

INTERVIEW NOTES & Q'S

Hi there, what is your occupation, and give me a basis of what you do?

How long have you been in this industry for, what was your reason for joining and helping those with the disease?

Do pop-ups or unplanned activities/ things to do cause them anxiety?

Building off that, are more structured and pleasant activities more beneficial to their mood and reduce signs of agitation?

How do you keep yourself from getting frustrated when they often forget things?

Do you find that people with Dementia Alzheimer's experience happier lives when and if they are more active, being outside doing activities and not so much relying on a carer to look after them?

Public recognition of people living with this disease is little to none. Think of something like a white cane for the blind etc. Do you think some sort of recognition piece would be beneficial to these patients out in public?

Do you feel keeping people with Dementia Alzheimer's at home longer is more beneficial for their mental health (and slower progression of the disease), compared to moving them into a disability support home?

What about their partner?

Have you seen any of these concepted wearables that assist people living with this disease outside of Australia?

Would wearable technology be beneficial for you and the patients if implemented here?

THESE QUESTIONS WILL BE ASKED TO BOTH INTERVIEWEES: CATLIN & FRED

THE INTERVIEW QUESTIONS, ANSWERS & DISCUSSIONS WILL BE RECORDED, TRANSCRIBED & ANALYSED

INTERVIEW 1 RESULTS

↳ INTERVIEWED CAITLIN (RESEARCH NURSE AT WATER MEMORY CLINIC)

↳ AUDIO RECORDED

↳ TOTAL RECORDING LENGTH: 15 MINUTES

↳ 11/11 QUESTIONS ASKED

Interview 1 Notes and Quotes:

- Registered nurse, clinical research nurse. Assists various parties with researching
- Started nursing 7 years ago, likes supporting people
- Some are very organised, and a lot of structure to their life. If they have memory issues, they might like to have a planned diary. Might struggle with new environments and activities
- "If they have Dementia in the frontal part of the brain, that's called Frontotemporal Dementia, it might affect their behaviour and a person might be really rigid."
- "... The key thing is that people need to feel like they're doing worthwhile and enjoyable things. Regardless of if you have a sudden diagnosis of Dementia, ... Should not stop people from doing the things they love to do. They may have to give up certain activities for safety and that can really make us lose a lot of happiness and joy in our life."
- Caitlin says there really is a big difference in how easily loved ones get more frustrated when looking after people with Dementia, compared to nurses. She thinks because she does not spend that long with them, she does not get easily frustrated.
- "... Because I don't spend that much time with people, I don't have the chance to get frustrated ... I can clearly see from my nursing eyes that it's the disease and not the person."
- "I think that with happiness and satisfaction, a lot of that comes from maybe not being frustrated. And I guess if you must rely on someone to do a lot of things with you or for you, you might get frustrated ... To me it's more the frustration that people get with their own symptoms."
- "... Being as independent as possible is going to make people feel as confident as possible."
- "... People with dementia, in the public sometimes get thought of as they can't make decisions for themselves anymore ... So, I think if we had a good campaign to educate the public that people, just because they have a diagnosis of Dementia doesn't mean they're any less capable of making decisions for themselves."
- Caitlin brought up that there is a rare type of Alzheimer's that give the user bad vision. She noted that they had a little badge that said they had low vision. This does not give you the big perspective, but it still says that they might need some assistance.
- With either keeping Dementia patients at home or sending them to care homes, Caitlin says it is all dependent on the person and family. Where some want to keep them at home, and others find it too difficult to.
- The only sort of wearable that Caitlin knows of that is in use is a necklace with a GPS that the patients are given in the clinics. "It is a fine line of making sure it's safe and they can do that (travel around)."
- Caitlin also remembers the disability personal alarm that is given to the patients in aged care homes, her grandmother had one, and it is a bit of reassurance that they will be safe.
- "The difficulty with all that technology is nothing replaces like having a conversation with someone."
- Caitlin talks about the possibility of an advanced technological wearable in a hospital setting, "... maybe if they were a patient, but people can get quite unwell, and they might not like the feeling of things on them."
- "GPS only works really if you have triangulation of internet connections."
- Caitlin suggests chasing people about getting lost (due to them being confused) using GPS tracking is a fine line. They can get scared, agitated, and upset. Checking in on location from a distance would be more beneficial, while still giving and keeping the patients' independence.

INTERVIEW 2 RESULTS

- ↳ INTERVIEWED FRED (DAD'S SUPPORT WORKER)
- ↳ AUDIO RECORDED & PHOTOS TAKEN
- ↳ RECORDING LENGTH - 17 MINUTES
- ↳ 11/11 QUESTIONS ASKED

Interview 2 Notes and Quotes:

- Support worker, support clients that he works with, in whichever way they need
- Been support worker for at least 5 years, he started as he got sick himself. Could not work, lost his job, could not work for 2 years because of his illness. After getting better, he contemplated what he was going to do. Fred decided to help people. "...For that time, it was really terrible where you couldn't help yourself."
- "The worst is if, you can't really help yourself and then there somebody that can just help or even just listen to you or do something, it makes a huge difference."
- Fred agrees that sudden things can agitate people with Dementia. From his experience with various clients, more structured days of activities is more beneficial for their mental health.
- Fred recognises that he does not get frustrated from Dementia patients forgetting things, as he knows it is not in their control. Sometimes they get stuck in a conversational loop, and that needs to be finished before going onto the next, so he does not mind repeated conversations.
- Fred responds to my question about people with Dementia being happier when doing things by themselves, "...Early stages, Definity. But from the middle stages on, it is hard for people to do things themselves like this (going out for a drive to the beach). It is, you know, they're a danger to themselves."
- "Plus, they can't make good decisions. Like adults would, it becomes like five year old children where they could walk in front of a car and one day, they might know to do it, and the other day they forget to do it."
- "...A big thing is getting lost, and once they get lost, they get confused and then things turn really bad once you get to that stage." Fred says it is necessary for someone to be there with Dementia patients for safety reasons.
- Fred responds to some sort of public recognition device being on a Dementia patient, "If somebody wants to interfere with that (them making bad decisions) or want to help them, usually that leads to aggression... because they don't know who they are and they're trying to help them... even if somebody's not aggressive, they will become aggressive. Which we all do when you feel threatened."
- Fred compares to hearing aids, "...When you put on a hearing aid, you can hear, you don't need anybody. Whereas with Dementia, you cannot take that away. That is, it. That is why the need for somebody there to assist, is invaluable where no device can do that."
- "There's nothing that can just fix it (Dementia), so it makes it hard to, with the awareness and stuff."
- He believes that keeping people in the community for longer, whether that be with Dementia or any types of diseases, is quite beneficial for their health. Does not see just staying in a room, in a disability care home, can be beneficial.
- Comments on the Dementia wards, where everything is locked up. It is for their safety and those around them, but it can be very lonely. However, it is more beneficial than getting lost.
- Fred agrees that freedom for people with Dementia is very important
- Fred also agrees that a very simple wearable with GPS would be beneficial, not just only for Dementia patients but others too.
- "...All those options (technology) and it might be a bad day and it'll just make things worse... It's just another thing to kind of trigger them, so the simple and easier is definitely much better."

OBSERVATION NOTES

↳ THERE IS NOT MUCH I CAN PERSONALLY OBSERVE

↳ FOR OBSERVATION 1, I WILL OBSERVE, & AUDIO RECORD CAITLIN & PROF NESTOR TALKING TO DAD, & SEEING WHAT THEY DO

↳ MAY ALSO OBSERVE MUM'S FORM SHE IS REQUIRED TO FILL OUT

↳ OBSERVATION 2 WILL BE WATCHING & POSSIBLY CRITICUING FRED & DAD'S INTERACTIONS & WHAT FRED DOES TO ASSIST HIM

OBSERVATION 1 RESULTS

ADDENBROOKES COGNITIVE EXAMINATION

↳ USED TO ASSESS COGNITIVE FUNCTION OF PATIENTS, WITH DRAWING, WRITING, MEMORY & COUNTING

↳ FROM THE EXAMS RESULTS, NURSES CAN DETERMINE IF THE PATIENT NEEDS FURTHER ASSISTANCE OR INCREASED MEDICATION

↳ WHILE EXAMINING DEMENTIA PATIENT THE PARTNER IS SPOKEN TO. WILL SHARE HOW THEIR DEMENTIA PARTNER IS GOING & CHECKING IN ON THEIR MENTAL HEALTH
↳ PARTNER CHECK-UPS ARE TAKEN EXTREMELY SERIOUSLY

The image displays four pages of the Addenbrooke's Cognitive Examination - ACE-II Version B form. The pages are arranged in a 2x2 grid. Each page contains various cognitive tests and a scoring table. The tests include:

- Page 1 (Top Left):** Includes a patient information section, a spelling test (writing 'saw', 'pint', 'spot', 'sough', 'height'), a drawing task (drawing a figure-eight), and a drawing task (drawing a cube).
- Page 2 (Top Right):** Includes a patient information section, a drawing task (drawing a house), a drawing task (drawing a tree), a drawing task (drawing a person), and a drawing task (drawing a chair).
- Page 3 (Bottom Left):** Includes a patient information section, a drawing task (drawing a house), a drawing task (drawing a tree), a drawing task (drawing a person), and a drawing task (drawing a chair).
- Page 4 (Bottom Right):** Includes a patient information section, a drawing task (drawing a house), a drawing task (drawing a tree), a drawing task (drawing a person), and a drawing task (drawing a chair).

Each page also features a scoring table with columns for 'Score' and 'Total Score'.

OBSERVATION 2 NOTES

- ↳ CONTROLLED TALKING & LISTENING, KEEPING THE ENVIRONMENT CALM
- ↳ DAD FORGOT SOME INFO, & FRED REMINDS HIM WITHOUT GETTING ANGRY
- ↳ HAD DESTINATION PRE-PLANNED TO ALLEVIATE ANY STRESS
- ↳ FRED AGREES PUBLIC AWARENESS OF DEMENTIA IS NOT MUCH



ASSESSMENT OUTLINE NOTES



- ↳ GRAPHICS & FIGURES THROUGHOUT REPORT
- ↳ VISUAL CONCEPTS
- ↳ INSPECT REPORT REQUIREMENTS
- ↳ SUMMARY & INTRO FOR EACH SECTION
- ↳ COVER PAGE → ABSTRACT → CONTENTS
 - ↳ WORDS NOT INCLUDED IN LIMIT. ABSTRACT IS ABOUT A PAGE
- ↳ AIM IS ONLY MENTIONED IN INTRO
- ↳ DEVELOP VISUAL GRAPH THAT SUMMARISES REPORT

- ↳ IDENTIFY ANY ISSUES & PURPOSE OF LITERATURE REVIEW
- ↳ FIRST OR THIRD PERSON, CAN BE ANY BUT NEEDS TO BE CONSISTENT
- ↳ MENTION THAT RESEARCH IS QUALITATIVE, WHAT METHODS WERE USED & THE PURPOSE OF THESE IN DESIGN / REPORT, HOW WERE THESE RESEARCH METHODS CONDUCTED
 - ↳ CAN SOMEONE REPRODUCE IT?
- ↳ LINK QUOTES TO IDENTIFIED THEMES
 - ↳ INCLUDE PICTURES WITH OBSERVATIONS THAT ARE RELEVANT
- ↳ GRAPHS & FIGURES ARE USED IN FINDINGS TO SUMMARISE THEM
 - ↳ VISUALISE MOST SUMMARIES

↳ THINGS THAT I FOUND IN FINDINGS, ARE THERE RESEARCH THAT MENTION OR CONTRADICT IT

↳ ANYTHING NEW IN FINDINGS, MENTION HOW IT WAS NOWHERE IN RESEARCH

↳ NOTE ALL IDEAS THAT COME FROM FINDINGS & RESEARCH

↳ MINIMUM 5 IDEAS/
CONCEPTS

↳ DISCUSS USERS & HOW IT LINKS TO RESEARCH
↳ FUNCTIONS & WHAT IT DOES TO HELP USERS

↳ POSSIBLY PRESENT PRODUCT IN SYSTEM INTERVENTION

↳ ANALYSIS & FINDINGS SECTION

↳ MENTION RESEARCH LIMITATIONS

↳ RESTRICTIONS AS A RESEARCHER

↳ EXPERTS IN PARTICULAR AREAS ETC.

PRESENTATIONS

↳ WEEK AFTER DUE DATE

↳ INFORMAL, JUST BASIC

SUMMARY & PRESENT CONCEPTS

*CONTEXTS NEED TO LOOK PRESENTABLE WITH CONTEXT

06/09/23

WEEK 7

LECTURE



INSPIRATION UCD/ERGONOMICS

PREFS

- ↳ DIGITAL & 5-7 MINS
- ↳ OUTCOME IS TO CHOOSE DIRECTION

WEDNESDAY 15TH NOVEMBER
DESIGN EXHIBITION

DESIGN DEVELOPMENT

1. VALUABLE
2. INNOVATIVE
3. PURPOSEFUL
4. FUNCTIONAL
5. USABLE
6. ENJOYABLE
7. MANUFACTURABLE
8. DETAILED
9. PRESENTABLE
 - ↳ DO YOU HAVE A CONVINCING PRES?

USER-CENTRED DESIGN

- ↳ PHYSICAL
- ↳ PSYCHOLOGICAL
- ↳ EMOTION

DIFFICULTIES TO NOTE

- ↳ EMERGENCY
- ↳ MOIST ENVIRONMENT
- ↳ LOW LIGHT
- ↳ ASSISTIVE AIDS
- ↳ EXTERNAL STRESS/ANXIETY
- ↳ TEMPERATURE
- ↳ AGING POPULATION
- ↳ DISABILITIES

GUIDELINES & STANDARDS IN AUSTRALIA WILL NEED TO BE MET

UCD CHARACTERISTICS

↳ BODY SIZE & FUNCTION

↳ OBJECT SIZE VS HUMAN SIZE

↳ FORCES & STRENGTH

↳ FINGER, HAND, ARM

↳ DEXTERITY

↳ GRIP & HOLD

↳ CARRYING LIMITS

↳ VISION

↳ SIZING & SPACING OF INFO

↳ PROPER LABELLING

↳ VISUAL FIELD & CONTEXT

↳ HEARING & SPEECH

↳ ALARMS & WARNINGS

↳ CONTEXT

↳ MOBILITY

↳ MOVEMENT

↳ MOVING & TRANSPORTATION

↳ COGNITION

↳ INFO OVERLOAD

↳ INSTRUCTIONS

↳ FAMILIARITY

↳ DO NOT CONFUSE

↳ EXPERIMENTAL

↳ MEDIATION DEVICE

↳ BEFORE, DURING, AFTER

↳ PERSONAL & SOCIAL

↳ MATERIALITY

↳ ERGONOMICS

↳ EXPERIMENT & FEEDBACK FROM PROTOTYPES

13/09/23

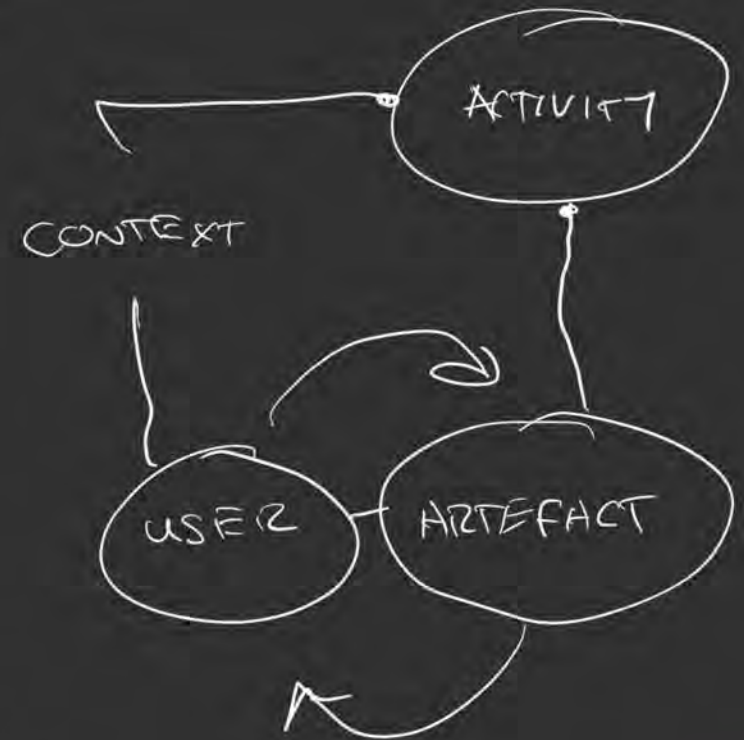
WEEK 8

LECTURE

USER EXPERIENCE &
MANUFACTURING

USED - EXPERIENCE

- ↳ BEFORE, DURING, & AFTER PRODUCT INTERACTION
- ↳ CONTEXT IN USE
- ↳ EXPERIENCE FOCUSED (USER EXPECTATIONS)
- ↳ TIME (LONGITUDINAL)
- ↳ CONTEXT (RELEVANCE)
- ↳ FUN & ENJOYMENT
- ↳ FAMILIARITY - MIYA CONCEPT
- ↳ CHALLENGE
- ↳ NOVELTY
- ↳ SURPRISE
- ↳ TRADITION
- ↳ SENTIMENTAL



5 PRINCIPLES OF INTERACTION

1. AFFORDANCES - RELATIONSHIP BETWEEN PROPERTIES OF PRODUCT
2. SIGNIFIERS - COMMUNICATE WHERE ACTION SHOULD TAKE PLACE, WHAT IS HAPPENING & OTHER EXISTING OPTIONS
3. MAPPINGS - THE ASSOCIATION/RELATIONSHIP BETWEEN ACTION & EVENT
4. FEEDBACK - THE MEANS OF COMMUNICATING THE RESULT OF AN ACTION
5. CONCEPTUAL MODEL

MANUFACTURING

↳ BOM

↳ STANDARD PARTS → TRY TO LINK TO WHOLESALERS

↳ CUSTOM PARTS

↳ DRAWINGS

↳ QUALITY ASSURANCE

WEEK 8

15/09/23

FIVE CONCEPTS †

CHOSEN CONCEPT NOTES

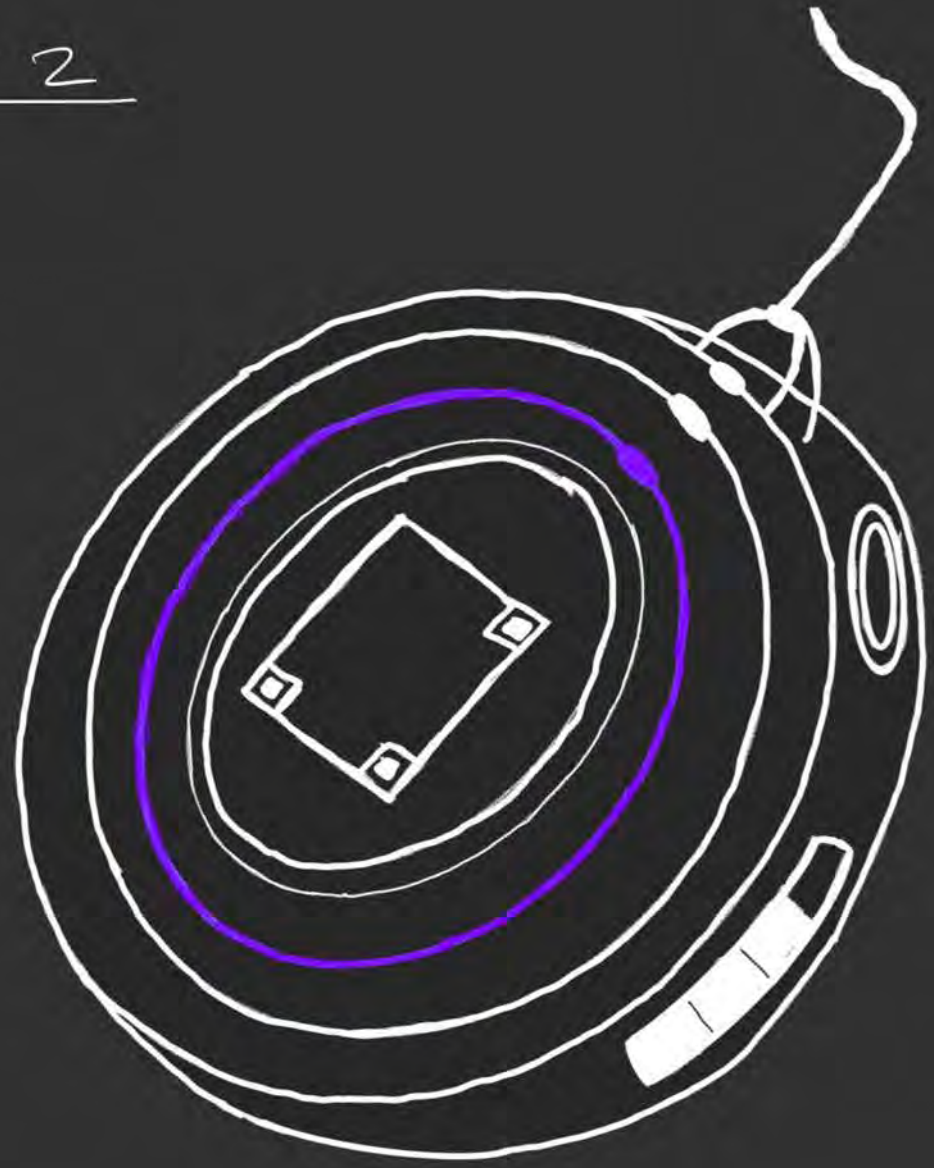
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CONCEPT 1
4



