Objectives
- Overview of the passengers location in the station
- Project person location on the map infrastructure

One dot = One person
Populate this map using results of different algorithms:
- People counting in escalators (HLPI event as counter flow)
- People counting in large/crowded areas
- Human detection in close views
- etc.
**Motivation:**
Monitor people flow in escalator
Module counts people crossing virtual line.

**Measurements:**

*Cumulative counting (pers.) / Person flow (pers./min)*

Count people that cross a virtual line
People flow in escalator (2)
**Motivation:**
Detect undesirable and potentially dangerous counter flow in escalator
Can also point out e.g. defaulting escalator or incivilities, runaways, etc.

**Approach:**
Analyze movement direction of each detected person (for escalator flow monitoring)
Detected events in RATP/GTT: teenagers playing, defaulting escalator, luggage.
- Use escalator counting results.
- First detection = virtual counting line
- Use the speed of the escalator to predict the next position
- Bounding box = area covered
**Motivation:**
Detect passengers in video streams

**Approach**
Processing is done using appearance and spatio-temporal features.
A human/non-human classifier is then used to detect people presence.

Run real-time
Scene independent
Performance between 80%-90%
Difficulty due to occlusion (crowd)
- Use human detector output
- Bounding box = area covered
Approach:
Processing is done using background estimation technique

Running real-time
Configuration scene-dependent
But better performances until fully occupied (congestion)
People counting in large areas

- Use the result of the detection
- Bounding box = area covered
Complete RATP situational reporting
Complete GTT situational reporting
FP7 VANAHEIM project

www.vanaheim-project.eu

Large-scale integrating project (IP)

- Duration: 44 months (Feb. 2010 – Sept. 2013)
- Budget: 5.471.851 € (EU contrib. 3.717.998 €)

Deployments (RATP & GTT)
- People counting and people flow measurements (situational reporting)
- Activity clustering & anomaly detection

→ Counter flow
→ Falling people (people gathering)
→ Heckling
→ Lost person
→ Person distributing leaflets
→ Cleaning staff emptying a garbage
→ Persons phone calling
→ etc.
Visit http://www.multitel.be/image/ for more information