



Team Kiwi!

# Lo-Fi Prototype & Evaluation

Older Adult Technology Education

# Our Team!



**Tiffany L.**



**Jiwon L.**



**Tara J.**



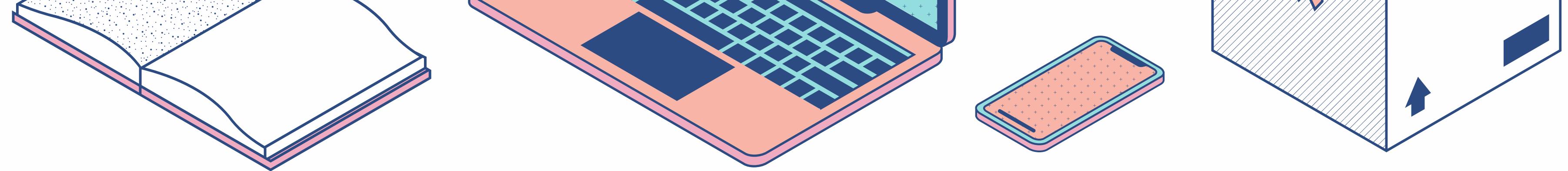
**Lyndsea W.**

# Mission Statement

To provide equitable educational opportunities  
for older adults to learn more about technology  
in a personalized manner.

# Value Proposition

We make learning about technology less scary  
and more fun!



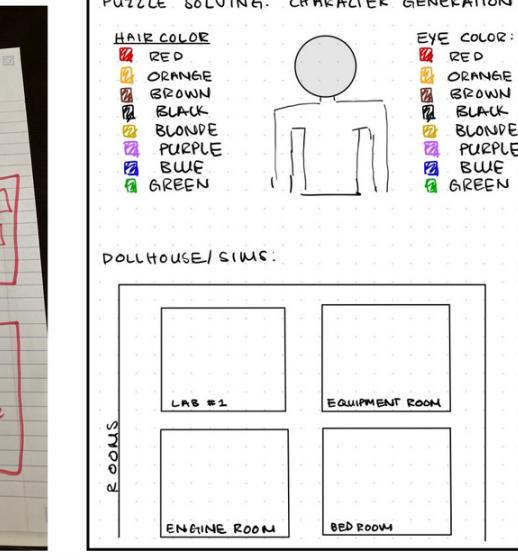
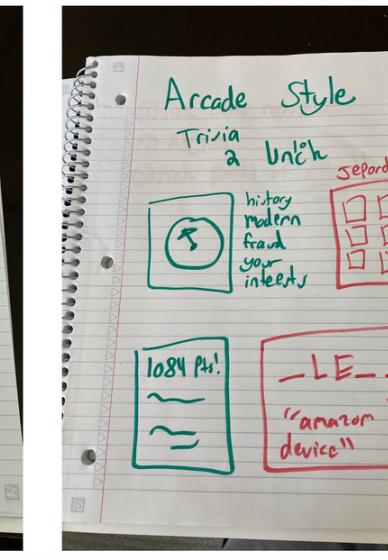
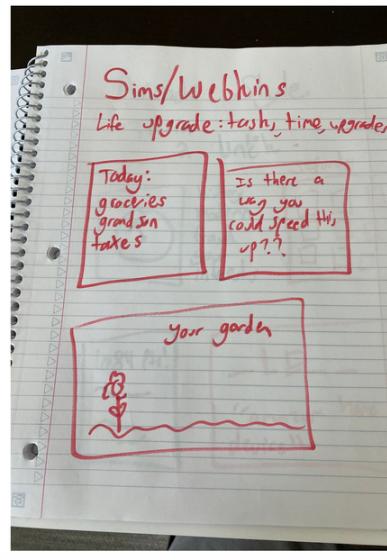
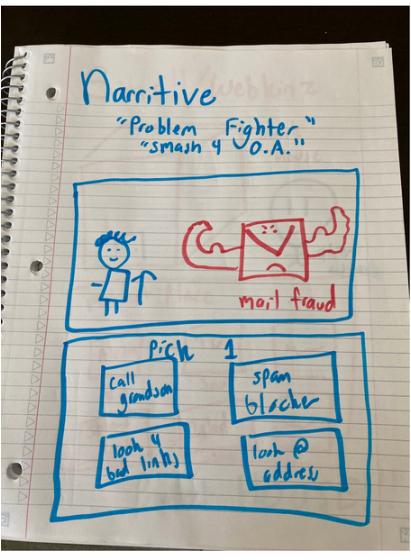
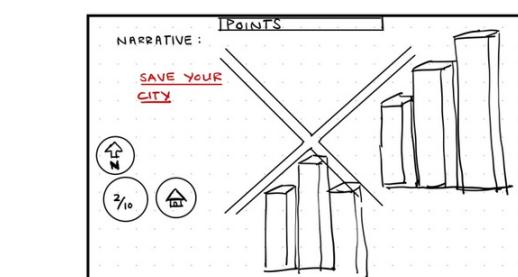
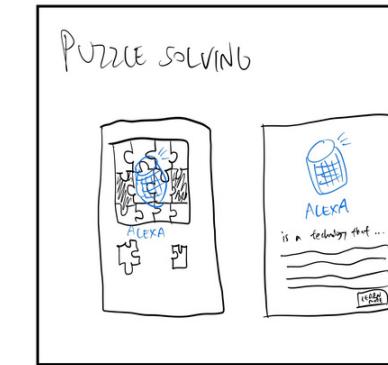
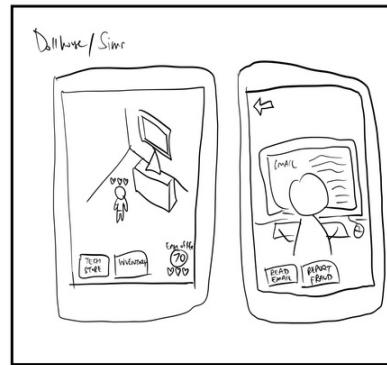
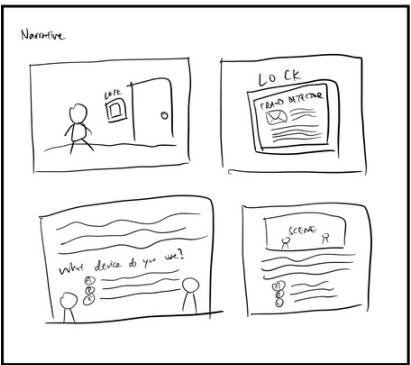
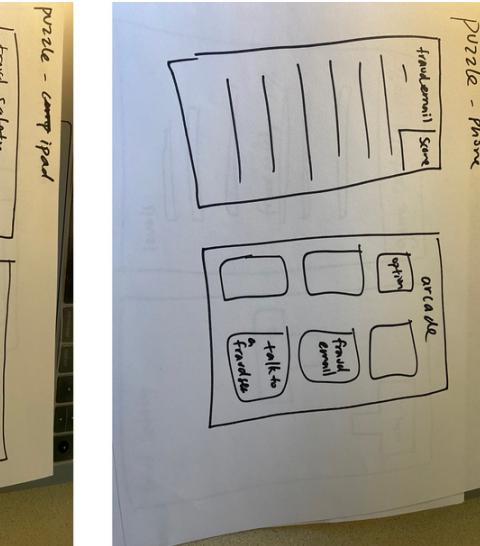
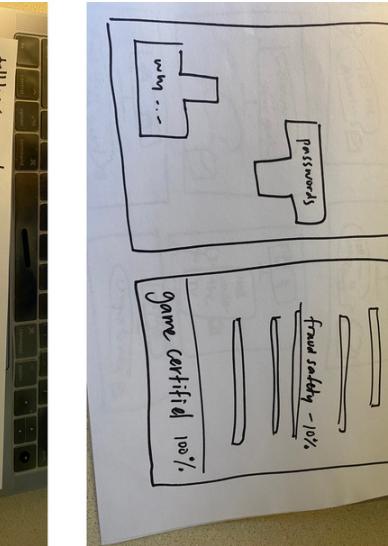
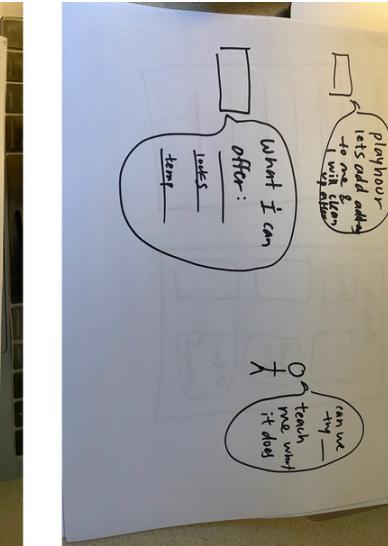
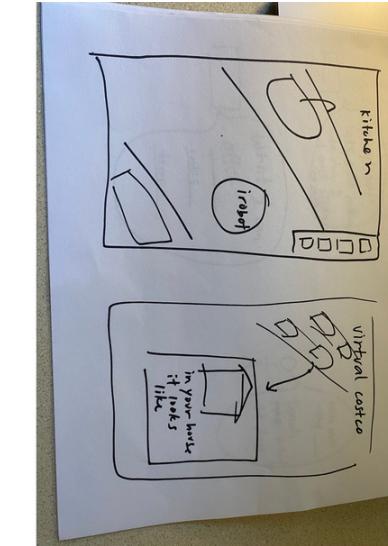
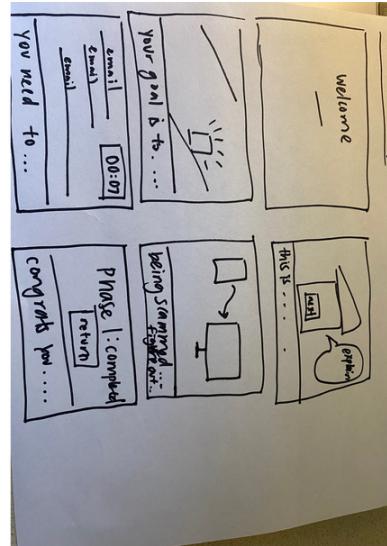
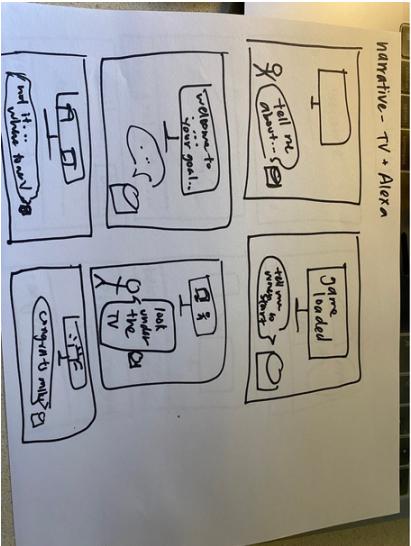
## Problem

Older adults have trouble discerning between harmful and beneficial technologies, especially due to the influence of media.

## Solution

Create a game that aims to teach older adults about different types of technologies based on their needs and technology history.

