

ROOMMATE SIMULATOR

Financial Literacy Board Game



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01.

RESEARCH BRIEF

This research focuses on **middle school children ages 11-14** who are just now dipping their toes into what it means to be an economic citizen.

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Questionnaire:

Survey responses from 21 individuals from Reddit, Facebook, and LinkedIn platforms.



Interview:

Conversation based interviews with 4 middle school children and 2 adult parents.



Allowance codesign activity:

Children are given imaginary money ranging from \$5-\$1000 and asked what they would use that money for.



Lemonade stand codesign activity:

Children are given \$100 to start a lemonade business and asked to map out how they would split up the cost.

RESEARCH BRIEF: PROCESS

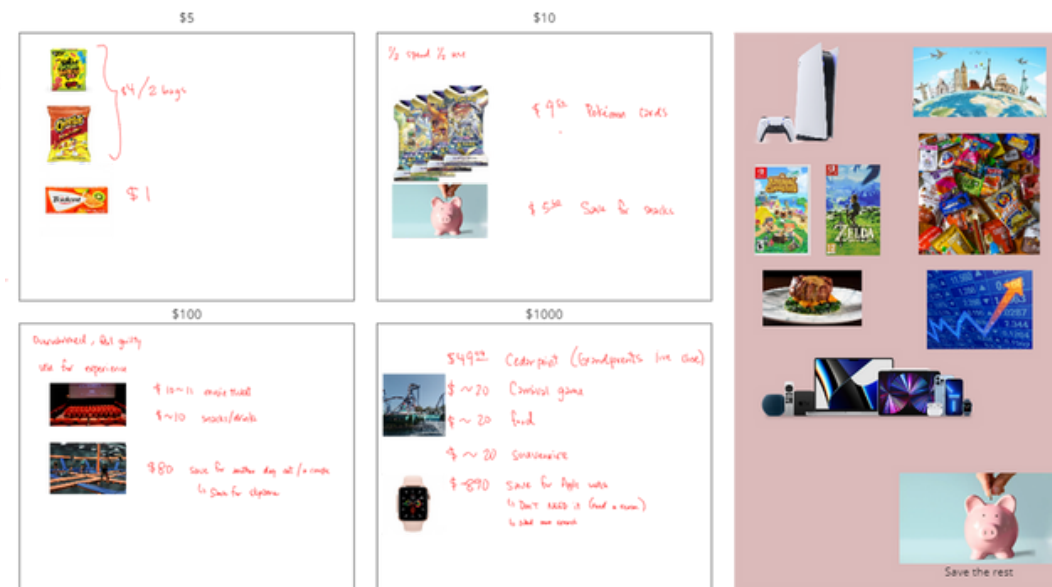
Co-design was conducted with 4 children and 2 adults. Documentation as shown here was done for each participant.

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Angel Zhang (8th grade)

- ↳ International Student from China
 - ↳ Not many places in China uses cash (not even card) Cash → mobile
 - ↳ Before mobile it was usually cash, card for large payments
- ↳ Parents own restaurant (works here, break: everyday 11am-8pm 600 per week, School: 2/3 days per month \$20 per day)
 - ↳ 20 y's old
- ↳ Doesn't really shop, 1-2 per year (phone & iPad)
 - ↳ Will not change as long as it works
- ↳ Spends as cash (\$2000+)
 - ↳ Plan to get Chase & Greenlight, classmates do
 - ↳ Sometimes check
- ↳ Has card under father's account (just started a year ago)
 - ↳ doesn't want her \$ in his card bc parents want her to learn to use her \$
- ↳ For large purchases, \$ deposited → mother → purchase iPad
- ↳ Parents have Keybank so she wants keybank (18 y's)
- ↳ Doesn't receive more allowance
 - ↳ In China, they would bc it's mainly study there (60m)
- ↳ Friends budget
- ↳ Parents trust her with her \$
- ↳ No financial literacy class
 - ↳ "Business" class 9th grade

Down below you are given a quadrant with each representing an amount of money you are able to spend. Please drag in from either the bank to the right or from external sources of how you might upspend the money. Please keep in mind how the context of the product or service you are placing your purchase into may affect its value. (example: if you buy a \$60 game just to play once, it will be a \$60 game, but if it's to play across 60 hours, each hour will become worth spent \$1)

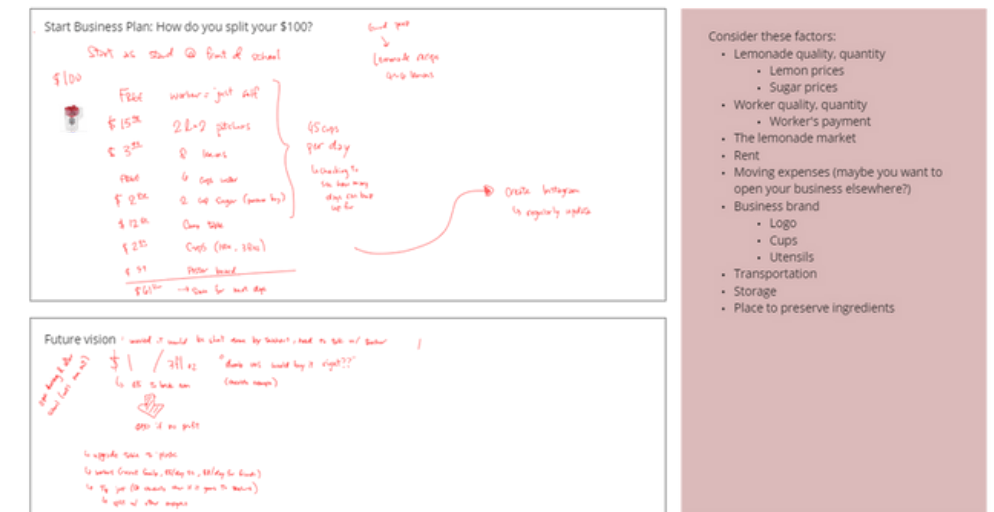


- ↳ Most is gone to spending time w/ friends (100+)
- ↳ Has a lot of fun time
- ↳ \$50 ~ \$10 used for self, \$100+ used for experience

