



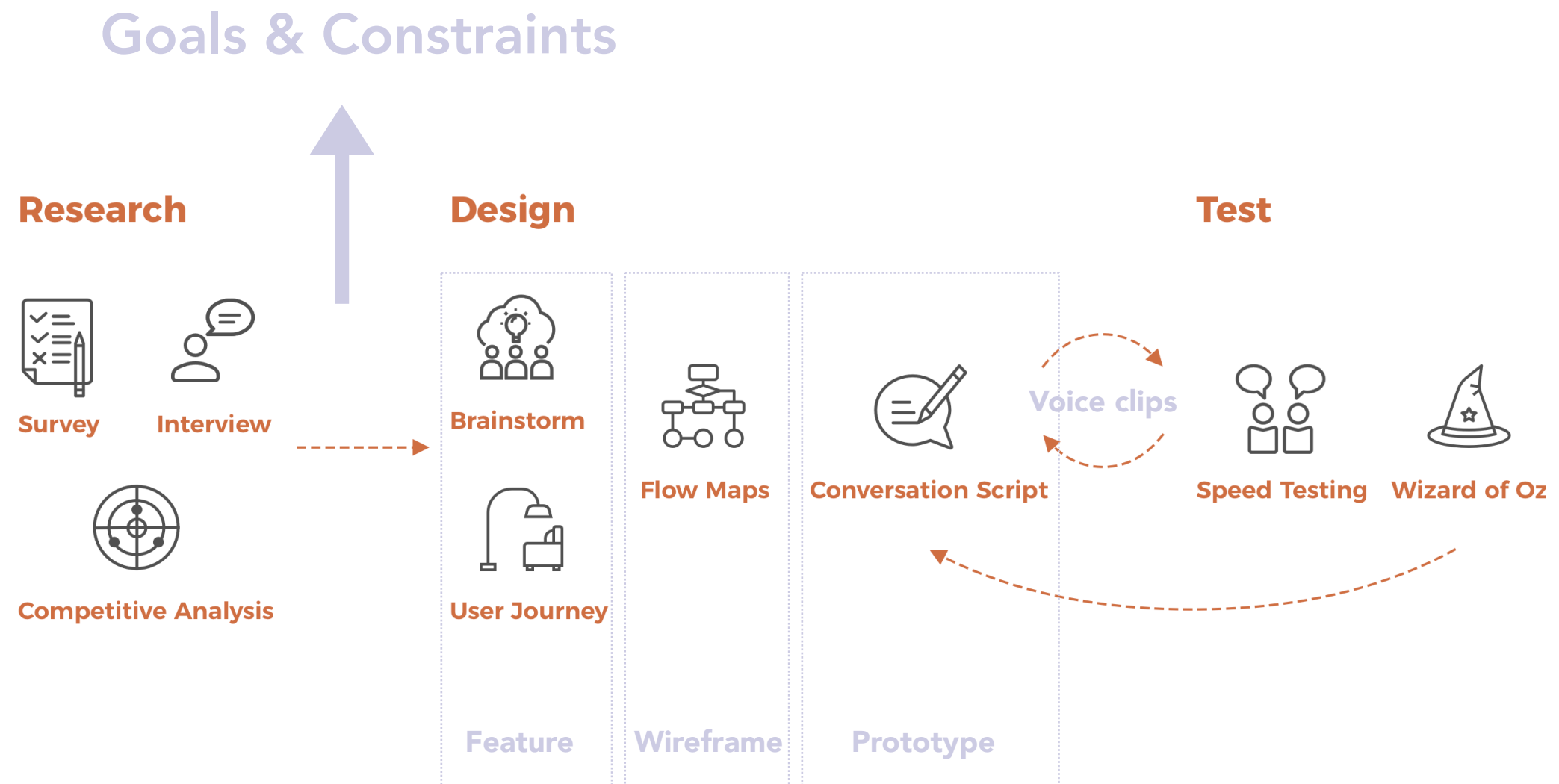
&



Chattie

Voice App for practicing conversation in new languages

Process is all about problem solving



Research

Select Research Methods

Quantitative

Qualitative

VUI

- Characteristics of smart speaker users
- Barriers in VUI

Literature Review
(Demographics)

Interview

Language learning

- Difficulties in language learning
- Effective learning approaches

Survey
(176 respondents)

Competitive analysis

Major Findings

Design Goals

- Practice conversations that are useful in real-life scenarios.
- Expand vocabulary and phrases in oral language.

Design Constraints

- People expect smart speakers are more intelligent than they actually are.
- Recollection is a pain in language learning.