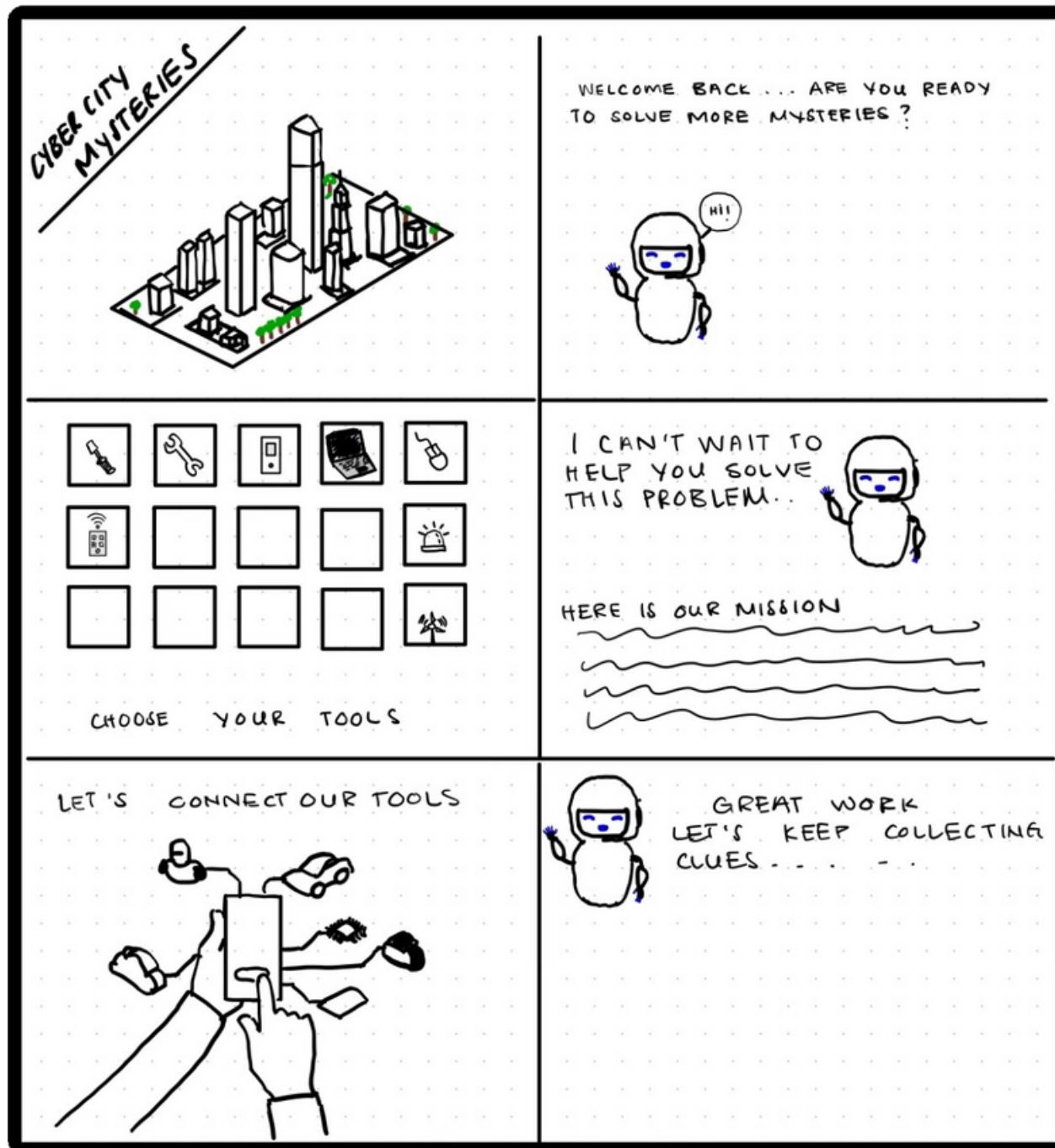
# Lo-Fi Sketch Overview



- Our 3 design realizations:
- Narrative-based  
"choose your own adventure" game
  - Puzzle/arcade game
  - Life-simulation/  
dollhouse game

# Top 2 Designs

# Narrative "Choose Your Own Adventure" Game



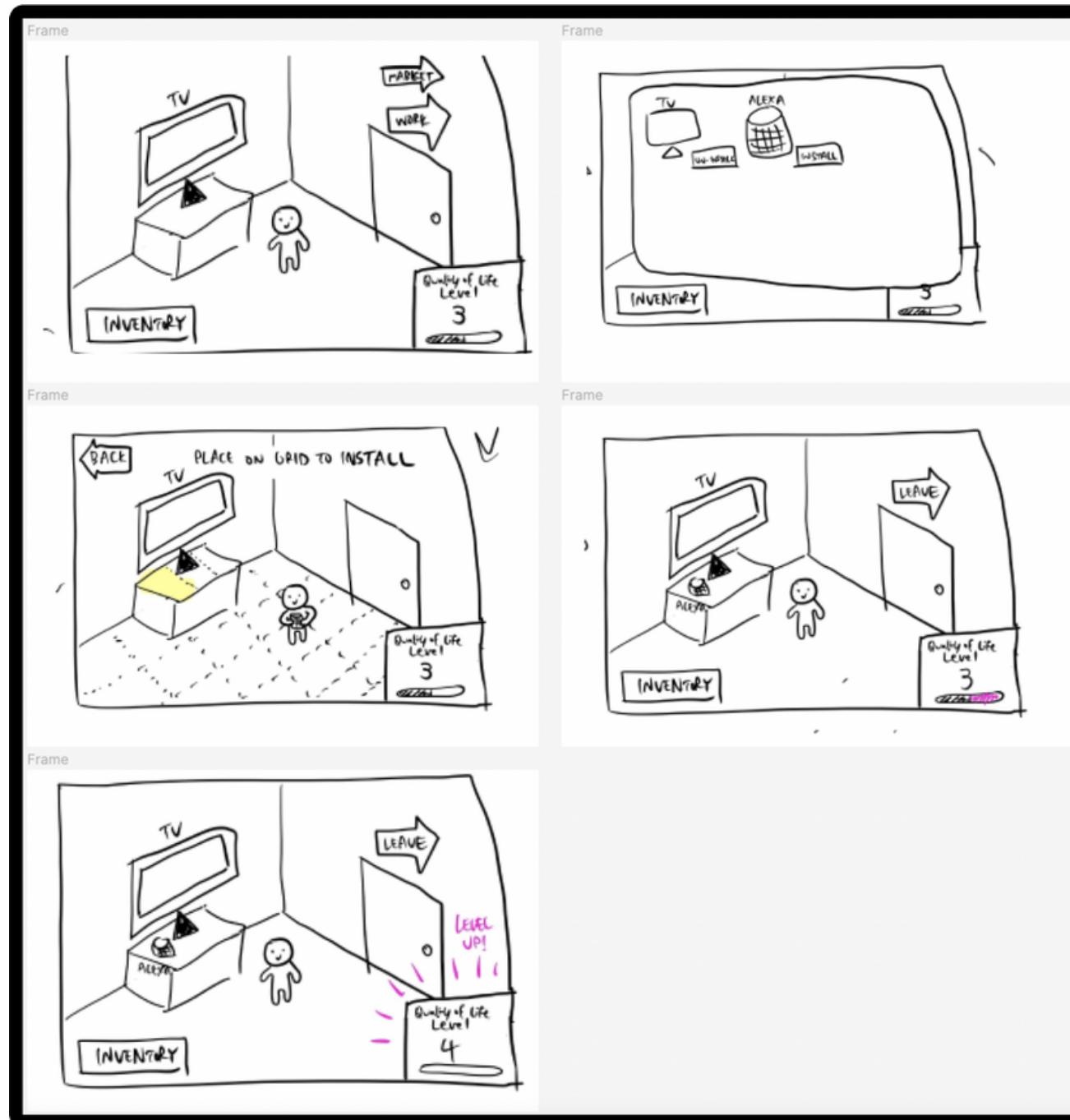
## Pros:

- Continuous story that connects deeply with the user and their motivations
- The story can build upon itself and reward the user with a deeper understanding and connection with the education goals we hope to achieve
- Easy to understand because it is a story based on the user

## Cons:

- More text heavy - less engaging than a game with more mechanics
- Direction of narrative might be unpredictable if generative model is responsible for it
- Lacking incentive to keep learning

# Life-Simulation/Dollhouse Game



## Pros:

- Larger variety of game mechanics - earn coins via puzzles, purchase technology, customize personal house with technology
- Incentivizes continuous engagement via “quality of life” score and experience points
- Technology education can be more personalized with their interests and real life needs

## Cons:

- Could have self image tied to money
- Could blur the line between their reality and the game
- Could be less exciting

# Selected Interface Design: LIFE-SIMULATION/ DOLLHOUSE GAME

## Tasks

### Simple

Complete a puzzle to earn in-game money.

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### Moderate

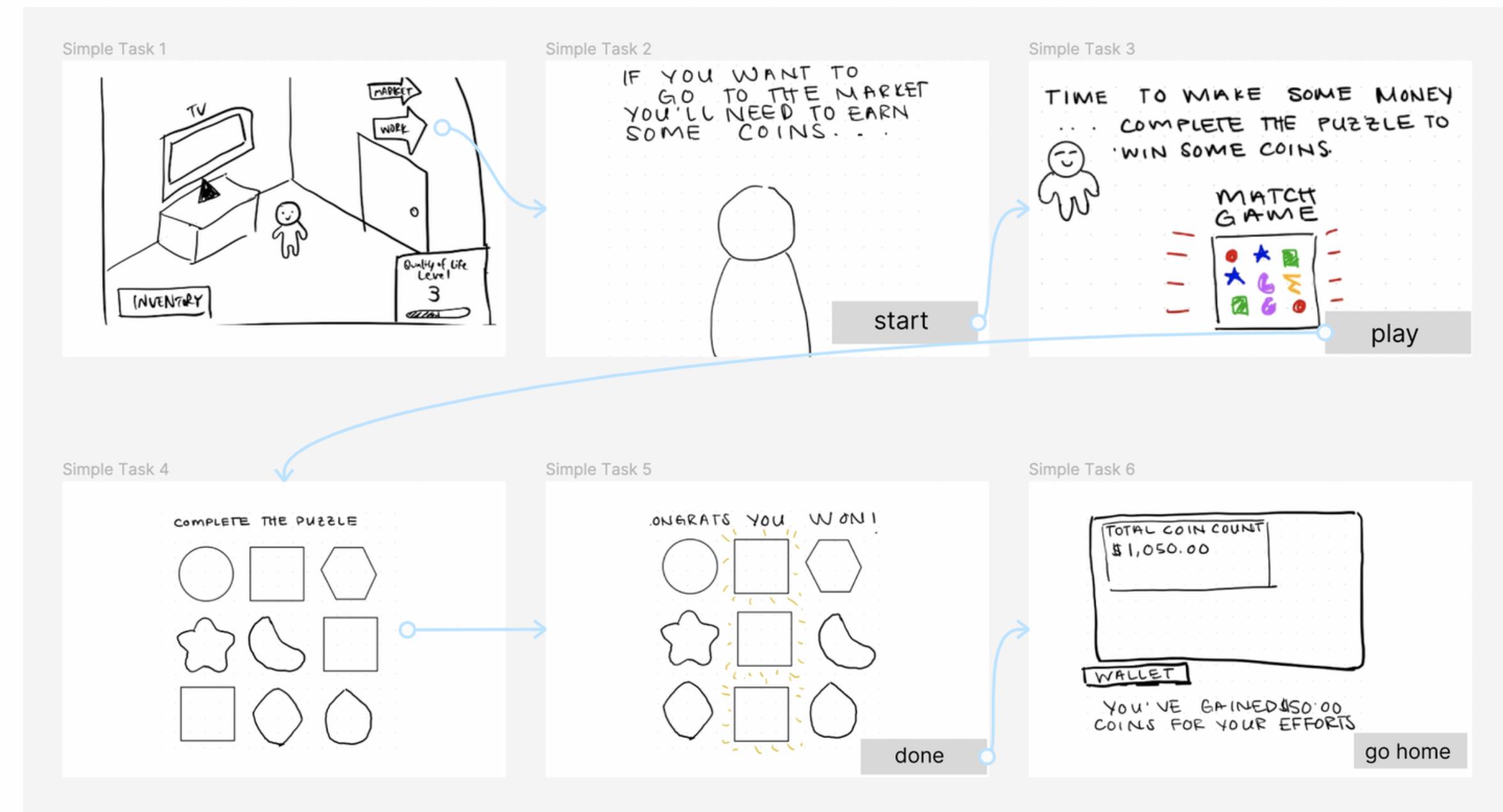
Install a purchased technology in your home.

