

MORA

Low-fi Prototype
and Test



MORA

More amusement. More acquisition. Mora.

PROBLEM & SOLUTION

The value proposition of Mora is to save the **language learner** of all levels who loves watching TV and movies from the tedious, decontextualized language learning techniques of old.

Mora is a companion for streaming which **interrupts** your watching with **live language lessons** and links to an app which summarizes your stats, **curates** review material for your favorite shows, and **connects you to interest-based communities** of language learners to bond and/or **compete** live with.

OUR TEAM



BRYANT

Senior
Computer Science



CANDY

Senior
Urban Studies



LULU

Junior
Computer Science



TOMMY

Junior
Undeclared

TABLE OF CONTENTS

01

CONCEPT SKETCHES

Phone, Tablet, VR

02

KEY SCREENS

Phone and Tablet

03

TASK FLOWS

Simple, Moderate,
Complex on the Phone

04

PAPER PROTOTYPE

Testing Our Design

01

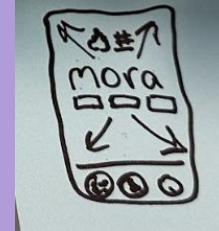
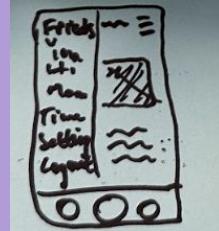
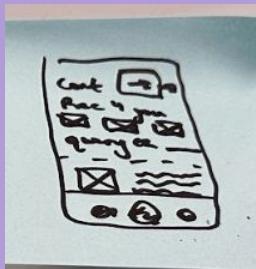
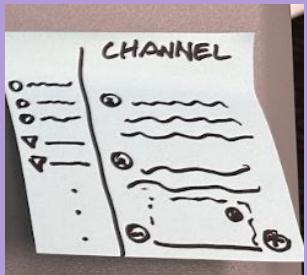
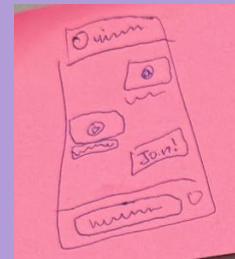
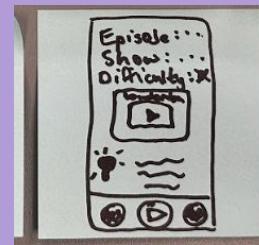
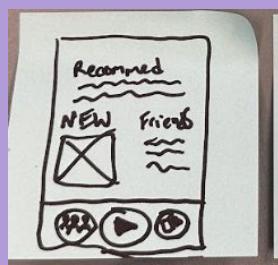
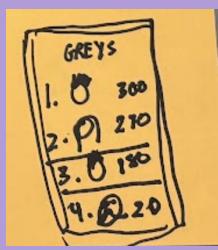
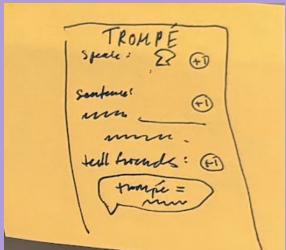
CONCEPT SKETCHES

Phone, Tablet, VR



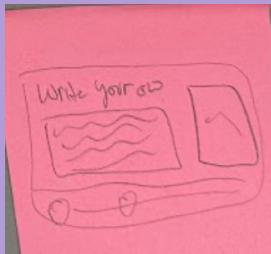
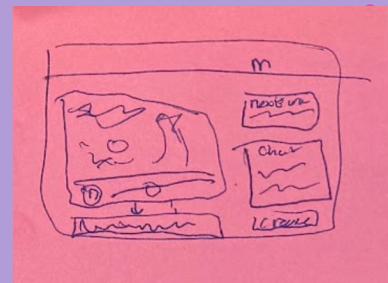
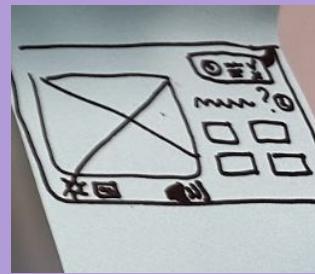
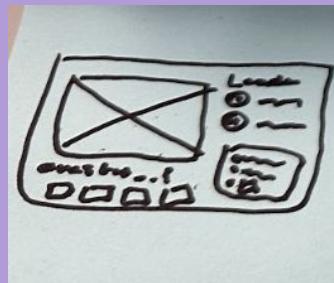
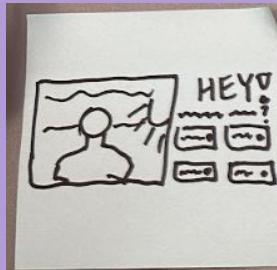
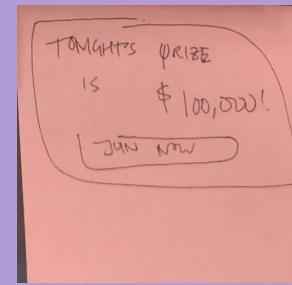
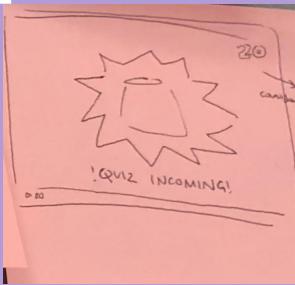
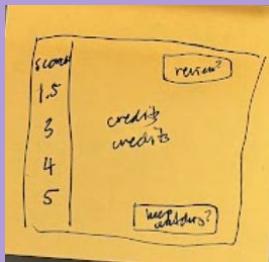
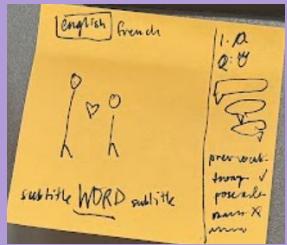
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PHONE



