

Team Name: Team 5

Project Topic: How might we make the room environment more relaxing and comfortable for people who need to sleep during the day to improve their sleep quality

Student Name: Yanqing Zhong

Student ID: 14247376

Summary of the Design Thinking Processes:

Empathy:

Our team used the research and interview empathy method, we pick 'Health and well-being' as our research area at the beginning of the subject, and we had to research 5 different areas (as Figure 1-1, 1-2 show) which relate to health and well-being, we discussed every area, and voting, finally pick 'sleep deprivation' as our project area, for following researching and interview.

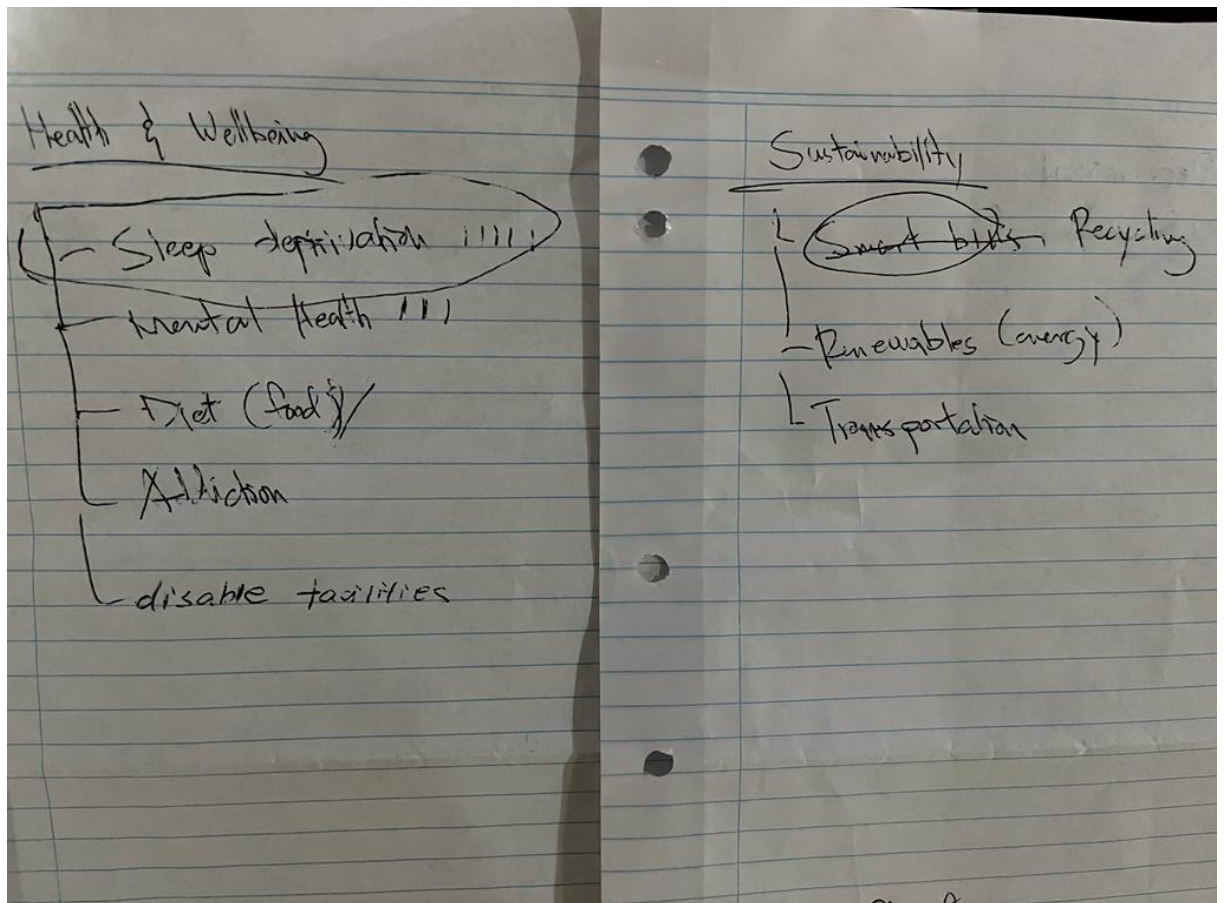


Figure 1-1

Topic Discuss: Health and Wellbeing problem-solving

-Sleep deprivation (*Lean*)

- Affects both children and adults
- Availability of some apps
- Mostly PHYSICAL solutions (removal of device)
- Look into available solutions

-Mental health (*Chanice*)

- Mood checklist app, 15 – 24 higher chance to have mental health problems.
- Dependent on technology for help (robot, apps, websites) - preferred, being afraid of judgement.
- E-therapy availability (suicide prevention)
- Symptoms of mental health conditions
- Solutions (podcast, gym, talking to friends)
- Causes (Abuse, poverty, loneliness, losing a job, addiction/substance abuse)

-Diet(food) (*Matt*)

- What is a healthy diet.
- Benefits of a healthy diet
- Food servings - Calorie needs app
- What you should be eating
- How does food impact health
- Calorie Counting App (Stressful – specific / easy diet diary)

-Addiction (*Jack*)

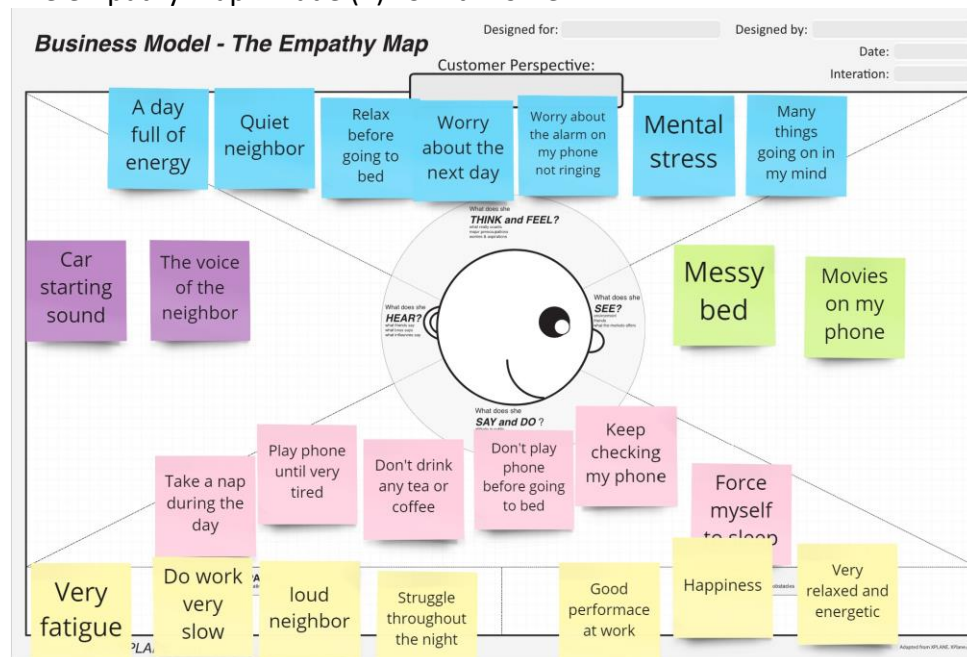
- Addiction recovery apps
- How to identify