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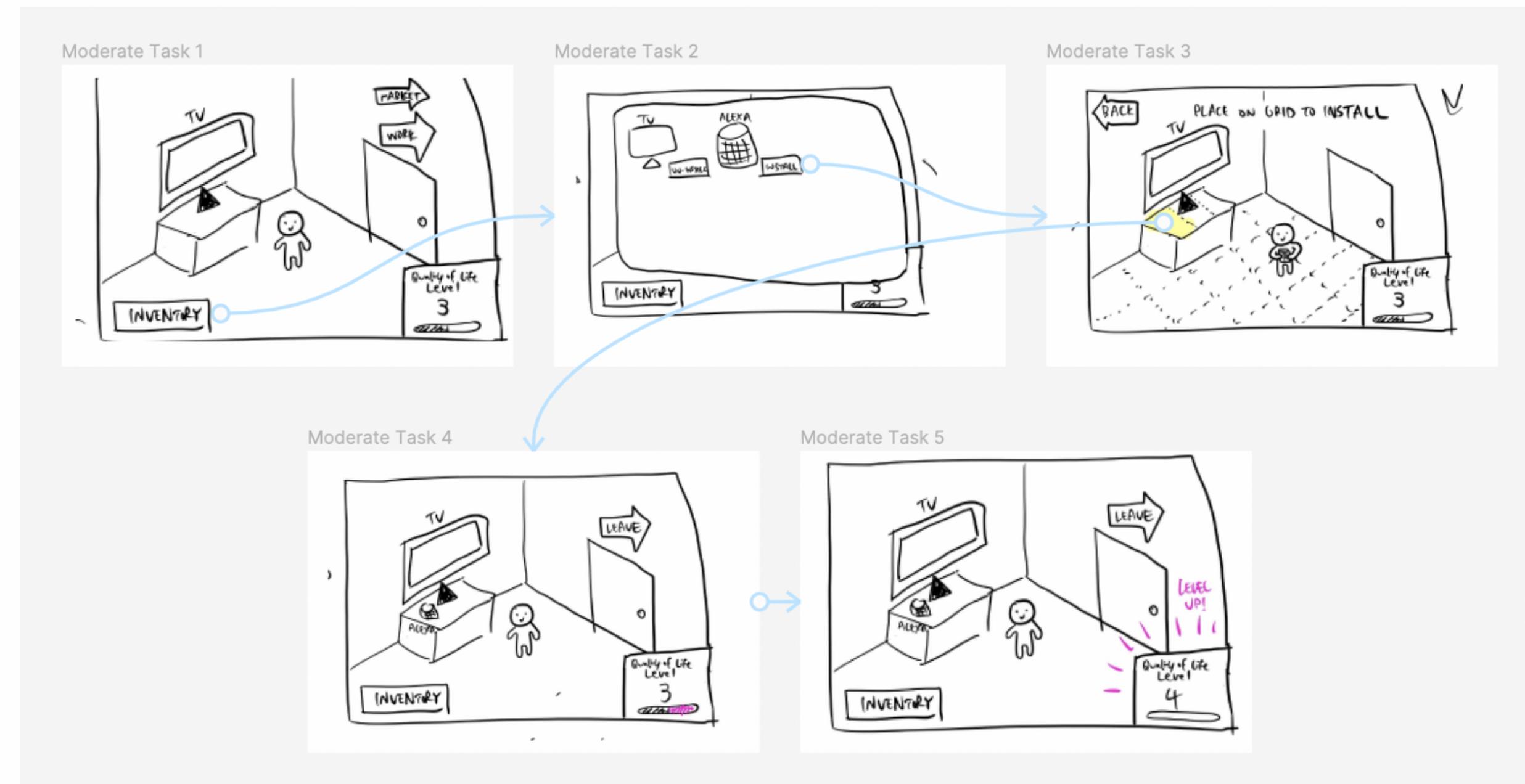
### Complex

Purchase a piece of technology at the market and learn about it.

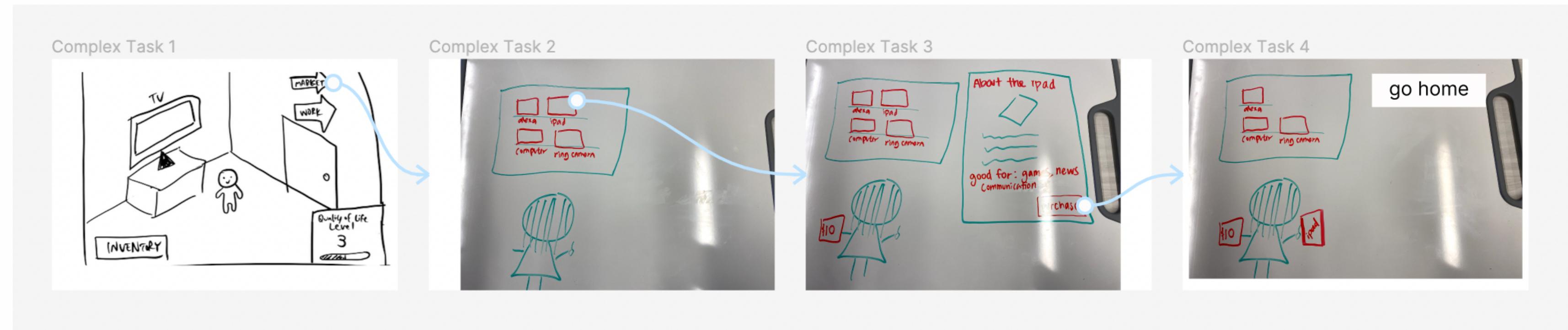
# Simple Task: Complete a puzzle to earn in-game money.



# Moderate Task: Install a piece of technology in your home.



# Complex Task: Buy a piece of technology at the market.



# User Testing!

# Participants



a 86 year old from  
Huntington, WV.



a 76 year old from San  
Diego, CA.



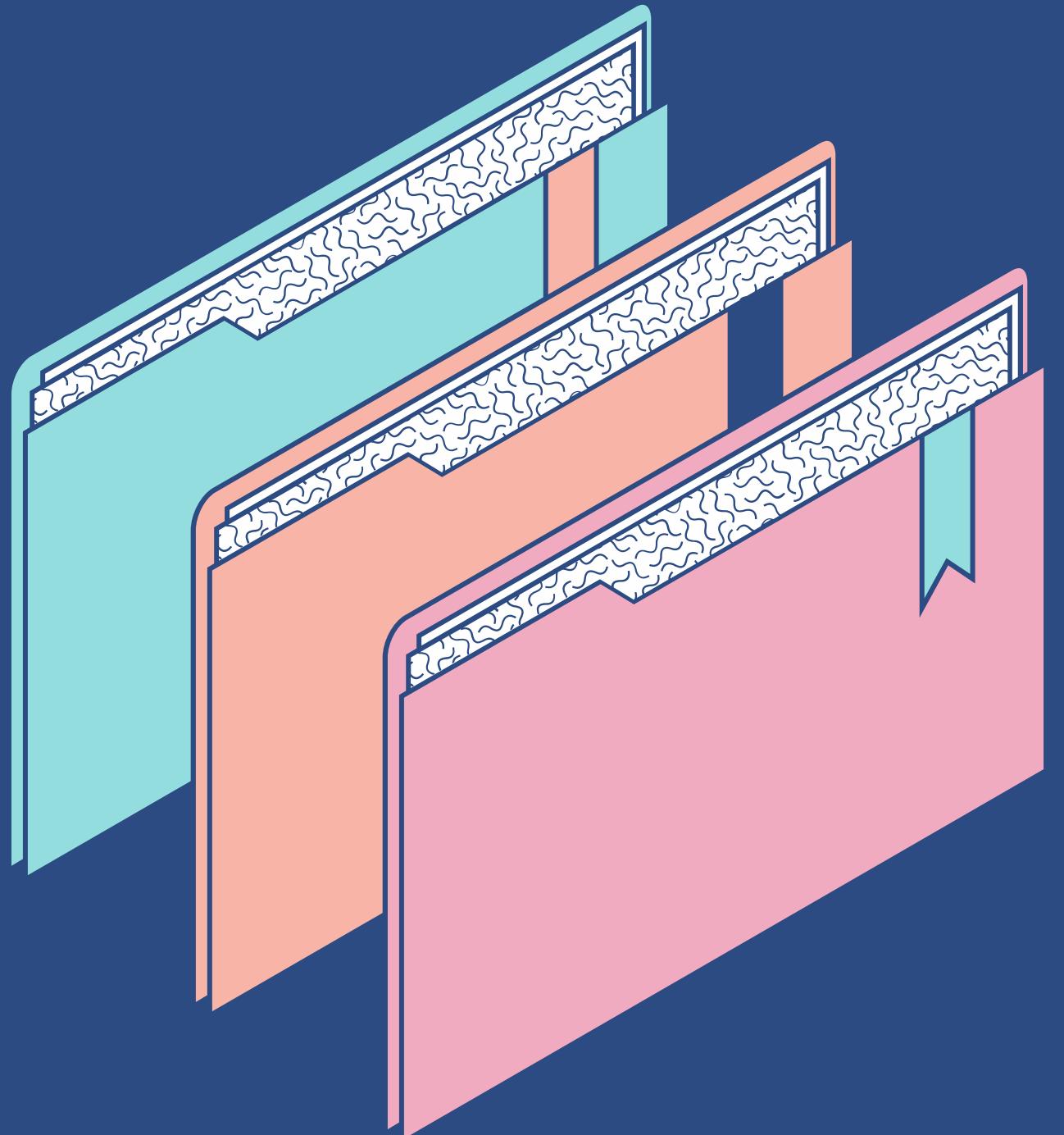
who is in her late 70's and is  
from Monterey, CA.



who is in his early 80's and  
is from Bakersfield, CA.

We recruited participants via personal connections and snowball sampling.

# Procedure/Tasks



Remote interaction: one of us shared our screen of the prototype, and we had participants tell us how they would like to interact with the screen.

We had participants complete the following tasks:

- Complete a puzzle to earn in-game money.
- Install a piece of technology in your home.
- Buy a piece of technology at the market.

# Results

## IMPORTANT INCIDENTS FROM CRITICAL LOG

Red - errors / Green - successes

			
"I like the quality of life score and that you have something you're working towards." (sev 0)	Should make it more clear that the game needs to be played in order to win more money (sev 2)	"Very fun!" (sev 0)	Found it confusing on how the money was awarded (sev 2)
"There needs to be clear instructions for how the technology I've installed works" (sev 3)	Would like to see options for the different types of tablets and see the price clearly when buying (sev 2)	"If this is all I have in my house right now, I need to go to the market and get a new desk and chair!" (sev 1)	Found the inventory, market, and work buttons to be very clear (sev 0)
"It's a good idea to be able to practice with technology in the game before you buy it in the real world." (sev 0)	Game should have a deep enough technology inventory so that people can learn about them, such as interactive coffee pots and fitness trackers (sev 3)	The puzzle should have more instructions in the future (sev 2)	"I would like to be able to explore other rooms on the house" (sev 1)

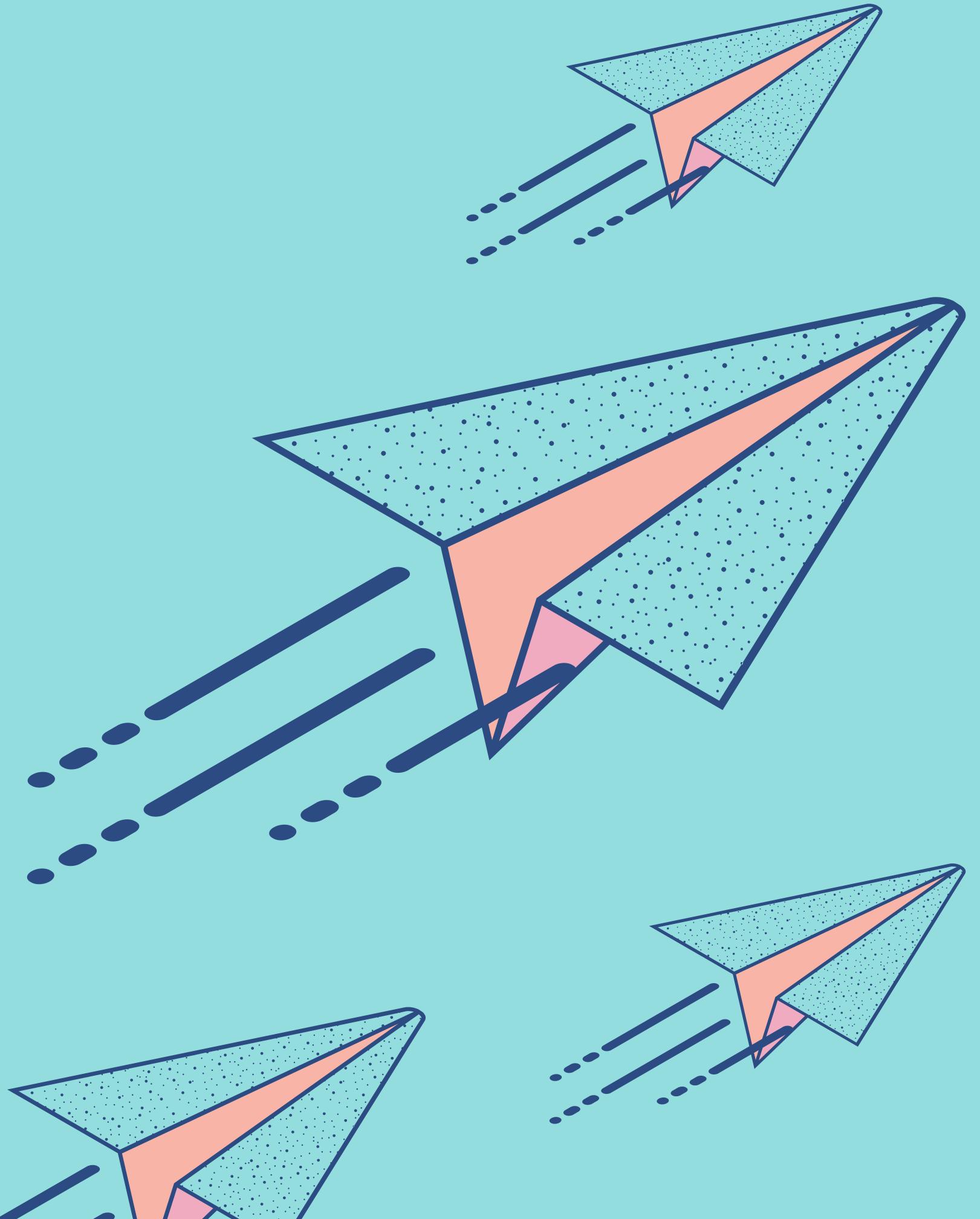


## High-Level Key Takeaways

- Overall, participants found the game to be fun and engaging!
- Participants found that a game like this can be helpful in translating into their real lives.
- Further, interactions in the game should more closely resemble those in real-life.
- Certain cosmetic issues must be addressed to make the interactions more clear.
- The game seems to be a promising start.

