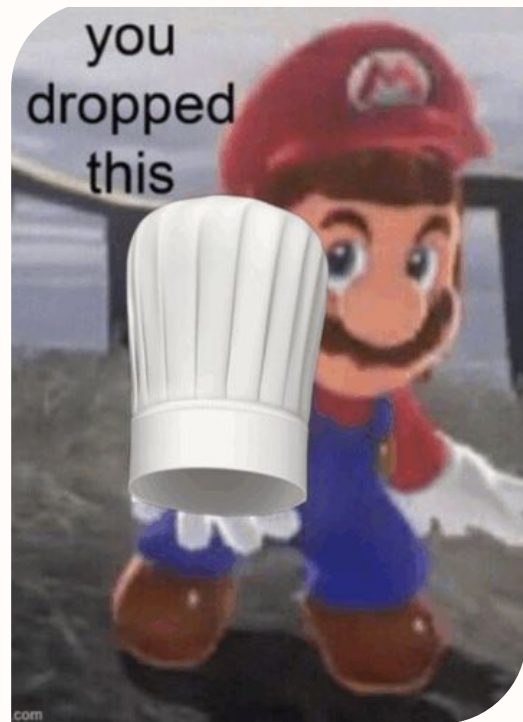


# When You *Chef*:

## Designing Voice AI for Real Kitchens

CS 147 Fall 2025



# Contents

01

Intro

02

New Needfinding  
Results

03

POV Development

04

HMWs

05

Solutions

06

Experience Prototypes

07

What's next?

