Conversational Interaction with the Car

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2017 J.D. Power usability data

Car speech moves to the cloud

What’s new?

Car makers adopt Alexa

What’s expected in the years to come?
On-board Speech Recognition

How well does it work in the car?

The J.D. Power *Initial Quality Study* examines problems experienced by original vehicle owners during the first 90 days of ownership.

*Initial quality is determined by the number of problems experienced per 100 vehicles (PP100), with a lower score reflecting higher quality.*

*Car makers pay close attention to J.D. Power scores.*
# Top 10 Automotive Problems in 2017

<table>
<thead>
<tr>
<th>Rank</th>
<th>Problem</th>
<th>Score</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Built-in voice recognition frequently doesn’t recognize/misinterprets commands</td>
<td>6.8</td>
<td>1.4</td>
</tr>
<tr>
<td>2</td>
<td>Built-in Bluetooth mobile phone/device frequently pairing/connectivity issues</td>
<td>5.0</td>
<td>0.6</td>
</tr>
<tr>
<td>3</td>
<td>Excessive wind noise</td>
<td>2.6</td>
<td>0.3</td>
</tr>
<tr>
<td>4</td>
<td>Automatic transmission – hesitation/shifts at wrong times</td>
<td>2.5</td>
<td>0.2</td>
</tr>
<tr>
<td>5</td>
<td>Media device ports – DTU/poor location</td>
<td>2.2</td>
<td>0.2</td>
</tr>
<tr>
<td>6</td>
<td>Navigation system – DTU/poor location</td>
<td>2.2</td>
<td>0.2</td>
</tr>
<tr>
<td>6</td>
<td>Paint imperfection</td>
<td>2.2</td>
<td>0.1</td>
</tr>
<tr>
<td>8</td>
<td>Materials scuff/soil easily</td>
<td>2.1</td>
<td>0.7</td>
</tr>
<tr>
<td>9</td>
<td>Center console storage – DTU</td>
<td>1.7</td>
<td>0.4</td>
</tr>
<tr>
<td>10</td>
<td>Cup holders – DTU</td>
<td>1.6</td>
<td>0.4</td>
</tr>
</tbody>
</table>
Car speech is moving to the cloud, and this movement enables Conversational Interaction.
What’s New in the Car?

- Apple and Google – enhanced offerings
- Panasonic integrates Onboard Alexa in head unit
- Toyota, BMW announce plans to offer Onboard Alexa
- Hyundai offers SoundHound Assistant
- Alexa-enabled car charger now available
- Mercedes claims best Conversational Interaction
Android Auto – What’s New?

- Full Google Assistant
- Wireless connectivity to car
- Waze – regarded by many as the best navigation UX
CarPlay – What’s New?

- Enhanced navigation
- Enhanced U/I
- SiriusXM
Alexa – Expected Trends in the Car

- The wakeup command
- Remote car control
- Shopping
- Home control
- Enhanced music/audio management
- And more....
FORD AND AMAZON ARE CONNECTING YOUR CAR WITH ALEXA
Integration of Alexa into Panasonic head unit
- Panasonic is major tier 1 supplier for automotive

Major trend toward true automotive assistant
- Full Alexa on-line user experience
- Off-line control of car features (e.g., setting car temperature)

Expect many car manufacturers to adopt
- On-line/Off-line vehicle support

First notable new on-board speech recognition
- Nuance has completely dominated embedded
After Market Alexa Addon

Alexa in a car charger!
The cloud is changing the Car speech experience

CarPlay, Android Auto, and Alexa will sustain

Nuance’s Dragon Drive has competition

Shopping and home control from the car is new

The J.D. Power satisfaction scores will improve
Thank You