

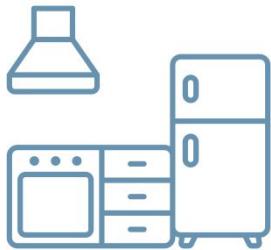
# Virtual Kitchen Assistant

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The Future of Cooking

Sahim Ahmed

# Never Cook Alone



VIRTUAL KITCHEN ASSISTANT  
never cook alone

In more recent times especially, near the end of the 2010s and beginning of this new decade, we see a rise in smart devices within our homes and creates a technological harmony of interconnected devices. The development of this VKA would help people prepare meals, take care of their kitchen utilities, and process recipes for users as well.



# Purpose and Scope



# Purpose

The purpose behind this Virtual Kitchen Assistant is to create an innovative, AI- powered kitchen ecosystem for the new generation of adults which will be filled with millennials and people from gen-z. This kitchen assistant will help and enhance

- Cooking experience
- Meal preparation
- Recipe Assistance
- Manage kitchen inventory

This will help our audience to have a more efficient cooking environment and empower them to cook effectively, confidently, and with assistance.



# Scope

The VKA system will help users have almost full control of their kitchen and it's inventory, yet still feel as if they are not alone in their cooking journey.

- Implement voice recognition and IoT to execute commands in the kitchen
- Provide recipe recommendations with the use of the cloud system which stores the user's fridge inventory and customizes it based on their preferences of diet
- Mobile app helps users visually view the items in their kitchen that are connected to VKA



# 01

## Market Feasibility

Analysis of the need for the public and possible growth in this product

# 02

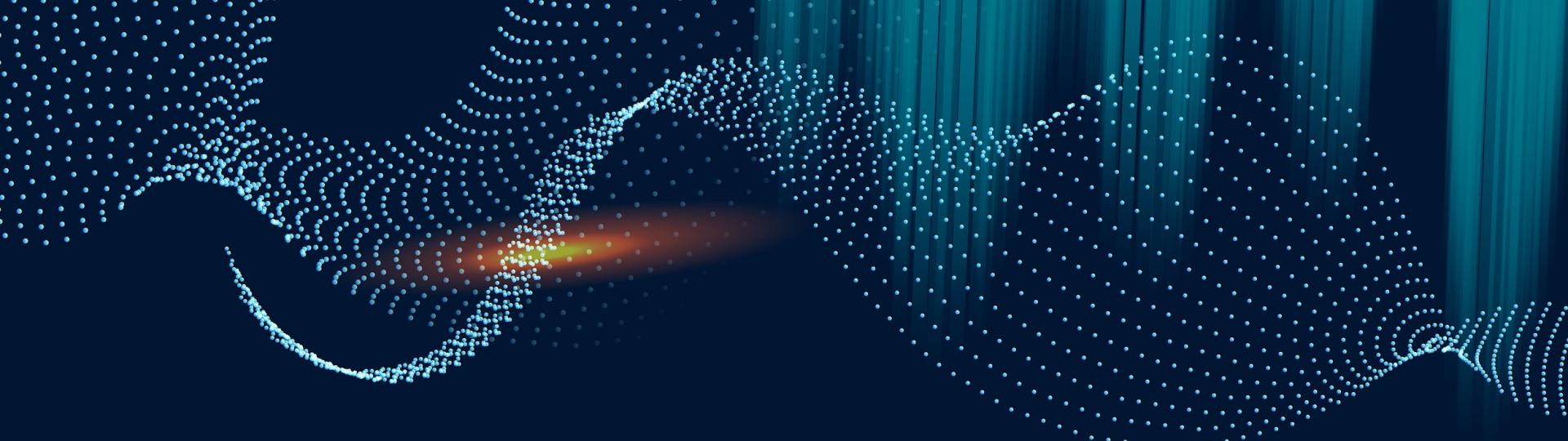
## Operational Feasibility

Analysis of the people and skill set needed for the project

# 03

## Technical Feasibility

Analysis of the systems and softwares needed for the best possible outcome for the project



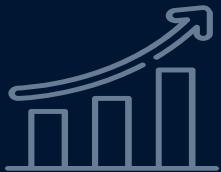
# 01 | Market Feasibility

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**Target group:** people constantly cooking at home, people who are new to cooking, and busy individuals with a more efficient way to cook