08

Appendix

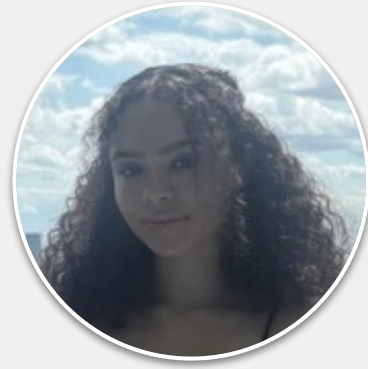


# Intro

# Meet the team: J<sup>3</sup>xM



**Jasleen S.**  
'26



**Mara B.**  
'26

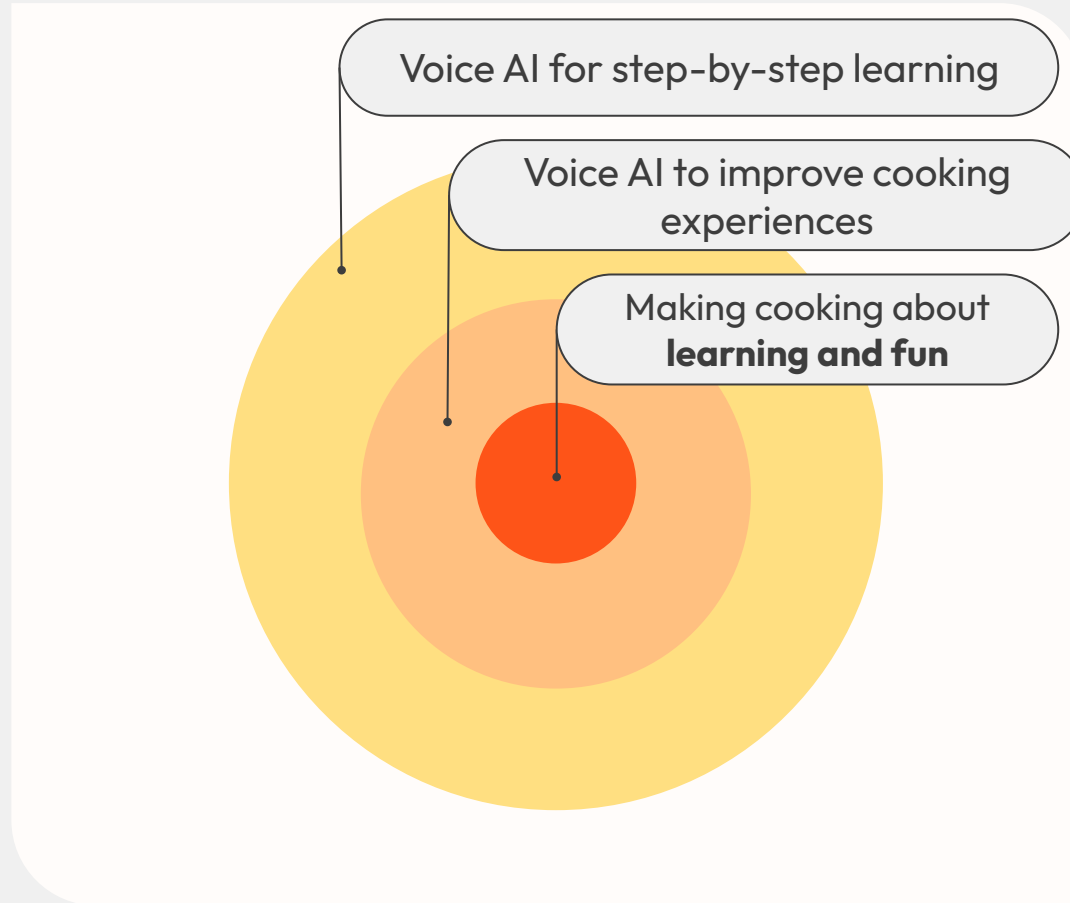


**Jasmine T.**  
'26



**Jasmine A.**  
'26

# Focused Problem Domain





# New Needfinding Results

# Nicole



Mother who dedicates her time to cooking low  
FODMAP meals for her son  
*Mountain View, CA*

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1. It is surprising how **deeply involved she remains in her son's diet and daily meals** despite living in different homes.
2. Cooking is **both a burden and an act of love**. She finds cooking to be exhausting and time-consuming but it is also how she cares for her son's well being.
3. There is **tension** between **caring for her son's health** and her **husband's food preferences**. She feels **guilty** that her husband dislikes the meals she makes for her son but also knows **her son's needs must come first**.

# Emily



UCLA Alumni and Olympic Swimmer  
*Los Angeles, CA*

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1. Seeks **simplicity in cooking**, but also demands **macro precision and performance optimization**.
2. Cooks socially on rare occasions, but **prefers to cook by herself, efficiently and with focus**.
3. Treats **food purely as fuel** but still connects it to satisfaction and control.
4. Even though she values structure, she **dislikes reading recipes** and **prefers visual, intuitive learning through YouTube tutorials**.

# POV, HMW, Solution, Experience Prototype



**“Jessica”**

*Amateur cook,  
Biomedical Engineer  
Fremont, CA*

# Initial POV - Jessica

## **WE MET...**

A biomedical engineer and amateur cook who doesn't cook often

## **WE WERE SURPRISED TO NOTICE...**

she doesn't enjoy cooking but when she does cook she purposely chooses recipes that challenge her.

## **WE WONDER IF THIS MEANS...**

that Jessica believes cooking is only enjoyable when she is learning in the process.

## **IT WOULD BE GAME CHANGING TO...**

help Jessica learn something new through steps so she can feel like she is challenging herself throughout the cooking process.

# Revised POV - Jessica

## WE MET...

Jessica, an amateur cook who doesn't cook often because she finds it **repetitive**.

## WE WERE SURPRISED TO REALIZE...

She **doesn't enjoy** cooking but when she does cook she purposely chooses recipes that **challenge** her.

## WE WONDER IF THIS MEANS...

Jessica seeks **intellectual engagement** and believes cooking is only **enjoyable** when she is **learning** in the process.

## IT WOULD BE GAME CHANGING TO...

**Motivate** Jessica to cook by highlighting her desire for **learning, challenge, and personal growth**.

Jessica's POV: Motivate Jessica to cook by highlighting her desire for learning, challenge, and personal growth.

How might we make her **feel rewarded for learning** while cooking?