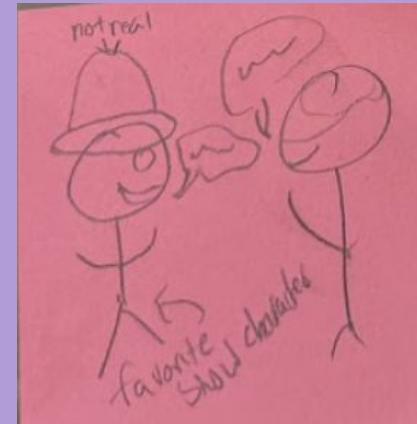
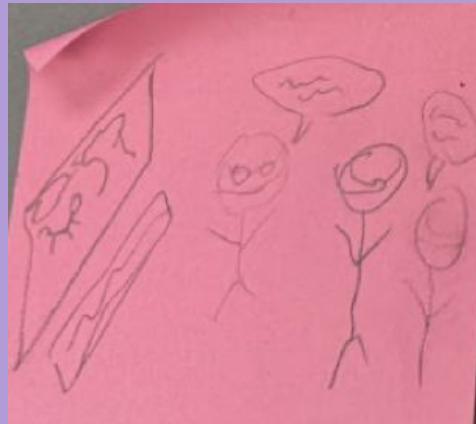
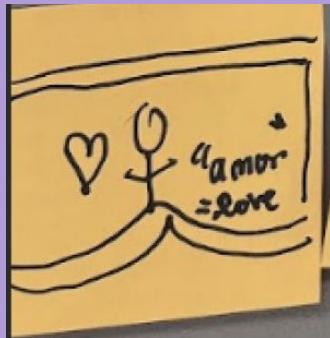
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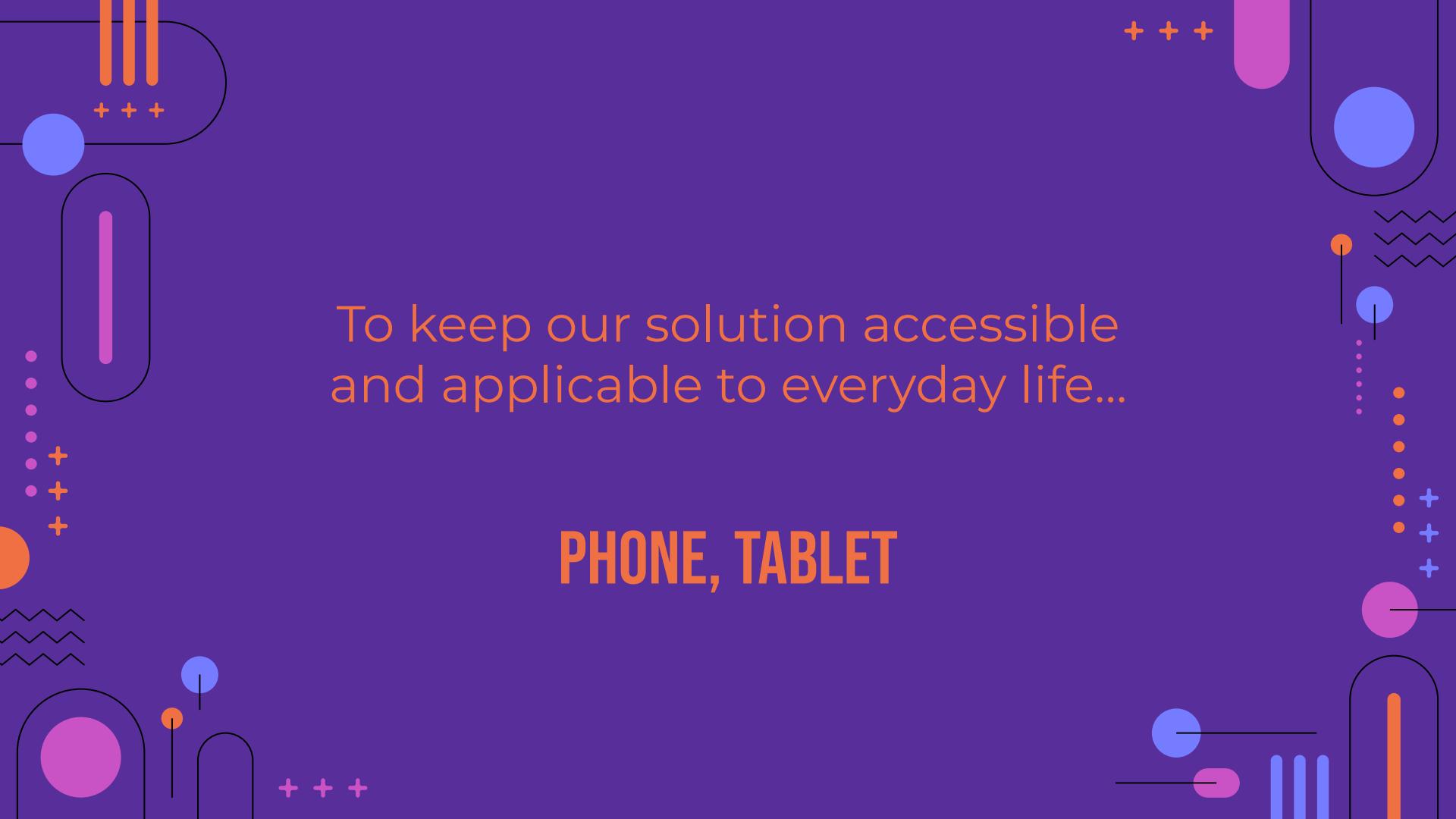
TABLET



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VIRTUAL REALITY





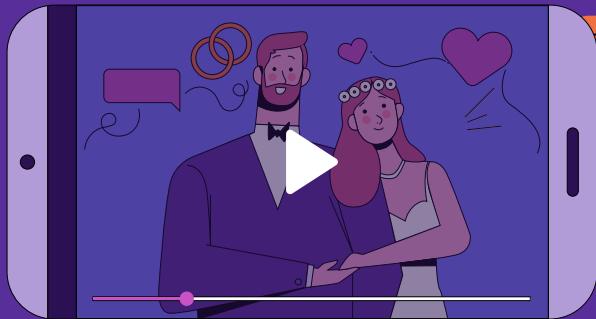
To keep our solution accessible
and applicable to everyday life...

