



# WHOELSE

Universal Language for Voice AIs

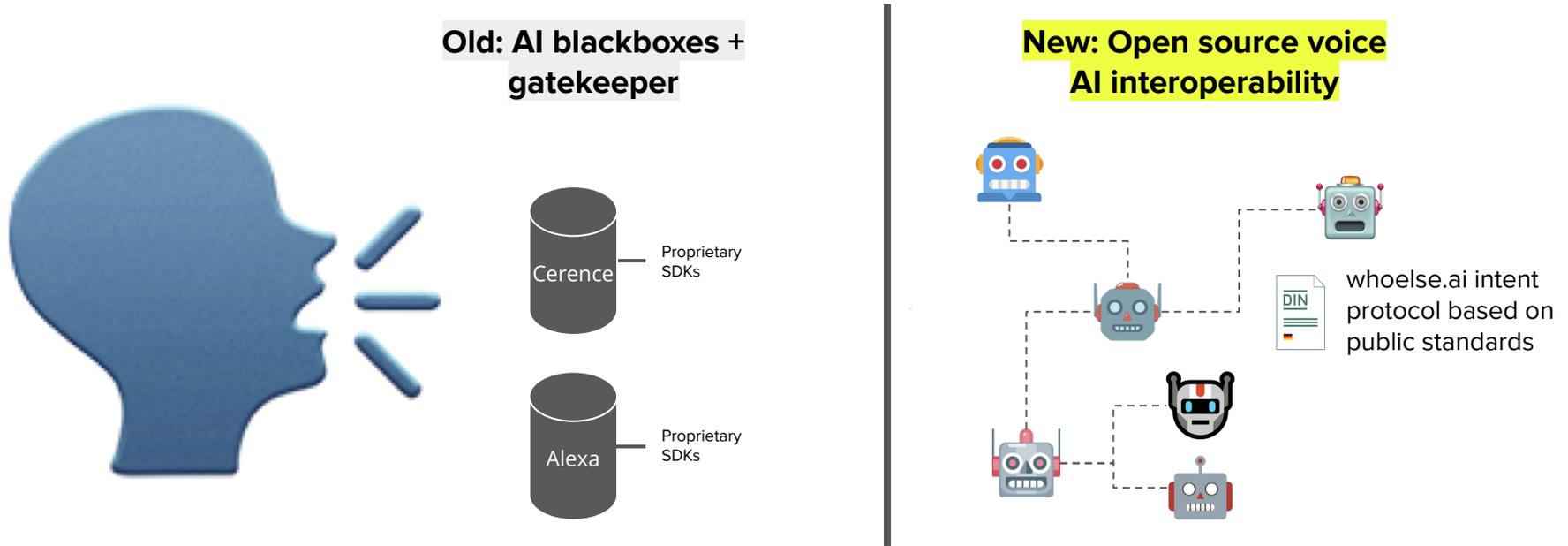
Let's make AIs talk to each other!

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[whoelse.ai](https://whoelse.ai)

whoelse.ai is an alternative marketplace for connected voice AIs built on top of open industry standards. Our core is the protocol: We provide AI vendors shared definitions to exchange data about user intent.



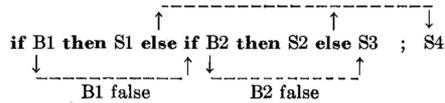
1

Report on the Algorithmic Language ALGOL 60

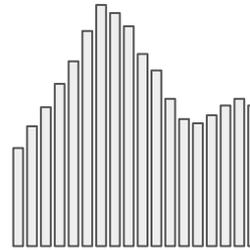
if B1 then S1 else if B2 then S2 else S3 ; S4

and

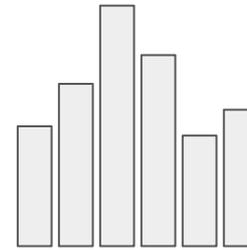
if B1 then S1 else if B2 then S2 else if B3 then S3 ; S4



