Chattie: A voice-based companion for practicing conversations in new languages



Introduction

1.5 bn

73%

people were learning English worldwide in 2014

of survey respondents claimed "practicing realworld conversations" to be

the most difficult part of

learning a new language

Say hello to Chattie!

A smart speaker and friend that helps language learners practice conversations and improve vocabulary.

Chattie helps language learners by

Providing contextbased topic cues to guide conversations

Providing assistance by offering sample answers in conversations

Improving vocabulary through meanings, pronunciation and usage of new words

Allowing them to mark sentences and words to practice later

Process



6 systems, 11 features Gaps

Translation between languages Detecting wrong pronunciation Take notes, bookmark or annotate for future practice

Positives

Future Work

Customize of level of difficulty Repetition to induce learning Showing correct pronunciation

11 questions, 148 responses

"I didn't have family or friends to practice speaking with."

Target users

Language learners of all levels

Key Findings

Lack of motivation and no practice partner hinders learning.

Speaking words and phrases to understand correct pronunciation is immensely helpful.

17 questions, 5 interviews

"I would want my voice assistant to know my name."

Target users

Language learners who use voice assistants

Key Findings

Users want voice assistants to be friendly and human-like.

Users prefer a combination of speaking, listening and repetition.

User flows

4 tests, 3 iterations

"I want to feel like I am talking to a friend."

Speed dating

We talked to people about the category 'Food', and used reallife conversations to write sample dialogs for the user flow.

Speed dating > Defining user flow > Short usability tests > Iterating user flow > Defining overall architecture

Usability Testing

2 Wizard of Oz tests, 2 iterations

"I want it to be friendlier and guide me when I am stuck."

Target users

Intermediate language learners who know basic vocabulary and grammar of the language. We used Wizard of Oz testing to understand gaps in our flow.

Google Speech to text > Usability test 1 > Feedback > Iteration > Usability test 2 > Feedback > Iteration

References

- 1. A text based interface to complement Chattie in language learning features such as viewing spelling of the word, understanding sentence structure and revising text-based notes.
- 2. Features to identify incorrect or partially incorrect word pronunciations, help learners by repeated practice, similar sounding words and to identify incorrect sentence structure and grammar.
- Teachers of English to Speakers of Other Languages (TESOL) Report 2014
- 2. Designing Voice User Interfaces, Cathy Pearl
- 3. Conversation design, Actions on Google

Features



User wants a language buddy to practice practical, realworld conversations

SOLUTION

FINDING

Chattie gets users on board as an encouraging, knowledgable, always-available friend.

SCRIPT

Nice to meet you {username}. Let's get talking. We can talk about travel, food, transportation or anything else you like. What would you like to talk about?

Hi! I am Chattie - I am here to help you practice {English}.

What is your name?

assistants

User has trouble exploring features offered by voice

FINDING

Chattie introduces features for users upfront and uses Tailored Welcome for frequent users.

SCRIPT

SOLUTION

Excellent choice. I will ask you some questions about your food related experiences. You can request a sample answer or any word meaning. You can also ask me to mark something for you to practice later. Shall we begin?

User may have difficulty forming sentences in a FINDING

conversation

Chattie provides clues based on user's proficiency.

SOLUTION

SCRIPT

What food do you like to eat for breakfast?

That sounds yummy! I would like to know more about this food, how it is cooked, or where you usually have it. Can you tell me more about the food you like?

(6)

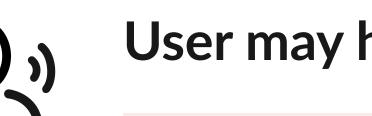
User wants to learn new words to use in specific conversation scenarios

FINDING

Chattie explains the word meaning, gives an example sentence, and offers to mark difficult words or sentences for later review.

SOLUTION

Cutlery means knives, forks, and spoons used for eating or serving food. "The cutlery used to eat soup is spoon." Do you want to add it to your word list for later practice?



User may have difficulty in pronouncing a new word

FINDING

Chattie can identify the difficult word in the sentence, or repeat the sentence when asked.

Would you like to know a sample sentence or hear the

meaning of the word cutlery?

SCRIPT

SOLUTION

The word is cutlery. C-u-t- l-e- r-y. Repeat after me. Cutlery.