

David *Le*

UX/UI Design Portfolio

QuantaCam 3D

Case Study Presentation

Last Updated on Feb. 2024

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telephone

(617) 431-8305

e-mail

d4vid.tif@gmail.com

website

db-ux.com



Hi, I'm David,
a Boston-based UX/UI designer. Crafting intuitive experiences at the intersection of art, design, and technology is my mission. I'm a reliable team player with a growth mindset, passionate about elegant design and creating impactful experiences.

EXPERIENCE

Freelance — Visual Designer

Aug. 2021 - Present | Medford, MA

BRZ Insurance - Digital Marketing Coordinator

May 2018 - Apr. 2020 | Malden & Framingham, MA

UX SKILLS

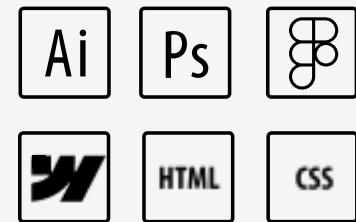
UX Design, Interaction Design,
User Testing, User Interview,
Prototyping, UI Design, Analytics,
Responsive Design, Wireframing,

EDUCATION

Amherst College | Dec. 2016

BA, Art & the History of Art & Political Science

SOFTWARE SKILLS



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e-mail d4vid.tif@gmail.com

website db-ux.com

PERSONALITY TYPE

RELIABLE

EASY-GOING

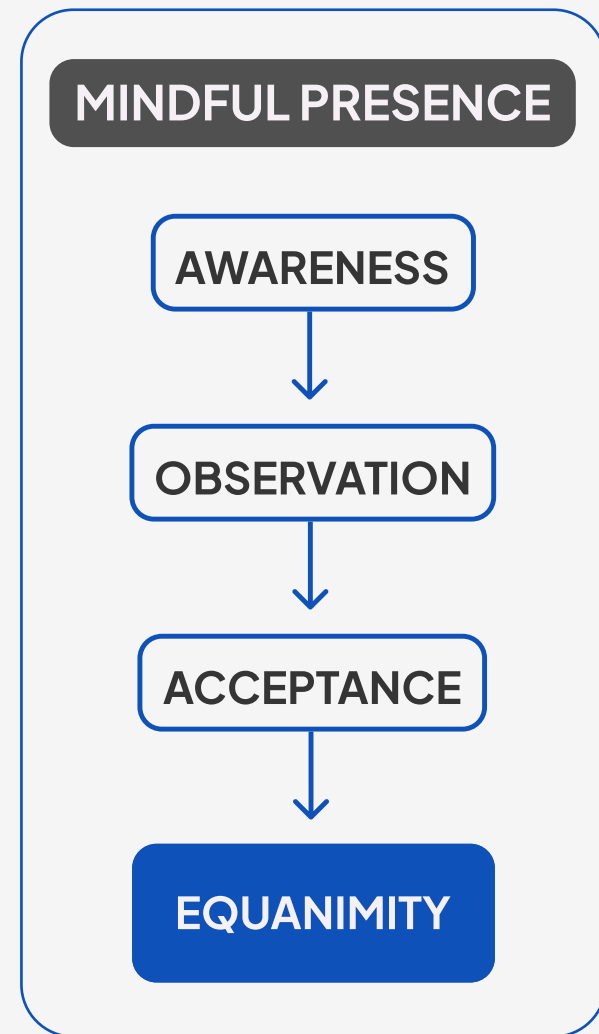
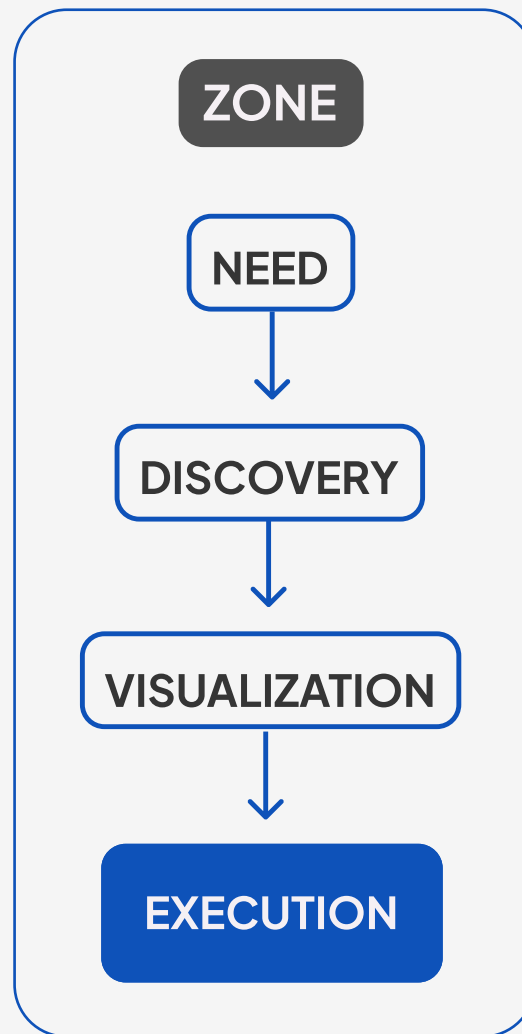
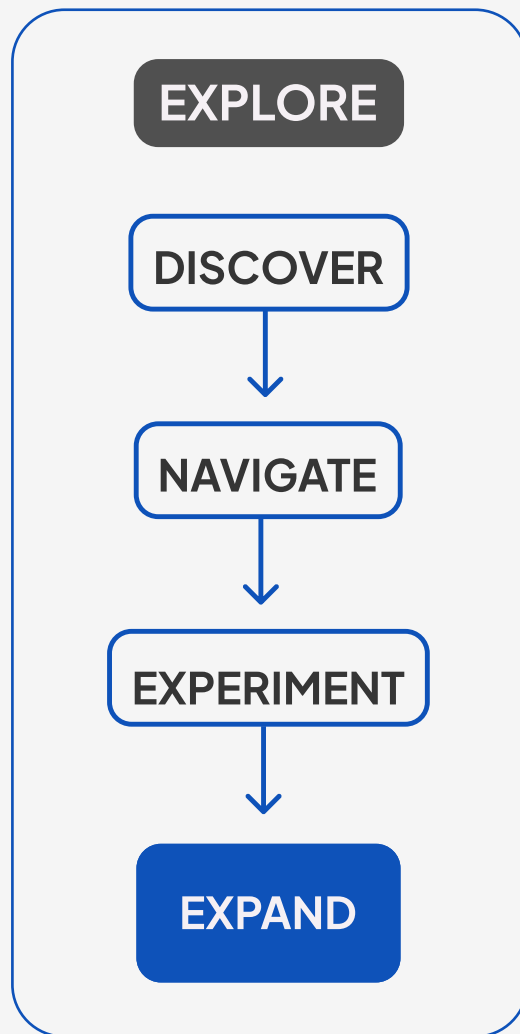
HARDWORKING