2



.wav



MP<sup>3</sup>  
AUDIO

3

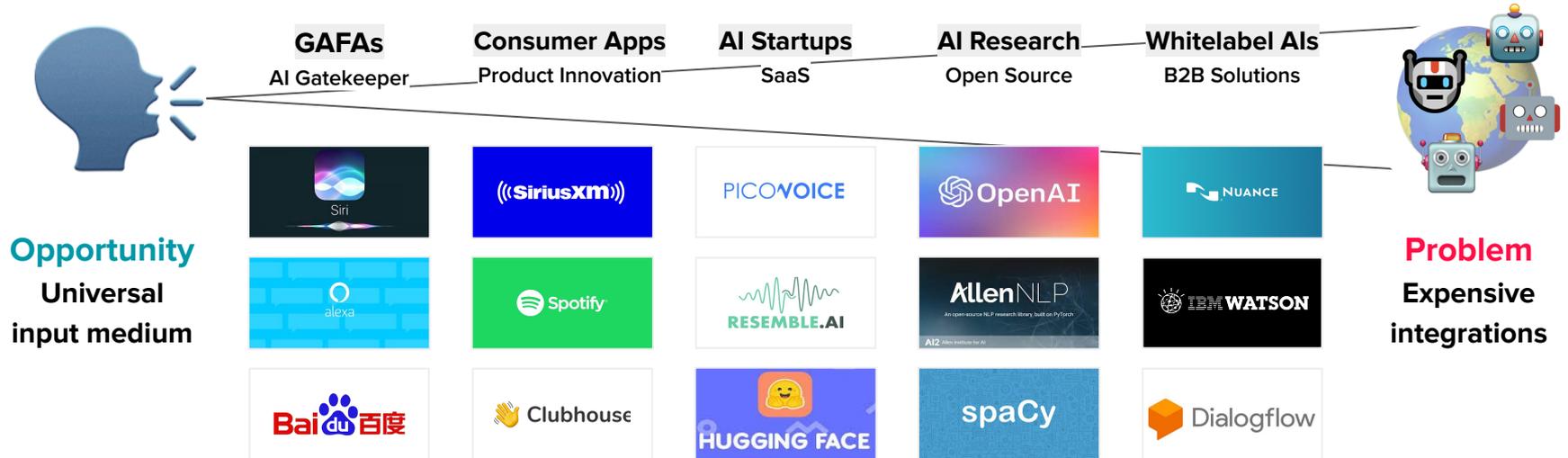


**Account Chart**  
Standard Chart of Accounts (SKR 03)  
Valid for 2021

Balance sheet / Profit and lost item	Program linkage	4 Operating expenses
Other operating expenses		4355 Eco tax
		4360 Insurance premiums
		4366 Building insurance
		4370 Net insurance premium for future pension benefit liability
		4380 Contributions
		4390 Other levies
		4396 Tax-deductible late filing penalties and administrative fees

1. If-then-else - programming languages had to be invented
2. The invention of MP3 - compression by cutting unneeded noise
3. Accounting systems - codified storing of transactions as role model for AI interoperability

Voice is a universal input medium - potentially available to users of all ages. Today's voice assistants are however only niche intelligent. Worldwide 1000+ vendors compete. Integrations are risky: State of the art use case and language models change constantly.



**Regulators start demanding privacy by design voice AI implementations. Industry alliances try to corner the market - so far only with moderate success. They all share the same problem: Every AI interprets language differently. Voice assistants can't be easily combined.**

### Industry Alliances



October 2019  
**Amazon launches Voice Interoperability Initiative - without Google, Apple or Samsung**

<https://www.zdnet.com/article/amazon-launches-voice-interoperability-initiative-without-google-apple-or-samsung/>

### Regulatory Environment



May 2021  
**EU requires companies to protect biometric information of consumers including all voice AI data**

[https://ec.europa.eu/commission/presscorner/detail/en/OANDA\\_21\\_1683](https://ec.europa.eu/commission/presscorner/detail/en/OANDA_21_1683)

### Language Bias



May 2021  
**Hey Alexa, Why Don't You Speak Hebrew? One of the oldest world languages has a too small market for AI**

<https://www.haaretz.com/israel-news/tech-news/prim-lum-hev-siri-why-dont-t-you-speak-hebrew-1.9190013>

