The User Experience of Conversational Interfaces

What can I ask you?

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Intelligent Assistants

Alexa (Amazon)  Siri (Apple)  Google Assistant  Microsoft Cortana
Conversational Interface?

The promise: the user can speak or chat in his own language..

...and the system answers in the user’s language.

So cool!  You are kidding me!  When is lunch again?
The promise: the user can speak or chat in his own language.

...and the system answers in the user’s language.

So cool!
We wanted to know:

- Can conversational interfaces live up to the promise?
- Are they really that easy to use?
- What works well and what doesn’t?
- What does it need to create great user experiences with conversational interfaces?
We immersed ourselves in conversational interfaces

From the video http://hyper-reality.co/
We observed people using them

What can I ask you?
We developed chatbot concepts with laypersons.
We built chatbots with several tools...

[wit.ai] [api.ai] [Dialogflow] [DEXTER]

[FLOW] [Landbot.io] [Botsociety]

[Chatfuel] [motion.ai] ...
### Exploratory study to support hypotheses

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German only:
The good news

When done right, conversational interfaces can be very useful, enjoyable and make peoples lives easier.
The bad news

With conversational interfaces you raise high expectations which are rarely fulfilled today

Therefore, the potential for frustration is very high
High expectations

Speech recognition works really well

Many users think the machine has "understood" them and then they are very disappointed if the answer is irrelevant.

Should also understand Swiss German
Hey there, Sibylle! How can we help?

Easy Order
Most Recent Order
Track My Order

To place your Easy Order, please sign in to your Pizza Profile.

I want to buy pizza

Sorry I don't understand. Please select an option above, or if you need help, please type "help". If you would like to start over you can type "reset"
"(╯°□°)╯~ Sorry, I cannot understand your query. Use a few words to tell me about your health problem. For example, you could type "I'm 25 years old, 75kg, 5.10 ft and want to lose weight." In case you would like to report an issue, please drop us an email at hello@lybrate.com

Here are things I can help you with:

Ask Lybrate

Here are some answers and related advice for your health query:

The Good That LEMON+HONEY Early in Morning Does to Your Body

We know this very well how beneficial drinking water just after getting up is an...

Read Health Tip

Ask Lybrate

Health Tips for You

Hello, Aapke problem ki wajah hosakti hai ki Aapke Maas-Peshi mein soojan Aaya h...

Read this Answer

Get a Summary

Ask Lybrate
Real-world chatbot experiences...

No wonder many people think chatbots are useless
HAL 9000
2001: A Space Odyssey (1968)

https://www.youtube.com/watch?v=ARJ8cAGm6JE
HER
(2013)

https://www.youtube.com/watch?v=XsQqMwacZQw
Will we ever talk to machines as easily as we do talk to humans?
Machines become more intelligent
- Humans remain humans
What is the problem?

**Human communication is complex:**

- Pronunciation
- Facial expression
- Gestures
- Context

**Perhaps most important:**

**Knowledge about the person vis-a-vis**
Humans adapt to the person vis-a-vis

**Users are well aware that machines are not as smart as HER yet**

**Users do not know what to ask because they have little experience with conversational interfaces.**
Humans adapt to the person vis-a-vis

**Alexa, what can I ask you?**

Users do not know what to ask because they have little experience with conversational interfaces.

Main difference to the graphical user interface: no options or call-to-actions are visible!

Users are faster frustrated than with graphical user interfaces. At least you can still click around there.
Users still need help

You can look for things to try in the help section of the Alexa app.

I can give you the cheapest flight fares. Where do you want to go?

How old is your child? You can say something like 3 months or 5 years.
More than words: the non-accuracy of language

Do you have the time?
Siri, call me an ambulance

OK, from now on, I will call you «an ambulance»

Error in interpretation from early Siri that is fixed now.
Humans are bad synonymizing

Most search functions use synonyms now

The first online video stores had no James Bond movies ...

Even everyday objects are sometimes hard to name:
Could you please pass me that...?

Thingy? Shopping separator? Grocery divider?

In German:

[link: https://www.migros.ch/de/genossenschaften/migros-zuerich/standorte/supermaerkte/sonntag-einkaufen.html]
Humans add more detail for better understanding

To make themselves understandable in a conversation, people add more detail.