-Disabled Facilities (*Amy*)

- Higher Education for disabled people(accessibility)
- Smart facilities help study accessibility for disabled people.

Figure 1-2

The empathy map I made (1) Shift Worker



Business Model - The Empathy Map

Designed for: Designed by:

Date:

Iteration:

Customer Perspective:

THINK and FEEL?

- Dark room
- Comfortable bed
- Relaxing my mind
- Comfortable room temperature
- Noisy environment
- Nighbour being noisy
- clicking sound of plumbs in the wall
- snoring sound
- Bird noise early in the morning

What does she HEAR?

What does she SEE?

- Dreams
- Dark room
- Light of iphone charger

What does she SAY and DO?

- Good night
- Taking a sleeping pill
- Drinking some wine before sleep
- Play with my phone
- Watching a movie

GAIN

- Quality sleep
- Energy
- Better concentration
- Healty appearance

PAIN

- Trouble getting to sleep
- Fatigue after a bad sleep
- Sometimes headaches after a bad sleep
- Loss of concentration
- Nightmares
- Peaceful mind

Define:

Our team used an empathy map, and composite character profile in the defining design thinking process, we interviewed people who are from different backgrounds, and we extract the information of our users from four traits 'SEE, SAY and DO, HEAR, THINK and FEEL' and taking notes for prepare our empathy map, grouping our notes and define the main gain and main pain of our users, generate all information as two categories empathy map and made our composite character profile. Composite character profiles from our group work (Figure 1-3,1-4)

Composite Character Profile



Lesley

- 34 years old
- Doctor
- No kids
- Shifts are never the same every week due to work hours being erratic
- Tries to stay healthy outside of work by being active where possible
- Needs to be well rested due demanding workloads

Figure 1-3

POV want ad: Lesley, a 34 yr. old doctor works erratic shifts at the hospital needs a more convenient way to regulate her sleep cycle so that she can feel well rested before starting shift.



Derek

- 45 years old
- Police Officer
- Married
- 2 kids
- Works on a semi consistant roster one week of night shifts a month
- Wants to stay rested when not at work so that he can spend time with his kids when possible

Figure 1-4

POV want ad: Derek, a 45 yr. old Police Officer needs good sleep outside of work hours so that he can be well rested to spend time with his kids.

Ideation:

Our team used brainstorming, and sketches ideation methods to generate our ideas. During the brainstorming process we use 8-ups method to generate our ideas, and everyone shared their ideas with the group, after we discuss, we voted one best idea from each person's 8-ups work, and we drew our storyboard individually.

Our 8 ups (Figure 1-5)