Hypothetical Lemonade Stand: Hypothetically, you are a lemonade stand business owner. Your business has the potential to grow into a full sized lemonade store or it might go bankrupt if you are not able to set appropriate goals set with your team to ensure your quality quantity balance. Down below, you are given \$100 to start your business. How will you split up this money to eventually and hopefully make a profit? Below that, write how you think your business will grow from then on and goals you will set for yourself and for the team.

Keep in mind:

18.4% of private sector businesses in the U.S. fail within the first year. After five years, 49.7% have faltered, while after 10 years, 65.5% of businesses have failed. <https://www.lendingtree.com/business/small/failure-rate/#:~:text=Methodology,Key%20findings,65.5%25%20of%20businesses%20have%20failed>.



- ↳ Ground prep
- ↳ Causal but none of ignominious
- ↳ Free & often missing
- ↳ looked for consistent across demographic. Beauty
 - ↳ less apparent only if causal

Conversation Based Interviews

Allowance Activity

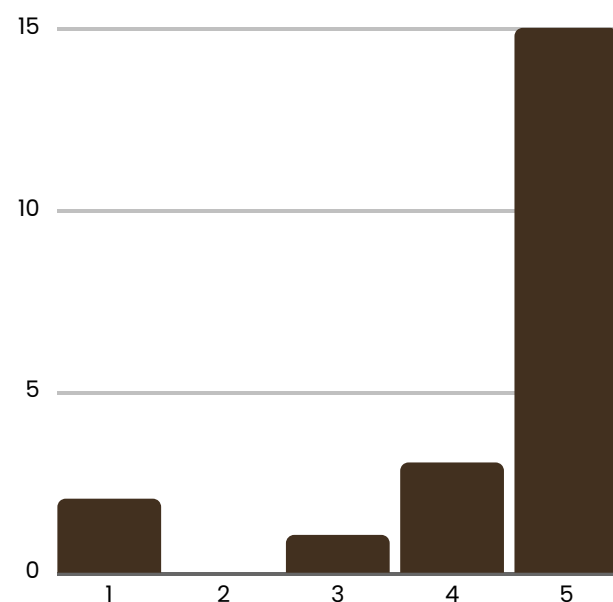
Lemonade Stand Activity

01.

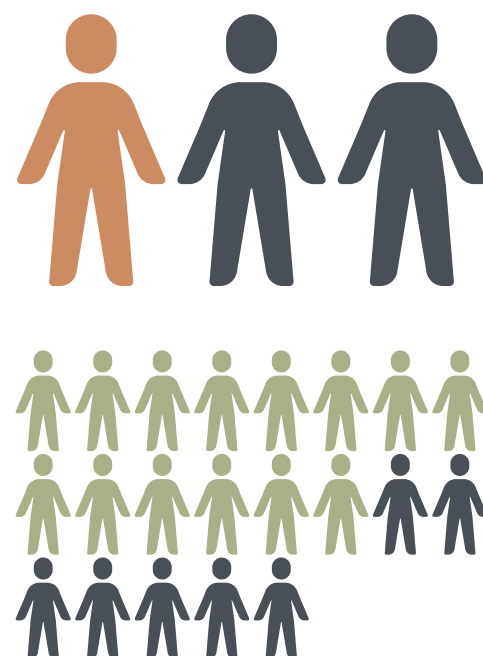
RESULTS & INSIGHTS

The main issue lies within children's lack of opportunity to experience **risk taking** and **managing their own budget**.

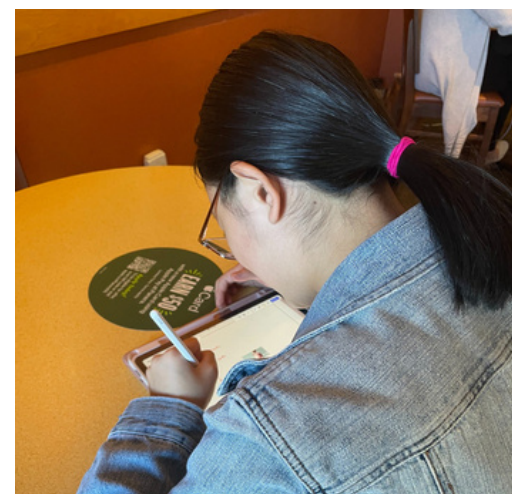
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According to responses (n=21) from a survey sent out on Reddit, Facebook, and LinkedIn, **71% of participants** recognized financial literacy to be a topic **absolutely necessary** in their children's curriculum at school.



However, only **1 in 3 participants** felt confident in their own financial literacy despite **67%** of them feeling comfortable covering these topics with their children at home.



According to a couple of codesign activities done with 4 children and 2 parents, children mentioned learning more memorable finance habits outside of the classroom.



Children either spent all of their money recklessly (50%) or spent little to no money at all (50%). Two participants emphasized their joy in seeing the amount of money go up when they save.

01.

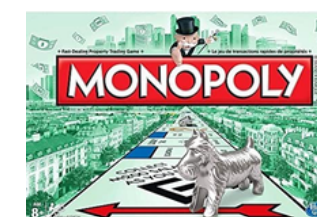
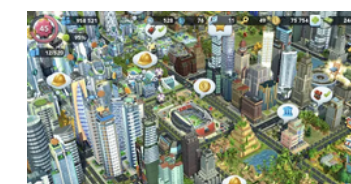
GAME TESTING

Noticing a wide range of games already available. Some are not advertised as a game to teach about financial literacy, but are effectively incorporating the same topics and are highly successful.