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**Need:** the increase in smart devices in homes makes this product a necessity for people to create a full smart device ecosystem within their homes

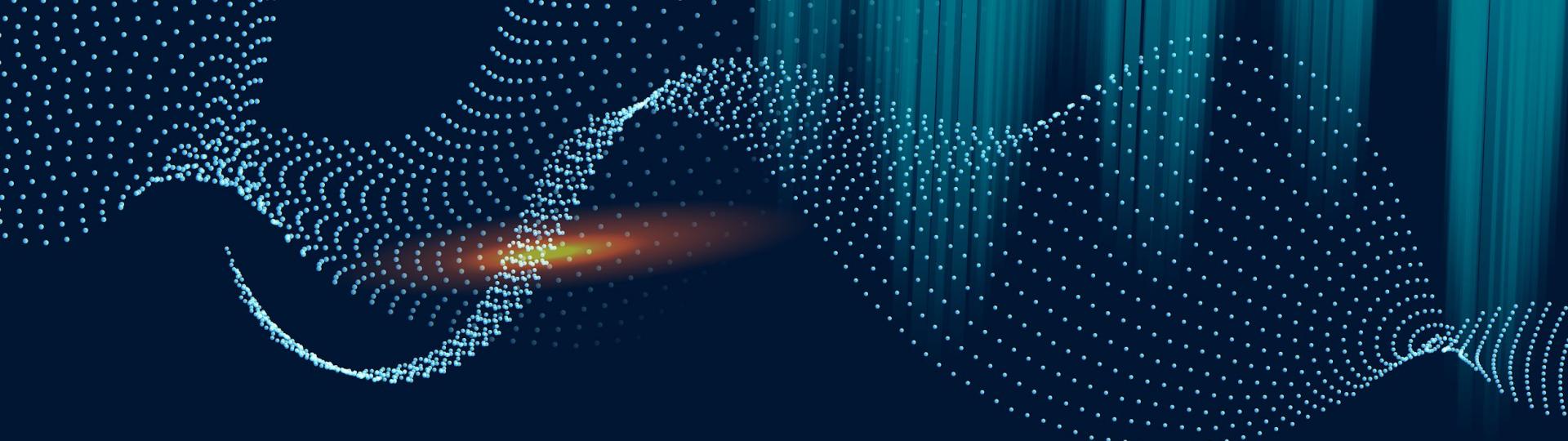


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**Marketing Strategy:** use social media platforms to expose our brand to target group. Get our model popularized through TikTok and Instagram influencers

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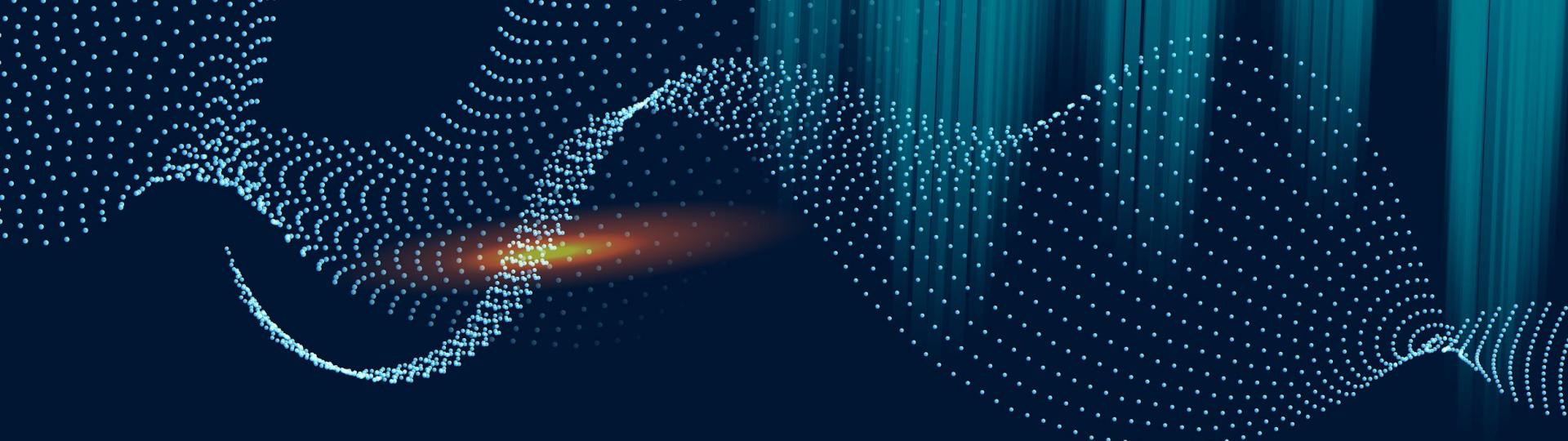
**Growth:** The project being set and established within the next 3-5 years is key for financial growth as smart appliances are at ever growing peak at the moment