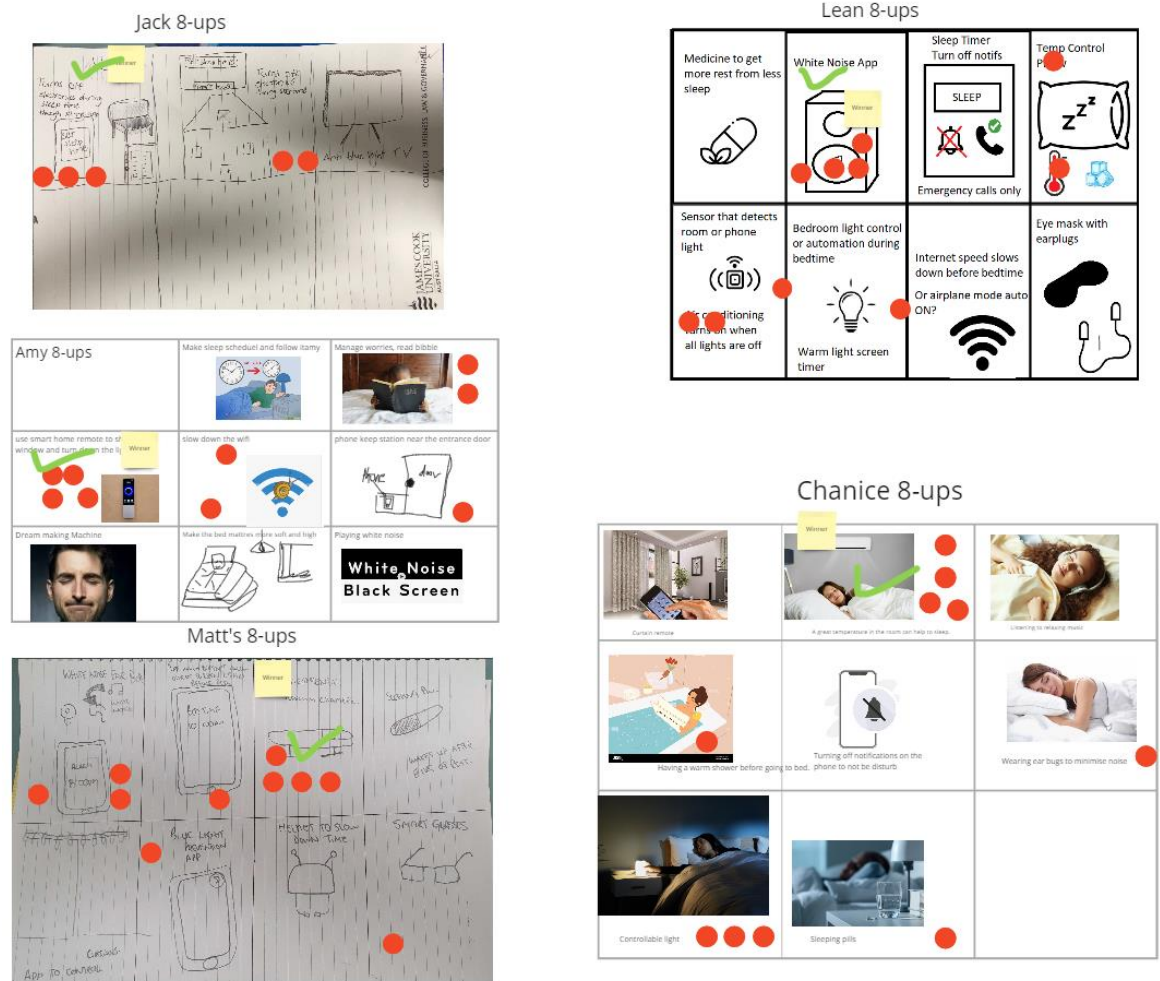


Figure 1-5

Our storyboard (Figure 1-6)

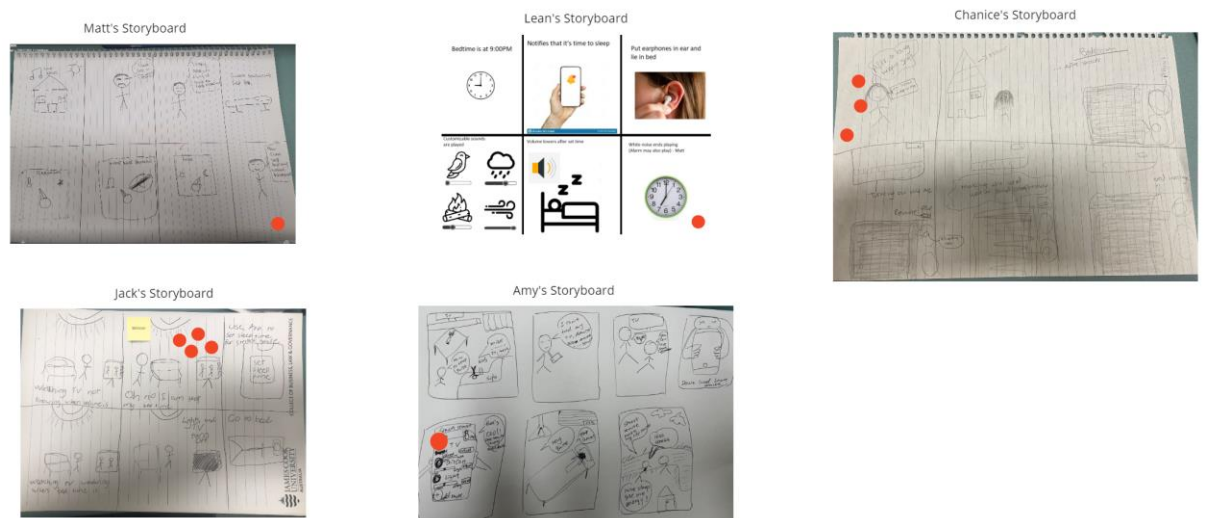


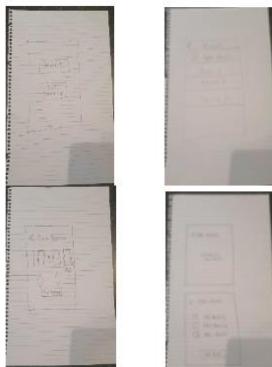
Figure 1-6

We used the voting method to select what to prototype from our visual thinking result 'storyboard', according to each team member's storyboard we are voting on the best feature we would like to design for our prototype and discussed what we can improve based on those selected features for our prototype.

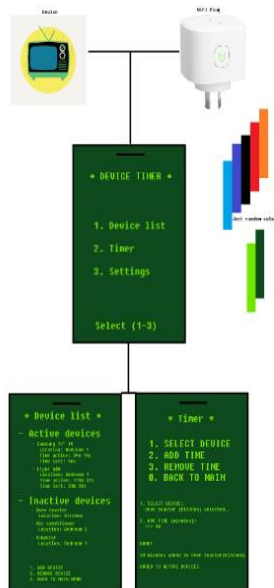
Prototype and Test (Iteration 1)

Paper version of prototype (group work)

Prototype (Jack & Matt)



