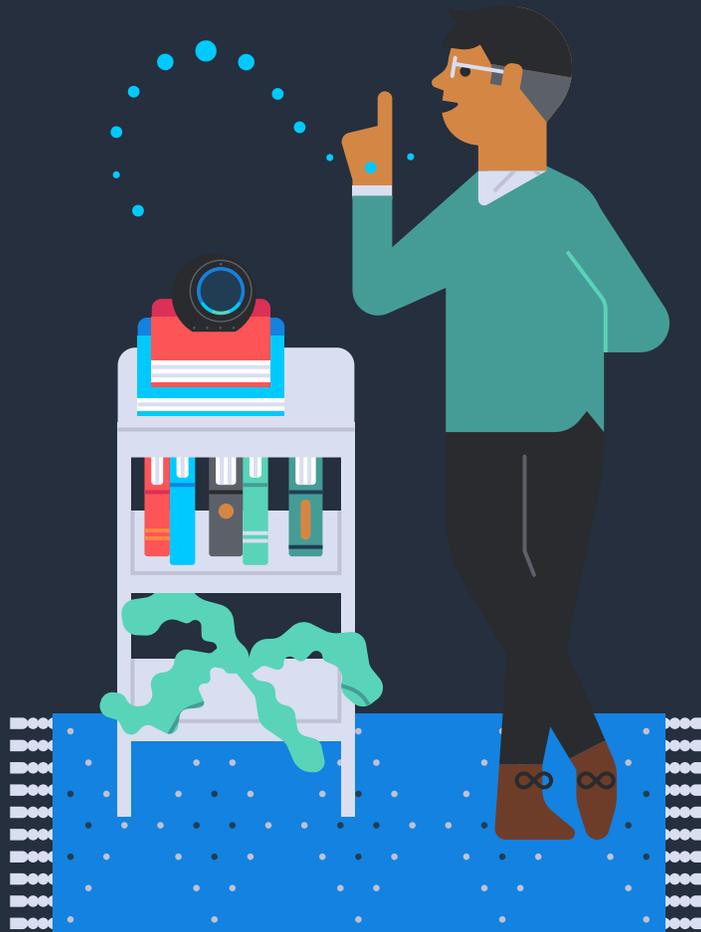# How to Design a Voice User Interface: From Big Idea to Alexa Skill

Voice: The Next Major Disruption

A voice user interface (VUI) allows people to use voice input to control computers and devices. In short, it's what enables voice experiences like the *Star Trek* computer and Alexa, Amazon's voice service and the brain behind millions of devices including the Amazon Echo. Voice experiences are great when they offer a faster, easier, or more delightful way of doing things.

Today's VUIs are quickly growing smarter, learning the customer's speech patterns over time and even building their own vocabulary. With VUIs fast-evolving, voice is poised to be the next major disruption in computing.

Like its predecessors, VUI is quickly becoming capable and robust. With each turn of technology, it took the bold, the brave, and the adventurous developers to show us what's possible. And these visionaries are doing the same for voice, paving the way toward fully-conversational, multimodal interactions that extend to mobile, wearables, and even virtual reality.

Now, it's your turn. In this guide, we share seven steps you can follow to design your voice experience, from idea to dialog flow to voice interaction. Follow these steps to bring your big idea to life. To learn more, visit the Amazon Alexa Voice Design Guide.

Design Your Own Voice User Interface

As you design your voice user interface, create scripts for the dialog between the customer and Alexa. Focus on the interactions where everything works well and the customer gets what he or she needs, and then add complexity and surprises. Think about what you want the person using your skill to experience and feel.

Reference the steps throughout this guide and the cheat sheet at the end to learn how to turn your idea into an Alexa skill. Start by imagining the voice experience from a customer's perspective and then define your use cases.

Step 1: Know the Qualities of a Standout Skill

Great skills incorporate the following criteria:

- **Customer Value:** What your skill will do for customers

- **Alexa's Purpose:** The role Alexa will play in your skill, and how the skill enables Alexa to help your customers

- **Customer Needs:** Your customers' goals and challenges

- **Use Cases:** Scenarios in which your skill supports your customers

- **Dialog Flow:** How customers will interact with Alexa in your skill

- **High Bar:** How your skill will create a unique and engaging experience that keeps customers coming back

Step 2: Define the Customer Value

What does your skill do?

Describe what your skill does in 2-3 sentences. If it takes longer to explain, you'll probably need to refine your idea further.

Tip: This is also a good time to start thinking about a unique name that a user will need to remember to invoke your skill.

> *Example: Customer Value Statement for a Cooking Skill*
> *"My skill, Chef Mate, helps users easily find recipes and receive step-by-step guidance while cooking."*

Step 3: Define Alexa's Purpose

What is Alexa's role for your skill?

Roles for Alexa include (but are not limited to):

- **Authority:** A trusted source on information and guidance

- **Assistant:** Assists with planning, reservations, scheduling, and more

- **Gopher:** Turning devices on or off and setting simple requests

- **Storyteller:** Narrator for stories and gameplay

- **Friend:** Casual conversation with Alexa

> *Example: Purpose Statement for a Cooking Skill*
> *You're the head chef while Alexa is the sous chef. Alexa can find recipes (Gopher) and help with cooking (Assistant).*

Step 4: Define the Customer's Needs

What are the customer's goals? What challenges do they face?