### Open Source



Sep 2020  
**GPT-3 - The Next Big Breakthrough in AI Will Be Around Language**

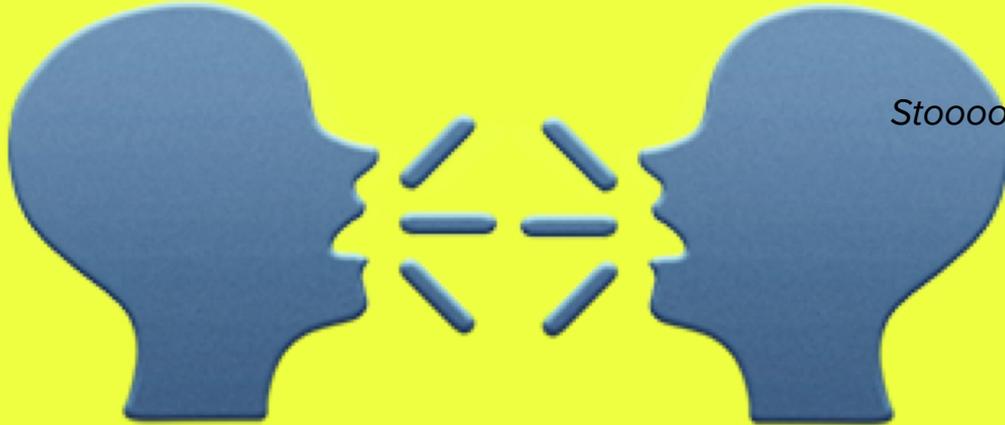
<https://www.haaretz.com/israel-news/tech-news/prim-lum-hev-siri-why-dont-t-you-speak-hebrew-1.9190013>



Once multiple voice assistants try to answer a user request in parallel, a shared protocol is inevitable needed to make AIs interpretation results comparable.

*Should we eat Italian  
or Greek?*

*Pizza would  
be great!*



*Stooooop Alexa*



On it's way!

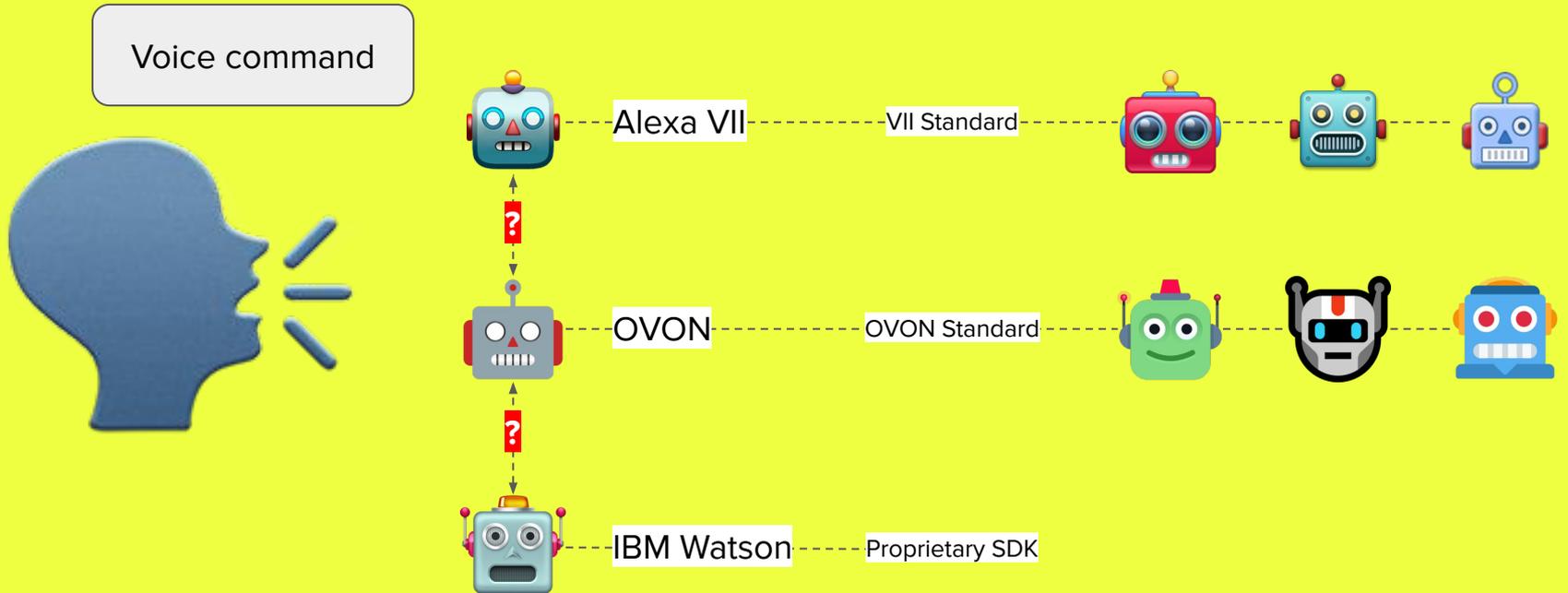


Which dressing do you like?