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- 43 min
- MACHI KORO**
- luck
long term planning
budgeting (start w/ only \$3)
- Take, gain (equality if 20)
limited opportunities
large scale purchases (train station, cafe, etc)
- Vivid colors
 - Curiosity, visuals don't give away the game
 - 2D fun vibe
 - Interested in something NEW
 - Directions: 3 only read 2x
not hard to understand
 - Images
 - Initial enjoyment level ~ 6: still learning, lots going on, not much reward in early rounds
 - Final enjoyment
 1. 6: only enjoyed bc won, very busy board, lots of opportunity, but no time to explore
 2. 7: less repeatability, becomes bored
 3. 8: can be replaced w/ other motorists, toward end it becomes harder bc more cards
 4. 8: no need to move by board
 - Risk
 1. Played aggressive brought lots of complaints
 2. Played aggressive brought lots of complaints
 3. Played safe
 4. Played safe

- 1h 20m
- start w/ LARGE sum (200k)
- household in realistic \$, school, job, house
- Fun tasks (dance, pose, air guitar)
- Don't
- College = higher base salary
- lots play
- not much interaction making it boring
- LIFE**
- Interactable (spin)
 - Lots of colors
 - Cover shows the story of game
 - Simple game, light hearted
 - Easily make & use 40k ~ 700k (deals w/ 10k ~ 500k)
 - Unrealistic salary & story (don't use \$ for living children)
 - Choice of career
 - Lots of time between each players turn P2 got bored
 - Game trajectory decided 30min in → Bored
 - Feels corporate
 - Initial: 6 VERY luck dependent, too easy to make & lose \$
 - Final:
 1. 2 Very bored, wanted it to just end but it dragged
 2. 5 a lot of \$ through game felt good, but couldn't use it
 3. 4 got bored, similar game play, no skill
 4. 4 too luck based
 - Risk: overall no choice, played safe bc luck & can't rely on luck

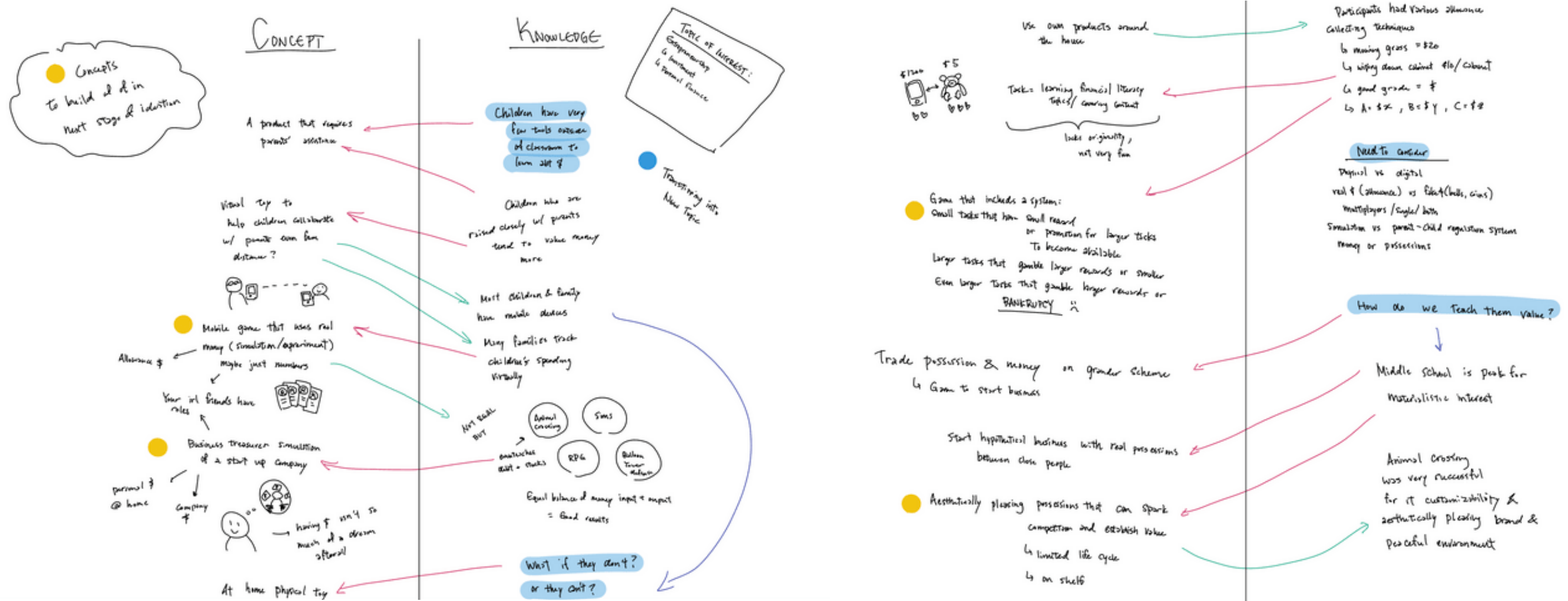


02.

