

# WELCOME TO THE MULTIVERSE

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## MISSION STATEMENT

TO EXPOSE LANGUAGE LEARNERS TO NUANCED PRACTICE  
ENVIRONMENTS THROUGH AN IMMERSIVE VIRTUAL  
CULTURAL LANGUAGE EXPERIENCE.



# PROBLEMS



THE NATURAL GOAL FOR LEARNING A NEW LANGUAGE IS CONNECTION AND COMMUNICATION, BUT TRADITIONAL LANGUAGE LEARNING METHODS FOCUS ON THE MEANS TO AND END, AND NOT THE END GOAL ITSELF. PRACTICING A FOREIGN LANGUAGE BECOMES TEDIOUS BECAUSE INTRINSIC MOTIVATIONS ARE TOO ABSTRACT.

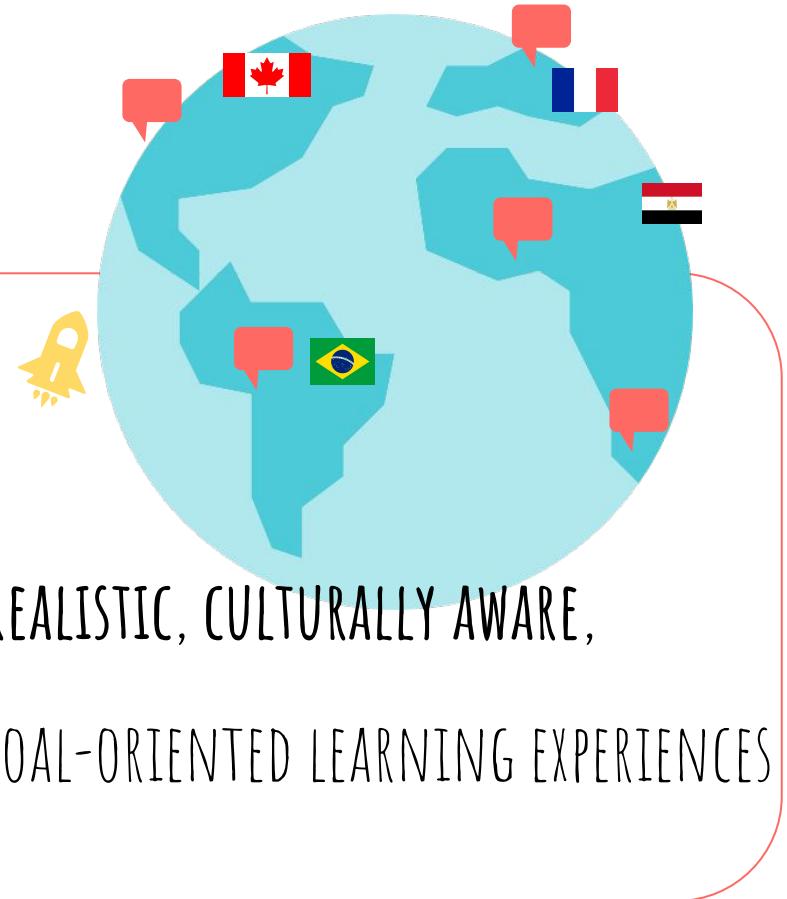
PRACTICING WITH TRADITIONAL METHODS (I.E. CLASSES AND APPS) LEAVES USERS UNDERPREPARED FOR REAL-WORLD INTERACTIONS, WHICH LEADS TO EMBARRASSMENT AND MISCOMMUNICATION.

# SOLUTION

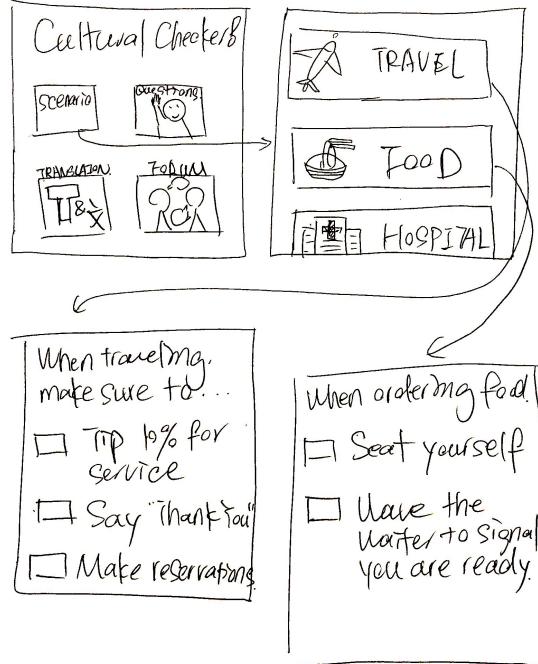


## MULTIVERSE

A VR WORLD THAT IMMERSES A USER IN REALISTIC, CULTURALLY AWARE,  
SCENARIOS THAT EVOKE NUANCED AND GOAL-ORIENTED LEARNING EXPERIENCES



# CONCEPT SKETCHES



AT. APP / VR PRACTICE REAL-WORLD SCENARIOS.



