



100% focus, wherever you are

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MEET JIM

- Jim is **2nd year college student** at UW
- He **lives with two other people** in the college dorm sized for 2
- Since starting at UW, he's finding it **difficult to balance his social, academic, and work life**
- Constantly **getting distracted**
- Needs **social accountability** to get his work done



THE BIG PROBLEM

Hours of productivity are lost to everyday
distractions

OUR GOAL

100% focus, wherever you are.

TASKS

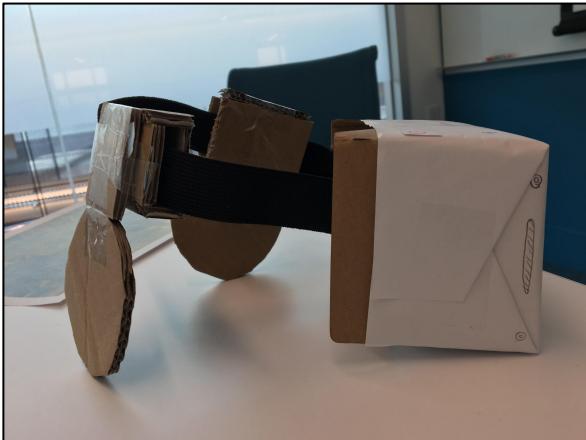
Task 1: Feel motivated to work

Task 2: Remove distractions

INITIAL PAPER PROTOTYPE

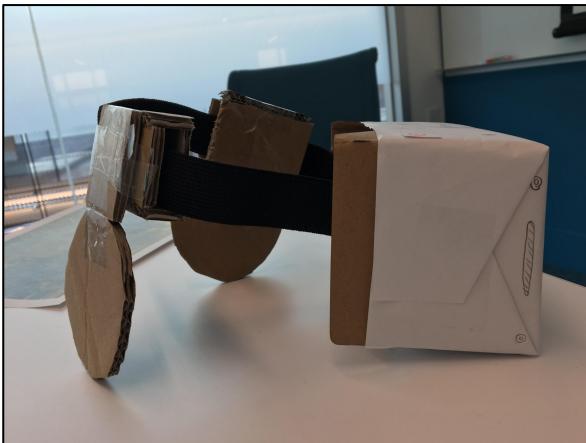
KEY ELEMENTS OF OUR DESIGN

- VR/MR Headset
- Low-Latency Cameras
- Sensors
- Noise Filtering
- Visual Filtering

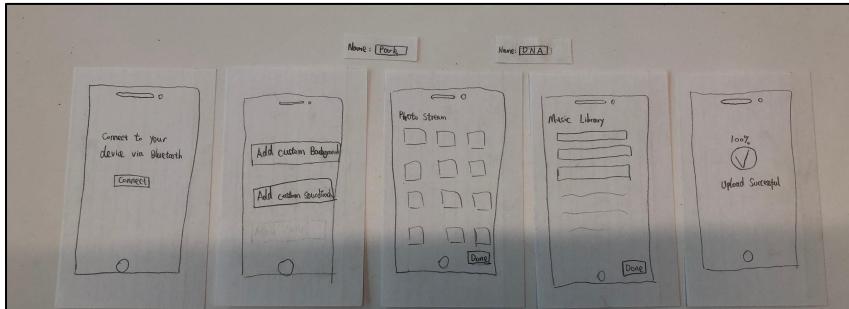
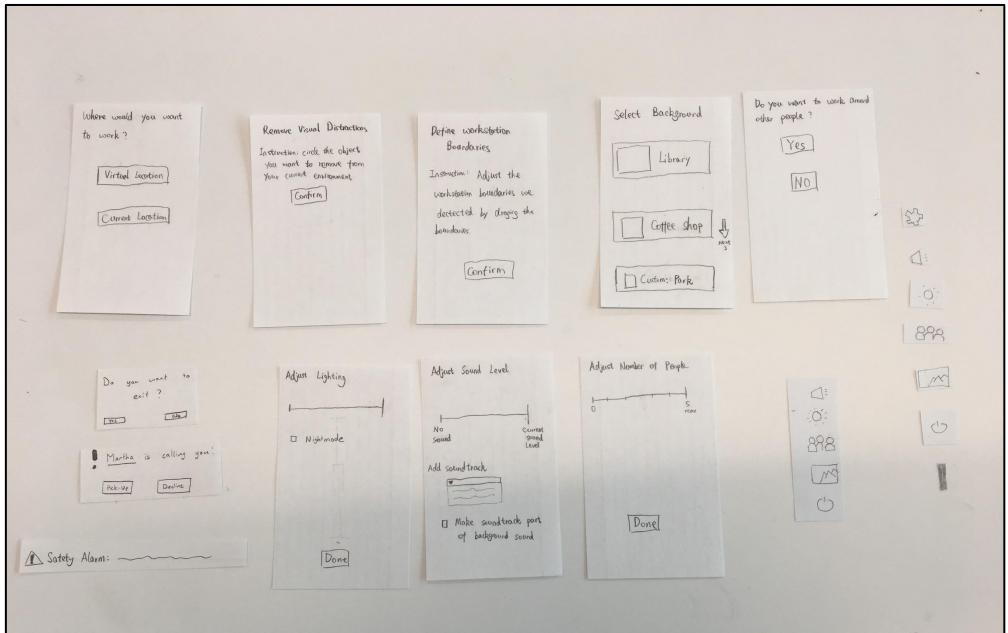


WHY?

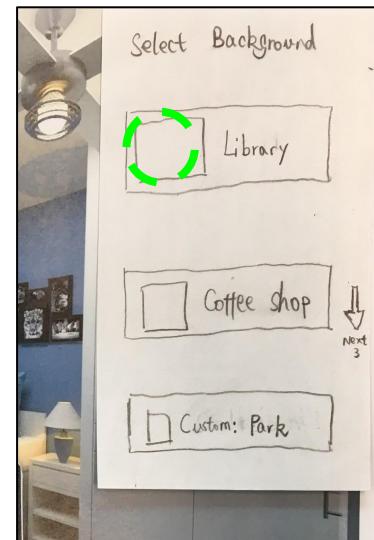
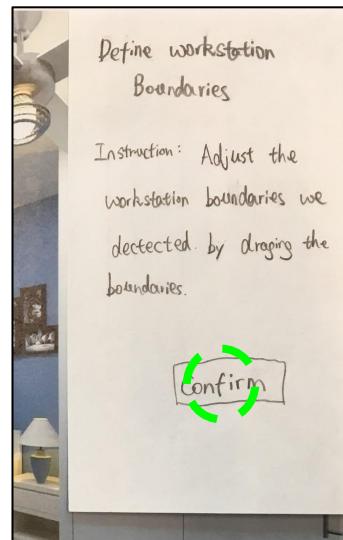
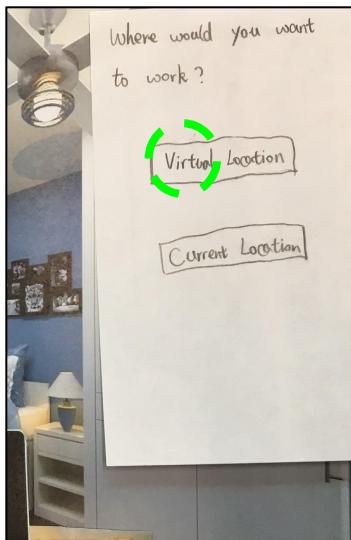
- Portable
- Accessable
 - Non-invasive
 - Works with glasses
- Comfortable
- Visual + audio