## 02 | Operational Feasibility

- AI and NLP Engineers
- IoT Integration Engineers
- Smart Appliance Engineers and Developers
- Mobile App Developers
- Partnership Managers
- Cloud Infrastructure Team





# 03 | Technical Feasibility

**IoT Integration into Smart Appliances:** will be able to connect to various smart kitchen appliances, will be able to perform tasks like preheat oven

**Voice Recognition:** the virtual kitchen assistant will have a natural language processing system where it will be able to understand voice commands and then performs tasks likewise.

**Mobile App:** you can visually manage the items in your kitchen, view recommended recipes from your cooking history or based on the items in your kitchen



**Cloud infrastructure:** The system will handle of the cooking history, recipes loaded into the cloud

***“If we command our wealth, we shall be rich and free; if our wealth commands us, we are poor indeed.”***

—Edmund Burke

Voice Recognition and NLP Development: \$3 million

IoT Integration: \$2 million

Marketing: \$500,000

Cloud Maintenance: \$50,000

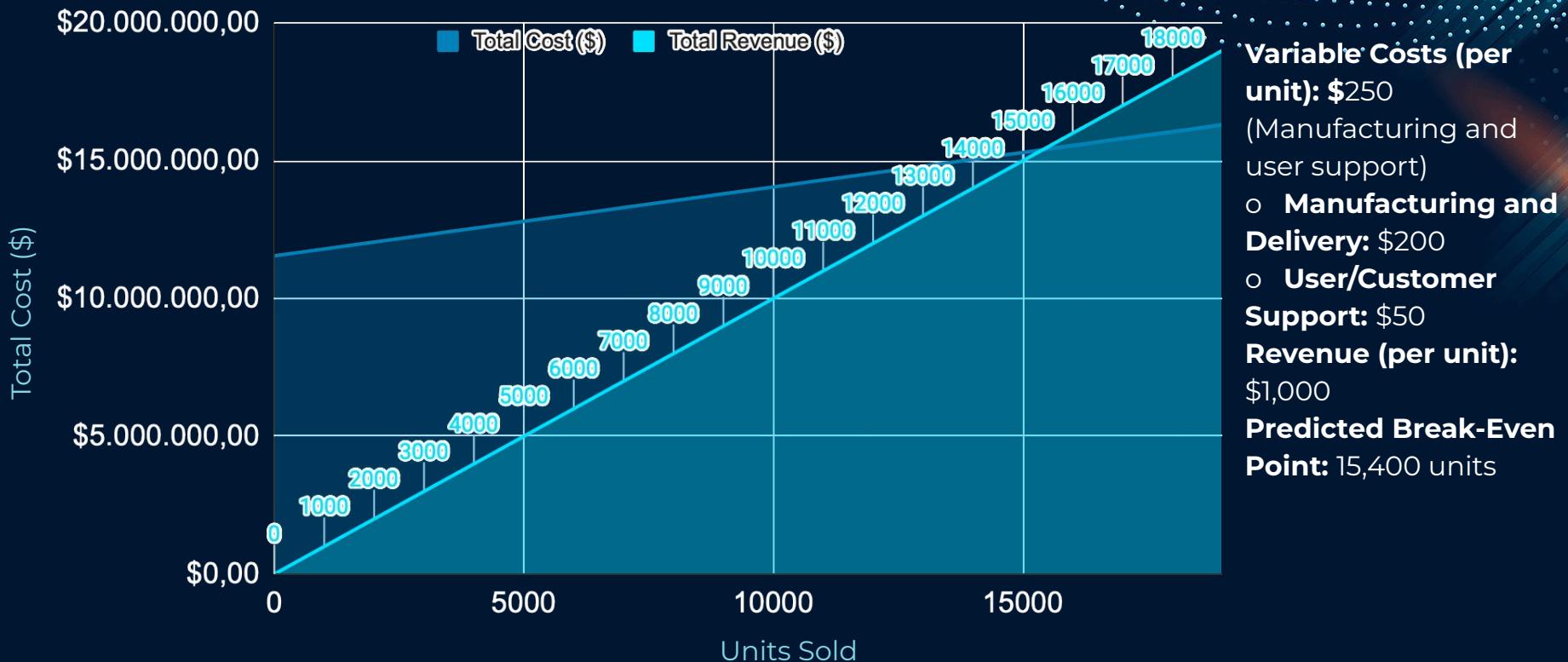
\$13  
million

Smart Kitchen Appliances: \$5 million

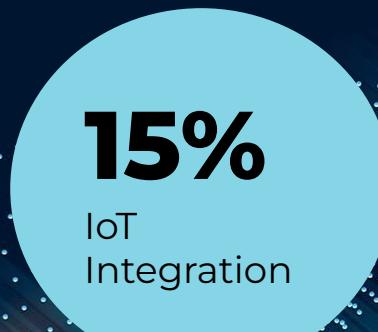
Mobile App: \$1 million

Estimated Excess Budget: \$1.45 million

# VKA Break Even Analysis



# THESE ARE THE PERCENTAGES! Budget Allocation





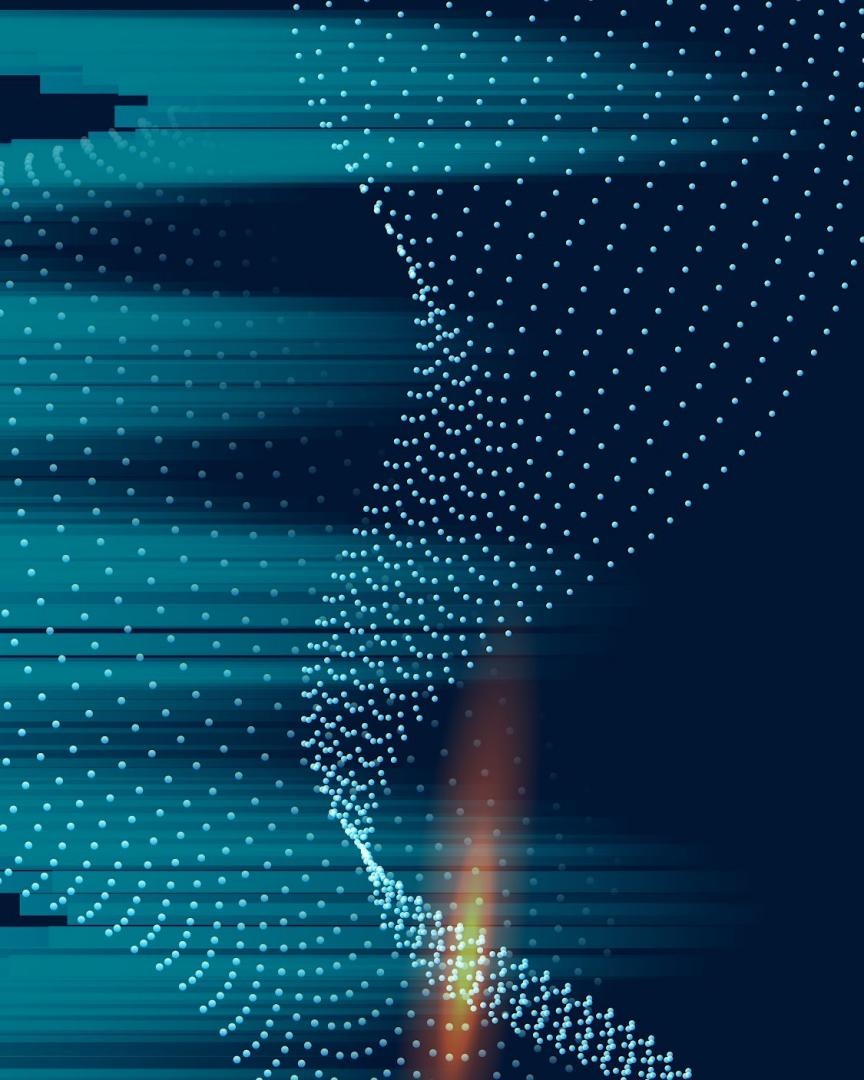
**\$150,000**  
Cloud and Voice Recognition Engineers (Full Time Positions)