PHONE, TABLET

02

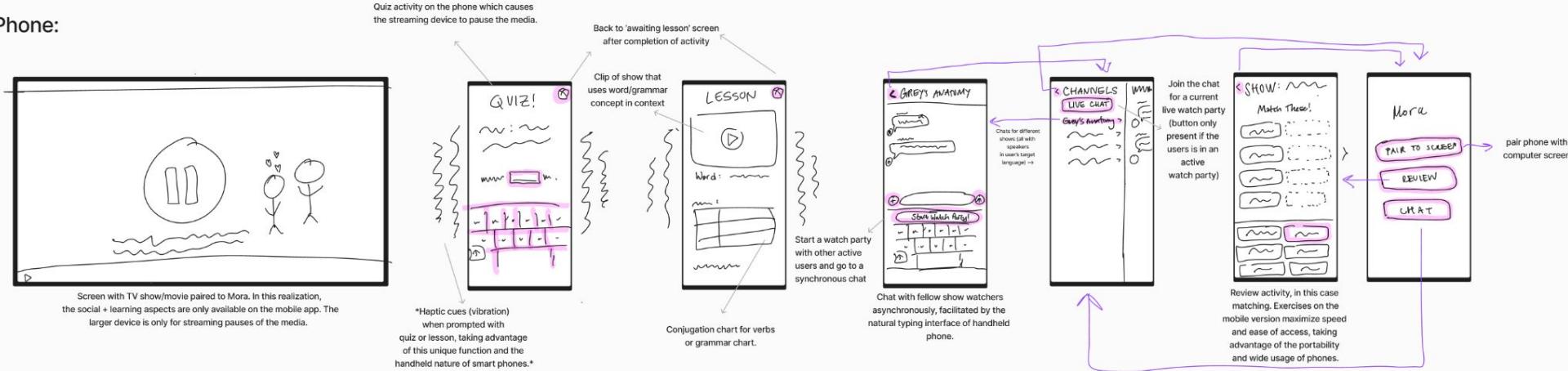
KEY SCREENS

Fleshed Out Phone, Tablet



PHONE

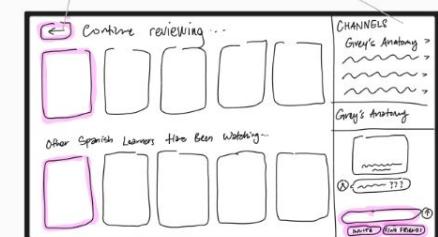
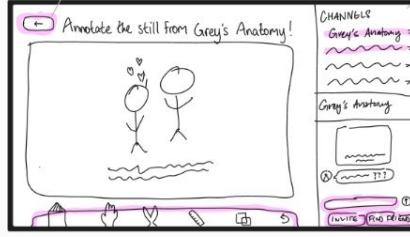
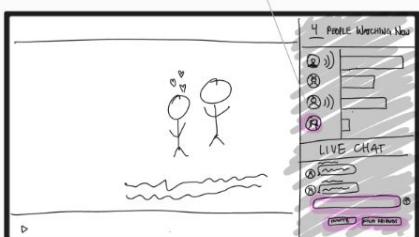
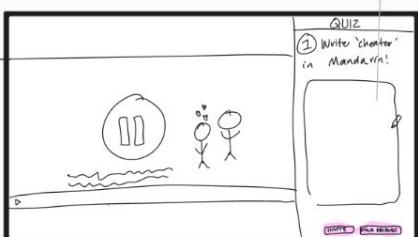
Phone:



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TABLET

Tablet:



MAKING A DECISION



PHONE

PROS

- Portable and natural for users to grab
- Typing (to chat) is easy
- Multiple users can pair to same screen

CONS

- Smaller screen for learning experience
- Users who want to learn languages with handwritten characters are excluded

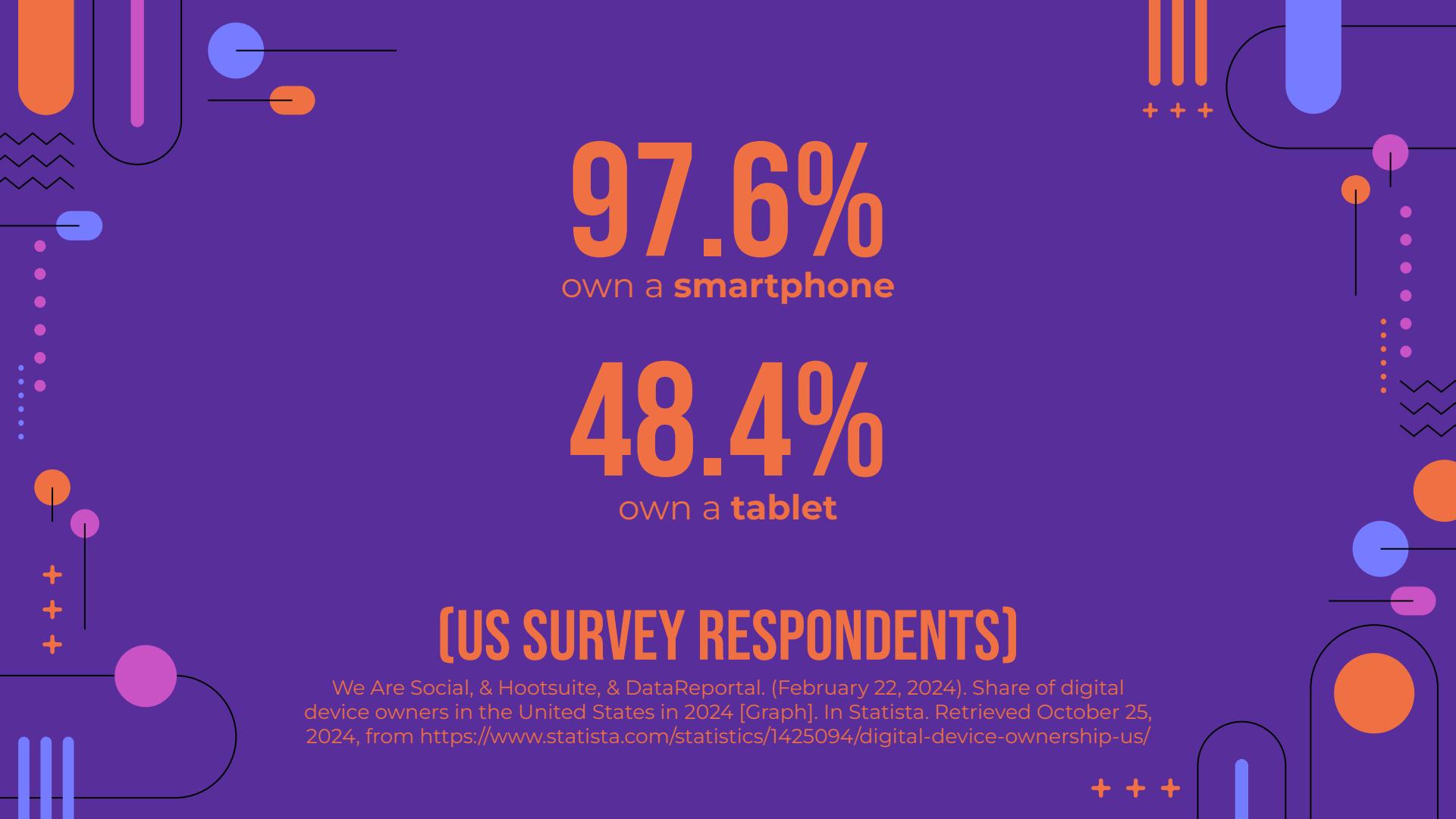
TABLET

PROS

- Users only have to focus on one screen to see everything
- Users can hand-write
- More innovative learning experience with more screen space

CONS

- Less people own tablets – excludes learners of lower socioeconomic status
- Tablet is less portable, limiting asynchronous learning



97.6%
own a **smartphone**

48.4%
own a **tablet**

[US SURVEY RESPONDENTS]

We Are Social, & Hootsuite, & DataReportal. (February 22, 2024). Share of digital device owners in the United States in 2024 [Graph]. In Statista. Retrieved October 25, 2024, from <https://www.statista.com/statistics/1425094/digital-device-ownership-us/>

Our Choice:

PHONE

WHY PHONE?