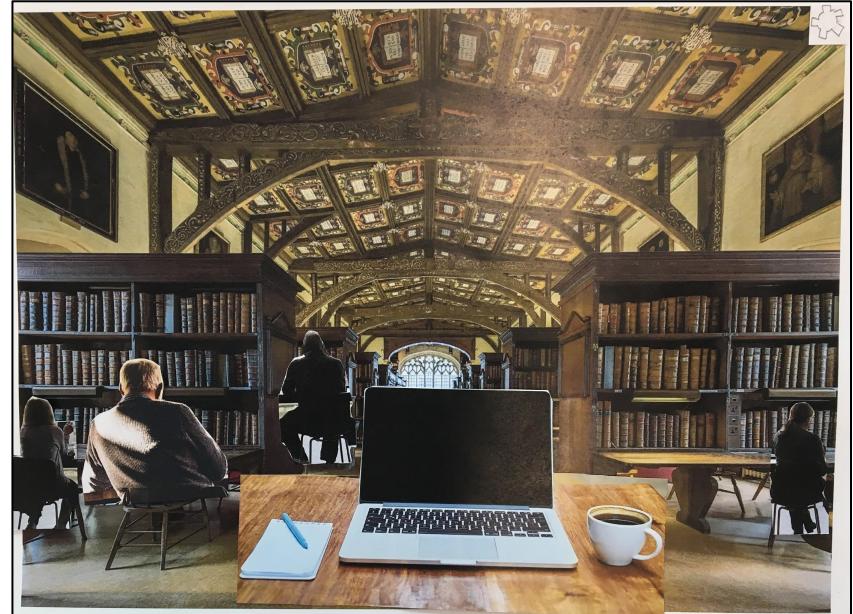
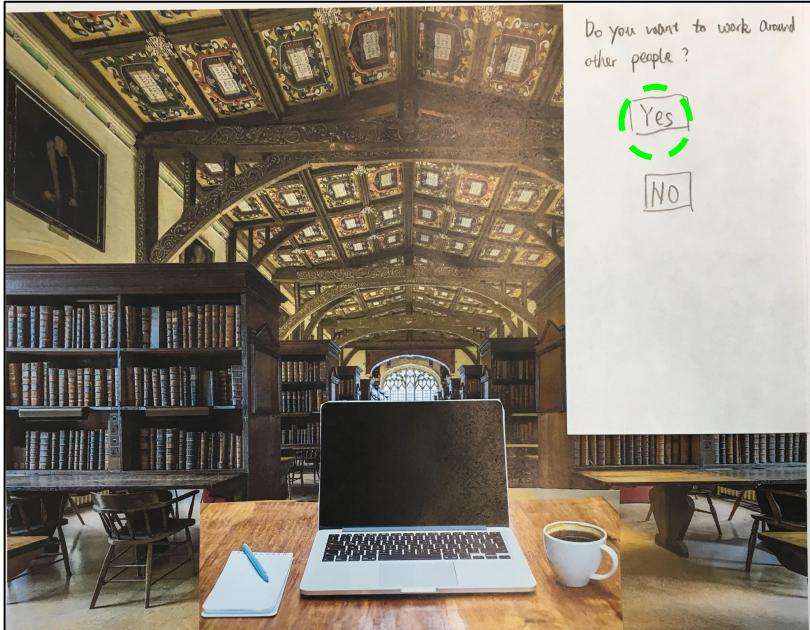
INITIAL PAPER PROTOTYPE OVERVIEW



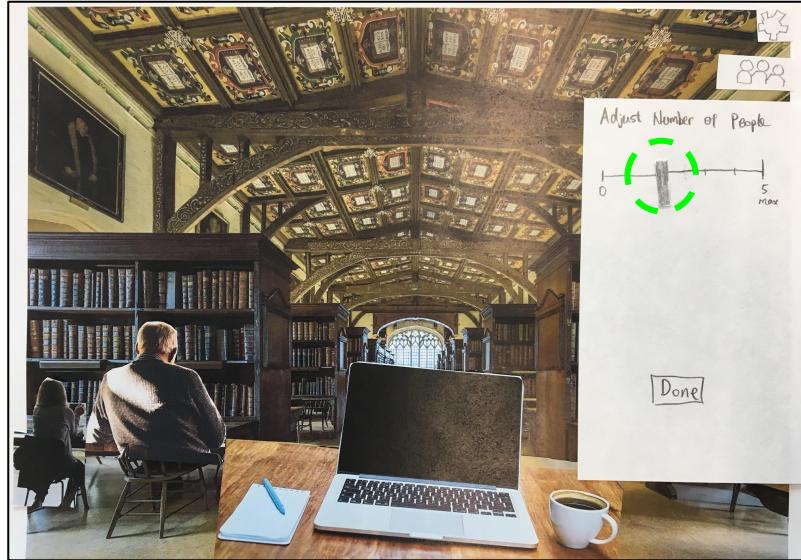
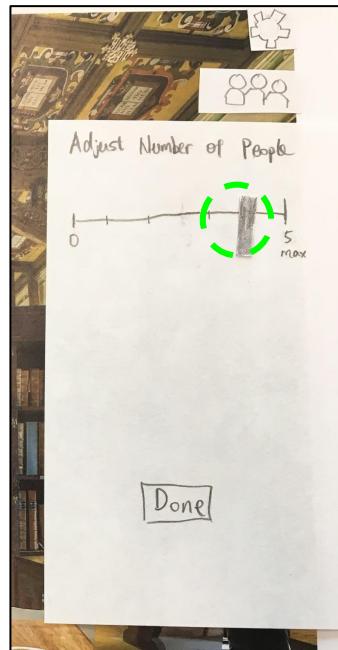
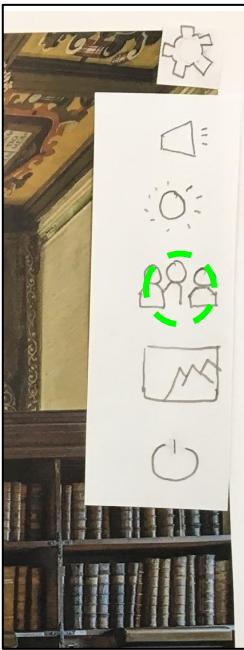
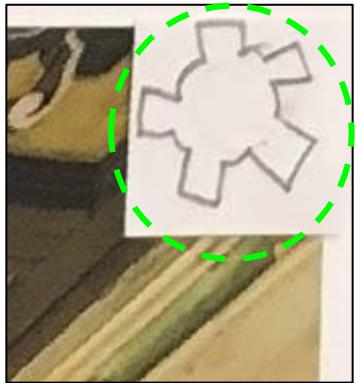
TASK 1: FEEL MOTIVATED TO WORK