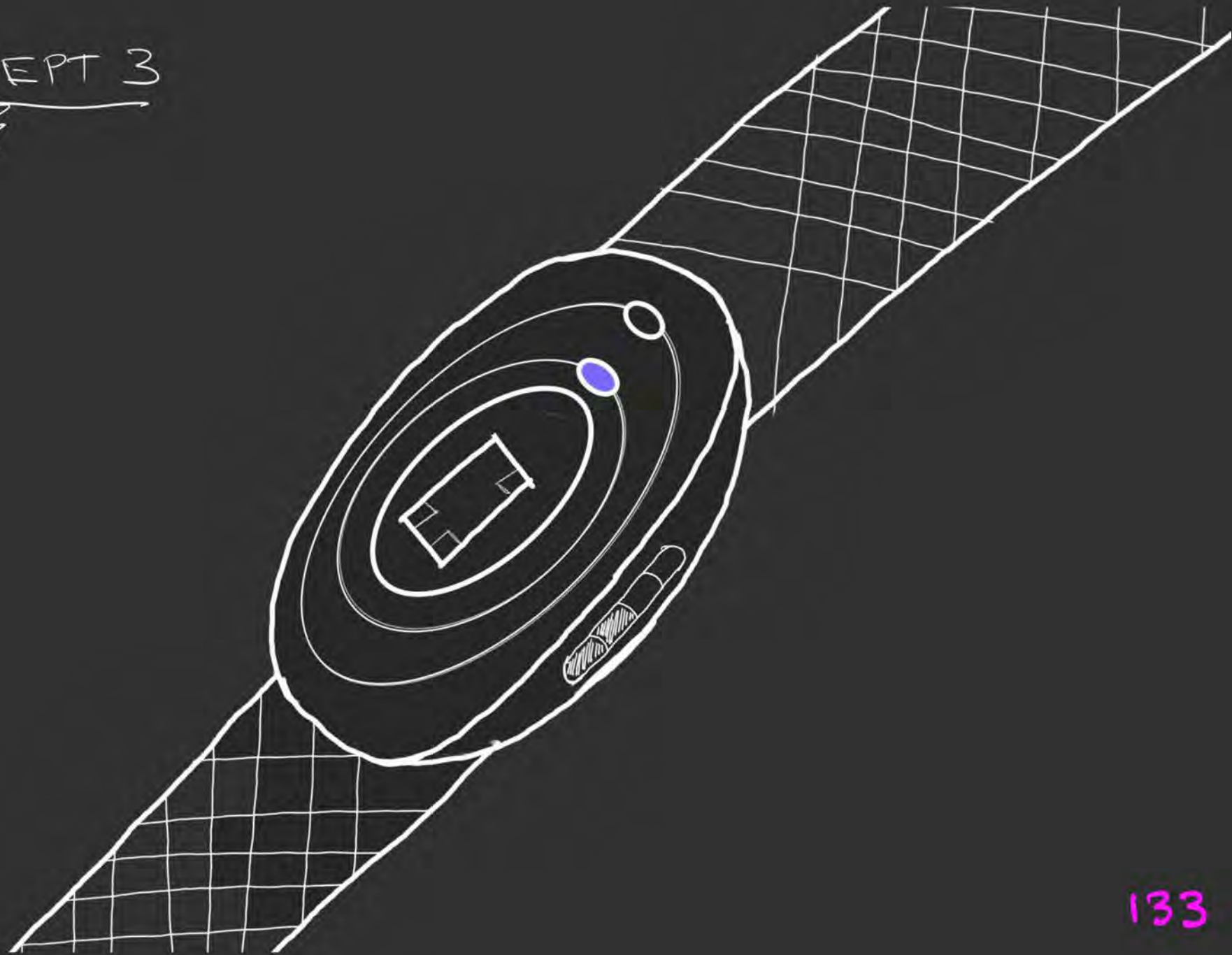


CONCEPT 2
Σ





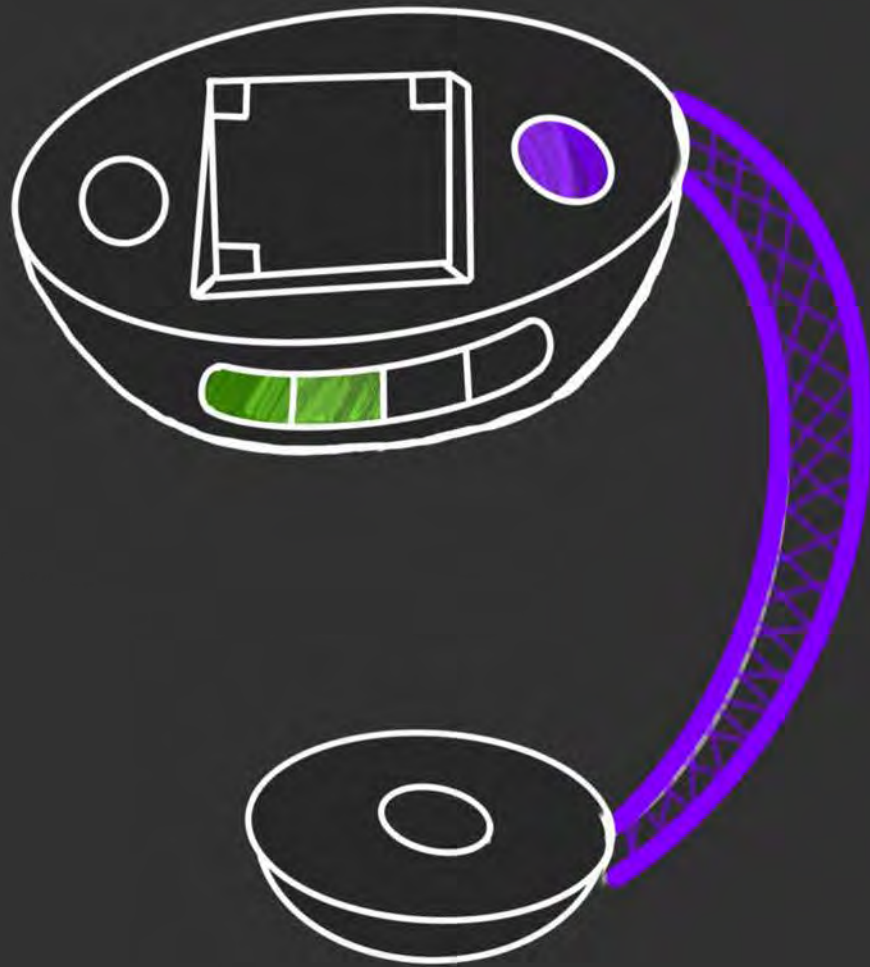
CONCEPT 3





High Park
The World's Healthiest City
With World-Class
Cultural Programs

CONCEPT 4
⚡



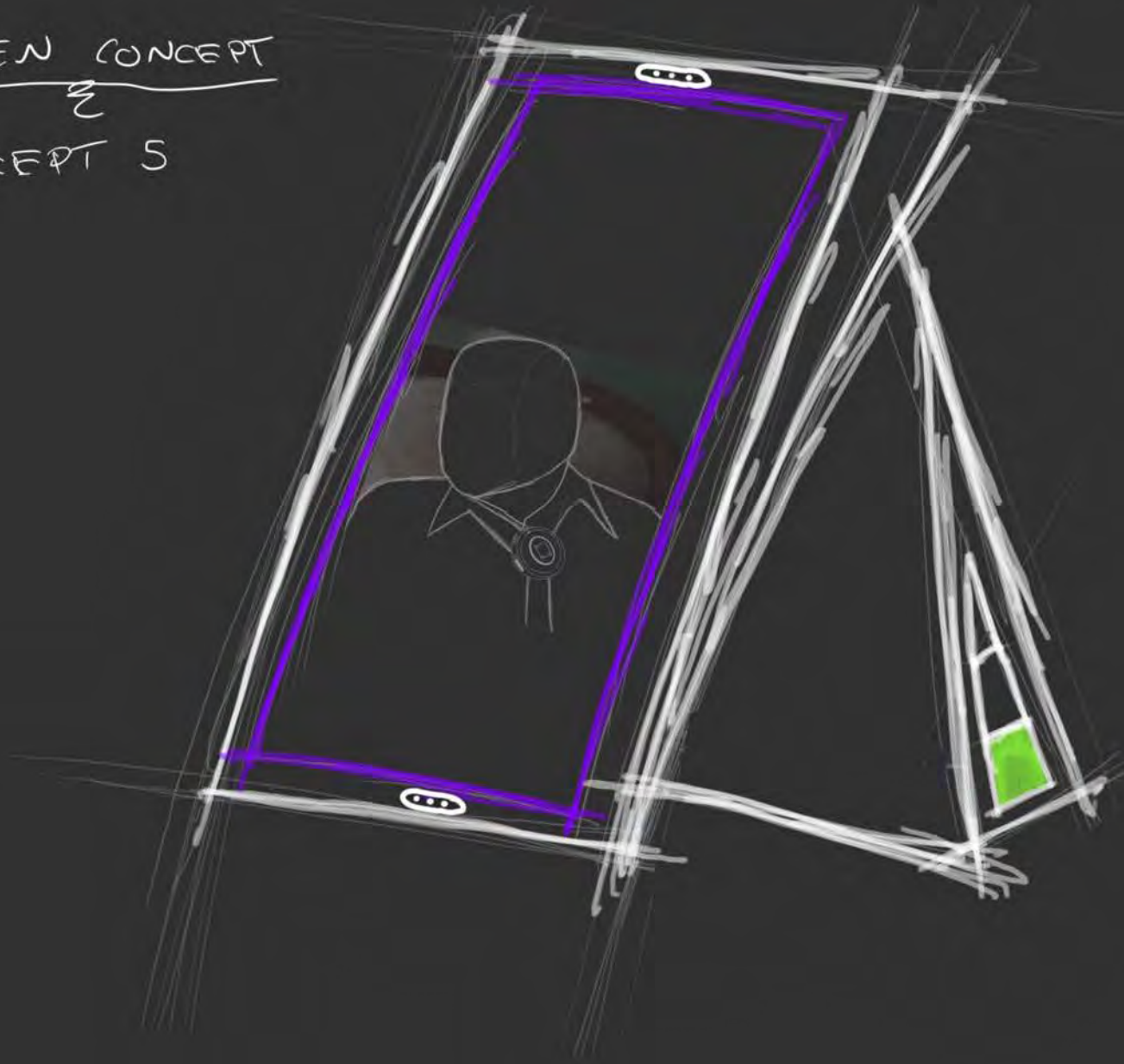


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CHOSEN CONCEPT

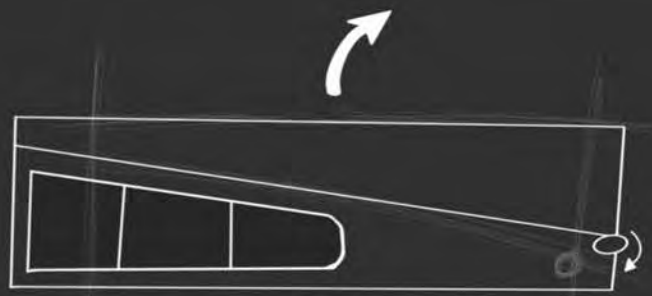
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↳ CONCEPT 5



CHOSEN CONCEPT

↳ CONCEPT 5





CHOSEN CONCEPT FEATURES - FAMILY MEMORY DIGITAL PICTURE FRAME

↳ BRING UP MEMORIES THAT THE DEMENTIA PATIENT CAN TALK TO THEIR FAMILY ABOUT WHEN THEY VISIT

↳ PRE-RECORDED BY FAMILY MEMBERS, FOR THE PHOTOS & VIDEOS THAT ARE INSTALLED ONTO DEVICE

↳ UPDATED DAILY

↳ THICKER SCREEN & BASE WHICH ASSISTS THOSE PATIENTS WITH WEAK FINGER STRENGTH

↳ FOLDS INTO 'BOOK-LIKE' PACKAGE, THEN STORED INTO SLING BAG

↳ FEATURES ITS OWN GPS TRACKER, BATTERY, SCREEN, & SPEAKERS

↳ ALLOWS DEVICE TO BE PORTABLE

↳ INSTANTLY TURNS ON WHEN OPENED, & STARTS AUTOMATICALLY SCROLLING THROUGH CONTENT

↳ THE PATIENT SHOULD NOT NEED TO INTERACT WITH THE DEVICE

↳ DESIGN SHOULD BE REMINISCENT OF A OLDER STYLE PICTURE FRAME

↳ PATIENT HAS ALREADY EXISTING KNOWLEDGE ON HOW TO USE IT

↳ BENEFICIAL TO FAMILIES RECONNECTING

↳ PRIVACY & DATA PROTECTION

↳ MUST BE EASY FOR A DEMENTIA PATIENT TO USE

Talking Photo Album

\$115.00
Excludes tax

Type
 Standard Deluxe

Quantity

Talking Photo Albums can be used to create Talking Memory Books. We all have those moments of memory loss that fill those living with Dementia. This often causes the life stories that should shape the background for conversation to instead slip into the background.

Talking Memory Books can help to recall the bonds that interlace our life, enabling moments that we wish to always remember to be always with us, embedded in photos, words and music. Whole age is a natural part of life, part of what makes life extraordinary is our ability to recapture long past precious moments - a song, a name, a picture or word. Let us help prompt a story.

Talking Photo Albums have also been useful for:

- Stimulating memories
- Reminiscence therapy
- Remembering important information
- Listing Emergency Contacts
- Medication Management
- Organising Appointments
- Diary Event Schedules
- Available in two versions: Standard or Deluxe

Standard: 5 minutes recording 18 seconds per page (hard back cover)

FEATURES:

- 20 pages in a "Flip Style" Album
- Each of the 20 pages will hold a single 3"x7" Photo or image (125x75mm)
- Record a separate voice message on each page using the built-in microphone
- Total recording time: 5 minutes, maximum 18 seconds per page
- Re-record as many times as you wish - reuse time and time again!
- Individual PLAY/STOP buttons
- Built-in Speaker
- Black Hardback Cover
- Requires 3 x AA Batteries (not included)
- Recording Case protected forward, even when batteries are replaced
- Size: 226 x 115 x 25mm Approx.
- Deluxe: 200 minutes recording 10 minutes per page (hard leather cover)
- Weight: 0.7kg
- Dimensions: 25 x 20 x 3 cm
- Talking Photo Frames
- Standard, Deluxe

© 2018 NC

EXISTING PRODUCTS 1

- ↳ MORE OF A PICTURE ALBUM, COMPARED TO A DIGITAL PICTURE FRAME
- ↳ CAN EASILY ACCESS AUDIO FOR EACH PAGE, WITH A PLAY BUTTON CLEARLY LABELLED ON THE BOTTOM
- ↳ ENABLES THE DEVICE TO BE A TALKING POINT
- ↳ AUDIO RECORDING & IMAGES CAN ONLY BE UPDATED IN PERSON
- ↳ POWERED THROUGH BATTERIES



Category	Spec
Display size	13.1 inch widescreen
Display resolution	1,920 x 1,080 (FHD)
Aspect ratio	16:9
Internal storage	8 GB
Compatible formats	JPEG, JPG
Wi-Fi	Yes
Speakers	Dual 5 W
Ports	No
Battery	No
Wall-mountable	No
Dimensions	13.23 inches x 8.38 inches x 1.48 inches (336 mm x 213 mm x 37.7 mm)



EXISTING PRODUCTS 2 - MIXPLAY SEED WAVE

- ↳ DISPLAYS PICTURES, VIDEOS, & SOUND THROUGH REAR SPEAKERS
- ↳ IR REMOTE CONTROL SENSOR & MOTION SENSOR ON FRONT. ENABLES THE DEVICE TO 'SLEEP' WHEN NO MOTION IS DETECTED
- ↳ POWER CABLE DOUBLES AS A KICKSTAND AT ANY ANGLE & IN EITHER ORIENTATION
- ↳ APP IS USED FOR INITIAL SETUP
- ↳ PHONES CONNECT THROUGH BLUETOOTH
- ↳ SILICON FOOTING TO PREVENT RATTLING
- ↳ NAVIGATED WITH EXTERNAL REMOTE
- ↳ ACCESSIBILITY OPTIONS AVAILABLE
- ↳ WIFI PHOTOS ONLY

WEEK 9 \$10

20/09/23
- 10/10/23

FURTHER CONCEPT
NOTES, DEVELOPING,
& PROTOTYPING

SIZE OF OVERALL PACKAGE?

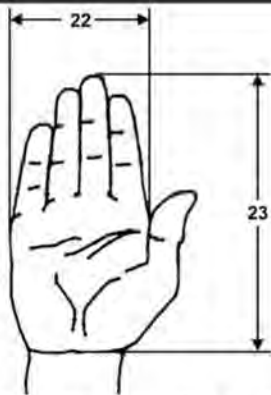
- ↳ 4:3 ASPECT RATIO OR 16:9
 - ↳ AROUND A4 SIZE
- MOST USED

ELDERLY HAND SIZES

- ↳ ELDERLY ANTHROPOMETRY DATA TAKEN FROM 'INTERNATIONAL JOURNAL OF OCCUPATIONAL SAFETY & ERGONOMICS', ON AUSTRALIAN ELDERLY PEOPLE IN SYDNEY NSW

LIMITATIONS OF USING DEVICE

- ↳ EASY TO OPEN/FOLD OUT, BUT STRONG & STURDY HINGE
- ↳ SCREEN IS HIGHLY VISIBLE
- ↳ ENGAGING, MORE THAN JUST A DIGITAL PICTURE FRAME
- ↳ MATERIALS MUST BE RESOLVED & SMOOTH, AVOIDS SHARP & ANGULAR EDGES



Dimensions of the dimensions measured on the elderly population sample.
Hand length: 22, hand breadth: 23

TABLE 2. Descriptive Statistics of Elderly Australian Male Aged 65 Years and Above ($n = 33$)

Dimension	<i>M</i>	<i>SD</i>	Median	Range	<i>CV</i> (%)
22 Hand length	184	10	184	164-200	5.3
23 Hand breadth	86	7	86	70-99	8.3

Notes. All linear dimensions are in mm; *CV*—coefficient of variation. Data presented in this table were published in Kothiyal and Tettey (2000).

TABLE 3. Descriptive Statistics of Elderly Australian Females Aged 65 Years and Above ($n = 138$)

Dimension	<i>M</i>	<i>SD</i>	Median	Range	<i>CV</i> (%)
22 Hand length	170	10	169	146-195	6.0
23 Hand breadth	79	5	78	70-99	6.0

Notes. All linear dimensions are in mm; *CV*—coefficient of variation. Data presented in this table

MANUFACTURE / MATERIALS

↳ 3D PRINTING

↳ INJECTION MOLDING

↳ STEEL CASTING FOR HINGE

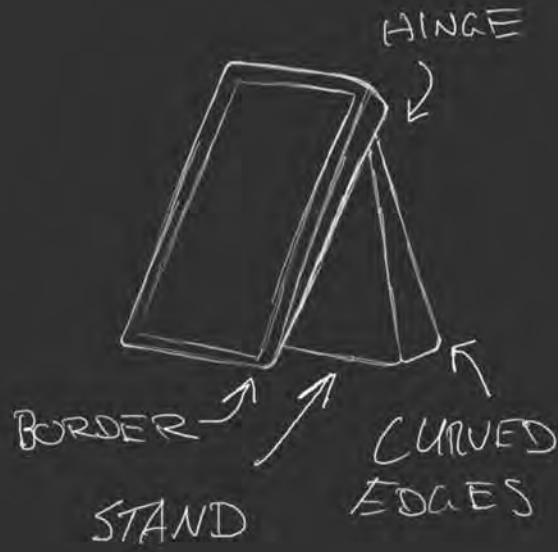
↳ RUBBER FEET

↳ VARIOUS PCB BOARDS

↳ LED STRIPS & LIGHTS

↳ FRONT SCREEN

↳ STOCK PART

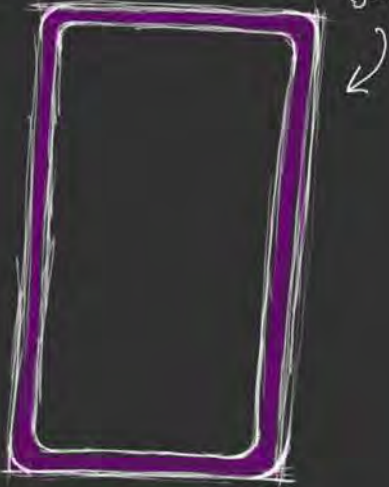


RESTS ON
FRAME
BODY

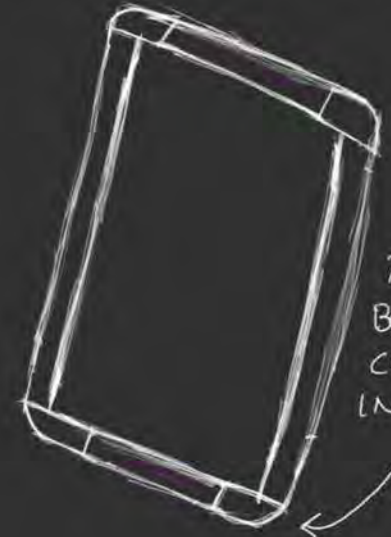
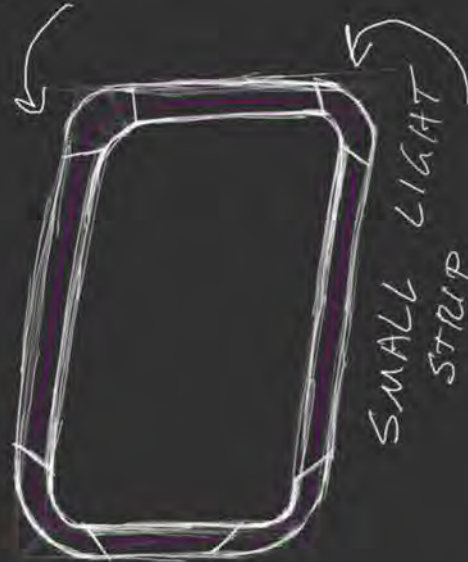


ROTATING
KICKSTAND

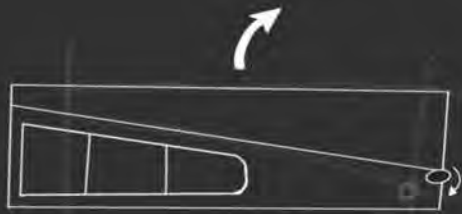
VIOLET LED'S SPAN ENTIRE
SPACE BETWEEN BORDER &
BODY