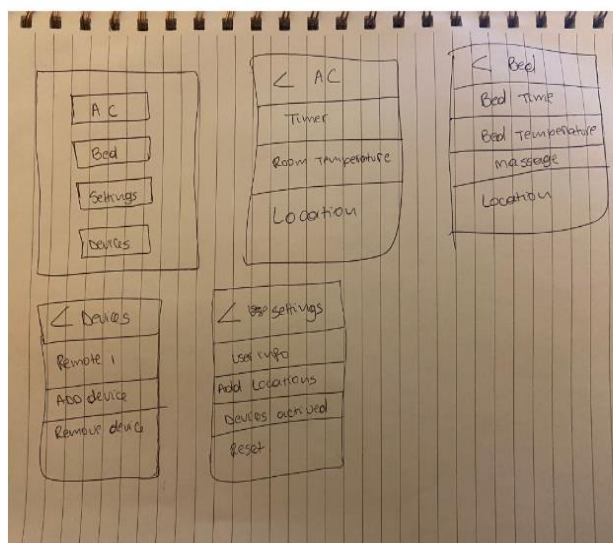
Prototype - Lean



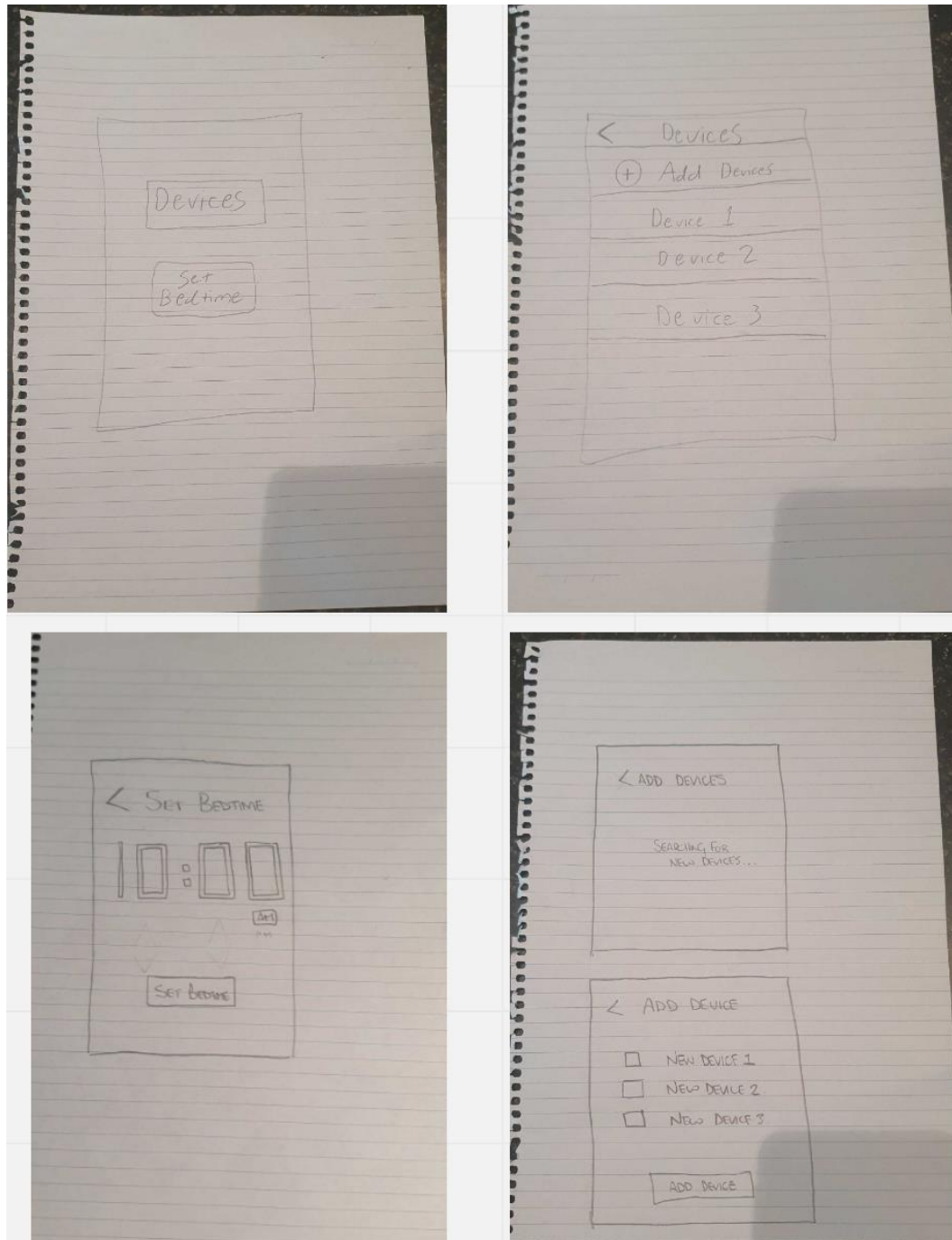
Prototype-Amy



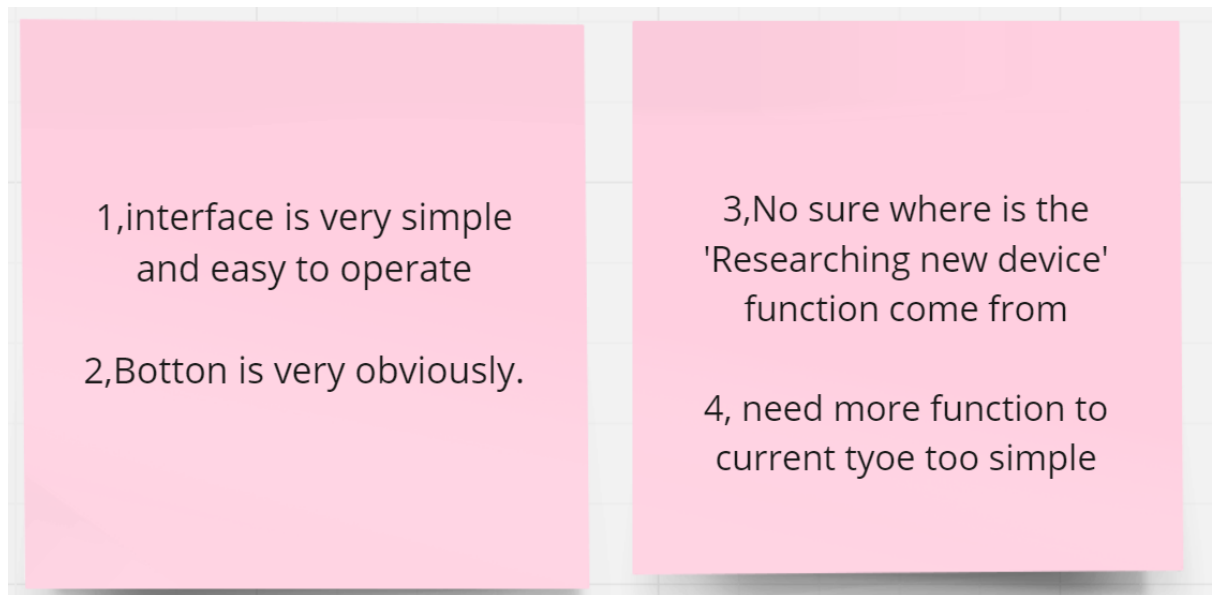
Prototype Chanice



Prototype version 1 (selected by group)



Test the Device button on the main interface first, select 'Add Devices', return to the main interface, and test the next button 'Set Bedtime' to set the sleep time, this procedure is quite simple, but when I tested the last page for researching device, I felt lost and not sure where this button came from.



All of us thought we need to make the app more functional but at the same time, we need to consider how to make this device easy to use for the elder or people who are struggling with using high-tech devices.

