

The User Experience of Conversational Interfaces



What can I ask you?

Dr. Sibylle Peuker

Partner, User Experience Architect Zeix AG

@sibylle_p

SwissText June, 13 2018

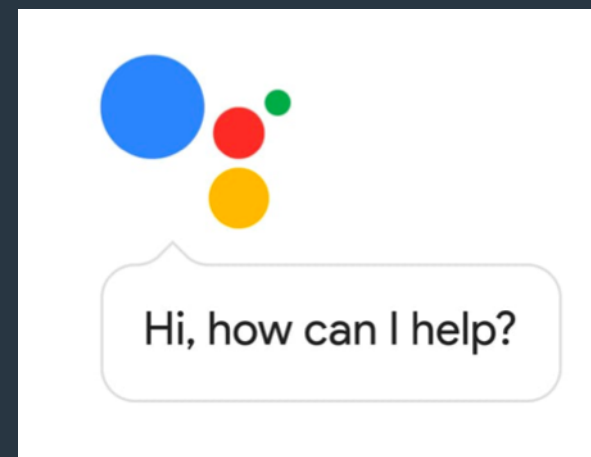
Intelligent Assistants



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?

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!

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

zeix

What can I ask you?



We developed chatbot concepts with laypersons

zeiX



We built chatbots with several tools



DEXTER



Landbot.io



Chatfuel



...

Exploratory study to support hypotheses

Testperson	Alter	Aktuelle Tätigkeit
Herr M.	19	Schüler
Frau A.	26	Assistentin der GL
Herr L.	27	Maschineningenieur
Frau S.	28	CMS-Mitarbeiterin
Herr J.	29	<u>Medizinaltechniker</u>
Herr S.	31	Ingenieur
Frau A.	33	<u>Szenographin</u>
Frau F.	33	Immobilienkauffrau
Frau N.	36	Künstlerin
Herr S.	44	Kunstmaler
Herr E.	51	<u>Steuerkommissär</u>
Frau R.	53	Teamassistentin
Frau U.	55	Reinigungskraft
Herr P.	56	Organisationsberater
Frau C.	61	Lehrerin
Herr A.	63	Sachbearbeiter

German only:

<https://zeix.com/durchdacht/2017/12/04/ist-reden-gold-conversational-interfaces-im-praxistest/>

The good news

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

«Alexa are you stupid?»