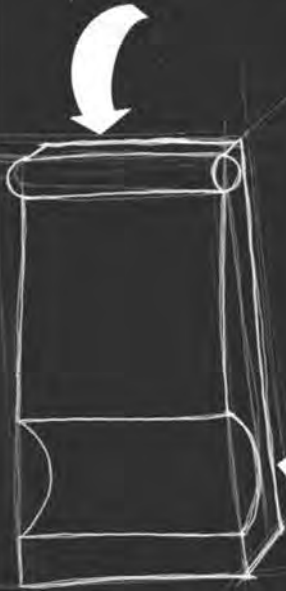
ANGLED



TOP &
BOTTOM
CURVE
INWARDS

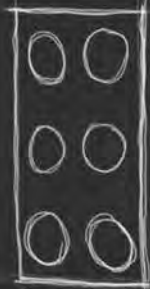


PIVOT POINT

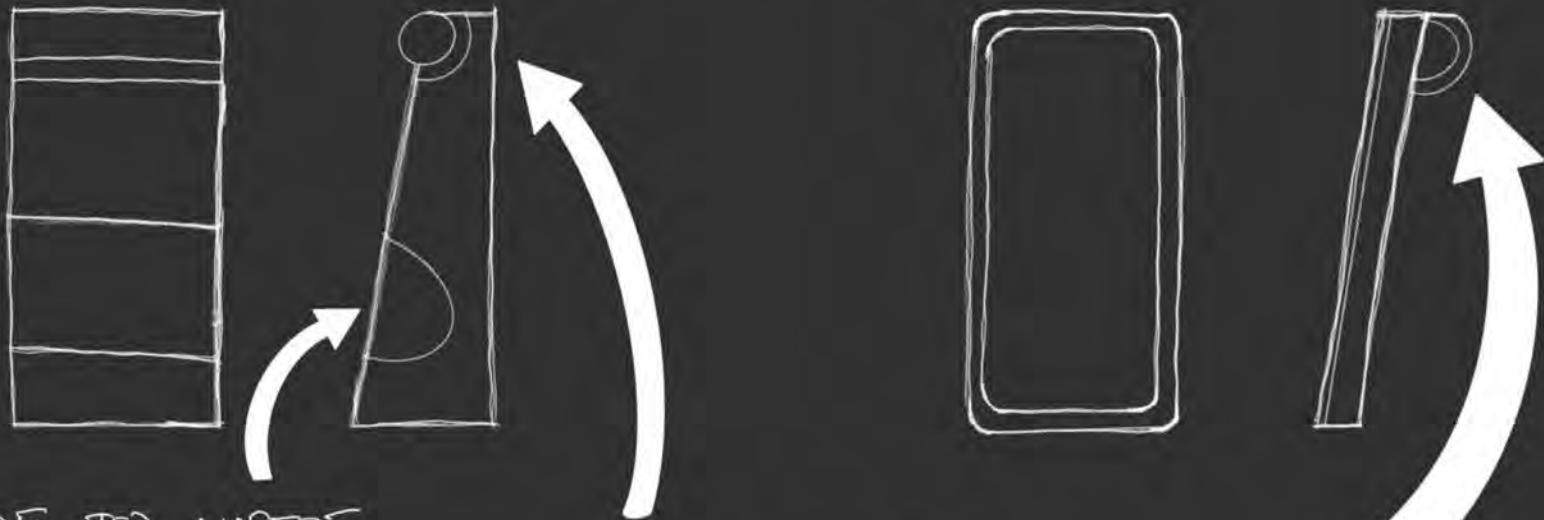
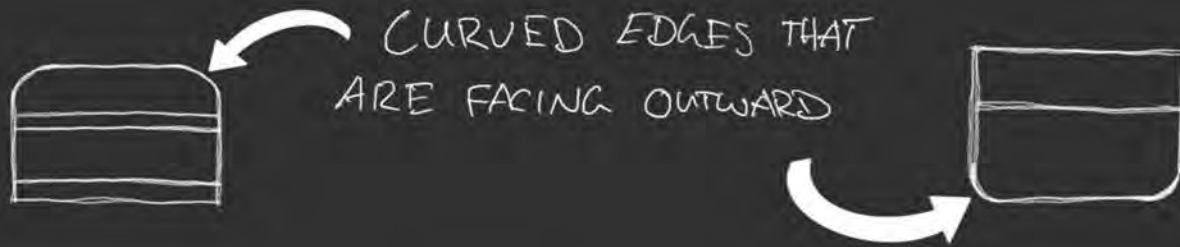


SLOT FOR
HANDS TO
LIFT UP
SCREEN

RUBBER FEET
FOR SECURITY



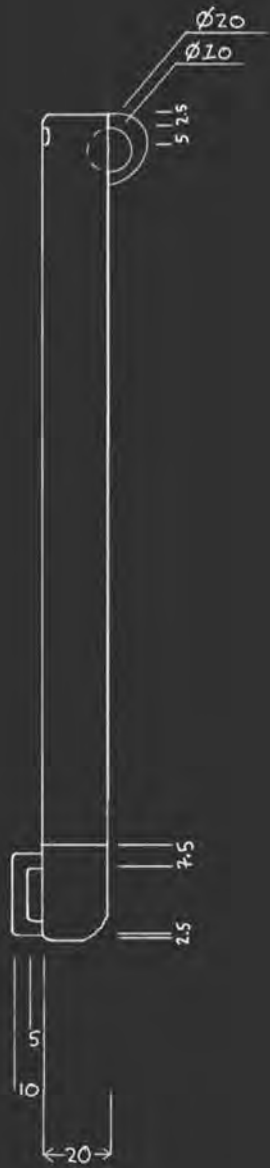
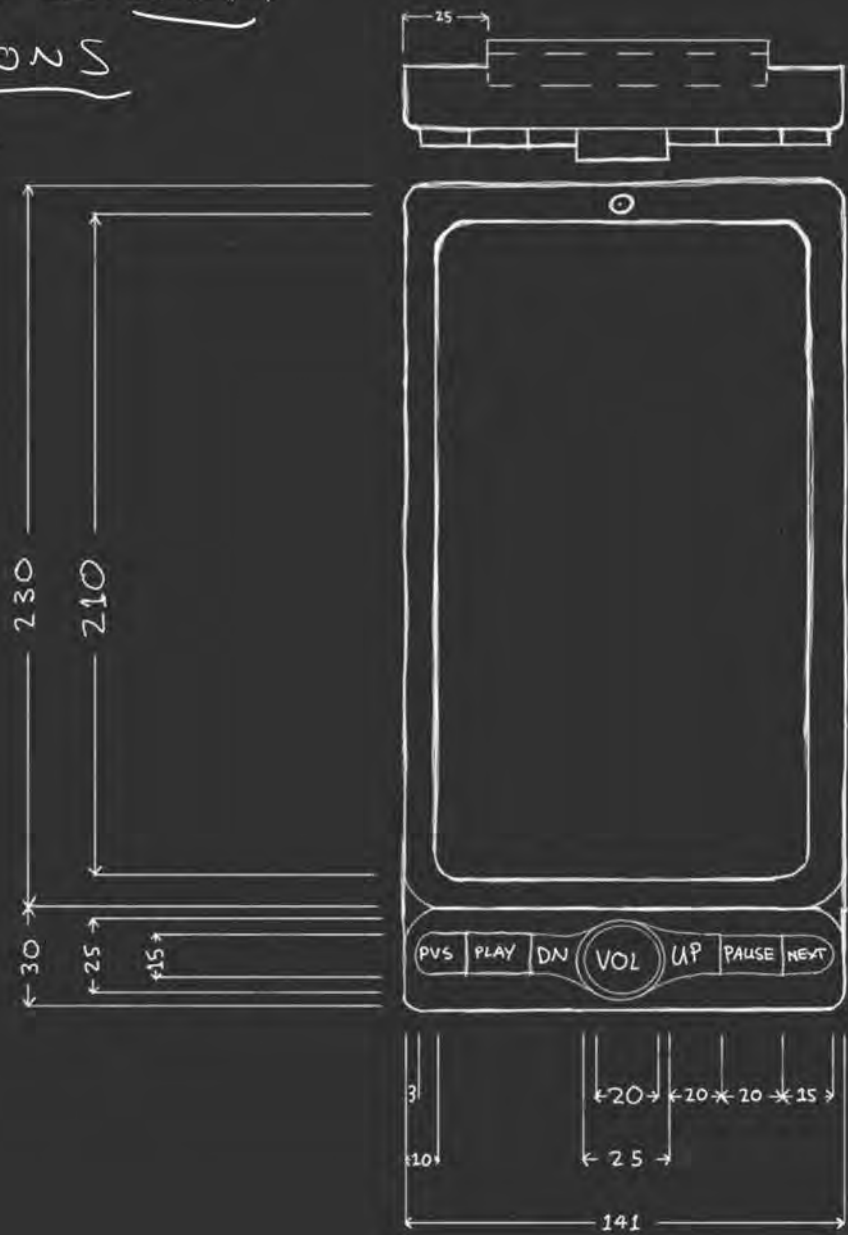
CURVED EDGES?
OR JUST THE REAR?



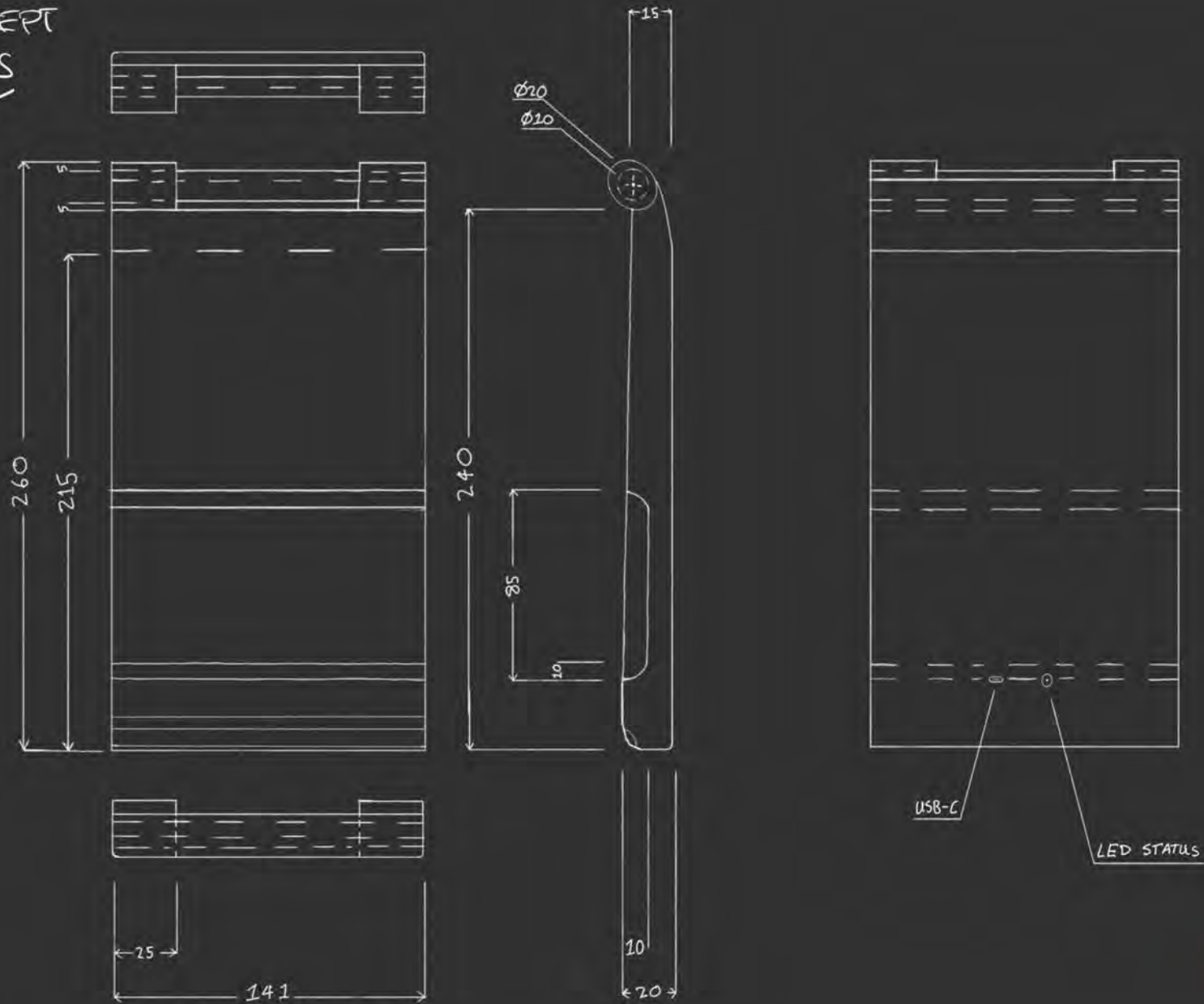
SPACE TO INSERT
HAND TO LIFT
SCREEN

DISPLAY MOVES
ALONG PIVOT POINT. CAN
ADJUST DESIRED ANGLE

CHOSEN CONCEPT
DIMENSIONS

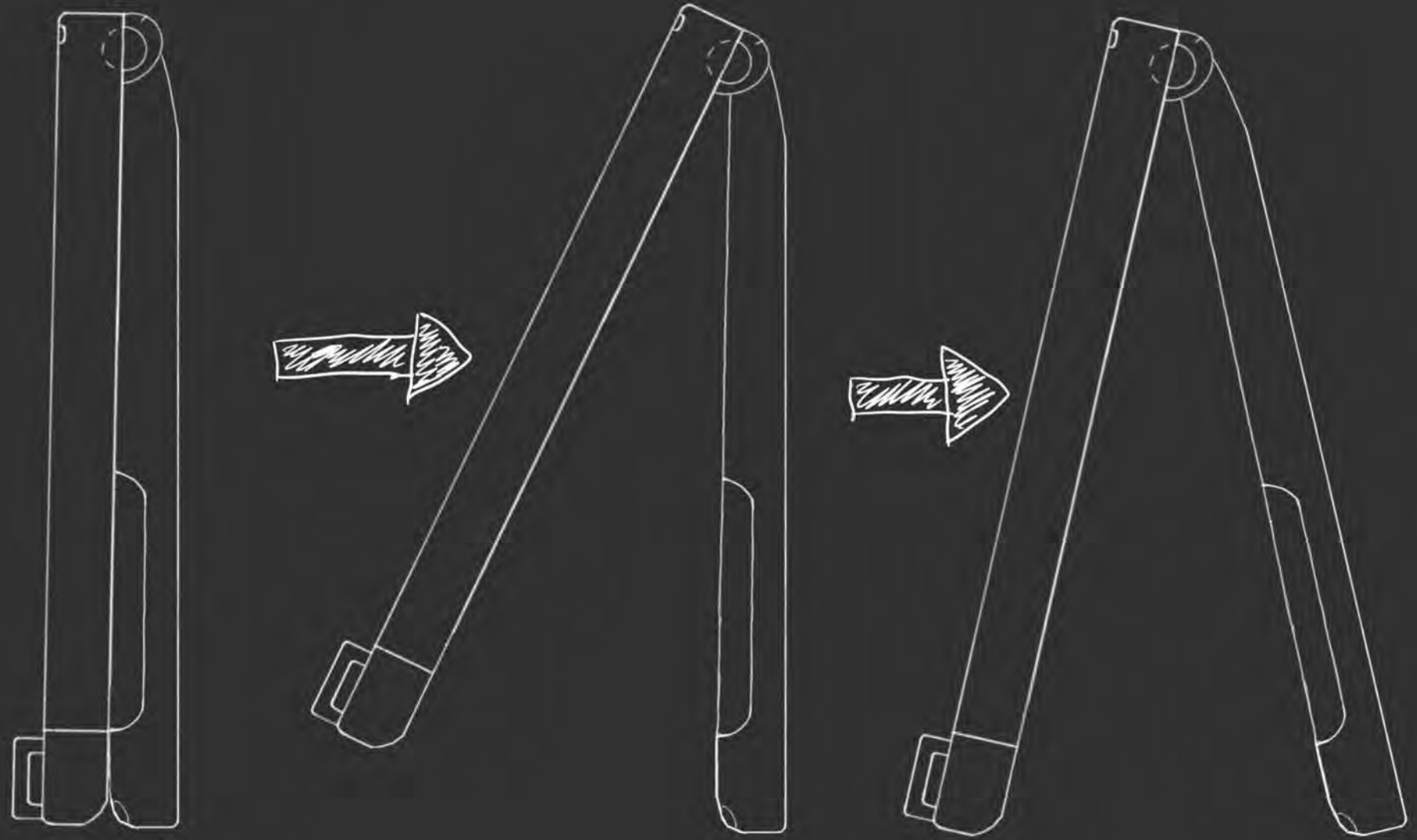


CHOSEN CONCEPT
DIMENSIONS



CHOSEN CONCEPT
FORM FACTORS

Σ



INTERNAL COMPONENTS LIST & DIMS - DRAFT

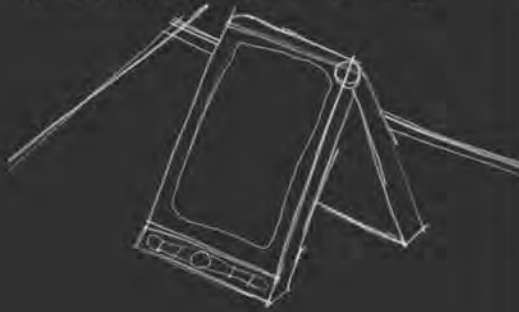
- ↳ OUTSIDE FRAME - SPANS ENTIRE SURFACE
- ↳ LCD SCREEN - SPANS ENTIRE SURFACE
- ↳ MOTHERBOARD - OFF THE SHELF
 - ↳ COAXIAL CABLE - CONNECTS MOTHERBOARD & ANTENNA
 - ↳ SPEAKER - REACHES TO THE SIDES OF THE DEVICE
 - ↳ MEMORY CARD CONNECTOR - FOR INITIAL SETUP
 - ↳ USB-C CONNECTOR - USED TO POWER DEVICE
 - ↳ LED - BATTERY INDICATOR & STRIP
 - ↳ ETHERNET PORT
 - ↳ POWER BUTTON
 - ↳ IR SENSOR - 42 x 23
- ↳ REVERSE SIDE OF MOTHERBOARD
 - ↳ Wi-Fi, BLUETOOTH OPERATION MODULE
 - ↳ ROM - INFO STORAGE
 - ↳ POWER MANAGEMENT CHIP
 - ↳ CPU
 - ↳ RAM
 - ↳ BUTTON INTERFACE CONTROLLER
 - ↳ DISPLAY CONNECTOR
- ↳ BATTERY - SHOULD BE ABLE TO HOLD CHARGE FOR EXTERNAL USE
- ↳ HINGING BACK COVER
- ↳ HINGE THAT IS STRONG, YET EASY TO ADJUST

FEATURESET - DRAFT

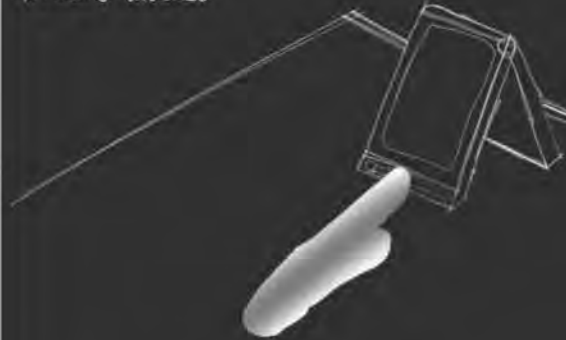
- ↳ FAMILY MEMBERS CAN UPLOAD PHOTOS/VIDEOS WITH COMMENTARY THROUGH AN APP, WHICH THEN SHORTLY APPEARS ON THIS DEVICE
- ↳ THE VIOLET LED STRIP ALONG THE OUTER EDGE OF THE DISPLAY, LIGHTS UP TO ALERT FOR NEW ACTIVITY
- ↳ NEW CONTENT DOES NOT PLAY UNTIL IR SENSOR IS TRIGGERED
- ↳ PATIENT CAN NAVIGATE THROUGH NEW & PRE-EXISTING CONTENT WITH THE PHYSICAL CONTROLS
- ↳ VOLUME CAN ALSO BE ADJUSTED USING EITHER A DIAL OR BUTTONS TO INCREASE OR DECREASE, TACTILE FEEDBACK
- ↳ ALL BUTTONS HAVE BRAILLE SO DEVICE CAN STILL BE OPERATED WITH JUST AUDIO IF REQUIRED
- ↳ DEVICE IS 260x141x40 (WHEN FOLDED) SCREEN IS 210x121, WHICH ALLOWS FOR A 16:9 RATIO FOR CONTENT (THIS IS THE MOST COMMON PICTURE RATIO)
- ↳ GAP IN STAND TO EASILY LIFT SCREEN WITH MINIMAL EFFORT
- ↳ CAN BE HELD UPRIGHT OR USED AS A KICKSTAND LIKE A TRADITIONAL PICTURE FRAME
- ↳ LITTLE DIVOTS ARE PRESENT ON THE INSIDE WHICH ALLOW FOR DIFFERENT ANGLES
- ↳ WHEN FAMILY IS VISITING, CAN BE USED AS A TALKING POINT, INSTEAD OF BRINGING PHYSICAL PHOTOS & TRYING TO REMEMBER THE EVENT DETAILS
- ↳ ASSISTS DEMENTIA PATIENTS' MEMORY

STORYBOARD - DRAFT

DEMENTIA PATIENT FOLDS OUT DEVICE
LIKE OLD PICTURE FRAME STARTS UP
AUTOMATICALLY WHEN OPENED



DEVICE DISPLAYS VIDEOS & PHOTOS,
USER CAN ADJUST VOLUME, VIEW NEXT/
PREVIOUS UPLOADS



FAMILY MEMBERS CAN CAPTURE EVENTS &
UPLOAD THEM, WITH OPTIONAL AUDIO
COMMENTARY



DEMENTIA RELATIVE NOW CAN STILL FEEL
LIKE THEY ARE PART OF THEIR FAMILY, WITH
BEING ABLE TO SEE WHAT THEY ARE UP TO.
DO NOT FEEL EXCLUDED, AS THEY ARE NOT
VISITED OFTEN.



WHEN RELATIVES COME TO VISIT, INSTEAD
OF BRINGING PHYSICAL PHOTOS, TRYING TO
REMEMBER FINE DETAILS, OR HAVING
AWKWARD SHORT ENDED CONVERSATIONS, THEIR
UPLOADS CAN BE USED AS A TALKING
POINT & CAN BE EXPANDED UPON

WHEN USER IS AWAY FROM THE
DEVICE, IT WILL GO INTO SLEEP
WITH MUTED AUDIO. WILL TURN BACK
ON WHEN MOVEMENT IS DETECTED.

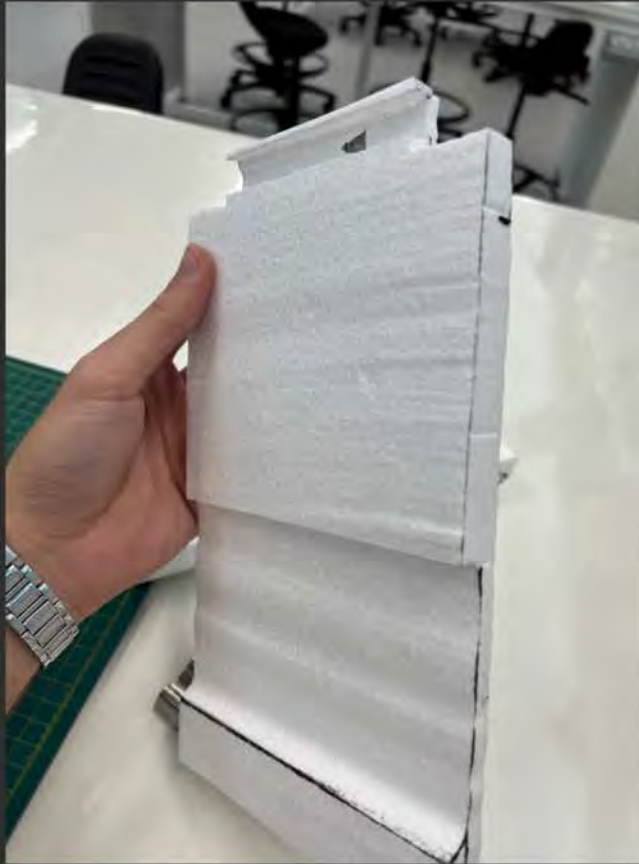
PROTOTYPING

USING THE ROUGH DIMENSIONS WRITTEN DOWN, PROTOTYPING BEGAN.

FOR THIS PROJECT, MANIPULATING, & CUTTING FOAM WAS THE MORE IDEAL MATERIAL TO USE.

