



Consumer Technologies Lessening Driver Distraction

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Distraction – Tech Solution Categories

Manual

Eyes on Road

- Hardware
 - Pre-install (designed/integrated by automaker)
 - After market (different OEM – Garmin, TomTom, Samsung, Apple)
- Software (Input v Output) – Nuance, S Vox, Microsoft
 - Speaker Dependent
 - Speaker Independent

Hands on Wheel

- Hardware – ear buds, bluetooth, dial, roller balls, steer wheel mounted, microphones/speakers, button
- Software – voice recognition, STT, TTS, etc.

Cognitive

Mind on Vehicle Operation



Distraction – Some Consistent Challenges

Initiation

Activity Entry

Corrections

Activity Confirmation

Activity Launch

Activity Refinement

Activity Conclusion

Case Studies

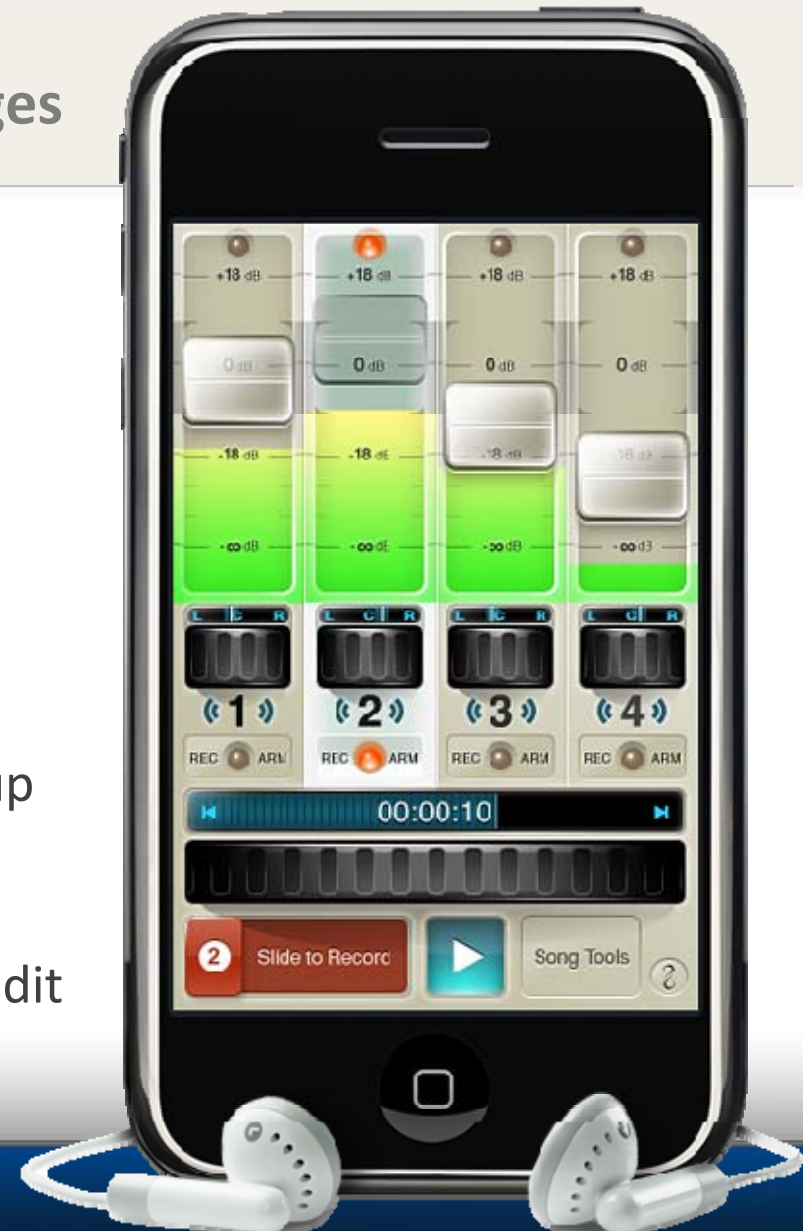
Call – locate, initiate, id caller, answer, hang up

Text – initiate, read, respond

Infotainment – initiate, select, calibrate, end

Directions – initiate, input, confirm, launch, edit

Other Systems – initiate, modulate, end



Manual Distraction – How is Technology Helping?