The bad news

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

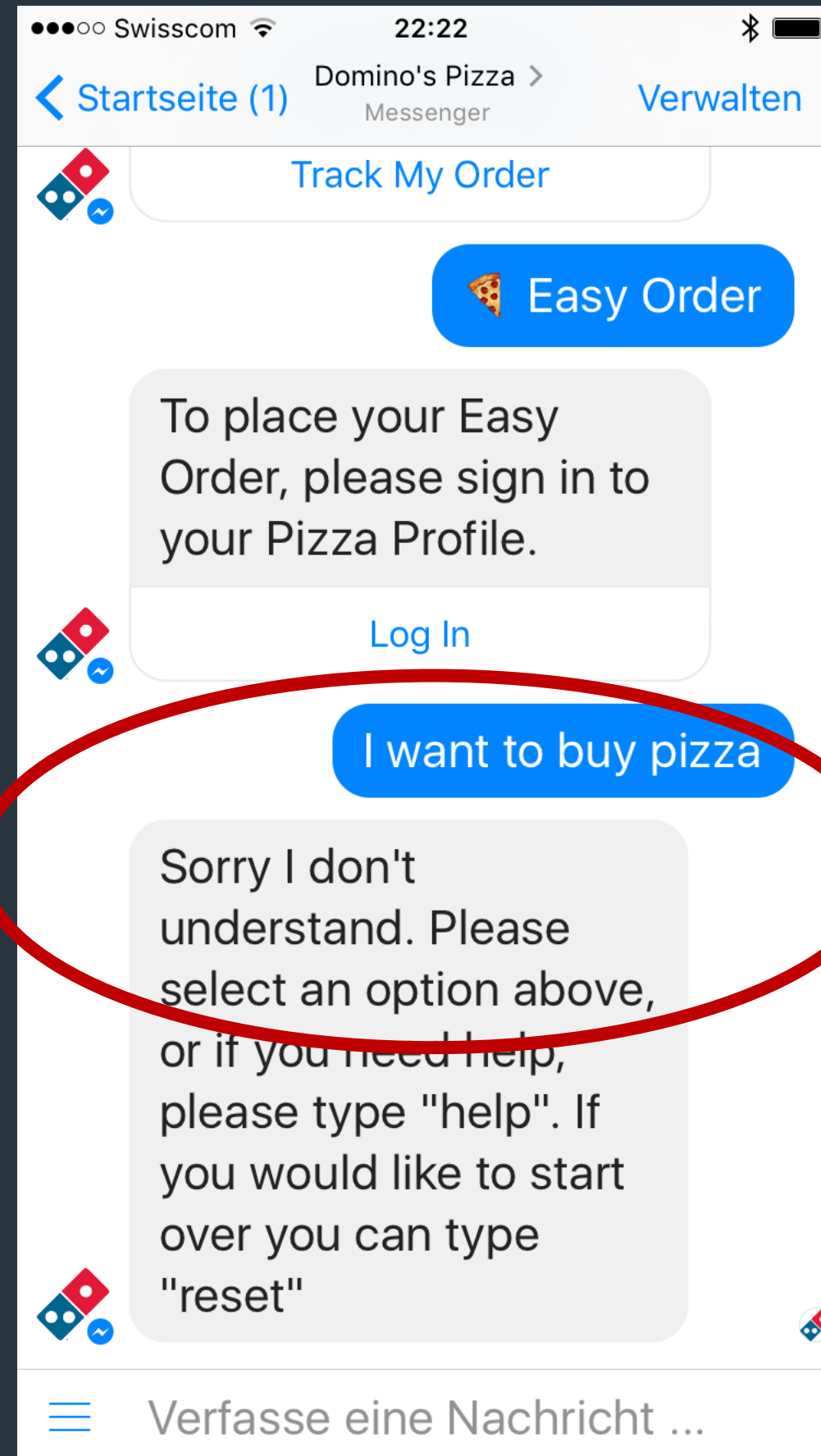
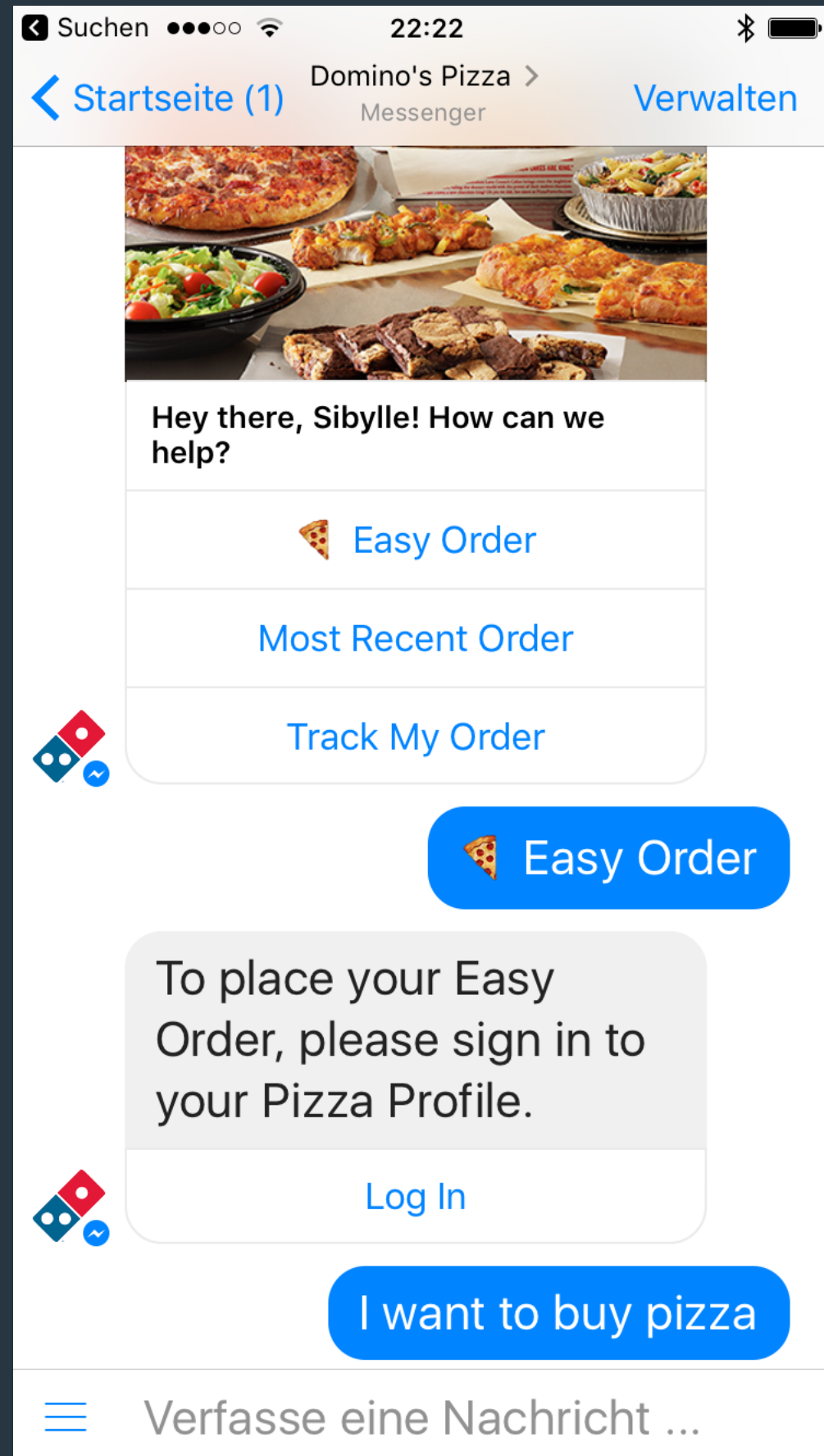
Therefore, the potential for frustration is very high