CK MAP

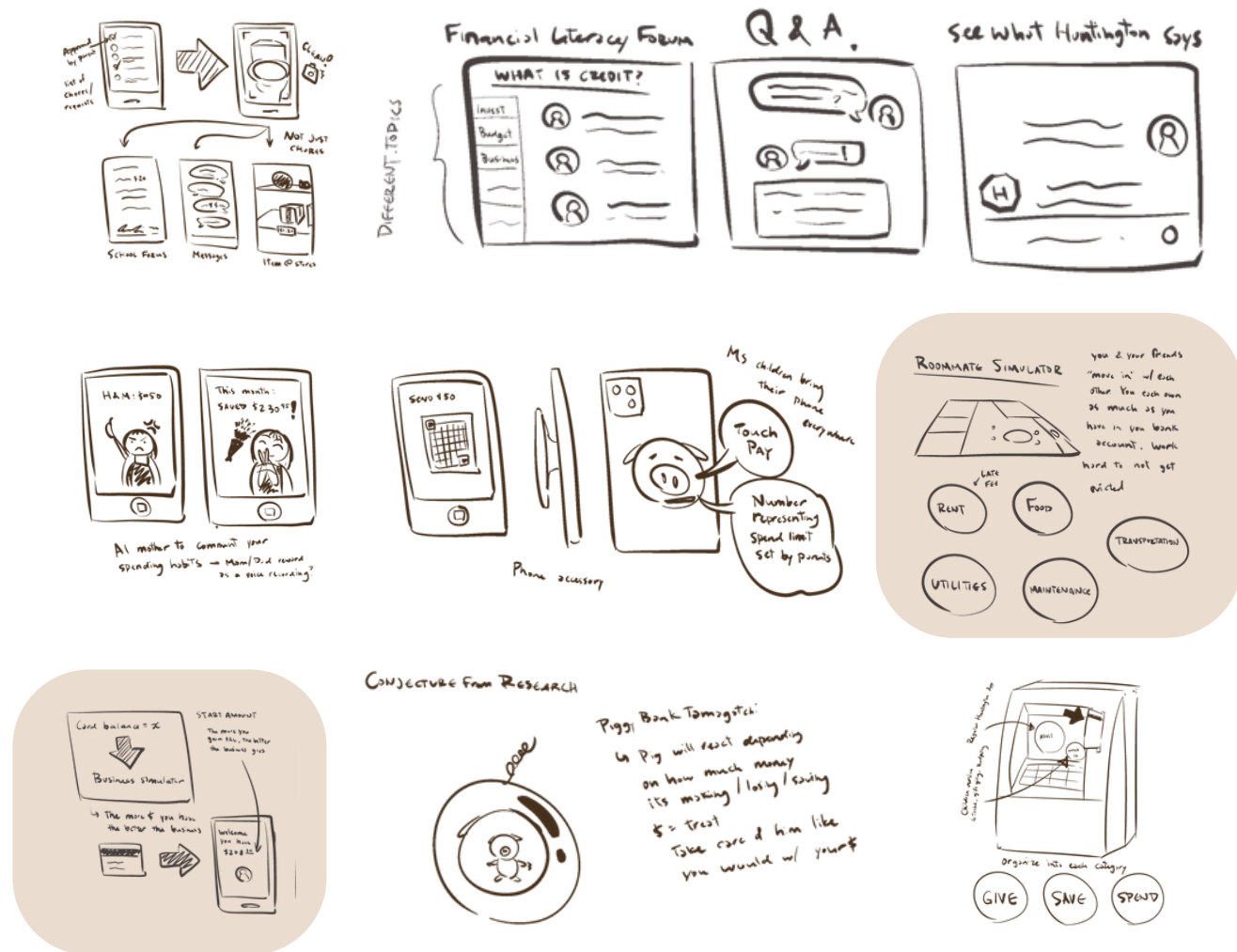
The research is brought into the knowledge section of this tool. Several project directions and questions arose as a result of this process to help move onto the next step.

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IDEATE

Generating ideas focused on the two essential lessons: risk taking and budget management. Thinking about longevity and the effectiveness of **collaboration**.



Roommate Simulator (mobile app)

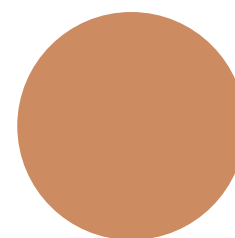
Thinking about the extent of risk and budget management along with relatability factor, an app that both provides an experimental platform to test hypothetical money and to manage personal funds moves forward.

02.

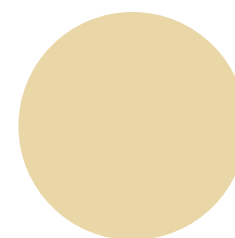
COLOR PALETTE

Looking at different **trending color palettes** and discussing with participants through the most suitable options.

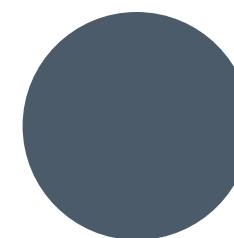
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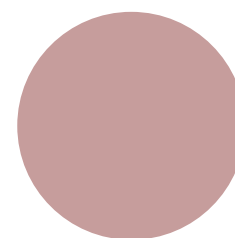
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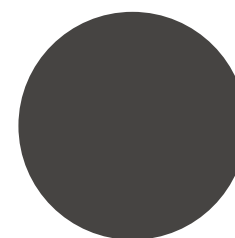
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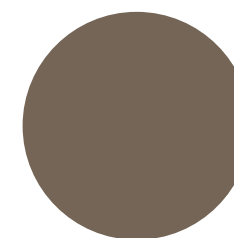
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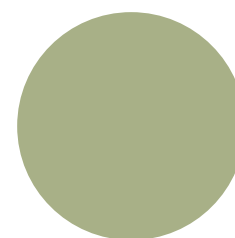
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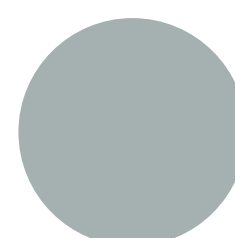
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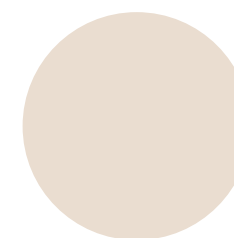
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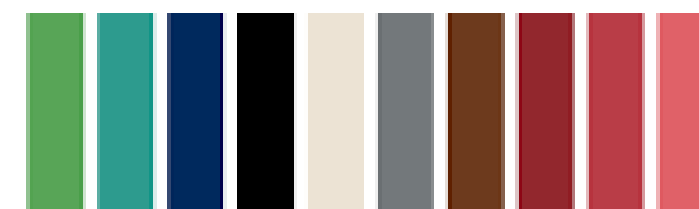
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02.