The changes to the prototype in the next iteration for our group discussed

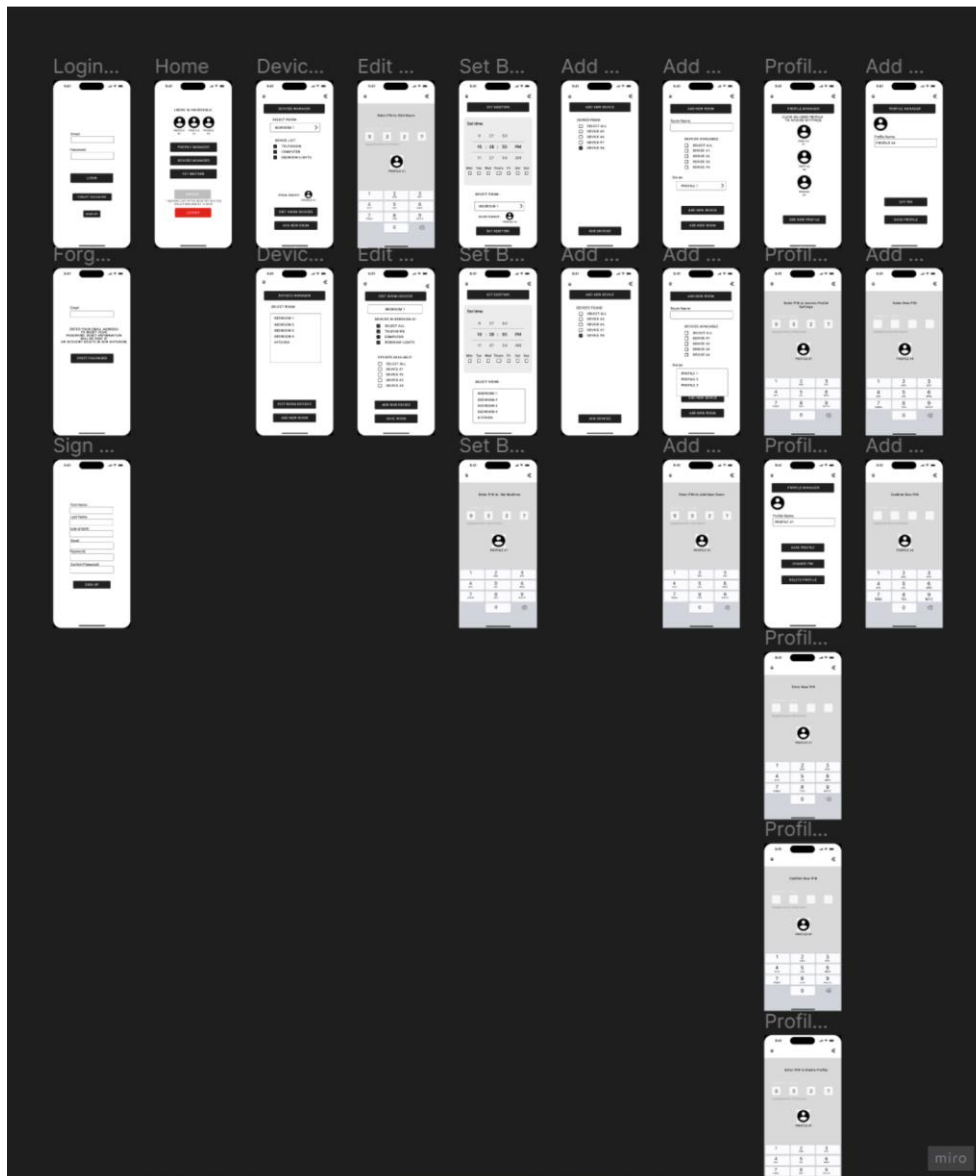
1. Snooze Button/Cancel feature
2. Home button to help people who have trouble with technology to find home page
3. Ability to adjust Bedtime by arrows as well to help people who struggle with tech
4. Days of the week available to be set on Bedtime page
5. Reminder Alert before lights go off - lights dimming or reminder on phone screen
6. Ability to select all devices from one location at the top of the device list
7. Ability to set rooms with devices tied to that room
8. A way to set rooms into the bedtime function

Prototype and Test (Iteration 2)

Low-fi prototype version 2



Low-fi prototype version 3



For version 2, we have changed

1. Snooze Button
2. Home button to help people who have trouble with technology to find home page
3. Ability to adjust Bedtime by arrows as well to help people who struggle with tech
4. Days of the week available to be set on Bedtime page
5. Reminder Alert before lights go off - lights dimming or reminder on phone screen
6. Ability to set rooms with devices tied to that room

For version 3, we have changed

- 1, Presented a draft hi-fi prototype on Figma
- 2, Bedtime setting page with more accessibility.
- 3, Provide a way for user to log into app, create new account or reset password
- 4, Update more icons and change the application interface to match the phone screen.

For testing version 3 in Figma, most of the process went smoothly. I felt lost after I set anything because there is no confirmation message, and I used the password reset page there is no escape page option, which confused me.