ALTERNATIVELY,  
INTERLOCUTOR IS ANOTHER USER  
WHO GETS POINTS FOR PLAYING  
THE OTHER SIDE.



# CONCEPT SKETCHES



## #6 GOOGLE GLASS FOR YOUR EH



AMAZON ALEXA → MONITORS (COMMUNICATE)  
→ FEEDS SUGGESTIONS

## #7 VR WORLD

Current user:  
PRACTICING IN  
MUSIC FOR  
UNDER 13

FAMILIES  
LEARNERS MAP

JUNN

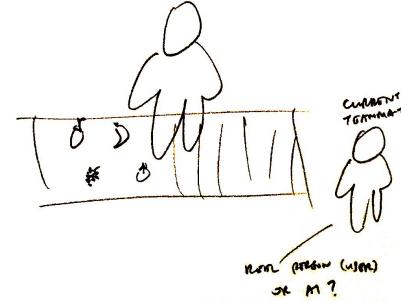
MOM

SON

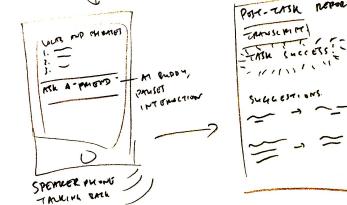
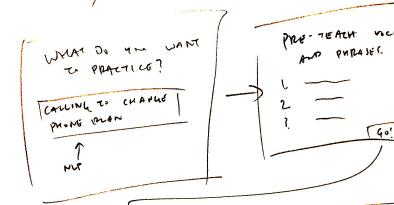
TEAM'S  
ATTEMPT  
LEVEL



PRACTICE (QUIERES UN MUSICO) ⇒ QUIERO



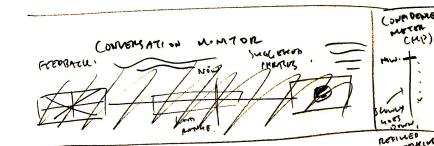
AT. APP / VR PRACTICE REAL-WORLD SCENARIO.



ALTERNATIVELY,  
INTERLOCUTOR IS ANOTHER USER  
WHO GETS POINTS FOR PLAYING  
THE OTHER SIDE.

BY VR WORLD 2 - PEER TO PEER

BUY SONG POINT  
THEN SELL IT TO  
SOMEONE ELSE



AVAILABLE QUESTS:  
① TICKET: TEAM TICKET.  
② TICKET: DANCE TICKET.

QUEST SCENARIOS:  
[ ] DATE [ ]: DANCE AT A PUB. — #300 REWARD  
[ ] MUSIC [ ]: SMALL TALK — #100 REWARD!

(MEMO.)

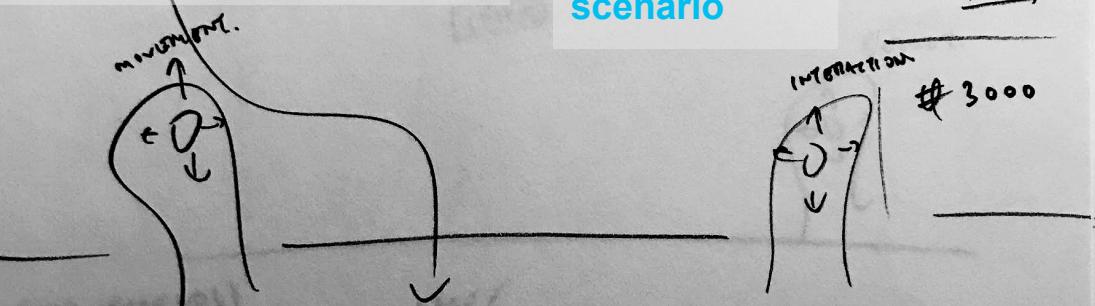
# UI SKETCHES

AVAILABLE QUESTS TO MEET

AVAILABLE QUESTS TO GIVE

MY FRIENDS

User can either  
be an "expert"  
or learner in a  
scenario



USER 4-53

LEVEL 3

ACTIVITY  
LEVEL



HELP

WORDS



BEGIN TASK!

BUY AN APPLE

COST  
# 250

HIRO35.