We want Mora to be accessible to users regardless of socioeconomic status.

We want Mora to be a tool you take everywhere that is natural to use in your downtime.

03

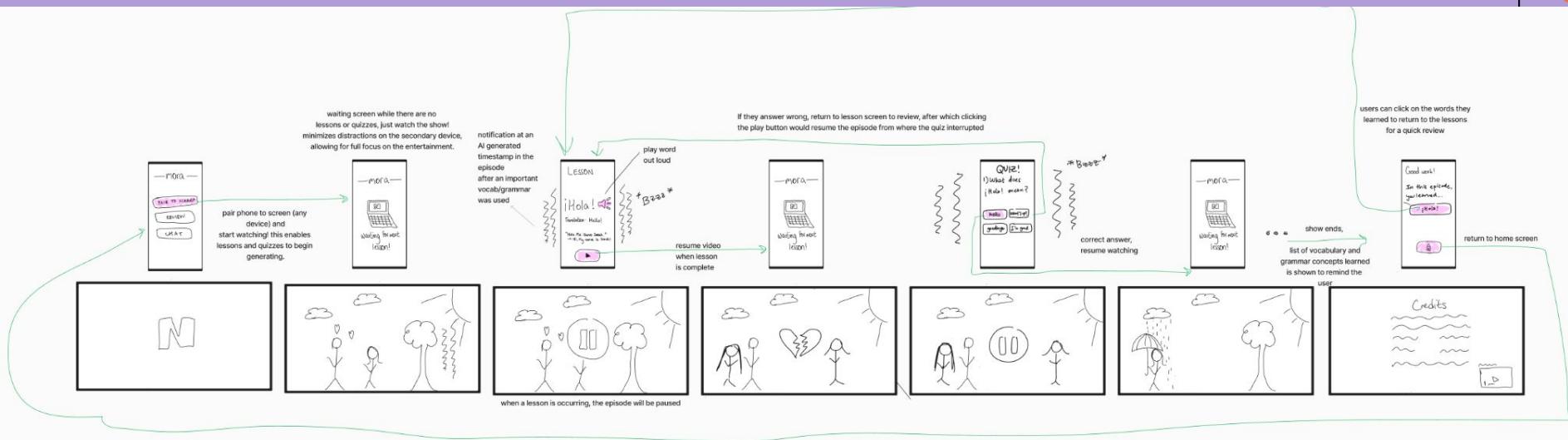
TASK FLOWS

Simple, Moderate,
Complex



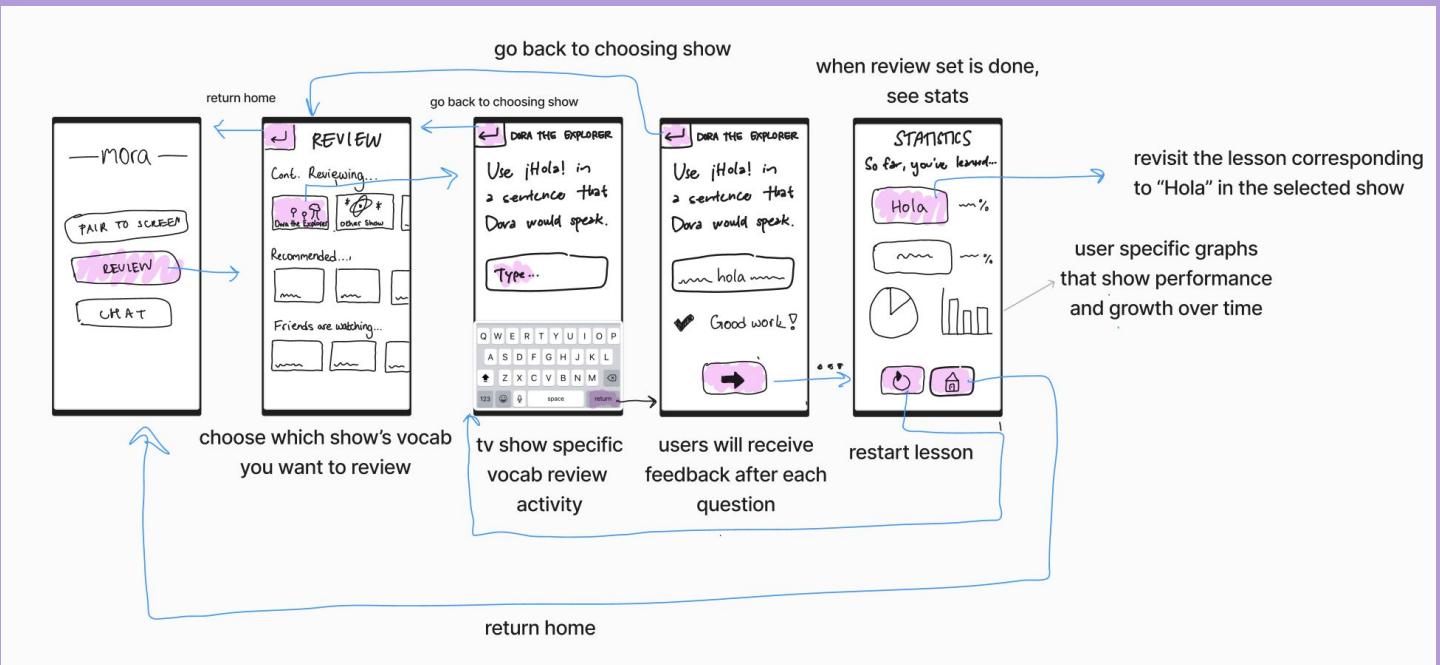
SIMPLE TASK:

Engage with entertainment of choice and learn from the interactive lesson.



