

Developing User Needs for S-mode

- And now to the question form. On page one we wrote, as an introduction, three scenarios case 1 describing how you as a captain onboard are awakened in

Which menus should be available

Eva Jacobson
Research Engineer, M.Sc

Margareta Lützhöft
PhD, MRIN, MNI

Chalmers University of Technology
Sweden

Shipping and Marine Technology
Human Factors

Cecilia Österman

Marine Eng., Work Env. Eng

Monica Lundh

Marine Eng., Psychology

Eva Jacobson

Civ. Eng., Aviation HF

Håkan Hasewinkel

MSc Computer Sci, Simulators

Margareta Lützhöft

Master Mariner, Cognitive Science, PhD HMI

Johannes Prison

Sw Navy, Interaction Design

Joakim Dahlman

Psychology, M.D. , Defence research

Karl Bruno

Cognitive Science

Thomas Porathe

PhD Interaction design, 3D charts

Margareta Ljung

PhD, Sociology, Organisational change

Anders Brödje (2009)

Master Mariner, VTS and SBP

The Maritime HF group



Projects

- Fatigue at sea
- ER/ECR ergonomics and safety
- Decision making, navigation in fairway (ITOD)
- Information needs and representation (3D-charts)
- MTO-Sea 1 and 2
- Eye tracking, high speed navigation
- Social IT onboard
- BaSSy (S-mode)
- Navigation in ENC (Sw. Navy)
- Cost-benefit of HF in shipping
- User-centred design of bridge & ECR equipment



- Functionbased manning
- Shore-based pilotage (SMA)
- Alarm handling
- ITERATE: IT for Error Remediation And Trapping Emergencies (EU)

Purpose of the study

- Start to define user needs for S-mode
- Create methods for data collection

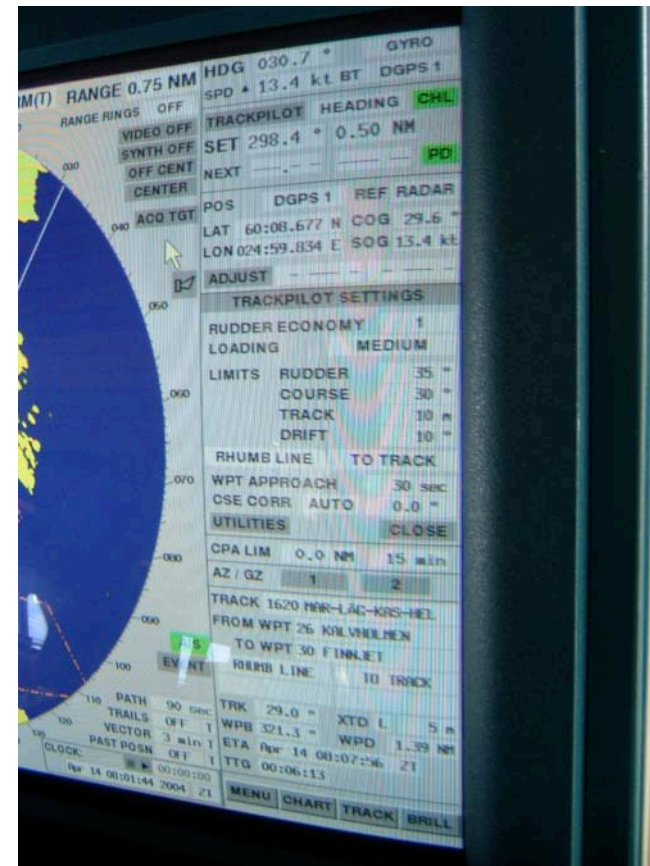
Performance

- Question form
- Interviews
- Workshops



Why S-mode?

- Default settings for navigation displays
- Easy to learn
- Quick overview (SA)
- Increasing safety



The Question form

- Information
 - Three scenarios: new officer, pilot, awakend captain
- Questions based on the scenarios
 - What does the radar look like when you initialise S-mode?
 - Available controls/buttons
 - Other available information
 - Available menus

The Participants

- 54 total
 - 17 Swedish officers
 - 7 European officers
 - 23 officers from the Swedish Navy
 - 7 master mariner students

Selected results from the survey

Clear yes to

- Range 6 nm
- North up
- Vectors true
- Latitude/Longitude
- Time
- Speed
- Course

Clear yes to

- Drift
- CPA
- TCPA

Clear no to

- Range 12
- Head up

More results

Wanted as hardware

- VRM
- EBL
- Gain
- Clutter sea manual
- Clutter rain manual
- Vector mode relative/
true

Wanted as software/ menu

- Vector lenght

Future study

- Day settings
- Night settings
- Twilight settings

Method discussion

- Better data quality when discussing with the seafarers than sending out questionnaires
- Even so, participants could misinterpret questions



Conclusions

- Many results are quite clear
- Others need more probing to reach a conclusion
- No major differences between data from merchant shipping and navy

Future work

- Collect more data, 54 participants so far
- Top-down study
- Expand study with other equipment
- Include seafarers from many cultures
- Distant future?
 - Involve academies world wide (cooperate with NI)

Thank You for listening!