Sorry, I didn't quite get it.

Even if 3 different standards exist, all these ecosystem still needs to compare what they eventually understood.



To make voice AIs interoperable we suggest a standardized language to encode user requests. This way a single voice command can be dispatched to multiple voice assistants in parallel and be processed in a privacy-by-design protocol for intent.



Hey AI, I need to travel from Berlin to Hamburg tomorrow. Can you find me somebody to share a ride with? And please get me Hotel. Make sure they have a gym!



Language-based requests containing multiple intents



RIDESHARE

Berlin

Hamburg

1 Person

2022/05/01

who else?



HOTEL

Hamburg

1 Person

2022/05/01

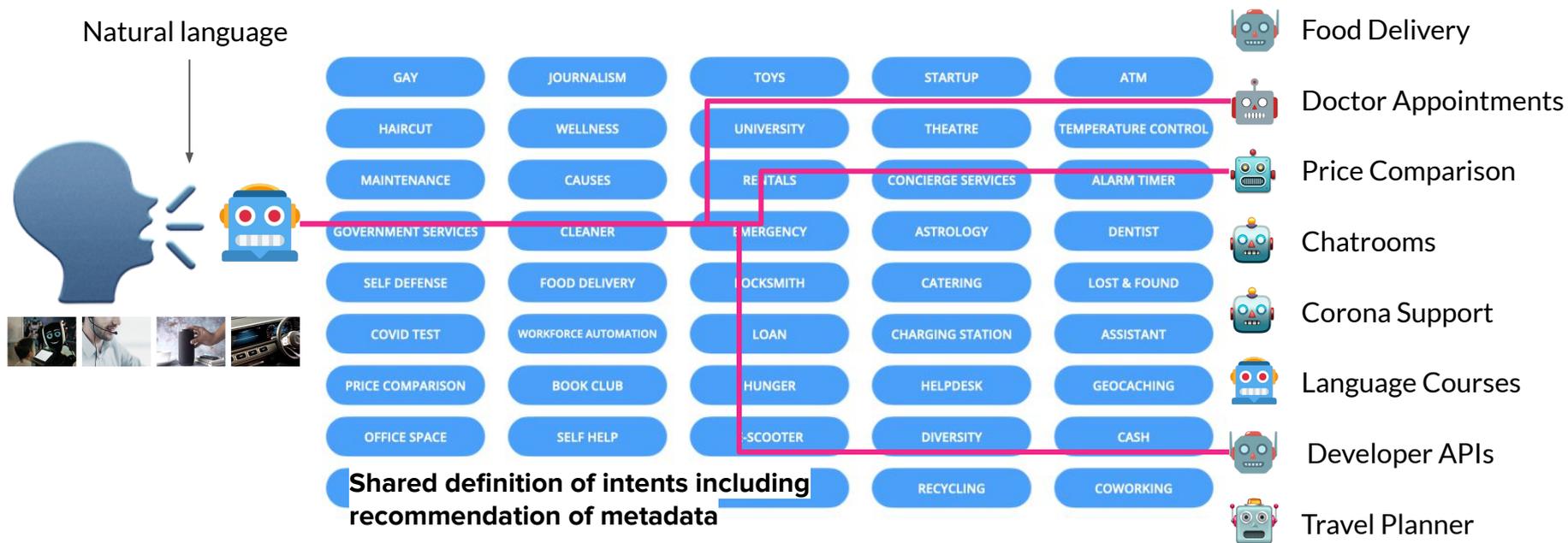
2022/05/03

Gym

who else?

Protocol encoding & AI look up

Our namespace provides a simplified vocabulary for the 300 most common intents (=e-commerce categories) in human language. Voice AI provider bid with their services on user requests collected via our app or distribution partners (OEM, telcos, etc.).