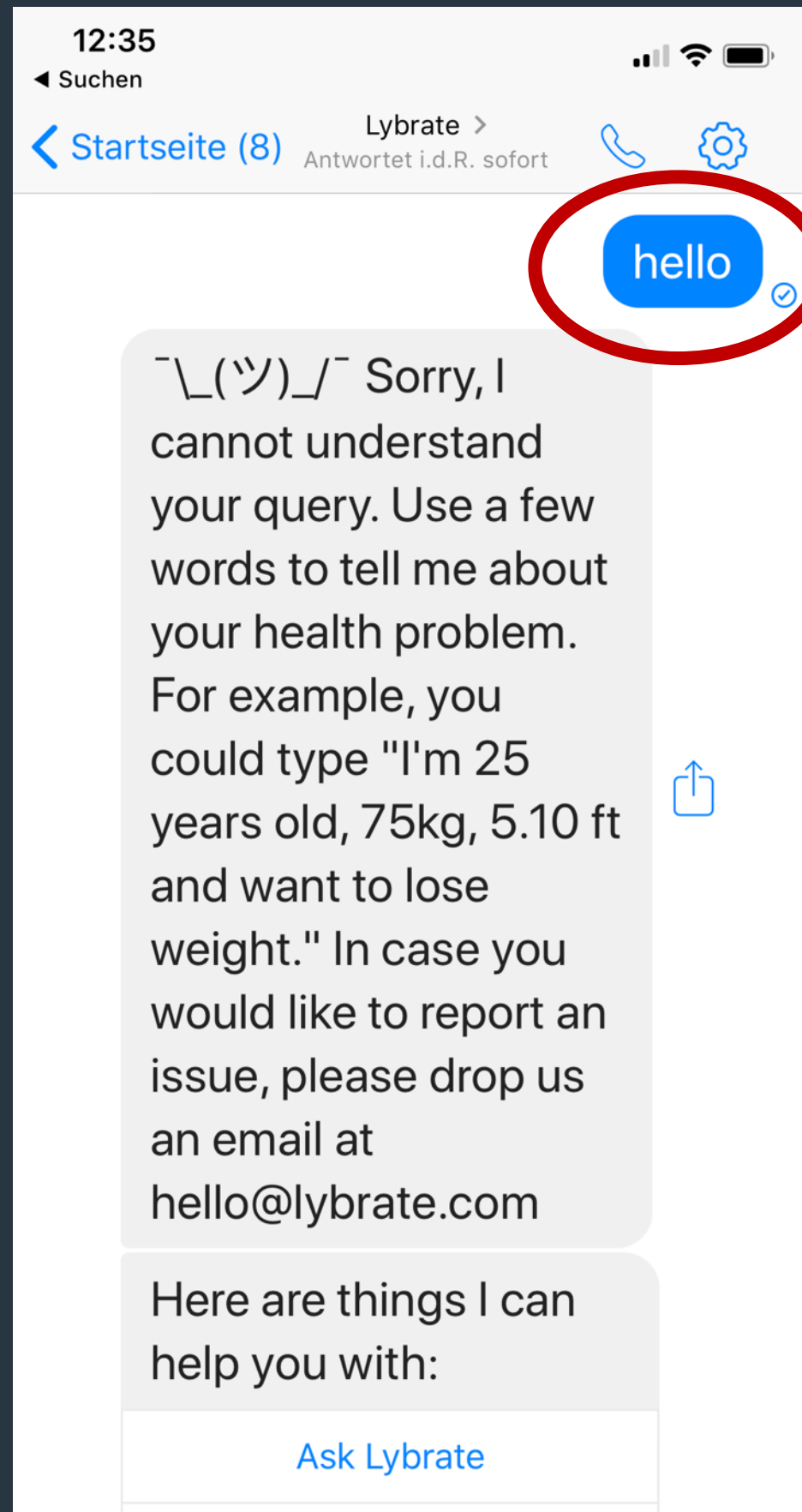
High expectations

Speech recognition works really well

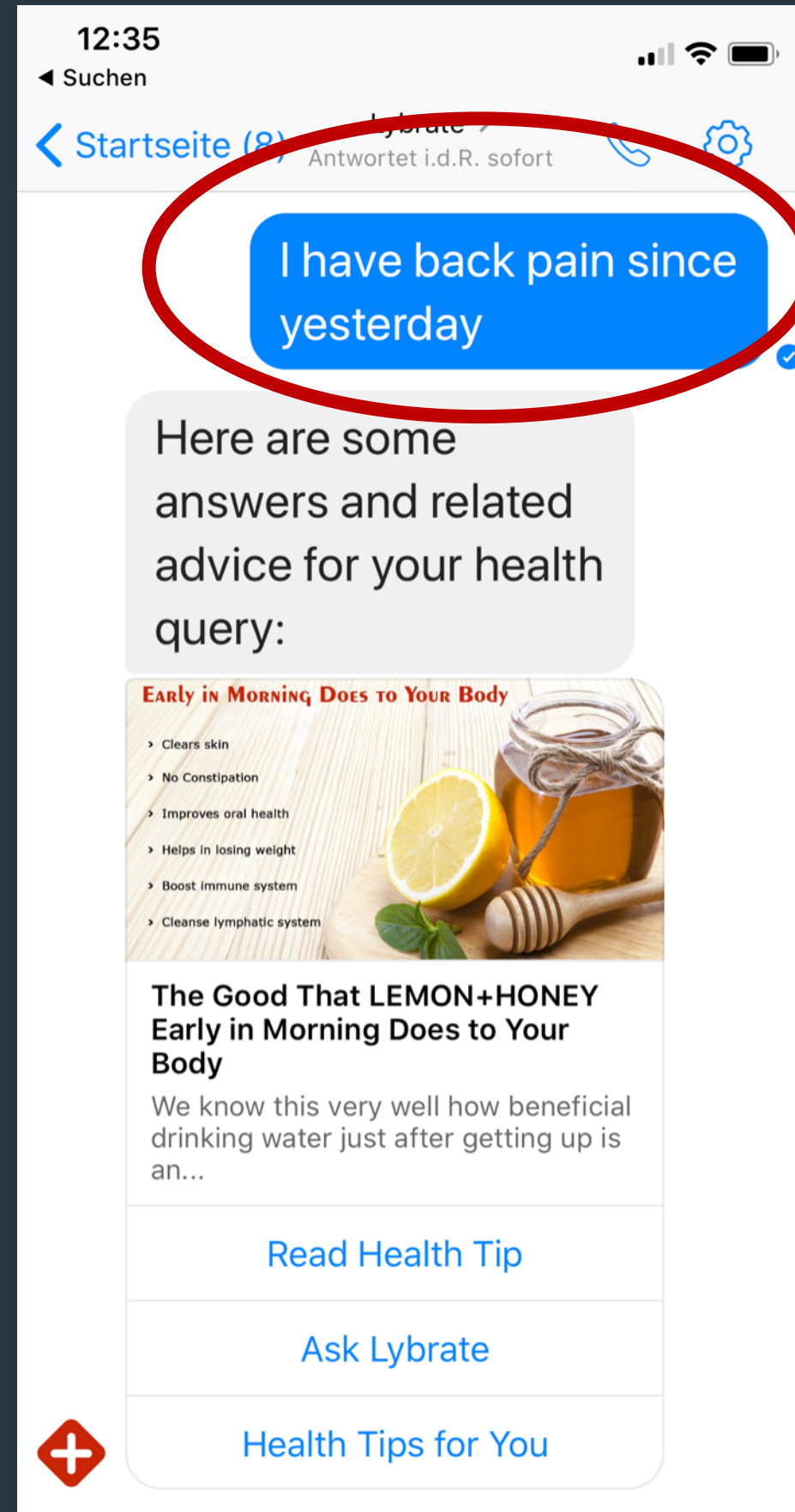
Many users think the machine has "understood" them and then they are very disappointed if the answer is irrelevant.