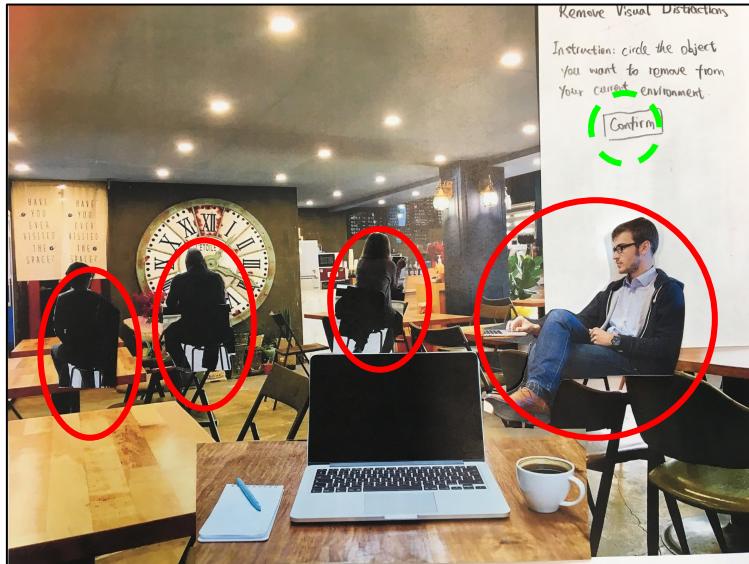
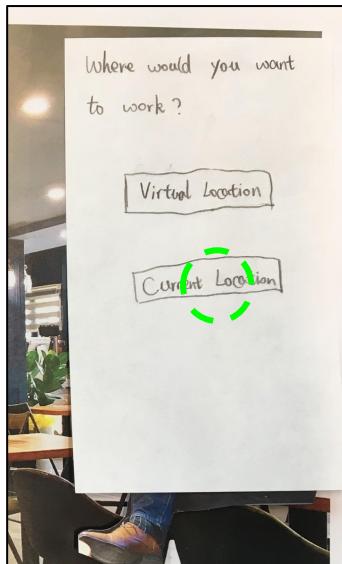
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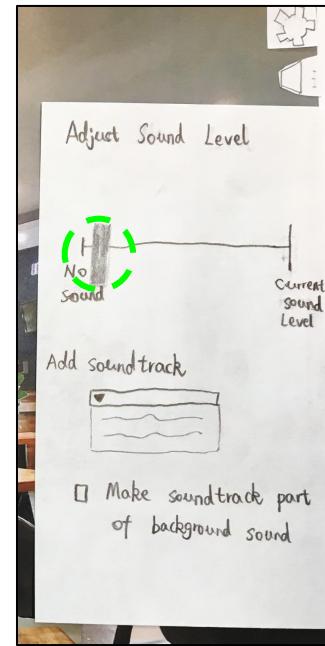
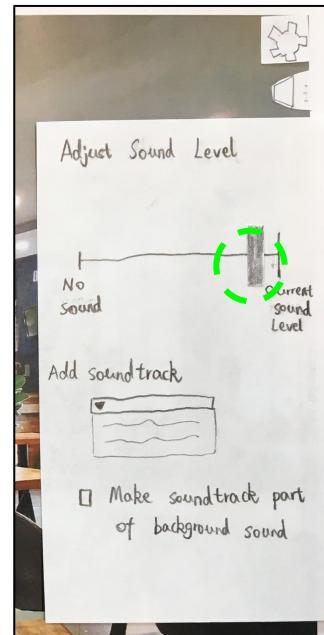
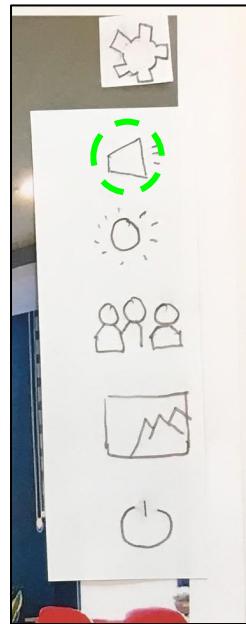
TASK 1: FEEL MOTIVATED TO WORK



TASK 2: REMOVE DISTRACTIONS



TASK 2: REMOVE DISTRACTIONS



TESTING PROCESS AND RESULTS

TESTING PROCESS

Tests:

- 2 Heuristic Evaluations
- 3 Usability Tests
- Usability Test Participants
 - 2 UW undergraduate students
 - 1 UW graduate student

Scenarios:

1. You would like to feel like you are studying in a library with other people.
2. You would like to feel like you are studying alone in the coffee shop.
3. You would like to change some settings in your virtual environment.
4. You would like to upload a picture, and put yourself in that virtual environment.

WE CONDUCTED TWO
USABILITY STUDIES...

Then reflected on our
design

A SELF-HEURISTIC EVALUATION STORY

PART-1

We realized our design was getting very complex.

Users in our first two usability studies suggested such great features!

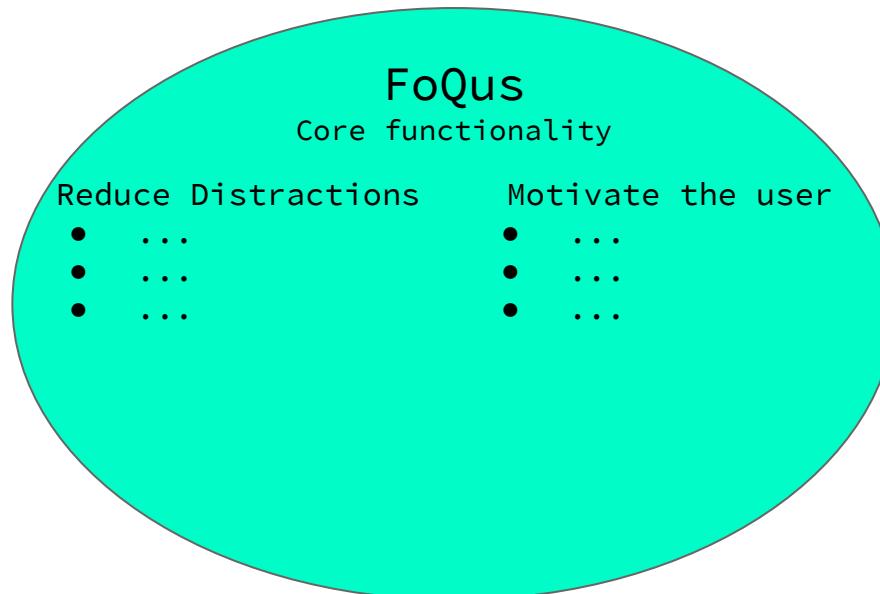
- Night mode
- Upload custom music
- Upload custom background
- In-app push notifications
- etc...

But fundamentally, we want to increase user FoQus...

A SELF-HEURISTIC EVALUATION STORY

PART-2

- What does it mean to increase focus?

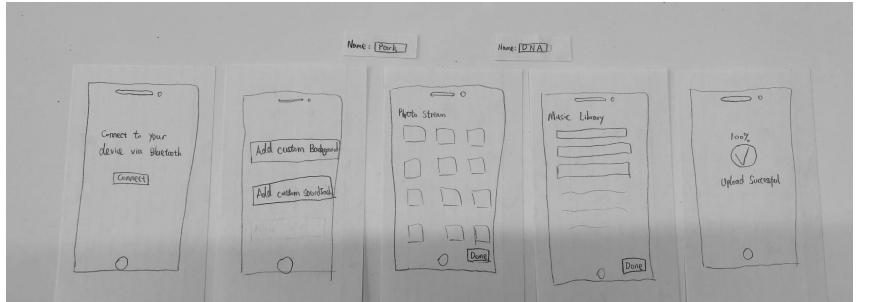


A SELF-HEURISTIC EVALUATION STORY

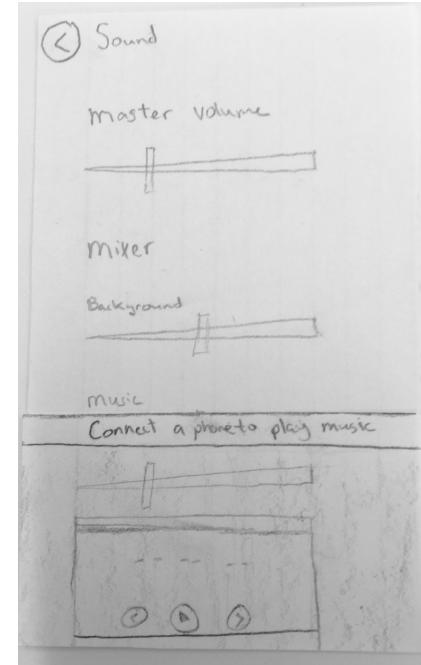
PART-3

Mobile Companion App

- Custom backgrounds **-> Cut**
 - Too much customizability -> more distractions
 - Too many steps -> slow startup time
- Custom music **-> Redesign**
 - Too many steps -> slow startup time
 - User enjoys music -> Motivates user