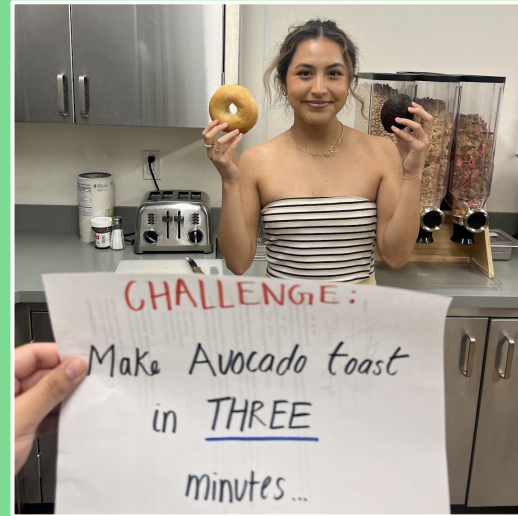
# Solution

Gamifying cooking into a  
**personal gameshow**

# Critical Assumption

Competition and time pressure will make users more engaged and motivated to cook, not more anxious or rushed.

# Participant



Laura, a 20-year-old student who cooks occasionally!

# Prototype Description



## Setup:

Cooked same dish **2x**: first normally, then under a 3-minute “game show” challenge..

## Experience Highlights:

1. Added timer, music, and live commentary.
2. Compared behavior and mood before vs. during challenge.
3. Reflected on motivation and enjoyment afterward.



# Results

## What worked/didn't?

Prototype revealed **strong emotional** reactions. While she moved faster and paid attention, she **felt tense and anxious**. Unfortunately, excitement quickly turned into pressure.

## New learnings:

Time pressure **changes focus** from **enjoyment** to **performance**.

Users may lose the playful, creative feeling of cooking when it's framed competitively.

## Was the assumption valid?

No. Competition **reduced motivation** and **enjoyment** for this participant, showing that stress outweighed engagement.

## What does it mean for your work going forward?

Shift toward self-paced, friendly gamification (progress tracking or creative goals).

# POV, HMW, Solution, Experience Prototype



**“Nicole”**

Mother who dedicates  
her time to cooking low  
FODMAP meals for her  
son  
*Mountain View, CA*

# Initial POV – Nicole

## WE MET...

Nicole, a mother who cooks low FODMAP meals for her 26-year-old son everyday.

## WE WERE SURPRISED TO NOTICE...

she describes cooking as stressful, exhausting, and time-consuming, yet she moved from Michigan to California to dedicate her life to cooking for her son.

## WE WONDER IF THIS MEANS...

she feels a deep sense of **responsibility and guilt** at the thought of stepping back from her caregiving role, because cooking has become inseparable from her son's health, comfort, and survival.

## IT WOULD BE GAME CHANGING TO...

help **reduce the burden** and stress she feels so she can focus on cooking as an act of love for her son.

# Revised POV - Nicole

## WE MET...

Nicole, a devoted mother who spends much of her day grocery shopping, prepping, and cooking low-FODMAP meals for her adult son.

## WE WERE SURPRISED TO NOTICE...

Although Nicole finds cooking stressful, exhausting, and time-consuming, she uprooted her life to move across the country to care for her son through food.

## WE WONDER IF THIS MEANS...

She **feels guilty stepping back** from cooking because it is tied to her son's well-being.

## IT WOULD BE GAME CHANGING TO...

It would be game-changing to **reframe cooking** as a source of **connection and love** for Nicole's son, rather than a constant **burden**.

Nicole's POV: reframe cooking as a source of connection and love for Nicole's son, rather than a constant burden.

How might we make cooking **feel like an activity/hobby** and not a responsibility?

# Solution

**Storytelling** recipe guidance  
with music and lessons

# Critical Assumption

Assumes users will find talking to an AI natural and listening to a story/music non-disruptive in a kitchen context.

# Participant



Greg, Jasmine's father who is a frequent home cook.