COST  
# 1000  
DIST.  
1500m

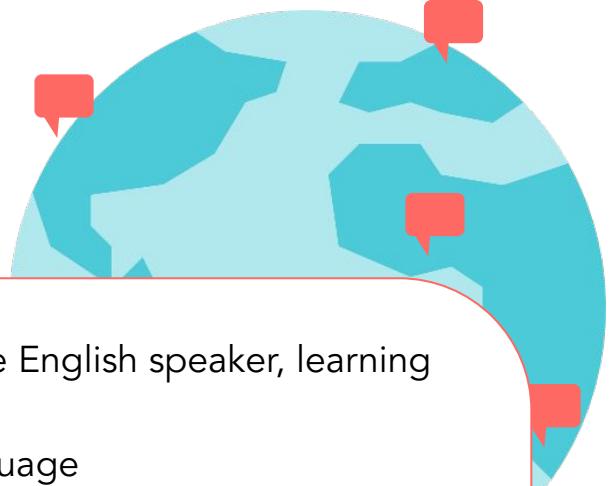
# 200. < 2km

CURRENT  
TOTAL

# 3000

↓  
# 2750

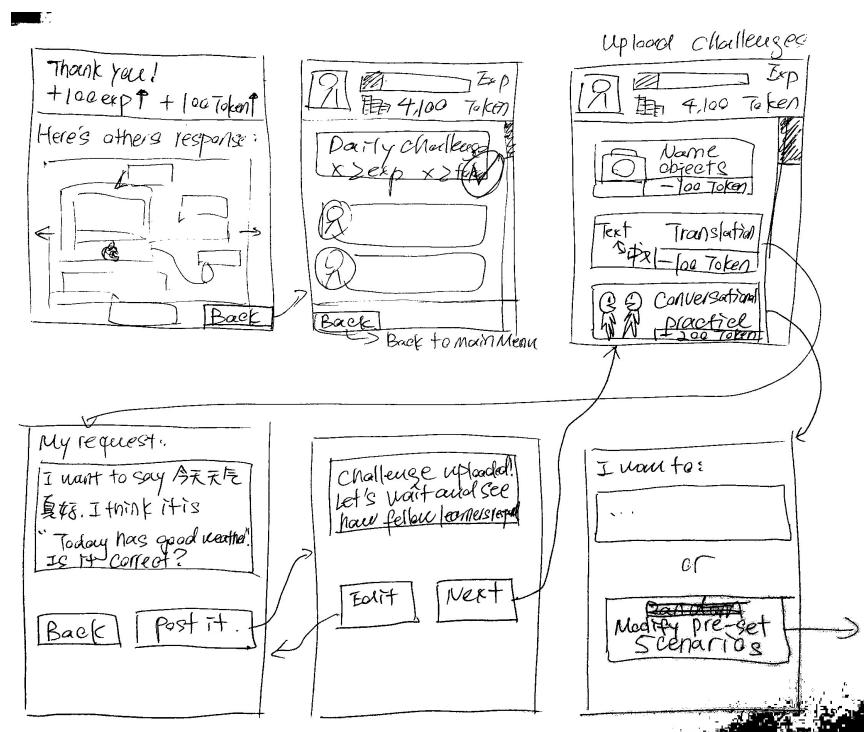
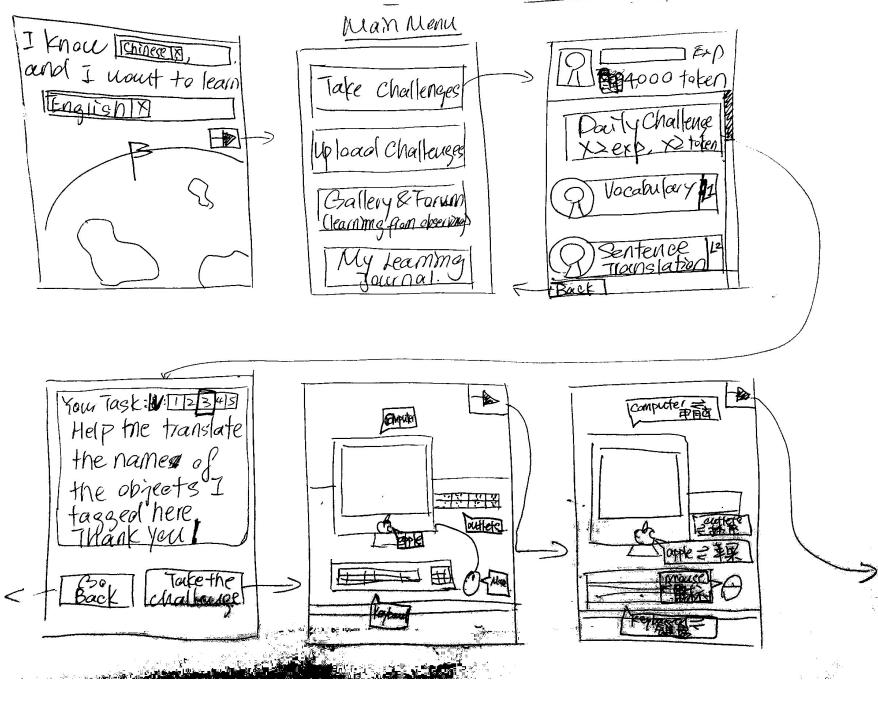
# DESIGN SELECTION RATIONALE