WHAT FOLLOWS IS THE PROTOTYPING PROCESS:





ORIGINALLY A LARGE
FOAM BLOCK, THIS
HALF WAS CUT FURTHER
ON AN ANGLE, SPACE
FOR A HAND, &
THE PIVOT AREA.



THE SCREEN PORTION
WAS ALSO CUT ON AN
ANGLE ENABLING THE
DEVICE TO BE FOLDED FLAT.
THE PIVOT SPACE WAS
ALSO CUT OUT.



THE PIVOT PIECE WAS
CUT OUT TO FIT
BETWEEN THE SCREEN &
STAND.



THE PIVOT PIECE FITTED ONTO THE GUIDES ON THE REAR OF THE SCREEN.



CONNECTING THE STAND TO THE PIVOT ALLOWED THE PROTOTYPE TO STAND...



IT ALSO COLLAPSE TO BECOME FLAT.



ME, TESTING IF FINGERS
COULD FIT, TO LIFT THE STAND
BACK.



MARKING FEATURES ONTO
THE FRONT PIECE, THE
SCREEN, IR SENSOR, &
BUTTONS TEMPLATE.



THE BUTTONS & DIAL WERE CUT
OUT OF EXCESS FOAM. THESE
WERE THEN GLUED ONTO THE
FACE. THIS WOULD PROVIDE A
INSIGHT TO APPROPRIATE
SIZING.

158



THE COMPLETED PROTOTYPE.
WHICH PERFORMED THE MAIN FUNCTIONS
OF STANDING & COLLAPSING.

PROTOTYPING THOUGHTS

- ↳ OVERALL SIZING WAS APPROPRIATE & DID NOT NEED ANY CHANGING.
- ↳ THE PROTOTYPE'S BUTTONS WERE DOUBLE THE SIZE, THIS PROVED TO BE A BETTER SOLUTION.
- ↳ SLIGHT REDESIGN OF THE STAND WAS NEEDED.
- ↳ HAND ENTRY ON SIDES NEEDED TO BE SMOOTH.
- ↳ INDENTS ON THE INSIDE WOULD PROVIDE STRONGER STABILITY
↳ RUBBER FEET TOO?
- ↳ OVERALL PACKAGE CANNOT BE SHARP IN ANYWAY.

WEEK 11

TABLET TEARDOWN,
CAD PLANNING, \$
3D PRINTING

11/10/23

- 17/10/23

TABLET TEARDOWN

TO GET A GOOD UNDERSTANDING OF WHAT COMPONENTS ARE INSIDE OF TABLETS, & THEIR SIZING, A TEARDOWN WAS NEEDED.

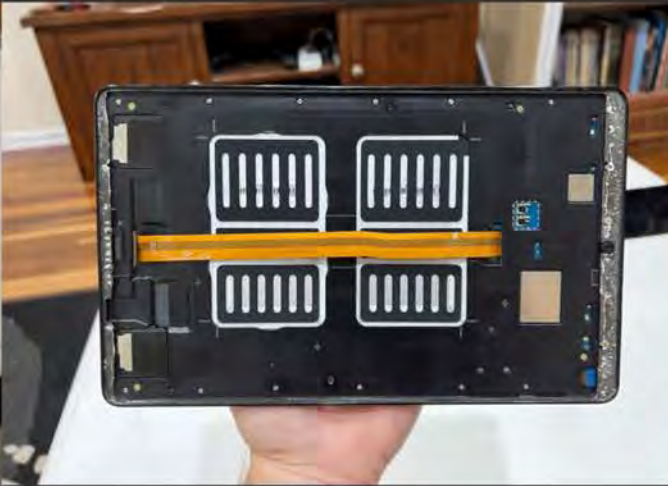
WHAT FOLLOWS IS THE DISASSEMBLY PROCESS

& COMPONENT IMAGES (THESE WILL BE USED IN MY RENDERS). THE TABLET THAT WAS TAKEN APART WAS A SAMSUNG A-SERIES TABLET.





TO DISASSEMBLE THE
TABLET, THE SIM CARD
TRAY WAS EJECTED,
& THE GLUED
SURROUNDS WERE
REMOVED.



THIS HALF HOUSED ALL OF
THE MAJOR COMPONENTS,
(MOTHERBOARD, BATTERY ETC.)



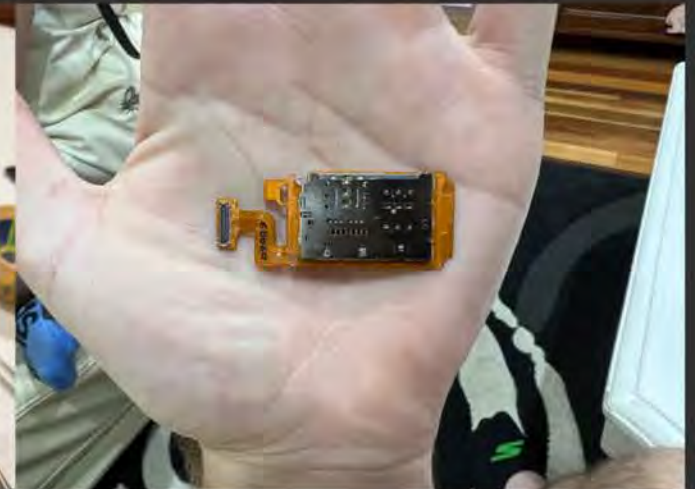
THE OTHER HALF
CONTAINED THE SCREEN
& THE FRONT BORDER.



REMOVING THE REAR PANEL
OF THE MAIN BODY, REVEALED
THE SHELL...



THAT PROTECTED THESE
COMPONENTS. FROM LEFT TO
RIGHT; FRONT & REAR
CAMERAS, MOTHERBOARD, SD
CARD READER, BATTERY,
& CHARGER / SPEAKER
CONTROL BOARD.



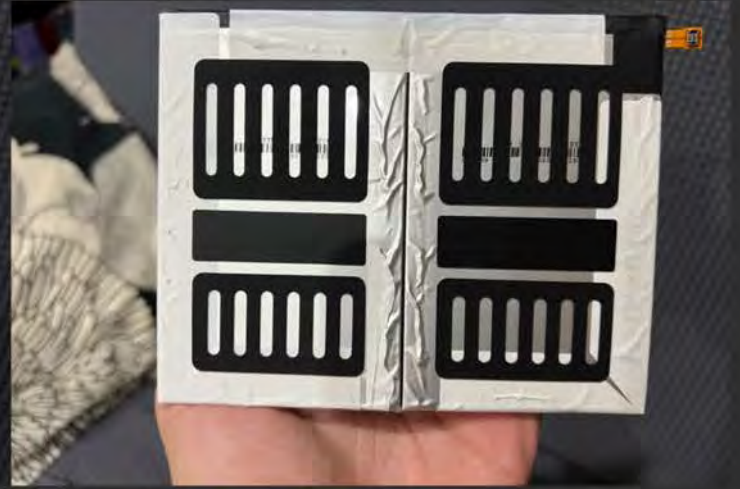
THE REAR OF THE
SD CARD READER.



THE FRONT OF THE SD
CARD READER.



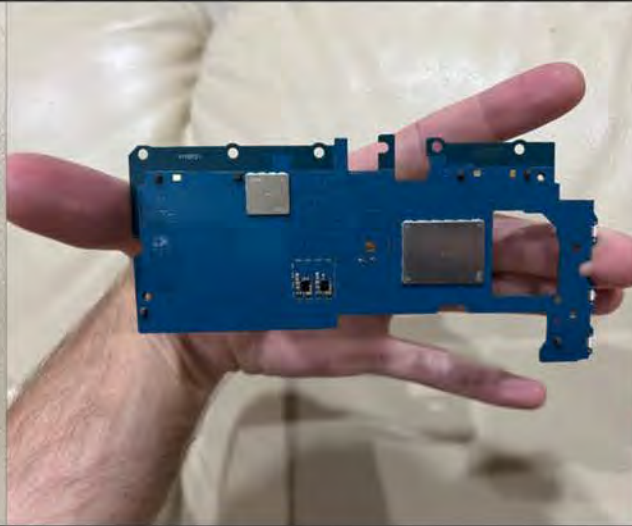
THE REAR OF THE
RECHARGABLE
BATTERY.



THE FRONT OF THE
RECHARGABLE
BATTERY.



THE FRONTAL VIEW OF
THE MOTHERBOARD.



THE REAR VIEW OF
THE MOTHERBOARD.



THE CHARGING / SPEAKER
CONTROL BOARD.



TEARDOWN THOUGHTS

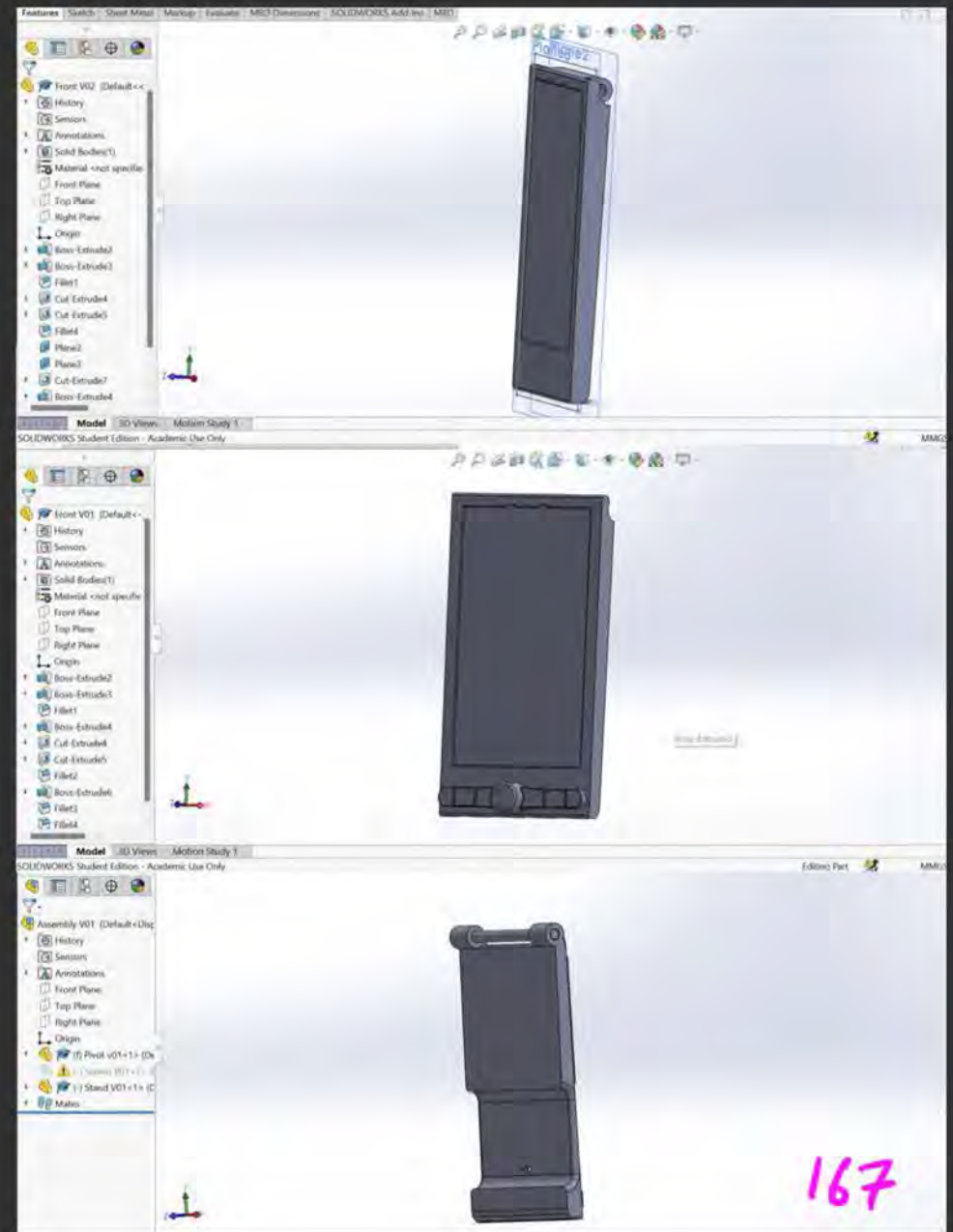
- ↳ THE SAMSUNG TABLET PROVIDED AN INSIGHT INTO WHAT MAKES UP A TABLET.
- ↳ THESE COMPONENTS WERE PHOTOGRAPHED & WILL BE USED TO ENHANCE THE RENDERS.
- ↳ THE INTERNALS WERE ALSO MEASURED, WITH THE INTENTION OF REPLICATING THEM IN CAD.
- ↳ PROVIDED A INSIGHT INTO THE MANUFACTURE PROCESS OF THE OVERALL TABLET.

INITIAL CAD MODEL

THE CAD MODEL SAW CHANGES & IMPROVEMENTS, ONCE THE INTERNALS WERE IMPLEMENTED. TWO NOTICEABLE CHANGES WERE MADE:

↳ THE IR SENSOR WOULD NO LONGER BE UNDER THE DISPLAY. THIS WOULD CAUSE THE DESIGN TO BE MORE "BUSY" UP TOP, BUT WILL BE CHEAPER TO PRODUCE.

↳ INITIALLY THE CHARGING PORT & BATTERY INDICATOR WOULD BE HOUSED IN THE STAND. HOWEVER, IT WAS FOUND TO BE QUITE DIFFICULT TO CLEANLY TRANSPORT WIRES THROUGH THE HINGE, WITHOUT ANY MAJOR HOLES. NOW THE STAND WILL FEATURE A PASS THROUGH.

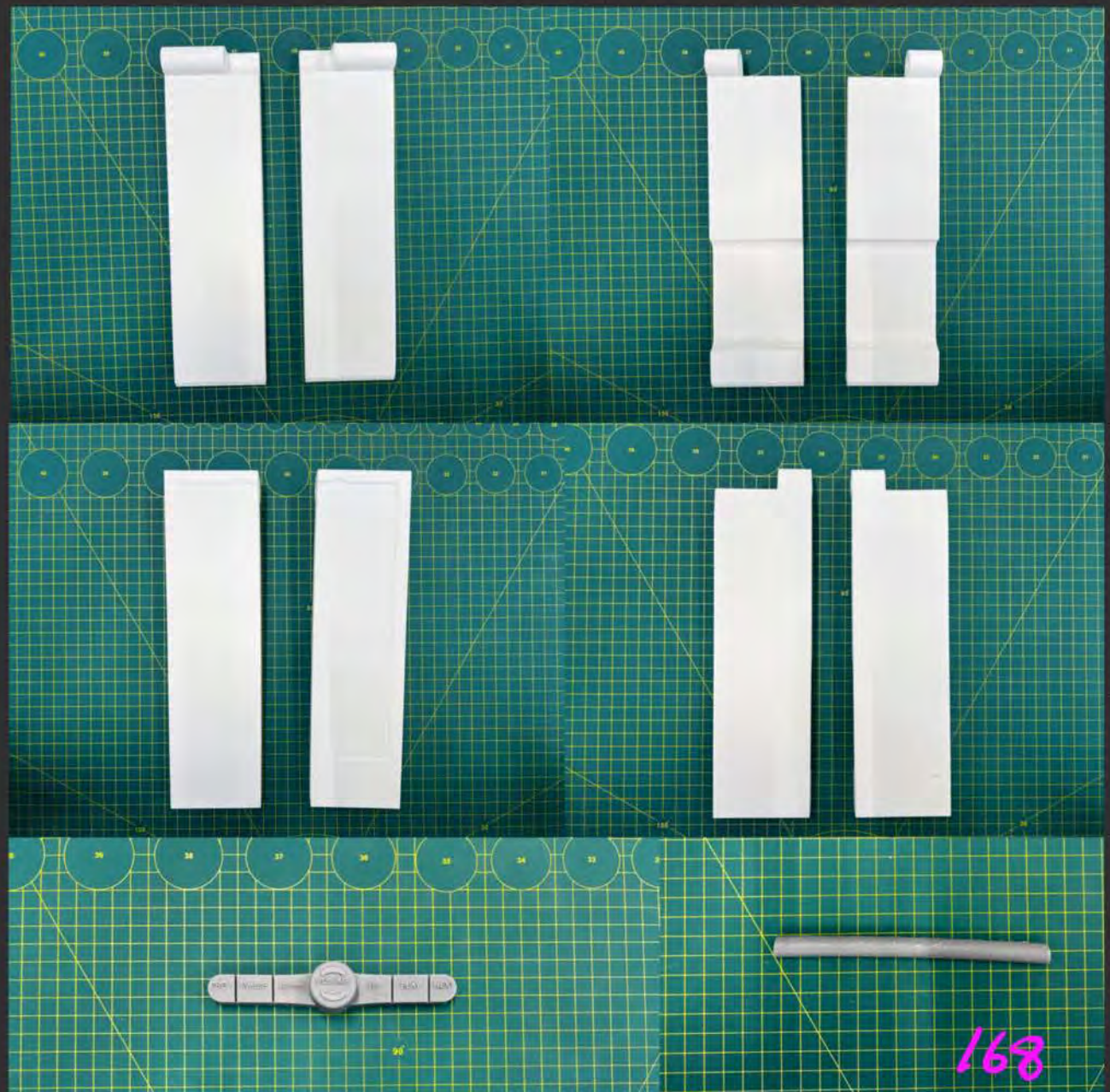


INITIAL 3D PRINTED PARTS

THE INITIAL DESIGN WAS PRINTED IN HALVES, THE BUTTONS & PIVOT TOO.

THE BUTTONS & PIVOT PARTS WERE PRINTED FROM GREY RESIN. THESE DID NOT NEED TO BE REPRINTED.

THE FOUR HALVES OF THE FRONT & STAND WERE PRINTED FROM PLA. HOWEVER, THESE COULD BE PRINTED FULLY, & THE DESIGN WAS OUTDATED. THESE PARTS WERE USED AS PART OF THE PROTOTYPE STAGES.

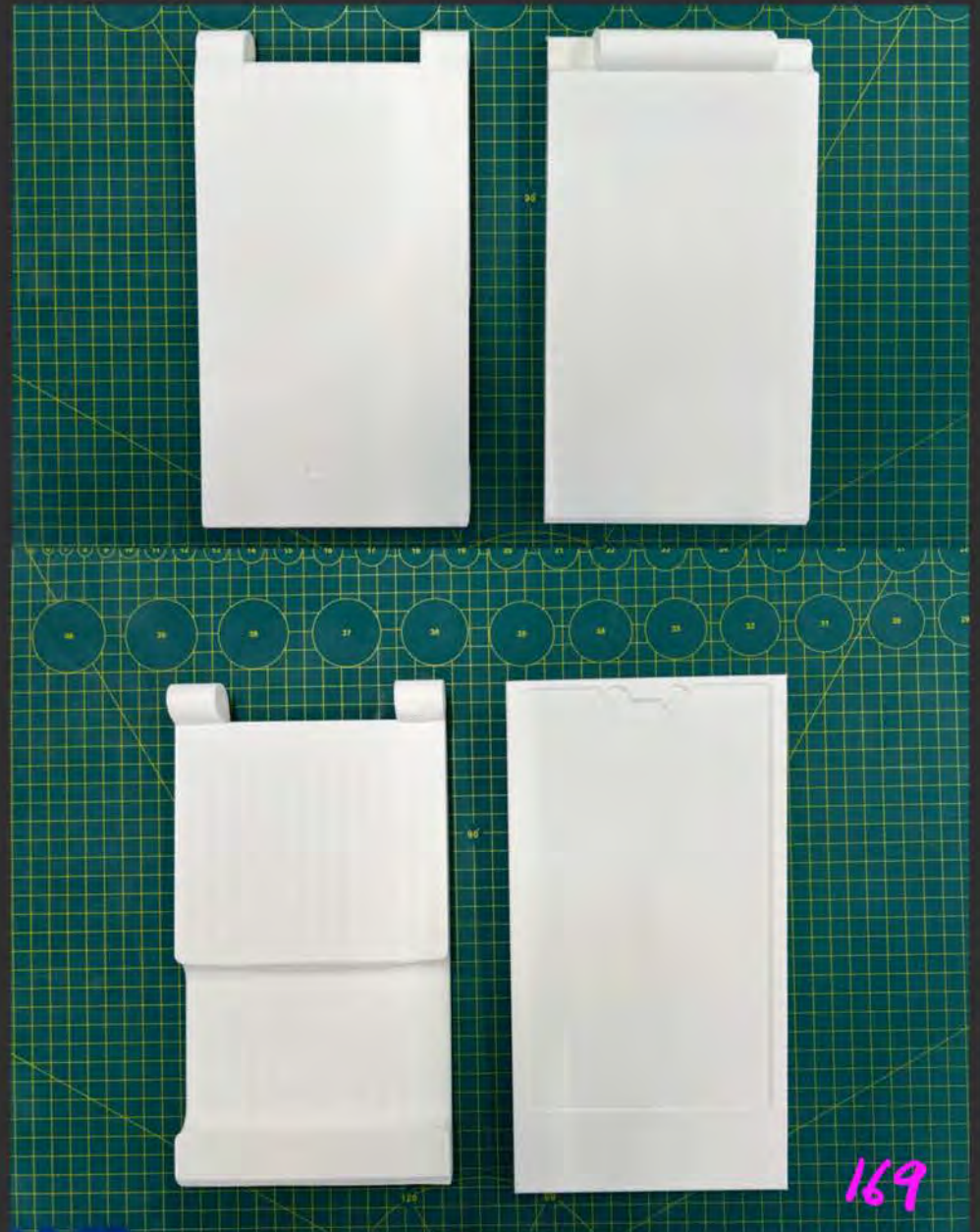


REVISED 3D PRINTED PARTS



WITH THE REVISED DESIGN ON CAD,
THE NEW "FULL" PARTS WERE REPRINTED.
PRINTING THESE MAJOR PARTS IN FULL WILL
ENSURE MINIMAL JOINT MARKS & WARPING.

THE BUTTONS, PIVOT, FRONT, & STAND WERE
ALL SANDED, WET SANDED, & SPRAY PRIMED.
THIS PROCESS SHOULD PROVIDE THE BEST
RESULT ONCE THE PAINTING IS FINISHED.



WEEK 12

FINAL CAD PARTS, PHYSICAL
MODEL, ↓ RENDERING

18/10/23
- 24/10/23

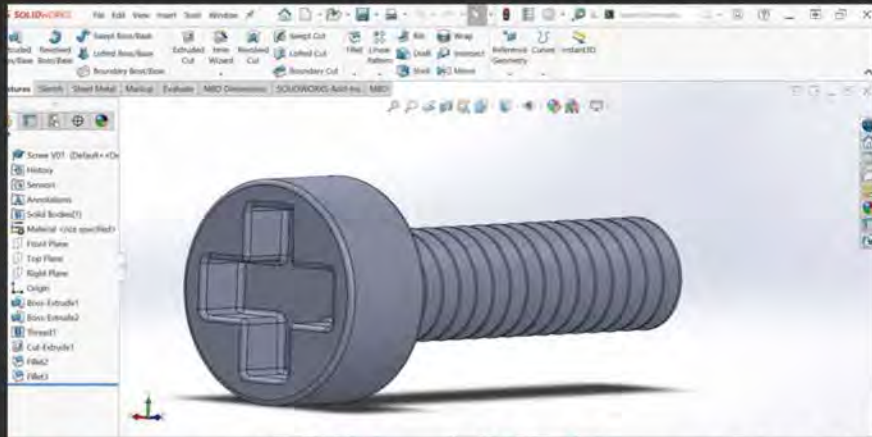
FINAL CAD MODEL PARTS



THE FOLLOWING PAGES FEATURE THE COMPLETE SET OF CAD PARTS. THERE ARE SOME PARTS THAT ARE STOCK PARTS, WHICH HAVE SET DIMENSIONS & PRICING. THESE STOCK PARTS WILL BE NOTED.