# Gateway providers decided which AIs they integrate

## User request

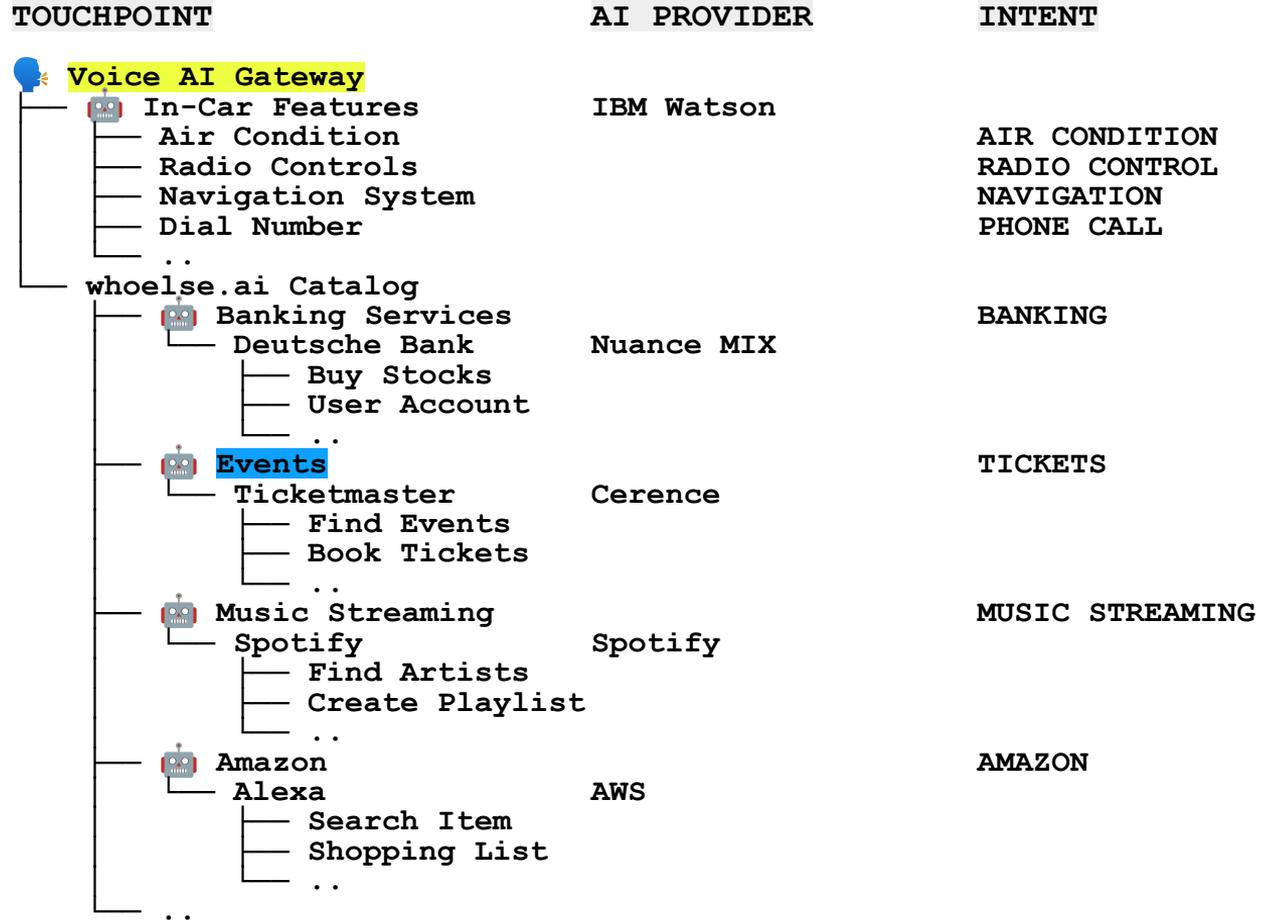
“Assistant, I want to go out dancing. Find me nearby concerts!”

## Gateway AI

“Sorry, I don’t know how to book concert tickets. I will now connect you to the best voice assistant available.”

## Expert AI

“Welcome at Ticketmaster. Please tell me which event interests you.”



We launched the project by initiating an ISO-compatible standard for NLP API interoperability: DIN SPEC 2343 was published in September 2020.<sup>1)</sup>