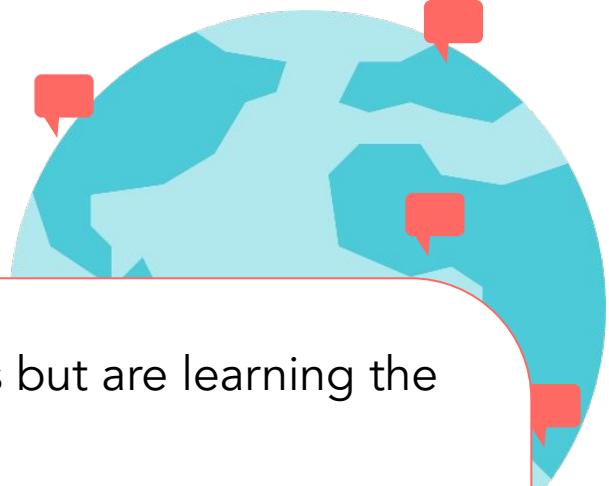
## multiVeRse

- Pairs up language learners across languages (e.g., User 1 is native English speaker, learning Chinese, User 2 is native Chinese speaker, learning English)
- Practice simulated real-world tasks with real speakers of that language
  - Given a reward (in-game currency) to provide the task, pay currency to be the learner in the task
- Language support for pre-teaching vocabulary and phrases to use in the task
- AI language support for feedback during and after the task is finished: monitoring conversation/task
- Pros:
  - Real interactions in the target language with experts (native speakers)
  - No need to build out complicated intelligent tutor; interacting with other people instead
- Cons:
  - May be difficult to get a balance of users with matching native/target languages

# UI SKETCHES



# DESIGN SELECTION RATIONALE



## Collaborative Quests (AR)

- Matches users who have different native languages but are learning the same language (similar learning level)
- Pros:
  - Goal oriented
  - Have different modules for different learning goals: conversational and vocabulary learning
  - Can crowdsource quests and challenges
- Cons:
  - Not very context dependent
  - Does not focus on culture

# UI TASKS FLOWS



TASK 1 (EASY): FIND A CONVERSATION PARTNER AND FREE CHAT IN THE TARGET LANGUAGE

# TASK 1



AVAILABLE QUESTS: 0

FREE USERS: 0

OFFICE

MARKET PLACE

AVAILABLE QUESTS: 2

- BUY AN APPLE
- RETURN A PHONE

FREE USERS:

- CATLUVR
- MEI
- SABA

REQUEST CHAT IN

- CATLUVR
- MEI
- SABA

REQUEST FREE CHAT.

AREAS

SCHOOL

AVAILABLE QUESTS: 0

FREE USERS: 0

RESTAURANT

AVAILABLE QUESTS: 0

FREE USERS: 0

CHATTING WITH

BACK

DICTIONARY

TRANSLATE

SUGGESTED PHRASES

A red curved arrow points from the Asia-Pacific region towards the 'CHATTING WITH' section.

# UI TASKS FLOWS



TASK 2 (MODERATE): PRACTICE A REAL-WORLD SCENARIO IN THE TARGET LANGUAGE  
IN ORDER TO IMPROVE LANGUAGE SKILLS



# TASK 2



AREAS

OFFICE

MARKET PLACE

SCHOOL

RESTAURANT

Available Quests: 0

FREE USERS: 0

Available Quests: 0

FREE USERS: 0

Available Quests: 0

FREE USERS: 0

REQUEST CHAT IN CATLUVR

REQUEST CHAT IN MEI

REQUEST FREE CHAT.

BACK

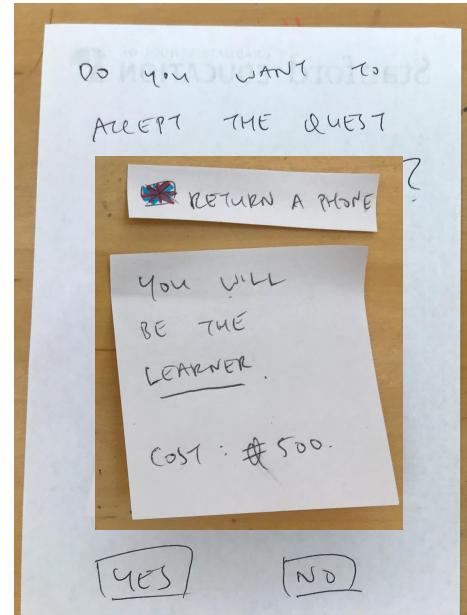
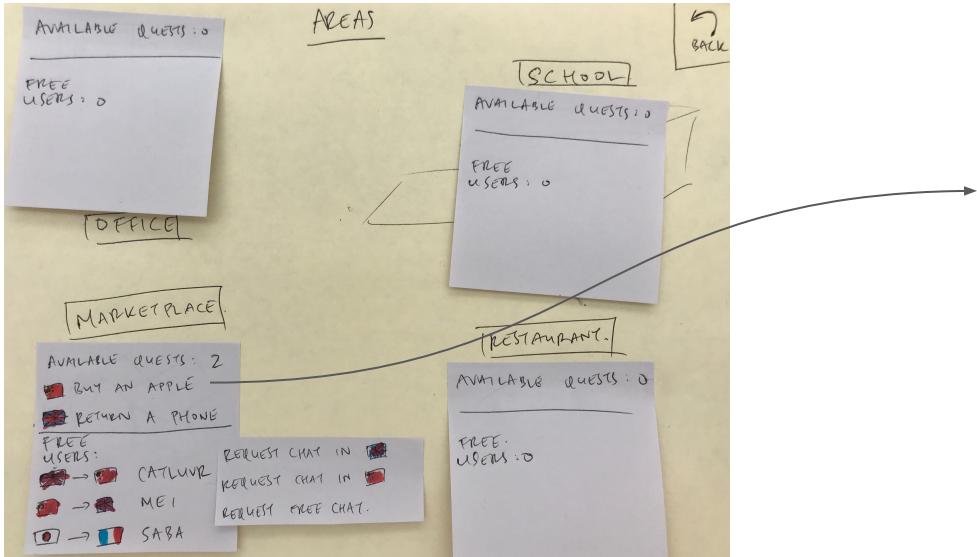
Buy an Apple

