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18\5\2025

# Talking to Machines

01  
Inspiration and  
Research  
Background  
Geller, 2012

02  
Target  
Audience

03  
Sketches and  
output  
  
The final product is a  
'perceptual  
publication'  
presented in video  
format.



02<sup>03</sup>

G A R B A G E

WANDER



5\18\2025



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# Inspiration and Research Background

Geller, 2012

# 01



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02<sub>03</sub>

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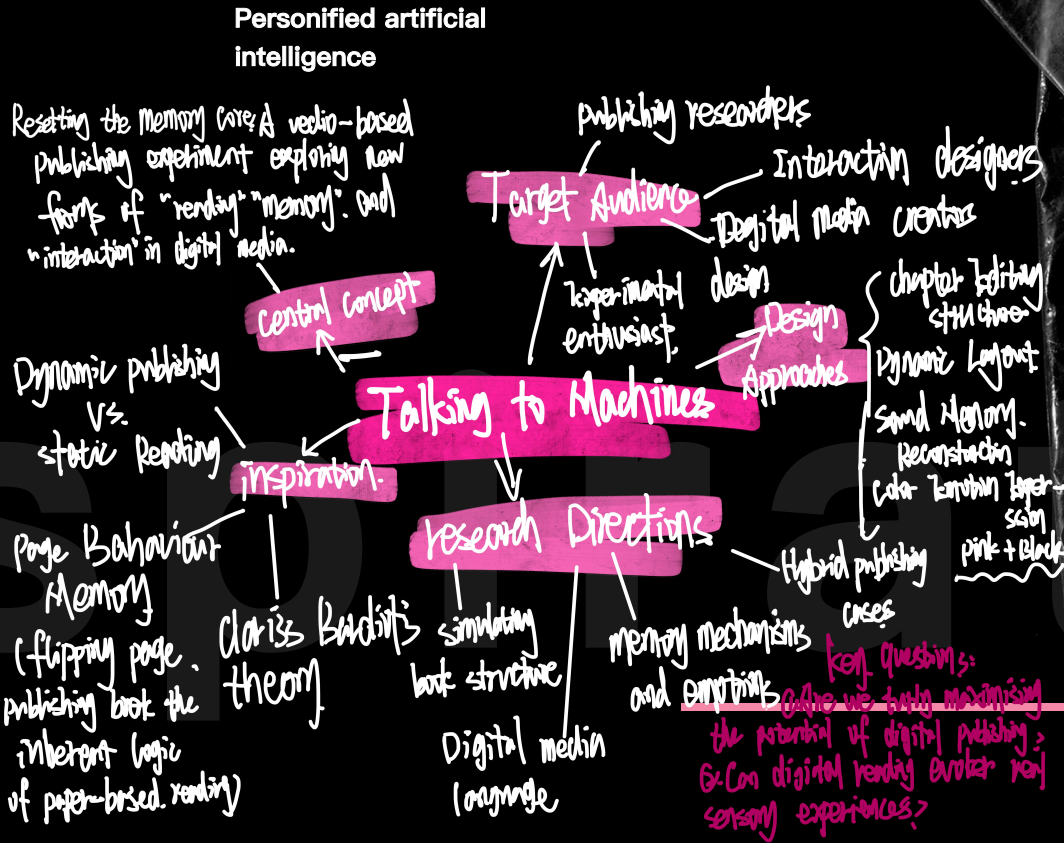
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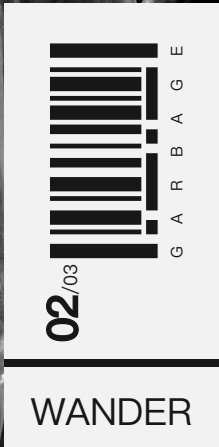
talking to machines

Siri's success lies not only in its functionality, but also in the emotional connection it has established with users through its 'personable voice'.



The original static technical description has been transformed into an immersive, interactive audiovisual experience.

# Inspiration and Research Background





# Target Audience

## Audience

Through visualisation and anthropomorphic voice interaction, we encourage them to rethink the connection between technology and emotion.

## 02

For audiences exploring the boundaries of AI and design



02<sub>03</sub>

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## Audience

Dieses Werk richtet sich an ein junges Publikum, das sich für Mensch-Maschine-Interaktion, Kultur der künstlichen Intelligenz und digitales Design interessiert.



Especially learners in the fields of art, technology, and media.