**\$100,000**

IoT Integration Engineers (Full Time Positions)

**\$80,000**

Mobile App Developers (Part Time Positions)



**\$80,000**

UI/UX Designers (Part Time  
Positions)

**\$80,000**

Smart Appliance Manufacturers  
(Full Time Position)

**\$50,000**

Customer Support Team (Part  
Time Position)

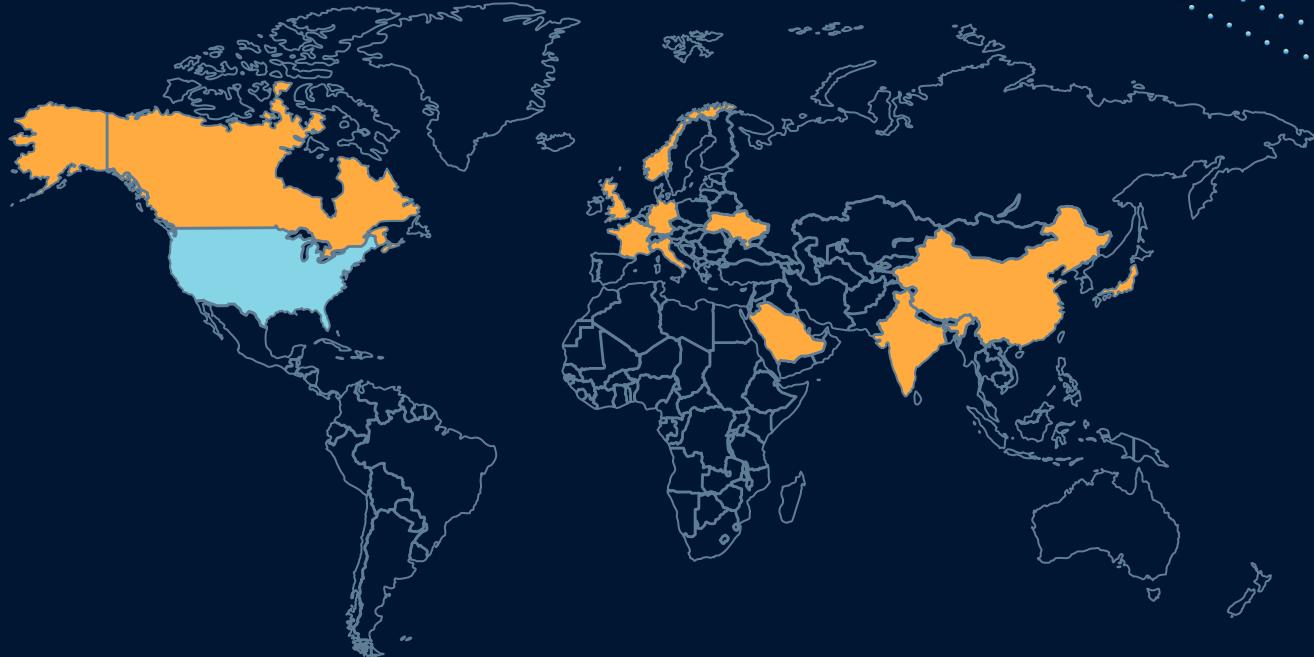


## Project Timeline

Start Date: 11/06/2024

End Date: 03/17/2027

# Projected Future of Virtual Kitchen Assistant



**Phase 1:**  
Start off  
within the  
United  
States

**Phase 2:**  
Incorporate  
it in other  
part of  
North  
America  
and Europe  
and other  
major  
countries

# **First off Let's thank our Sponsor James Curry**

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[jcurry@pace.edu](mailto:jcurry@pace.edu)