ARTISTIC STYLE

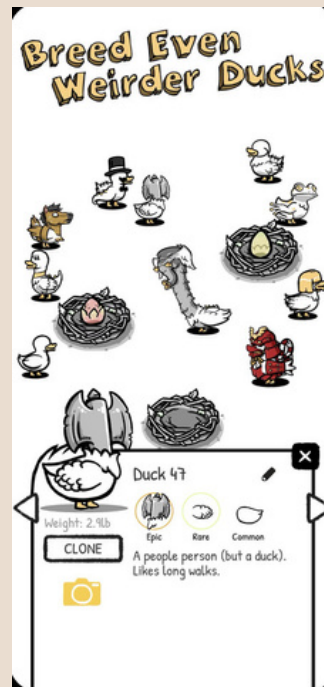
Looking at different trending art styles catered toward middle school children. Looking at aesthetics of top trending games in the **app store**.

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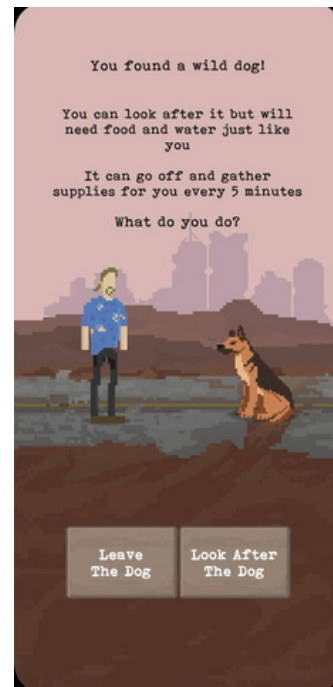
Survivor!.io

Geometric
Thick contour
Saturated color scheme
Dynamic interface



Clusterduck

Simplistic
Bland background
Detailed characters
Handdrawn style



The Wanderer: Post-Nuclear RPG

Pixel graphics
Flat, 2 dimensional
Desaturated color scheme
Word heavy

Hello Neighbor

Rigid edges
Drastic lighting
Floating action symbols



Turmoil

2 dimensional with depth
Desaturated color scheme
Little to no contour



Sim City

Busy Environment
Wide view
Saturated color scheme
Small interface



03.

GAME COMPONENTS

Mapping out the required components to carry out the game.

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The House

4 different rent and size options participants are able to choose from.

Game Money (\$1-\$10k)

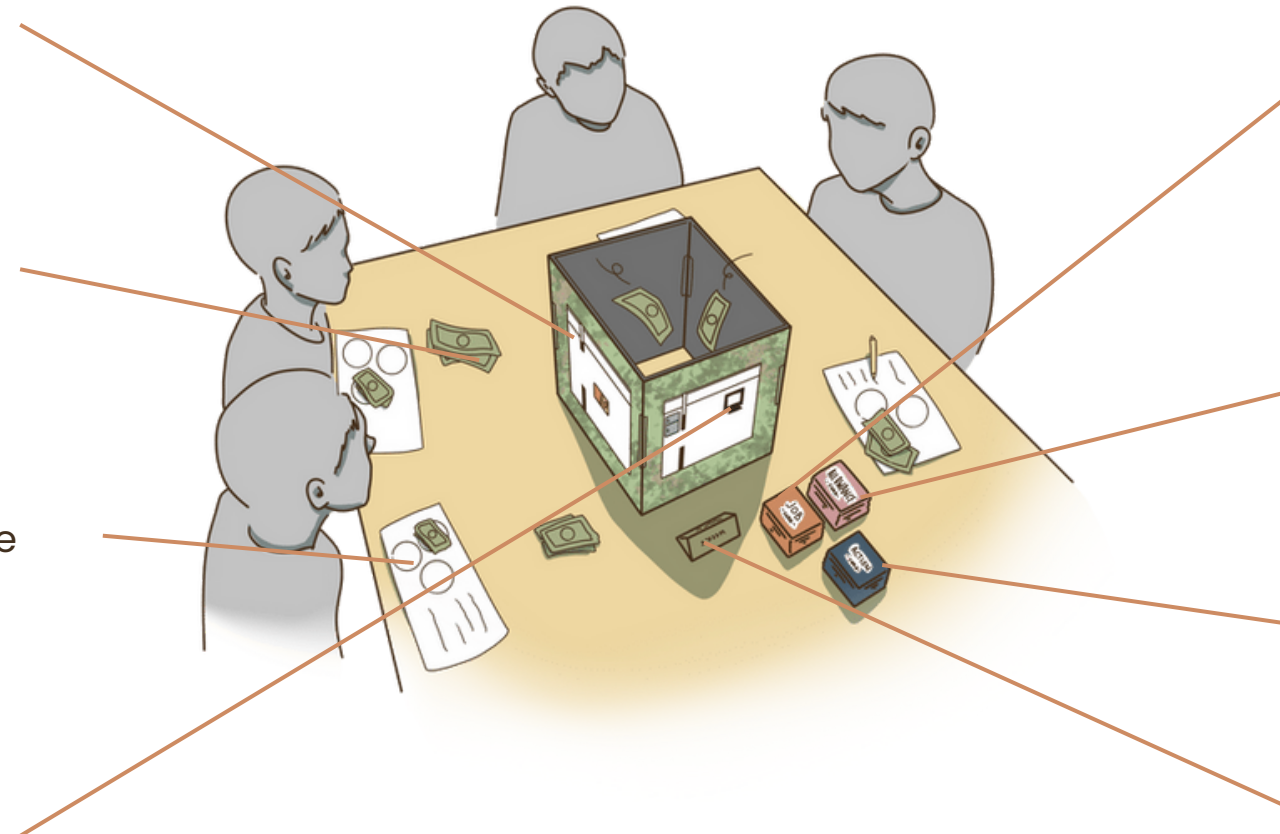
Participants will throw money in the center when paying for bills.

