SAFER

VEHICLE AND TRAFFIC SAFETY CENTRE AT CHALMERS

SeMiFOT

A SAFER PROJECT

Helena Gellerman

Joint research - Data handling and sharing procedures for joint database with propriatary data

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SeMiFOT Conditions affecting data handling and sharing procedures

Four main conditions

1. Joint analysis
   - Combine all data
   - Use competences from all partners
2. 13 partners including 4 OEMS
3. Vehicle internal data – CAN data
4. Driver behaviour – video and eye trackers

Challenges

- **Data categories**
  - Open, OEM-shared, etc
- **CAN data - proprietary data issues** (e.g. OEM/supplier concerns)
    - Reverse engineering of new/unique systems (active safety systems)
    - Public exposure of faults with systems
    - Existing 3rd party agreements (e.g. suppliers) may prohibit sharing data
- **Data ownership**
- **Utilization rights**
  - During and after project for which purposes for which partners (e.g. handling 3rd parties)
  - Who has disclosure rights, what approval process for new projects?
- **Legal and Liability issues**
- **Ethical and Privacy issues** – youtube anonymous

Data Security – Main Threats Identified

1. Personal data (mainly video data) becomes public, through for example publishing on internet.

2. Loss of - or manipulation of data

3. Confidential information becomes available for competitors

4. Legal violations by video recording at places where recording is prohibit

5. The research data will not get adequate secrecy protection – physical workspace requirements, isolated computers are difficult, database administration, etc

SeMiFOT Access and Ownership Scheme

- Questionnaires- and interview data
- Video
- GPS
- Mounted sensors (eyetracker, lanetracker, headway, etc)
- CAN-data
  - Open CAN
    e.g. speed, steering angle, accelerometers, yaw, pedal use, blinkers, wipers, temps, etc

Open access to all project partners
Owned by all project partners
Located at SAFER

- Closed CAN but shared for specific purposes between OEMs and institutes

Access by sub-sets of partners
Owned by the respective OEMs
Located at SAFER (controlled access)

- OEM-specific CAN

Access limited to OEM
Owned by OEM
Located at OEM

Data handling – top priority
Privacy and propriatary data

- Ethical approval
  - Process to view all aspects
  - Not needed in Sweden
- Consent form
  - Use in publications
  - Reuse of data in new projects
- Data deleted upon request from driver before pickup
- Physical data access
  - Data only accessed and analyzed at SAFER and OEMS
  - Access from isolated computers in locked rooms
  - Tutorial on data security before access to data
- New projects access to data
  - Procedure for approval
  - SAFER and concerned OEM to approve


VOLVO
Volvo Technology AB
Dept 6310 Human Factors
Projektnamn: SeMiFOT
Projektnummer: 104-02191
Testledare:
Datum: Id.nr

Information och medgivandeformulär

Information om forskningsstudie

Volvo Technology önskar din medverkan i en forskningsstudie kring säkerhet. Den är en del i vår säkerhetsforskning och din medverkan är av stor betydelse för oss.

För att vi skall kunna samla in uppgifter krävs ditt samtycke. Accepterar du att delta måste du ta del av denna information och därefter lämna ett skriftligt samtycke på bifogad blankett "medgivandeformulär".

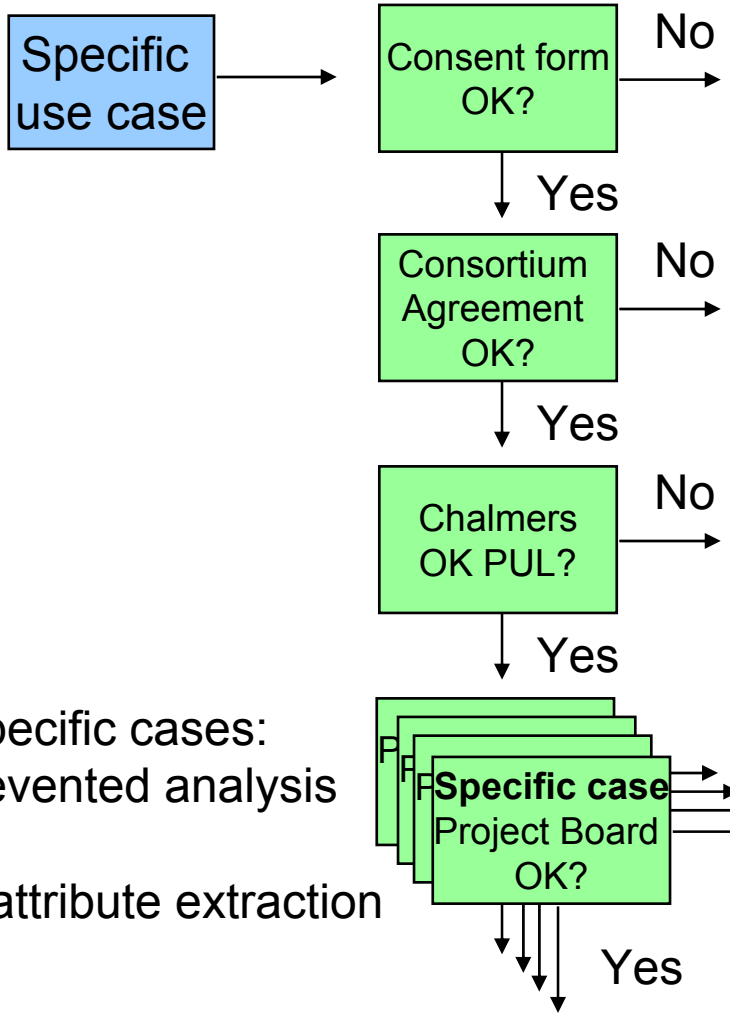
Studiebeskrivning

Syftet med studien är att utveckla nya metoder för att förstå och tolka den normala variationen i körning av fordon. Vi kommer att testa en metod för att logga, lagra och analysera data insamlad från dig som förare. Denna studie är en forskningssamverkan mellan Volvo Technology och ett antal forskningsgrupper under ledning av Vehicle and Traffic Safety Center vid Chalmers tekniska högskola AB (SAFER). Samtliga aktuella parter framgår av bilaga A.

Din medverkan består av:

- att du upplåter ditt fordon för loggningsutrustning
- att du kör ditt fordon precis som vanligt

Exception handling – Unforseen use of data from SeMiFOT dB



-Driver consent

-Third party approved by OEM and Chalmers
-Common analysis at SAFER

-Inform on new data types
Analysis at SAFER

Examples of specific cases:

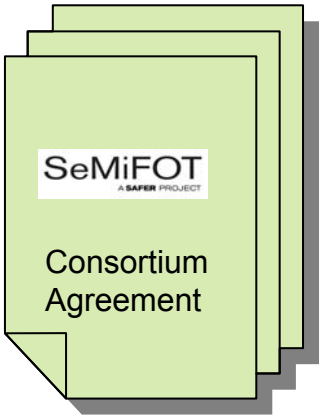
1. Events-prevented analysis at UMTRI
2. Map data attribute extraction

Main rule:
Analysis at SAFER and OEM Premises

Data used elsewhere only in selected specific cases

Summary

- Unique consortium agreement
  - Joint analysis
  - 13 partners including 4 OEMs
  - vehicle internal data
  - integrity issues of the drivers



- Data handling procedures from pick-up to analysis and physical access

Lessons learned – data handling and sharing

- Data sharing agreement
  - acquires time for understanding different aspects
  - made early in the project
  - be specific when discussion CAN data
- Analysis set-up made early to agree on data sharing principles in time
- Develope procedure for exceptions
- Procedure for informing new people about data security