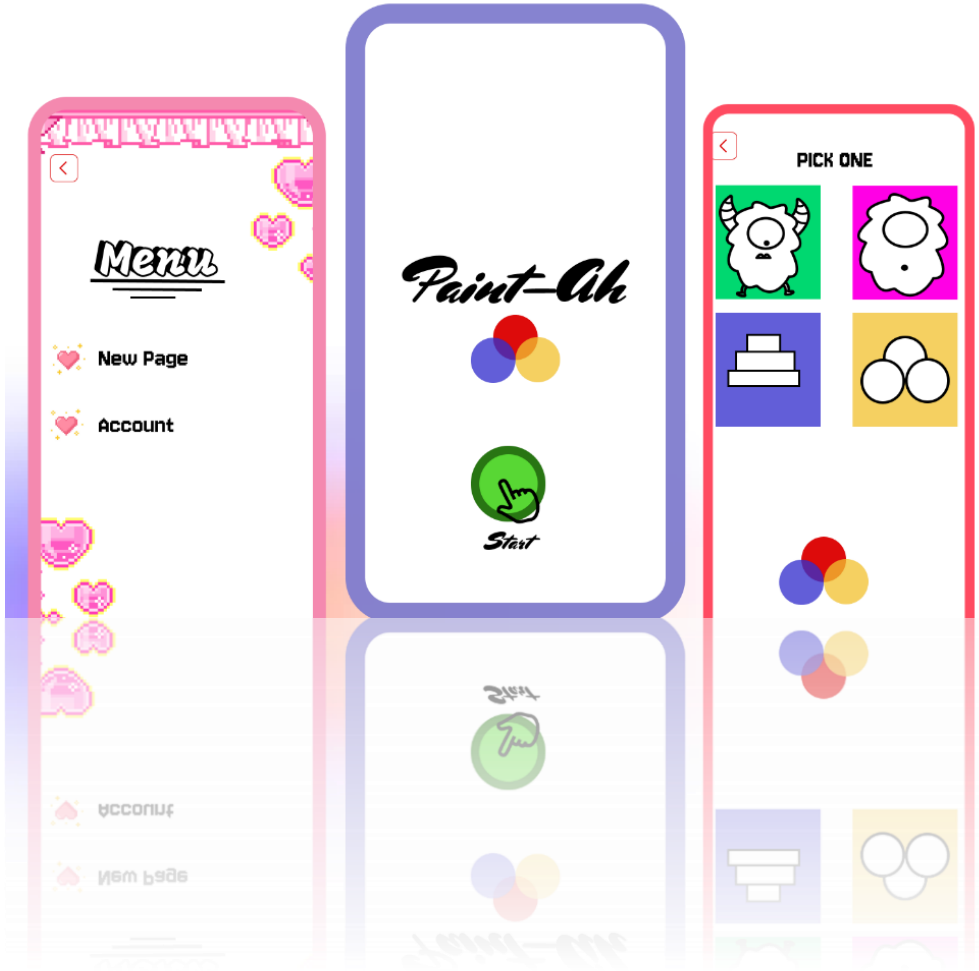
GESTURE-BASED PAINTING INTERFACE PROTOTYPE

BY ADESEWA ADESIDA



PROTOTYPE APPROACH

Let your child's creativity shine with **Paint-Ah**, a simple and exciting painting app designed just for kids or the overstimulated adult! With easy-to-use gesture controls, kids can swipe, tap to choose colors, and create magical colorful artworks right on their iOS device. No complicated tools—just pure fun and imagination! It is perfect for little artists to explore colors, shapes, and textures in a playful, kid-friendly environment.

Key Features:

- **Additional Features Gesture Painting**: Paint with simple hand movements
- **Kid-Friendly Interface**: Bright, cheerful design that is easy to navigate and calming
- **Account Menu**: Edit or delete features you do not want in your main account menu by swiping left or right
- **Accessibility:** Save and share masterpieces with friends and family, undo, and so on

With Paint-Ah, every child can become a digital artist while having loads of fun. Watch them create, explore, and learn with this magical painting app!