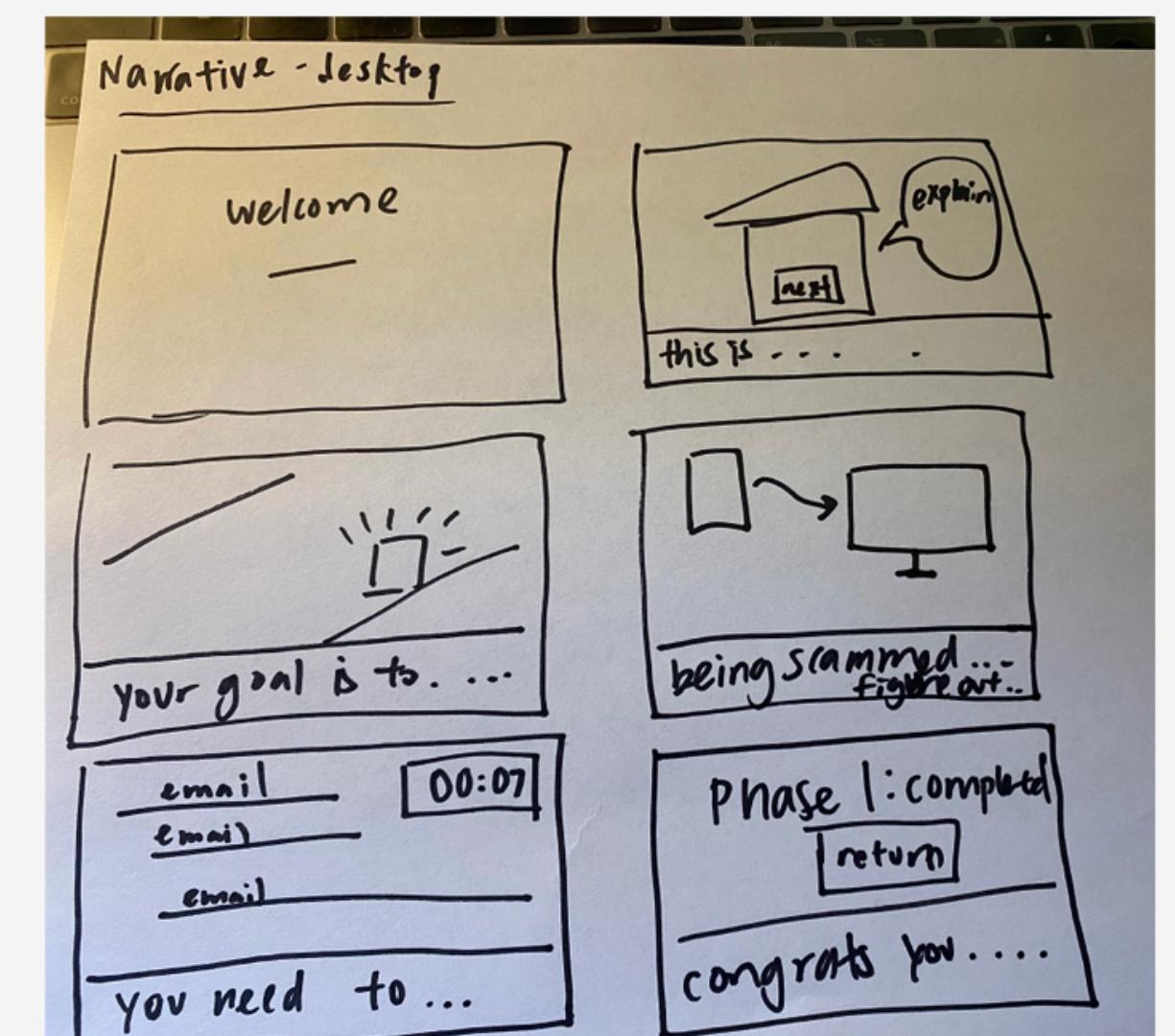
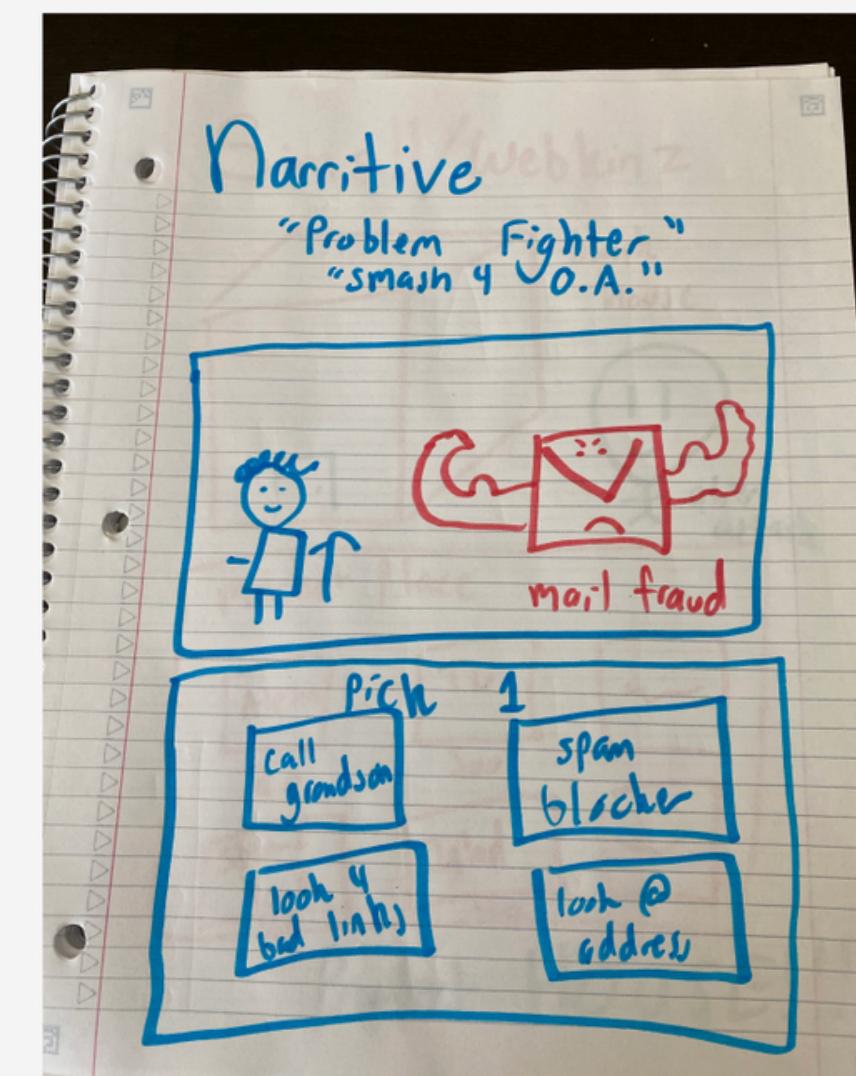
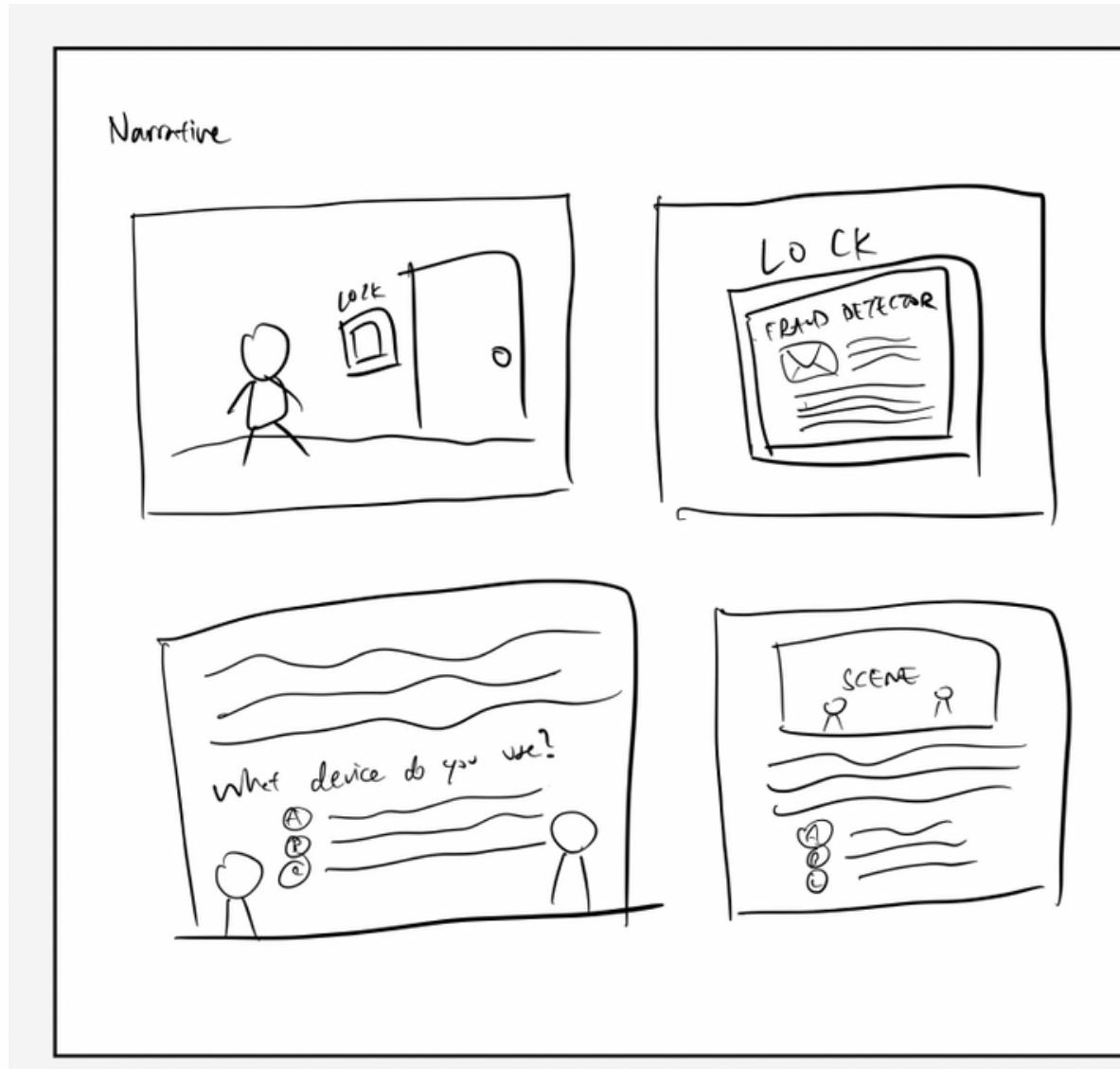
# Thank you!

