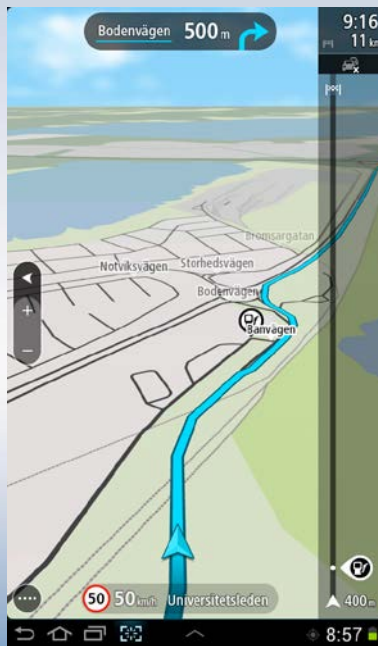
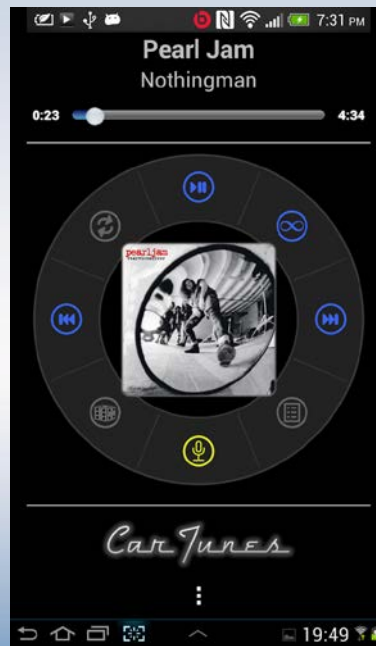


Testing of Mobile Apps Intended for Use while Driving

Arne Nykänen



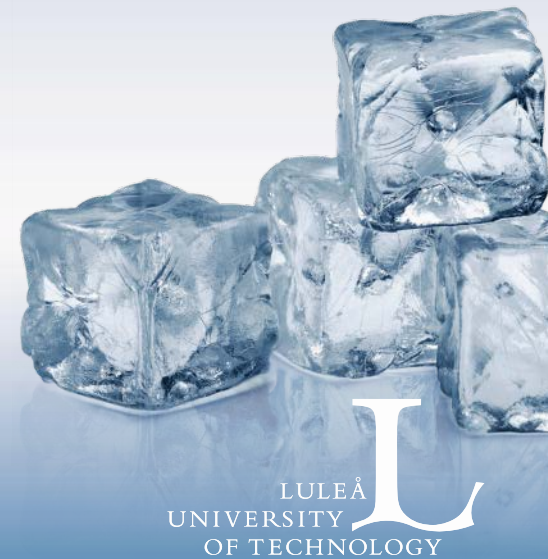
Screenshot from TomTom GO Mobile for Android



Screenshot from Car Tunes for Android



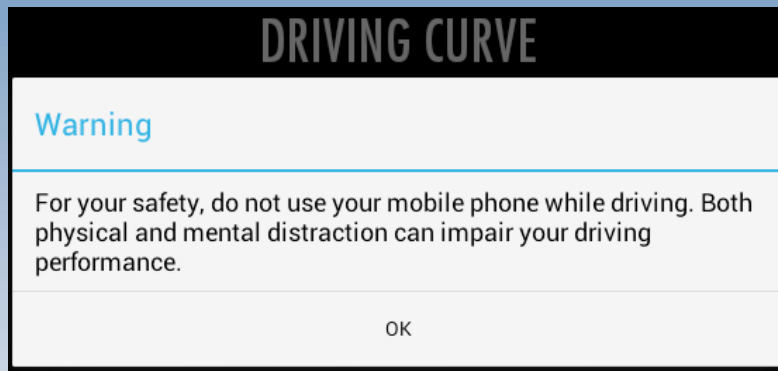
Screenshot from Driving Curve for Android



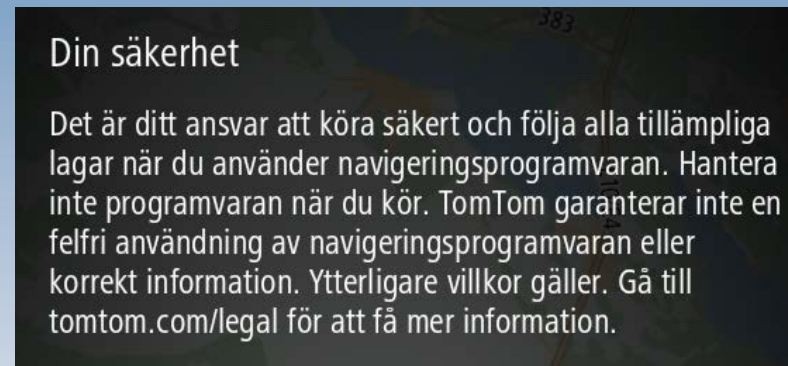
Why?