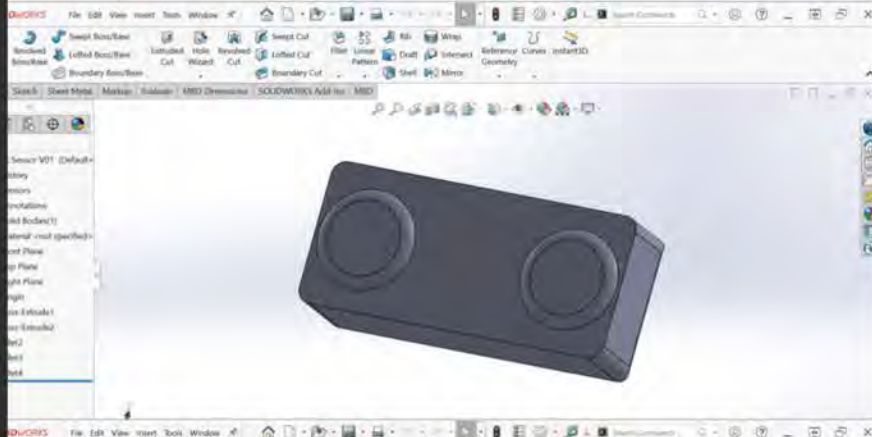
PRICING FOR THESE PARTS ARE FEATURED LATER IN THE BILL OF MATERIALS.





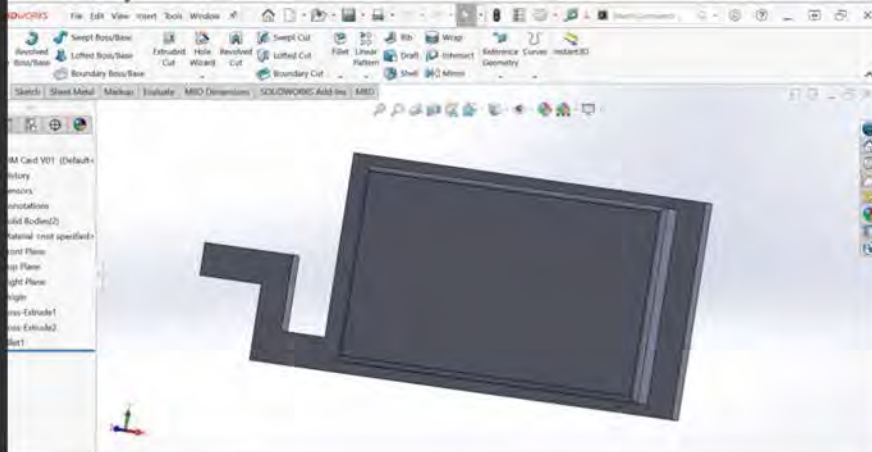
7MM SCREWS

- ↳ STOCK PART
- ↳ FROM JAYCAR
- ↳ USED TO SECURE ENTIRE BODY, MINUS THE SCREEN & COVER. THESE ARE CLUED DOWN.



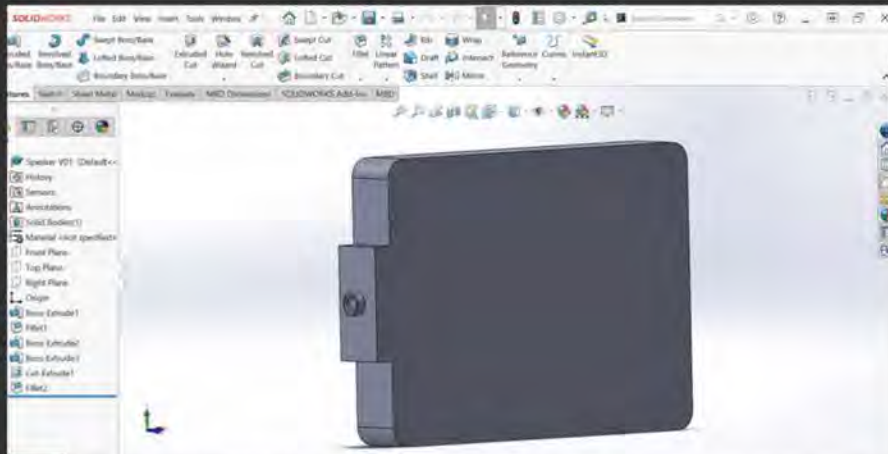
IR SENSOR

- ↳ STOCK PART
- ↳ FROM JAYCAR
- ↳ IS SECURED AT THE TOP OF DEVICE
- ↳ SENSES & REACTS TO ANY OBJECTS WITHIN A PARTICULAR RADIUS.



SIM CARD READER

- ↳ STOCK PART
- ↳ ALLOWS A SIMCARD TO BE READ ONCE INSERTED INTO DEVICE
- ↳ WILL BE USED FOR THE INITIALISATION OF THESE DEVICES

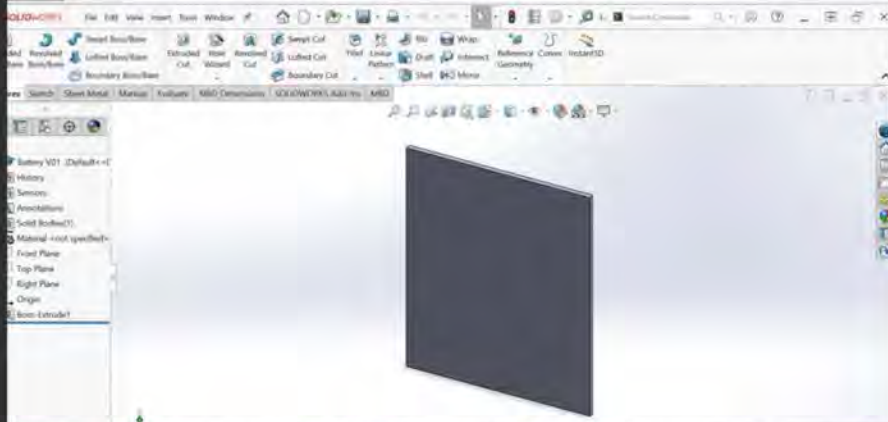


SPEAKER MODULE

↳ STOCK PART

↳ SMALL & COMPACT, FACES THE REAR OF THE DEVICE FOR AUDIO TO BOUNCE OFF THE STAND OR WALL

↳ USED FOR AUDIO OF FAMILY / RELATIVE SUBMITTED CONTENT

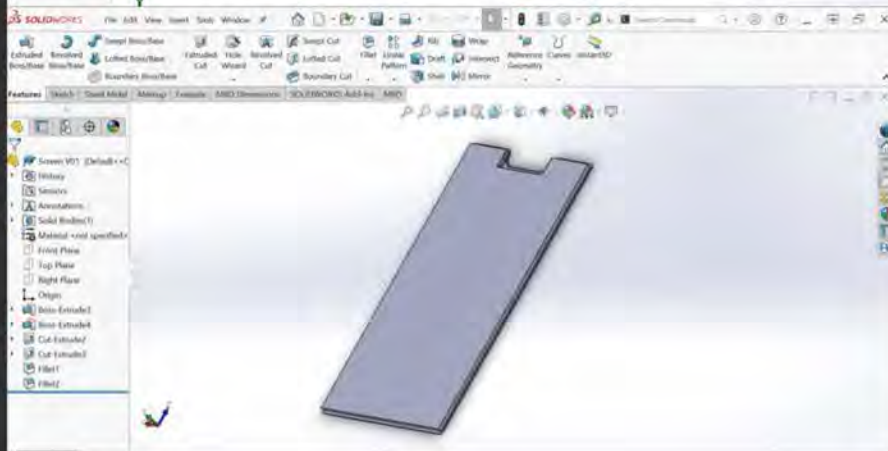


RECHARGEABLE BATTERY

↳ STOCK PART

↳ ALLOWS DEVICE TO BE TRANSPORTED & STILL OPERATE & RECEIVE FAMILY CONTENT

↳ IS SECURE IN LOWER HALF OF THE DEVICE, GIVING IT A LOWER CENTRE-OF-GRAVITY



FRONT SCREEN

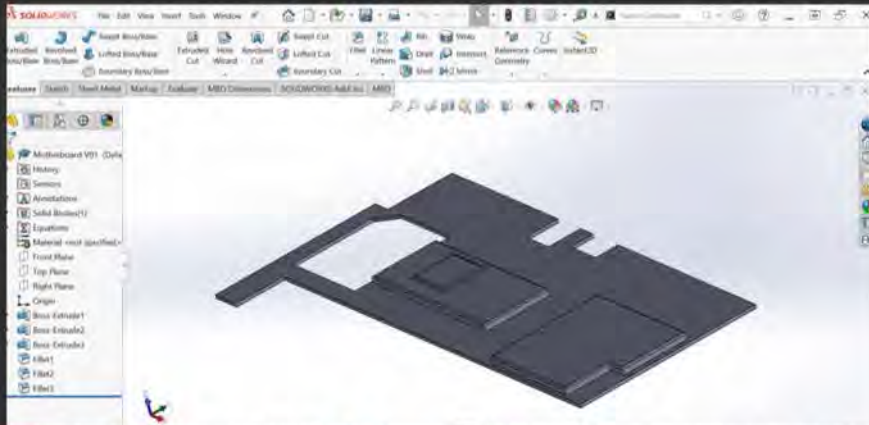
↳ STOCK PART (MINUS THE IR SENSOR (CUTOUT))

↳ ALLOWS THE DEMENTIA RELATIVE TO VIEW CONTENT

↳ NOT TOUCHSCREEN

↳ DUE TO THE AGE OF PEOPLE WITH THE DISEASE, NOT MANY UNDERSTAND / REMEMBER HOW TO USE TOUCHSCREEN DEVICES

↳ LCD SCREEN

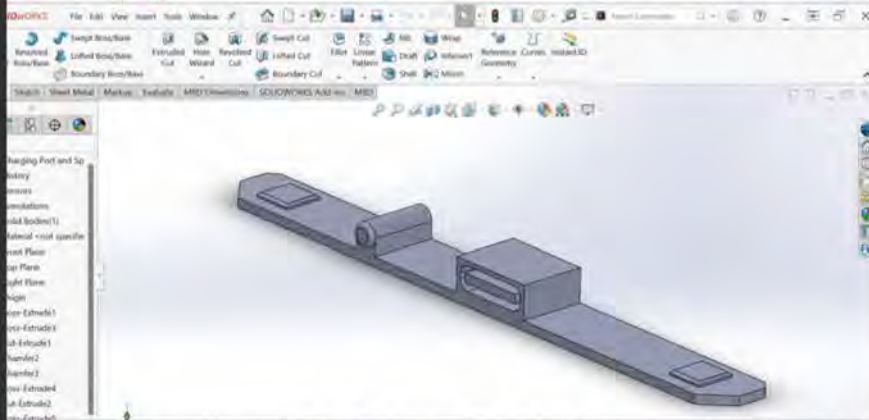


MOTHERBOARD

↳ MANUFACTURED CUSTOM STOCK PART

↳ THE "BRAIN" OF THE DEVICE

↳ PROVIDES THE DEMENTIA PATIENT WITH THE BEST POSSIBLE EXPERIENCE, DEPENDENT ON THE APPROPRIATE CODING

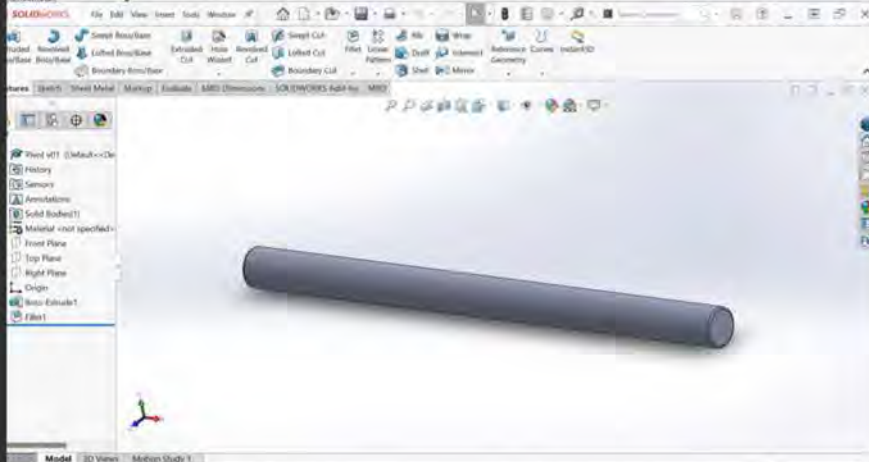


CHARGER, INDICATOR, & SPEAKER CONTROL BOARD

↳ THE DEVICE USES A USB-C CONNECTION TO CHARGE THE BATTERY

↳ THE INDICATOR IS A LED BULB THAT INDICATES THE BATTERY LEVEL. ALSO INDICATES WHEN THE DEVICE IS CORRECTLY CHARGING

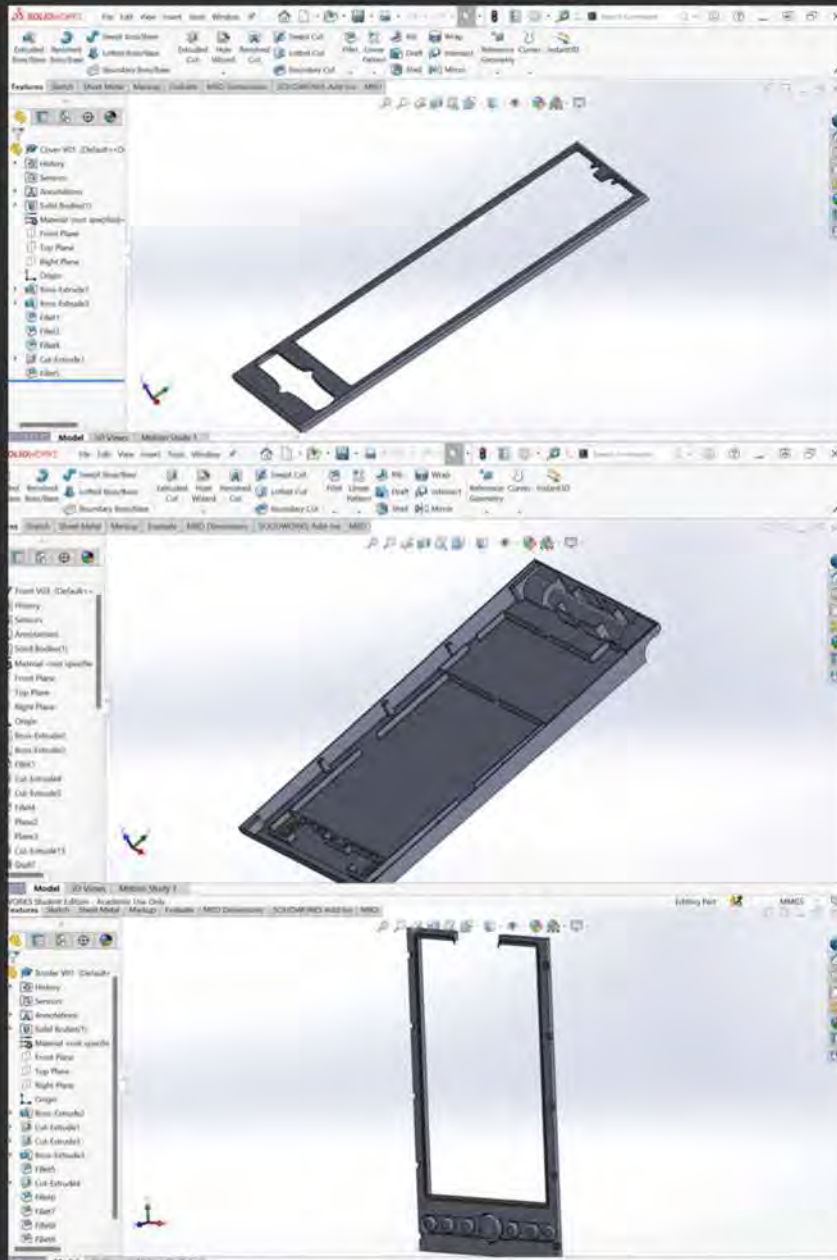
↳ THE TWO SPEAKER MODULES CONNECT TO THIS BOARD TO PROVIDE AUDIO INFORMATION



PIVOT

↳ CONNECTS THE FRONT & STAND

↳ ALLOWS BOTH PARTS TO SWIVEL AROUND A STATIONARY PIVOT



COVER

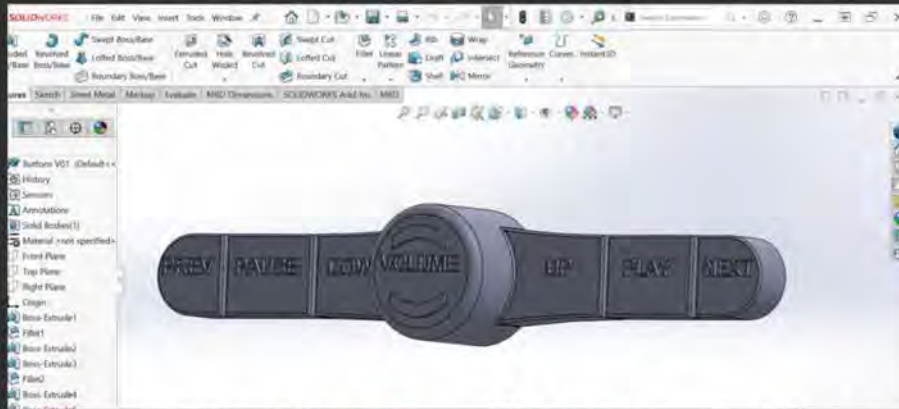
- ↳ INJECTION MOULDED
- ↳ PROTECTS THE SCREEN, IR SENSOR & LED BAR
- ↳ ALLOWS THE DEVICE TO FEATURE NO SHARP EDGES
- ↳ COVERS ALL SCREWS
- ↳ SECURES BUTTON & DIAL ASSEMBLY

FRONT HOUSING

- ↳ INJECTION MOULDED
- ↳ FEATURES ALL BRIDGES & GUIDES REQUIRED TO SECURE ALL INTERNAL COMPONENTS
- ↳ SPEAKER HOLE CUTOUTS NEAR THE BOTTOM
- ↳ FEATURES SCREW HOUSINGS

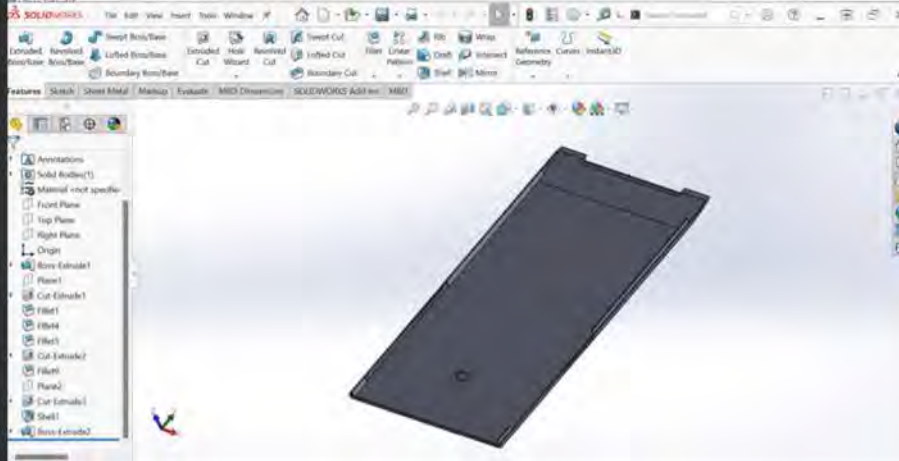
BORDER

- ↳ INJECTION MOULDED
- ↳ FEATURES AN ATTENTION VIOLET LED BAR, WHICH SURROUNDS THE SCREEN
- ↳ PULSATES FOR NEW CONTENT, STAYS ON FOR THE POSITIVE EMOTIONS IT PROVIDES
- ↳ HAS SCREW HOLES TO SECURE ENTIRE HOUSING
- ↳ BUTTON & DIAL MODULES ARE CONNECTED



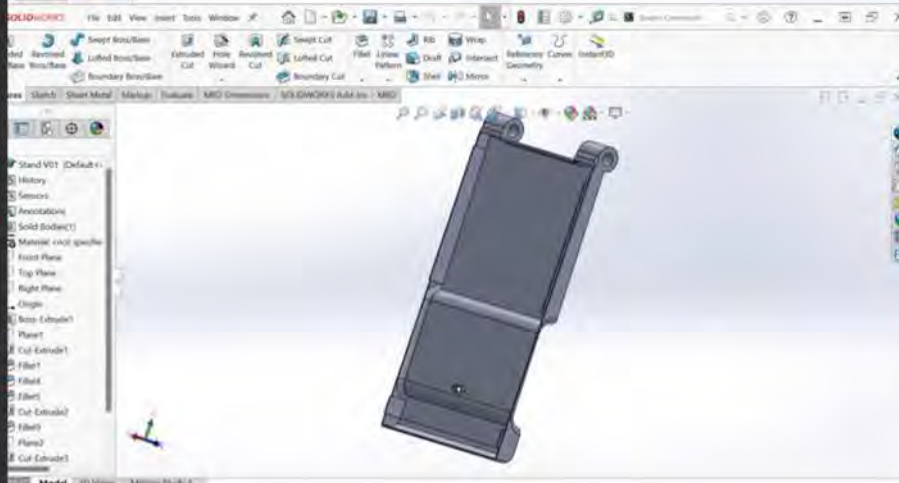
BUTTONS & DIAL ASSEMBLY

- ↳ ALLOWS THE DEMENTIA PATIENT TO INTERACT WITH THE DEVICE, PROVIDING TACTILE FEEDBACK
- ↳ ALL NECESSARY BUTTONS TO NAVIGATE THROUGH CONTENT
- ↳ IF ARTHRITIS IS PRESENT, \neq THE PATIENT CANNOT TURN THE VOLUME DIAL, VOLUME BUTTONS ARE FEATURED ON EITHER SIDE



STAND (PIECE ONE)

- ↳ INJECTION MOULDED
- ↳ THE REAR "PLATE" OF THE STAND
- ↳ BOTH PARTS HAVE BARS THAT INTERLOCK WITH EACH OTHER WHEN CONNECTED
- ↳ CHARGING CABLE PASS-THROUGH



