Search 8.0

Vocal, Graphical, & the Rise of AI

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New(ish) Search Query Options

- Graphical
- Vocal
- AI & AR Impacts
Graphical and Image Searching
Reverse Image Searching

- Google Image Search
- Google Lens
- Bing Image Search
- TinEye
- CamFind App
Google Lens & Bing Image

• Identify and Search Text
• Select and Identify Products to Search
• Recognize Email Address to Add to Contacts
• Artificial Intelligence (AI) Powered Techniques
Google Lens
Shopping
Example
Comparison

- TinEye: Fail
- Google Images: Fail
- Bing Images: Fail
- Merlin Bird ID
  - **Black Phoebe**
- Google Lens
Voice Searching
Audio Input

• Computers: Desktop/Laptop
  • Google Search, Assistant
  • Bing Search via Cortana on Windows

• Mobile Apps
  • Google
  • Bing
  • Many Others

• Mobile Keyboards
  • For all Apps

• Smart Speakers
Smart Speakers
Amazon Echo, Echo Dot
Google Assistant Home, Mini, Max
Apple’s HomePod
Baidu’s Raven H
Baidu’s popIn Aladdin

Smart speaker with intelligent personal assistant common uses in the United States and Europe* in 2017

Smart home voice assistants usage 2017

<table>
<thead>
<tr>
<th>Usage</th>
<th>Share of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeking information-news, weather, recipes, appointments, relationship advice, offers</td>
<td>82%</td>
</tr>
<tr>
<td>Playing music or streaming videos</td>
<td>67%</td>
</tr>
<tr>
<td>Accessing customer service/support for a brand</td>
<td>36%</td>
</tr>
<tr>
<td>Bought products (groceries/home care/clothes)</td>
<td>35%</td>
</tr>
<tr>
<td>Ordered a meal</td>
<td>34%</td>
</tr>
<tr>
<td>Controlling smart home devices</td>
<td>31%</td>
</tr>
<tr>
<td>Made a payment/sent money</td>
<td>28%</td>
</tr>
<tr>
<td>Booked an Uber or any taxi service</td>
<td>28%</td>
</tr>
</tbody>
</table>

Note: France, Germany, United Kingdom, United States; October to November 2017; 2,558 Respondents; Smart speaker users
Further information regarding this statistic can be found on page 8.
Source(s): Capgemini; ID 798229
Smart speaker with intelligent personal assistant common uses worldwide as of 2018, by platform

Smart home voice assistants usage by platform worldwide 2018

Note: Brazil, Germany, Japan, United Kingdom, United States; March to April 2018; 937 Respondents; smart speaker owners*
Further information regarding this statistic can be found on page 8.
Source(s): Statista estimates; IHS Markit: ID 873139
<table>
<thead>
<tr>
<th>Use Case</th>
<th>Daily (%)</th>
<th>Monthly (%)</th>
<th>Ever (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask a question</td>
<td>91%</td>
<td>72.9%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Listen to streaming music service</td>
<td>89.5%</td>
<td>76.2%</td>
<td>41.9%</td>
</tr>
<tr>
<td>Check the weather</td>
<td>85.2%</td>
<td>69.1%</td>
<td>41.4%</td>
</tr>
<tr>
<td>Set a timer</td>
<td>71.4%</td>
<td>51.8%</td>
<td>24.1%</td>
</tr>
<tr>
<td>Listen to radio</td>
<td>68.8%</td>
<td>47.6%</td>
<td>25.5%</td>
</tr>
<tr>
<td>Set an alarm</td>
<td>65.7%</td>
<td>48%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Listen to news / sports</td>
<td>58.1%</td>
<td>39.4%</td>
<td>14.8%</td>
</tr>
<tr>
<td>Play game or answer trivia</td>
<td>52.3%</td>
<td>31.2%</td>
<td>11.1%</td>
</tr>
<tr>
<td>Find a recipe or cooking instructions</td>
<td>49.5%</td>
<td>26.5%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Use a favorite skill or assistant app</td>
<td>46.5%</td>
<td>29.8%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Check traffic</td>
<td>41.2%</td>
<td>25.8%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Call someone</td>
<td>40.7%</td>
<td>22.7%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Listen to podcasts and other talk formats</td>
<td>40.7%</td>
<td>24.1%</td>
<td>10.1%</td>
</tr>
<tr>
<td>Control smart home devices</td>
<td>38.1%</td>
<td>29.9%</td>
<td>20.8%</td>
</tr>
<tr>
<td>Access my calendar</td>
<td>35.1%</td>
<td>19.6%</td>
<td>6.2%</td>
</tr>
<tr>
<td>Message someone</td>
<td>34.2%</td>
<td>17.9%</td>
<td>8.2%</td>
</tr>
<tr>
<td>Made a purchase</td>
<td>26%</td>
<td>11.5%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Source: Voicebot Smart Speaker Consumer Adoption Report January 2018
Smart Displays
Amazon Echo Show
Echo Spot

- 70°
- Good morning!
  it's 6:30 AM

You gotta love everybody, make 'em feel good about themselves.
Google Home Hub
Facebook Portal
AI, AR, and The Future
AI Everywhere

• Machine Learning and AI Influence
  • Voice Search Results
  • Image Results
  • Even Text Search Results
  • Closely Tied to Location, Search History, Profiled Info

• Especially for Shopping/Marketing
Even Google Doodles
Augmented Reality

• View Products in Context
  • Furniture in Your Own Space

• Live Now at
  • Amazon
  • Ikea
  • Target
  • Williams Sonoma
  • Sephora
  • Benefit (Eyebrows)
Amazon Example
Library Impacts

• New Information Literacy Opportunities
• Tech Check Outs (Framingham PL)
• Events Via Smart Speakers (Worthington PL)
• Ebsco Discovery API → Alexa & Google Home

• Search Alexa Skills
• Google Actions: assistant.google.com/explore
Usability Varies
Questions?

“Search well, be wise”

-Aeschylus