PERSEVERING

TEAM PLAYER

FUN TO BE AROUND

THOUGHT PROCESS



PROJECT VALUE

DIVERSE BACKGROUND

VISUAL DESIGN

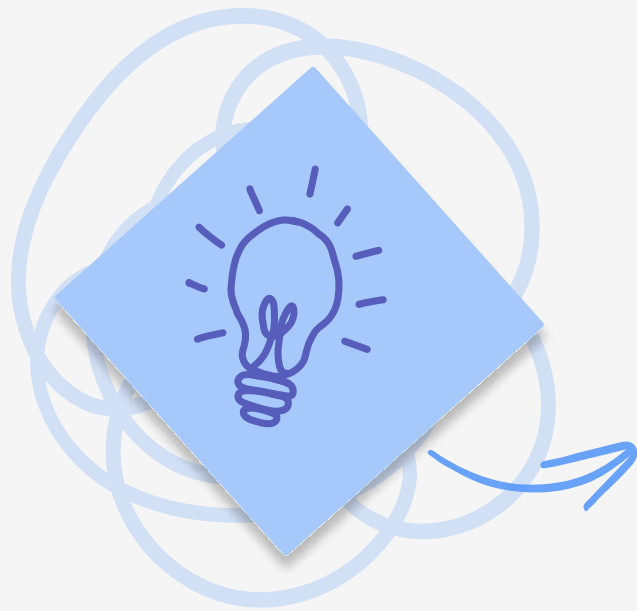
TEAM COLLABORATION

TECH PROFICIENCY

EFFECTIVE COMMUNICATION

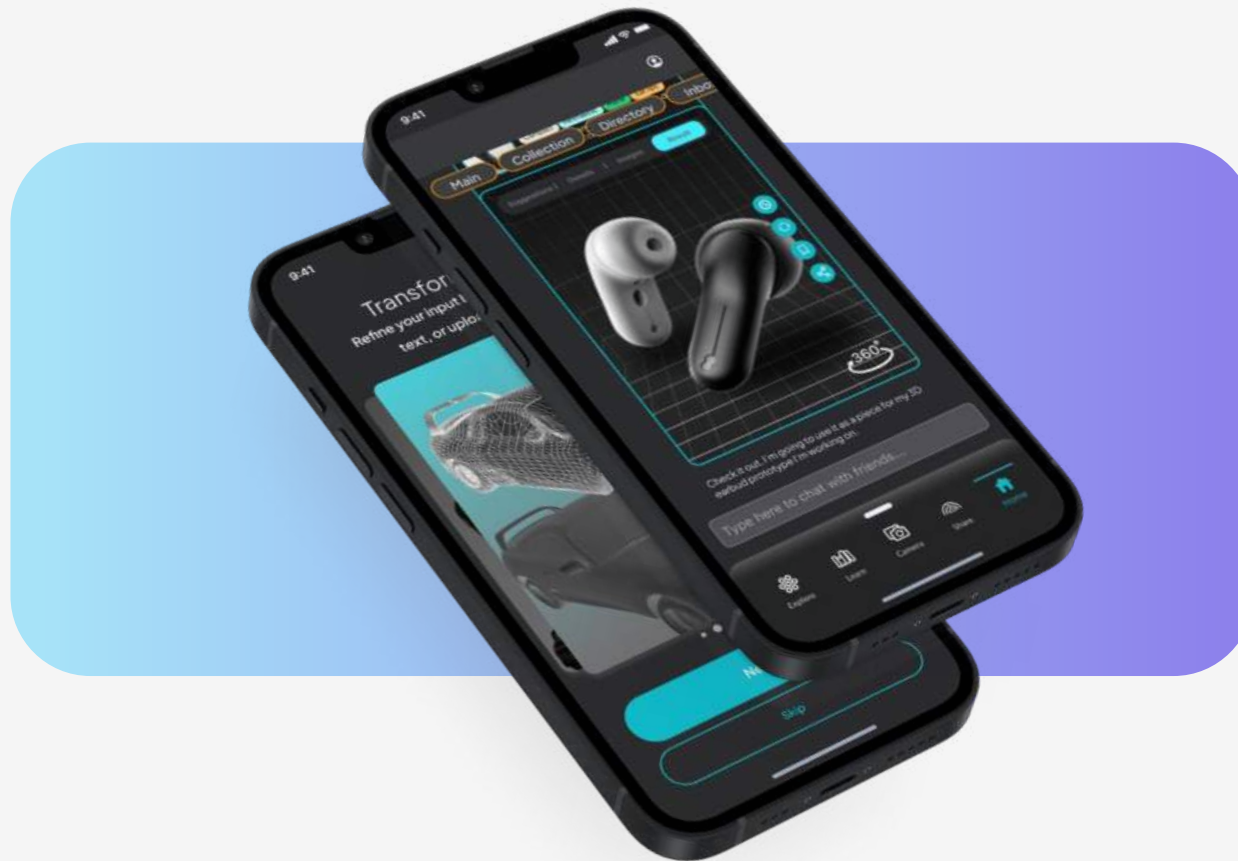
ADAPTABILITY

SAMPLE PROJECT





QuantaCam 3D



My Role

- Self-Directed

Timeline

- 6 Weeks
- From 10/02/2023 To 11/07/2023

Activities Performed

- Primary Research
- Secondary Research
- Usability Testing
- User Survey
- Sketches
- Low-Fidelity Wireframe
- Mid-Fidelity Wireframe
- Prototype

PROBLEM

- Users find 3D experiences complex
- Challenges in 3D AI asset generation for the web and AR/VR
- Lack of User-friendly 3D AI tools in the Market

SOLUTION

INTEGRATING AI PERSPECTIVE INTO 3D DESIGNING WORKFLOW

PROCESS OVERVIEW

DISCOVERY

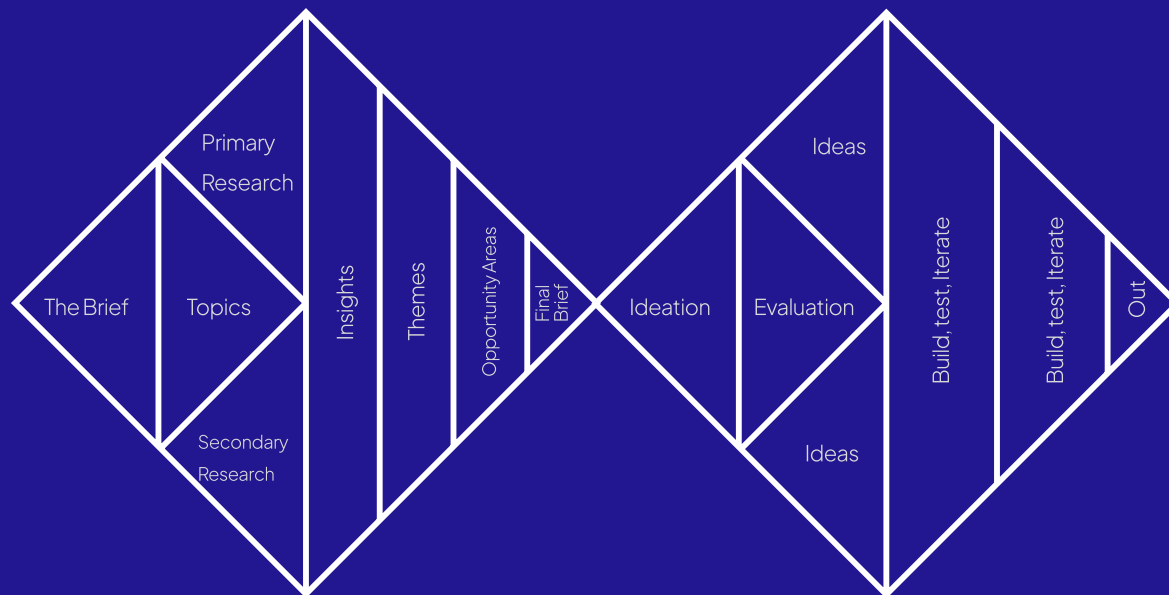
DEFINE

IDEATE

PROTOTYPE

ITERATE

DELIVER



User Research, Empathy Map, Relevant Data Collection

UX Research Study: QuantaCam 3D
Phase I: Research Plan
David Le
October 22, 2023

1 Background

This UX research study initiative has been spurred by the recent introduction of GPT-4 Vision generative AI and the concurrent evolution of 3D modeling techniques for mobile application that transforms 2D images and text to 3D models. The core objective is the development of an application that empowers users to efficiently craft AI-generated 3D models from 2D inputs, comprising text, images, and videos, to cater to a diverse array of applications. The idea for this UX research study stems from experiences within the e-commerce domain, where the need arose to enhance product listings with 3D models, surpassing the limitations of traditional 2D images.