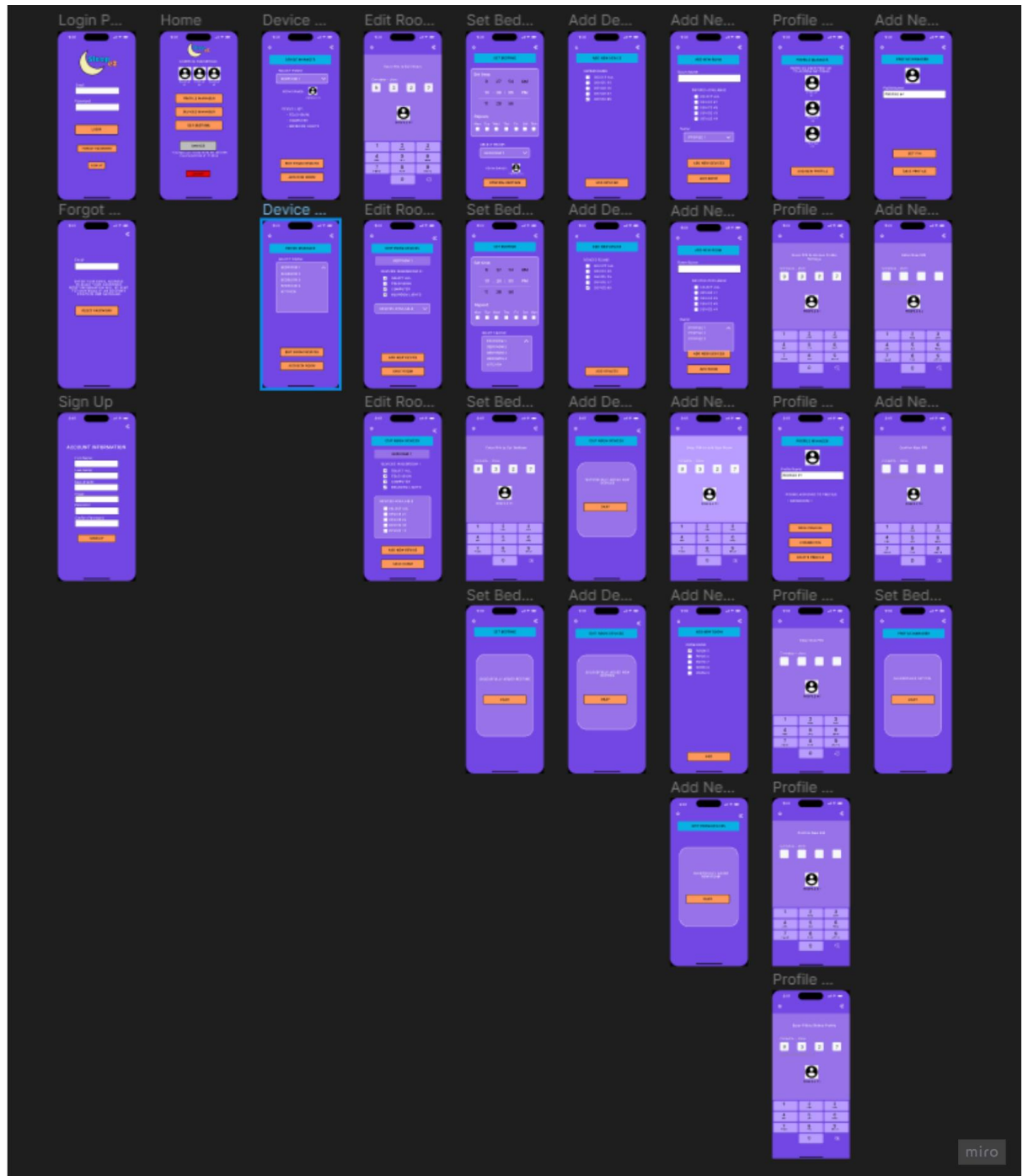
My opinion is that adding a confirmation page to let users know whether the settings are successful, reduces unnecessary confusion and repetitive setup. Also, there are clear exit interface options, making the device more convenient to the user.

My team members testing feedbacks are talking about adding more smart functions and beautifying the user interface, however according to our current design ability, this is difficult to achieve. What we can do is to make the associated page clearer and simpler on the existing basis

Below are our team's suggestions for how to change the next version (Final prototype)

- 1, Show confirmation of room addition
- 2, Back button on reset password and sign-up pages
- 3, Setting bedtime - change name of button to confirm bedtime
- 4, On home page put different avatars and names like photos for more professional
- 5, visibility and names instead of default avatars, profile
- 6, On the Device Manager page owner Profile #1 should be displayed at the top after the List of Devices rather than at the bottom
- 7, Try to put comments on each screen for a good reading of the application
- 8, My last suggestion and that you try to put Icon on some buttons for better visibility.
- 9, Tester got stuck in loop for adding room - needs confirmation
- 10, Tester got stuck in loop for adding devices - needs confirmation
- 11, Tester tried to click on profiles from home screen - add this functionality
- 12, Better implementation / placement of inputs (checkboxes)
- 13, Fix character spacing, line heights and kerning
- 14, Better approach to checkboxes
- 15, Under devices manager, to be able to click the Room Owner: Profile # then go to profiles page

Final prototype



Appendix A: Team meeting Minutes

Team Meeting Notes (1)

Team name: 5

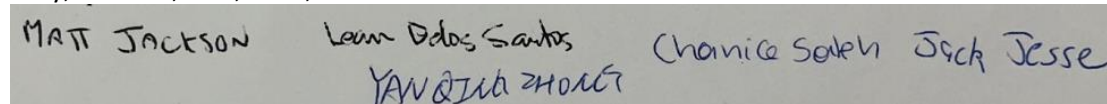
Date of Meeting: 22/09/2022

Start Time: 9:00am

End Time: 10:30am

Members present:

Amy, Chanice, Jack, Lean, Matt



Members absent: NONE

Meeting Chairperson: Amy(yanqing)

Minutes taken by: Lean

Summary of Meeting: (what was discussed?):

Members shared some prepared questions and ideas.

- Amy: questions and research on Google Maps and Massage Device complexity, usability, portability
idea shared: emergency wearable necklace/pendant (emergency services and medicine)
- Chanice: mentioned availability of mental health/wellness resources/apps
- Jack: leaning towards apps, technology
mentioned interest in Smart Bins and Mental Health apps (Headspace?)
- Lean: raised questions on Smart Bins and availability of recycling hubs.
- Matt: presented questions to someone living with diabetes, discussed Smart Bins or availability of such devices
- Voted Mental Health / Wellbeing as the Project Area

Action items: (who is doing what before next meeting?)

Actions for Team members:

Job to do	Who will do this work?	By When?
Primary research on discussed topic 1. Health and Wellbeing	Everyone	27/09/2022

Next Meeting Date: 28/09/2022 Next Meeting Time: 9:00 – 11:00am

Meeting chairperson sign to approve of this meeting minute:

Name: Yanqing Zhong

Date: 27/09/2022



Date: 28/09/2022

Team Meeting Notes (2)

Team name: Team 5

Date of Meeting: 28/09/2022

Start Time: 9:00am

End Time: 10:00 am

Members present:

MATT JACKSON Leon Delos Santos Chanice Saleh Jack Jesse
YANQING ZHONG

Members absent: None

Meeting Chairperson: Yanqing Zhong

Minutes taken by Jack

Summary of Meeting:

Topic Discuss: Health and Wellbeing problem-solving

Researching those topics

-Sleep deprivation (Lean)

Affects both children and adults / Availability of some apps

Mostly PHYSICAL solutions (removal of device) / Look into available solutions

-Mental health (Chanice)

Mood checklist app, 15 – 24 higher chance to have mental health problems.