Goals and constraints reflected in **Persona**

Clare

Xtensio



Age: 31

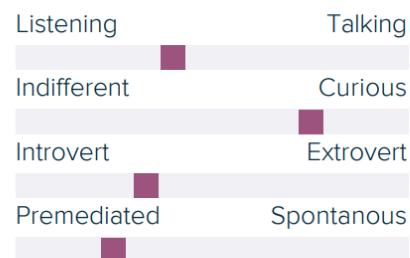
Work: Consultant

Location: Ann Arbor, MI

Education: Graduate level

Mother Language: English

Personality



Goals

- Practice expressions that are useful in real-world conversation
- Improve pronunciation accuracy
- Expand vocabulary used in real-world conversation

Frustrations

- Know grammar, but make mistakes while speaking
- Forget words, expressions often
- Feel awkward to ask "stupid" questions
- Rarely have a chance to talk to native speakers

Bio

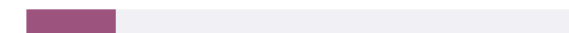
Clare has learnt French for a year. She took French classes to learn the grammar and some vocabulary. Now she got an chance for a three-month business travel to France. She is motivated to use the language she learnt to communicate with local people, and understand more of the culture.

However, she is scared of speaking the first time in a native environment. She is worried about her pronunciation and use of words. She wants to get prepared for conversations in some predictable occasions, such as ordering in a restaurant, chat about local sports.

"I am always looking for opportunities to practice speaking with someone, then I get nervous about making mistakes in front people"

Motivation

Communication



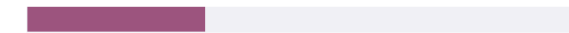
Learn about another culture



Literatures/music/movies in the language



Simple interests in learning



Preferred Learning

Language Classes



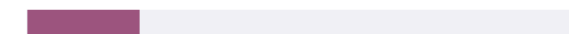
Technology



Language Circle



Self-teaching



Design

Brainstorm many, focus on a few



Follow examples
to learn oral phrases



Practice conversation
with voice assistant



Note down difficulties
for later review



Ask questions
about the conversation

Design Goals

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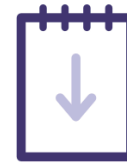
Brainstorm many, focus on a few



Follow examples
to learn oral phrases



Practice conversation
with voice assistant



Note down difficulties
for later review



Ask questions
about the conversation

- Scenario based
- Lead questions
- Solicit practicing

Design

How to introduce the features in a conversation flow?

How to build Chattie's personality?

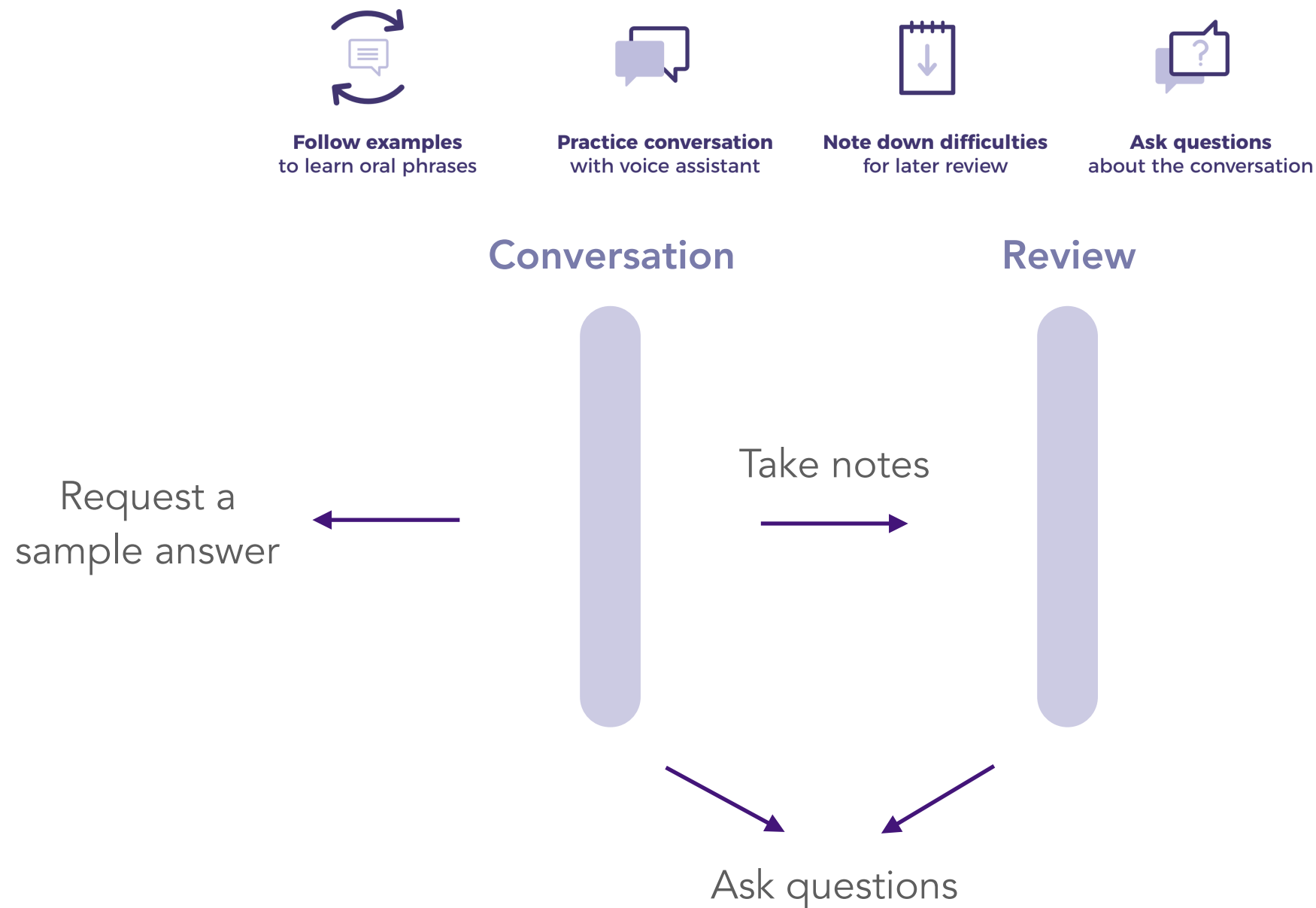
How to handle unexpected user response?

