Attention... back in the Driver’s Seat
Commute Time Wasted Underutilized

100M Commuters Driving Alone (US)

45 minutes Average Daily Commute

300 quiet minutes monthly

250 hours every year …

some of which could be used for learning

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Figure 1: Risk Odds Ratios Determined by the 100-Car Study Analyses and Two

Study FMCSA Analyses - NHTSA 2013
Driving accidents are on the rise

**Driver**

**Distractions**
Insufficient attention paid to driving, inability to handle sudden emergencies

**Drowsiness**
Risk of drowsiness on long stretches and of losing control of the vehicle

**Frustration**
Missed opportunity to make daily commute stimulating and productive

**Car accidents**

<table>
<thead>
<tr>
<th></th>
<th>US 2013</th>
<th></th>
<th>EU 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injuries</td>
<td>3.8M</td>
<td>1.8M</td>
<td>424k</td>
</tr>
<tr>
<td>Deaths</td>
<td>35,200</td>
<td>43,000</td>
<td>3154</td>
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</tbody>
</table>

**Distracted Driving**

<table>
<thead>
<tr>
<th></th>
<th>US 2013 (NHTSA)</th>
<th></th>
<th>EU 2008 (CARE)</th>
</tr>
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</table>

**US: 660,000 smart phones used by drivers any given time**

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Traffic Statistics

**Worldwide**
- 50M injuries
- 1.25M deaths
- 90% human error

**US 2015**
- 400k injuries
- 34k deaths
- 94% human error
- 26% distraction
- 10% drowsiness
- #1 cause of teen deaths
- 13% cars with telematics

**US 2020**
- 75M UBI policies (45%)
- 53% cars with telematics

**India 2013**
- 1.4M accidents
- 137K reported deaths
- (207k est. deaths)
- #1 cause of death
  - age 15-29

**China 2013**
- 213k accidents
- 58k reported deaths
- (261k est. deaths)
Manage Driver Attention for Optimal Driving Performance

Suboptimal Zone
Laid back, bored, too relaxed

Safe Zone

Stress Zone
Anxiety, Panic, Anger, Fear, Stress

Driver Performance (animation)

SOLUTION - model

TeleLingo Proprietary - Dec 2015
Solution - Approach

“Guardian Angel” to warn drivers discretely when they are
- Distracted
- Drowsy
- Inattentive

Hands-free & Eyes-free
Vehicle and Context-aware operations

On safe, traffic-free stretches of road, when driver’s attention exceeds the required level LingoFit offers mind fitness exercises

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LingoFit Architecture

Eyes on road
Hands on wheel

- **Verbal Interaction w/ Driver**
- **Track Performance Scores**
- **Stimulating Mind Exercises**

- **Analyze Driver Attention**
- **Model Driver Behavior**

- **Audio Feedback to Driver**

- **Evaluate Car “Stress”**
- **Evaluate Traffic, Weather**
- **Model Driving Context**

- **Heartbeat & Skin**
- **Evaluate Driver Stress**
- **Model Driver State**

Opt. biometrics from wearable bracelet / watch

All functions implemented on the phone

TeleLingo Proprietary
### LingoFit components

#### LingoFit Processor
- Extended Telemetry data
- Recording of accidents
- Wireless Data Comm.s

#### Rear Camera
- Distraction
- Use of phone
- Talking with passenger
- Talking with speakerphone
- Parked vehicle monitoring

#### Front Camera
- Cross-lanes Drifting
- Tailgating at high speed
- Missing traffic signs

#### Phone
- Eye-gaze, eye-lid tracking
- Drowsiness Detection
- Traffic, Weather, Routing info
- Context Risk Evaluation
- Driver Behavior Scoring
- Audio Alerts and Warnings
- Safe Dialog UI

---

Adhesive-installed unit (LingoFit 1)
Market Opportunity

100M Commuters (US)

$200M Attention Monitoring (UBI)

$450B Yearly cost of Car Accidents (US)

$20M Pre-meeting Prep.

$36M Teen Driver Monitoring

TeleLingo Proprietary

LingoFit V.1

Drowsy- & Distracted-Driving Prevention

$41M/yr

Pre-meeting Preparation

$20M/yr

Teen Driver Monitoring

$36M/yr

Language Practice

26M/yr

100M Commuters

1M Mkt. Opp.

LingoFit

6M Sales & Teachers

300k Mkt. Opp.

LingoFit

9M teens

360k Mkt. Opp.

LingoFit

20M non-native

200k Mkt. Opp.

LingoFit
Learning = Cadenced Repetions

Attention Monitoring System manages Personal Assistant’s operation

LingoFit only speaks when it’s safe to engage

Research shows that meaningful repetition of a word 100+ times keeps it in long term memory

Memory retention of a new word is most effective with increasing intervals between repetitions

http://www.thepolyglotdream.com/forget-it-the-secret-of-remembering-words/

I am your Personal Assistant and will help you with language practice.
Learning “in context” by ...

- Fulfilling immediate needs
- Real time scenarios, in the moment learning
- Visualization
- Raising motivation

We are entering a bridge!
B-R-I-D-G-E
Pronunciation Correction

- Practice hearing
- Imitate spoken words/sentences
- Record yourself
- Practice daily
- Get used to sounding awkward
- Feel free to experiment

• Get accurate feedback and objective scores
Memory Jogging

Cadenced brief spoken responses to questions stimulate brain activity and prevent insurgence of drowsiness or sleepiness.

LingoFit offers mind exercises in forms of carefully designed memory-jogging question-answering sessions.

Driving conditions and driver responsiveness determine appropriate pacing and richness of the content.

Example: sales person driving long distance to an important meeting ...
Preview of LingoFit’s Training Mode

- Verbal Interactions
- Audible Warnings
- Day/Night View
- Color-coded Feedback

TeleLingo Proprietary
Thank You!

www.telelingo.com