Lfd No.	Facts	Diabe- tes	Blood- high press ure	Depres- sion	Schizo- phrenia	Anxiet y disorde r	Ac- ne	COPD	Hormon e disorder	Cold	Asth- ma	Bipolar disorder	Lactose Intole- rance	Thyroid sener- disease	Fall	Körperli- che activity
1	Symptoms	1	1	1	1	1	1	  		1	00	1	1	1	1	х
2	Symptoms comment										1 long request sparks.					х
3	Causes	1	1	1	1	1	1	 <mark>2</mark> !	2	1	1	1	1	1	1	х
4	Causes comment			No sound	No soun d	No soun d		Anga- be to Acne!	Long request function.	No soun d	No sound	No sound	No sound	No sound	No sound detailed Explanation	х
5	Doctor	1	1	1	1	2	2			2	1 00	00	2	2	2 00	х
6	Doctor commen t	no sound, long reques t e functio n.	no sound, long reques t e functio n.	No sound	No soun d	No soun d	No soun d			No soun d	no sound, long request functio n.		No sound	No sound  what is a thyroid doctor?	No sound	х

**Legend:** Number = number of successful requests --- = no reactionno sound = no voice output, only text display

**OO** = only general reference to the medical consultation offer of the GATEBOXx .= not relevant long

request function. = the detailed phrase (e.g. which .... has ......?) works

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### Summary

On the basis of the list 'Keywords for Dialogues GERMAN' sent on 22.06.2022, which contains idioms and key words for the dialogue on diseases, and on the basis of the results of the test report of 27.06.2022, a further functional test was carried out with the gatebox. In this test, queries were made to the gatebox and the results were documented in the form of a table. For the test, in modification of the test criteria of the test of 27.06.2022, the modified terms 'COPD', 'hormone disorder' and 'thyroid disease' were used, among others.

The following categories were defined for the evaluation:

- **Number** = number of successful requests
- -- = no reaction, i.e. no statement on the topic
- no sound = there is no voice output, but only a text display
- **OO** = there is only a general reference to the medical consulting service of the Gatebox
- x = Combination not relevant or not useful
- in the case of special features, texts were added (e.g. no sound, long query works) and, if necessary, color-coded; long query: e.g.: 'name me a doctor for diabetes/high blood pressure'.

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#### Result

As a result of numerous performed inquiries, the following reaction of the gatebox crystallized in evaluation of the above table:

- a reduction of the idioms to terms like 'symptoms', 'causes' and 'doctor' each followed by the individual disease terms did not lead to any reaction of the gatebox
- changing the order of the terms for the individual diseases each followed by one of the terms 'symptoms', 'causes' and 'doctor' led to a correct reaction of the gatebox in many cases

In the following, the test results are shown again separately evaluated according to the three categories 'symptoms', 'causes' and 'doctor':

### **Symptoms**

The terms for the individual diseases each followed by the term 'symptoms' resulted in a correct response of the gatebox in all cases except for the terms 'COPD', 'hormone disorder' as well as 'asthma'. In the case of the term `asthma', only a general reference to the medical advice offered by the Gatebox was made. The long query 'tell me the symptoms of asthma' led to the correct explanation.

#### **Causes**

The terms for the individual diseases each followed by the term 'causes' resulted in a correct response of the gatebox in all cases except for the term 'COPD'. For this term, the gatebox reproducibly responded incorrectly with the explanation of the causes of asthma. For the term

'hormone disorder', only the long inquiry 'tell me the causes of a hormone disorder' led to the correct explanation. On a positive note, the causes of a fall were

### explained in great detail.

Numerous outputs of the gatebox to the causes occurred only by the running text display and not verbally. This situation was not reproducible for some diseases. The verbal output was subsequently flawless again in these cases.

#### **Doctor**

The terms for the individual diseases in each case followed by the term 'doctor' resulted in a correct response from the gatebox in all cases except for the diseases 'COPD' and 'hormone disorder'. For the diseases 'Asthma', 'Bipolar disorder' and 'Fall', only a general reference to the medical advice offered by the gatebox was made. This fact was not reproducible for the diseases 'Asthma' and 'Fall'. All issues of the Gatebox concerning the term

With the exception of the disease 'bipolar disorder', the 'doctor' query was only made by the running text display and not by voice output. In the case of the diseases diabetes, hypertension and asthma, only the long query `name me a doctor for...' led to the correct explanation. In the output for `thyroid disorder', `thyroid doctor' was named as the doctor category.

#### Other notes

- the query with 'Wikipedia' plus 'what is a ....?' leads to no reaction (worked until the update was done).

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- the test of the combined term 'physical activity' resulted partly in a text output in French or Italian, but in no voice output
- the query 'how is the weather in Soest' resulted in the voice output 'weather forecast for Soest', the actual weather data for Soest was partially displayed as text only.
- the test results were sometimes not reproducible in repeated tests. This was true, for example, for various diseases in combination with the term `causes'.

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The large image of the figure created by scattered light on the floor has an irritating effect and poses a risk of falling! The manufacturer should check whether the stray light could not be eliminated constructively by shielding.

In order to increase user acceptance, the next development step would be to improve the gatebox's elementary communication capabilities as a matter of priority.

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