Return a phone

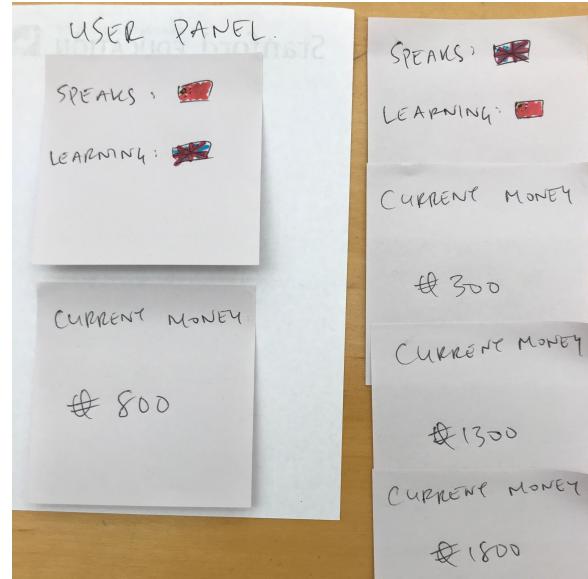
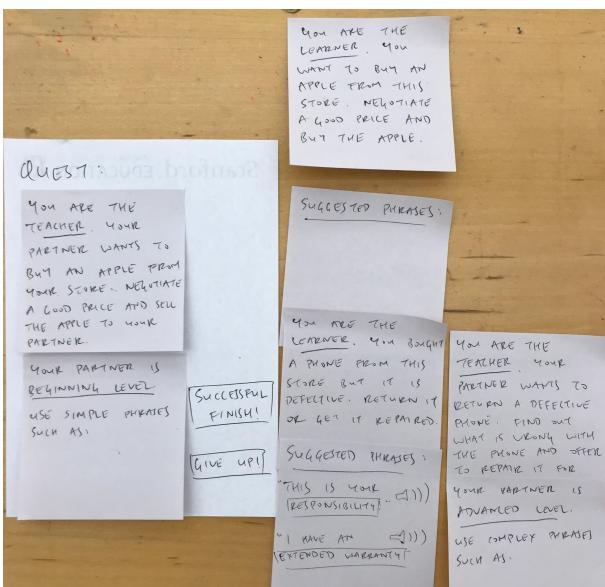
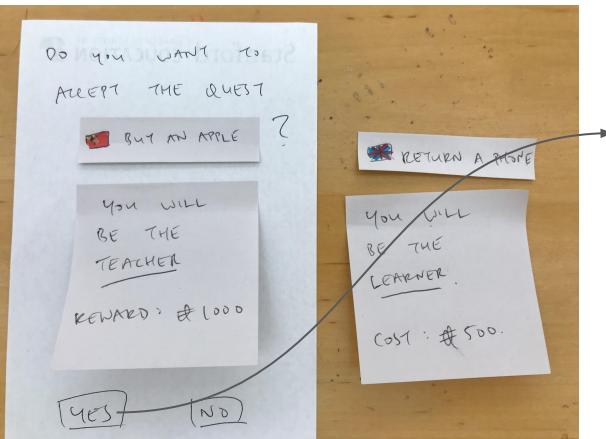
SABA