STAND (PIECE TWO)

- ↳ INJECTION MOULDED
- ↳ FEATURES THE PIVOT HOLES & THE GAP FOR HANDS/FINGERS TO MOVE THE STAND OUTWARDS
- ↳ CHARGING CABLE PASS-THROUGH



FINAL CAD MODEL THOUGHTS



- ↳ USING PRE-EXISTING PART MEASUREMENTS ASSISTED GREATLY WITH THE SCALE
- ↳ THE CAD MODEL WOULD BE ABLE TO PRODUCE REALISTIC & ACCURATE RENDERS
- ↳ ASSISTED IN PROVIDING A BETTER UNDERSTANDING OF THE ASSEMBLY & INTERNAL COMPONENTS OF A TABLET OR SIMILAR DEVICES
- ↳ WILL BE USED AS A REFERENCE FOR ASSEMBLING THE PHYSICAL MODEL

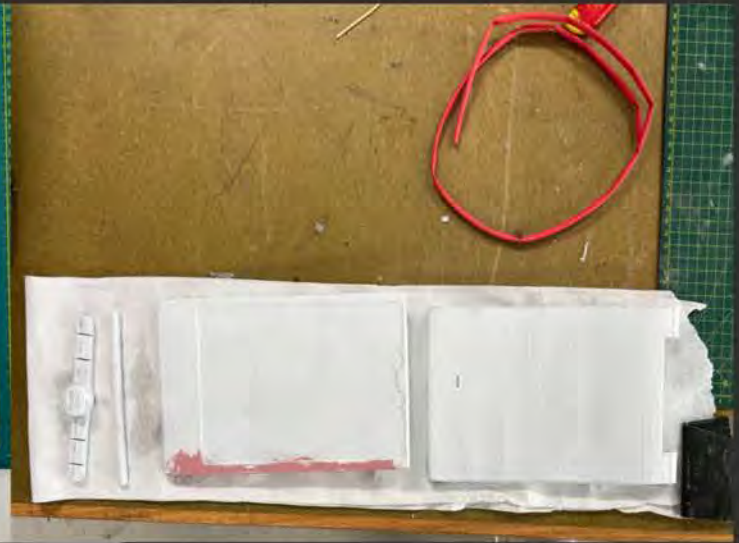
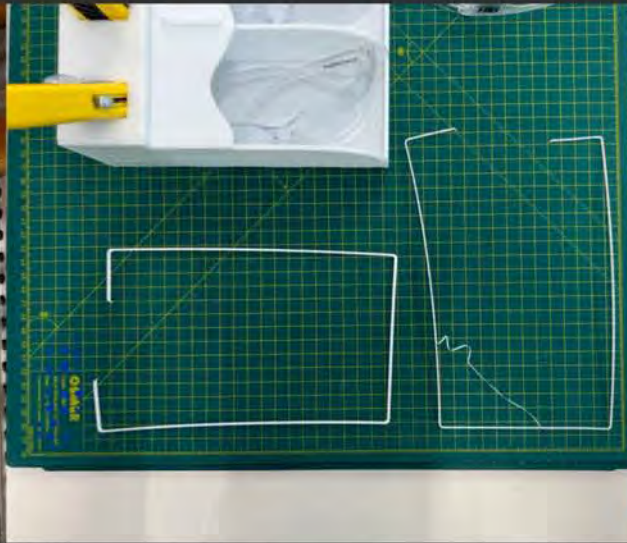
PHYSICAL CONCEPT MODEL PROGRESSION

SOON AFTER THE CAD MODEL WAS FINISHED, & KNOWING THERE WON'T BE ANYMORE CHANGES, FURTHER WORK ON THE PHYSICAL MODEL BEGAN.

AFTER EACH PIECE WAS SANDED & WET SANDED, PRIMER FILLER WAS APPLIED. THIS WOULD EVEN-OUT ALL SURFACES & GIVE THE MODEL A SMOOTHER FINISH. THIS STAGE IS ON THE RIGHT →

WHAT FOLLOWS ARE PROGRESS PHOTOS THROUGHOUT THE WEEK.





TWO COATS OF GLOSS WHITE
SPRAY PAINT WAS APPLIED.
GIVING AMPLE TIME
BETWEEN COATS & WET
SANDING WOULD PROVIDE
A BETTER FINISH.

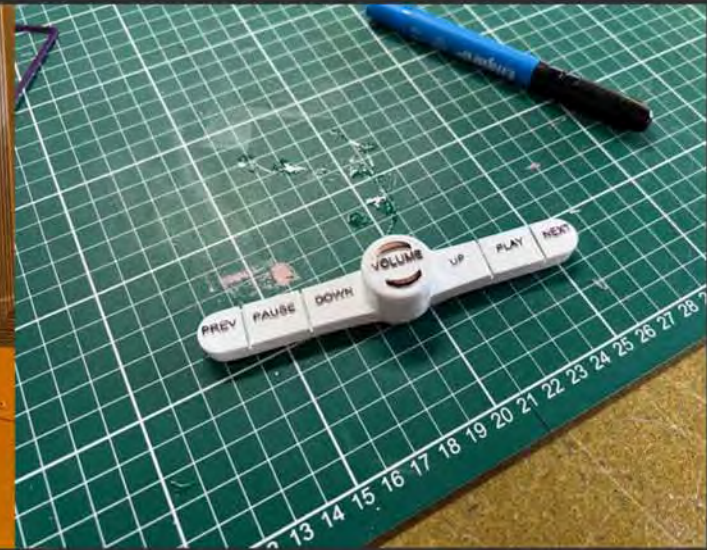
THE LIGHTBAR WAS PRINTED
TO CREATE DEPTH TO THE
MODEL, BUT ALSO WOULD
MAKE IT EASIER TO
PAINT. THE ONE ON THE
RIGHT IS 1:1 & THE LEFT
ONE IS 1.5MM THICK
(INSTEAD OF 1MM).

3D PRINTING LINES COULD STILL
BE SEEN ON THE FRONT
PIECE. BLADE PUTTY WAS USED
TO NEGATE THIS.



AS THE LIGHTBAR WAS LASER CUT IN ACRYLIC, THERE WAS NO NEED TO PRIME THE SURFACE BEFORE PAINTING. TWO COPIES WERE LASER CUT & PAINTED PURPLE (WHICH IS CLOSE TO VIOLET).

THE MAIN PIECES WERE SPRAYED WITH ANOTHER TWO COATS AS THEIR FINAL COATS.



THE BUTTON & DIAL ASSEMBLY'S LETTERING WAS SHADED-IN WITH A PERMANENT MARKER. THIS PROVED TO BE MUCH EASIER THAN PAINTING THEM WITH A ROLLER.



A PIECE OF ACRYLIC WAS LASER CUT TO ACT AS THE "REFLECTIVE" SCREEN PIECE. A PHOTO WAS ALSO PRINTED AS AN ADHESIVE DECAL, TO ACT AS THE BACKDROP.

THE IR SENSOR WAS PAINTED BLACK FOR BETTER ACCURACY TO THE RENDERS.

PHYSICAL MODEL END-OF-WEEK THOUGHTS

↳ GOOD PROGRESS WAS MADE THIS WEEK, WITH THE POSSIBILITY OF FINISHING IT NEXT WEEK

RENDERS (THE BEST PART)



RENDERING CAD MODELS IS SEEN AS A ESSENTIAL PART OF INDUSTRIAL DESIGN PRESENTATIONS. IT ALLOWS THE PRODUCT TO SHINE IN ITS BEST LIGHT, (LITERALLY).

THE FOLLOWING PAGES WILL FEATURE SEVERAL RENDERS THAT REPRESENT FEATURES, INTERNALS, PARTS, & STANCES.



HERO ONE



HERO TWO
Z



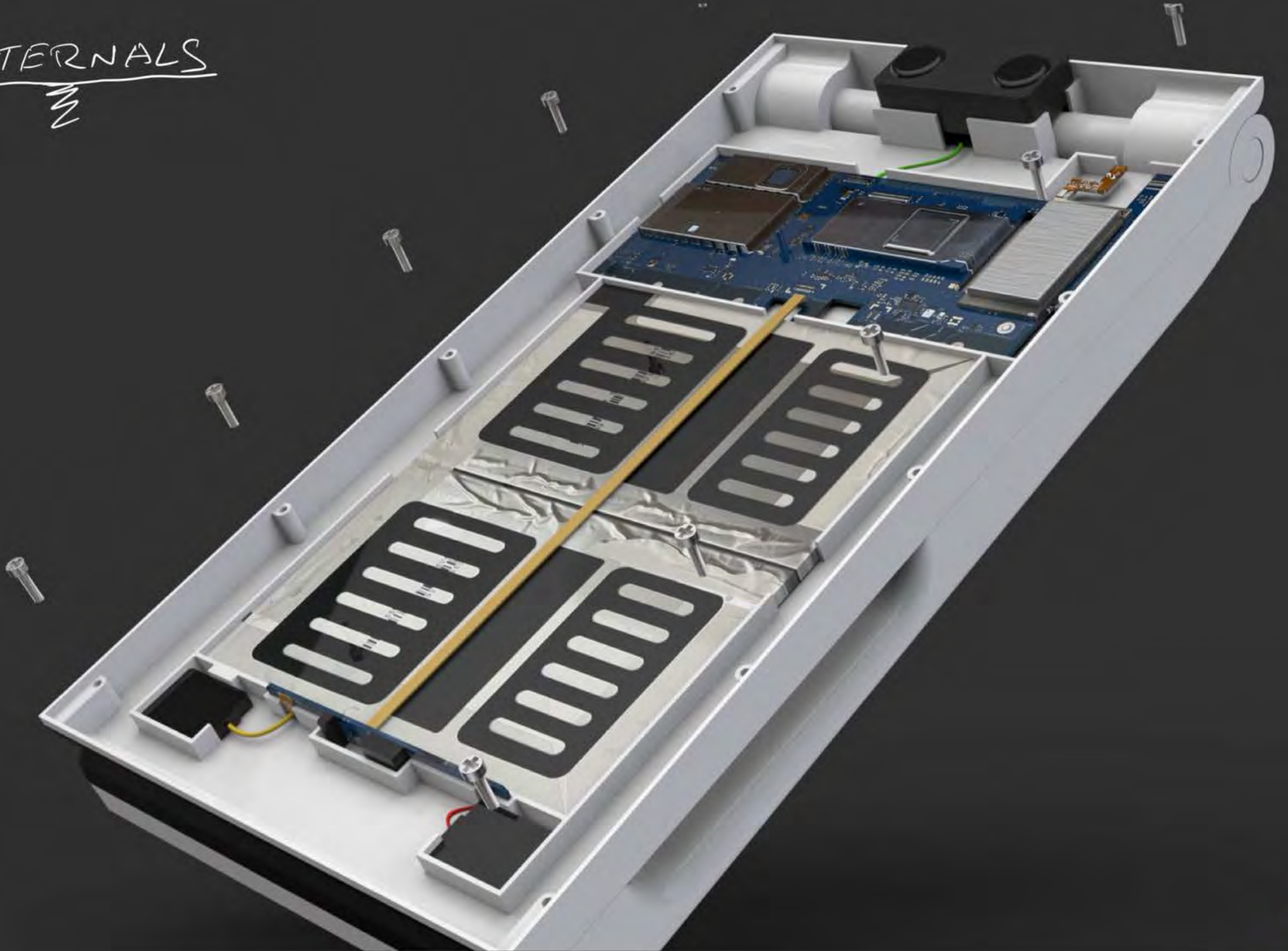
FOLDED
M



EXPLODED
2



INTERNALS
⚡



VIOLET LIGHTBAR



GRIP SURFACES



PIVOT



"HAND SPACE" IN STAND



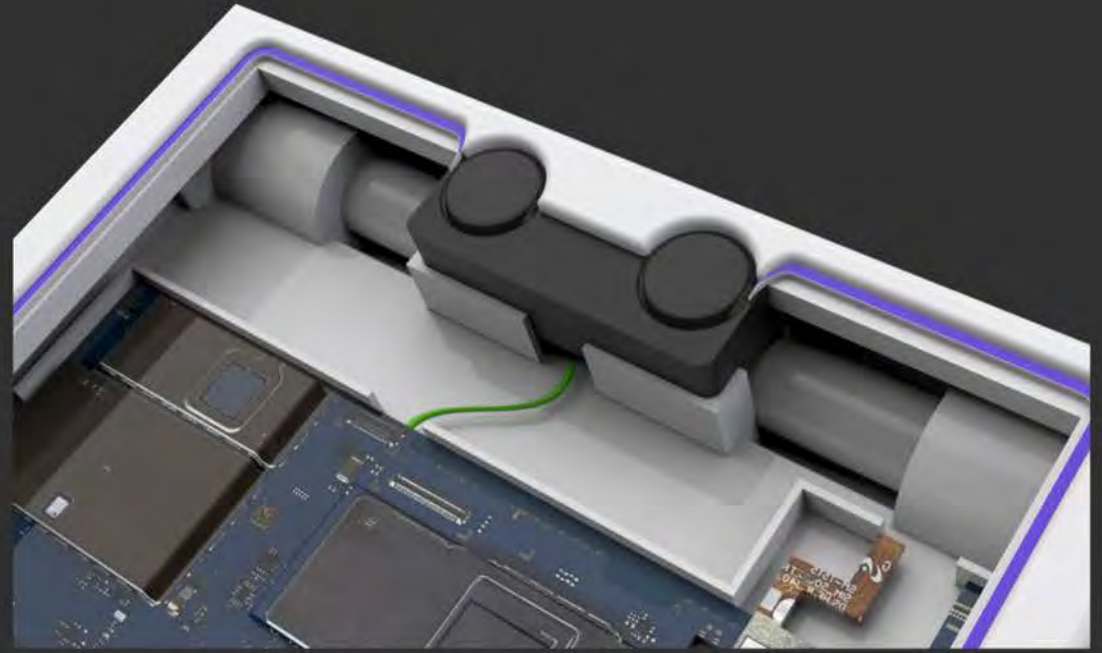
SPEAKERS, USB-C CHARGING, LED



BUTTONS & DIAL



IR SENSOR

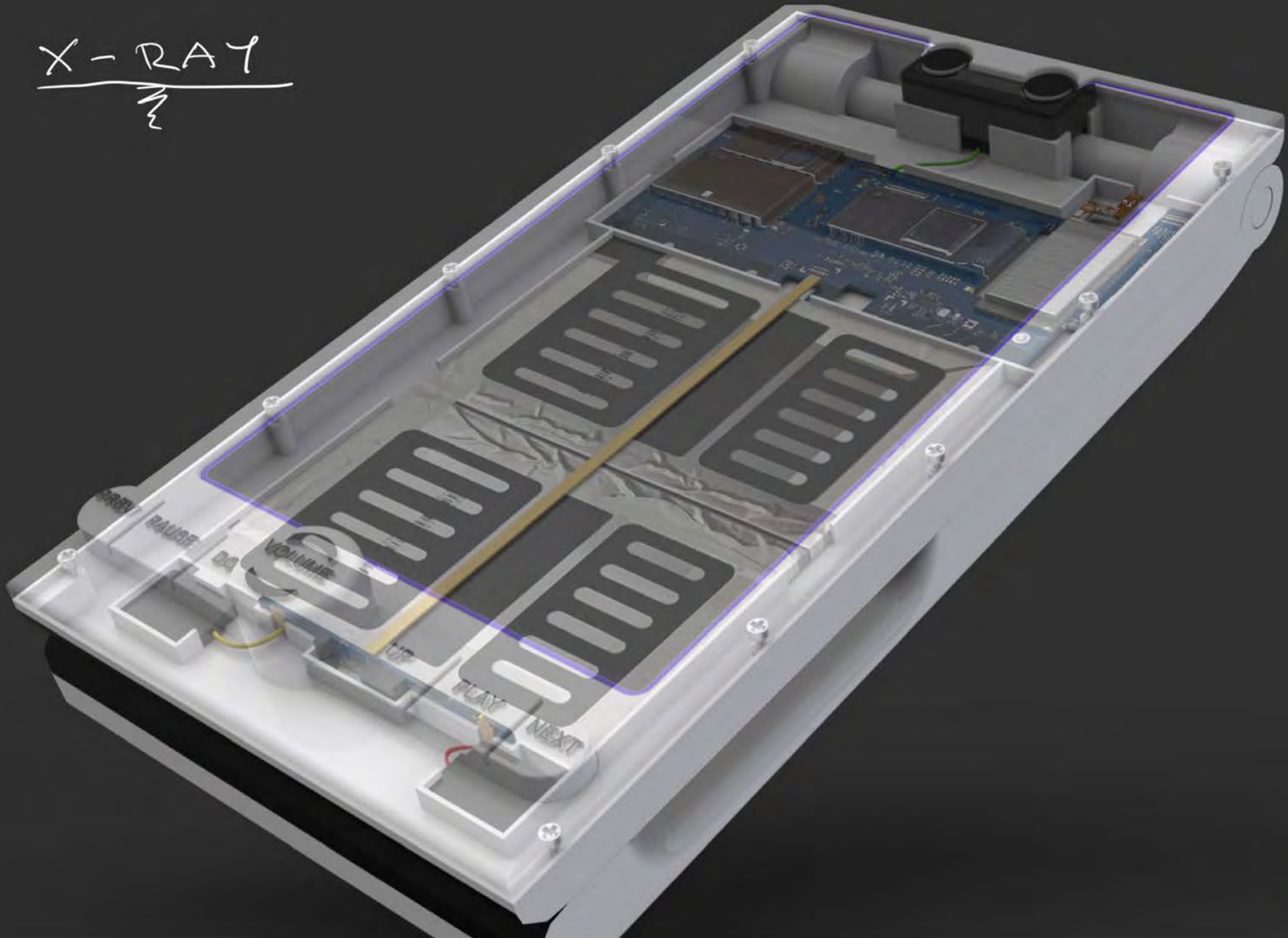


PRODUCT LABEL \$ QR CODE ON STAND



191

X-RAY
⚡



WEEK 13

25/10/23

-31/10/23

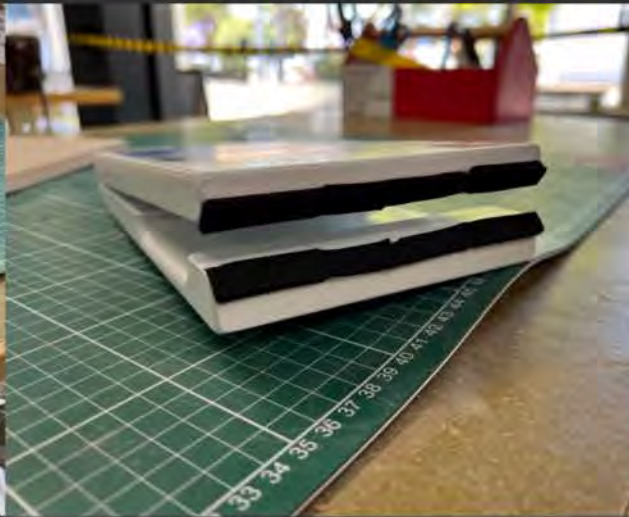
FINALISING THE
PHYSICAL MODEL,
STORY BOARD, TECHNICAL
DRAWINGS, & BOM

FINALISING THE PHYSICAL MODEL ⚡

MODEL MAKING WAS CONTINUED SOON AFTER THIS WEEK'S INTRODUCTION. THE MAIN GOAL WAS TO FULLY COMPLETE THE PHYSICAL MODEL BY THE END OF THE WEEK.

THE PHOTO BACKDROP WAS CUT TO MAKE ROOM FOR THE IR SENSOR. →





"CRIPPER PADS" WERE PURCHASED FROM BUNNINGS, TO BE USED ON THE MODEL. THESE WOULD BE PLACED ONTO THE BOTTOM ON TOP OF THE ANGLED EDGES.

ONCE APPLIED ON BOTH SIDES, IT WOULD KEEP THE MODEL FROM SLIDING WHEN BEING INTERACTED WITH. THIS WOULD ALSO PROVIDE FURTHER ACCURACY TO THE READERS.

THE ACRYLIC SCREEN PIECE & LIGHTBAR WERE GLUED TOGETHER. TWO O-RINGS WERE ALSO FITTED TO THE DIAL, TO PROVIDE A GREATER SENSE OF IT ACTUALLY BEING A DIAL.



THE LIGHTBAR, SCREEN, & BUTTON ASSEMBLY WERE ALL GLUED ONTO THE FRONT, COMPLETING THE BULK OF THE WORK. MINOR TOUCHUPS WERE NO REQUIRED TO HAVE THIS MODEL READY TO PRESENT.



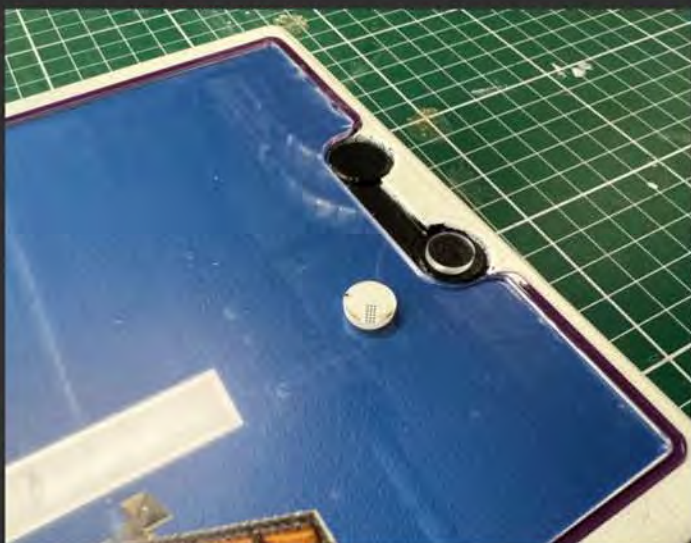
Dementia Connect

← Scan to download & pair

0001

A LOGO, PRODUCT NAME, QR CODE, & PRODUCT NUMBER WERE MADE TO MAKE THE PRODUCT MORE REALISTIC. THE QR CODE CURRENTLY DIRECTS TO MY LINKEDIN PROFILE.





TO ADD DEPTH TO THE IR SENSOR, SMALL CIRCULAR LENSES WERE LASER CUT, THEN GLUED ON.



FOAM WAS CUT WITH HOT WIRE TO FILL IN THE GAPS IN THE BOX. THESE WERE THEN GLUED TO ENSURE ITS LONGEVITY. THE PAPER BAG WAS WHERE THE CHARGER WILL SIT.



A RAZER WAS USED TO CLEAN-UP THE EXCESS PICTURE, AROUND THE IR SENSOR.



AFTER SOME DECAL SCALING ISSUES WERE RESOLVED, THE CORRECT SIZE DECALS WERE PRINTED & APPLIED. HOWEVER, THE DECAL FOR THE PRODUCT NAME WAS STILL SLIGHTLY OFF WITH ITS SCALE.