# Prototype Description



**Setup:**  
Participant cooked while guided by a narrated pirate-themed story.

**Experience Highlights:**  
4 short “acts” blending instructions and storytelling

Music matched mood and pacing (Pirates of the Caribbean)

Participant followed narration hands-free while cooking



# Results

## What worked/didn't?

Storytelling, music, and hands-free guidance felt **natural**.

User wants **control** over **pacing** being able to say 'repeat'.

## New learnings:

User found the storytelling aspect **amusing** and preferred this to a monotone voice reading out recipe instructions.

Liked not having to look at his phone for guidance.

## Was the assumption valid?

Yes. Voice interaction felt **natural and not distracting**.

## What does it mean for your work going forward?

Make sure voice commands like **"repeat"** are included and test setup with complex recipes to refine pacing and flow.

# POV, HMW, Solution, Experience Prototype



**“Claire”**

*Masters of Public  
Health Grad  
Student,  
Athlete (track)  
Tennessee*

# Initial POV - Claire

## WE MET...

Claire, a time-constrained student-athlete and amateur cook.

## WE WERE SURPRISED TO NOTICE...

She prefers having meal decisions made for her by her teammates and family.

## WE WONDER IF THIS MEANS...

She seeks **structured guidance** that **simplifies decision-making** while still allowing her to feel in **control and informed**.

## IT WOULD BE GAME CHANGING TO...

Help reduce Claire's decision fatigue and jump faster from recipe ideation to cooking.

# Revised POV - Claire

## WE MET...

Claire, a time-constrained student-athlete and amateur cook who prioritizes quick, healthy recipes.

## WE WERE SURPRISED TO LEARN...

She prefers having meal decisions made for her by her teammates and family.

## WE WONDER IF THIS MEANS...

She **values simplicity** in her decision-making process.

## IT WOULD BE GAME CHANGING TO...

**Reduce** Claire's **decision fatigue** and make the leap from choosing a recipe to cooking feel **effortless**.

Claire's POV: Reduce Claire's decision fatigue and make the leap from choosing a recipe to cooking feel effortless.

How might we make  
deciding a meal **feel  
like talking to a  
friend?**

# Solution

**“Would you rather?”** to decide  
recipes

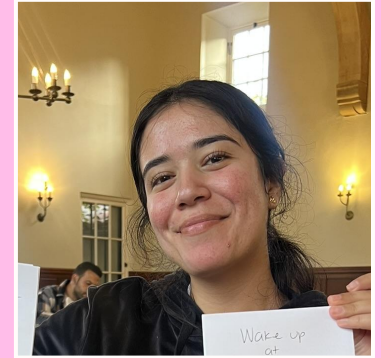
# Critical Assumption

Users believe fun choices around their moods and emotions can lead to accurate meal matches (e.g “spicy vs. cozy”)

# Participants



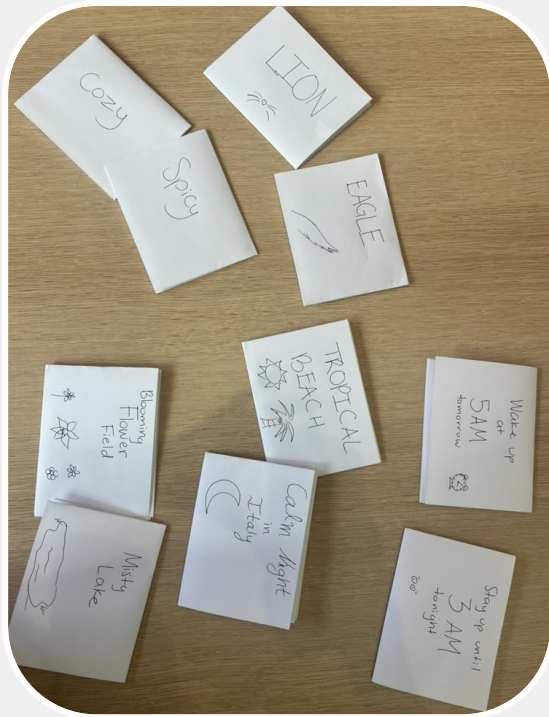
Lily



Daisy

Stanford students who have a hard time deciding what to cook.