Questions or feedback?

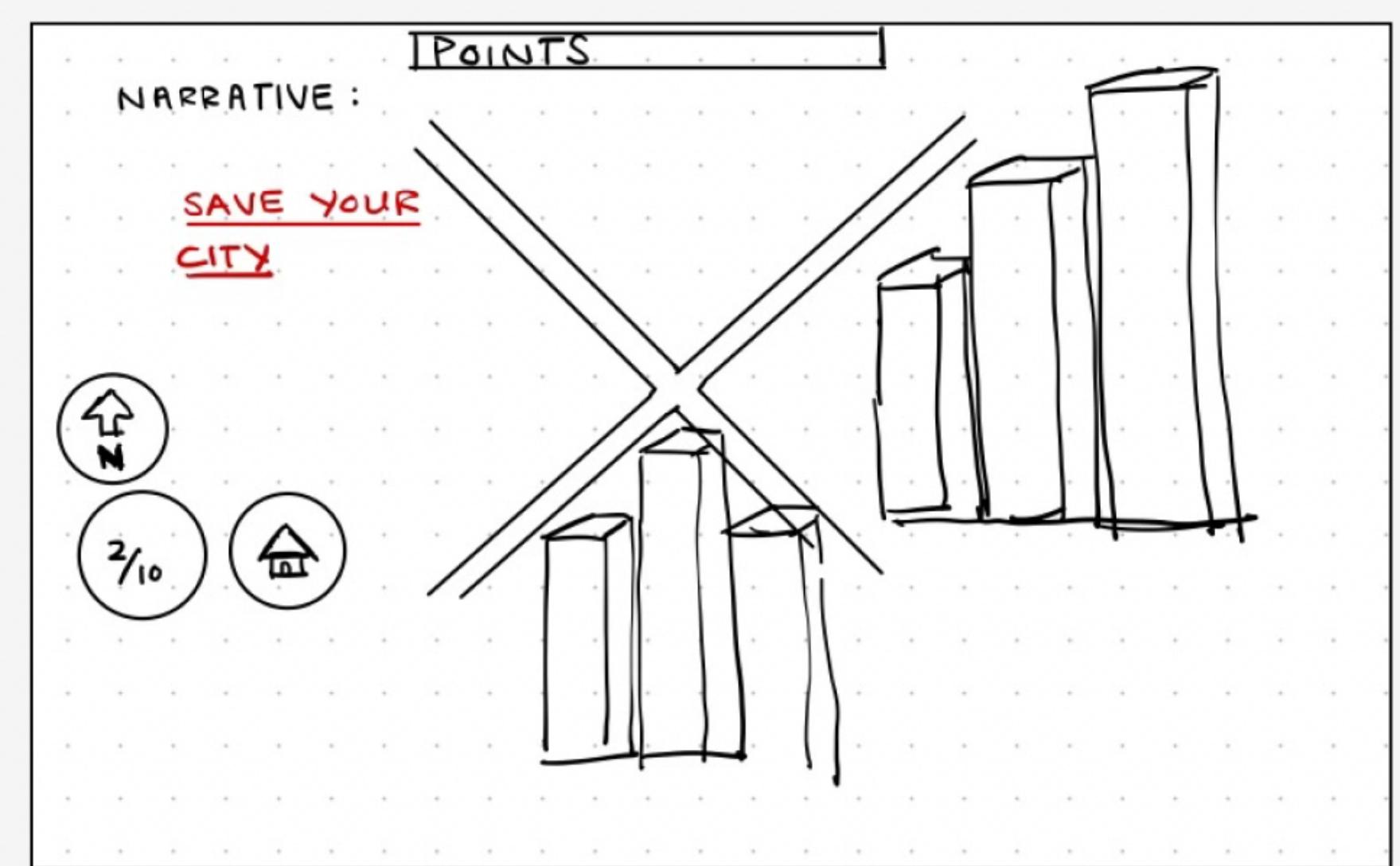
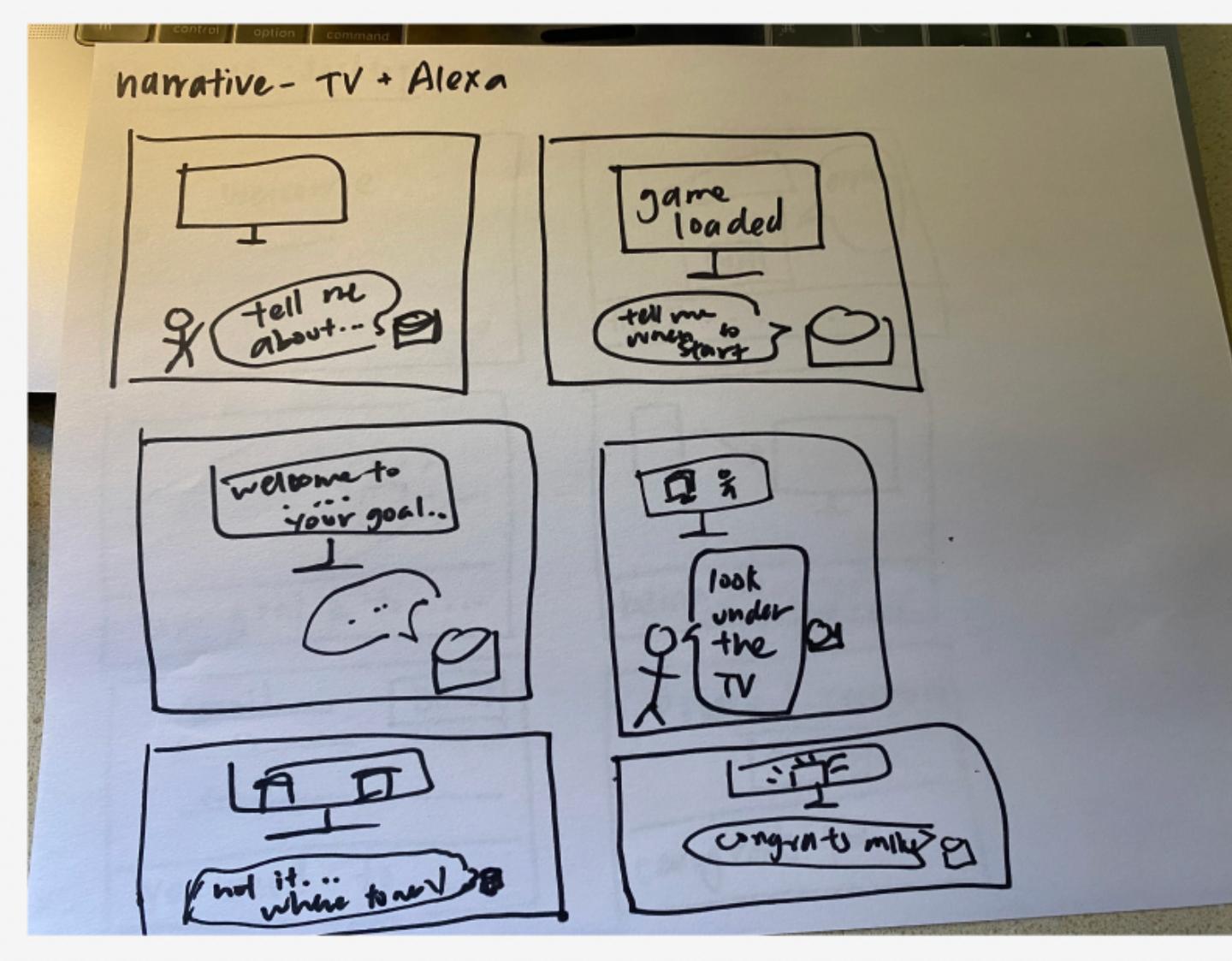


# Appendix

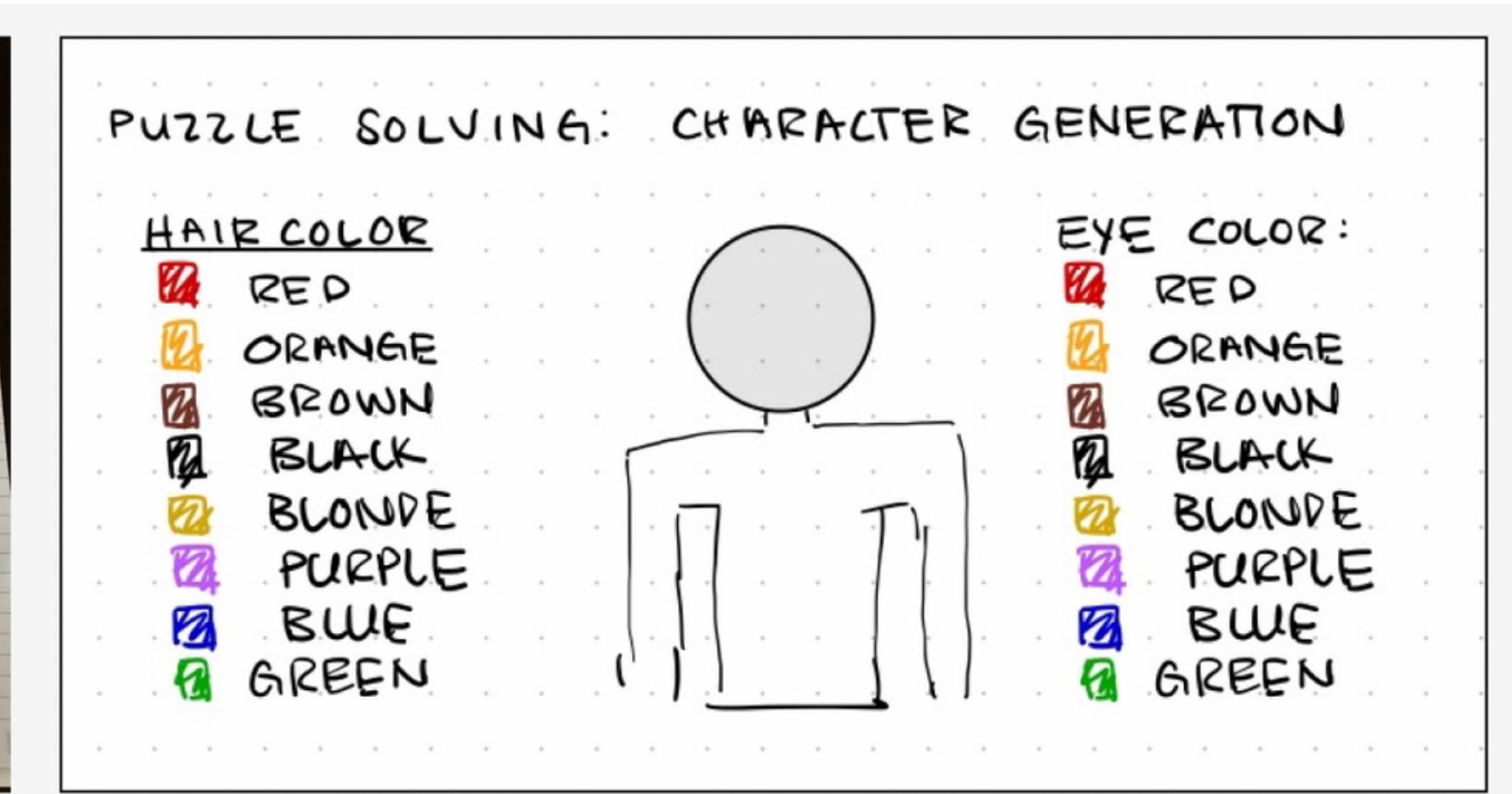
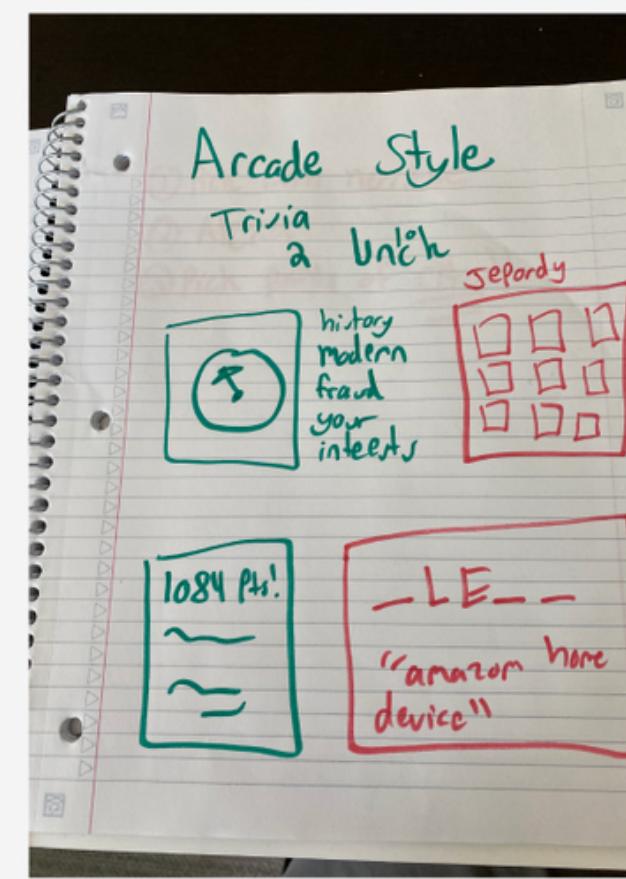
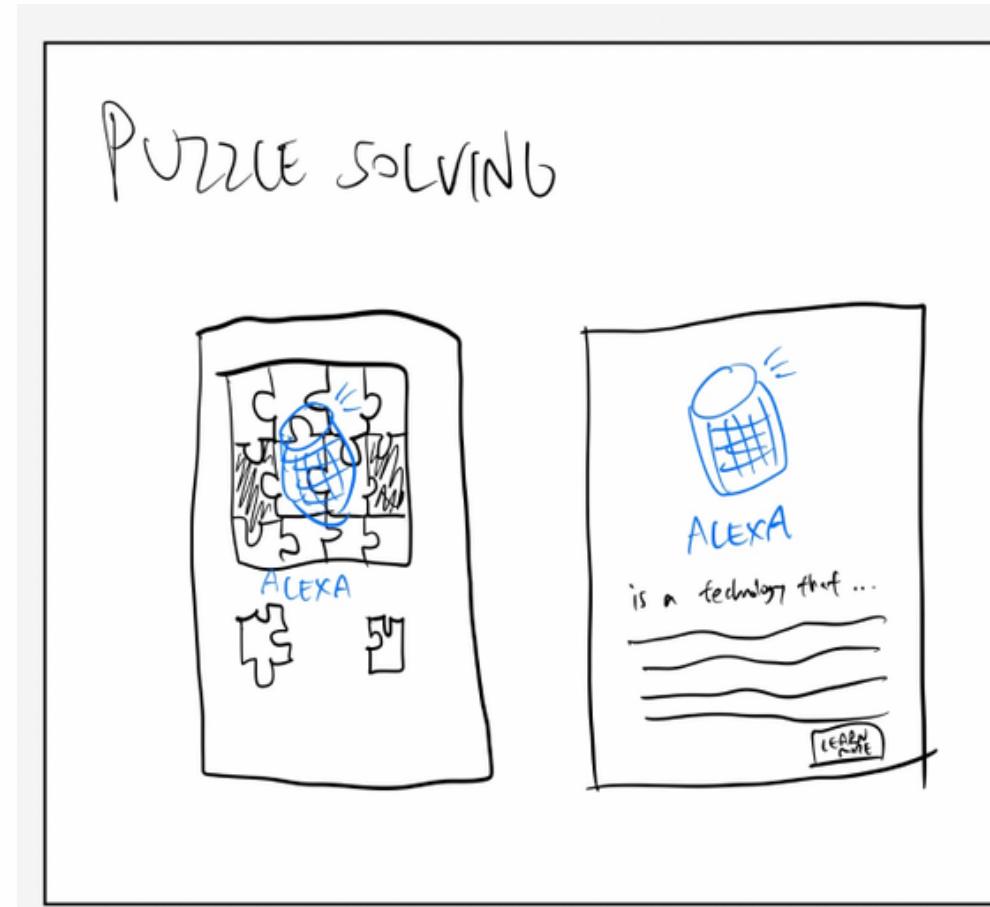
# Sketches for Lo-Fi Realization 1: Narrative-Based Game