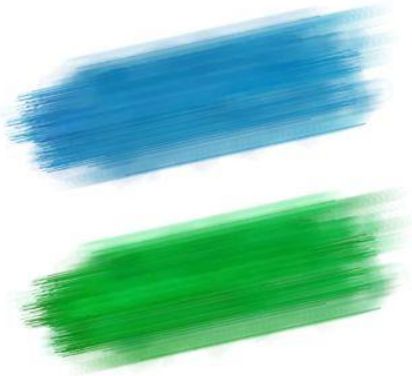
DESIGN PROCESS

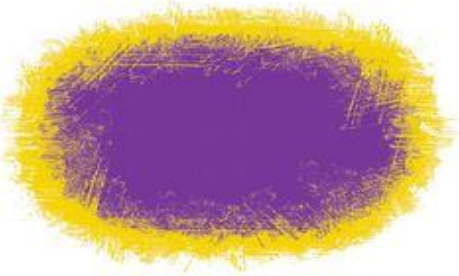
Brainstorming

When designing I always like to start simple; decide the three major takeaways users will have from using my app. I wanted it to **invoke soothing feelings in them, have simple controls anyone could grasp and be accessible.** This insight

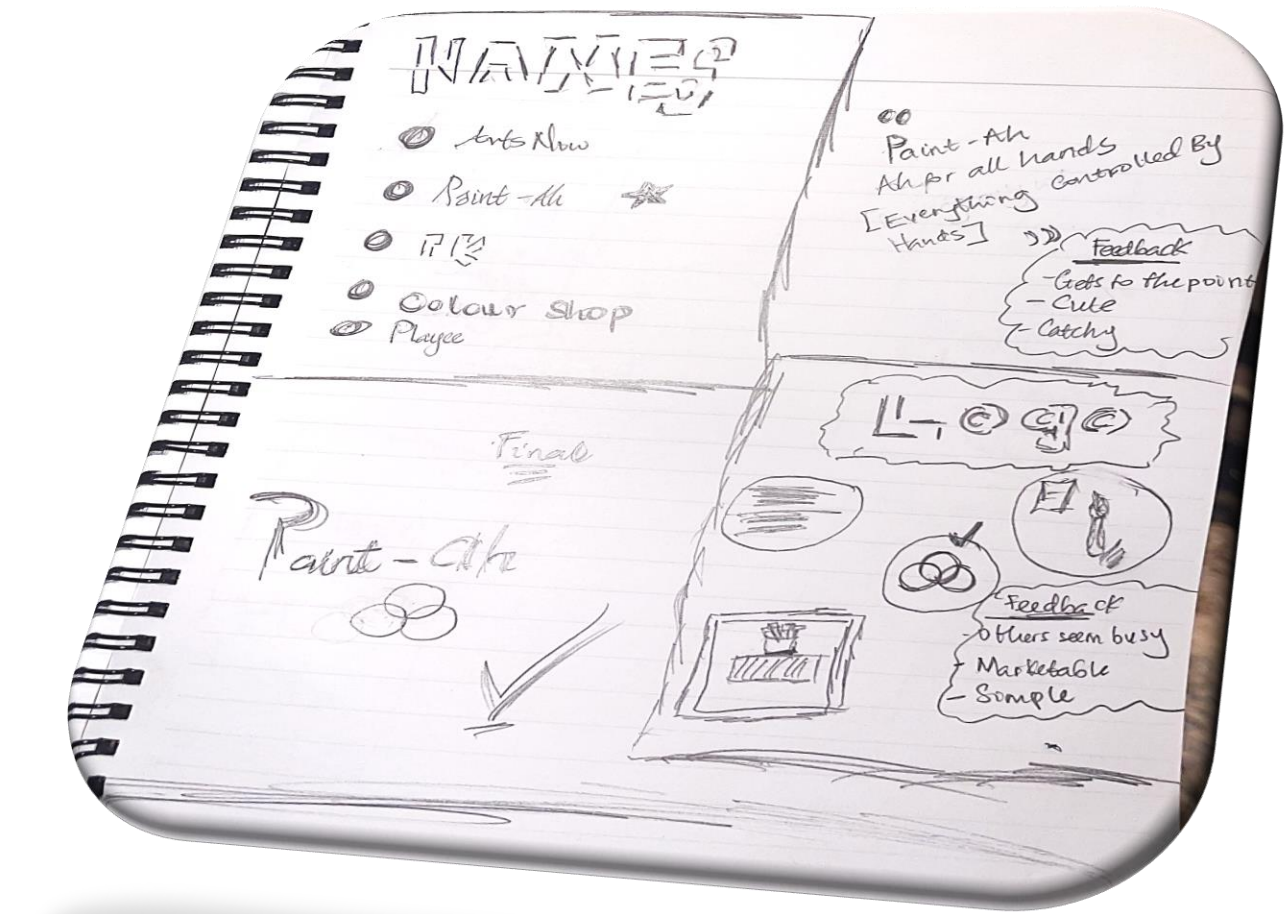
led to my research, I picked specific colors from their list that matched my criteria and tested out some of them, I learnt this from section 2 of Sketching User Experiences by Soul Greenberg and others