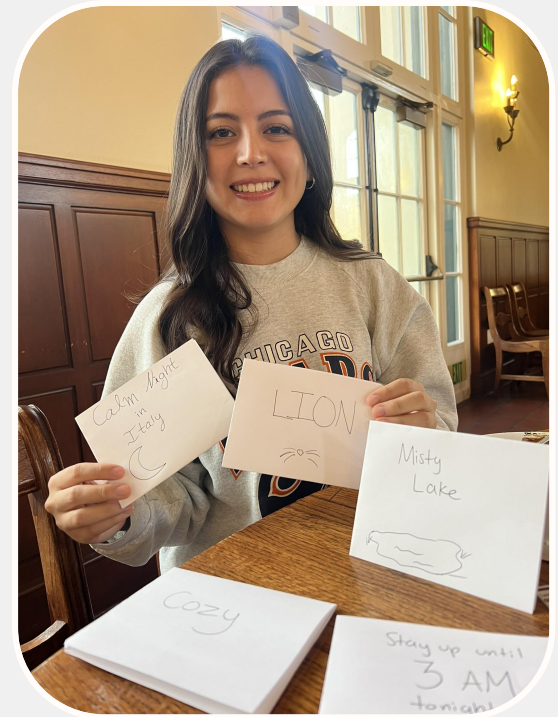
# Prototype Description



**Description:**  
Ask participants “Would You Rather” questions and reveal the final meal created from all their answers.

**Methodology:**

1. Assign an ingredient to each possible choice.
2. Build several meal scenarios that combined these ingredients
3. Create notecards for each pair of choices so participants could visually engage and feel like they were playing along.



# Results

## What worked/didn't?

(+) Both participants found it **fun, simple, and unexpectedly engaging**, and loved the element of **surprise**.

(-) Daisy said her meal **did not match** her **taste preferences**.

## New learnings:

The abstraction **lowered cognitive load** and made meal selection feel playful.

While the logic *can* land well, its **success depends on** how **flexible** and **adaptive** the **ingredient mappings** are.

## Was the assumption valid?

**Partially valid.**

Both participants agreed the results didn't feel random. The meals made sense given their answers and emotional tone/mood.

However, for Daisy **mood-driven questions were less effective than an ingredient-based filter**.

## What does it mean for your work going forward?

Introduce **context-aware questions** and/or predefined settings.

Allow **customization** on the final suggestion and/or **multiple choices**.



What's next?

*Advancing the concept.*

## Chosen Solution

A **voice-interactive cooking app** that transforms cooking into a *story-driven experience*. Blends mini skill lessons and adaptive recipe guidance that adjusts steps and ingredients in real time.

# Transforming cooking into a *story-driven experience*.

## Why this direction?

- Our assumption was validated the most for this solution.
- Transforms routine cooking into playful flow.
- Helps users like *Jessica* and *Claire* stay motivated through story-driven challenge and progress.
- Eases the stress and loneliness of cooking for *Nicole* by reframing it as an immersive experience.

# Transforming cooking into a *story-driven experience*.

## Ethical considerations

### **Opportunities for Good**

- Makes solitary cooking feel less isolating and more emotionally rich.
- Provides guidance for users who can't easily read or handle devices mid-cook.
- Invites curiosity and experimentation for those intimidated by traditional recipes.

### **Tensions & Risks**

- Current voice recognition systems are biased toward certain accents and speech patterns, creating inequities for users with speech differences or non-dominant dialects.
- Privacy concerns since kitchens are personal, and constant listening raises data ownership and consent issues.
- AI “companionship” may blur the line between genuine connection and engineered warmth.

# Transforming cooking into a *story-driven experience*.

## Who it serves best:

- Conversationalists with limited exposure to others
- Overloaded cooks seeking joy in their meal prep
- AI enthusiasts

## Who it leaves out:

- Efficiency-only cooks who prefer silence or speed
- People with accents, speech differences, or multilingual habits
- Users uncomfortable speaking with AI/concerned about privacy



**Thank you!**