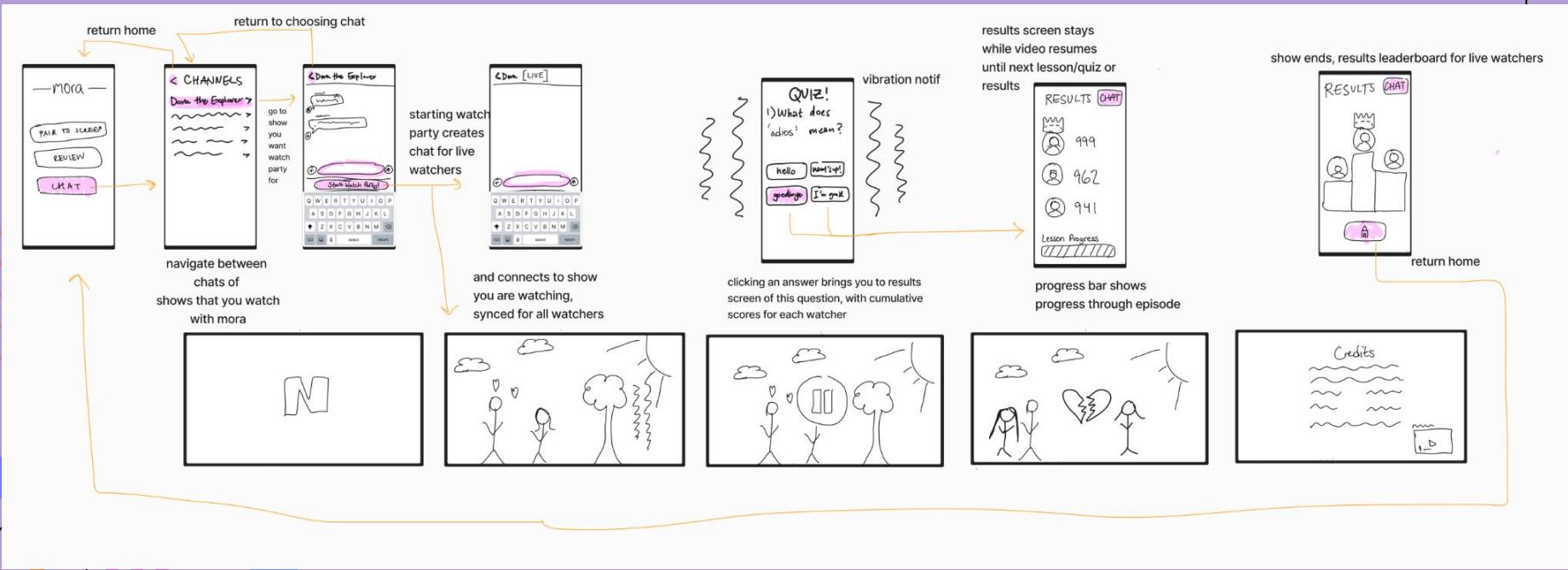
MODERATE TASK:

Review previously seen material through in-app practice.



COMPLEX TASK:

Organize a synchronous, optionally competitive watch party for your media-language community.



03

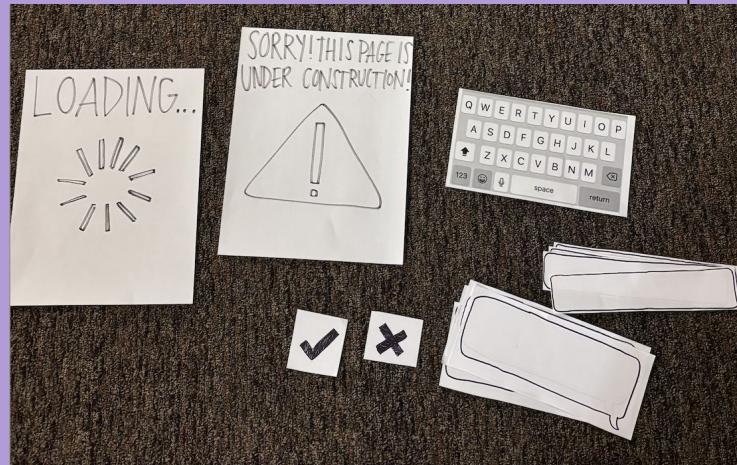
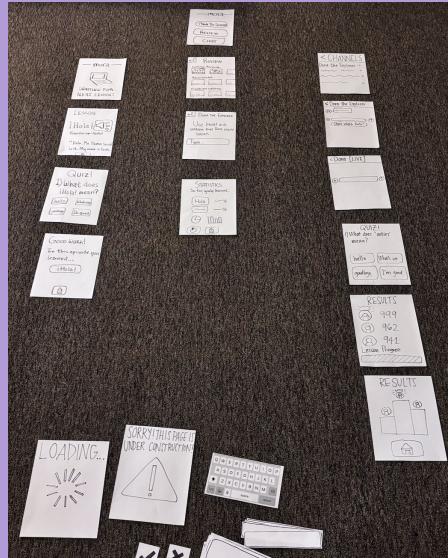
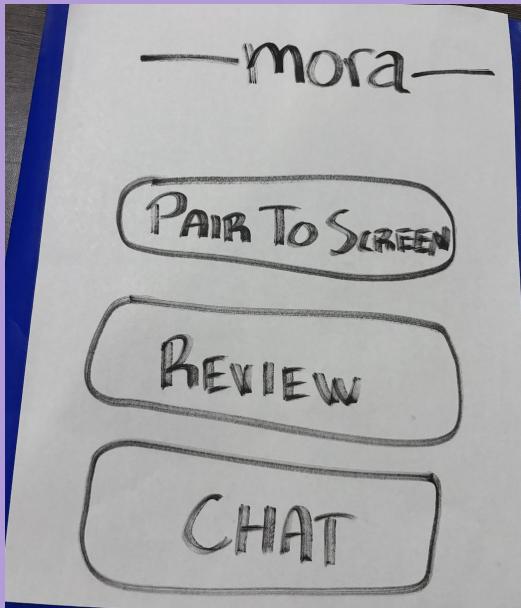
PAPER PROTOTYPE

Construction, Testing, and
Results



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CONSTRUCTION



TESTING

Participants, Prototype, Procedure, Goals



PARTICIPANTS



TONY

A mid-40 year old stay-at-home father here for his wife's Stanford reunion.

VANESSA

A former legal professional who watches international TV.