This research aims to solve the problem of the need for a user-friendly mobile application that utilizes generative AI and user-generated input methods to generate accurate render-3D model output for commercial and creative applications. This research has a dual focus: firstly, to validate the alignment of this product concept with users and its market viability. Secondly, this research study aims to assess the user experience of an prototype app-including AI-generated 3D models, striving to identify areas for improvement that address user needs and provide insight into features that align with user needs and market demand.

2 Research Goals

2.1 User Demand and Market Viability

Conduct user surveys and market research to assess the demand for user-friendly application that leverages generative AI and user-generated input to produce accurate 3D models for both commercial and AR/VR applications. Measure the level of interest, pain points, and potential market size to gauge the viability of the product. (Foundational Research: Survey Questions)

Proposed application when compared to competitors:

Understand the current market distribution among key competitors. This can help determine the potential for market entry and growth.



Research

Background

Initiated by the introduction of GPT-4 Vision generative AI and advancements in 3D modeling for mobile applications. Aims to develop a user-friendly mobile app using generative AI for creating accurate 3D models from 2D inputs. Originated from e-commerce needs for enhancing product listings with 3D models.

Research Goals

User Demand and Market Viability

- Surveys and market research conducted to assess demand for the proposed 3D modeling application.
- Focus on interest levels, pain points, and potential market size.

Identify User Needs and Pain Points

- User interviews and usability testing conducted to understand specific needs, challenges, and preferences.