Think about how someone would use your skill. What are their goals and what actions will they take? When challenges arise for the customer, how will your skill help them meet their goals?

Once you determine the customer pain points and needs, you can split your list into actions that your skill could address.

> ### *Example: Customer Needs for a Cooking Skill*
> Customer pain points that a cooking skill could address:
>
> #### *Search*
> - Help the customer decide what to cook
> - Find delicious and interesting recipes
> - Find recipes to meet dietary needs
> - Find easy recipes
>
> #### *Planning*
> - Provide a list of groceries to buy for each dish
> - Provide guidance on how to swap ingredients
>
> #### *Cooking*
> - Teach the customer how to cook step by step
> - Make cooking the recipe easier by communicating the steps via voice
> - Provide quantity conversions

Step 5: Define the Customer Use Case

How can your skill support different customer needs?

Create use cases from the customer needs you outlined in step 4. What goals, questions, and wishes do your customers have for your skill? What can your skill do to fulfill those needs?

Now this is the tough part: you'll have to narrow down your focus into one or two use cases to build quality interactions. Set clear scenarios in which you can address all customer needs and pain points. Write your use case as a compact story that outlines the goal and outcome the customer wants to achieve.

Remember, you can always come back to your skill to customize and add more use cases later.

Example: Quality Use Cases For a Cooking Skill

Customer Pain Point	Use Case
No time to cook	Search for recipes that take less than 20 minutes to cook
No ideas for what to cook	Search for popular recipes

From your use cases, you can start to put together scenarios in which a customer will ask Alexa for information or guidance.

Step 6: Build Your Dialog Flow

How will the customer interact with Alexa in your skill?

From your use cases, determine what questions a user might have and how Alexa can provide suggestions, guidance, or more information. You'll need to position Alexa to prompt the user in a way that will help narrow selections, but still seem friendly and helpful.

Remember, not all use cases are happy ones. You may need to think up real-world situations when users change their mind, switch context too quickly, or encounter an error.

Example: Dialog Between Customers and a Cooking Skill

Turns	Customer Utterance	Alexa's Response
1	Alexa, open Chef Mate	Welcome, let's get cooking! What are you in the mood for? I can find tasty chicken, beef, fish, or tofu recipes for you.
2	How about chicken?	I've found 3 popular recipes for you: Chicken Parmesan, Chicken Tikka, and Chicken Soup. Do you want to hear more?
3	Nah, I don't want that. What other recipes do you have?	Do you want a soup, main entrée, or appetizer?
4	Main entrée	Okay. I've found 3 chicken entrées for you: Chicken Carbonara, Veggie Stir Fry with Chicken, and Chicken Stew. Do you want to hear more?
5	What about Mexican food?	No problem. I've found 3 Mexican chicken entrées for you: Chicken Oaxaca, Tinga Tacos, and Chicken Molé. Do you want to hear more?
6	Chicken Molé	I've sent the Chicken Molé recipe to the Alexa App for you. Bien provecho!

Step 7: Meet the Bar

Does your skill meet, or possibly exceed, expectations for users?

From your use cases, determine what questions a user might have and how Alexa can provide suggestions, guidance, or more information. You'll need to position Alexa to prompt the user in a way that will help narrow selections, but still seem friendly and helpful.

Remember, not all use cases are happy ones. You may need to think up real-world situations when users change their mind, switch context too quickly, or encounter an error.

- **Life Hack:** Does your skill make life easier for customers?

- **Uniqueness:** Is your skill unique enough to stand out in the Alexa Skills Store?

- **Quality:** Did you focus on one solid use case with all possible variants?

Start Building for the UI of the Future

Thousands of designers, developers, and brands have already built tens of thousands of voice experiences with the Alexa Skills Kit (ASK). ASK is a collection of self-service APIs, tools, documentation, and code samples that enables anyone to build capabilities, or skills, for Alexa. With ASK, you can leverage Amazon's years of innovation in the field of voice design and reach millions of customers.

Start building for voice and join the next revolution in computing.

Additional Resources

Alexa Skills Kit: An Introduction

Alexa Skills Kit: Quick Start Guide

Skills Templates and Tutorials

Amazon Alexa Voice Design Guide

Make Money with Alexa Skills

Find Us on Social

Twitter: @AlexaDevs

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LinkedIn: Amazon Alexa Developers

YouTube: Alexa Developers

Voice User Interface Design Cheat Sheet

Customer Value: Describe your skill in 2-3 sentences.

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Alexa's Purpose: What role will Alexa play in your skill?

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Customer Needs: Describe the customers' needs, goals, and pain points.

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Use Cases: What kinds of tasks does my skill need to do to meet different customer goals?

Customer Pain Point	Use Case

Dialog Flow: Imagine a few scenarios focused on one use case for your skill.

Turns	Customer Utterance	Alexa's Response

High Bar: What are some challenging use cases or ways my skill can exceed expectations?

Life Hack

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Uniqueness

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Quality

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