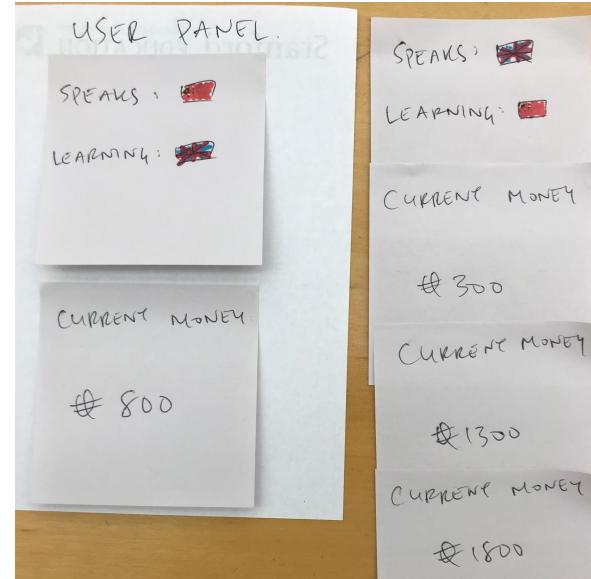
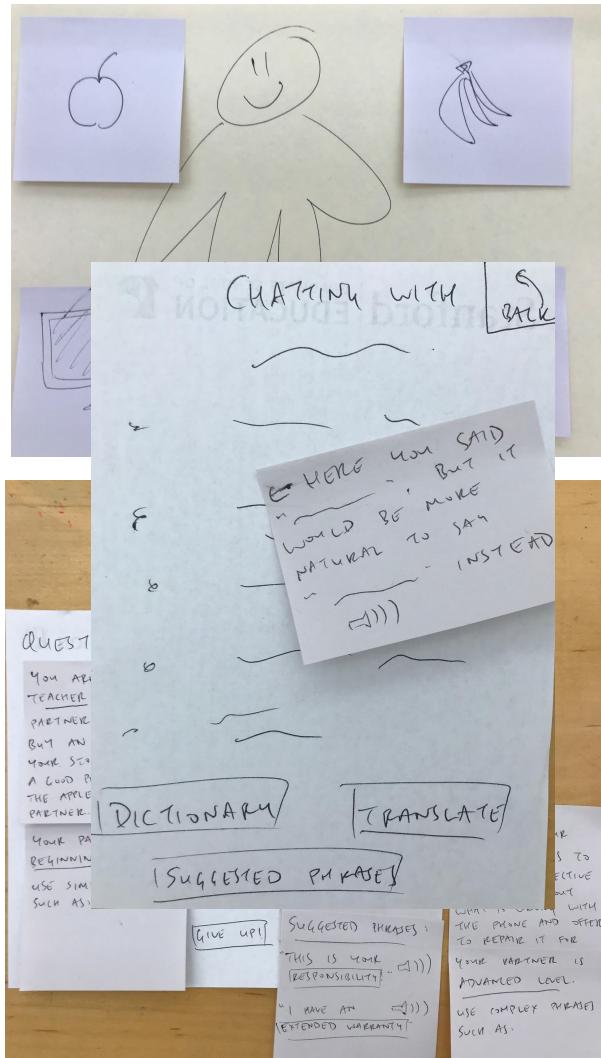
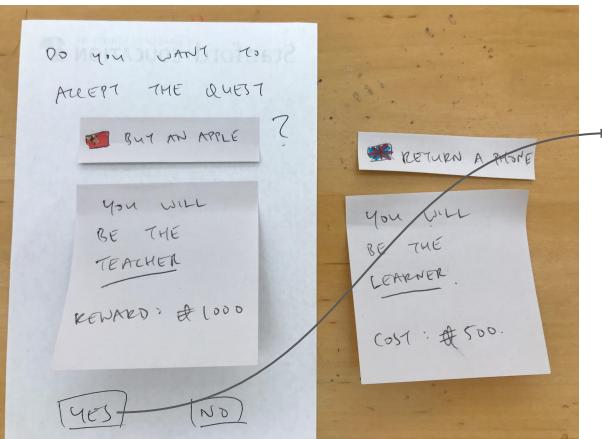
# TASK 2



# TASK 2



# TASK 2



# UI TASKS FLOWS



TASK 3 (COMPLEX): HELP ANOTHER USER LEARN YOUR NATIVE LANGUAGE



# TASK 3



AREAS

OFFICE

MARKET PLACE

SCHOOL

RESTAURANT

Available Quests: 0

FREE USERS: 0

REQUEST CHAT IN CATLUVR  
REQUEST CHAT IN MEI  
REQUEST FREE CHAT.

BACK

Buy an Apple

Return a Phone

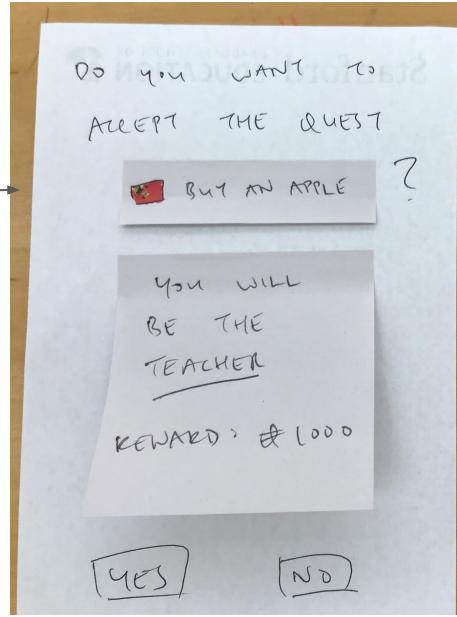
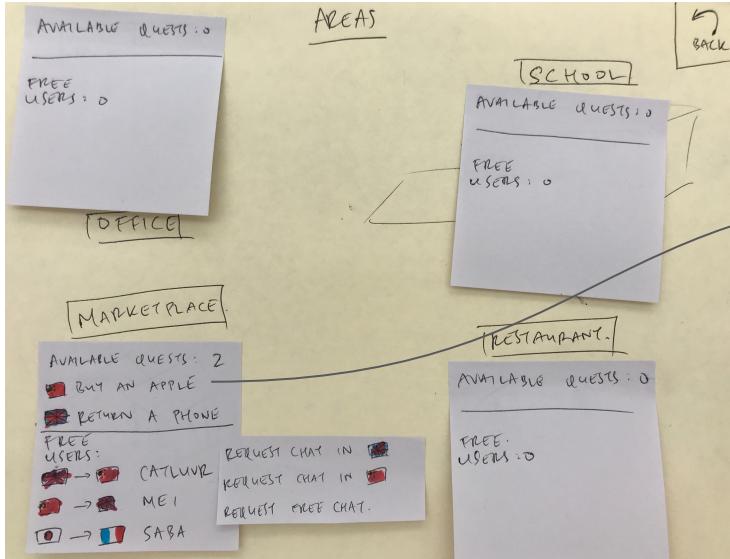
CATLUVR