Required parameter

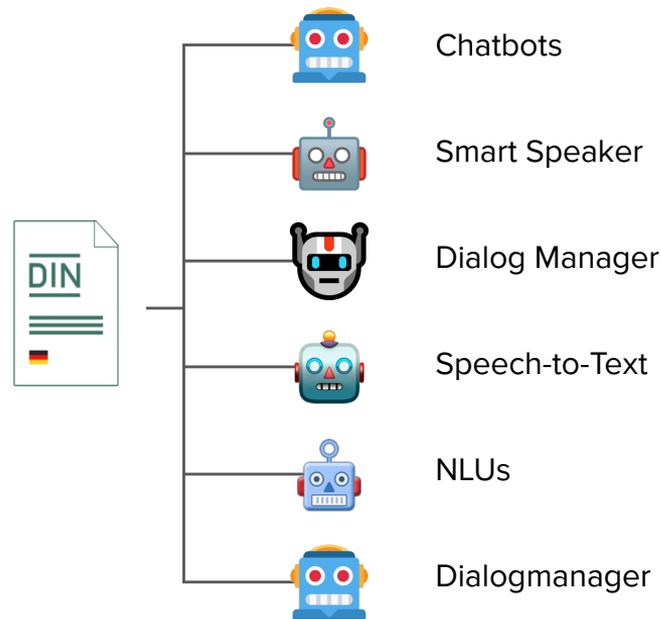
```
{
  "Timestamp": "string",
  "RequestId": "string",
  "Intent": "object",
```

Recommended parameter

```
"DataSecurity": "object",
"Confidence": "object",
"SpeechToText": "string",
"LinkToAudio": "string",
```

Optional parameter

```
"BiometricData": "object",
"Location": "object",
"Session": "object",
"User": "object",
"Entity": "object",
"Device": "object",
"Application": "object",
"SystemVersion": "object",
"Receiver": "object",
"AccessToken": "object",
"StandardVersion": "object",
"Locale": "object"}
```

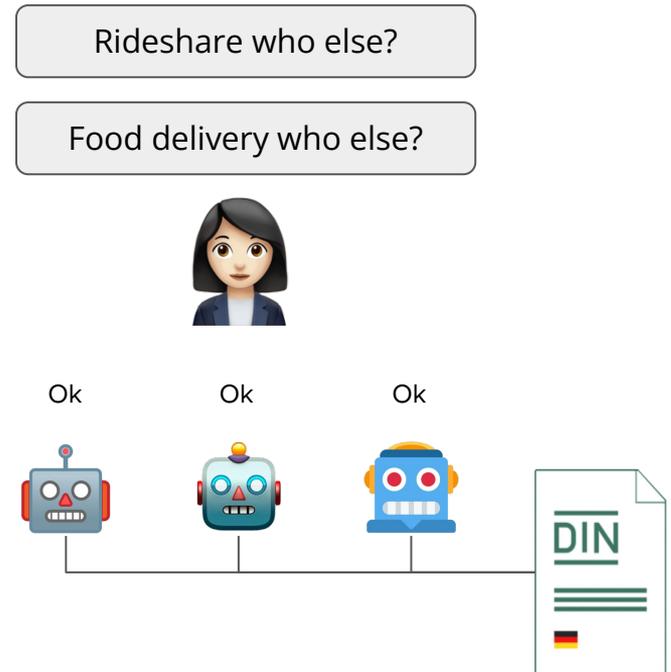
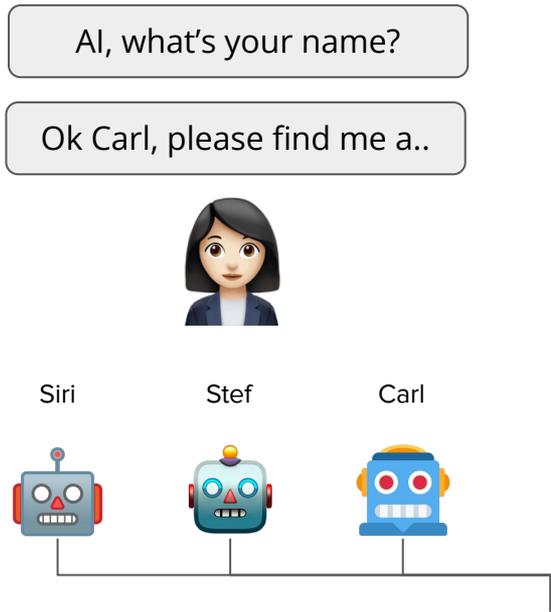


<sup>1)</sup> <http://whoelse.link/dinspec2343>

People and AIs can and should talk however they want - we only provide a meta language.