Color Samples

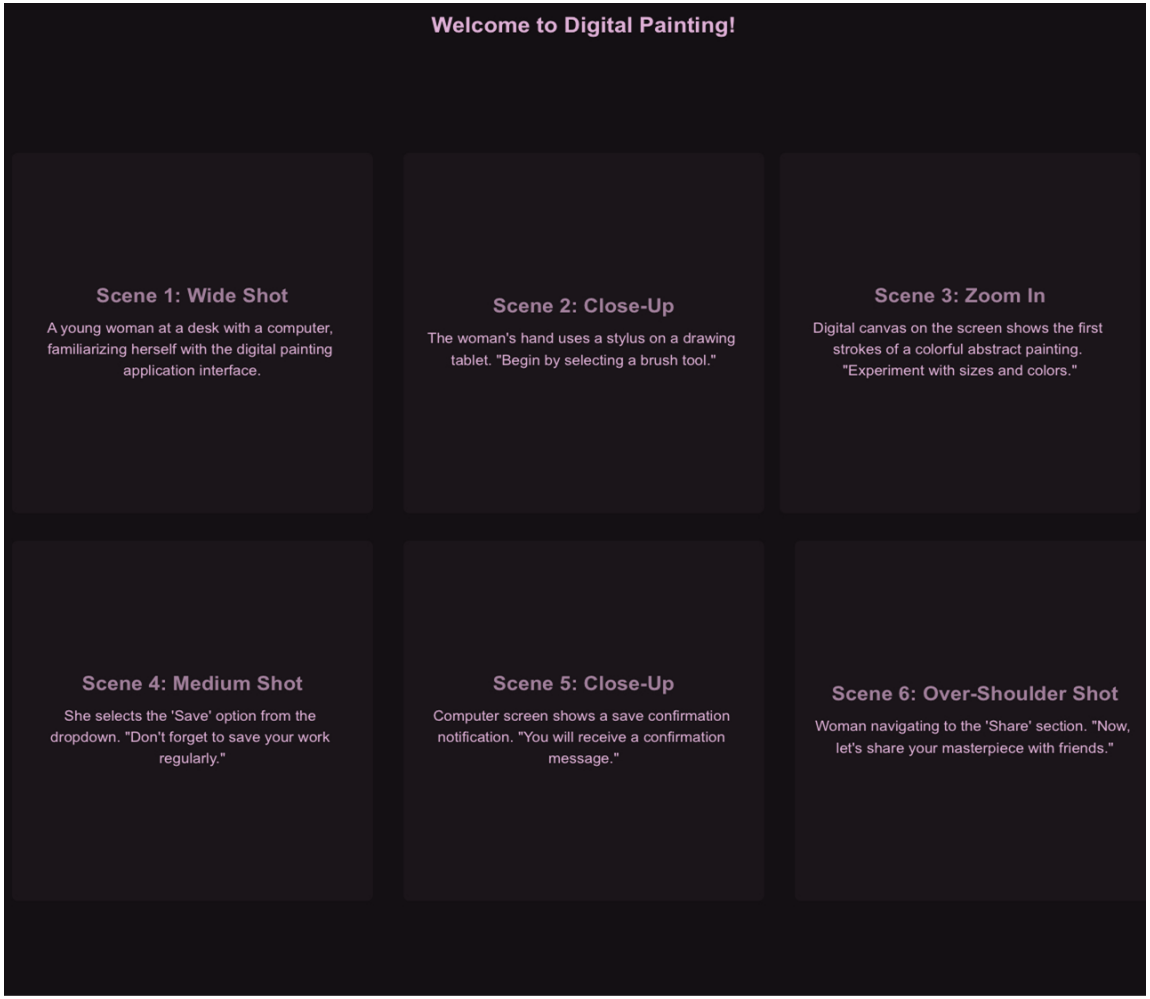


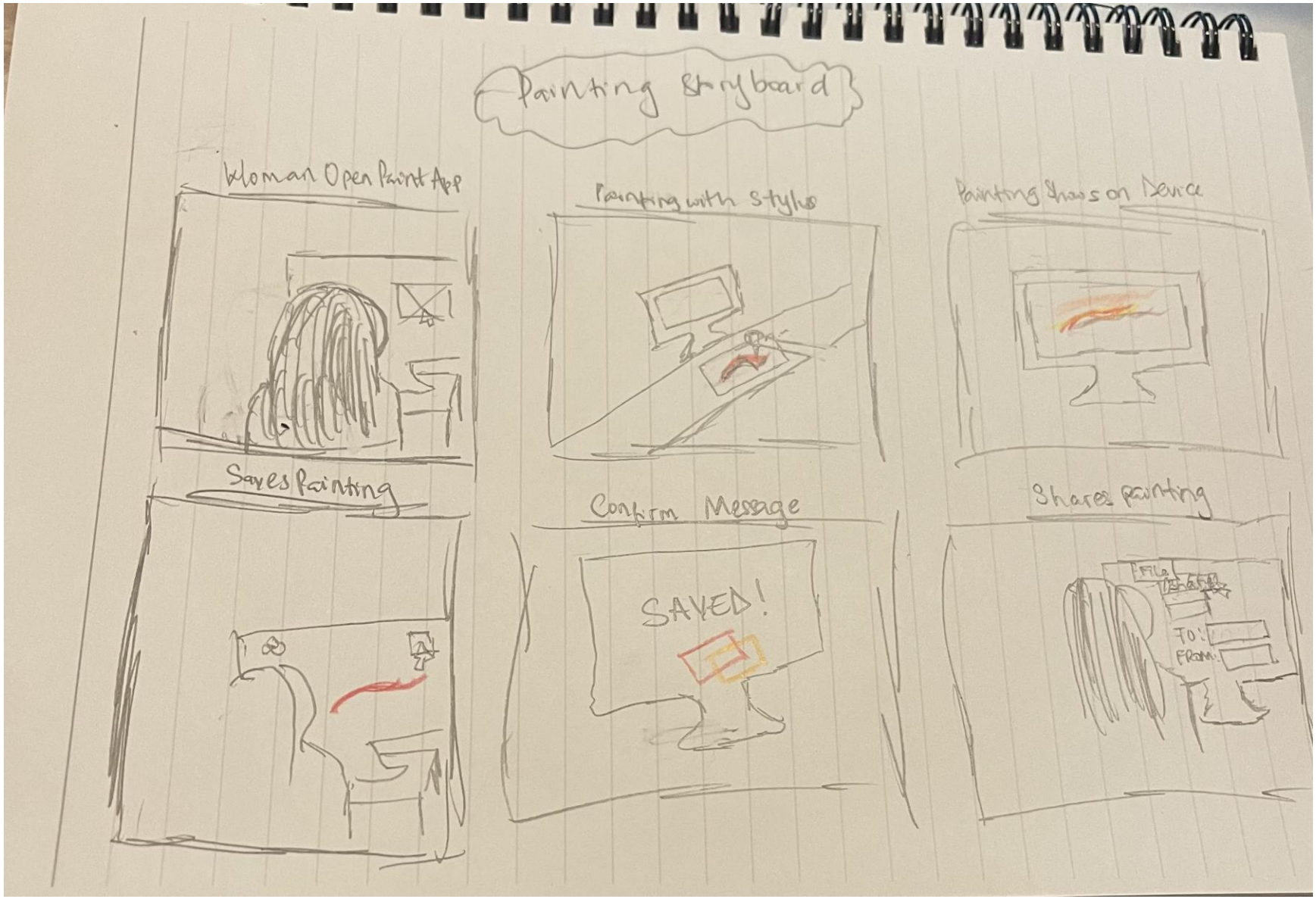


After deciding on my colors, I started brainstorming what my app would be called. As someone who dabbled in visual arts and graphic design, I recognize the importance of good branding and logo. So, I came up with a couple of ideas for the logo and the name and asked for feedback from my peers in an informal setting similar to the design discussions we do. It was less of an interview at this stage and more of a A/B testing type format “do you prefer version A to version B.” I consulted with three people, all in less than five minutes session. You can see some of their feedback in the picture below.