Key Point Indicators (KPIs)

User Demand and Market Viability

- User Interest Score, Market Demand Assessment, Competitive Awareness, Intent to Use.

Identify User Needs and Pain Points

- Task Completion Rate, User Satisfaction, Time Spent, System Usability Scale.

Research Questions

Qualitative Research Questions

- Assessing market demand, understanding user needs and pain points, exploring competitive awareness.

Quantitative Research Questions

- Survey response rates, market demand assessment, competitive awareness, intent to use, and recommendations.

Usability Testing

SUS Evaluation Test

- Unmoderated Testing Via Maze

Survey Questions

- Via Maze, aimed at user experience, interface design, and usability of the App Prototypes.

“Prior work on applying generative models and AI for knowledge-based design in CAD and industrial engineering does exist”

(Section 8.3 Generalizability, 2023. 3DALL-E: Integrating Text-to-Image AI in 3D Design Workflows by Vivian Liu, Jo Vermeulen, George Fitzmaurice, Justin Matejka)



Personas, Journey Map, Competitive Analysis




Maya Rodriguez

A passionate junior architect channels her passion for urban design into her work. Her dedication to Architecture is to seamlessly integrating technology into the design process fuels her exploration of innovative 3D Modeling tools.

Age: 28 | Job Title: Junior Architecture | Location: Austin, TX

- Patterns of Behaviors**
- Regular Collaborative Se
 - Thorough Design Review
 - Adaptability to New Fea
 - Strategic Use for Presen
- Pain Points**
- Steep learning curve
 - Inadequate collaborator
 - Inconsistent rendering q
 - Limited platform compat
- Goals**
- Achieve consistent high
 - Expedite the prototyping
 - Enhance spatial visualiz
 - Optimize client presenta



Alex Chen

An entrepreneur, is the founder and CEO of LuxGem, an e-commerce jewelry platform specializing in customized pieces. His passion for creating an immersive online shopping experience drives him to explore cutting-edge technologies for his platform.

Age: 35 | Job Title: Founder of LuxGem | Location: SF, CA

- Patterns of Behaviors**
- Regular Performance Analysis
 - Continuous Market Research
 - Strategic Budget Allocation
 - Proactive Adoption of Innovations
- Pain Points**
- Slow product visualization to impact user experiences
 - Tedious manual editing of product images consumes valuable time
 - Difficulty integrating 3D models hampers Alex's product innovation
 - High costs associated with product photography strain budget
- Goals**
- Enhance LuxGem's online shopping experience with realistic rendering and visuals
 - Streamline the product visualization process for improved CX
 - Gain competitive edge by adopting 3D model integration
 - Expedite product listings with efficient e-commerce operations

User Journey Map

Persona Name: Alex Chen
Background: eCommerce Business Owner

This user journey map details Alex's interaction with QuantaCam, focusing on his goals, actions, emotions, thoughts, and potential improvement opportunities throughout the exploration process.

Goal: Alex's goal is to seamlessly integrate QuantaCam 3D App into LuxGem Jewelry's e-commerce operations, elevating the customer online shopping experience through immersive and high-quality, true-to-life 3D models rendering of products for online purchases.