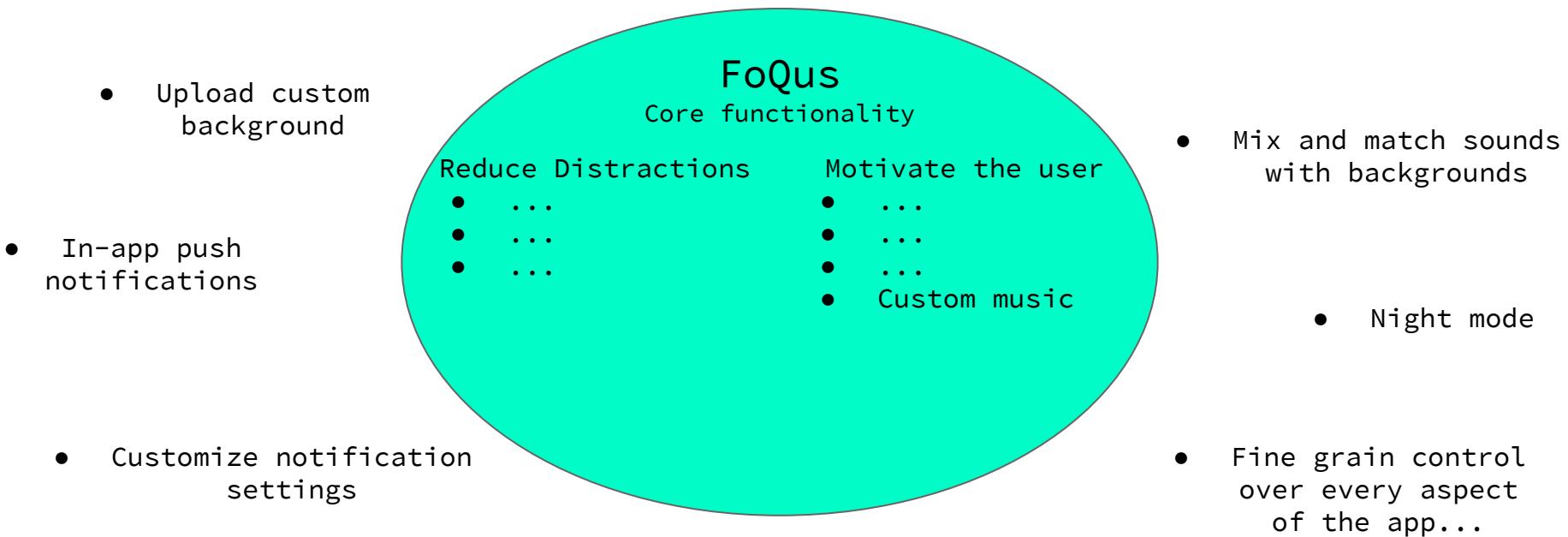
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A SELF-HEURISTIC EVALUATION STORY

PART - 3

- What does it mean to increase focus?



USABILITY TESTING PROCESS REFINEMENTS

- Removed Task 4
 - Removed the mobile companion app
- Asked more questions about user confusions
 - Let user explain confusions
 - Clearer direction to solve issues

TESTING FINDINGS

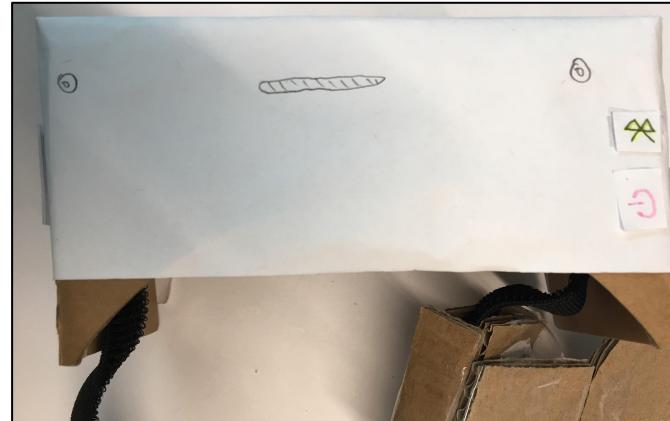
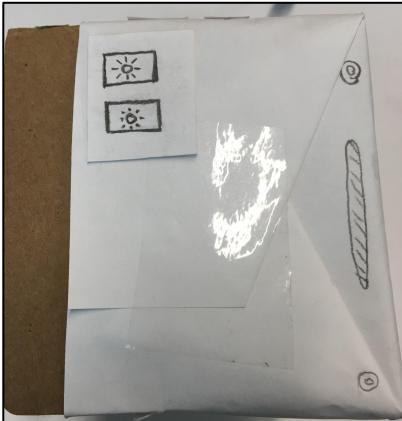
- Visibility of system status
- User control and freedom
- Aesthetic and minimalist design
- Help and documentation

DESIGN REFINEMENTS

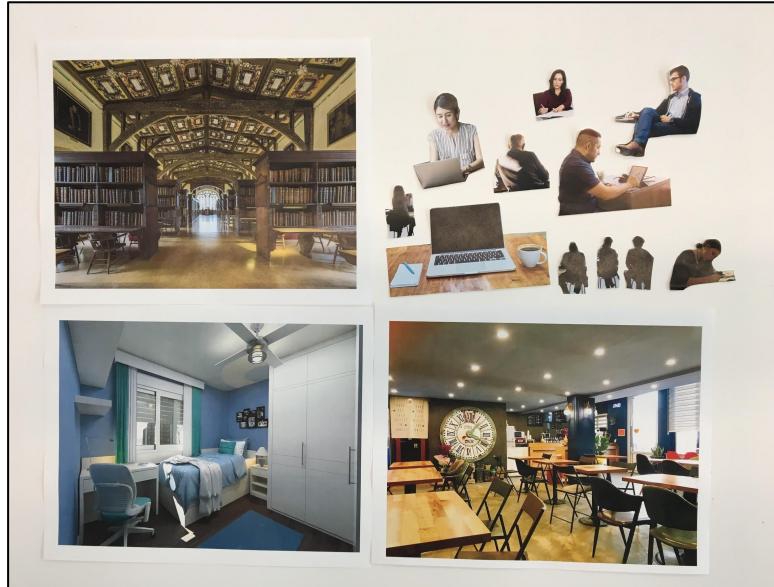
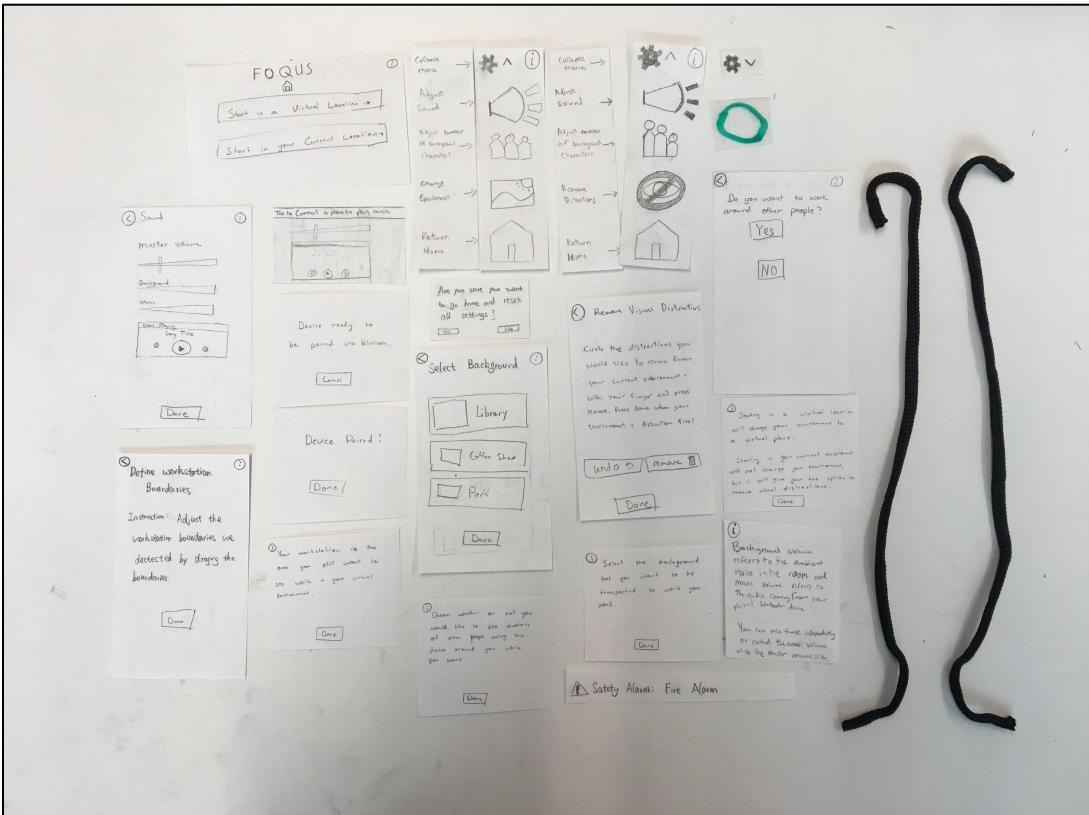
- Visibility of system status
 - Showed workstation selection boundaries on screen.
 - +2 more...
- User control and freedom
 - Back buttons added to each page
 - +1 more...
- Help and documentation
 - Added info buttons to each page for a more details
 - +5 more...
- Aesthetic and Minimalist Design
 - Uploading music flow changed to bluetooth streaming flow
 - +2 more...