NAMES?
Colour Shop
Player
Paint-Ah
Ah or all hands
[Everything Controlled By Hands]
Feedback
-Gets to the point
- Cute
- Catchy
Final
Paint-Ah
Feedback
- Others seem busy
Marketable
- Simple

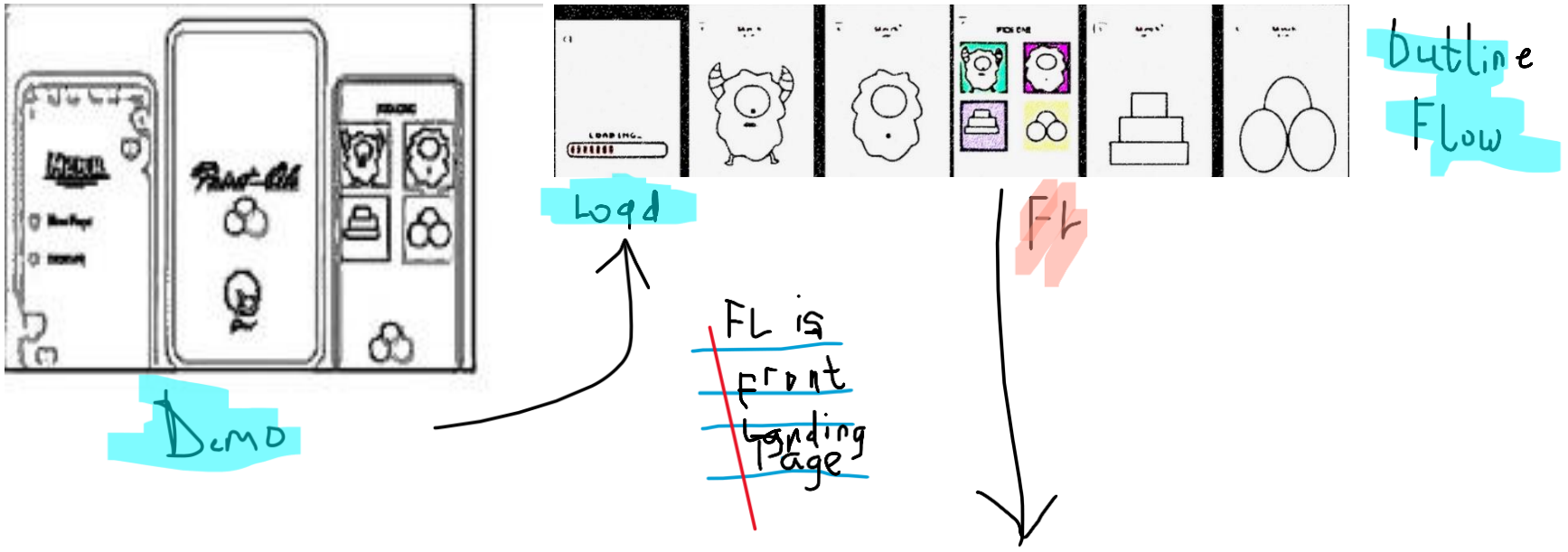
Storyboards

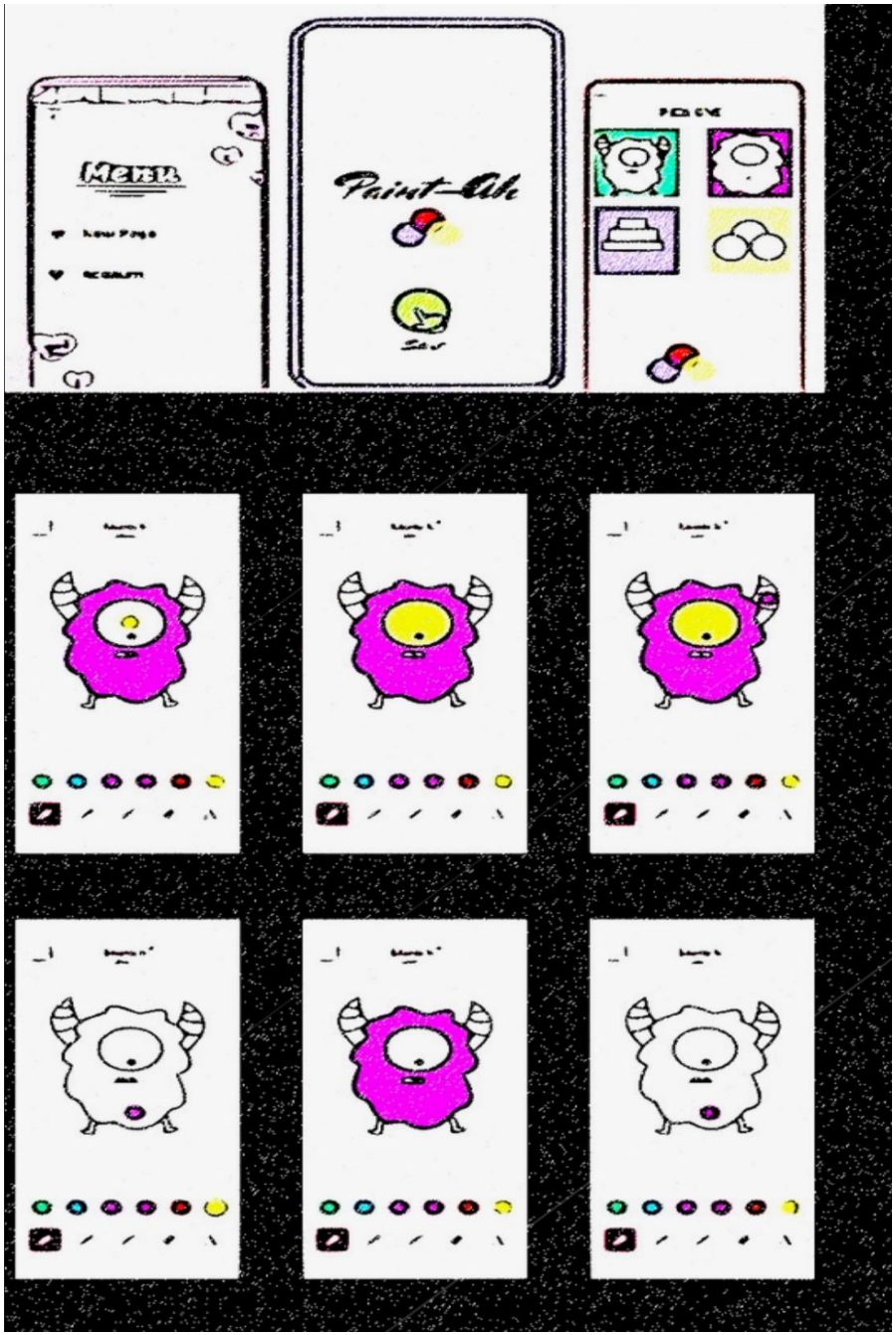



Painting Storyboard
Woman Open Paint App
Painting with Stylus
Painting Shows on Device
Saves Painting
Confirm Message
SAVED!
Shares painting
FILE
TO:
FROM:

Wireframes

I had initial ideas for how I wanted my app to be, and it worked out for the most part. Red highlight = adjusted




Menu
Paint-Ish
Final

I started with the sketches because organizing the flows were the most Important part to me. Then I gathered suggestions from potential users on which colors or arrangements appealed to them the most before progressing. I started out with just wanting the app to just start from the pick a sketch feature then when I was doing the demo slides, I liked how it turned out so that became the home page.

FEEDBACK

A/B Test Overview

Objective: To compare two versions of Paint-Ah to determine which offers a more intuitive and enjoyable user experience.

Versions Tested:

- **Version A:** Emphasizes minimal gesture interactions with simple tap features, more like coloring sketches.
- **Version B:** Incorporates dynamic gestures such as drag or swipe but random not to sketches.

Participants: Three potential users with varying levels of tech-savviness and familiarity with painting apps.

Key Findings from Zoom Meeting Test Interviews

15 minutes with each user, two wireframe ideas presented.

1. **User Preference**
    - **Version A:** All three users preferred this version for its simplicity and ease of use, which aligns well with the app's target audience of young children and overstimulated adults.
        - *"I love how straightforward Version A is. It's perfect for my child who just wants to start painting without fussing over controls."*

- **Version B:** While appreciated for its innovative approach, the dynamic gestures were found to be less intuitive and occasionally challenging to execute correctly.
    - *"Version B is interesting, but the gestures can be a bit tricky to get right, especially for younger users."*

2. **Entertaining**

    - **Version A:** Users found this version similar to their day-to-day apps.
        - *"Version A was super easy to pick up. Explained it to my kid they got it in no time!"*
    - **Version B:** Feels just doing brush strokes makes it boring.
        - *"If It was like fruit ninja it might be more fun but for now it is boring."*
3. Both features could do with some more navigation like save, send, undo, go back. Basic functions to make it more intuitive.