Doesn’t work with search engines but we sometimes see this in Usability Tests.

Even more likely behaviour with conversational interfaces than with search engines.
It gets emotional quickly

Alexa, are you stupid?

I don’t know the answer to that question.

I am still learning

Shut up, Alexa!

Most people feel competent to have a conversation and they have a clear idea of how to do it.
Utility matters

Before you start building, think about if there is a better alternative. (otherwise people won’t use it).

I don’t have to hang on hold.

I'm embarrassed to go to the family doctor ...

It is often useful for very limited but highly personalized problems.
Dispute parking violation tickets: Lawyer Bot DoNotPay

This works in many strictly limited contexts, e.g. how do I claim my expenses?

https://chatbotsmagazine.com/how-to-make-a-great-chatbot-exploring-use-cases-665d393388d5#.1r9ozlmwa
What can I help you with?

Search for: Delayed flights

www.donotpay.com today
If a conversational interface is useful does heavily depend on the context.

I would love to use it while driving or while cooking.
Technology good, but doesn’t suit my context.
Conversational Interfaces usually don’t know the context

Alexa understands almost all the words I say, but can only give few answers and always "forgets" the context.

She also does not know the physical context: She also orders dollhouses when someone says it on TV ...
Usability Matters

What is the time, Alexa?

No reaction: you have to say “Alexa” first

How can I go back?

... to the information or choice I got earlier. Alexa can’t help me here

It didn’t hear me. Again!
When can I talk?

In some systems you have to keep the button pressed while speaking but people often didn’t understand it.
Handling misunderstandings

No, that’s not what I meant!

How can I change my wrong entry?
Trust matters

How to deliver bad news?

Don’t forget that this is not a medical diagnosis. If in doubt it is always best to seek advice from a medical professional.
Often a transfer from the chatbot to a person makes sense.
Teaching Assistant Jill

Jill Watson fooled students of an AI course

Example for UX question and ethical question

Should we disclose that the user talks to a machine?

Zeix recommendation:

Yes! (Despite Google Duplex)

It helps to avoid misunderstandings and users feel cheated when they find out.
I am Jojo your virtual advisor. How can I help you?

The users then often adapt, e.g. with simple wording, but they curse and insult more easily.
More questions raised than answered ...

This were only a few examples
Common statements from users

- It feels (still) strange to talk to a machine.
- Will be common in the future.
- I will probably use it in the future, while cooking or driving or gardening.
- It should be able to understand Swiss German.
Test participant chatbot by Zeix

Until now:

Anmeldung

Usability-Testpersonen gesucht


Ihre Daten werden vertraulich behandelt und ausschliesslich für Anfragen zu Tests verwendet. Wir kontaktieren Sie höchstens 1-2 mal pro Jahr, wenn wir eine Testperson mit Ihrem Profil suchen. Bei jedem Test werden Sie für Ihre Umstände entschädigt.

Wir werden Sie innerhalb einer Woche telefonisch kontaktieren, um mit Ihnen genauer zu besprechen, wie ein Test abläuft und um noch zusätzliche Fragen zu Ihrem Profil zu stellen.

New:

https://zeix.com/testpersonen/

https://zeix.com/testpersonen/

Willst du dich anmelden?

Was ist das?

Ja, ich mache mit

Nichts für mich

Ja, ich mache mit

Super! Dann nehme ich Deine Kontaktdaten auf und jemand von Zeix wird sich telefonisch bei Dir melden.

Wie heisst Du?

Hallo Sibylle,

Sibylle

Hallo Zeixi
3 basics for great chatbot UX
Build empathy

Learn what your users want to achieve, what they ask, how they ask it
Bring people with different views together to discuss concrete use cases.

Sketch out parts of the conversation, e.g. in Design Thinking workshops

For a great UX, we have to work together: NLP researchers, data scientists, UX experts,...
Iterative Process

Test

Monitor

Improve

Repeat
Take home messages

**A successful conversation needs two sides**

**A good conversational interface can anticipate the needs of the user, learns and supports the user in the input.**

**The user is ready to adjust to the interface when he gets help.**

**The interface helps the user to make structured data from unstructured data and takes over the abstraction.**
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More on our website:
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