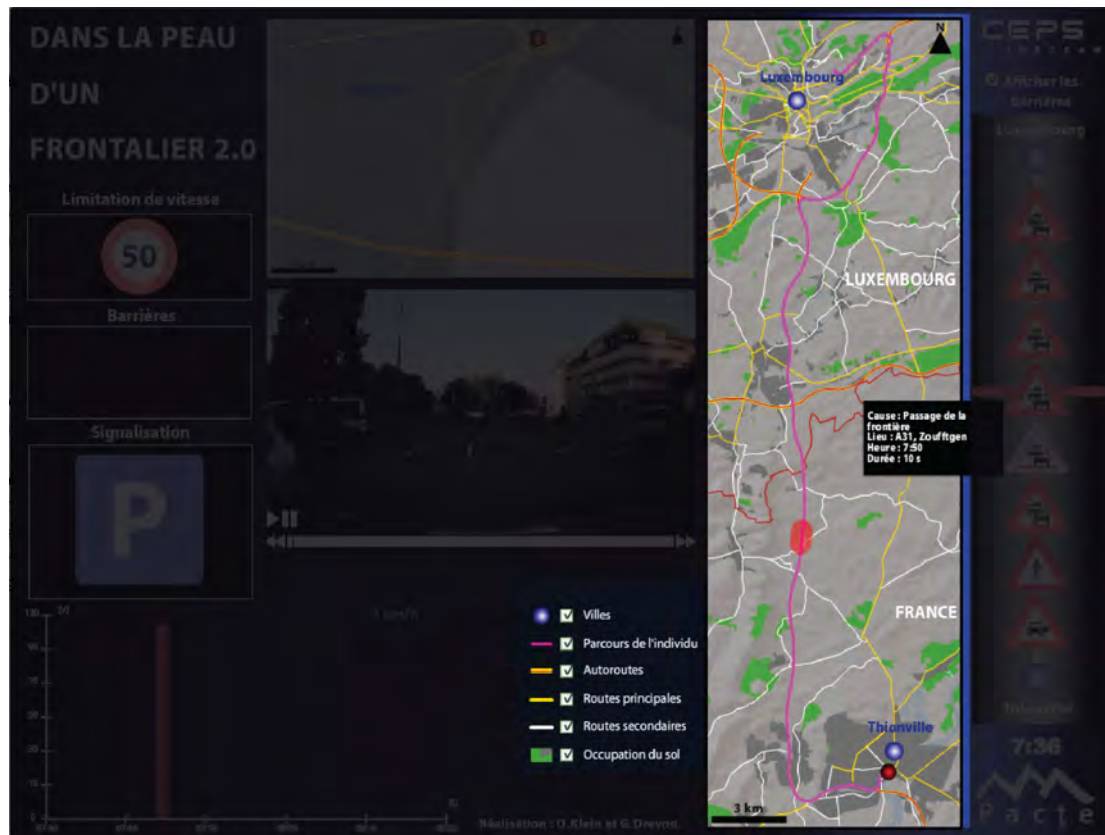
Interface

- Video



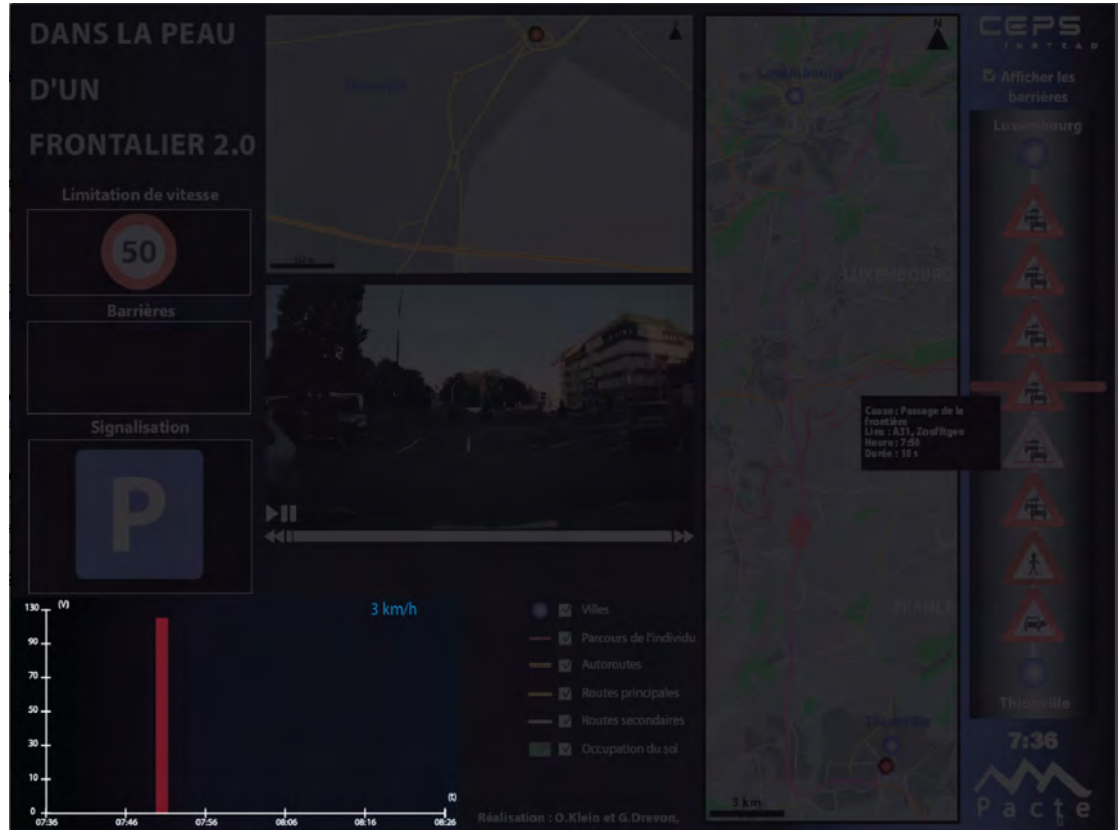
Interface

- Interactive map
 - Individual location
 - Spatial video-line
 - Layers control



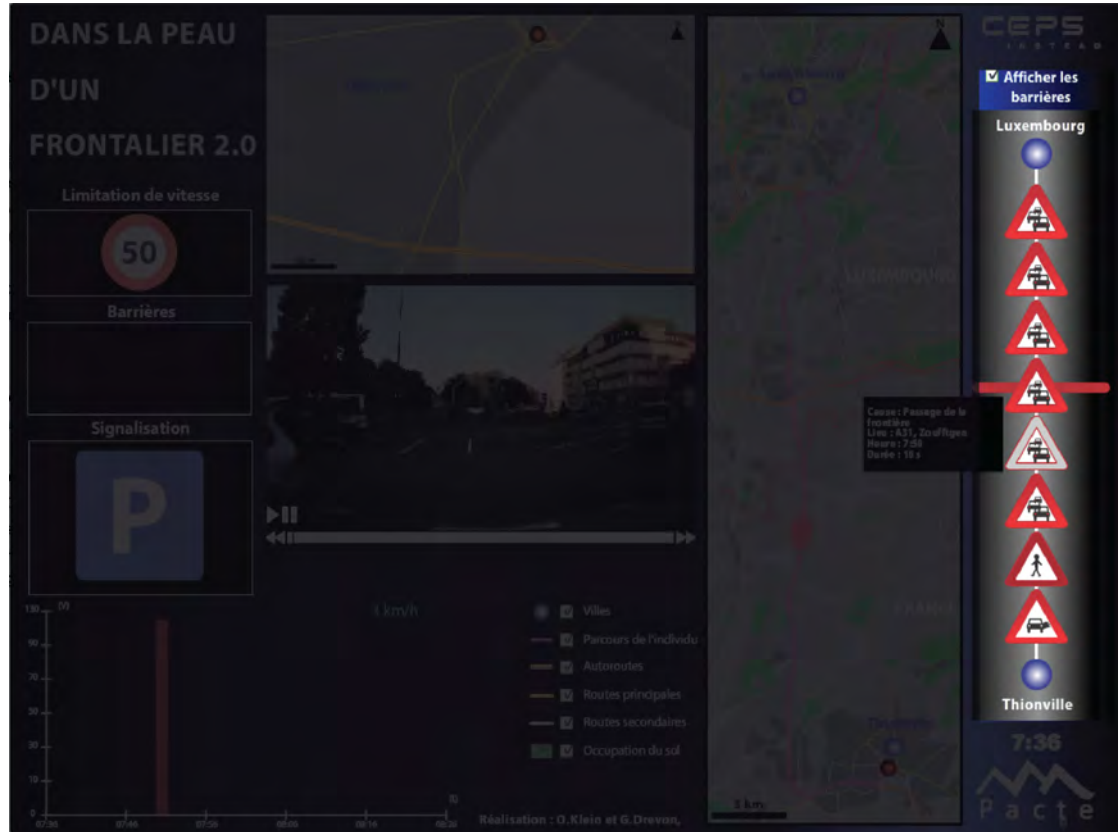
Interface

- Speed variation
- Reduction in speed areas



Interface

- Barriers
- Video sequences associated with barriers



Demo

Conclusions and perspectives

- Barriers detection to movement
- Understanding of strategies facing barriers

- Intrusive protocol
- Shifting to others transport modes
- Non-automatic analysis

Perspectives:

- Interviews based on a small sample
- Testing with others transport modes

Use others connected tools:

- Google Glass
- Eye-Tracker



Merci de votre attention...

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