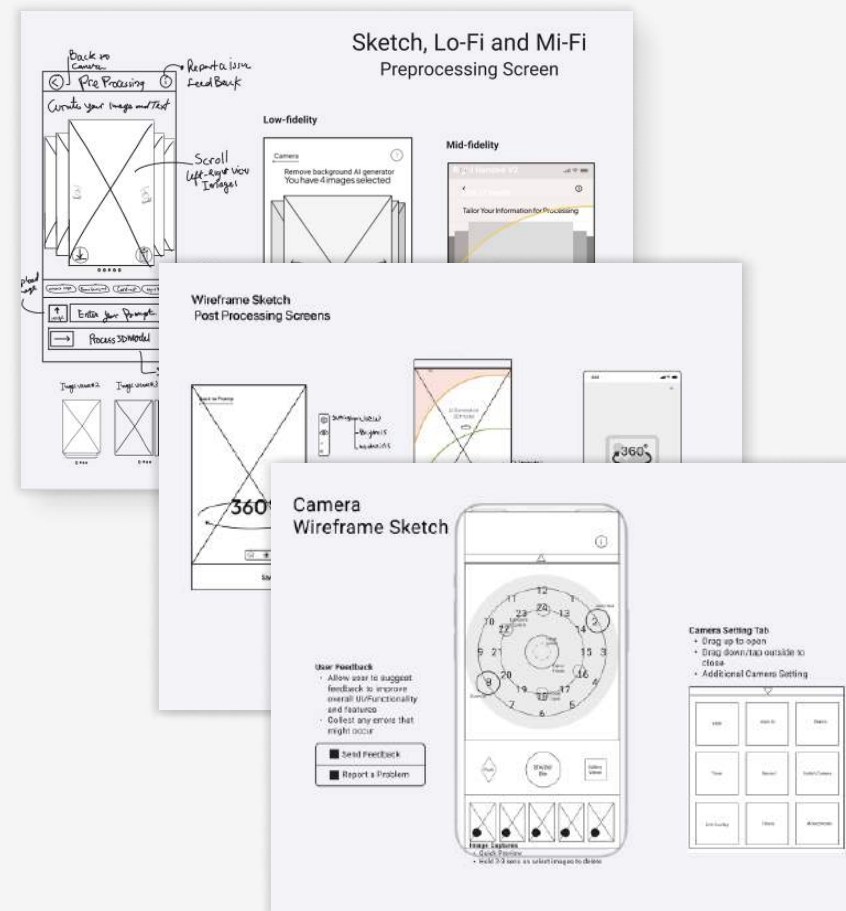
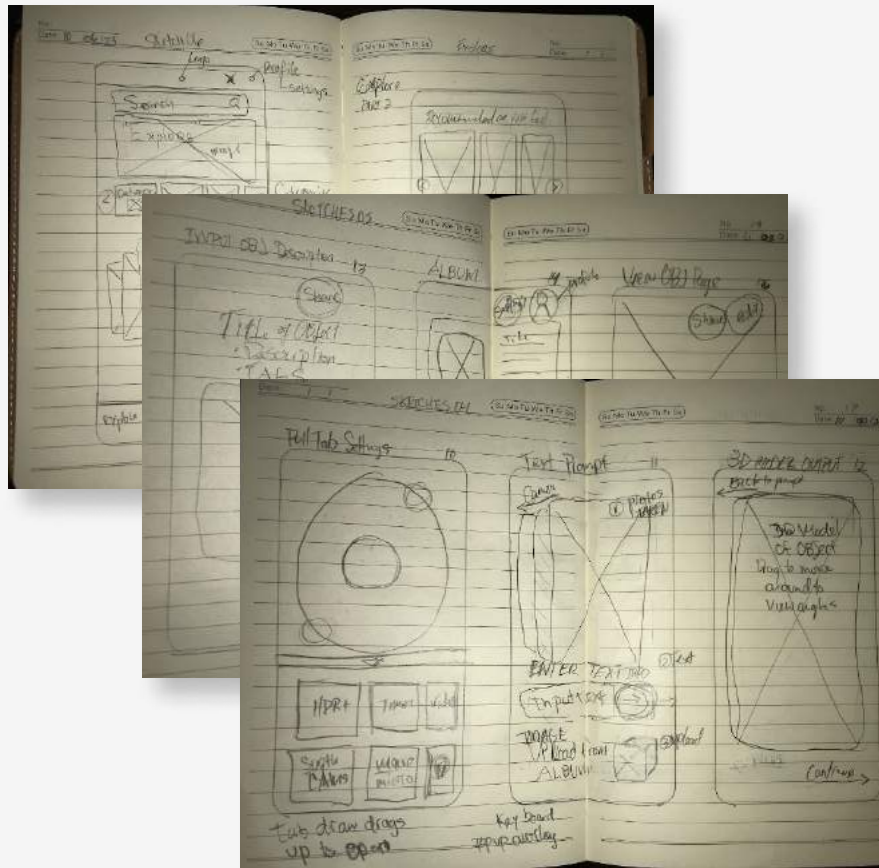
Actions	Task List	Feeling	Thoughts	Improvement Opportunity
1. Onboarding	1. Download App 2. Create Account 3. Verify Email	1. Excited 2. Curious 3. Anticipatory	"This is interesting and innovative"	Ensure a seamless onboarding process
2. Camera Interface	1. Position Camera 2. Focus on Object 3. Start Capturing	1. Focused 2. Concentrated 3. Satisfied	"I can see the object clearly"	Optimize camera controls for ease of use
3. Pre-Processing	1. Select object to process 2. Adjust lighting 3. Choose background	1. Focused 2. Determined	"I want to make this look professional"	Offer suggestions for better lighting and background choices
4. Post-Processing	1. Review 3D Model 2. Rotate/Zoom 3. Save/Export	1. Satisfied 2. Confident 3. Proud	"This looks professional and high-quality"	Provide additional editing tools for fine-tuning the 3D model
4. Description, Save to Collection	1. Add Description 2. Set Price 3. Save to Collection	1. Focused 2. Determined	"I need to provide a clear and accurate description"	Provide suggestions for writing compelling descriptions
5. Export File	1. Select File Format 2. Download File	1. Satisfied 2. Accomplished	"I've successfully created my 3D model"	Provide options for downloading and sharing the 3D model

Competitive Analysis

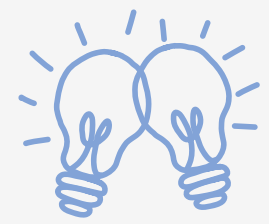
Company Name	Alpha3D	3D MagicScan AI	3DFY.ai
Websites	alpha3d.com	magicscan.ai	3dfy.ai
Value Proposition	AI-powered 3D scanning for objects up to 10cm	Seamless integration with existing 3D software	High-quality 3D models
Target Audience	Entertainment industry, hobbyists, educators	Manufacturing, design, architecture	Commercial enterprises, researchers
Strengths	Easy-to-use interface, fast scanning process	High accuracy, professional-grade 3D models	Strong network of partners, high-quality output
Weaknesses	Limited object size, lower resolution	Higher price point, requires specialized hardware	Complex interface, steep learning curve
Key Differentiators	AI-powered marketing and social media integration	Use of advanced AI for object recognition and classification	Strong focus on customer support and training
Ratings	4.5/5 (User Reviews)	4.8/5 (Industry Reviews)	4.2/5 (User Reviews)
Funding Round	\$2 Million (Seed Round)	\$850,000 (Seed Round)	Est. \$1.5M - \$5M (Series A)
Revenue Stream	\$9/per month	\$7.9/per month	\$5/per month
Monthly Traffic	100,000 (Est.)	50,000 (Est.)	200,000 (Est.)
Social Media	Instagram, Low Priority	No Social Media	Twitter, Low Priority