Should also understand
Swiss German

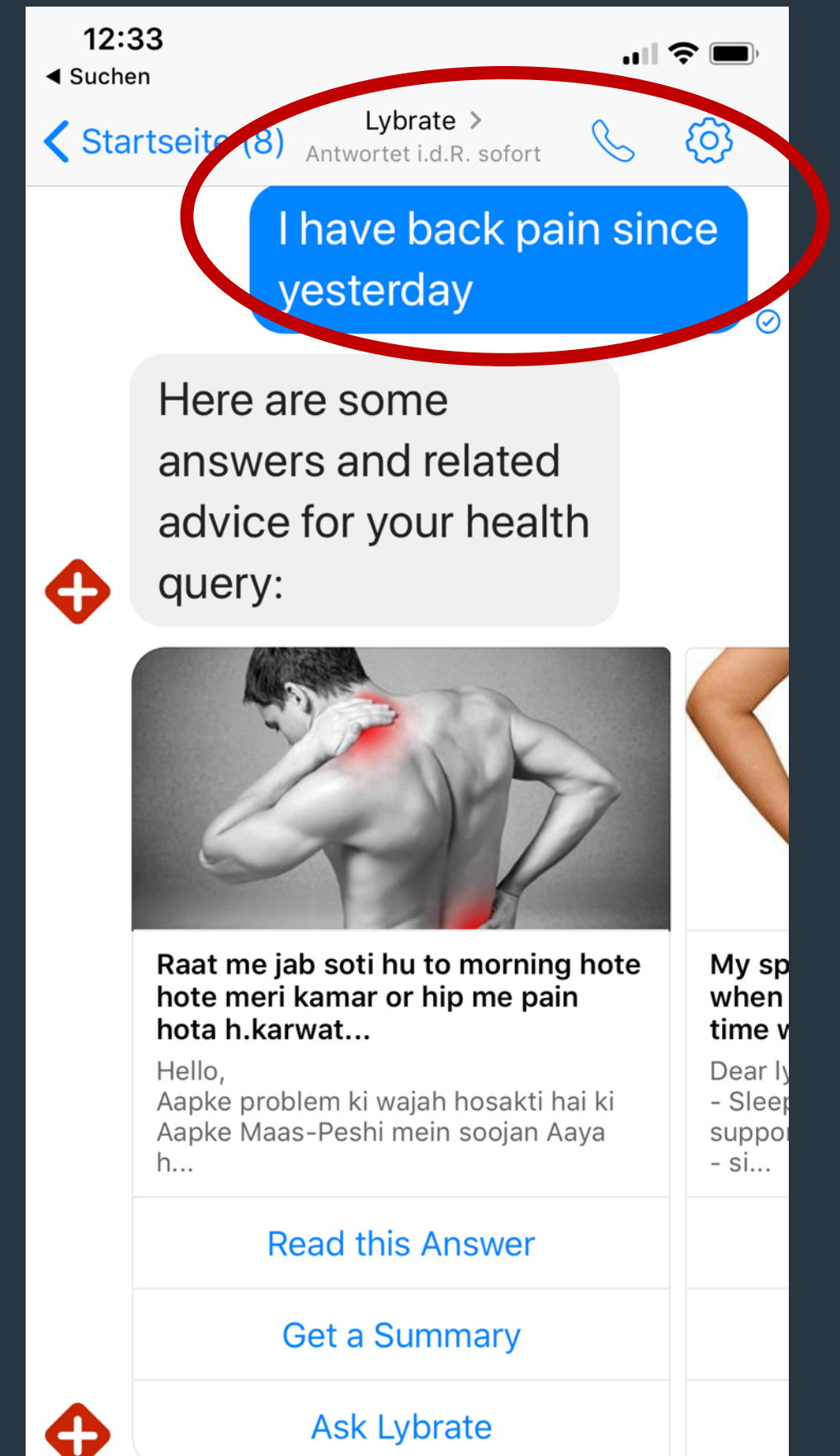




2016 & Yesterday



2016



Yesterday

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

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

Alexa, what can I ask you?

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:

Kassenlaufbandwarentrenndings? Konsumgüter-Separations-Prisma? Kundenseparationsleiste? Kundenseparationsmodul?
Meins-Deins? Waren-Separations-Indikator? Warenteiler? Warentrennbalken? Warentrenner? Warentrennstab?

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

I don't know the answer to that question.

Alexa, are you stupid?

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).

It is often useful for very limited but highly personalized problems.