THE QR CODE TO DOWNLOAD THE APP & LINK DEVICES DECAL WAS PRINTED. FOR MY CONCEPT PHYSICAL MODEL, THIS QR CODE LINKS TO MY LINKEDIN PROFILE.

AFTER DESIGNING THE PACKAGE LABEL, IT WAS PRINTED & APPLIED. THE PACKAGE LABEL FEATURES A PHOTO OF THE DEVICE, DESCRIPTION, CONTENTS, & MODEL NUMBER.

ENDING PHYSICAL MODEL THOUGHTS

- ↳ USING PRIOR MODEL MAKING TECHNIQUES, KNOWLEDGE, & TUTOR RECOMMENDATIONS, THE BEST POSSIBLE RESULT WAS ACHIEVED.
- ↳ THE WAY THE PACKAGING WAS PUT TOGETHER (INCLUDING THE POWER CABLE) MAKES THIS CONCEPT BELIEVABLE.
- ↳ FOR NEXT TIME, MORE BLADE PUTTY WOULD BE USED ON ALL SURFACES, INSTEAD OF ONLY TWO SIDES OF ONE PIECE.
- ↳ THE GRIP FEET ALLOW THE BUTTONS TO BE PRESSED, WITHOUT MOVING MUCH.



PICTURES FOR THE STORYBOARD & VIDEO



200

PICTURES FOR THE STORY BOARD & VIDEO



PICTURES FOR THE STORYBOARD & VIDEO



storyboard



STORYBOARD SEQUENCE

1. DEVICE IS IN SLEEP MODE, & THE VIOLET LIGHTBAR IS PULSATING THAT THERE HAS BEEN NEW FAMILY CONTENT UPLOADED.
2. THE DEMENTIA PATIENT SEES THE FLASHING LIGHT & WALKS OVER TO IT. THE IR SENSOR IS TRIGGERED. THE NEW CONTENT INSTANTLY STARTS PLAYING.
3. THE VOLUME NEEDS TO BE ADJUSTED, SO THE DEMENTIA PATIENT TURNS THE DIAL. ALTERNATIVELY, THE VOLUME COULD BE ADJUSTED USING THE BUTTONS ON EITHER SIDE OF THE DIAL.
4. THE DEMENTIA PATIENT LEANS OVER TO PRESS "NEXT"
5. THEY DECIDE TO GO BACK TO THE PREVIOUS UPLOADED MEMORY, & PRESS "PREV".
6. THE PATIENT IS NOW SETTLED, & RESTS WHILE THE MEMORY CONTENT THAT HIS FAMILY UPLOADED, NOW PLAYS.
7. WALKS AWAY, THEN THE DEVICE ENTERS SLEEP MODE.

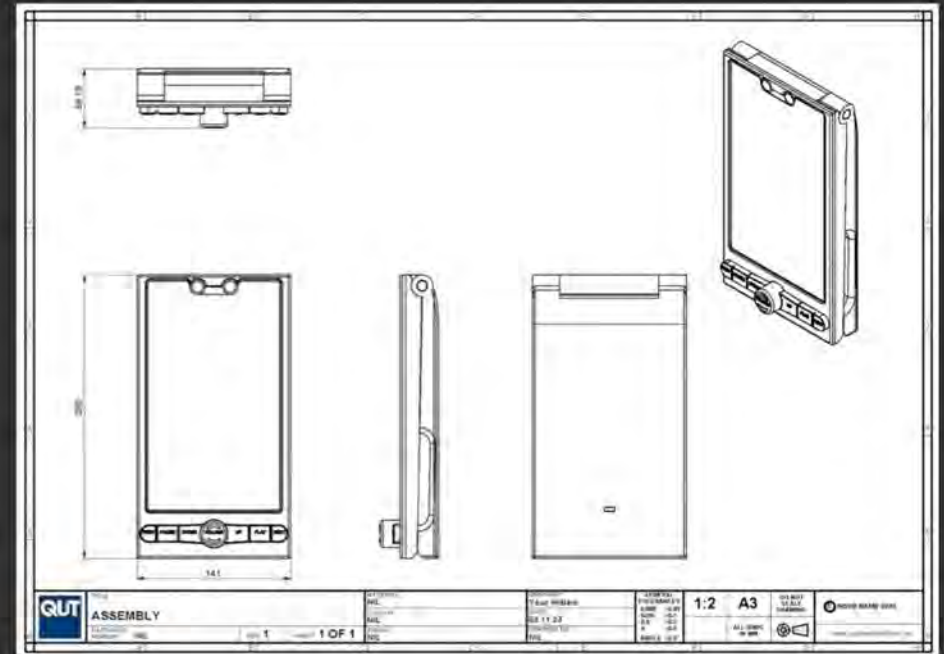


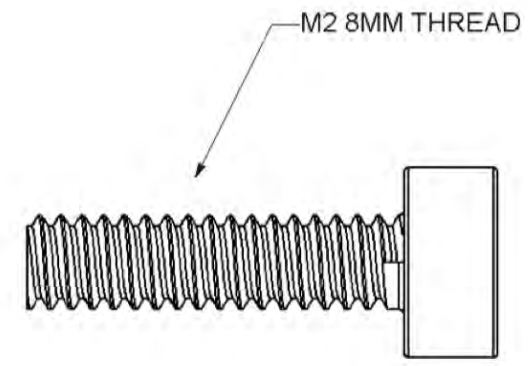
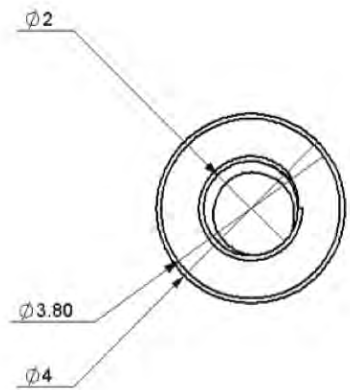
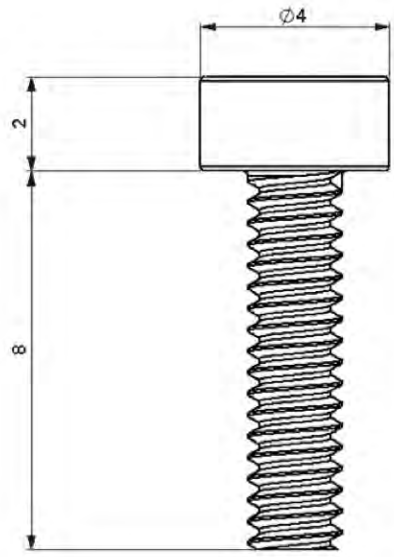
TECHNICAL DRAWINGS



TECH DRAWINGS ARE THE "BREAD & BUTTER" OF ALL ID PROJECTS. THESE DRAWINGS SHOWCASE DIMENSIONS, SCALES, MATERIALS, & COLOURS. ENSURING THAT THESE PARTS CAN BE REPLICATED USING THESE DRAWINGS.

ALL TECH DRAWINGS WERE CREATED IN SOLIDWORKS, USING A QUT TEMPLATE.





TITLE
M2 8MM SCREW

PART/ASSY. NUMBER
01

REV. 1

SHEET 1 OF 1

MATERIAL
METAL
COLOUR
SILVER
FINISH
BRUSHED

DRAWN BY
Your Initials
DATE
03.11.23
DRAWING NO
01

GENERAL TOLERANCES
0.000 ±0.05
0.00 ±0.1
0.0 ±0.2
0 ±0.5
ANGLE ±0.5°

10:1

A3

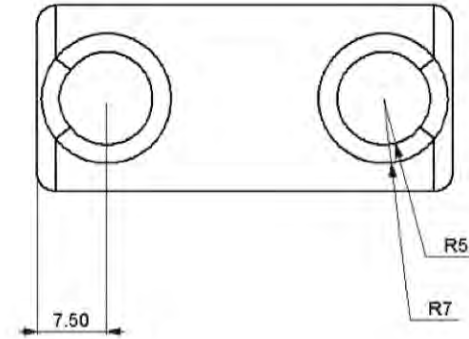
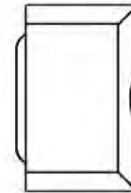
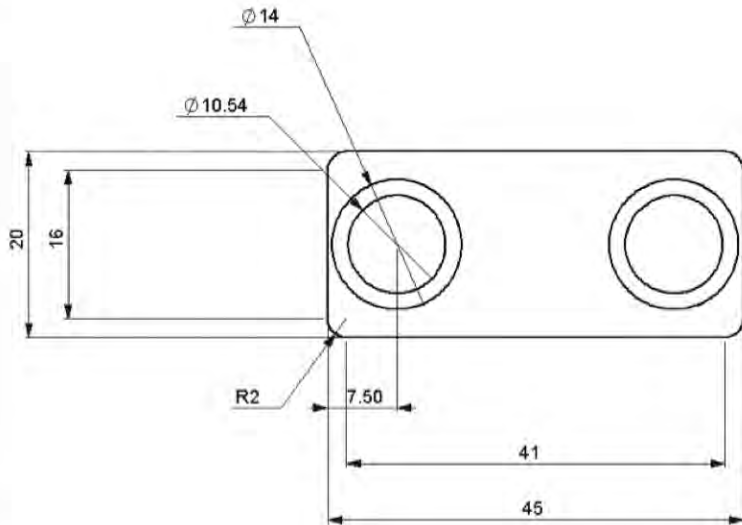
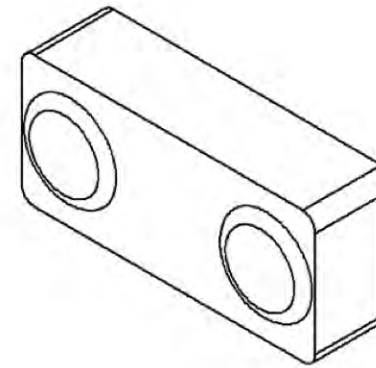
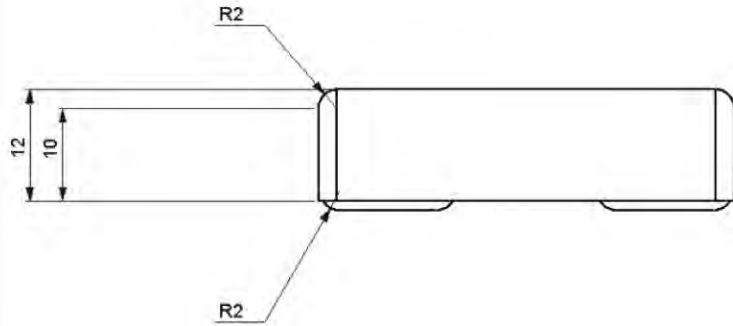
DO NOT SCALE DRAWING



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TITLE
IR SENSOR

PART/ASSY NUMBER
02

REV. **1**

SHEET **1 OF 1**

MATERIAL
ABS PLASTIC
COLOUR
BLACK
FINISH
MATTE

DRAWN BY
Your Initials
DATE
03.11.23
DRAWING NO.
02

GENERAL TOLERANCES
0.000 ± 0.05
0.00 ± 0.1
0.0 ± 0.2
0 ± 0.5
ANGLE $\pm 0.5^\circ$

2:1

A3

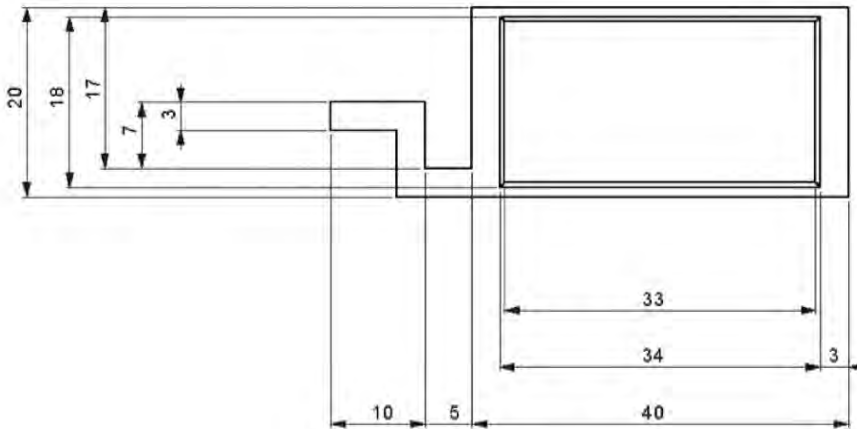
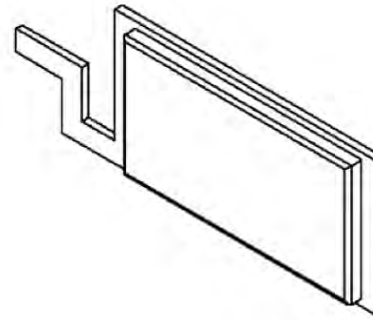
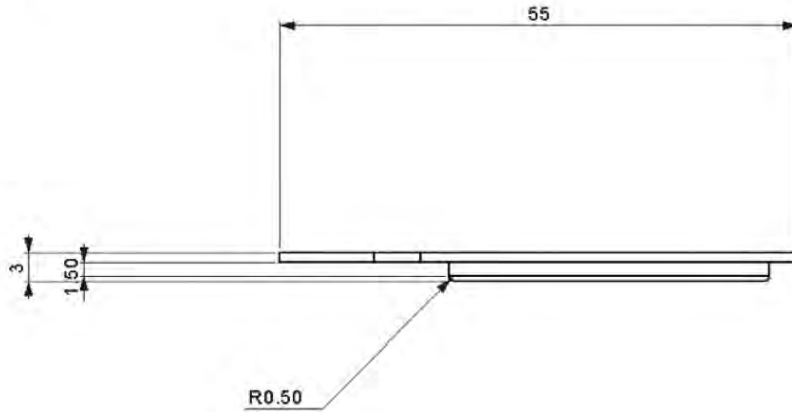
DO NOT SCALE DRAWING





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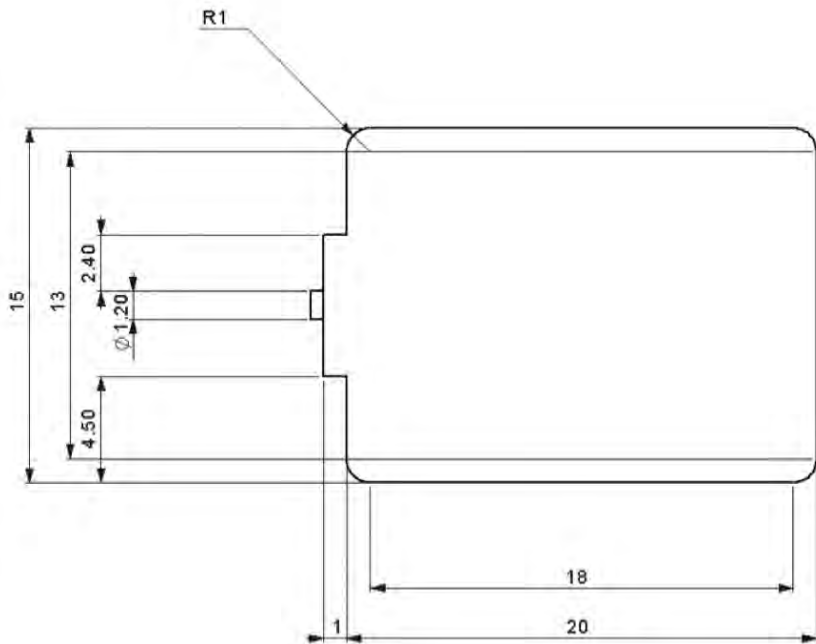
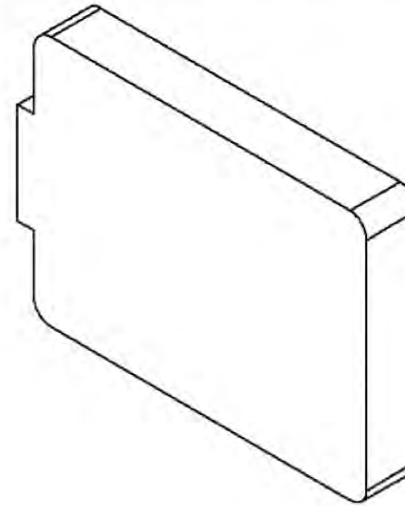
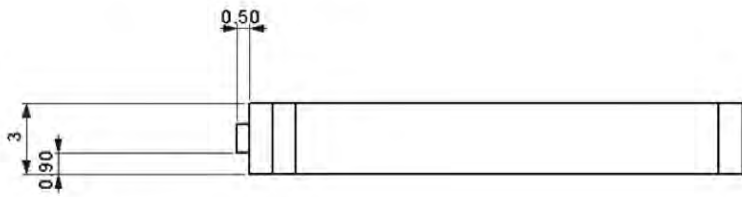
www.your-website.com.au


207



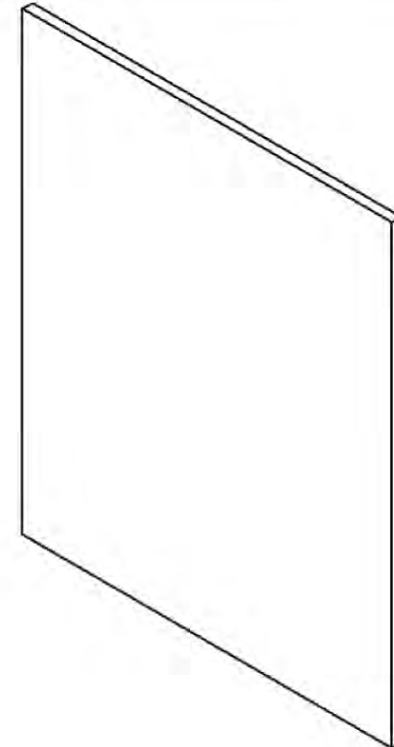
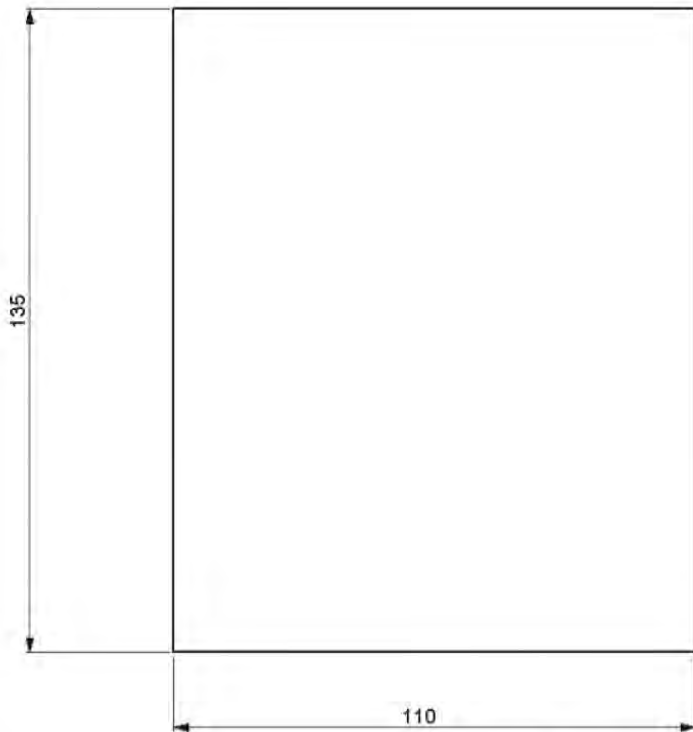
	TITLE SIM CARD READER		MATERIAL PCB		DRAWN BY Your Initials		GENERAL TOLERANCES 0.000 ±0.05 0.00 ±0.1 0.0 ±0.2 0 ±0.5 ANGLE ±0.5°	2:1	A3	DO NOT SCALE DRAWING	 NOUR NAME 2023
	PART/ASSY NUMBER 03	REV. 1	SHEET 1 OF 1	COLOUR SILVER & BRONZE		DATE 03.11.23					
			FINISH NIL		DRAWING NO. 03						

208



	TITLE		MATERIAL		DRAWN BY		GENERAL TOLERANCES		5:1	A3	DO NOT SCALE DRAWING	© NOUR NAME 2023
	SPEAKER MODULE		ABS PLASTIC		Your Initials		0.000 ±0.05 0.00 ±0.1 0.0 ±0.2 0 ±0.5 ANGLE ±0.5°					
PART/ASSEMBLY NUMBER 04		REV. 1	SHEET 1 OF 1		DATE 03.11.23		DRAWING NO 04		ALL DIMS. IN MM		www.your-website.com.au	

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TITLE
BATTERY

PART/ASSY NUMBER **05**

REV. **1**

SHEET **1 OF 1**

MATERIAL
RECHARGEABLE LITHIUM-ION

COLOUR
NIL

FINISH
NIL

DRAWN BY
Your Initials

DATE
03.11.23

DRAWING NO.
05

GENERAL TOLERANCES

0.000	±0.05
0.00	±0.1
0.0	±0.2
0	±0.5

ANGLE ±0.5°

1:1

A3

ALL DIMS. IN MM

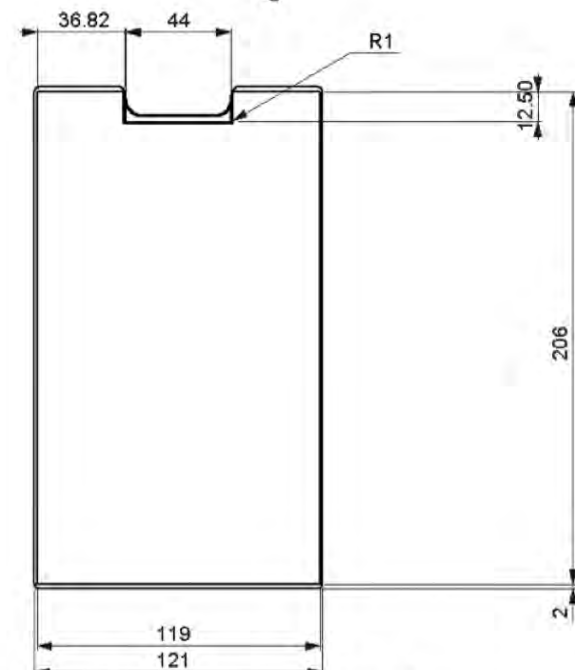
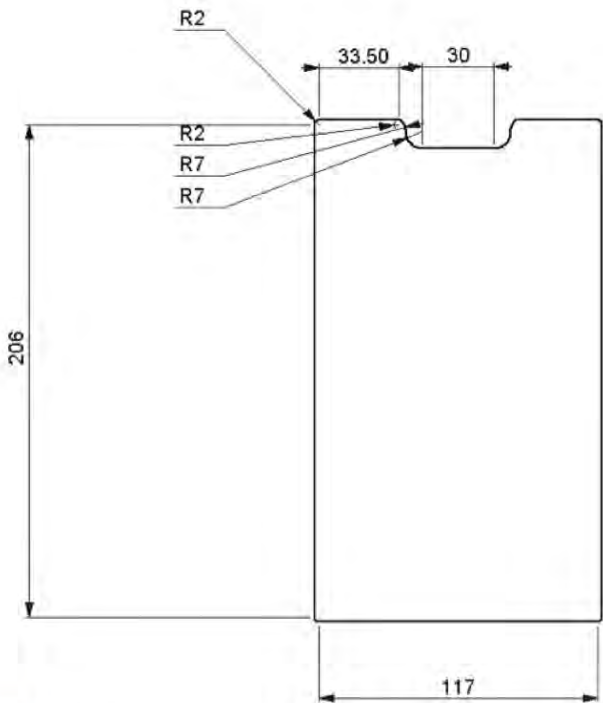
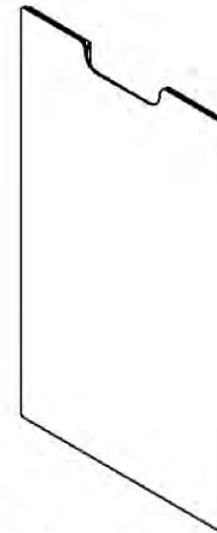
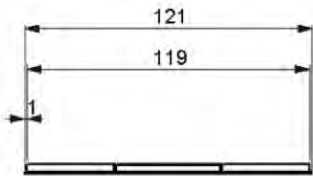