Screenshots from Google Play

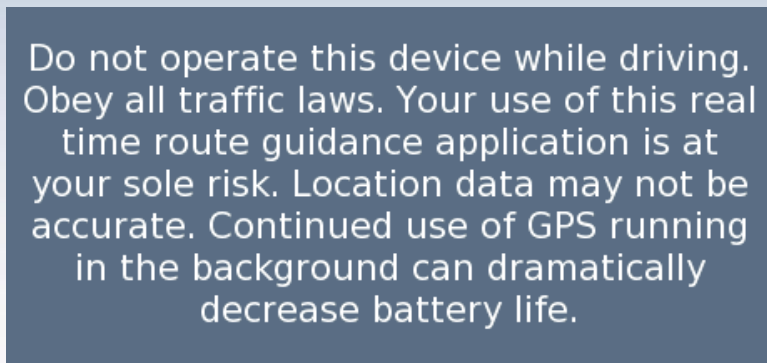
Should we use them while driving?



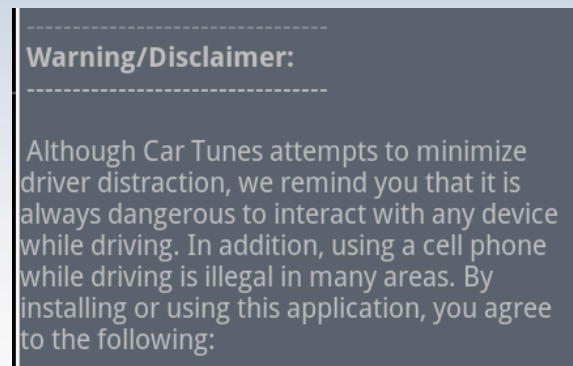
Screenshot from Driving Curve for Android



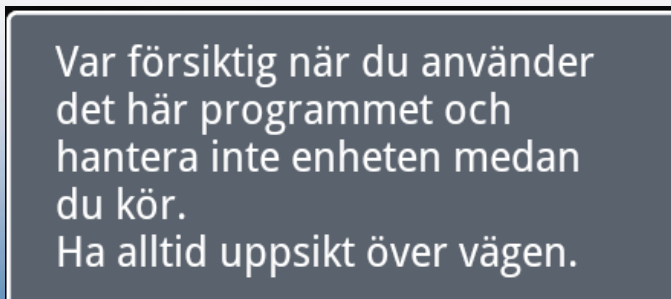
Screenshot from TomTom GO Mobile for Android



Screenshot from Be-on-Road for Android



Screenshot from Car Tunes for Android



Screenshot from the car interface on a LG-P990



Screenshot from CarHome Ultra for Android

How do we make them safe(er)?

- Design them better
- Test driver performance and distraction

3D Sound Design

Lab experiments



User-centred agile methods



User-centred agile methods

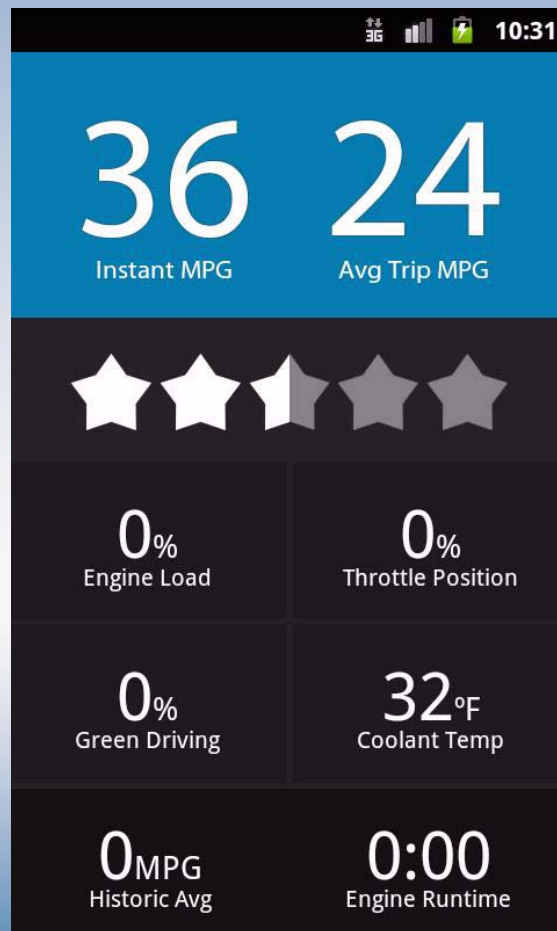
- The user is on the team
- Get user feedback into the iterative process
- Get user feedback from real users in context
- Resolve problems through iterations with users
- Contextual inquiry – observe the work (i.e. observe the user when he/she drives)
- "Paper prototyping" – the "mule"
- Iterate, iterate, iterate...
- Finally, test driver performance and distraction

Safe and Sound Drive

- Design of a sound based serious game for cars that help drivers to:
 - increase eco-driving skills
 - lower fuel consumption
 - encourage safe driving
- Measure how the designed game affects fuel consumption, speed and safety

Other eco-driving apps

Efficiency



Screenshot from Efficiency for Android

Driving Curve



Screenshot from Driving Curve for Android

Summary

- Good interface design is promoted by user centred design methods and user evaluations on tracks
- We need suitable test tracks
- We need users at the tracks
- We need UX designers, engineers and psychologists at the track