Dependent on technology for help (robot, apps, websites) - preferred, being afraid of judgement.

E-therapy availability (suicide prevention) / Symptoms of mental health conditions

Solutions (podcast, gym, talking to friends)

Causes (Abuse, poverty, loneliness, losing a job, addiction/substance abuse)

-Diet(food) (Matt)

What is a healthy diet.

Benefits of a healthy diet / Food servings - Calorie needs app

What you should be eating / How does food impact health

Calorie Counting App (Stressful – specific / easy diet diary)

-Addiction (Jack)

Addiction recovery apps / How to identify

-Disabled Facilities (Amy)

Higher Education for disabled people(accessibility) / Smart facilities help study accessibility for disabled people.

Action items: each team member interviews people and brings the interview questions to the next meeting.

Actions for Team members:

Job to do	Who will do this work?	By When?
Further investigation	All team member	Due date 30/09 Friday

Next Meeting Date: 30/09 Friday Next Meeting Time: 8:15 to 9:00am

Meeting chairperson sign to approve of this meeting minute:45 minutes

Name: Yanqing Zhong

Date:28/09/2022

YANQING ZHONG

Team Meeting Notes (3)

Team name: Team 5

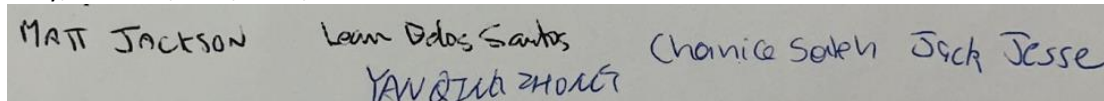
Date of Meeting: 30th September 2022

Start Time: 8:15am

End Time: 9:10am

Members present:

Amy, Chanice, Jack, Lean, Matt



Members absent: None

Meeting Chairperson: Lean

Minutes taken by: Amy

Summary of Meeting:

ZOOM Meeting

- Each member prepared at least 8 questions each prior to this meeting
- Presented and compiled our list of interview questions (sleep/sleep deprivation/sleep quality).
- Reviewed the questions and marked which ones are open-ended / leading questions.
- Grouped similar questions into categories on the shared document.

Action items: (who is doing what before next meeting?)

Actions for Team members:

Job to do	Who will do this work?	By When?
Further research (web, print media)	Everyone	5 th October
Test the interview questions		
Gather insights, feed backs		

Next Meeting Date: 5th October

Next Meeting Time: 9:00am

Meeting chairperson sign to approve of this meeting minute:

Name: Lean



Date: 30th September, 2022

Team Meeting Notes (4)

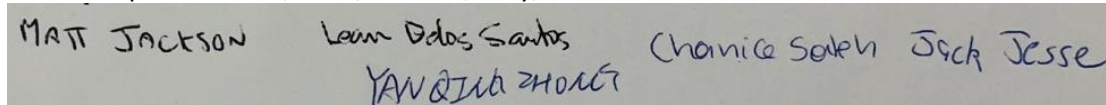
Team name: Team 5

Date of Meeting: 05/10/2022

Start Time: 9:00am

End Time: 10:00am

Members present: Jack, Matt, Chanice, Amy, Lean



Members absent: None

Meeting Chairperson: Jack

Minutes taken by: Jack

Summary of Meeting: (what was discussed?)

- Plan to use Miro for empathy map.
- Finalize interview questions.

Action items: (who is doing what before next meeting?)


Actions for Team members:

Job to do	Who will do this work?	By When?
Interview	Jack	Friday
Interview	Matt	Friday
Interview	Chanice	Friday
Empathy Map	All group member	Sunday

Next Meeting Date: 12/10/2022

Next Meeting Time: 9:00am

Meeting chairperson sign to approve of this meeting minute:

Name: Jack 

Date: 5/10/2022

Team Meeting Notes (5)

Team name: Team 5

Date of Meeting: 12/10/2022

Start Time: 9:00am

End Time: 11:25am

Members present: Jack, Matt, Chanice, Amy, Lean

MATT JACKSON Lean Dabos Santos Chanice Saleh Jack Jesse
YANQIUA ZHANG

Members absent: None

Meeting Chairperson: Matt

Minutes taken by: Chanice

Summary of Meeting: (what was discussed?)

- Constructed a final Empathy map from everyone's interview results.
- Individually constructed POV statements and carried out voting on final POV statement for Project.

Action items: (who is doing what before next meeting?)

Actions for Team members:

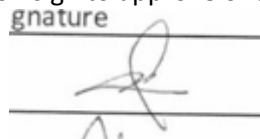
Job to do	Who will do this work?	By When?
Construct 5 HMW questions from POV statement.	Everyone	18/10/22

Next Meeting Date: 18/10/2022

Next Meeting Time: 10:00am

Meeting chairperson sign to approve of this meeting minute:

Name: Matt J

Signature


Date: 12/10/2022

Team Meeting Notes (6)

Team name: Team 5

Date of Meeting: 18/10/2022

Start Time: 10:00am

End Time: 12:30pm

Members present: Jack, Matt, Chanice, Amy, Lean

MATT JACKSON Lean Dabos Santos Chanice Saleh Jack Jesse
YANQIUA ZHANG

Members absent: None

Meeting Chairperson: Chanice

Minutes taken by: Matt

Summary of Meeting: (what was discussed?)

- Everyone constructed 5 HMW questions for our chosen POV and topic area.
- Brought them all together and voted on which ones we should use going forward.

Action items: (who is doing what before next meeting?)