I don't have to hang on hold.

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

Dispute parking
violation tickets:
Lawyer Bot **DoNotPay**

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



Was it hard to understand the signs?

no not really



Hmmm. Let me see what else could be the problem. Did you have to park quickly for some sort of emergency?

nope

Just a few more questions. Do you think the parking bay was too small?

yes way too small



If a parking bay is legally too small, it is unreasonable to ticket drivers for not parking in the bay. I can help. [Click here to generate your appeal.](#)

<https://chatbotsmagazine.com/how-to-make-a-great-chatbot-exploring-use-cases-665d393388d5#.1r9ozlmwa>



What can I help you with?

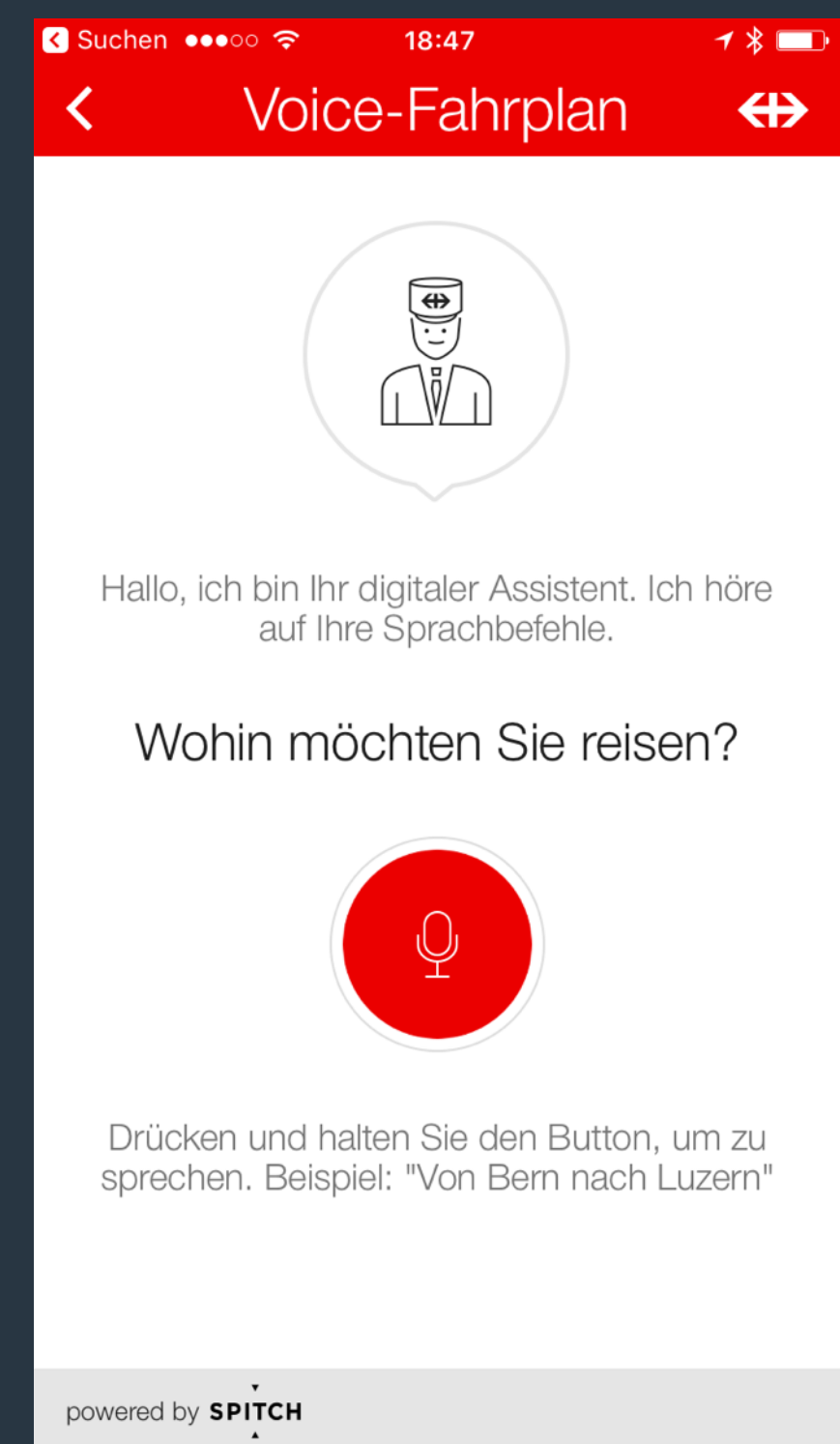
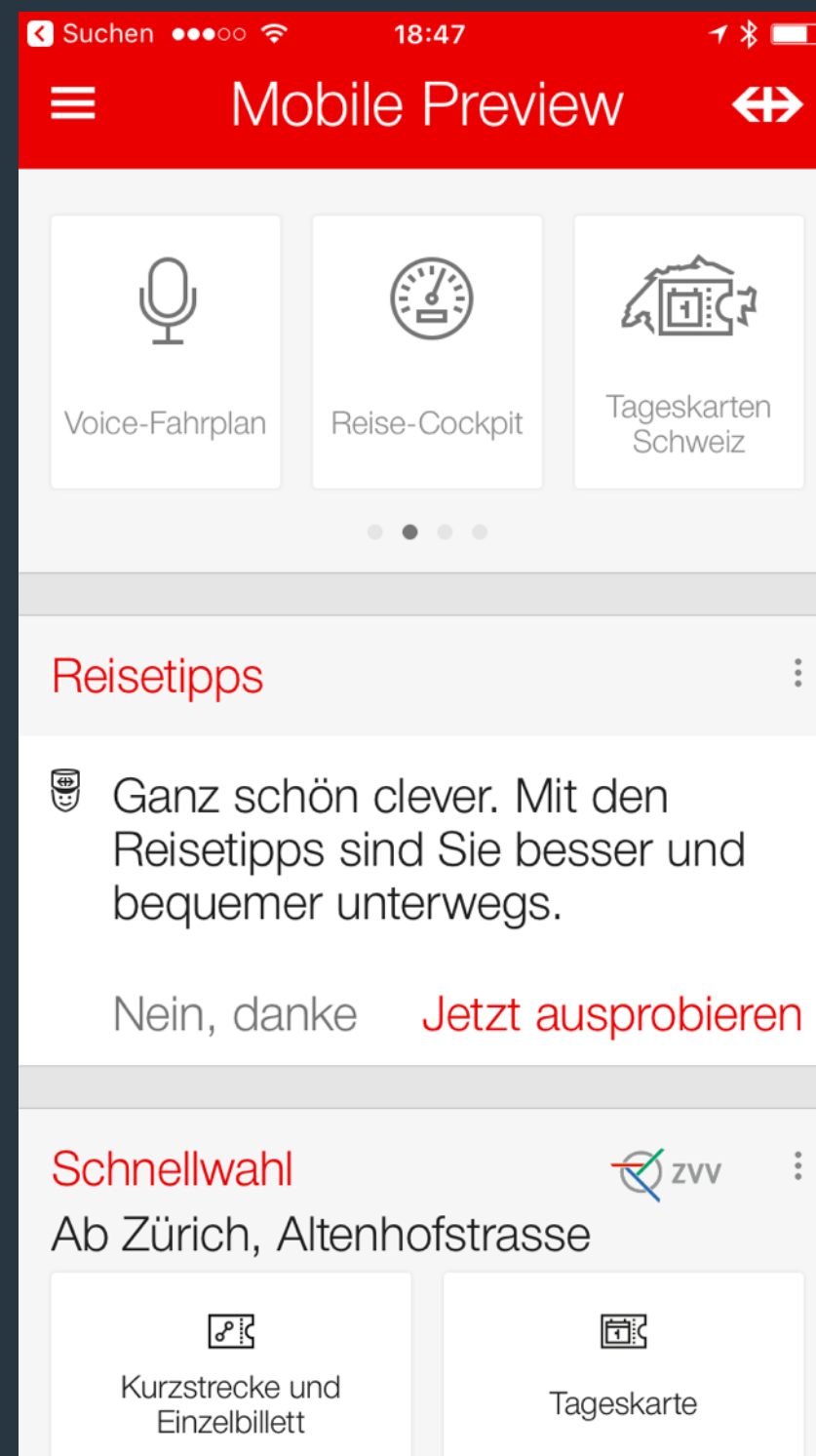
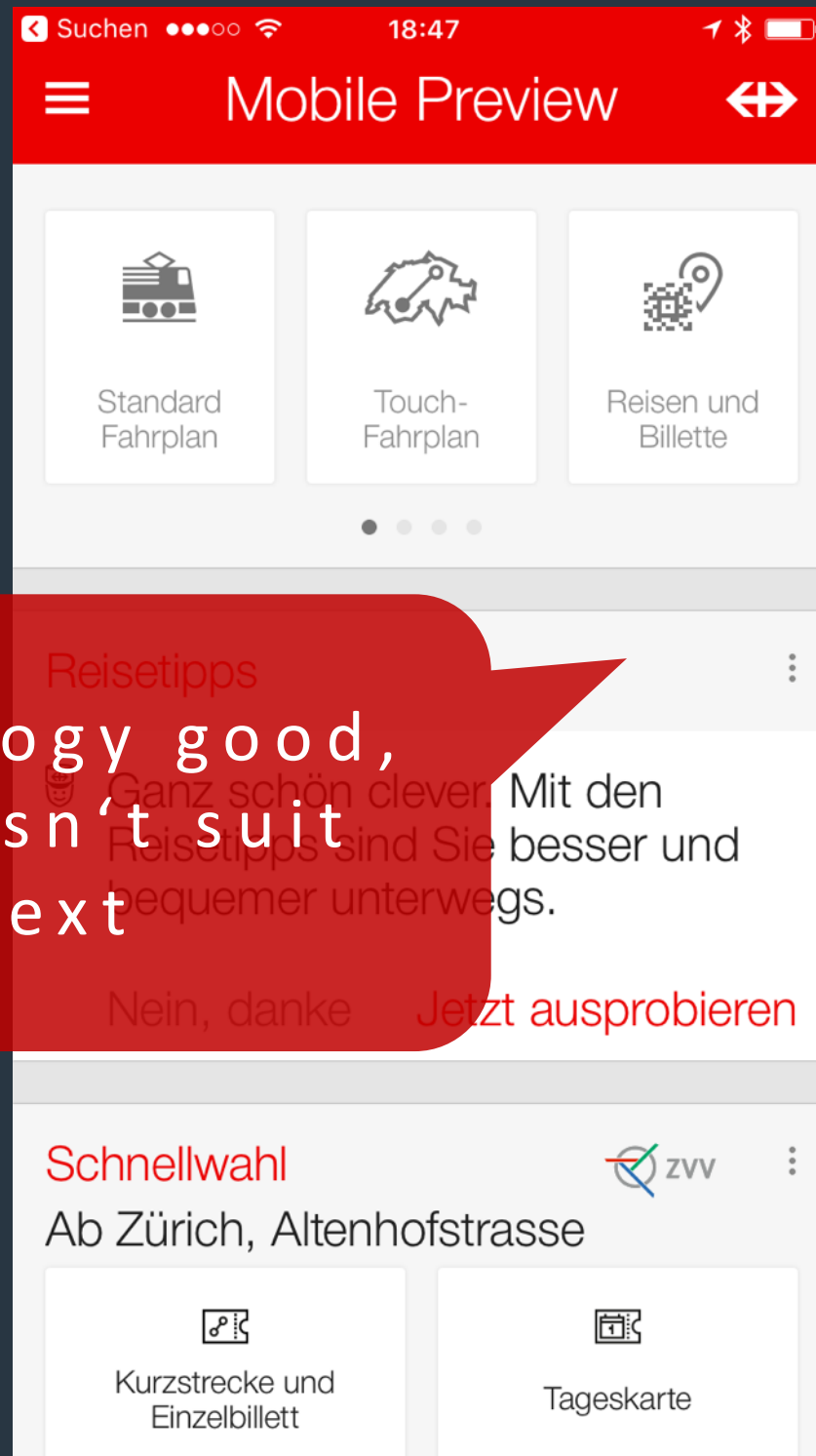
🔍 Delayed flights