Next few slides we will discuss our project stakeholders and the preferred methodology chosen among our sponsor/team members and discuss our stakeholders



# Project Stakeholders



**James  
Curry**

Project is sponsored and funded through him so that the project is lifted off of paper and into the real world



**Sahim  
Ahmed**

Primary stakeholder, who created the idea and set up the project management foundation for this project



**Millennials/  
Gen-z**

These are the ones expected to benefit from this project the most, feedback from them is key to future success of project



**Technical  
Engineering  
Team**

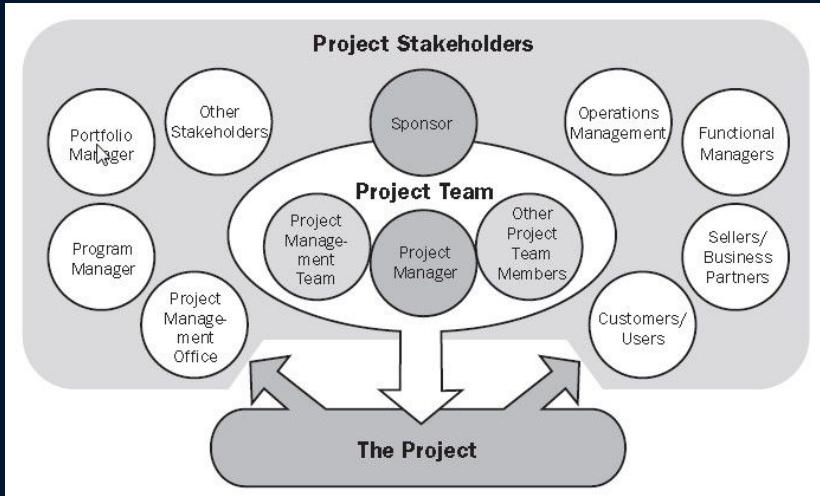
They are essential for the development of the VKA system and all the attributes that comes with it

# Team Members

Voice Recognition Engineers	Responsible for ensuring voice command system works in various kitchen types; like noisy ones
IoT Integration Engineers	Ensures the AI features and cloud system are running and work smoothly across various devices
Mobile App Developers	Ensures that the app and VKA system are almost duplicate of one another, so users have smooth control of both
UI and UX Designers	Ensures the layout of the app is easy to navigate alongside the VKA system
Smart Appliance Manufacturers	Ensures that the VKA system works with such devices and tests out the features so that they could be refined later

# Team Members

Customer Support Team	Works on tutorial videos and guidance for customers and users after the launch date so they can use the system to its maximum capabilities
User Feedback Team	Consumer of the product and provides feedback after purchase



# Project Methodology: Agile Method

Tasks are often repeated multiple times to gain feedback and analysis on how to make it better

Agile allows a lot of flexibility this helps with the VKA project as it will require feedback for each step of the process.

Agile approach allows us to develop and concentrate on refining important features of our project

“Any time you try to shove items into a system at a faster rate than items can exit the system, you are met with disastrous consequences”

—Daniel Vacanti

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# Following our chosen Methodology:

This would be our general scheduling which we will follow by and make modifications throughout the project duration.

Phase	Duration	Start Date	End Date
Phase 1: Planning and Research	2 months	Month 1	Month 3
Phase 2: Designing and Prototyping	4 Months	Month 3	Month 7
Phase 3: Voice Recognition	7 Months	Month 7	Month 14
Phase 4: IoT Integration	7 Months	Month 14	Month 21
Phase 5: App Development	4 Months	Month 21	Month 25
Phase 6: Testing	2 Months	Month 25	Month 27
Phase 7: Launch Product and Market to Public	1 Month	Month 27	Month 28

## Let's Go More In Depth with Our Project Timeline



## Planning and Research

Task		Timeline	Due date
Planning		Nov 6 - 16	Nov 16
Market Analysis		Nov 17 - Dec 1	Dec 1
Team Assembly		Dec 2 - 21	Dec 21
Risk Analysis		Dec 22 - 31	Dec 31
+ Add task			

Nov 6 - Dec 31

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Set project objectives and study trends in the social media realm of things to get a better idea of what users want

Design and create a prototype of the VKA system based on our market analysis

## Designing and Prototyping

Task		Timeline	Due date
Designing		Jan 1, '25 - Ja...	Jan 25, 2025
UX/UI Design		Jan 26, '25 - F...	Feb 22, 2025
Prototype Building		Feb 23, '25 - ...	Apr 4, 2025
Backend Architecture Desi...		Apr 5, '25 - A...	Apr 22, 2025
+ Add task			

Jan 1, '25 - Ap...