BLAINE

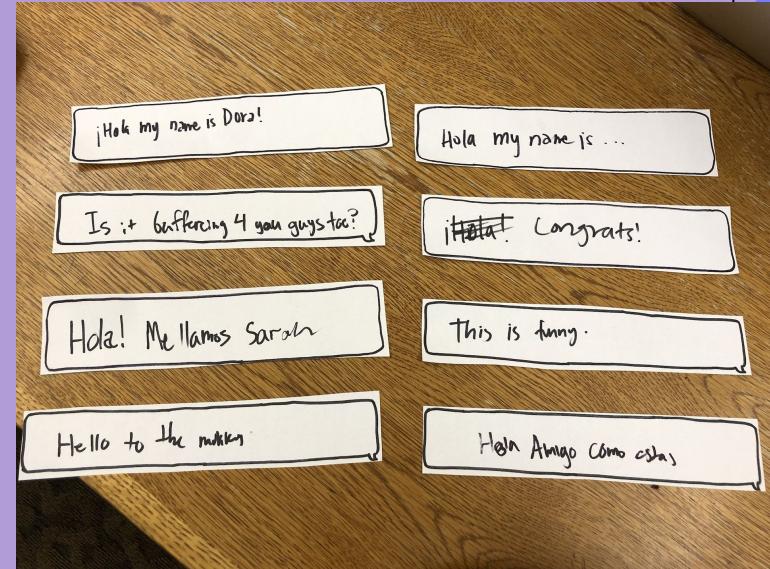
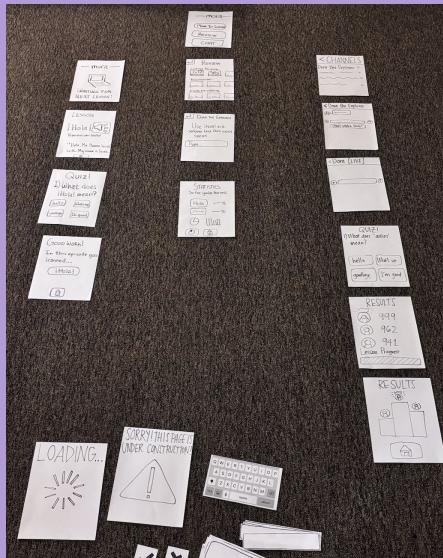
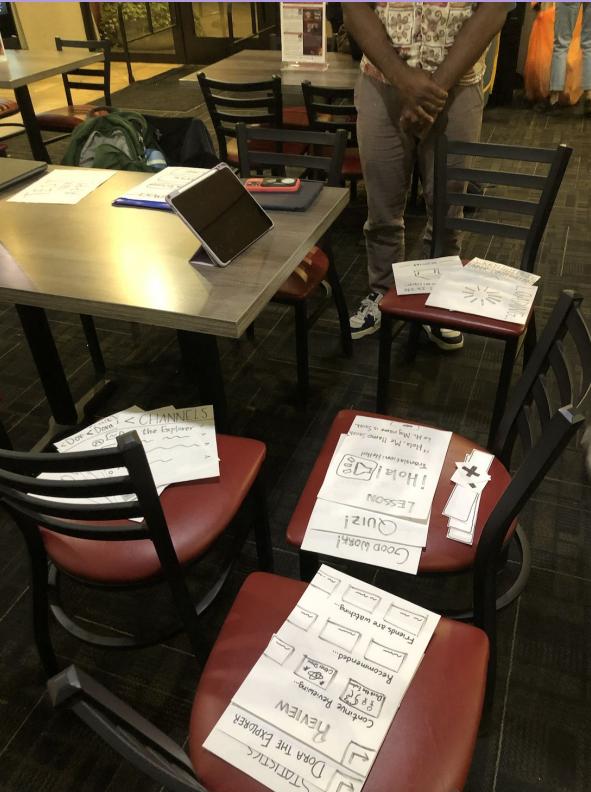
A civil engineer in his late 20s who immigrated from China.

BILL

A campus security guard in his mid 60s who picks up languages on the job.

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PROTOTYPE



PROCEDURE

Use the Mora app to complete our 3 tasks while watching clips of Dora the Explorer*.

* chosen to be accessible to any level of user.

PROCEDURE

Facilitator: (Lulu/Tommy)

1. Introduce the basic concept of Mora
2. **Demo** the mechanisms of a paper prototype
3. Explain the goal of a task
4. Ask the participant to achieve the goal while **thinking aloud**
5. Ask for feedback generally and on **metrics** after each task and at the end

Notetaker: (Tommy/Bryant)

1. Track **misclicks**
2. Note any **critical incidents**
3. Transcribe **feedback** from and thoughts of the participant

Computer: (Candy/Bryant)

1. **Replace paper screens** as buttons are pressed
2. Transcribe **chats** the user wants to send
3. Emulate **haptic feedback** with sound effects and shaking the screen
4. Control the **video** that the participant is watching while using Mora

GOALS & METRICS



FUN VS AVG LANGUAGE LEARNING

1-5

(1: much worse, 3: same, 5:
much more fun)



EAGERNESS TO USE APP (GENERALLY AND EACH TASK)

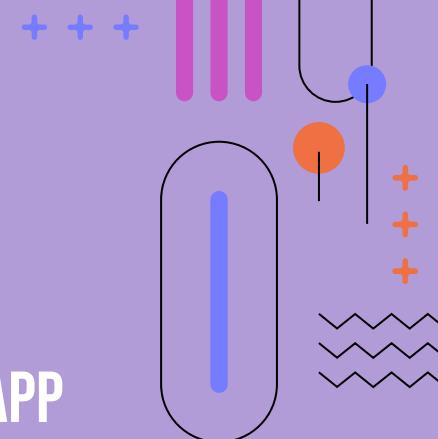
1-5

(1: disinterested, 3: neutral,
5: super interested)



INTUITIVE NAVIGATION

misclicks per task



RESULTS!

