FOT-Net seminar on data gathering and handling
Wednesday 13 May 2009, Munich, Germany

All materials are to be found on: http://www.fot-net.eu/

Agenda

MORNING SESSION	10:00 - 10:30	**Introduction**	*Yvonne Barnard, FOT-Net*
	10:30 - 11:00	**Practical issues in FOTs**	*Mariana Rakic, BMW*
	11:00 – 11:30	**Data requirements and data management in German FOT's**	*Josef Krems, Technical University Chemnitz*
	11:30 - 12:00	**Question session**	
	12:00 - 12:30	**Data acquisition at the German1-VMC in euroFOT**	*Mohamed Benmimoun, Institut für Kraftfahrzeuge (IKA)*
	12:30 – 13:30	Lunch	
AFTERNOON SESSION	13:30 – 14:00	**Data management: from car to database to analysis process**	*Frank Lai, University of Leeds, Lancashire ISA FOT*
	14:00 – 14.30	**Management of video data**	*Dave LeBlanc, University of Michigan* Transportation Research Institute, *USA*
	14:30 – 15:00	**Question session**	
	15:00 - 15:30	**Data management in the 100-car study**	*Michael Mollenhauer, VTTI & Transecurity, LCC, USA*
	15:30 - 16:00	**Reuse of data**	*Oliver Carsten, FOT-Net*
	16:00 – 17:00	**Panel and conclusions**	

Participants

Most of the 20 participants are involved in a FOT. Most of the participants come from research institutes, but also from the automotive industry and public authorities. 60% of the participants are involved in a FOT that is still in the preparation/planning phase, and 40% in a FOT that is in progress. Participants indicated that they attended the seminar to share experiences, and to learn from others.

Presentations

During the seminar, presentations were given by people involved in FOTs in Germany, Europe, the USA and the UK. Presenters explained the work that is being done in the FOT in which they are involved and focussed on problems and solutions with regard to data management. The emphasis of the presentations was on sharing the practical experiences on data gathering and handling, gained in the FOTs. Different sensors used in gathering data were discussed as well as methods to gather and store data, and how to prepare data for analysis. There was room for questions and discussions between the presentations. Ownership of data was discussed and the possibility to re-use data, for other studies and for simulation models.

The presentations can be downloaded from here:

Yvonne Barnard	**Introduction**
Mariana Rakic	**Practical issues in FOTs (will be available later)**
Josef Krems	**Data requirements and data management in German FOT's (will be available later)**
Mohamed Benmimoun	**Data acquisition at the German1-VMC in euroFOT**
Frank Lai	**Data management: from car to database to analysis process**
Dave LeBlanc	**Management of video data**
Michael Mollenhauer	**Data Handling and Management in Naturalistic Driving Studies**
Oliver Carsten	**Reuse of data**

http://www.fot-net.eu/download/seminars/extraseminar/Fot-Net%20data%20seminar%20Barnard.pdf
http://www.fot-net.eu/download/seminars/extraseminar/Fot-Net%20data%20seminar%20Benmimoun.pdf
http://www.fot-net.eu/download/seminars/extraseminar/FOT-Net%20data%20seminar%20Lai.pdf
http://www.fot-net.eu/download/seminars/extraseminar/FOT-Net%20data%20seminar%20LeBlanc.pdf
http://www.fot-net.eu/download/seminars/extraseminar/FOT-NET%20data%20seminar%20Mollenhauer.pdf
http://www.fot-net.eu/download/seminars/extraseminar/Fot-Net%20data%20seminar%20Carsten.pdf
http://www.fot-net.eu/download/seminars/extraseminar/Fot-Net%20data%20seminar%20Krems.pdf

Questions

During the day, question sessions were organised. The following questions were written down by the participants:

- Will OEMs share all data in European FOTs? If not, then ...? (e.g. detailed radar, decisions of ADAS?)
- What are typical measures for driving behaviour? Speed, acceleration, headway...?
- Has anyone yet used captured data to answer hypotheses and research questions? If so, how successful was it and what problems were encountered? Was the data sufficient?
- Issue: data sharing between 'owner' of data (car company) and research institutes/universities (maybe car companies do not want to give all their FOT data to researchers)
- What sampling rate is sufficient? How much data can we afford to throw away?
- Is there a kind of typical approach to find out which kinds of data are needed? In a sense of questions and hypotheses that come up in all conducted FOTs.
- Much is made about logging of data through the CAN-bus. However, in practise, how easy/practical is this for institutions that do not have cooperation with the industry, or is it simply a non-starter?
- Drivers behaviour upon expertise/cognition level. Data mining techniques, anything new to suggest? Improvements. Data handling/synchronisation of bytes? What to expect?
- Is data synchronization a major issue, or is it solved by current systems?
- Can we give a list of the definitions of FOT in different parts of the world? Each FOT-Net seminar presentation should start with a definition of FOT.
- FESTA describes mostly FOT as a collection of data (objective). It should however put more emphasis on other kind of data to make sure that we use the different tools effectively. Is there a list of tools with pros and cons of the different methods?
- Could the presenters define in more detail some of the performance, or behavioural metrics they seek from their collected data? I'm more interested in FOT metrics as opposed to safety metrics.
- If a "theory-only" approach leads to throwing away/leaving out important/relevant data, what is the best strategy to select a system for the "collect" as much as possible" approach?
- Are we observing the real behaviour? How to make sure we are?
- How can we best protect against data loss, especially with video data?

The questions have been put on the FOT-Net forum, together with (some) answers, so that discussion may continue.

Conclusions

Most of the participants rated the sessions as good or very good. All participants contributed actively and discussions and interactions were lively and useful. The feedback from participants stressed the following points:

- Interesting and informative seminar
- Very good to share experiences and to learn from others
- FOT data will start to improve our fundamental understanding of driving
- Realised that there are no simple answers to safety issues in FOTs, a holistic approach is needed
- Information will be useful for our own work
- Input from the USA was very much appreciated
- Discussions during breaks/lunch were also very useful

Topics to be addressed in the future are:

- Definition of incidents (a discussion forum on this topic has been started on the FOT-Net website)
- Data analysis and data mining techniques
- The future after FOTs: modelling driver behaviour