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Problem

Distracting behaviors while driving:

Texting, Calling, Scenery, Makeup, Drinking, Exhaustion...
Each day in the United States, over 1,161 people are injured and over 8 people are killed in crashes that are reported to involve a distracted driver.
How many of you still engaged in distracting behaviors while driving after the previous presentation?
How can we encourage *and* reinforce safer driving habits?
Initial Paper Prototype

OVERVIEW
Initial Paper Prototype

TASK 1: PROCESSING & VISUALIZING DATA

Turn on and connect device
Initial Paper Prototype

TASK 1: PROCESSING & VISUALIZING DATA

Settings

Device Settings

Alert Settings
Initial Paper Prototype

**TASK 1: PROCESSING & VISUALIZING DATA**

Dashboard Summary

Stats view → Scrolling for more → Switch to month view
Initial Paper Prototype

TASK 2: Sharing & Comparing Driving Habits

Friend View of Leaderboard

Individual Profile

National View of Leaderboard
Initial Paper Prototype

TASK 2: Sharing & Comparing Driving Habits

Privacy Settings
Three participants

Male and female
First two males were inexperienced drivers
Last was semi-experienced female driver (~5 years)

Two parts to the test:

How user would use it for the first time: installation, pairing
How user would use it after a while: stats, leaderboard
Issues addressed:

- No affordance for clipping panda
- Inconvenient button placement on panda
- No details on how to connect panda
- “Allowed activities” settings encouraged illegal activities
- No detail view for data on stats or dashboard
- Stats graphs did not afford clicking or scrolling
- No capability to add/remove friends
No Affordance for Clipping Panda

So we added clips to the bottom
Inconvenient button placement on the panda

So we put the buttons on the left side
No details on how to connect panda

So we added it to the settings
“Allowed activities” settings permitted illegal activities

So we added detailed stats about them instead
No detail view for data on stats or dashboard

So we added a detail view
Stats graphs did not afford clicking or scrolling

So we made bars thicker and added a scrollbar
Final Paper Prototype

OVERVIEW
Final Paper Prototype

**TASK 1: PROCESSING & VISUALIZING DATA**

Clip on to Mirror
Buttons & Light on the left side
Final Paper Prototype

TASK 1: PROCESSING & VISUALIZING DATA

New User
Detailed View of Text
→
Dashboard
→
Click on Pie Chart
Final Paper Prototype

TASK 1: PROCESSING & VISUALIZING DATA

- Monthly Stats
- Swipe Down
- →
- Click on Feb
- →
- Detailed View of Feb
Final Paper Prototype

**TASK 2: SHARING & COMPARING DRIVING HABITS**

- Add Friend
- →
- Find Friend
- →
- Checkout
Final Paper Prototype

TASK 2: SHARING & COMPARING DRIVING HABITS

Option
Remove Friend

→
Pick Action
Welcome to DASH

For the best experience, connect your panda device to Dash via Bluetooth.

Dash tracks your eye and body movements while you drive. Sharing and tracking settings can be changed at any time in Privacy Settings.

Get started
Digital Mockup

TASK 1: VISUALIZING & PROCESSING DRIVING DATA
Digital Mockup

TASK 1: VISUALIZING & PROCESSING DRIVING DATA
Digital Mockup

Task 1: Visualizing & Processing Driving Data

Dashboard

Today

Day  Week  Month

62
Safety Score

Focused
Texting
Calls

Focused

40
Minutes

Eyes on road
38 min
95%

Eyes on mirrors
2 min
5%

Apps

15
Minutes

Snapchat
6 min
40%

Facebook
5 min
33%

Twitter
3 min
20%

Gmail
1 min
7%
Digital Mockup

TASK 1: VISUALIZING & PROCESSING DRIVING DATA
Digital Mockup

TASK 1: VISUALIZING & PROCESSING DRIVING DATA
Digital Mockup

**TASK 1: VISUALIZING & PROCESSING DRIVING DATA**

![Digital Mockup Image](image-url)

**Stats**

**February**

**SAFETY SCORE**

<table>
<thead>
<tr>
<th>SUMMARY</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Focused</td>
<td>37 min</td>
<td>74%</td>
</tr>
<tr>
<td>Apps</td>
<td>5 min</td>
<td>10%</td>
</tr>
<tr>
<td>Calls</td>
<td>5 min</td>
<td>10%</td>
</tr>
<tr>
<td>Texting</td>
<td></td>
<td>5%</td>
</tr>
</tbody>
</table>

**Calls**

- 5 min
- 10%

**Texts**

- 2 min
- 5%

**TOP APPS**

- Gmail: 10 min
- Snapchat: 8 min
- Facebook: 7 min
- Twitter: 2 min
- Instagram: 2 min

**TEXTS**

- Sent: 18 messages, 4 min
- Received: 22 messages, 3 min
Digital Mockup

TASK 2: SHARING & COMPARING DRIVING HABITS
Digital Mockup

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Digital Mockup

TASK 2: SHARING & COMPARING DRIVING HABITS
Digital Mockup

Settings

- Profile
- Device
- Alerts
- Privacy
- Help

Privacy

SHARING
- Share with friends
- Share with national dataset
- Block all contacts

TRACKING
- Track eye movements
- Track body movements

Sharing and tracking can be changed at any time. About Dash Privacy...
Digital Mockup

SETTINGS

Connect Bluetooth

To pair with device, go to phone settings and select Panda V1.1

Cancel  Settings

Sync Frequency

Real Time

Hardware Version

1.0.0

Software Update

Sync Frequency

Real Time

Every 1 minute

Every 5 minutes

Every 10 minutes

Dash will continuously sync your tracking data with the app.
Digital Mockup

**SETTINGS**

**Alerts**

- Alerts
- Alert Sound

**Alert Sound**

- Beep

**Panda Device**

**Phone**

Dash alerts you when it detects distracting activity while the car is in motion.

**Alert Sound**

- CLASSIC
- Beep
- Chime
- Signal
- Twinkle

**VOICE**

- American English
- British English

Dash will alert you through the panda device's speakers. Change volume settings on the panda device itself.
Summary

- Initial design is never perfect
- Prototyping and iterative testing are extremely effective in identifying areas of improvements
- Stay low fidelity!