FINAL PAPER PROTOTYPE

FINAL PAPER PROTOTYPE OVERVIEW



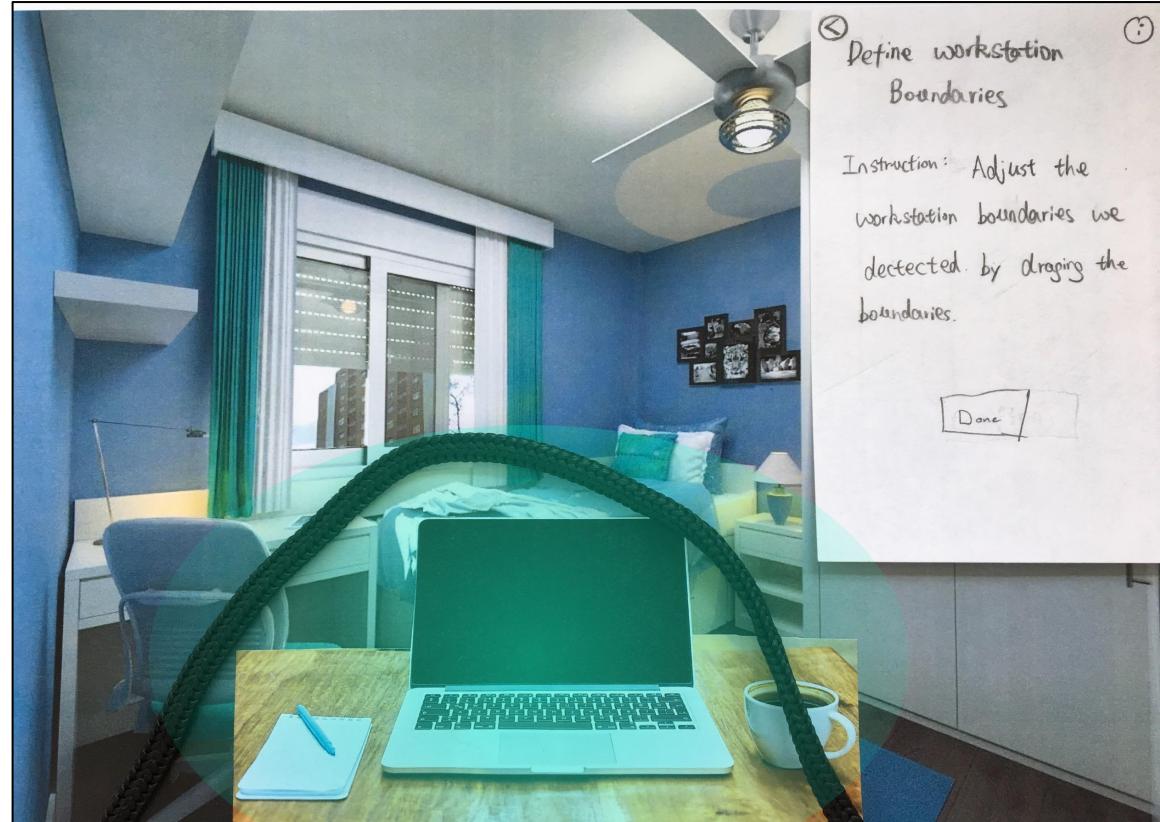
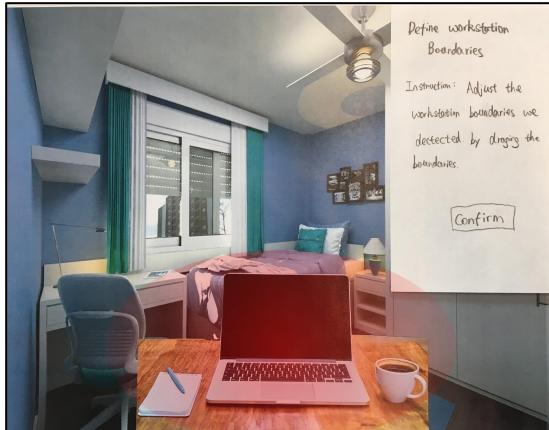
FINAL PAPER PROTOTYPE OVERVIEW



IMPROVEMENT 1:

Visibility of system status

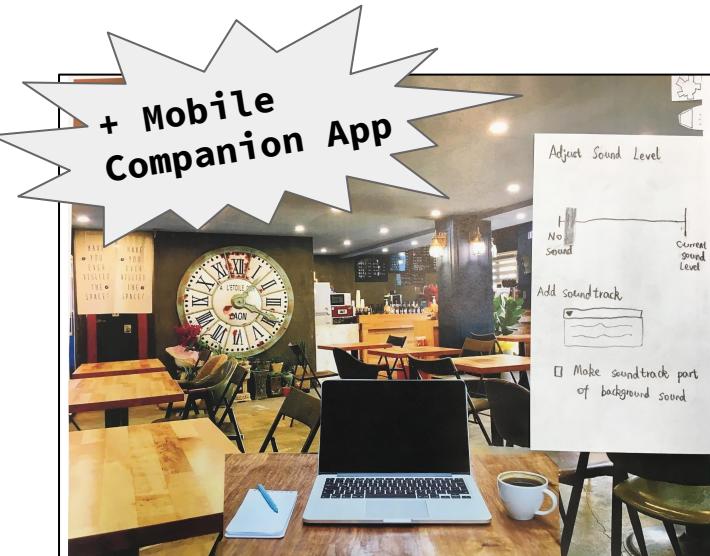
Showed workstation selection boundaries on screen.



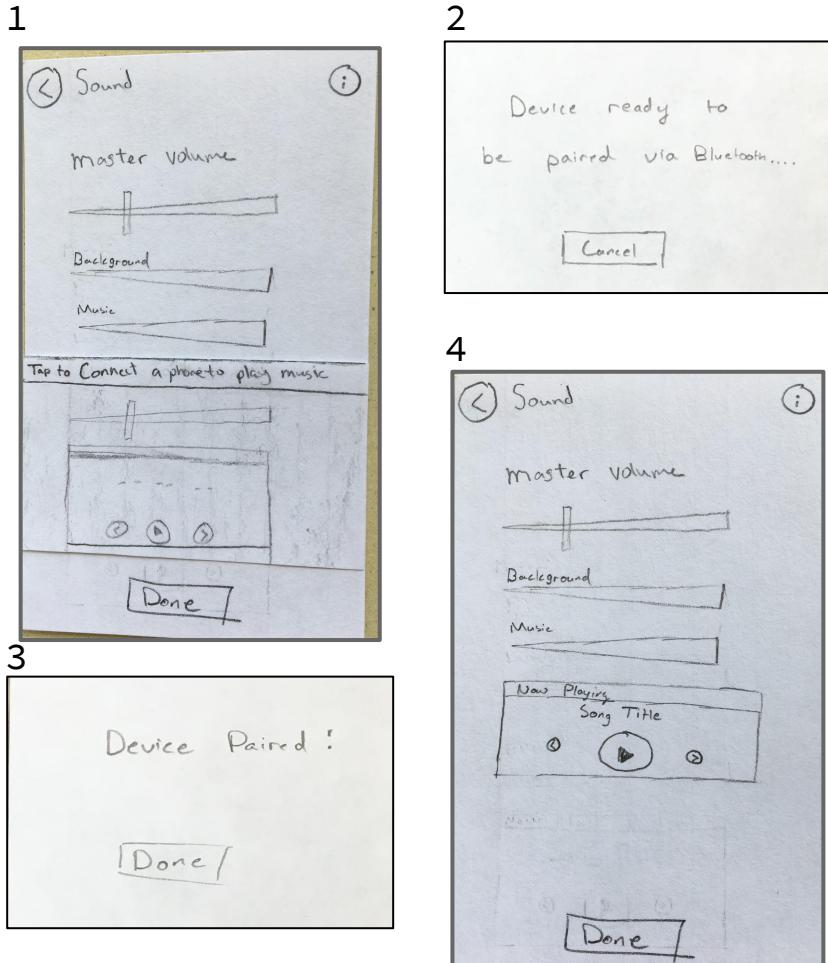
IMPROVEMENT 2:

Aesthetic and Minimalist Design

Uploading music flow changed to bluetooth streaming flow



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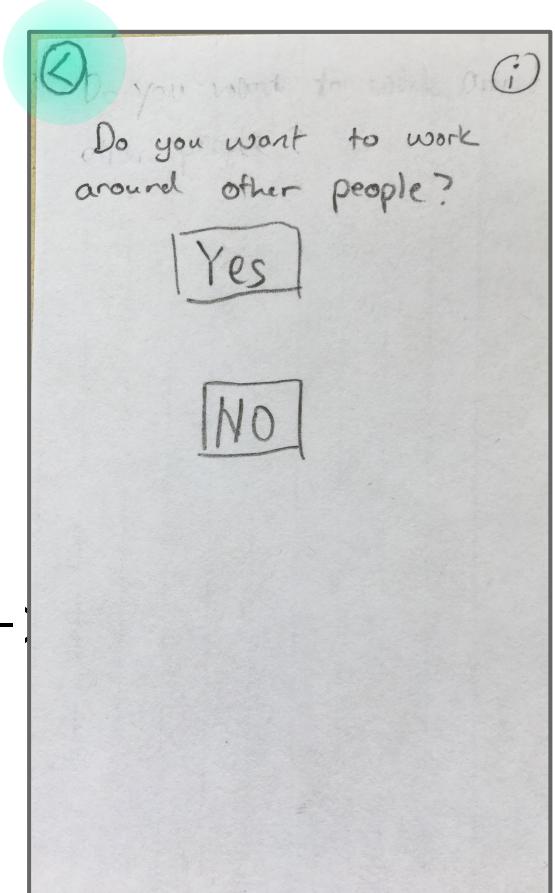
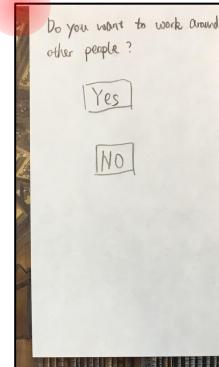
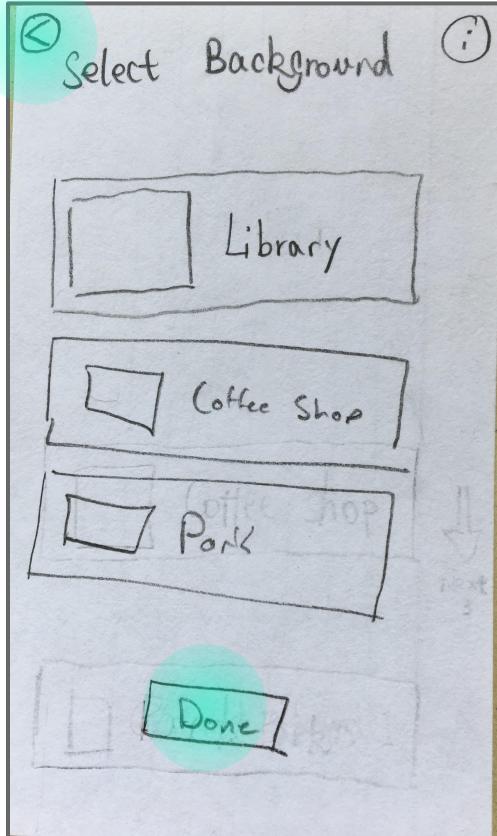


User control and freedom

IMPROVEMENT 3:

Back buttons added to each page

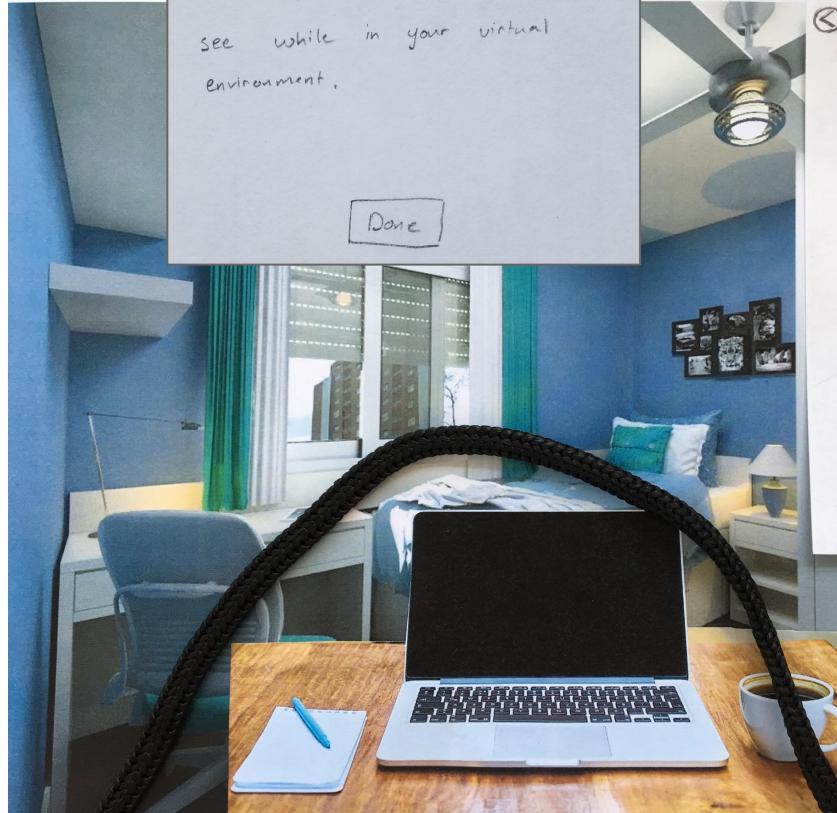
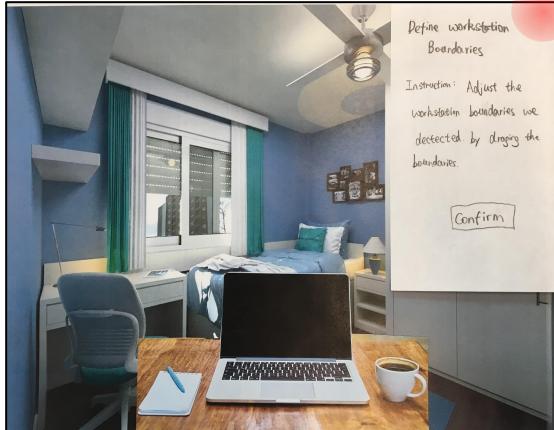
Confirmation buttons added



IMPROVEMENT 4:

Help and documentation

Added info buttons to each page for a more details



① Your workstation is the area you still want to see while in your virtual environment.

Done

② Define workstation Boundaries

Instruction: Adjust the workstation boundaries we detected by dragging the boundaries.