MEI

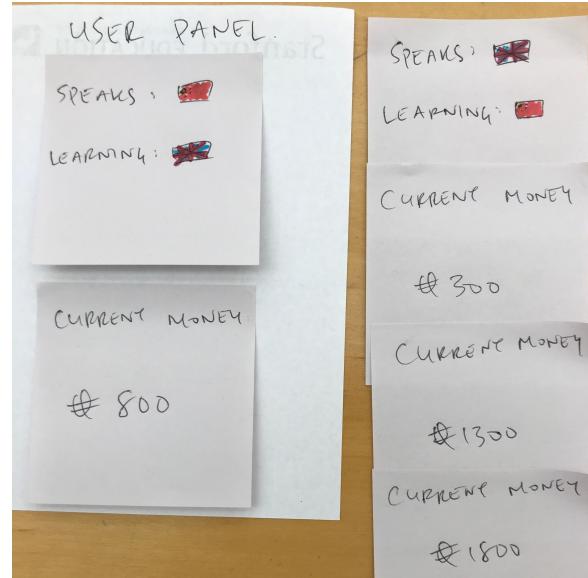
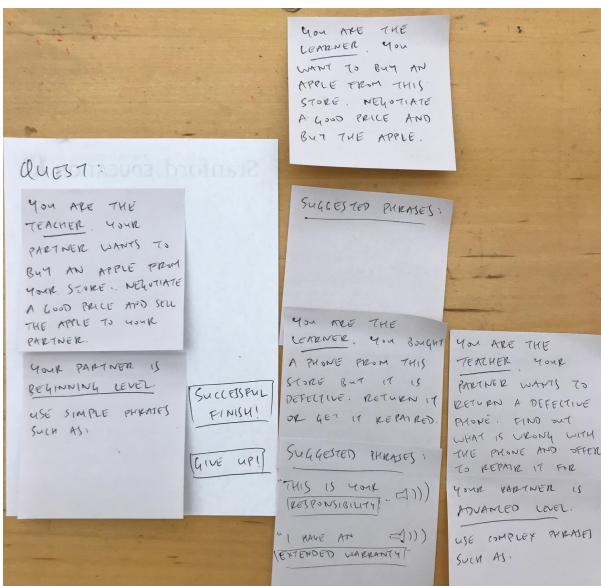
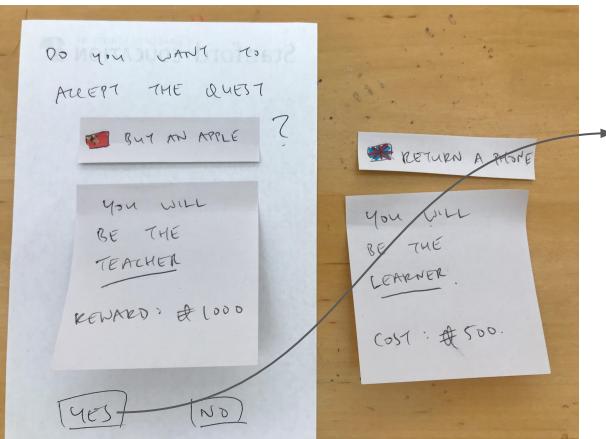
SABA