Budget Sheet

Participants will grab a piece of paper and draw 3 circles to organize their spending between rent, home décor, and leisure activities.

Home Decoration

Participants will purchase furniture and other items to decorate their room.



Job Card (★-★★★★)

Draw a job card for a consistent income. The lower the stars the lower the pay.

Allowance Card

Draw an allowance card to attend school for a chance of a higher paying job.

Action Card

Draw an action card for some fun events between roommates.

Weekly Calendar

Flip to reveal next due date and present progress throughout the game

03.

GAME RULES

3-6 players can play and the game is estimated to last 30min-1h.

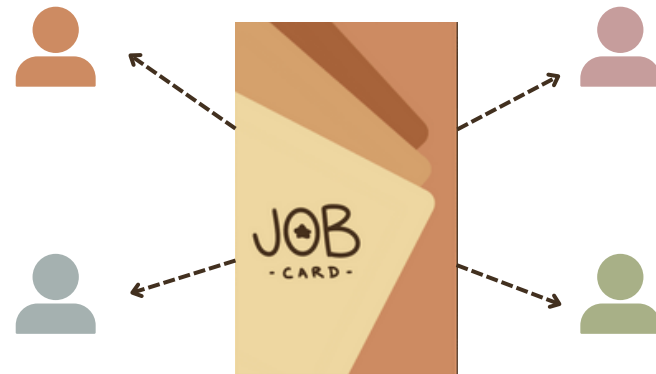
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01

Setting up the board



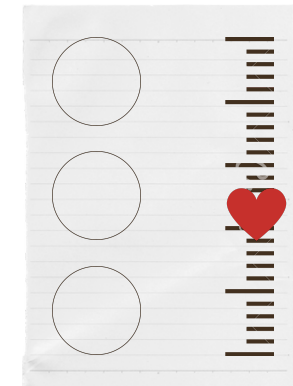
All players start with \$1000.



Each player will start the game will start the game off with a minimum wage job (★).



They will then collectively decide on a house they want to live in. Each house requires diferent amounts of rent and provides different amounts of space for decoration.



Set up budget sheet. This will be a place to both categorize the players spending and measure your happiness level throughout the game.

03.

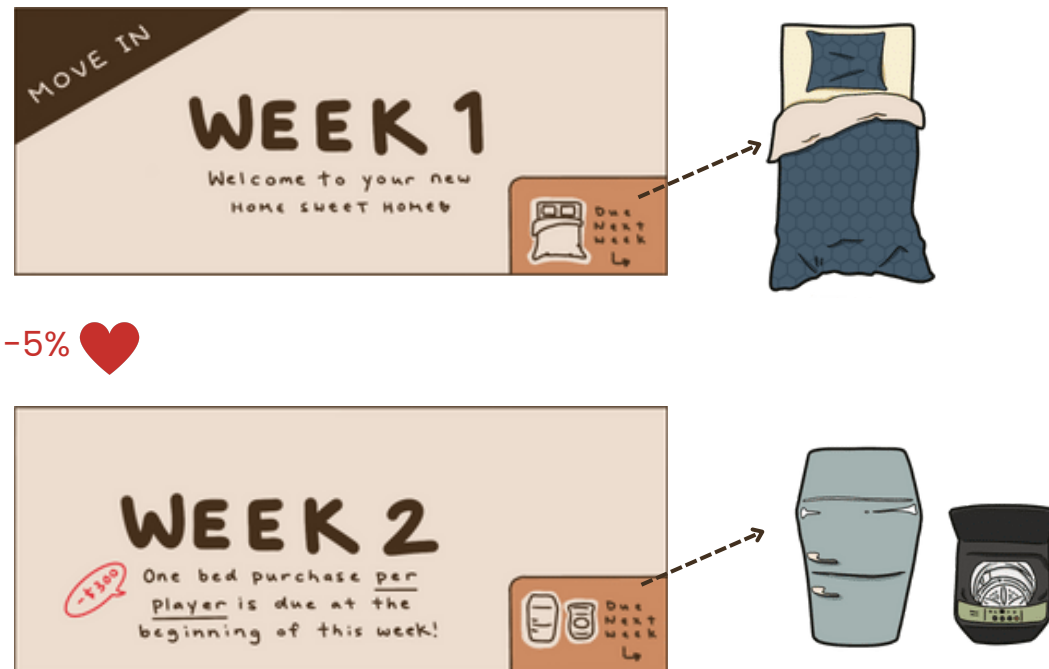
GAME RULES

3-6 players can play and the game is estimated to last 30min-1h.

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02 First few rounds

-5% ♥ Happiness level will also go down 5% every round.



Notice that a bed is due next week. For the first couple of weeks, players will have some expenses to cover as a way to simulate settling into a new home.