CRITICAL OBSERVATIONS

- All users did not initially understand the **pair to screen** button
- Vanessa and Bill could not identify **arrow buttons** as a way to move forward
- Vanessa, Bill, and Tony wanted Dora to **speak only in the target language**
- Vanessa and Bill both incorrectly thought that the **lesson screens were interactive** and tried to click them
- Tony **quit** the app out of disinterest

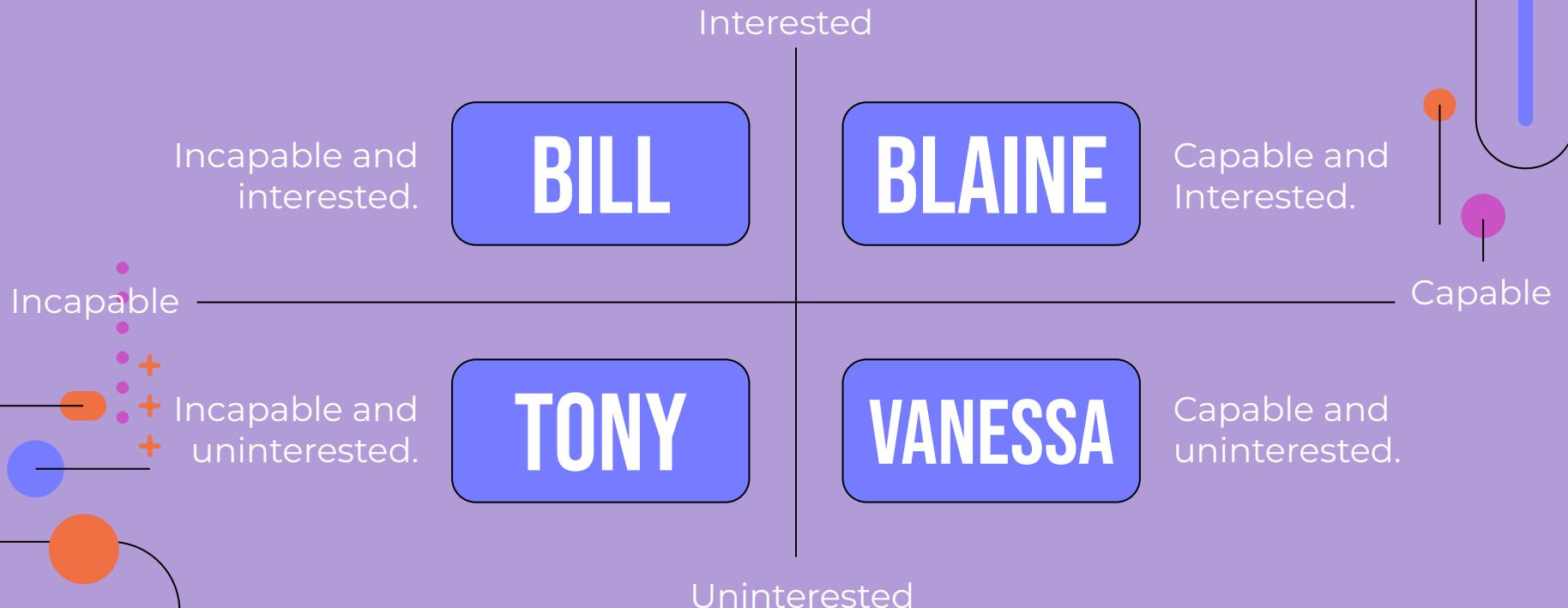
GENERATIVE OBSERVATIONS

- Vanessa and Bill **spoke out loud** while reading the lesson
- Blaine loved the **examples** of how to use the words
- Vanessa and Blaine frequently used the **chat function** but... Vanessa and Blaine both said they would **rather learn on their own** (contradiction!)
- Tony would have been more interested with a **different show**
- Blaine wanted **more competition** and **games**

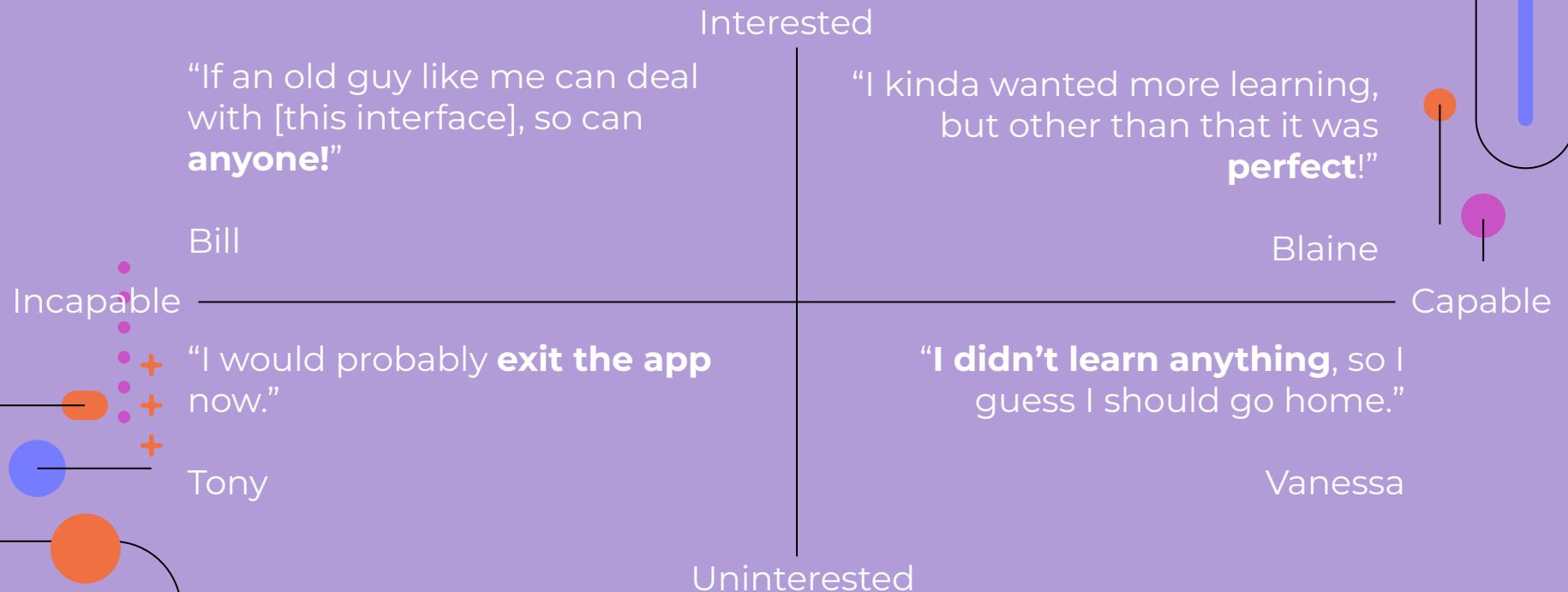
METRICS

	EAGERNESS	OK	FUN	OK	MISCLICKS	OK
Vanessa	1		1		0	
Bill	5		5		11	
Tony	2		3		5	
Blaine	4		4		1	

RESULTS



RESULTS



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EAGERNESS TO USE EACH TASK

SOLO
WATCH

3

REVIEW

3.5

WATCH
PARTY

2.75

PROCESS DATA → IMPLICATION

Dora the Explorer: Using a show with such basic vocab was not enjoyable to our users.