Sketches, Low-Fidelity Wireframe

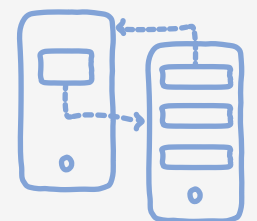
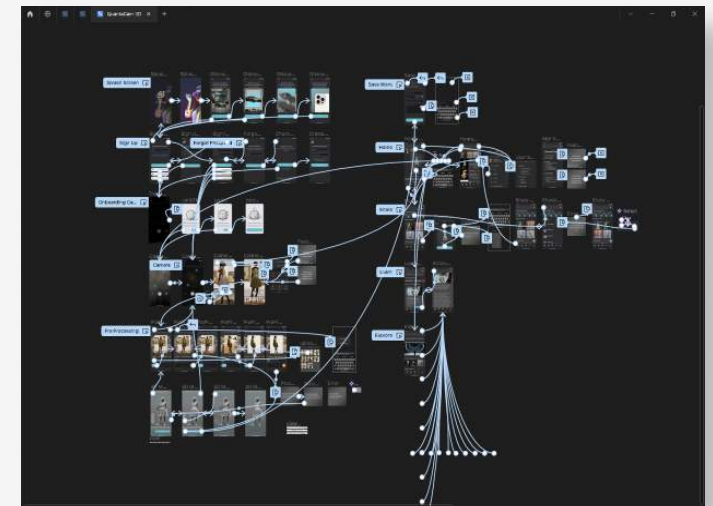
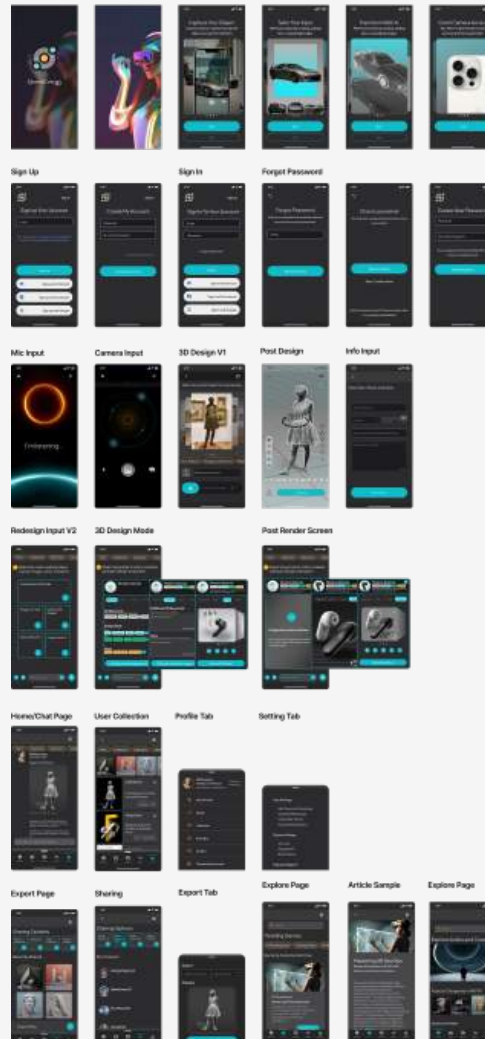
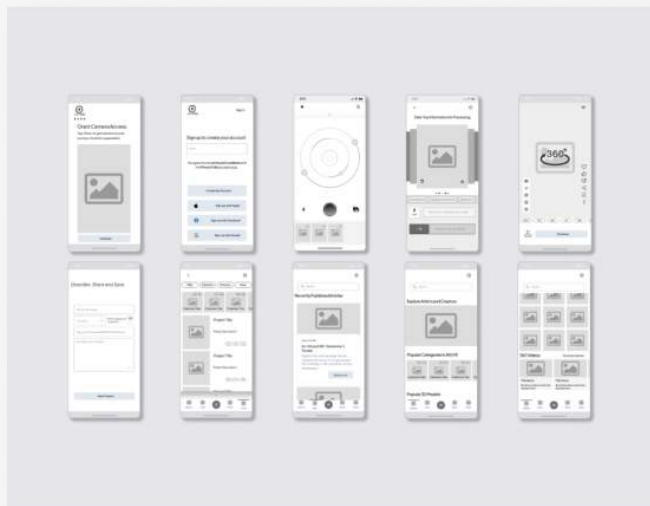


Visual Research: Mood Board



PROTOTYPE

Mid-Fidelity Wireframes, Rapid Prototypes



Usability Testing, User Reviews & Feedback

QuantaCam 3D
 UI/UX Research Study
 QuantaCam3D is a concept app designed for generating 3D models from text and images for mixed reality applications.

The Scenario

System Usability Scale

1. I think that I would like to use this system frequently.*

Strongly disagree ○ ○ ○ ○ ○ Strongly agree

2. Found the system unnecessarily complex.*

Strongly disagree ○ ○ ○ ○ ○ Strongly agree

3. I thought the system was easy to use.*

Strongly disagree ○ ○ ○ ○ ○ Strongly agree

4. I think that I would need the support of a technical person to be able to use this system.

Strongly disagree ○ ○ ○ ○ ○ Strongly agree

5. Found the various functions in this system were well integrated.*

1 2 3 4 5

Scenario 2
 Creating a 3D model from a photo. Interview Guide (202008)
 After the sign and your name is in each part of the screen, when you click on the 3D icon, you should expect to see a 3D model of the object you selected. You should expect to see a 3D model of the object you selected. You should expect to see a 3D model of the object you selected.

Questions

- How easy was it for you to create a 3D model from a photo?
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- How easy was it for you to create a 3D model from a photo?

Scenario 1
 Creating a 3D model from a photo. Interview Guide (202008)
 After the sign and your name is in each part of the screen, when you click on the 3D icon, you should expect to see a 3D model of the object you selected. You should expect to see a 3D model of the object you selected. You should expect to see a 3D model of the object you selected.

Questions

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- How easy was it for you to create a 3D model from a photo?
- How easy was it for you to create a 3D model from a photo?