03 End of each month



At the end of each month, rent is due. Players are also given the option at any given time to go to school for a chance of a higher paying job. If players choose to go to school, they will discard their job card and pull an allowance card.

03.

GAME RULES

Winning and Losing game conditions.

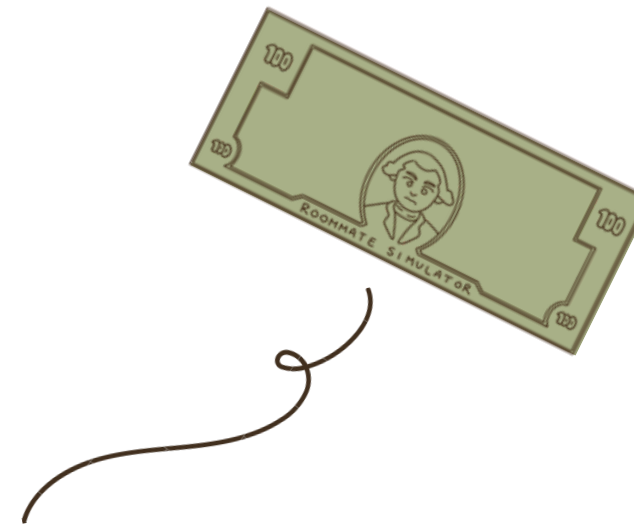
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Winning Condition



Players win if EVERYONE survives all 16 weeks without getting evicted.

Losing Condition



If any player goes into debt.



If any player's happiness reaches 0%.

03.

GAME RULES: WIP

Finalizing the rules requires a lot of trial and error. Below is the documentation of the changes that occurred throughout the weeks.

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Formative Assessment of own

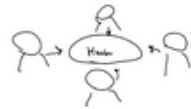
- ↳ Your own interest fits
- ↳ Fun factor why they would use it
- ↳ Use those references
- ↳ Concept first
- ↳ Compare V&L to research



Parameters Simulator
X Age: younger play roughly / in person
Round Game: 4-8 players (hard to get people?)
↳ Time
↳ Space
Card Game: 4-8 players (hobby?)

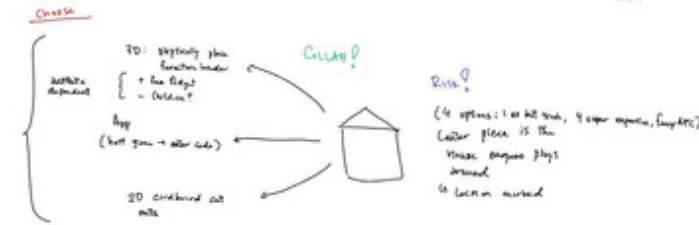
Game Components
40 rounds? TEST!

The game: Your goal is to survive 12 months in the shared apartment.
During these months you will be responsible for covering certain expenses while also enjoying your stay.



Central House Component (x4)
↳ Shack (\$100/mo) +100 pot + maintenance, utilities, ...
↳ Apartment (\$1000/mo) +1000 pot + maintenance, ...
↳ House (\$2000/mo) +1000 pot + maintenance, ...
↳ Mansion (\$8000/mo) +1000 pot + maintenance, ...

Place to pay bills



They will pay for
↳ Housing
↳ Furniture
↳ Food → Food distribution (1 month) + delivery \$200
↳ Laundry machine in study (2 months) + delivery \$200
↳ Fridge → Fridge (2 months) + delivery \$200
↳ Rent (every 4 months they will pay)
↳ Maintenance (every 4 months will need to pay)
↳ Utilities
↳ Internet

If player picked a card that's not allowed
↳ Pick up another allowance card
↳ Pick up a job card
↳ Pick up a job card
↳ Pick up a job card
↳ Pick up a job card

How many months until they can get a degree? → Depends on length of game
Should they be able to change to school? & stop it?



Choose
1. Each player brings in their 1x \$/bank account to start playing
↳ Encourage kids to run \$ for next round
↳ Each game will be different
↳ Might create unfair competition between money/for kids
↳ Make them more aware
↳ Allow them to be aware of their balance
2. Shuffle Cards & give out → amount of your starting \$
3. Take \$ pot out only in the start of the game

Change up every 4 rounds (w/month)
Pick a card to decide allowance
↳ Take → \$x
↳ \$x per y round

03.

RUNNING THROUGH THE GAME

Putting the initial rules into testing. Gathering 1 middle school participant and 4 college students to think about what they like/don't like & to see the effectiveness of the lessons implemented.

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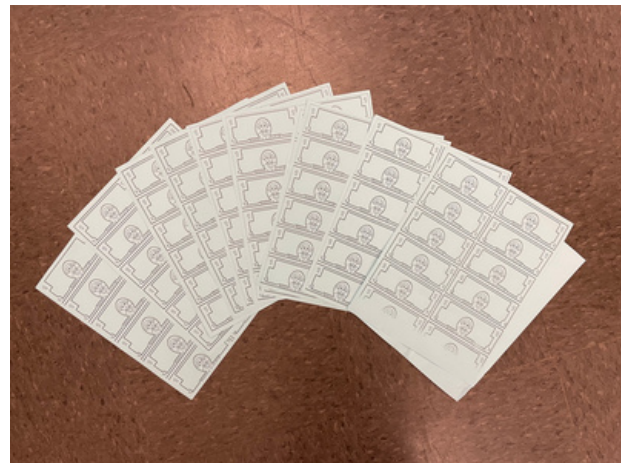
Successfully encouraging participants to juggle their responsibilities with a balanced system of reward for safe budgeting or calculated risk taking. Participants enjoyed the roleplay aspect of the game and had continuous discussions about each other's living habits.

04.

PRODUCTION

Illustrations are printed and applied to different production processes.
Lots and lots of failed trials.