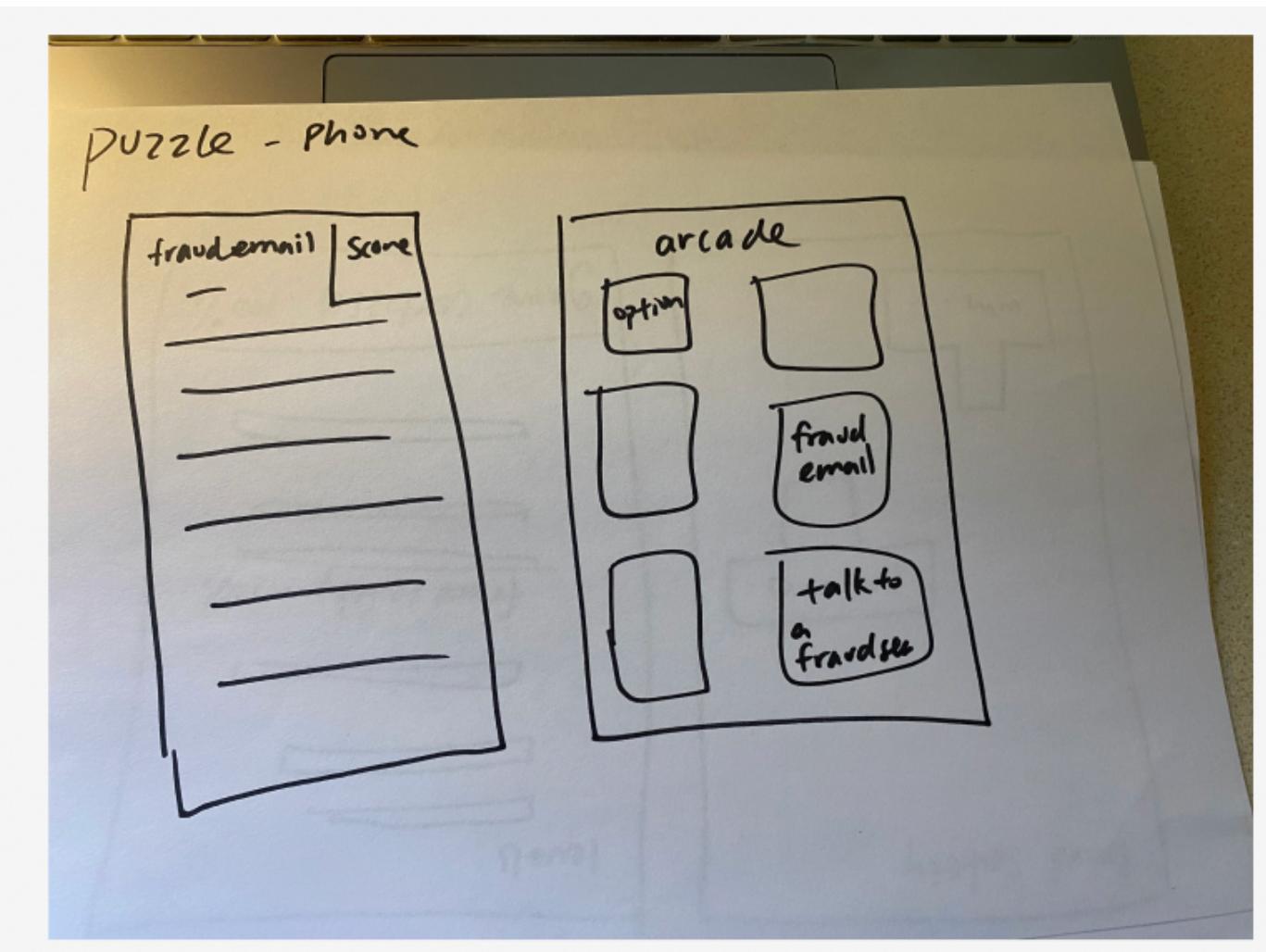
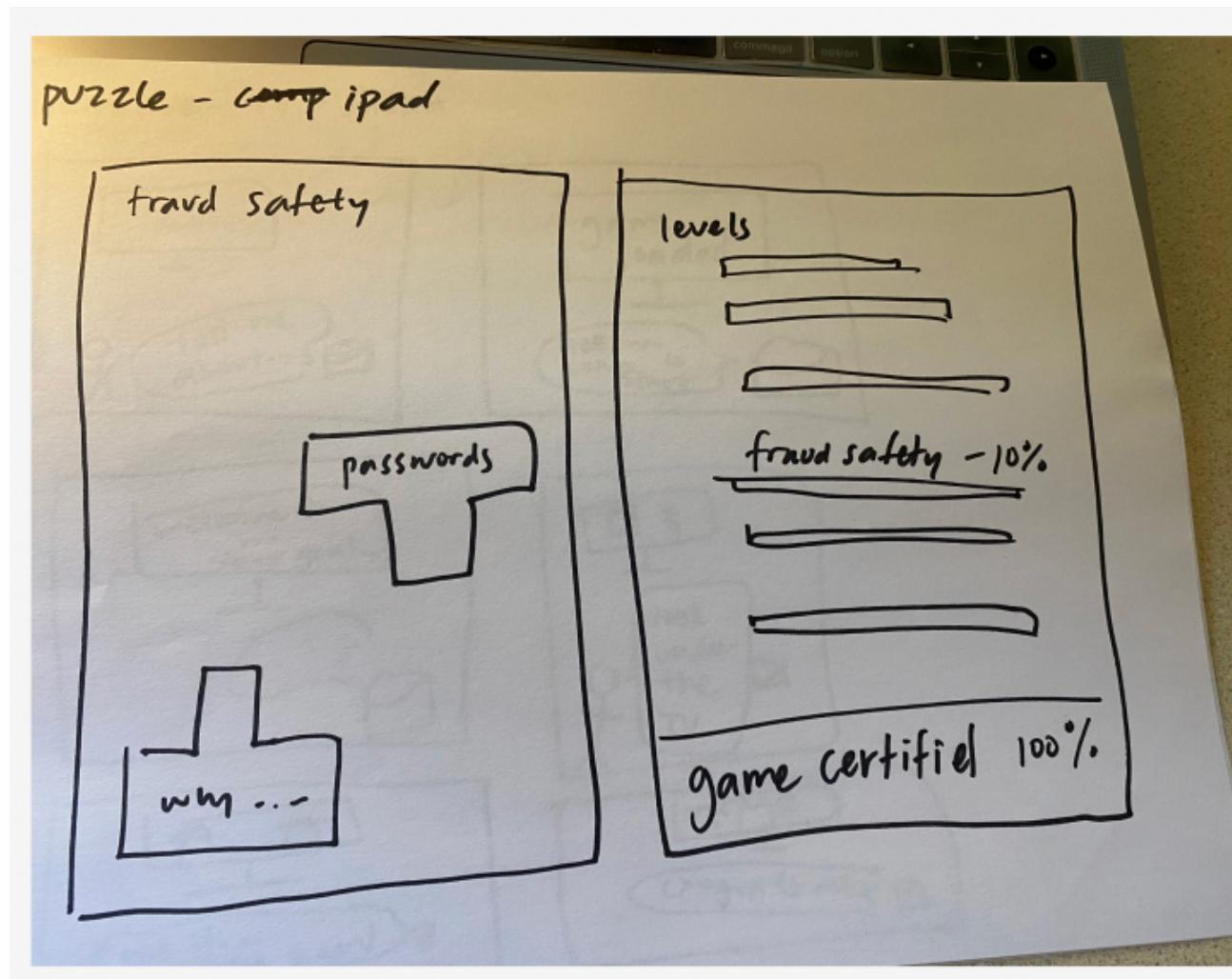
# Sketches for Lo-Fi Realization 1: Narrative-Based Game (cont.)