Designed for AI driven app and image into a 3D

★ ★

Strongly Agree

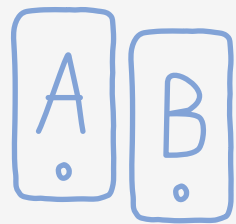
concept, features or

like or dislike about the

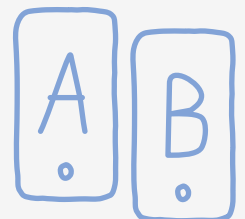
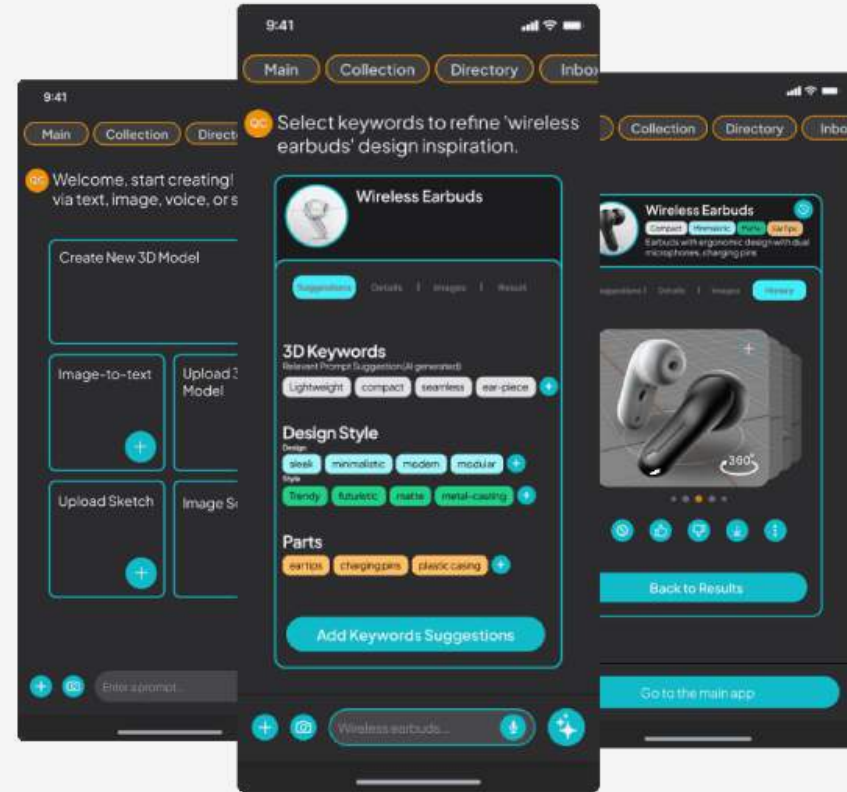
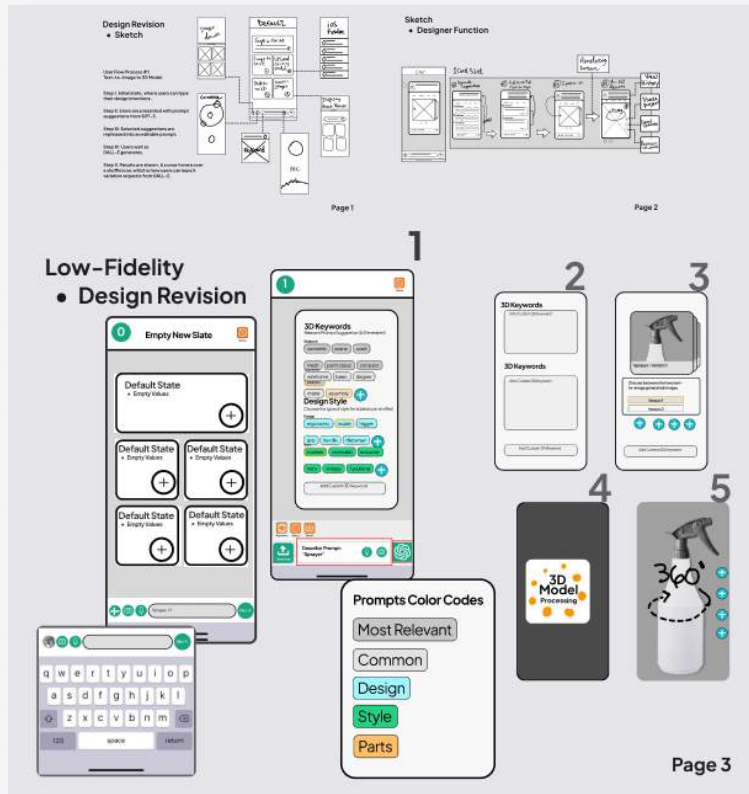
Continue



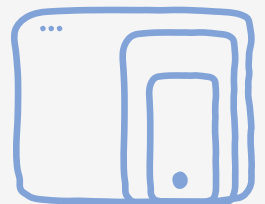
- ## User Testing
- 40 User Surveys
 - 20 SUS Evaluation
 - 10 Users for Usability Testing (1st Iteration)
 - 10 Users for Usability Testing (2nd Iteration)