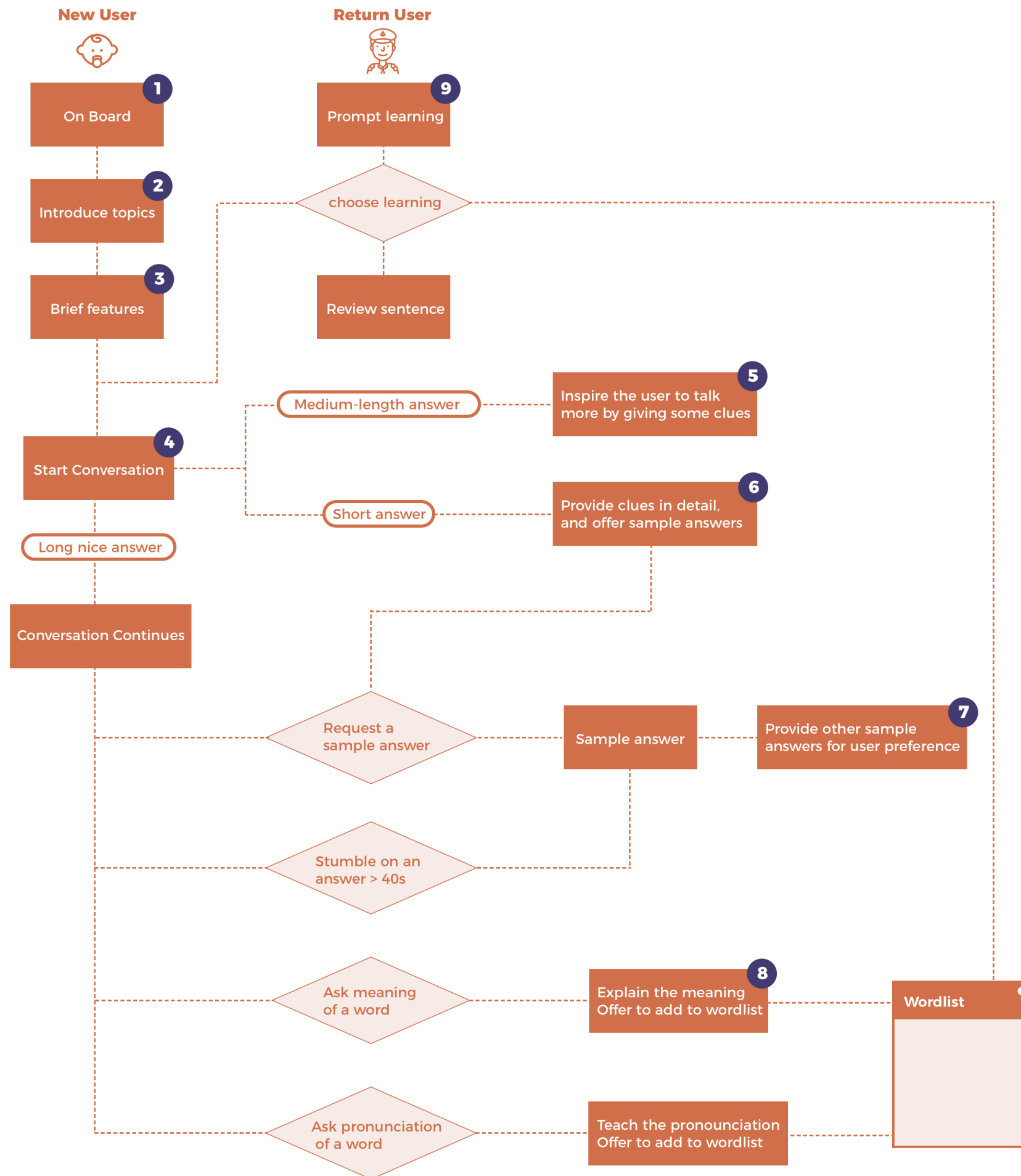
How to introduce features in a conversation flow?