Our user should be able to **customize language difficulty** so that more advanced users can watch a show entirely in their target language.

PROCESS DATA → IMPLICATION

Users felt like they did not get enough language content.

We should include **more frequent** and **complex** language lessons throughout.

PROCESS DATA → IMPLICATION

Multiple users did not understand meanings of buttons.

We should include more descriptive and/or
intuitive buttons.

DESIGN IDEAS

- Add subtitles to buttons
 - Particularly rephrase “Pair to Screen”
- Add race element to watch party to increase competitive engagement
- Incorporate grammar lessons to increase complexity

SHORTCOMINGS OF TEST

- No choice in watching show
- Couldn't reveal how long people would be willing to watch the show
- Couldn't engage with other real users

THANKS!

Do you have any questions?



CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon, infographics & images by Freepik



APPENDIX!

PHONE PROS

- haptic experience uses multiple senses
- async learning is portable
- chat is on phone, which is where people are used to going for a chat
- Typing is fast and familiar
- a lot of people ARE actually accustomed to doing things on phone and TV at same time
- could pair to laptop, tablet, TV -- lots of choice
- can sync multiple phones to same streaming device -- adds in person social element as well

PHONE CONS

- Need to have bluetooth connection/access to a device that can pair with phone
- accessibility of access to 2 smart devices
- looking down at phone distracts from TV experience
 - looking at 2 things at same time
- small screen prevents more innovative learning experiences
- excludes non smartphone users

TABLET PROS

- only one screen to see all options -- easier to remember to take advantage of chat, etc
- can have more innovative or game-ified learning experiences with more screen space
- stylus experience optimized for handwriting, which helps retain memory through tactical, multi-modal engagement and is extremely useful for character-based languages
- separate from the distractions of a phone (which is associated with work, friends, social media) and uses associations of fun/gamieness of tablet?
-

TABLET CONS

- only one screen can lead to crowded/busy UI
- tablet is less accessible (less people have them)
- tablet is less natural to carry around for async
- and language learning needs to be pretty regular
- less choice on how to watch TV-- must watch on tablet, which would maybe be less habitual
- and tablet less social -- can't do in group setting
- typing on tablet is really difficult and not well built by Apple etc --- limits ease of chat and typed language answers

CHANGES MADE POST CHECK-IN:

- Added chat/results toggle
- Created additional lesson so that solo watch and watch party were different videos

PARTICIPANTS (CONT.)

Recruited around campus, asking around if people were willing.

Compensated by keeping in touch on our project.

Demographics: all late twenties to mid sixties, two white people, two east asian people, 1 woman, 3 men.

Environment: outside at white plaza or inside at tresidder marketplace

Apparatus: our paper prototype.

SCRIPT FOR FACILITATOR IN TEST

instructions: using this app to language learn while you watch TV

candy will be computer, so she is just making these papers work like the technology would
and tommy is our note taker

neither of them will speak so that you can ignore their presence as much as possible

I will be asking you for your thoughts as you walk through the app, but I won't help you navigate anything so that we can see your natural instincts.

demo: show them that this is your phone for they day, they can click buttons, to type they can click letters while speaking them out loud, when we shake paper it means the phone is vibrating

3 scenarios:

1. you are watching tv by yourself and you want to take advantage of the time to learn target language
2. you want to review the vocab you learned previously
3. you want to have a more social learning experience with people who watch the same show as you and start a watch party

wrap up: ask for both ratings, any final questions or thoughts they have, what did they like/dislike

CRITICAL INCIDENTS: VANESSA

Incident	Severity
Vanessa: Didn't realize possibly that the buttons were buttons	1
Vanessa: Didn't know what she was supposed to DO with the lesson – <i>"I should say 'me llamo sarah? I know english, so I should repeat it in English"</i>	3
Vanessa: Didn't understand the language choice for media/lessons – <i>"I want the next lesson because it's not in english"</i>	0
Vanessa: Didn't fully understand the concept of pair to the screen – <i>"Shouldn't it stay paired"</i>	3
Vanessa: Did not realize immediately that she should type review answers – "Oh i'm supposed to type it"	1
Vanessa: When the "bienvenidos" lesson popped up, she said I didn't hear that but maybe because we were outside	2
Vanessa: Did not want to go to chat – "I probably wouldn't go chat because I am anti-social"	0
Vanessa: She suggested there be subtitles	3
Vanessa: Felt the flow from home to watch party felt natural	0

CRITICAL INCIDENTS: BILL

Incident	Severity
Bill: For the first task he began with chat and ended exploring review and pair to screen	4
Bill: Went to wrong page for first task	4
Bill: Felt encouraged to chat	0
Bill: Long hesitation on the lesson page	2
Bill: Thought speaker button saying the vocab word was asking him to repeat back the word	1
Bill: Smiled as he went between chat and show	0
Bill: Engaged with TV Show – “It’s a fiesta”	0
Bill: Didn’t notice next button on stats page	1
Bill: Thought being sent back to vocab lesson from stats page meant he made an incorrect selection	2

CRITICAL INCIDENTS: TONY

Incident	Severity
Tony: Chose chat for first task instead of pair to screen	4
Tony: Never reached the pair to screen, did not feel intuitive to select it	4
Tony: "I guess dora" – was very disappointed with media selection	2
Tony: pressed the back button and left dora twice	2
Tony: Did not feel educational aspect was clear	3
Tony: "I really don't know what's happening right now. It's totally off, that's how I feel right now, I think I am just gonna quit the app now"	4
Tony: Chose chat for first task instead of pair to screen	4
Tony: Never reached the pair to screen, did not feel intuitive to select it	4
Tony: "I guess dora" – was very disappointed with media selection	2

CRITICAL INCIDENTS: BLAINE

Incident	Severity
Blane: Didn't think language learning was clear from home screen	1
Blane: Thought review button led to tutorial - but he left the review section when he realized it wasn't a tutorial	2
Blane: "Oh I understand the app"	0
Blane: He liked the example sentences	0
Blane: Did not click the first sound button for "hola"	
Blane: Understood the flow of the app – "Ok so here comes the quiz"	0
Blane: Loved the positive reinforcement check mark after getting answer correct – "Positive, very good, nice"	0
Blane: Had inclination that word on stats page was clickable and would lead to review page – "Can I click on this"	0
Blane: Expected more new material before quiz – "I was expecting something new to learn but was instead already a quiz"	2