Design Iterations & Improvements



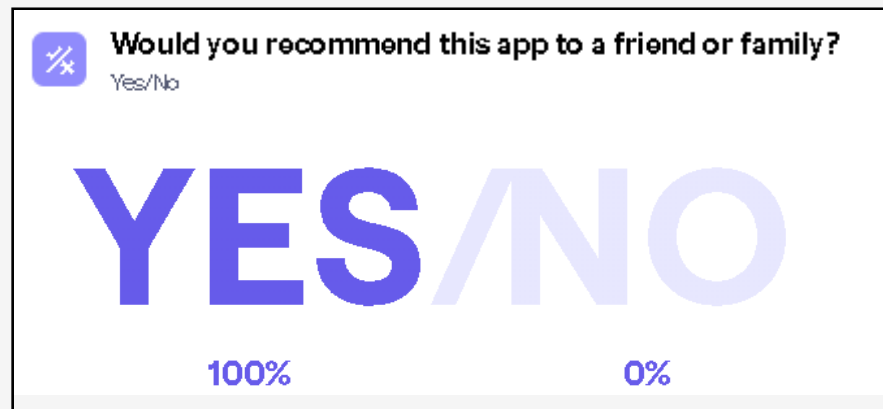
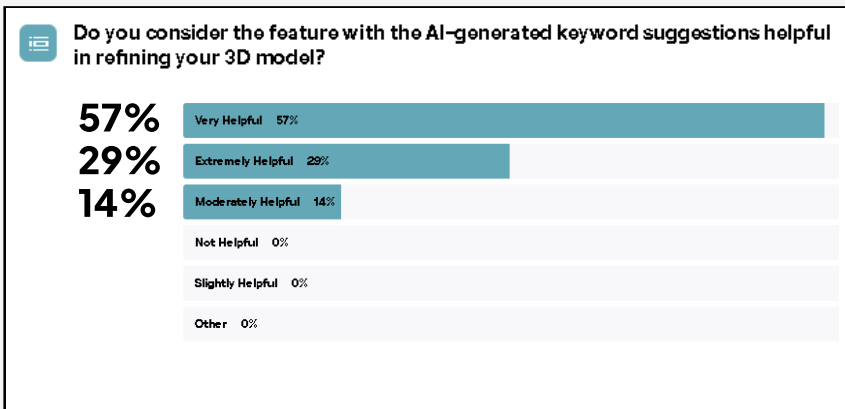
Design System, Brand Guideline & Final Design



User Testing Quote

'I think this is a rapidly growing concept and is going to be very prevalent in the near future'
~ User Feedback, Usability Testing

Metrics



72% Positive Market Demand

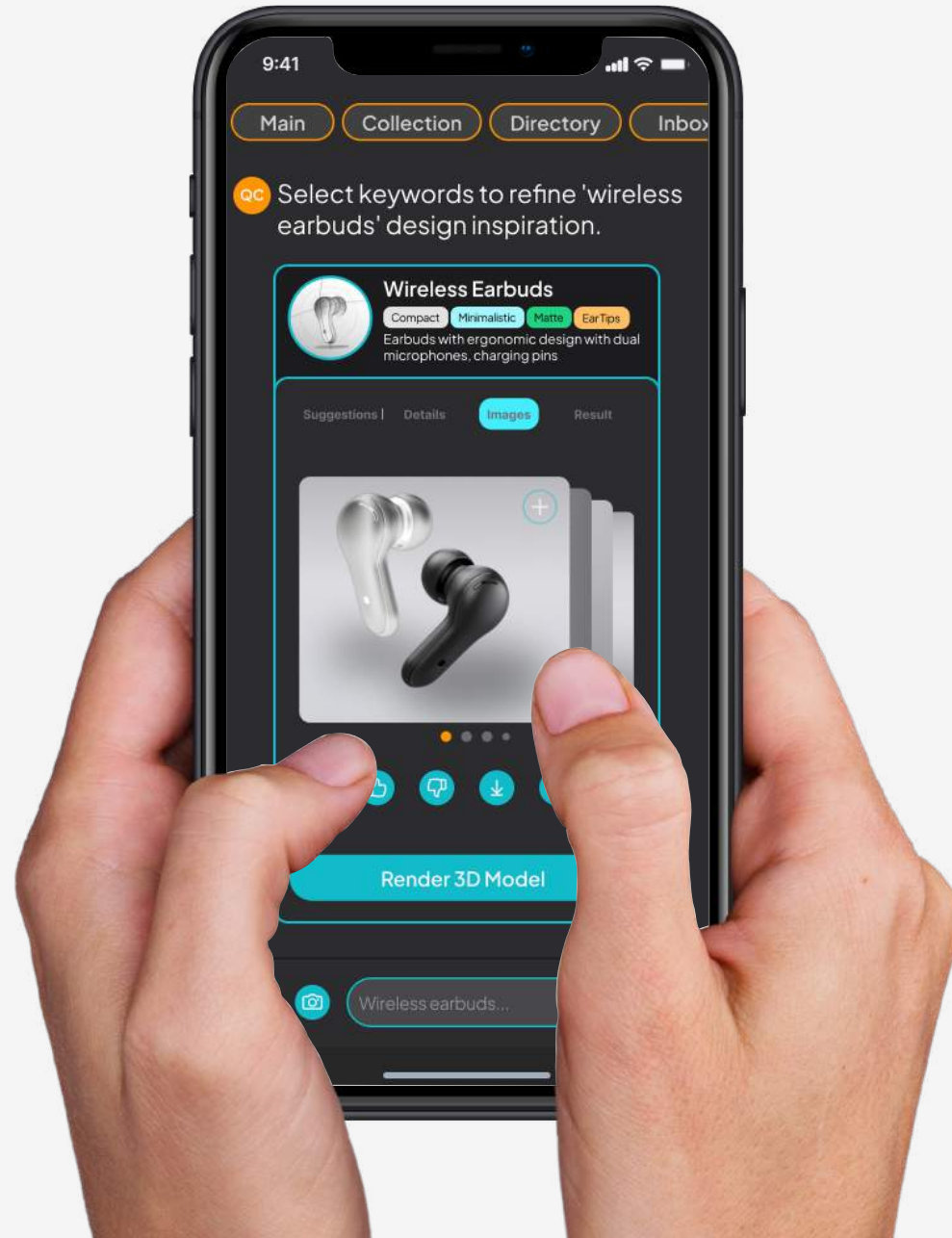
Lesson Learned

Early User Testing

Next Steps

**Testing Viability
Iterations, Refinement**

QUESTIONS





Thank You!

I trust you found as much delight in observing
this project as I did in crafting it.

“when you have a worthwhile idea, you should be prepared to gamble on it, test it out and see what the world gives back.”

~ Paul Graham

David Le

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