**But maybe it is valuable to have a wake word that is universal amongst all voice AIs?**

**Good language helps consumer adoption of voice AIs.**



## Standard partners

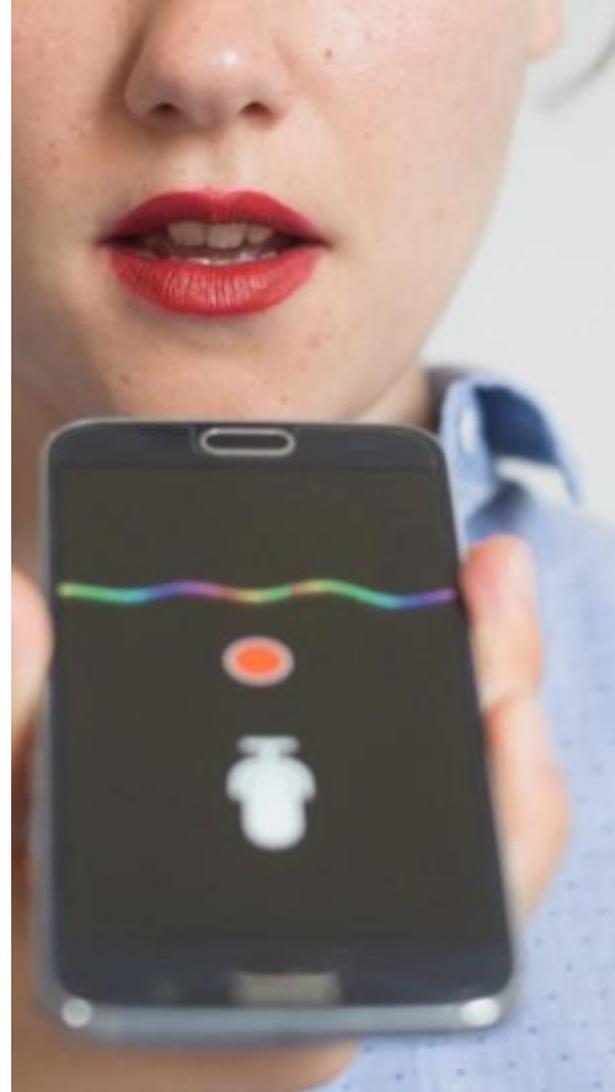
to launch shared voice AI products and specs.

## Focus: Enterprises readiness

on-boarding of voice AI providers and pilots of OEM/telco integrations

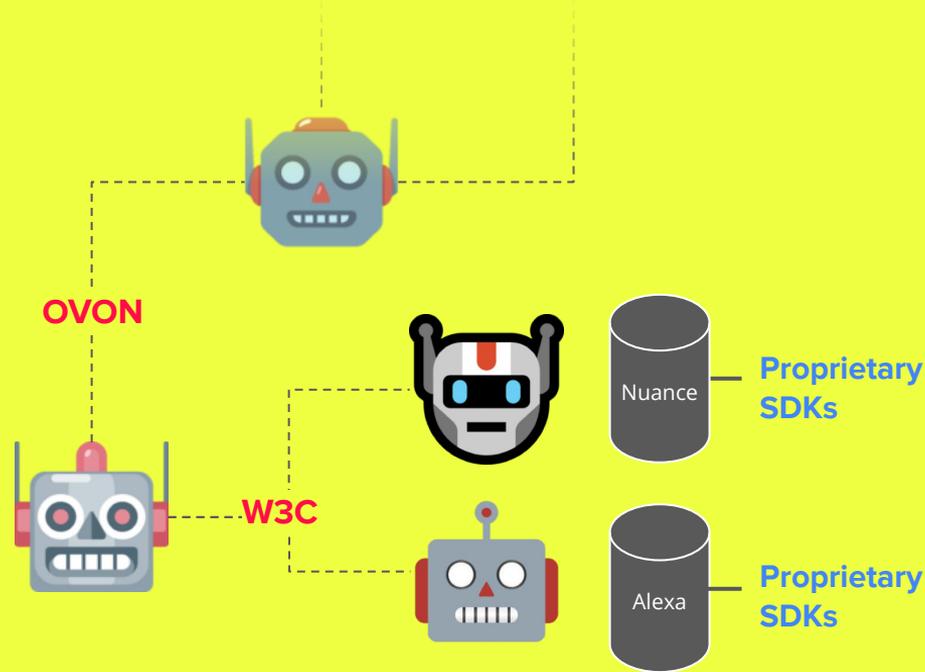
## Launch of a public voice AI testbed

provision of developer tools and release of our own voice assistant



Open Source and Proprietary Voice AIs will converge.  
And even then: A shared language (protocol) will still be needed.

**Protocols**  
Open Source



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