Jan 25, '25 - A...

## Voice Recognition

Task	Timeline	Due date
AI Voice Recognition Syst...		Apr 23, '25 - J...
AI Recipe Recognition		Jul 1, '25 - Au...
Backend integration		Aug 9, '25 - S...
+ Add task		
		Apr 23, '25 - S...
		Jun 30, '25 - S...

Software engineers and ai engineers will use knowledge of voice recognition systems to create one that performs commands from users

Develop and finalized the cloud system for the VKA as well as start to create certain appliances from our own company though not main priority

## IoT Integration

Task	Timeline	Due date
API Development		Sep 10, '25 - ...
Inventory Management Sys...		Oct 12, '25 - N...
Device Compatibility Testing		Dec 1, '25 - Ja...
Collaboration with Smart A...		Jan 7, '26 - Ja...
Production of Smart Applia...		Feb 1, '26 - Ap...
+ Add task		
		Sep 10, '25 - ...
		Oct 11, '25 - A...

## App Development

Task	Timeline	Due date
IOS and Android App devel...	(+) Apr 5, '26 - M...	May 31, 2026
Integration of Voice Recog...	(+) Jun 1, '26 - Jul...	Jul 31, 2026
Testing	(+) Aug 1, '26 - Se...	Sep 9, 2026
+ Add task		
		Apr 5, '26 - Se... May 31, '26 - S...

Develop mobile app that works hand in hand with the VKA system so users have access to a visual version of the system and what they can do

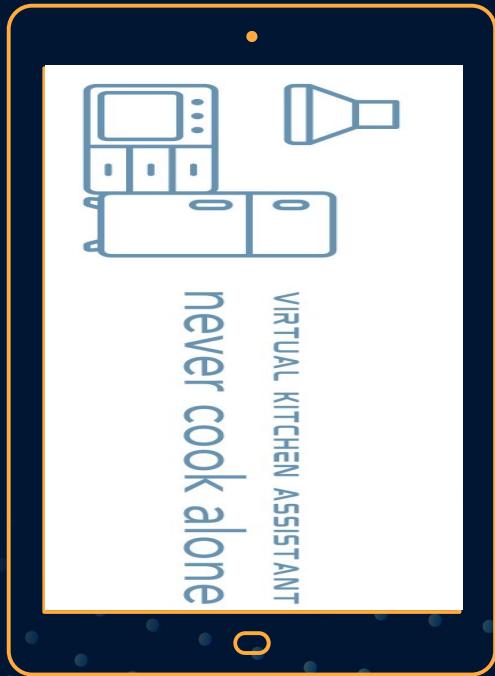
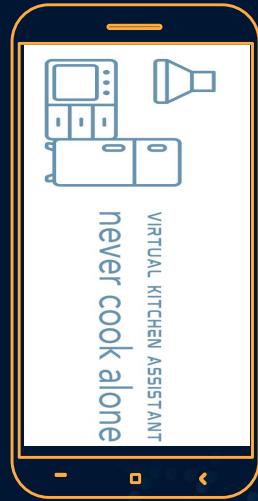
Team members will all come together to put their pieces together for the VKA and will test them out.

Final adjustments are made and the ready-made system is ready to launch

## Testing and Iterations

Task	Timeline	Due date
User Acceptance Testing	(+) Sep 10, '26 - ...	Oct 10, 2026
Performance and Cloud Se...	(+) Oct 11, '26 - D...	Dec 1, 2026
Refinements	(+) Dec 1, '26 - De...	Dec 31, 2026
+ Add task		
		Sep 10, '26 - ... Oct 10, '26 - D...