Actions for Team members:

Job to do	Who will do this work?	By When?
Finish defining the topic area	Everyone	26/10/22

Next Meeting Date: 26/10/2022

Next Meeting Time: 9:00am

Meeting chairperson sign to approve of this meeting minute:

Name: Chanice



Date: 18/10/2022

Team Meeting Notes (7)

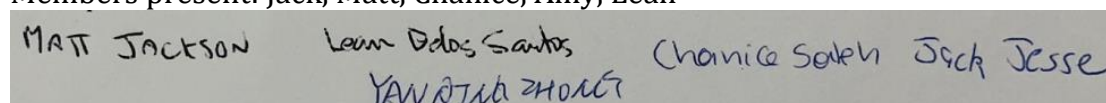
Team name: Team 5

Date of Meeting: 09/11/2022

Start Time: 9:00am

End Time: 12:00pm

Members present: Jack, Matt, Chanice, Amy, Lean



Members absent: None

Meeting Chairperson: Matt

Minutes taken by: Matt

Summary of Meeting: (what was discussed?)

- Carried out 8up and storyboard activities to carry out decisions on groups best solution idea.

Action items: (who is doing what before next meeting?)

Actions for Team members:

Job to do	Who will do this work?	By When?

Start thinking about/developing prototype for next week.	Everyone	16 Oct 2022
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Next Meeting Date: 16/11/2022

Next Meeting Time: 9:00am

Meeting chairperson sign to approve of this meeting minute:

Name: Matt

Date: 9/11/2022

Team Meeting Notes (8)

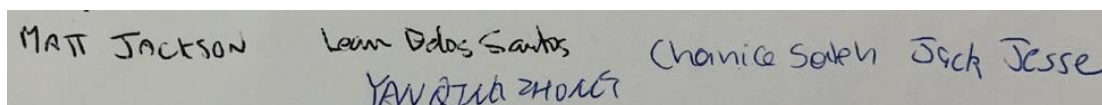
Team name: Team 5

Date of Meeting: 16/11/2022

Start Time: 9:00am

End Time: 11:00am

Members present: Jack, Matt, Chanice, Amy, Lean



Members absent: None

Meeting Chairperson: Lean

Minutes taken by: Matt

Summary of Meeting: (what was discussed?)

- Develop first iteration of paper prototype

Action items: (who is doing what before next meeting?)

Actions for Team members:

Job to do	Who will do this work?	By When?
Everyone	Test Paper Prototype	20/11/2022
Everyone	Provide findings from testing	22/11/2022

Next Meeting Date: 23/11/2022

Next Meeting Time: 09:00am

Meeting chairperson sign to approve of this meeting minute:

Name: Lean

Date: 23/11/2022

Team Meeting Notes (9)

Team name: Team 5

Date of Meeting: 23/11/2022

Start Time: 10:00am

End Time: 12:00pm

Members present: Jack, Matt, Chanice, Amy, Lean

MATT JACKSON Lean Delos Santos Chanice Seth Jack Jesse
YAN QIN ZHANG

Members absent: None

Meeting Chairperson: Amy

Minutes taken by: Lean

Summary of Meeting: (what was discussed?)

- Discuss feedback from paper prototypes
- Discuss how to implement changes
- Start developing Figma prototype

Action items: (who is doing what before next meeting?)

Actions for Team members:

Job to do	Who will do this work?	By When?
Matt	Develop homepage Oversee Figma project	27/11/2022
Amy	Profile Manager Add New Profile	27/11/2022
Jack	Set Bedtime Add Devices	27/11/2022
Lean	Device Manager Edit Room	27/11/2022
Chanice	Login Add New Room	27/11/2022
Everyone	Get testing results for prototype	29/11/2022

Next Meeting Date: 29/11/2022

Next Meeting Time: 12:00pm

Meeting chairperson sign to approve of this meeting minute:

Name: Amy

Date: 29/11/2022

Team Meeting Notes Template (10)

Team name: Team 5

Date of Meeting: 29/11/2022

Start Time: 11:00am End Time: 1:00pm

Members present: Jack, Matt, Chanice, Amy, Lean

MATT JACKSON Lean Delos Santos Chanice Seth Jack Jesse
YAN QIN ZHANG

Members absent: None

Meeting Chairperson: Chanice

Minutes taken by: Jack

Summary of Meeting: (what was discussed?)

Discussed feedback received from prototype testing and implement changes required to finalize product.

Action items: (who is doing what before next meeting?)

Actions for Team members:

Job to do	Who will do this work?	By When?
Everyone	Finish off finalizing prototype and write report	31/11/2022

Meeting chairperson sign to approve of this meeting minute:

Name: Chanice

Date: 29/11/2022

Appendix A: Teamwork Contribution Report Teamwork Contribution Report

My contributions for each design thinking process:

Project Work	
Empathy	7/10/2022 conduct 2 empathy map with potential users (shift worker and student)
Define	25/10/2022 Based on the empathy map I concluded ideas and shared them with members of my team
Ideation	9/11/2022 Suggested 8 ideas in brainstorm meeting and gave advice to others work
Prototyping	15/11/2022 paper prototype prepared 29/11/2022 Modified device manage, bedtime set and add bedroom page
Testing	11/22 Tested 1 users get 3 test feedback. 11/26 tested 1 user get 4 test feedback
Team management and	Arranged all meetings for all participants and confirmed availability on each occasion. Further, I touched base with the tutor for feedback and shared this feedback with the group. I overlooked the requirements for

information sharing	the practical and ensured that each member received appropriate guidance.
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Appendix B: My contributions for each team meeting

Meeting Date	Role in meeting	Contributions
22/09/2022	Chairperson	Arranged meeting and encouraged team members to participate in an open discussion.
28/09/2022	Chairperson	Provided advise in relation to different avenues of joined teamwork
30/09/2022	Participant	Prepared 8 ideas and shared my ideas to the group.
05/10/2022	Participant	Confirmed team member's interview feedback and made the schedule about completing the interview questions if they didn't do it.
18/10 /2022	Participant	Shared my 5 HMW questions, and discussed with the group about POV
9/11/2022	Participant	Shared my ideas and storyboard about how to prepare prototype
16/11/2022	Participant	Shared my paper prototype and gave advice for others prototype.
23/11/2022	Participant	Discussed prototype feedback from tester how to implement changes with team member
29/11/2022	Participant	Modified final prototype for device manage, bedtime set, and add room page in Figma