Overall, A scored higher amongst this test group. Because of time constraints I could only interview three to a lot myself enough time for the prototype.

PROTOTYPE

Interactive Prototype link: Paint-ah Prototype

Prototype In Action: Paint-ah.mp4

ESSAY

Initially, I faced challenges, such as how to simulate brush strokes in Figma. Although this functionality wasn't possible with the free version, I improvised by enabling users to click and apply colors. I found when I tried to record someone and draw over their interactions if I used to drag or delay it would cause some bugs in the seamlessness of the app so I switched from video to clickable too. Reflecting on this, I realize that using platforms like Axure or Unity could have resulted in a more dynamic prototype, but their lack of free access constrained my options. Ultimately, I'm proud of what I achieved with the resources I had.

I chose to prototype gestures because I found the concept of voice interaction intimidating and didn't know where to start. Interestingly, I learned during this process that tapping the screen is also considered a gesture—a realization that expanded my perspective. To prototype the app, I selected techniques that balanced simplicity, flexibility, and the ability to demonstrate dynamic interactions: storyboarding, clickable prototyping, and A/B testing.

Selected Prototyping Techniques

1. **Storyboarding**
    - **Why:** Storyboarding is a low-fidelity method that helps visualize gesture interactions and the user's journey without requiring a fully functional system. It allows for quick iterations and clear communication of ideas.
    - **Implementation:** I drew frames depicting key user actions, such as hand gestures to open the color palette or arm movements to paint strokes. Each frame included annotations describing the gestures and the corresponding system responses.
2. **Clickable Prototyping**
    - **Why:** Clickable prototyping allows for dynamic simulation of interactions, showing how gestures translate into interface actions. This technique is particularly effective for a movement-based system like this app.
    - **Implementation**: Most things need to be clicked but you can also swipe right or left on some features, I did this because I initially got to that point with the brush strokes, so my prototype is not only clickable.

3. A/B Testing
    - **Why:** A/B testing helps compare different design variations to determine which version performs better with users. It provides measurable insights into user preferences and interaction success.
    - **Implementation:** I created two versions of the app prototype: one emphasizing minimal gesture with simple tap interactions and another showcasing more dynamic gestures like swipes or arm movements. I conducted testing sessions where users were pitched both ideas and shown the wireframes, and I collected feedback on which was more intuitive, enjoyable, and effective.

Rationale for Selected Techniques

I chose these techniques for their ability to balance cost-effectiveness, flexibility, and the ability to simulate realistic interactions:

1. **Low Cost and Flexibility:** Storyboarding and clickable prototyping are inexpensive methods that allow for rapid iteration based on feedback.
2. **Realistic Interaction:** Clickable prototyping provides dynamic visuals, while A/B testing offers data-driven insights into user preferences.
3. **Rich Feedback Collection:** These prototypes provide visual clarity, enabling constructive feedback on gesture recognition, system responsiveness, and usability.

Approaches Not Chosen and Why

1. **High-Fidelity Hardware Prototypes:** Developing a fully functional gesture system with advanced sensors like Leap Motion or Kinect was not feasible due to high costs and limited time.
2. **Purely Paper Prototypes:** While helpful for first conceptualization, paper prototypes fail to capture the dynamic and interactive nature of gesture-based systems, making them insufficient for this project.

3. **Video Prototype**: No access to professional software and lagging

REFLECTION

I started this course with zero knowledge on UX/UI Design and by the end of this course I am so impressed by how I have grown. The textbook, lectures and group work helped. But what surprised me the most was seeing other teams work; it inspired me to push myself and think more outside of the box. I had to remind myself this was an assignment because I got carried away with how much I enjoyed the process. I am excited to see my growth in this field, and as finances and time stop being huge constraints. Nonetheless, these are my three major takeaways.

1. Iteration Is Key

The prototyping process emphasizes rapid iterations to refine ideas. Low-fidelity methods like storyboarding are crucial for exploring initial concepts and gathering feedback without significant investment in resources.

2. Balance Between Realism and Feasibility

Choosing the right fidelity is essential to balance the realism of user experience with the resources available. For instance, video prototyping communicates gestures effectively without requiring complex software development especially using Figma.

3. Prototyping as a Communication Tool

Prototypes are not just for testing but also for communicating ideas to stakeholders and aligning team members. The combination of visuals, interactions, and user feedback bridges the gap between design and implementation.