With the App Development going well you  
could have the VKA on all these devices!



## Launch and Marketing 4 Tasks

Task	Timeline	Due date
Marketing Campaign	Jan 1, '27 - Fe...	Feb 28, 2027
User Assistance Prep	Mar 10, '27 - ...	Mar 10, 2027
Launch Week	Mar 17, '27	Mar 17, 2027
User Feedback	Mar 17, '27 - D...	Dec 31, 2027
+ Add task		

Jan 1, '27 - De...

Feb 28, '27 - ...

Market the VKA system and set the eventual launch day for public to buy. After product is launched for the public and we will use the feedback to continuously add features and improve the VKA



# RISKS and Limitation

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*"A risk not taken is a chance to fail,  
but a risk not analyzed is a chance to  
be blindsided."*

## Technical Risks

- **Risk:** Software bugs causing incorrect instructions.
- **Mitigation:** Thorough testing, QA processes, and regular updates.
- **Risk Level:** Medium
- **Responsible Role:** VKA Testers
- **Risk:** Hardware compatibility issues.
- **Mitigation:** Compatibility testing with a variety of devices.
- **Risk Level:** Medium
- **Responsible Role:** Smart Appliance Manufacture Team

*"The best way to predict the future is to create it, but always with a careful analysis of the risks involved." - Peter Dr*

## Operational Risks

- **Risk:** User misunderstanding of voice commands.
- **Mitigation:** Incorporate AI training with diverse user voices.
- **Risk Level:** High
- **Responsible Role:** AI/NLP Specialist
- **Risk:** Data loss or unavailability during usage.
- **Mitigation:** Cloud backups and offline functionality for critical tasks.
- **Risk Level:** Medium
- **Responsible Role:** Cloud Infrastructure Team

*“Risk comes from not knowing what you're doing” - Warren Buffett*

## Security Risks

- **Risk:** Data breaches exposing user information.
- **Mitigation:** End-to-end encryption, secure API usage, and regular audits.
- **Risk Level:** High
- **Responsible Role:** Cybersecurity Analyst and Cloud Infrastructure Team
- **Risk:** Unauthorized voice access to sensitive actions
- **Mitigation:** Voice authentication and multi-factor verification.
- **Risk Level:** High
- **Responsible Role:** Security Engineer and Voice Recognition Team

*“The greatest risks are the risks that we don't see and the most difficult problem is in preparing in advance for that kind of thing.”*

*Peter Bernstein*

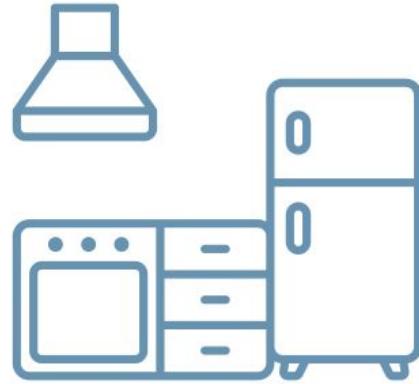
## User Experience Risks

- **Risk:** Frustration with unresponsive or slow system.
- **Mitigation:** Optimized response times
- **Risk Level:** Medium
- **Responsible Role:** UX/UI Designer
- 



<b>Operation</b>	<b>Assigned Individuals</b>	<b>Title Roles</b>
Project Management Team	Sahim Ahmed	Project Manager
Project Sponsorship	James Curry	Project Sponsor
Voice Recognition Team	Jalen Hurts etc.,	AI and Voice Recognition Engineer
IoT Integration Team	Devonta Smith etc.,	IoT Integration Engineers
Mobile App Development Team	Saquon Barkley etc.,	Mobile App Developers
UX/UI Design Team	A.J Brown etc.,	UX/UI Designers
Smart Appliance Manufacturer Team	Jalen Carter etc.,	Smart Appliance Manufacturers
Customer Support Team	Quinyon Mitchell etc.,	Customer Support
VKA Testing Team	Howie Roseman etc.,	VKA Tester

**Thank You to the Following  
Team Members ^**



VIRTUAL KITCHEN ASSISTANT  
never cook alone

**Thank You for giving this Project a  
platform to lift off!**

# THANKS!

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Do you have any questions?

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VKA.com



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