Manual Distraction

Eyes on Road

Hardware

Software

- Faster Touch
- Less Touch
- No Touch

Hands on the Wheel

Hardware

Software

- Gate Commands
- Natural Language Entry, Careful Scripting
- Seamless Commands – confirmed intent and action started
- No Touch



Cognitive Distraction

Mind on Vehicle Operation

Manual Distraction – What’s Out There Now?

Manual Distraction

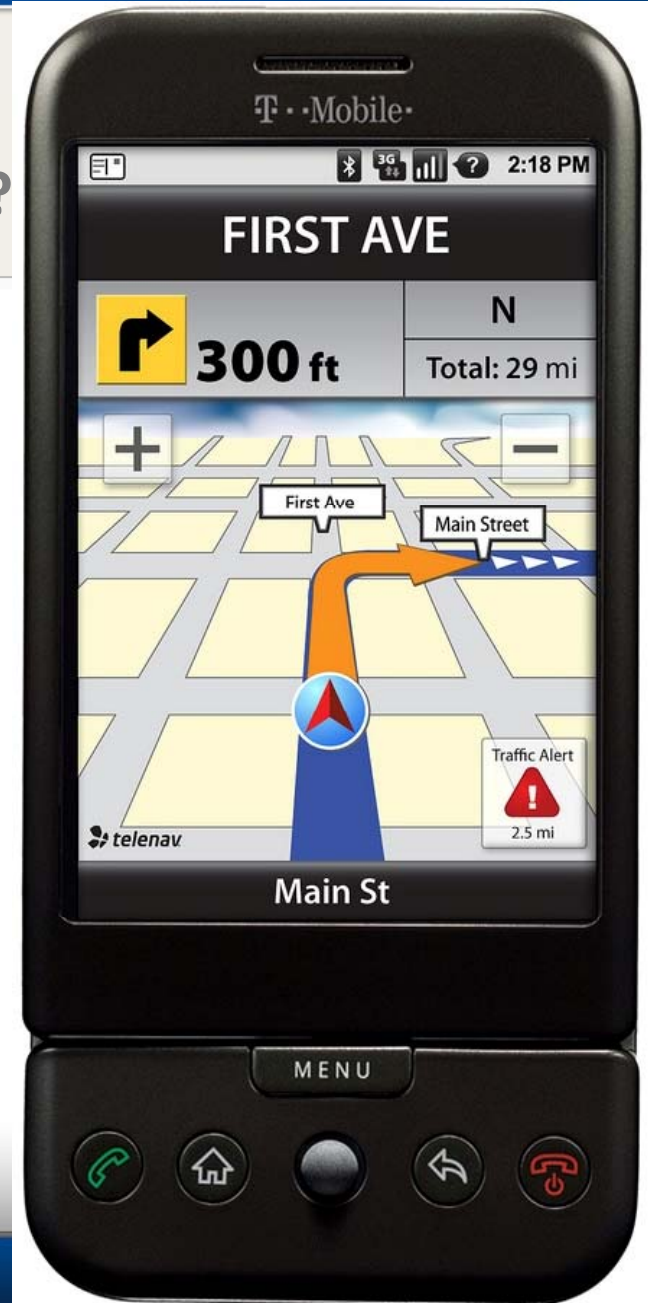
Keeping Eyes on Road AND Hands on Wheel

- Faster Touch – Predictive Text, Next Word Prediction, Logic Algorithms
- Less Touch – Hybrid Text and Speech Entry (On Star and Ford Sync)
- No Touch (hands free) – Speech Command and Control
- Gate Commands – Voice Recognition esp. Voice Activation
- Seamless Commands – Pictured
- Natural Language Entry
- Other



Cognitive Distraction

Mind on Vehicle Operation



Manual Distraction – What’s Next?

Manual Distraction

Eyes on Road AND Hands on Wheel

- Faster Touch – Context Aware Text
- Less Touch – More ways to say any command
- No Touch – Speech Recognition Accuracy and Deeper integration

Cognitive Distraction

Mind on Vehicle Operation