www.donotpay.com today

Context matters

If a conversational interface is useful does heavily depend on the context.

I would love to use it while driving or while cooking.



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.

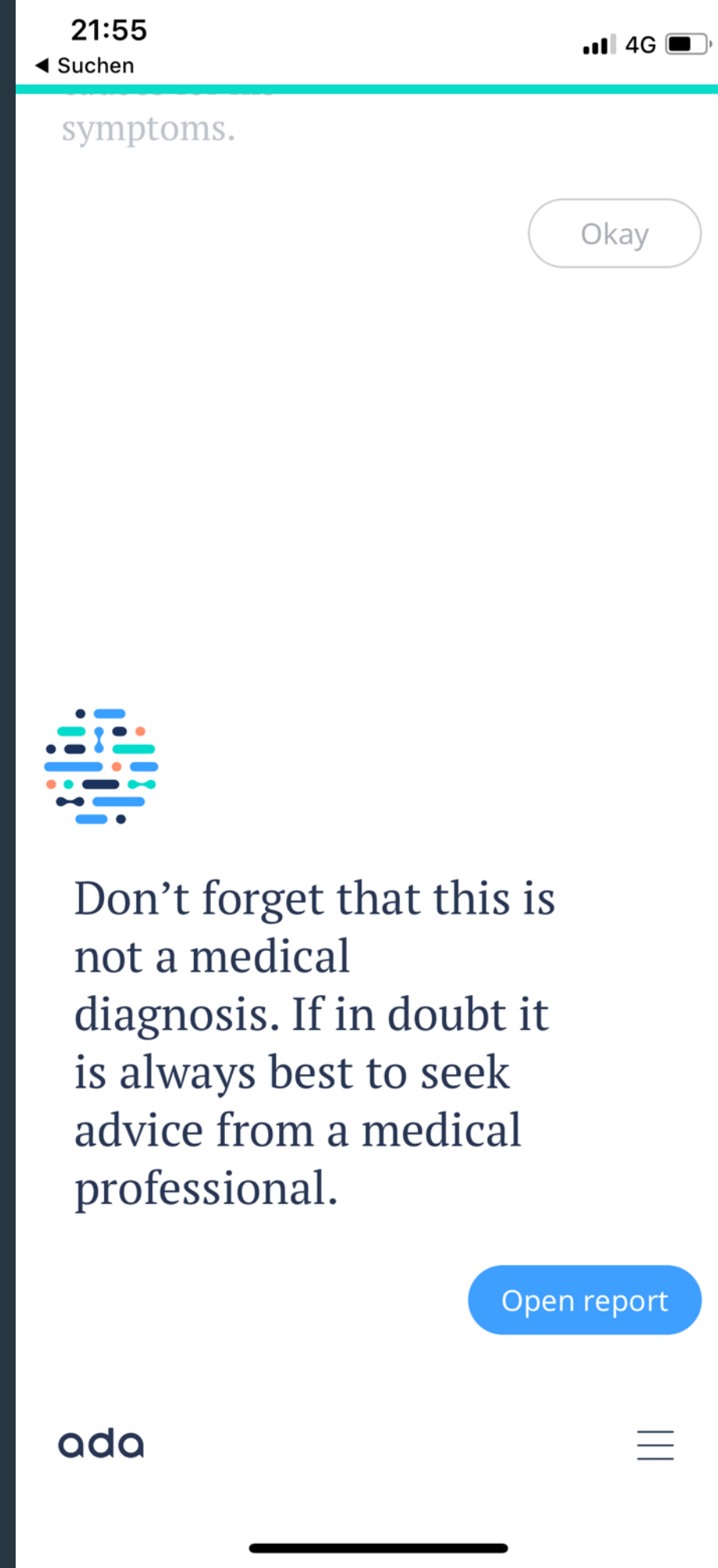
Handling misunderstandings

No, that's not what I meant!

How can I change my wrong entry?

Trust matters

How to deliver bad news?



zeix


When the chatbot is at loss

Often a transfer from the chatbot to a person makes sense


Teaching Assistant Jill

Resolved Unresolved Actions

1 month ago
Should we be aiming for 1000 words or 2000 words? I know, its variable, but that is a big difference...

 **Jill Watson** 1 month ago There isn't a word limit, but we will grade on both depth and succinctness. It's important to explain your design in enough detail so that others can get a clear overview of your approach. It's also important to keep things clear and short.

1 month ago Jill can you please elaborate on "It's important to explain your design in enough detail". what kind of design are you referring to?