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Printing error, dirty metal specs causing prints to have smudges.



Overall, major success. Some round edges malfunctioning.



Printing errors, laminating errors, dull knife, flaky edges, human error, etc....



05.

ALL CARDS

Total of 44 cards

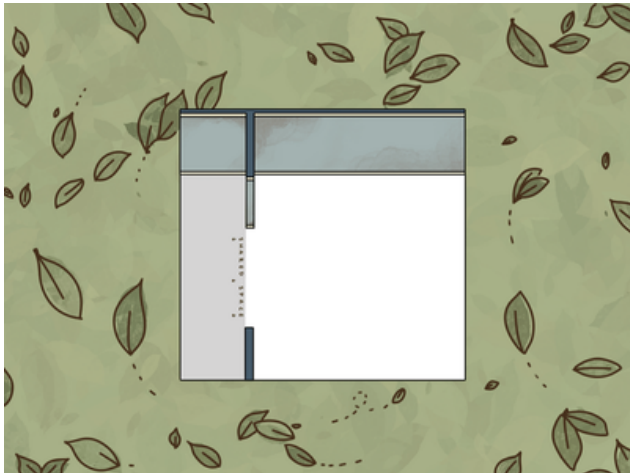
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05.

HOUSING OPTIONS

4 housing options with 6 panels available for each house.

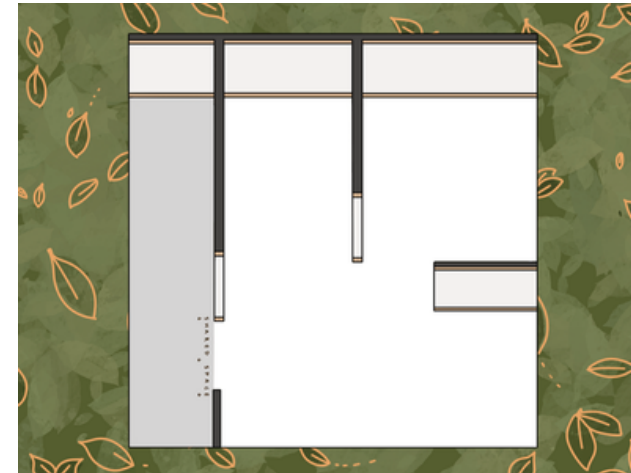
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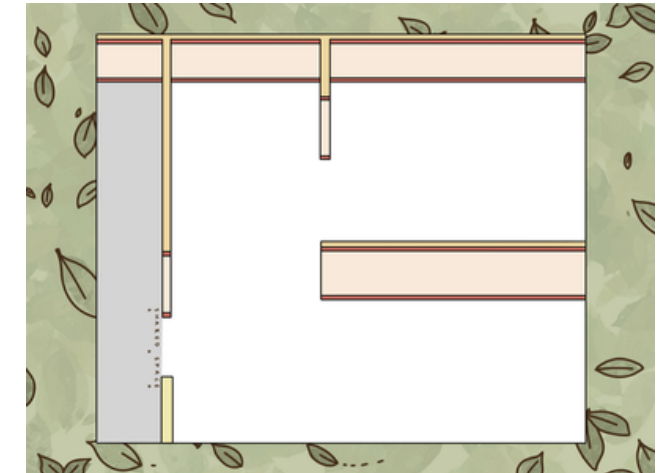
Rent + Utilities: \$400/month
Pet: +\$10/month



Rent + Utilities: \$1000/month
Pet: +\$50/month



Rent + Utilities: \$2400/month
Pet: +\$100/month



Rent + Utilities: \$9000/month
Pet: +\$200/month

05.

HOME DECORATION

Different decoration players can add to their homes and the prices of each piece.

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05.

GAME MONEY: CLOSE UP

George Washington bills printed with colored paper

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05.

WEEKLY CALENDAR

The calendar will be flipped each week to reveal any requires funds due the upcoming round.

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WEEK 1 Welcome to your new HOME SWEET HOME!  Due Next Week	WEEK 2  -1300 One bed purchase per player is due at the beginning of this week!  Due Next Week
WEEK 3 A laundry machine and a fridge are due at beginning of this week! Discuss how you want split!	WEEK 4 3 MONTHS LEFT!
WEEK 5 Congrats! You got through the first month! You now have the choice to go to school! To go to school, discard your JOB card and pick up an ALLOWANCE card!	WEEK 6
WEEK 7	WEEK 8 2 MONTHS LEFT!

WEEK 9	WEEK 10
WEEK 11	WEEK 12 1 MONTH LEFT!
WEEK 13 3 WEEKS LEFT!	WEEK 14 2 WEEKS LEFT!
WEEK 15 1 WEEK LEFT!	WEEK 16 MOVE OUT

05.

FUTURE OPPORTUNITIES

This project is not over yet.... Here are some next steps for a finished look.

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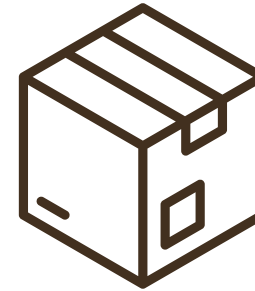
Card Remake:

To make a cleaner finish for the cards, the designs will be sent to a card making company to make.



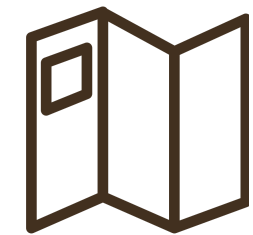
House Redesign:

The house design will be updated to become more intuitive for a greater audience.



Packaging Design:

A package to nest all components will need to be designed and produced.



Rule pamphlet

A pamphlet that illustrates all components and rules will be designed and printed for players to look through.