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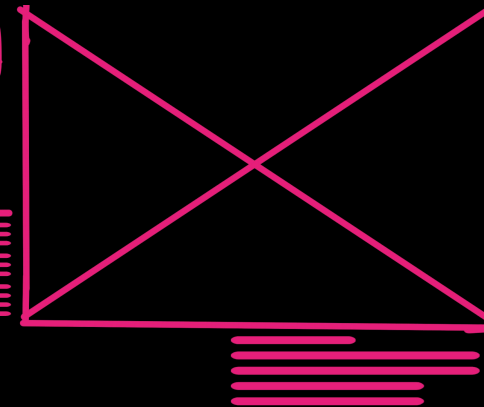


talking to  
machines

Talking  
to  
machine.



Executing  
Commands  
↓  
(the title of  
the article)



# Draft display

## Visual semantic translation

Convert abstract technical terms into concrete symbols, such as waveform diagrams.

## Media transition experiment

Using the metaphor of 'talking books,' explore the two-way relationship between dynamic subtitles, speech synthesis, and readers.

## Spatial design

Use the layout of the screen to simulate the interaction path between the user and the AI assistant, making the content appear as if it is being read and responding to the audience at the same time.

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talking to machines

# Output

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## TALKING TO MACHINE



Tom Geller

**WORDS**

**Key Words:** voice recognition, artificial intelligence, Siri, cognitive assistant, speech recognition, machine learning, context, human-computer interaction, cloud computing.

**Adjective Words:** intelligent, conversational, easy, robust, complex, innovative, evolving, interactive, efficient, limited.

## EXECUTING COMMANDS

FOREWORD

Since the invention of computers, they have changed the way information is communicated. From the early days of the computer, it has evolved into a more sophisticated and powerful tool. This book will explore in depth the development process, core principles and future trends of speech recognition. By analyzing Siri as a case study and the working mechanisms of other voice assistants, we can gain a better understanding of how artificial intelligence can improve the way humans interact with machines and thereby the future partnership between humans and AI.

BY Haoyue Guan

## THE ADVENT OF APPLE SIRI



Siri Integration

Voice

Adaptive Assistant

VISION

## EXECUTING COMMANDS

### GRAMMAR-BASED SPEECH RECOGNITION

There is a long road between the spoken command and its fulfillment. Though the first step in the process is to convert the audio of speech into meaning. The two main applications of speech recognition: Dictation, Command recognition. They have forced researchers to pursue parallel methods that balance vocabulary, accent and context needs. Grammar-based voice recognition is optimized for situations where the program has a very good idea of what the speaker will say. Its most common application is in Interactive Voice Response (IVR) systems, such as those that serve airlines use to interpret spoken reservations and requests for information. These are often conversational. A needed voice into the speaker's question, then listens for the response. As a result, the system needs to understand only a limited vocabulary. But according to Dan Paulkner, vice president of product and strategy for the Enterprise Business Unit at Nuance, responses can vary widely no matter how restricted the domain is.

## AI

### Task Management

existing technologies

IPHONE

The program, which converts spoken commands such as "Schedule dinner with Lisa at 6 tonight" into calendar appointments. Web searches and the like is the most widely distributed example of a cognitive assistant to date. More than four million iPhone 4Ss featuring Siri were sold during its first week-end. Although users might see it as simple speech recognition, its abilities go far beyond simple transcription. Siri represents an important moment when voice recognition, information management, artificial intelligence, task fulfillment and user interface marry in a way the general public finds useful and protective. Dr. William Bower, executive director, Jac Barthelet says "The news about Siri is that it works. People have tried to get computers to answer questions conversationally for at least 15 years but only now has the technology reached a threshold where people really like it." The iPhone's popularity also gives intelligent software assistants wider exposure than they would get otherwise. Roger E. Moore, editor in chief of the journal Computer Speech and Language points out that "the field of research hasn't changed dramatically. What's new is that Siri's brought several complementary technologies together. Our business has been going for many years. Only now with Siri, everybody knows about it."

## Medium and Output Format

The final product is a 'perceptual publication' presented in video format, which simulates real interactions between Siri and users through synchronised images, voice, animation and text.







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to examine working on the phone, the user's phone number is entered in the cursor is in an email program's "To" field. And Siri switches from command to dictation mode when you speak.

But voice recognition is only a small part of the puzzle. Before a cognitive assistant can schedule that dinner with a friend, it needs to understand a person's calendar, list of contacts, and other information. And where that information is found in the user's address book and so forth.

**Personalized Assistant that Learns**

Some of this understanding came from a Defense Advanced Research Projects Agency (DARPA)-funded project, Cognitive Assistant that Learns and Organizes (CALO), which was part of DARPA's PAL (Personalized Assistant that Learns) program. CALO's focus was not on voice recognition per se or natural-language understanding or on human-computer interaction in general.

## DICTATION OPTIMISATION AND DISADVANTAGES

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# EXPECTING

Technology | doi:10.1145/2133806.2133812

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**E-book testing :**  
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THANK YOU