Done

DIGITAL MOCKUP

DIGITAL MOCKUP OVERVIEW



Low Latency 360 Camera
(Back Camera)

DIGITAL MOCKUP OVERVIEW

FoQuis

The digital mockup overview displays a series of screens for setting up a virtual workspace:

- Home Screen:** Offers options to "Start in a Virtual Location" or "Start in your Current Location".
- Define Workstation Boundaries:** Instruction: Adjust the workstation boundaries detected by dragging the boundaries. Includes a "Done" button.
- Background Volume Information:** Background volume refers to the ambient noise in your physical location. Music refers to the sound coming from your paired device. You may adjust these individually, or as a whole using the master volume bar. Includes a "Done" button.
- Virtual Environment Information:** Starting in a virtual location will change your environment to a virtual place. Starting in a current environment will not change your background, but it will give you the option to remove visual distractions. Includes a "Done" button.
- Workstation Visibility:** Your workstation is the area you would still like to be visible in the virtual environment. Includes a "Done" button.
- Visual Distractions:** Select whether you or not you would like to see other people around you using this device while you work. Includes a "Done" button.
- Sound Settings:** Master volume, Background volume, Music volume. Song Playing controls (play/pause/next). Includes a "Done" button and a "Safety Warning: Fire Alarm" message.
- Device Pairing:** Device ready to be paired... Tap Here to Connect a Device for Music! Includes a "Cancel" button and a "Done" button.
- Select Background:** Device successfully paired! Includes a "Done" button.
- Remove Visual Distractions:** Instruction: Circle any objects you want to remove from your current selection. Includes "Undo" and "Remove" buttons, and a "Confirm" button.
- Adjust Number of People Around You:** A slider from 0 to 5. Includes a "Confirm" button.
- Background Selection:** Select the background you would like to be transported to while you are working. Includes a "Done" button.
- Change Background:** Using your finger, circle any distractions you would like to remove from view while you are working. This does not include audio coming from these sources. Includes a "Done" button.
- Return Home:** A vertical menu on the right side with icons and arrows pointing to the left, corresponding to the screens above:
 - Collapse Settings Bar > (gear icon)
 - Adjust Sound > (speaker icon)
 - Adjust Number of Background Characters > (people icon)
 - Remove Distractions > (eye icon)
 - Return Home > (house icon)
- Second Vertical Column:** A second set of icons and arrows pointing to the left, corresponding to the screens above:
 - Collapse Settings Bar > (gear icon)
 - Adjust Sound > (speaker icon)
 - Adjust Number of Background Characters > (people icon)
 - Change Background > (image icon)
 - Return Home > (house icon)

TASK 1: FEEL MOTIVATED TO WORK





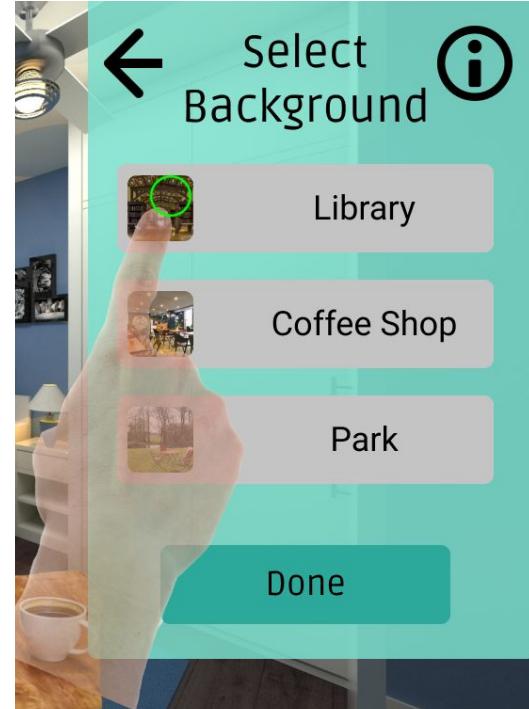
Define Workstation Boundaries



Instruction: Adjust the workstation boundaries detected by dragging the boundaries.