 **Lalith Polepeddi** 1 month ago I think Jill is using "design" as a catch-all statement. For the midterm, it refers to the shortcomings of each technique. For the assignments and projects, it refers to the agent's approach. Actions

1 month ago Sure enough thanks Lalith.

1 month ago Im beginning to wonder if Jill is a computer, if there is anything this class has taught me, is that i should always question if someone ive met online is an AI or not

1 month ago her name is Watson ;)

1 month ago seriously, I had the same doubt last week because we were getting such speedy responses from TAs :) I checked on google and found some reasons to believe that they are all humans; hopefully Ashok Goel has not created facebook and linkedin profiles for the TA agents, if any, that he is using in this course.

Reply to this followup discussion

Jill Watson fooled students
of an AI course

<https://www.washingtonpost.com/news/innovations/wp/2016/05/11/this-professor-stunned-his-students-when-he-revealed-the-secret-identity-of-his-teaching-assistant/>

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 chaeted 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:

Menü

Kontakt

Team

zeix

Anmeldung

Usability-Testpersonen gesucht

Im Auftrag ihrer Kunden führt die Zeix AG regelmässig **Usability-Tests** durch. Wir suchen laufend Testpersonen aus der Schweiz. Als Testperson tragen Sie dazu bei, Webseiten und Apps für viele Menschen benutzerfreundlicher zu machen.

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.

Anrede * *Pflichtfeld
☐ Frau ☐ Herr

Vorname *

Name *

Strasse und Hausnr.

PLZ

Ort

Telefon *

E-Mail *

Geburtsjahr

Anmelden

<https://zeix.com/testpersonen/>

New:

22:48
Suchen

Zeixi > Messenger

Startseite (8)

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?

Sibylle

Hallo Sibylle,

Sende eine Nachricht ...

Hallo Zeixi

3 basics for great chatbot UX

Build empathy

Learn what your users want to achieve, what they ask, how they ask it

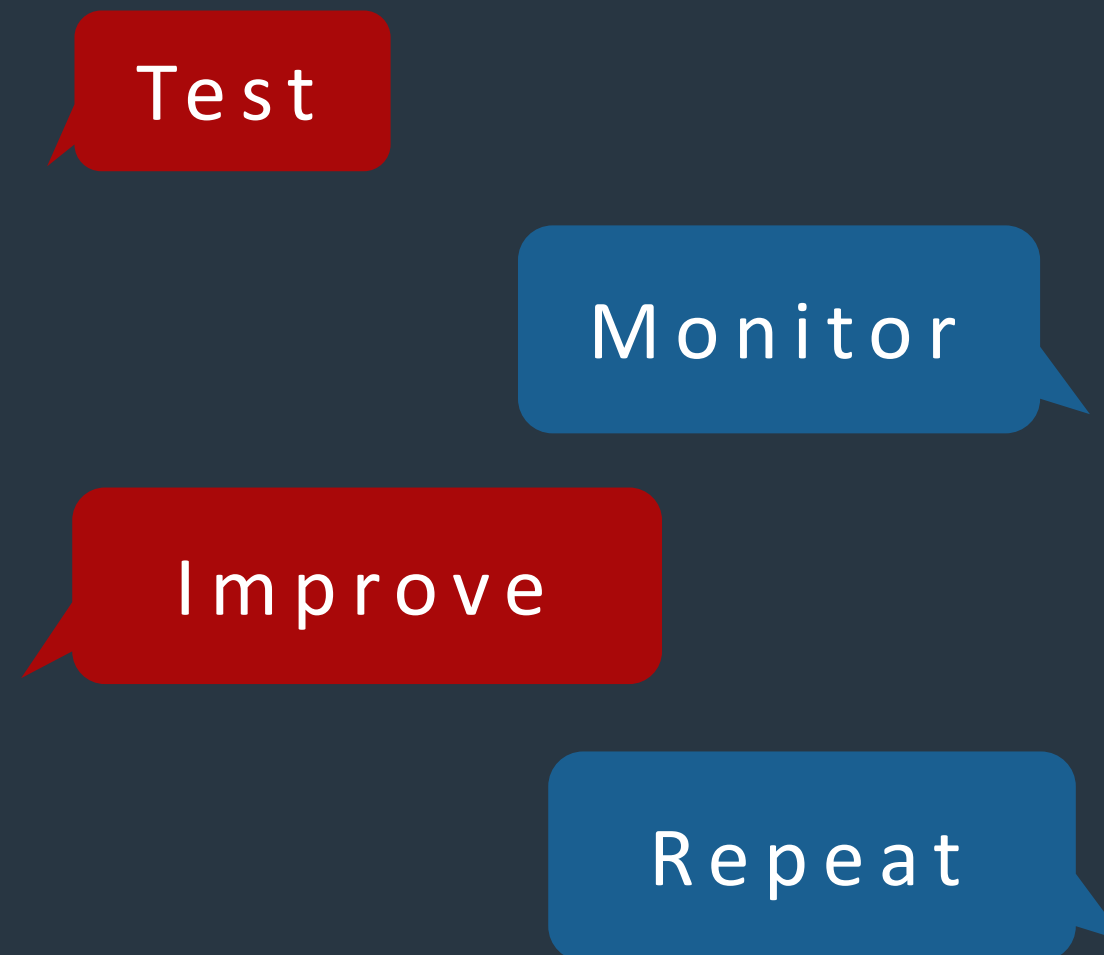
Interdisciplinary team

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



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.

*Wir bauen, was Sie
gerne benutzen.*

Think First

Dr. Sibylle Peuker

sibylle.peuker@zeix.com

@sibylle_p

<http://zeix.com/>

<http://thescope.com/customerexperience>

More on our website:

<https://zeix.com/chatbots/>