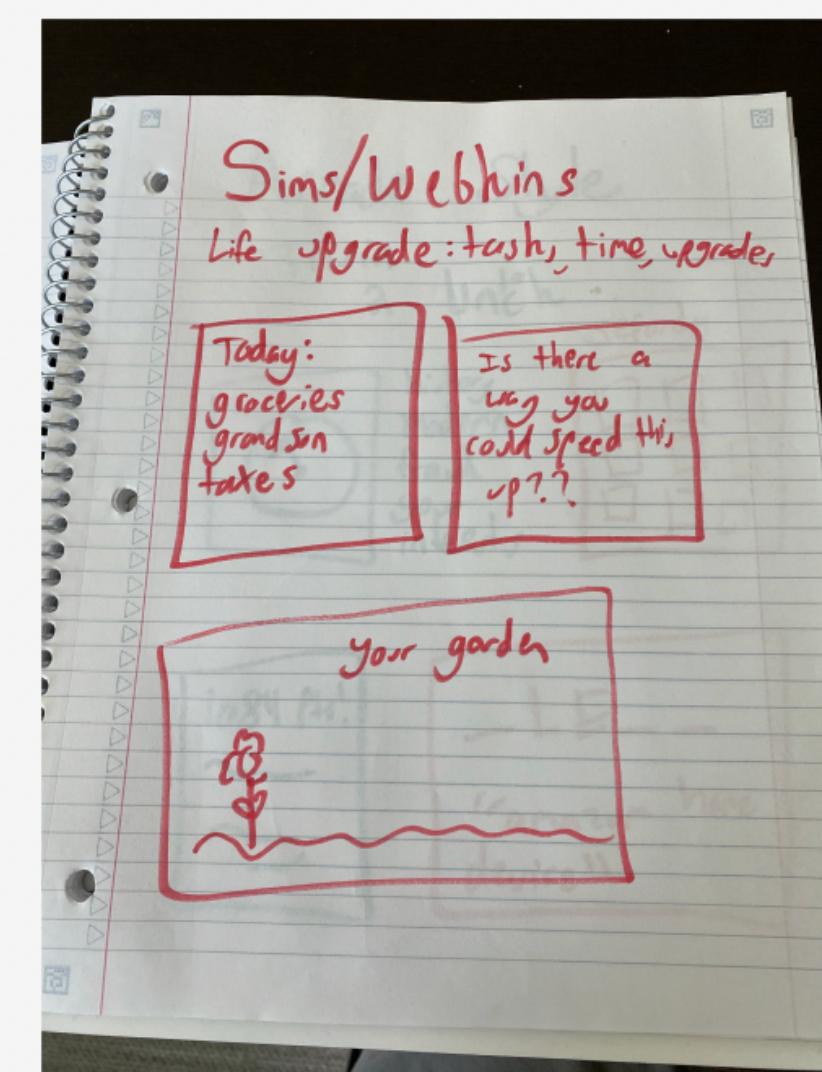
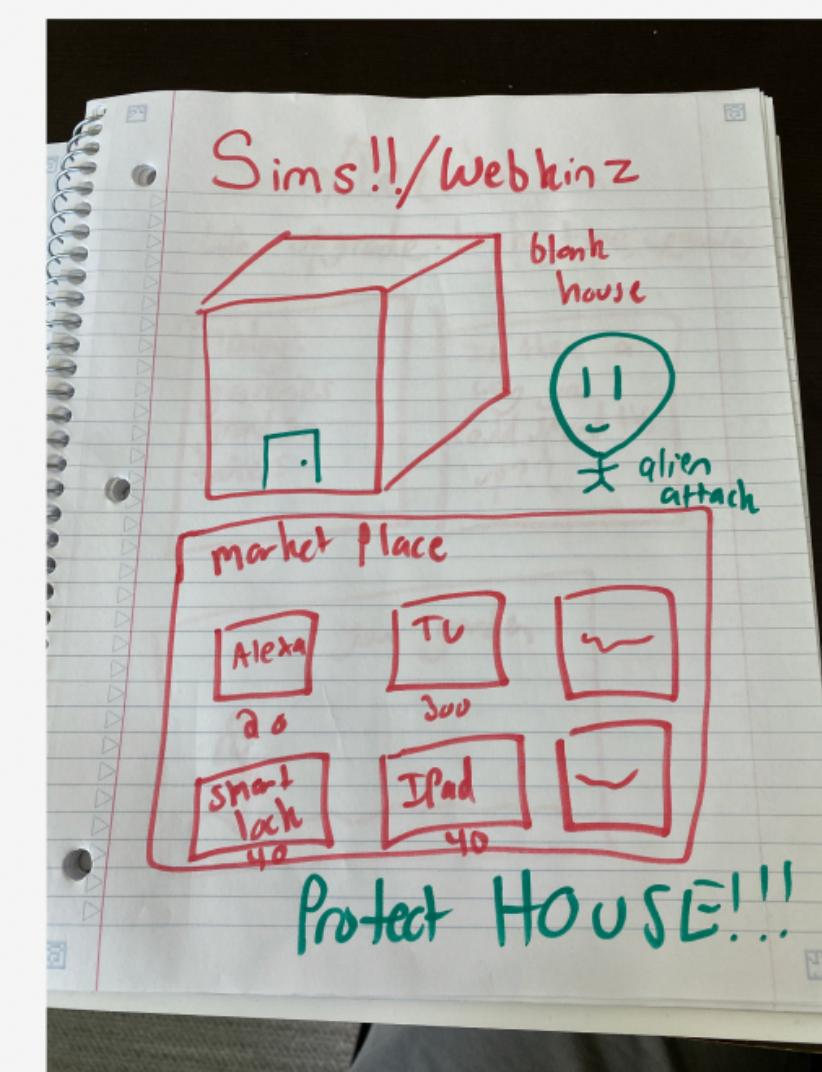
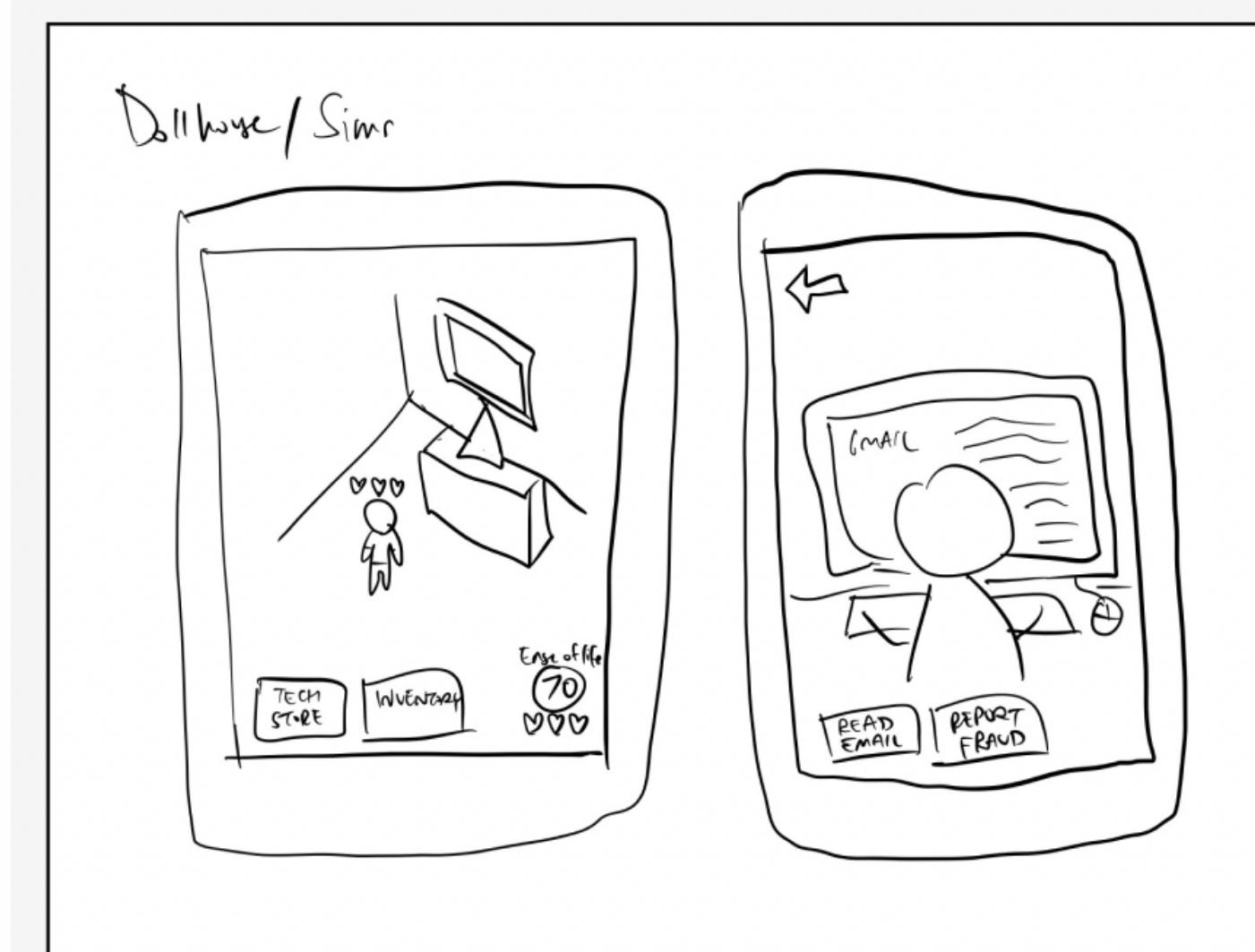
# Sketches for Lo-Fi Realization 2: Puzzle/Arcade Game



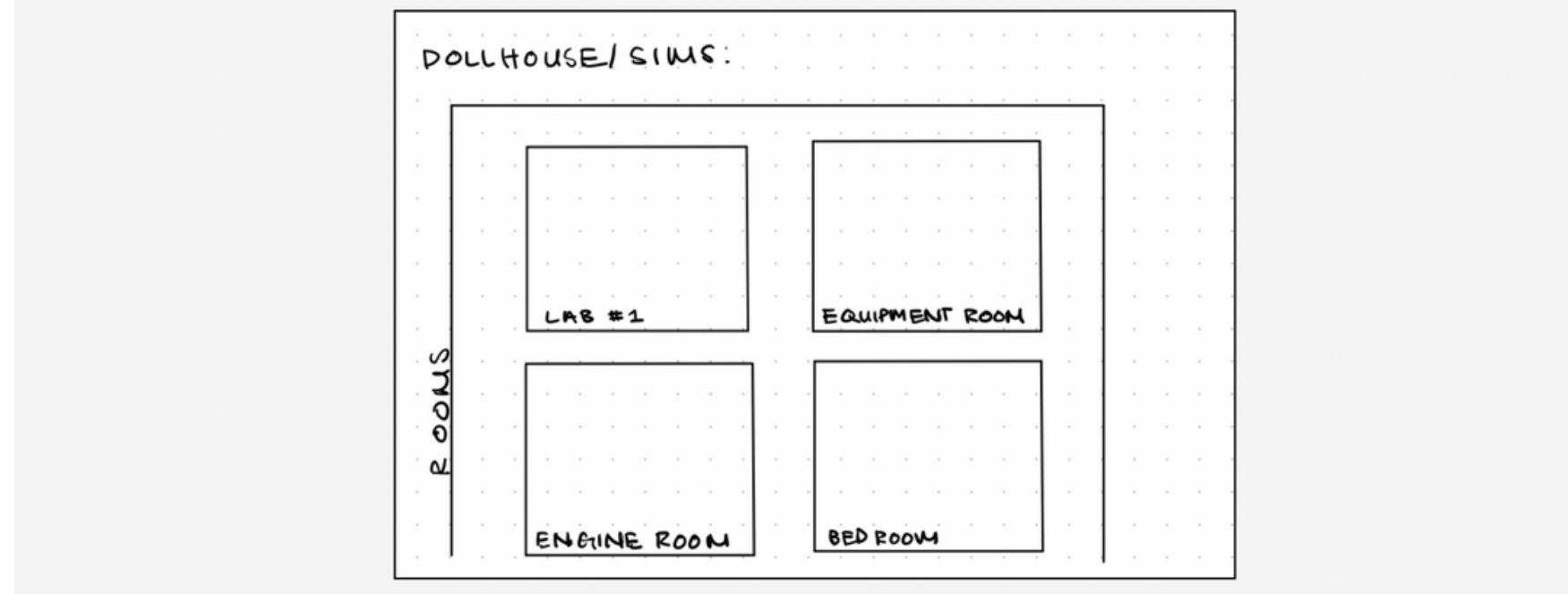
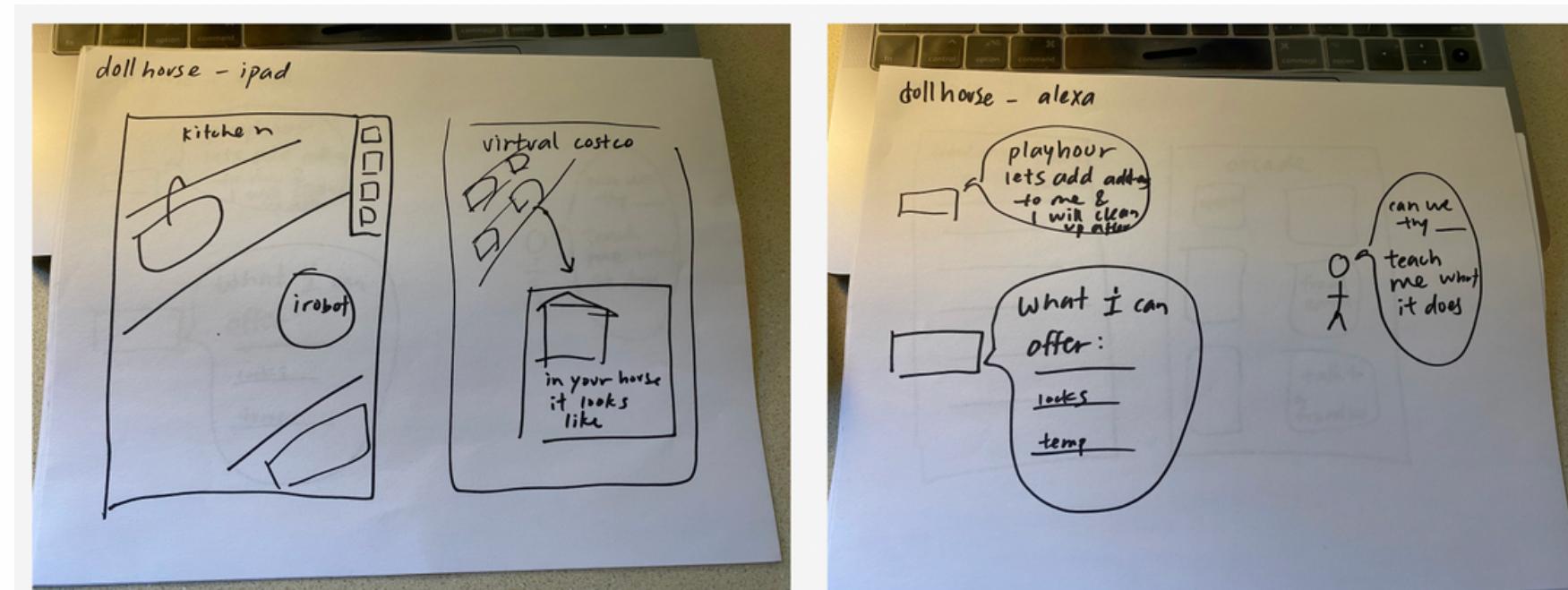
# Sketches for Lo-Fi Realization 2: Puzzle/Arcade Game (cont.)