1. Reveal features on the go
2. Prompt options, no more than three
3. Test: how do you perceive the system structure?

How to introduce features in a conversation flow?

1. Reveal features on the go





How to introduce features in a conversation flow?

1. Reveal features on the go
2. Prompt options, no more than three

Nice to meet you, Amy!

For conversation practice, we can talk about **travel**, **food** or **transportation**.

You can also ask for **more topics**. Which topic would you like to talk about?

3. Test: how do you perceive the system structure

How to build Chattie's personality?

Trusting and encouraging

1. Interactivity: Ad-libs.
2. Learning feedback based on user response
3. Being helpful when user stumbles

How to build Chattie's personality?

1. Interactivity: Ad-libs.

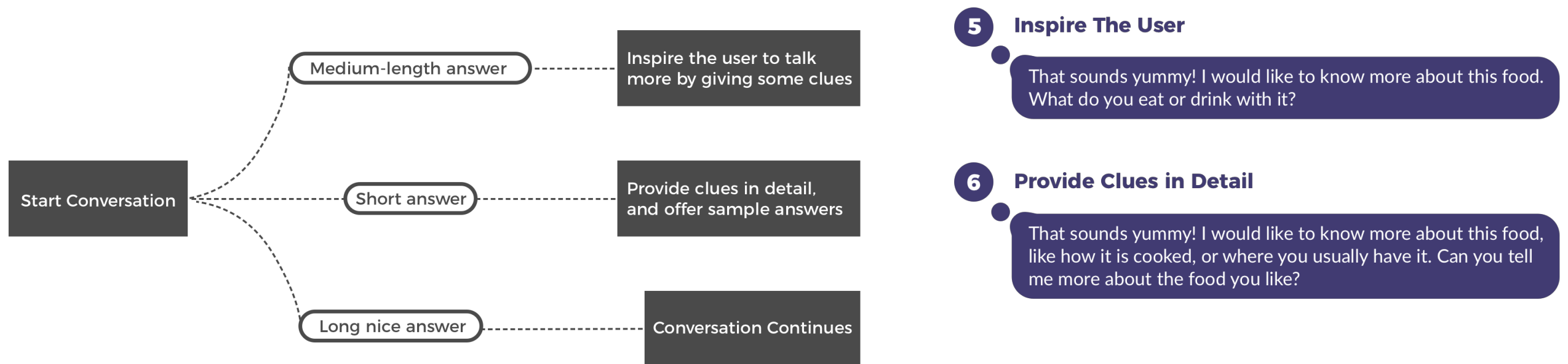
That sounds yummy! I would like to know more about this food, like how it is cooked, or where you usually have it. Can you tell me more about the food you like?

2. Learning feedback based on user response

3. Being helpful when user stumbles

How to build Chattie's personality?

1. Interactivity: Ad-libs.
2. Learning feedback based on user response



3. Being helpful when user stumbles

How to build Chattie's personality?

1. Interactivity: Ad-libs.
2. Learning feedback based on user response
3. Being helpful when user stumbles
 - A reasonable pause
 - Offer explanation
 - Sample answers

How to handle unexpected user response?

1. Provide alternative information.

● I'm sorry, I can't provide this particular sample answer, but I can give you a different sample answer. Would you like that?

2. Guess ambiguous pronunciation, and correct user.

● I think you meant cutlery. Cutlery means the tool 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?

Future Work

- Gather data for fallbacks
- Accent correction

Thank you!

Research Method

Survey, Interview, Competitive Analysis, Literature Review

Design Goal & Design Constraints

Features

Design Considerations

How to introduce the features in a conversation flow?

How to build Chattie's personality?

How to handle unexpected user response?