Done



Select Background

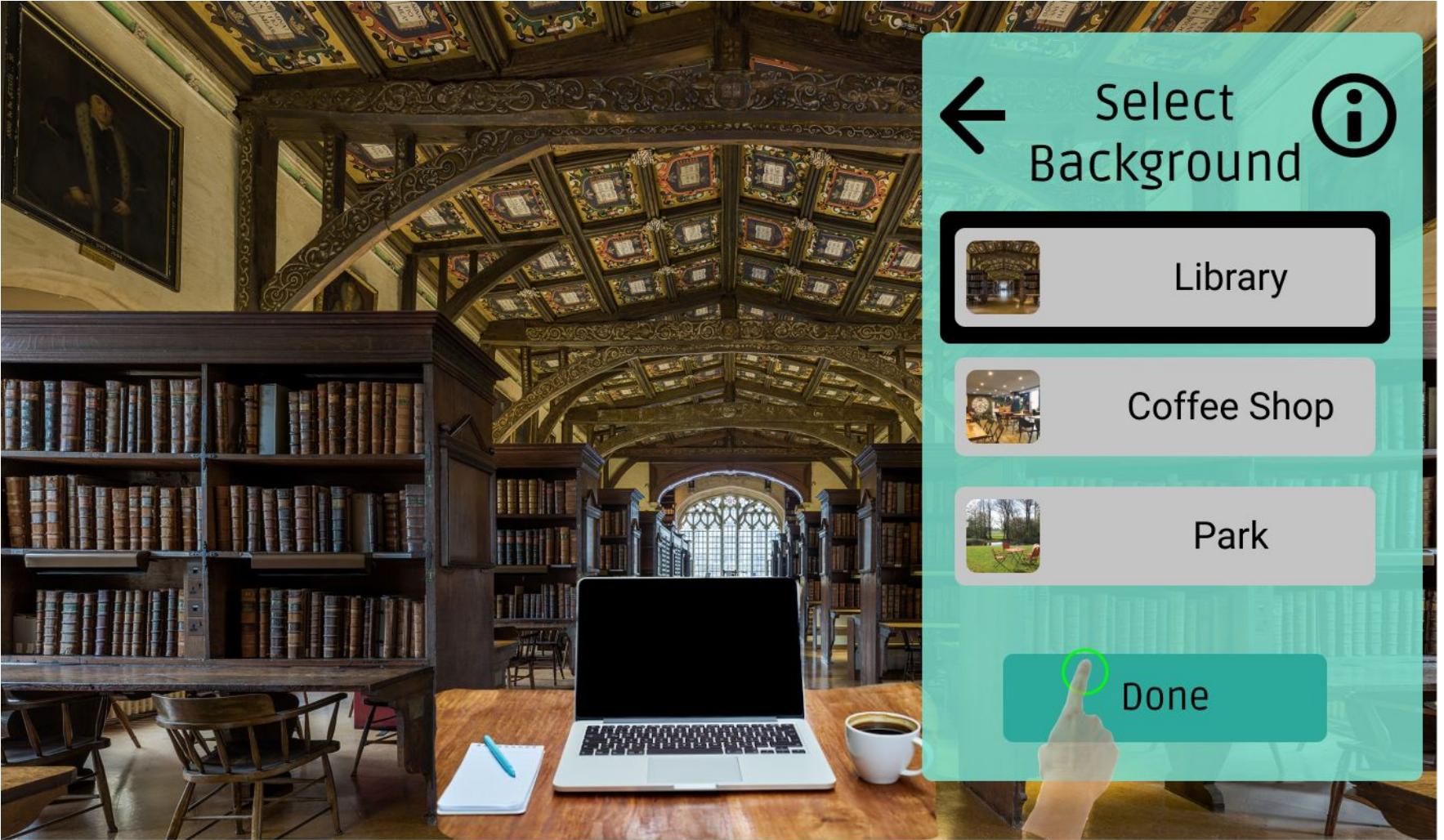


Library

Coffee Shop

Park

Done



Select
Background



Library

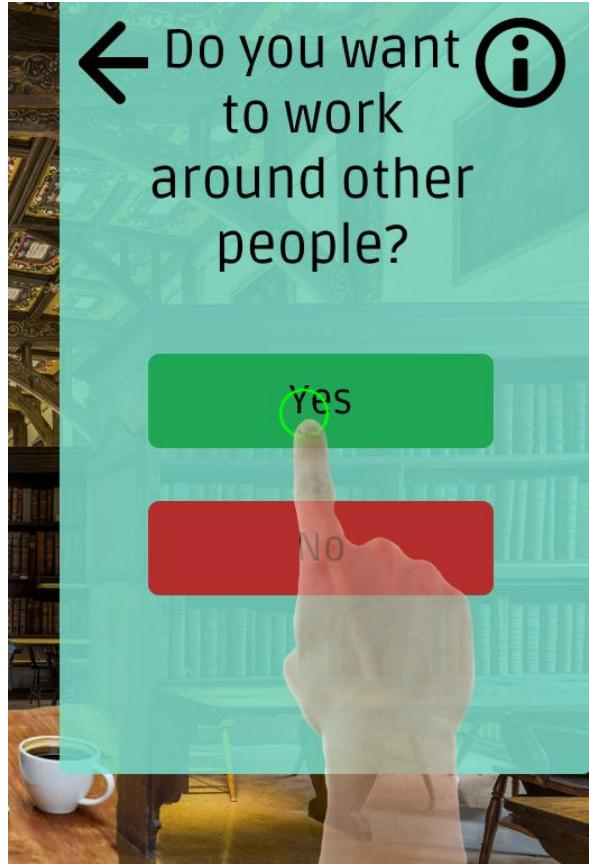
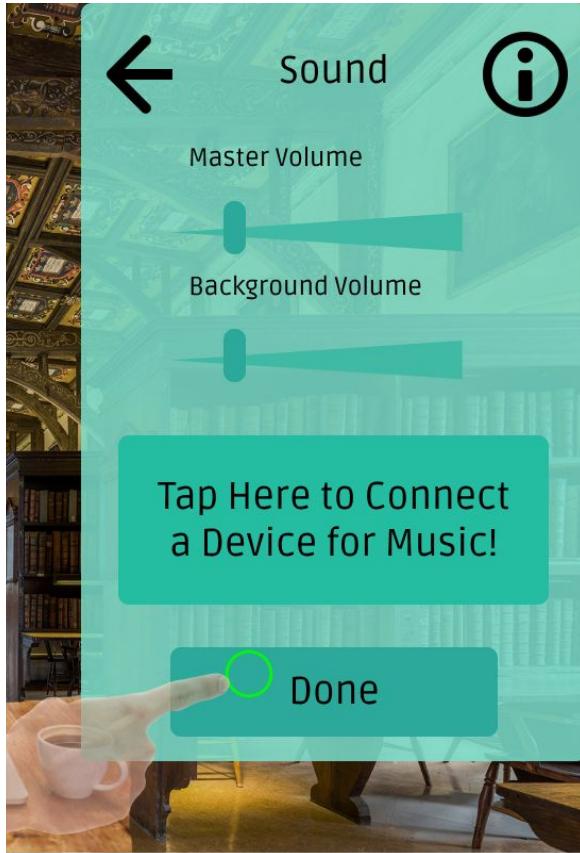


Coffee Shop



Park

Done

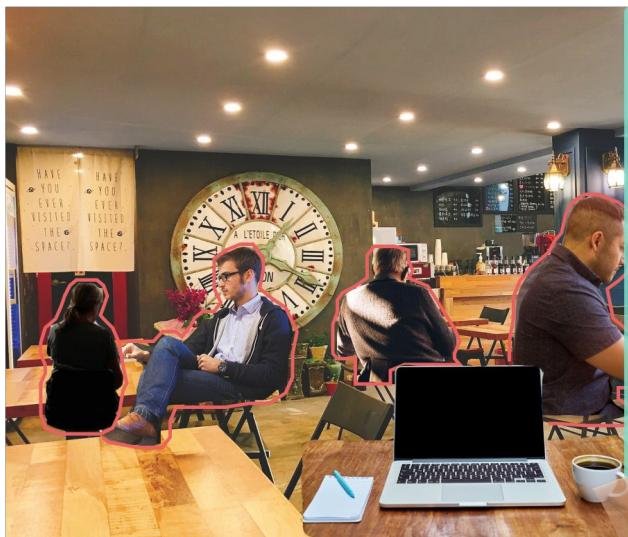




V

TASK 2: REMOVE DISTRACTIONS





← Remove Visual Distractions ⓘ

Instruction: Circle any objects you want to remove from your current selection

Undo ⌛ Remove 🗑

Done

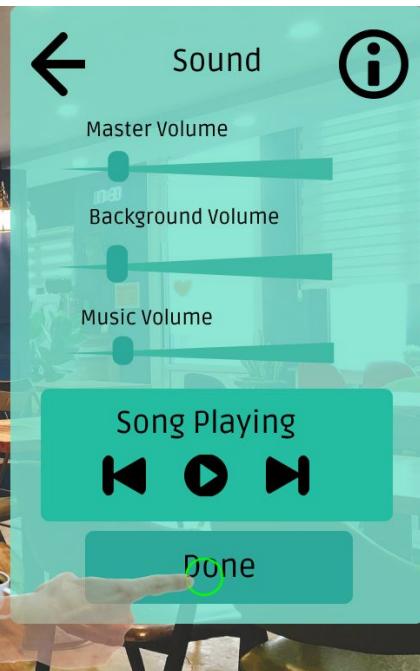
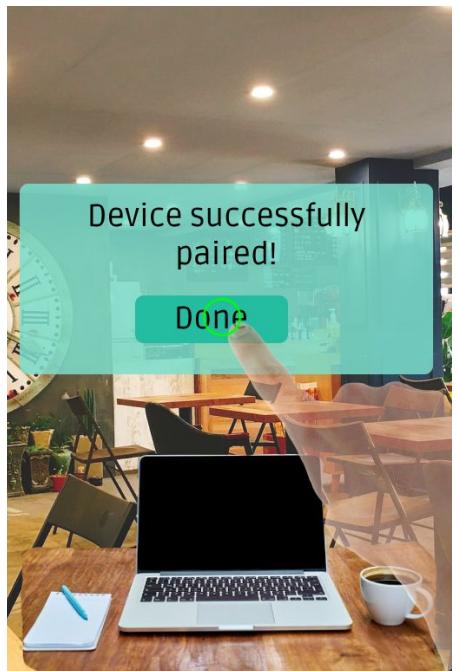
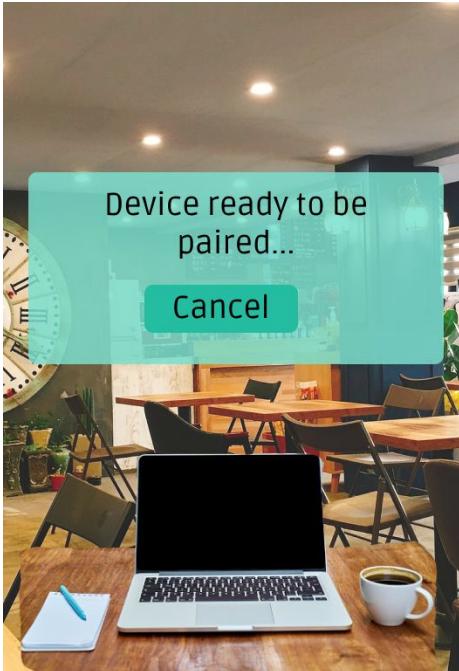
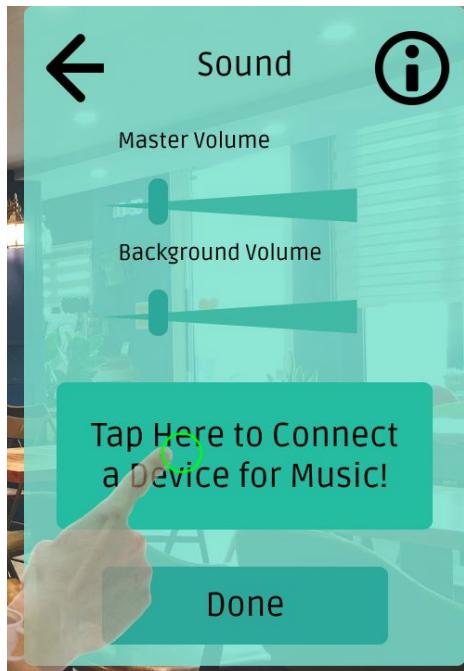


← Remove Visual Distractions ⓘ

Instruction: Circle any objects you want to remove from your current selection

Undo ⌛ Remove 🗑

Done





SUMMARY

SUMMARY

- Always keep your design problem in mind
- Clarity and simplicity are key for our users
- Prioritize the most important features to your tasks

FUTURE WORK

- Form factor options
- More accessible
- More customization in a less distracting way

QUESTIONS?