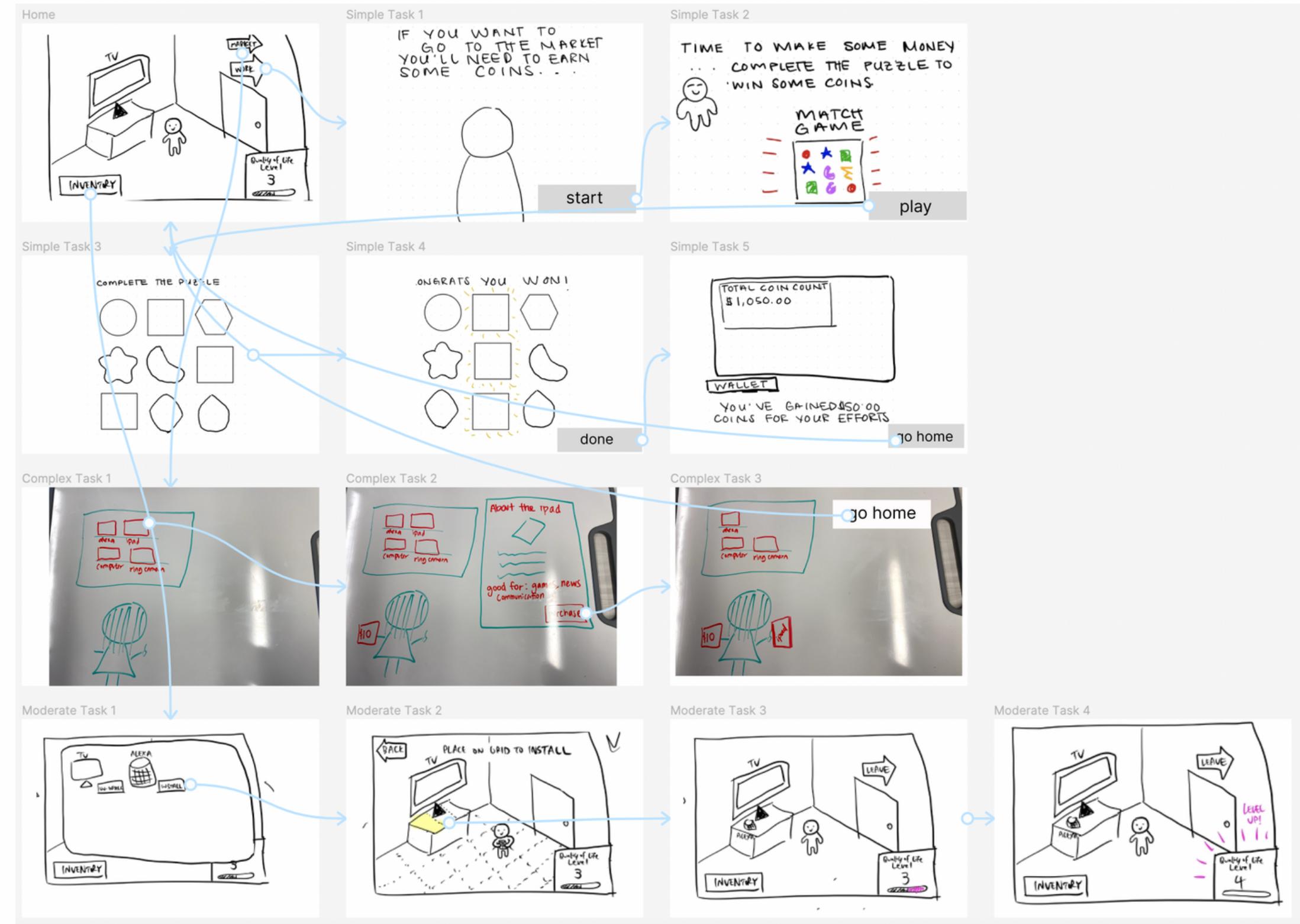
# Sketches for Lo-Fi Realization 3: Life-Simulation Game



# Sketches for Lo-Fi Realization 3: Life-Simulation Game (cont.)



# Lo-Fi Prototype - Entire System



## Prototype Description:

This prototype represents a game in which you have the ability to play puzzles to earn in-game coins, use those in-game coins to learn more about and purchase tech at the "market", and install the technologies you've bought in order to increase your "quality of life" score.

# Critical Incident Logs

User	Incident	Severity
No. 1 (Janice)	"The game wasn't too complicated"	0
No. 1	"I wish there was a picture of the technology with step by step instructions."	2
No. 1	"You should have instructions on how the technology works together."	3
No. 1	"Once I've made money I think I should go directly to the market instead of going home."	2
No. 1	"There needs to be clear instructions for how the technology I've installed works"	3
No. 1	"The inventory should tell me more about the items, I want to be able to understand each item."	2
No. 1	"I like the quality of life score and that you have something you're working towards."	0
No. 1	"I think it's a good idea to be able to practice with technology in the game before you buy it in the real world."	0
No. 2 (Ed)	The inventory doesn't have all the items in the home, and the washer and dryer would be in there as well	1
No. 2	"I would have work with a dollar sign to signal that the user needs to go to work"	2
No. 2	Need to make it more clear that the game needs to be played in order to win more money	3
No. 2	"I want to know what my total value is; I have two different dollar counts. And my total coin count should be more clear so I understand what I can actually purchase"	3
No. 2	There should be a generic inventory list that is available in the home that list all the things that are in the home that could potentially be purchased	2
No. 2	"I want to know what is going to be the value of the generic items of the point; what do they do and what do they cost so I can compare, so that I can evaluate what products are going to be worth my efforts"	2
No. 2	Would like to see options for the different types of tablets -> and want to see the price when you are buying	2
No. 2	When you purchased the items you have installed, then it should be	2

User	Incident	Severity
	acknowledged	
No. 2	When things are going to be installed, want it to be slow and deliberative so that the installer is going really slow and you're interacting with the individuals	3
No. 2	Having a deep enough technology inventory so that people can interact with them and learn about them, interactive coffee pot, fitness tracker	3
No. 2	Need a youtube video that goes really slow so we can follow along with learning and installation	2
No. 2	I want a dollar sign for the wallet so I know that means that's the amount of money I have	1
No. 2	Want to be able to add programs to the TV	1
No. 2	What to be able to use remote for the TV	1
No. 2	Want to be able to add furniture	1
No. 2	Unclear how to proceed with the puzzle, wanted instructions	2
No. 3 (Tom)	Found it confusing on how the money was awarded	2
No. 3	"Do I need to click my wallet?"	2
No. 3	Why did I not seem my past amount? What does the future amount in the wallet mean?	1
No. 3	"Before I would buy the ipad, I would want to know how much it costs"	3
No. 3	Would like to explore other rooms on the found	0
No. 3	Want more furniture to put stuff on	0
No. 3	Found the inventory buttons and market, work buttons very clear	0
No. 4 (Becky)	Puzzle should have more instructions in future	2
No. 4	Would have loved a game tutorial	3
No. 4	Do I need to physically put money in my wallet?	2
No. 4	Felt the marketplace was very clear	0
No. 4	Can I buy more than one product at a time?	3
No. 4	Wallet amount should be shown as you purchase, and should go down when you buy something	3
No. 4	"If this is all I have in my house right now, I need to go to the market and	1

User	Incident	Severity
	get a new desk and chair!"	
No. 4	Expressed wanting to buy decorations on top of technology	1

# Testing Script

Hi, thanks so much for your time and joining us today. I'm \_\_\_\_ and this is \_\_\_\_ and \_\_\_\_\_. Just to give you a little context on us, we're all in Designing Solutions for Global Grand Challenges together this quarter, and we're here to learn about how older adults approach technology education. This interview shouldn't take long and you're welcome to stop at any time.

Before we start, we're wondering if you are okay with us recording this interview and if you have any questions?

The purpose of this interview is to test a few interactions on a low-fidelity prototype for an app we are working on developing. Currently, these prototypes are simple hand-drawn sketches of what we imagine the screens of our app will look like, and the app we are working on is a game that aims to teach older adults about technology.

The premise is that you control a character who lives in a home and would like to install different types of technologies to increase their quality of life score. You can earn in-game coins by solving puzzles, you can use those coins to purchase technologies at the store, and you can install those technologies in your simulation home. These are the basic interactions that we would like to test through our low-fidelity prototypes!

To conduct this testing process, we will show the sketches through zoom. Pretend that these sketches are what you see on your iPad screen as if you are playing the game, and please tell us where you would click or go and we will click to update the screen for you. For example, this is the starting screen (show starting screen). If we click on the “start” button, you can see that the screen changes to take us to another screen. Does that make sense?

Great, then we can get started with the tasks we'd like you to complete.

Task 1: play a game to get coins

“Imagine you want to go to work to earn some coins to buy a new piece of technology. You come to the first screen and this is what you see. Try winning some coins and please talk aloud.”

Task 2: purchase an item & learn

“Imagine you want to buy a new piece of technology, maybe an ipad because that is something you have heard about. You come to the screen and this is what you see. Try buying an ipad, please talk aloud.”

Task 3: add to your home

“Imagine that you bought an Alexa yesterday and want to add it to your home now. You come to your home screen and this is what you see. Try adding the Alexa and please talk aloud.”

Alright \_\_name\_\_, thank you so much again for your time today! That was the last of our questions. Do you have any questions or anything to add? Do you have anyone else that would be willing to or interested in talking to us?