Ready or Not: Here Comes Voice Search
CNI Winter 2019
Agenda

- Introduction: What is Voice Search
- Should Libraries Embrace Voice Search?
  - Does it fill an information seeking need?
  - Is it ubiquitous?
- Voice Search @ OU Libraries
- Conclusion
What is Voice Search?

Voice-initiated request using a wake-up action that retrieves information or performs tasks and outputs a response as either voice or text.

Hi, how can I help?
Should Libraries Embrace Voice Search?

- Voice Search brings up questions of perceived value
  - Why should libraries embrace Voice Search?
  - Why are we investing in this when we have Discovery systems?
  - Isn’t this a luxury not a core service?
- Evaluating library innovation:
  - Does it meet information seeking needs
  - Is the technology affordable & ubiquitous?
  - Does it uphold our values (for example - privacy)?
Should Libraries Embrace Voice Search?

There is a negative relationship between trust in digital assistants and age group (older respondents showed lower trust).

- GenZ (13-24 yrs old) had significantly more trust in digital assistants than GenX (40-60 yrs old).

The prevalence of voice search makes it important to understand children’s changing conceptions of digital devices as a source of information and the role of technology-mediated question-asking in development.

Does it meet information seeking needs?

0 – 8 year olds (2017):

- 98% live in a home with a mobile device - same percentage as a TV
- 95% percent of families have a smartphone
- 42% of children have their own tablet device — up from < 1% in 2011.

What will you do at the intellectual crossroads of the University of Oklahoma?

Does it meet information seeking needs?

1 out of 10 children have voice assistants in home.

- 14% talk / play
- 10% get information
- 7% search for videos
- 5% search for jokes
- 3% check weather
- 1% make calls

Ubiquity of voice interfaces, as well as the availability of voice input in search fields, now make it possible for children to ask questions via Internet search when they are able to speak clearly, but before they have learned to read and write, typically between 3 and 6 years of age.

Does it meet information seeking needs?

Young children are curious and prolific question-askers. They are known to ask factual and causal questions about the world around them when they perceive a gap in their understanding.

Virtual assistants are filling this gap.

Does it meet information seeking needs?

While text-based Internet search results might not be accessible to pre and emerging readers, the explosive growth of online video content supports young children’s ability to independently find and consume online information.

Dramatic shift in young children’s ability to search online is due to both the prevalence of voice-based, natural language search features and the increasing volume of video-based search results.

Is It Ubiquitous?

Is it Ubiquitous?

Amount of daily screen use, not including for school or homework

- **Tweens:** 4 hours, 44 minutes
- **Teens:** 7 hours, 22 minutes

**By socioeconomic status**
- Tweens in higher-income homes: 3:59
- Tweens in lower-income homes: 5:49

Young people in lower-income homes use nearly two more hours of screen media a day than their peers in higher-income homes.

*Note: “Lower income” is <$35,000; “higher income” is $100,000+ per year.*

Is it Ubiquitous?

Time spent watching online videos has increased substantially.

For tweens, YouTube dominates the online video space.

Online video or subscription platforms used “the most” by 8- to 12-year-olds

<table>
<thead>
<tr>
<th>Platform</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>YouTube</td>
<td>53%</td>
</tr>
<tr>
<td>Netflix</td>
<td>27%</td>
</tr>
<tr>
<td>YouTube Kids</td>
<td>7%</td>
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<tr>
<td>Amazon Prime Video</td>
<td>3%</td>
</tr>
<tr>
<td>Hulu</td>
<td>2%</td>
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</tbody>
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Is It Ubiquitous?

Education

The results indicate that groups interacting with Smart Personal Assistant tutors show significantly higher task outcomes and higher degrees of collaboration quality compared to groups interacting with human tutors.

What will you do at the intellectual crossroads of the University of Oklahoma?

Is It Ubiquitous?

Education

Participants feel more confident and comfortable when interacting with SPA tutors compared to human tutors since SPAs are not judging them nor building up any pressure.

“I like Alexa. Compared with a human tutor, I felt no pressure on successfully conducting the task and can decide for my own when I need help.”

Is It Ubiquitous?

Business - Today

• 2019 – Hotel sector (Amazon with Marriott partnership)
  o assist with checkout procedures
  o manage rooms’ amenities.

• 2019 - Healthcare sector
  o remote diagnostics and elder-care applications
  o document patient data within electronic health records
  o place orders for tests and medications

Is It Ubiquitous?

Business - Future

• 2021 - 25% of digital workers will use a virtual employee assistant (VEA) on a daily basis.

• 2023 - 25% percent of employee interactions with applications will be via VEA,

Examples include:
• Amazon's Alexa for Business helping employees delegate tasks such as scheduling meetings and logistics operations.

Is It Ubiquitous?

Google Duplex

Technology for conducting natural conversations to carry out “real world” tasks over the phone.

The technology is directed towards completing specific tasks, such as scheduling certain types of appointments.

Is It Ubiquitous?

Google Duplex

The Google Duplex technology is built to sound natural, to make the conversation experience comfortable. It’s important to us that users and businesses have a good experience with this service.

What will you do at the intellectual crossroads of the University of Oklahoma?

Amazon bolsters Alexa privacy after user trust takes a hit

The company tries to temper customer concerns by unveiling privacy controls like auto-deleting recordings and "Home Mode" for Ring cameras.


Update your Google Home security settings to protect against eavesdroppers

https://www.cnet.com/how-to/update-your-google-home-security-settings-to-protect-against-eavesdroppers/
Should Libraries Embrace Voice Search?

YES!

- GenZ and GenAlpha have radically different information seeking paradigms

- In 5 – 10 years, virtual assistants will permeate almost all sectors in society.

- Voice Search will be same kind of step-change in information seeking as the computer was to the card catalog.

- Libraries need to step into this space as leaders in ethical development of this technology.
Voice Search @ OU Libraries

The University of Oklahoma is always seeking new ways to leverage innovative technologies to engage its students and improve the student experience. Voice is rapidly emerging as a promising new interface that OU students are leveraging in their day-to-day interactions with technology. Many are now bringing Alexa-enabled devices to college with them. OU Information Technology saw this emerging trend as an opportunity to engage students in a new and relevant way.

"Artificial intelligence and voice technology have become increasingly important in higher education, allowing for more personalized and accessible learning experiences. By integrating Amazon Alexa capabilities into our campus, we hope to enhance student engagement and foster a more interactive academic environment.

"To drive student engagement with these skills, OU provided nearly 600 Echo Dot devices to residential students."

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What will you do at the intellectual crossroads of the University of Oklahoma?
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Voice Search @ OU Libraries

Chatbot is active between 7 PM and 10 AM:

• 3,773 Questions Answered (since July 2019)
• 88% Accuracy
• 1,293 Topics of Conversation
• 1,576 Links Clicked from within Chatbot
• 9 AM Most Popular Time
• Tuesday Most Popular Day

View Project Page
“The READ Scale (Reference Effort Assessment Data) is a six-point scale tool to record the effort, skills, knowledge, teaching moment, techniques and tools utilized by the librarian during a reference transaction.”

http://readscale.org/read-scale.html
Voice Search @ OU Libraries

What will you do at the intellectual crossroads of the University of Oklahoma?
Voice Search @ OU Libraries

Positive feedback, and asked for additional features:

- Reserve a study room
- Check out a book
- Login through the system
- Check on the hours
- Email results search
- Drill down into results (using number selection)
- Be referred to a librarian and library services when questions are unanswered
More info? Contact:

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