# TASK 3

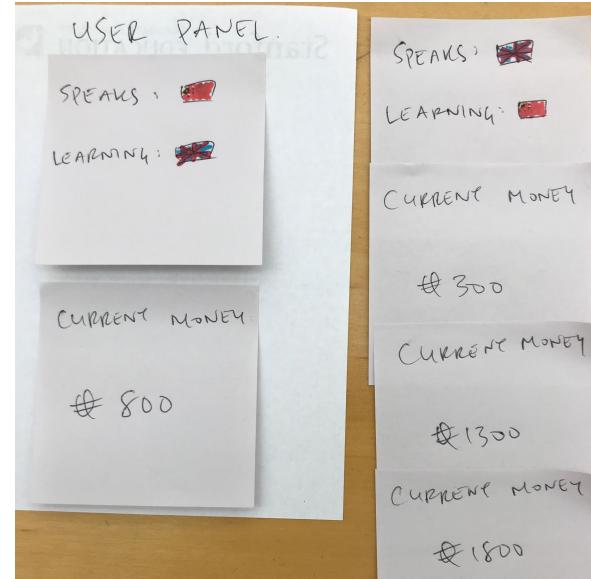
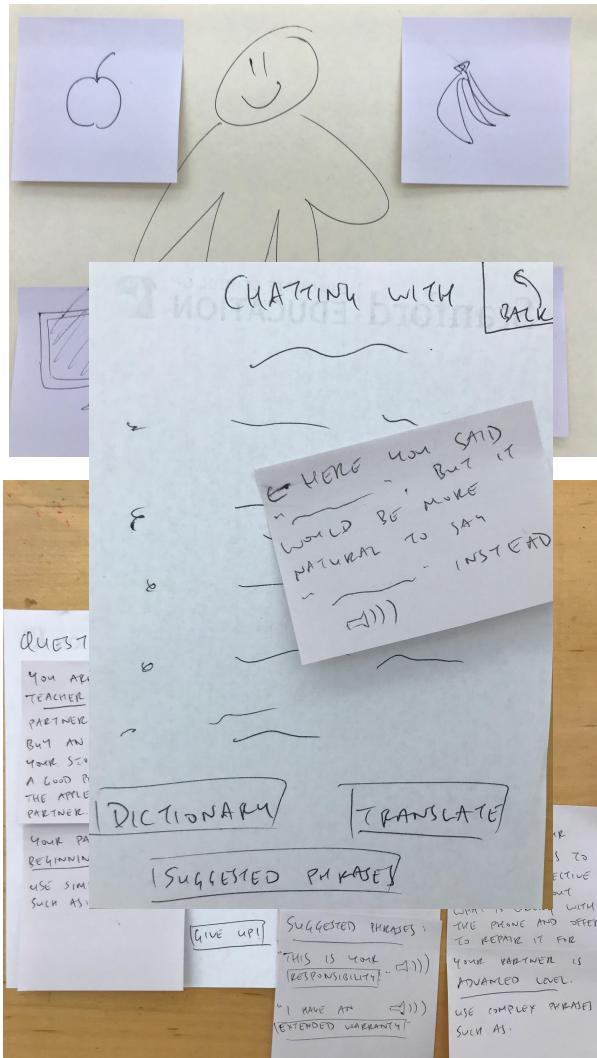
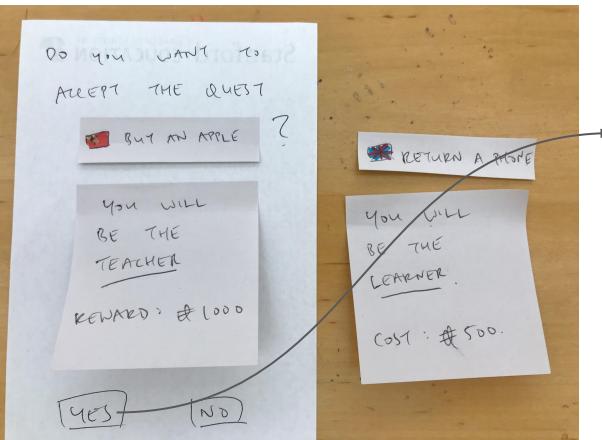


# TASK 3





# TASK 3



# EXPERIMENT

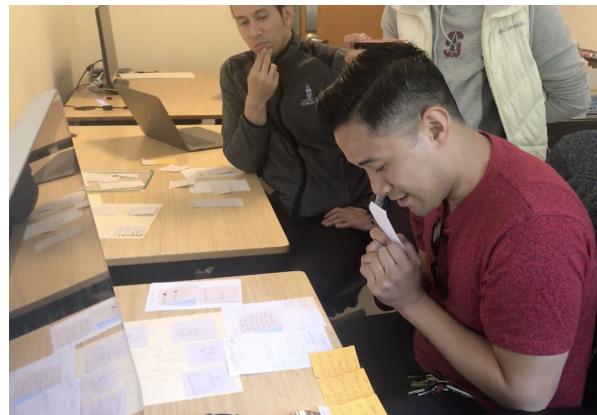


LANGUAGE PAIRS:

ENGLISH -> CHINESE, CHINESE -> ENGLISH

TASKS:

1. CHAT WITH ANOTHER USER IN YOUR TARGET LANGUAGE
2. PRACTICE A REAL-WORLD SCENARIO IN YOUR TARGET LANGUAGE
3. HELP ANOTHER USER PRACTICE A REAL-WORLD SCENARIO IN YOUR NATIVE LANGUAGE



# EXPERIMENT



## DIFFICULTIES:

- IMPOSSIBLE TO GIVE REAL-TIME FEEDBACK ON LANGUAGE
- INTERFACE IN NON-NATIVE LANGUAGE IS CONFUSING
- NOT OBVIOUS WHETHER PARTNER IS AI OR ANOTHER HUMAN USER

# INSIGHTS

AI OVER HUMAN



- “If it's an AI, I would feel a **little more comfortable making mistakes**”
- “If it's a real person, I would be a lot more conscious that I am wasting their time”
- [translated from Chinese] “**If the AI is smart enough**, I'd prefer AI”

# INSIGHTS

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- “Learning experience definitely **felt safe**”
- “I like that it gives me a scenario and encourages me to speak English; regardless being correct or not, **I speak more** in these scenarios”

LEARNING ENVIRONMENT

# INSIGHTS

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## LEARNING ENVIRONMENT

## DIFFERENT NEEDS

- “It would have been cool to be able to select two people and observe their conversation and just watch ... As a person that doesn’t know much Chinese, I feel like I learn a lot from just **observing and then imitating**”
- “I think it’d be great if I can see **real-time feedback** on the transcript where I made mistakes or if it offers me some suggestions so that I can express myself better and incorporate the feedback.”

# FULL PROTOTYPE (APPENDIX)