DO NOT SCALE DRAWING

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210



TITLE
SCREEN

PART/ASSY. NUMBER **06**

REV **1**

SHEET **1 OF 1**

MATERIAL
NIL
COLOUR
NIL
FINISH
NIL

DRAWN BY
Your Initials
DATE
03.11.23
DRAWING NO.
06

GENERAL TOLERANCES
0.000 +0.05
0.00 -0.1
0.0 -0.2
0 -0.5
ANGLE -0.5°

1:2

A3

DO NOT SCALE DRAWING

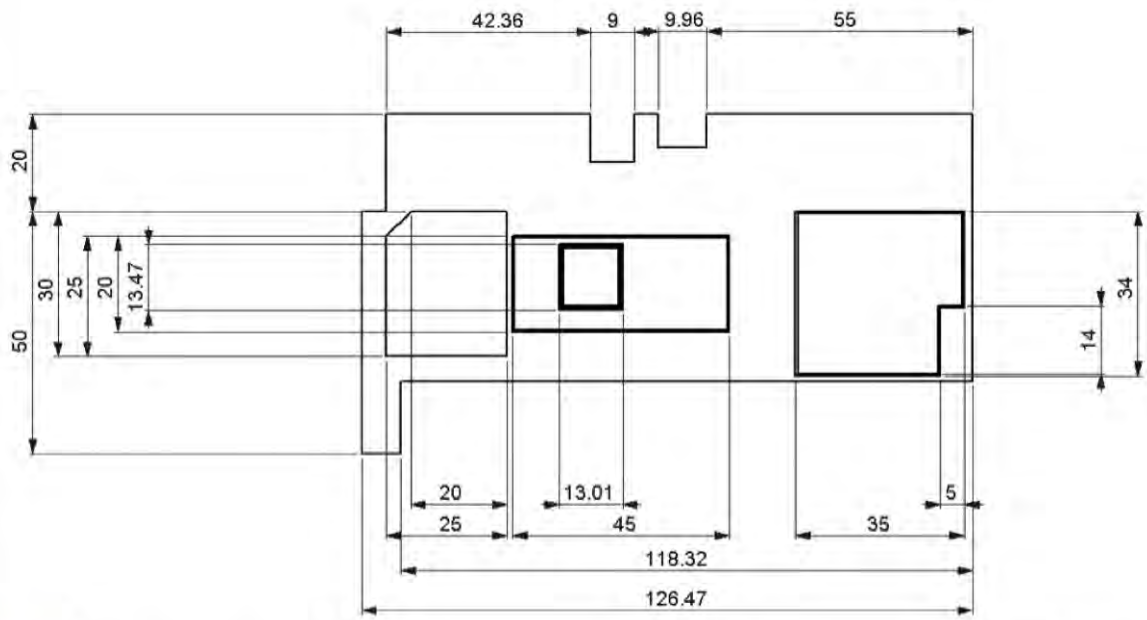
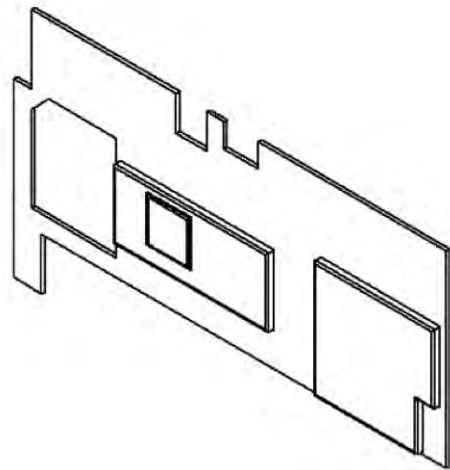
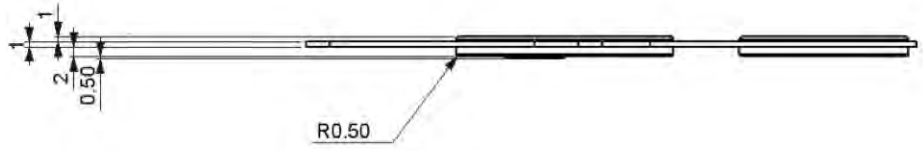
ALL DIMS. IN MM



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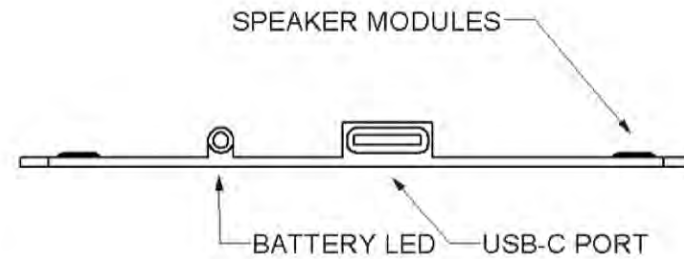
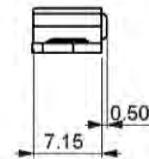
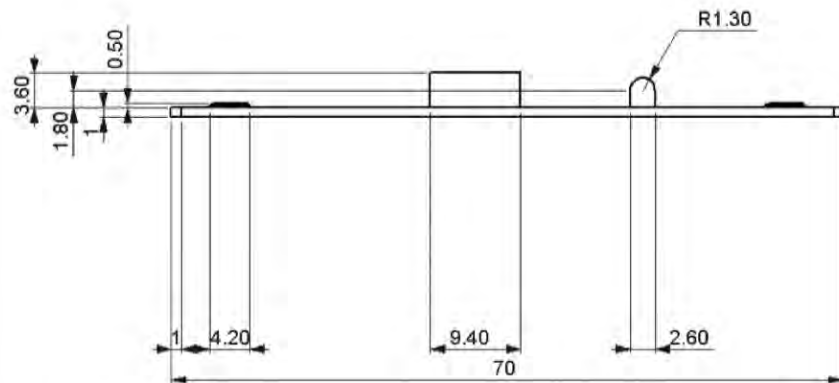
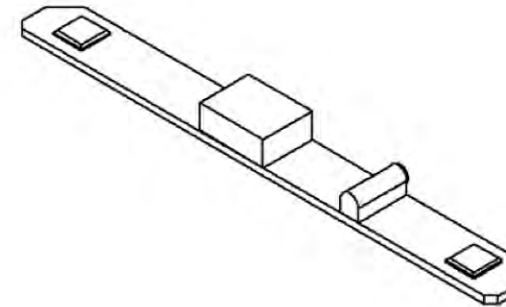
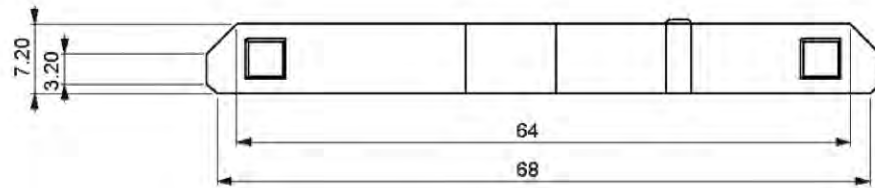
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211



	TITLE MOTHERBOARD		MATERIAL PCB		DRAWN BY Your Initials		1:1	A3	DO NOT SCALE DRAWING	 NOUR NAME 2023
	PART/ASSY. NUMBER 07		COLOUR BLUE & BLACK		DATE 03.11.23					
REV 1 SHEET 1 OF 1		FINISH NIL		DRAWING NO. 07		GENERAL TOLERANCES 0.000 ±0.05 0.00 ±0.1 0.0 ±0.2 0 ±0.5 ANGLE ±0.5°				

212



TITLE
CHARGING PORT, LED, SPEAKERS

PART/ASSY. NUMBER
08

REV. **1**

SHEET **1 OF 1**

MATERIAL
PCB

COLOUR
BLUE

FINISH
NIL

DRAWN BY
Your Initials

DATE
03.11.23

DRAWING NO.
08

GENERAL TOLERANCES
0.000 -0.05
0.00 ±0.1
0.0 -0.2
0 -0.5
ANGLE ±0.5°

2:1

A3

DO NOT SCALE DRAWING

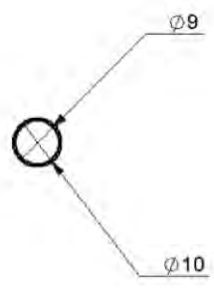
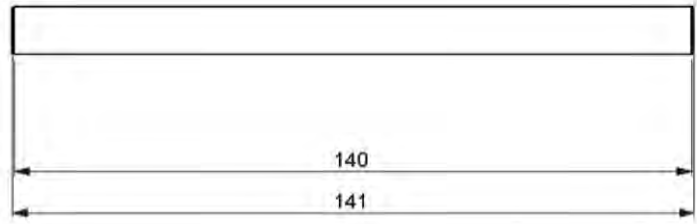
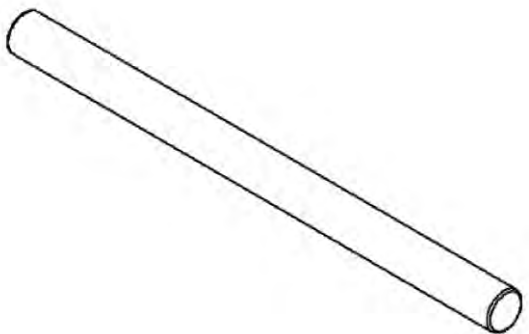
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ALL DIMS. IN MM



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213



TITLE
PIVOT

PART/ASSY. NUMBER
09

REV **1**

SHEET **1 OF 1**

MATERIAL
INJECTION MOULDED ABS

COLOUR
WHITE

FINISH
GLOSS

DRAWN BY
Your Initials

DATE
03.11.23

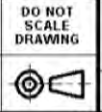
DRAWING NO.
09

GENERAL TOLERANCES
0.000 ±0.05
0.00 ±0.1
0.0 ±0.2
0 ±0.5
ANGLE ±0.5°

1:1

A3

ALL DIMS. IN MM

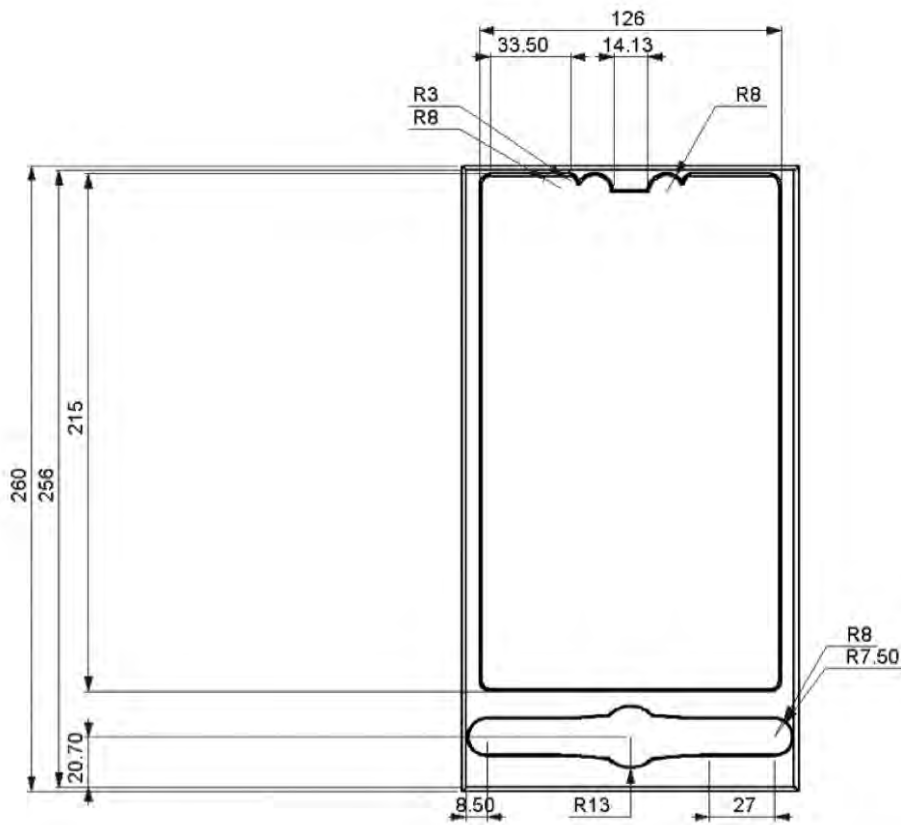
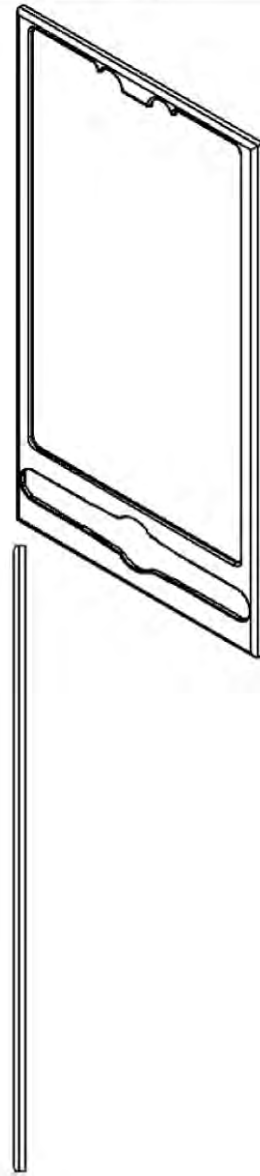
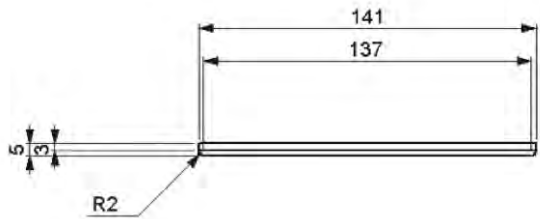


DO NOT SCALE DRAWING

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214



TITLE
COVER

PART/ASSY. NUMBER
10

REV. **1**

SHEET **1 OF 1**

MATERIAL
INJECTION MOULDED ABS

COLOUR
WHITE

FINISH
GLOSS

DRAWN BY
Your initials

DATE
03.11.23

DRAWING NO.
10

GENERAL TOLERANCES

0.000 ±0.05

0.00 ±0.1

0.0 ±0.2

0 ±0.5

ANGLE ±0.5°

1:2

A3

DO NOT SCALE DRAWING

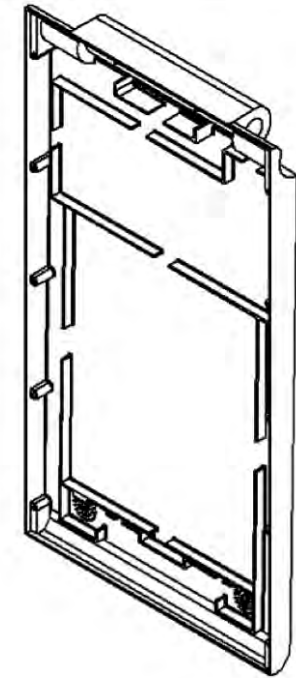
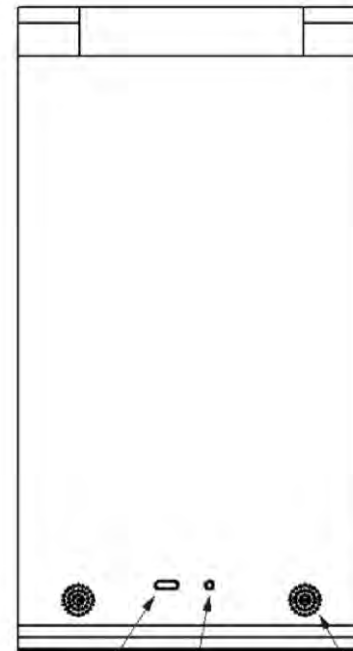
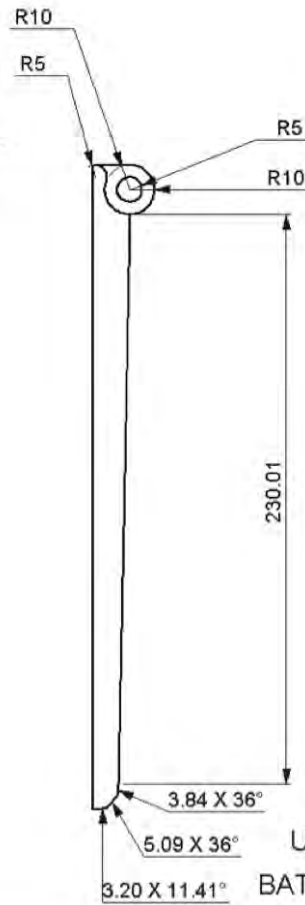
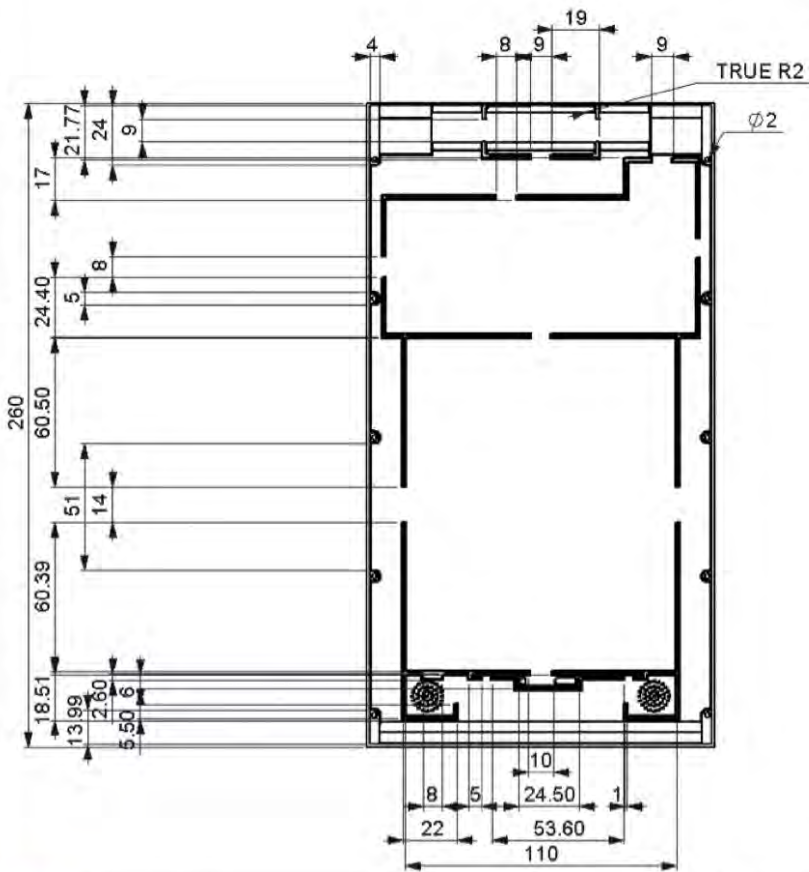
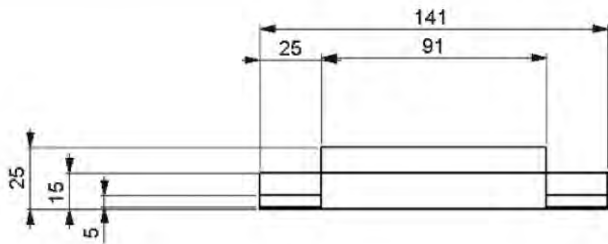
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USB-C PORT
BATTERY INDICATOR
SPEAKER HOLES



TITLE
FRONT HOUSING

PART/ASSY. NUMBER
11

REV. **1**

SHEET **1 OF 1**

MATERIAL
INJECTION MOULDED ABS
COLOUR
WHITE
FINISH
GLOSS

DRAWN BY
Your Initials
DATE
03.11.23
DRAWING NO.
11

GENERAL TOLERANCES
0.000 ±0.05
0.00 ±0.1
0.0 ±0.2
0 ±0.5
ANGLE ±0.5°

1:2

A3

DO NOT SCALE DRAWING

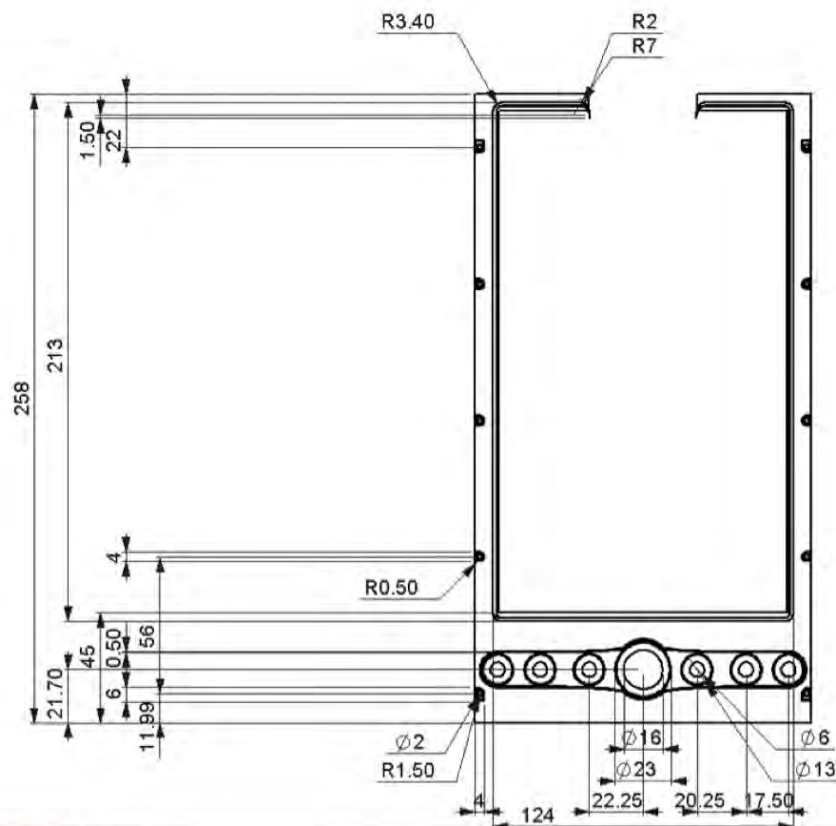
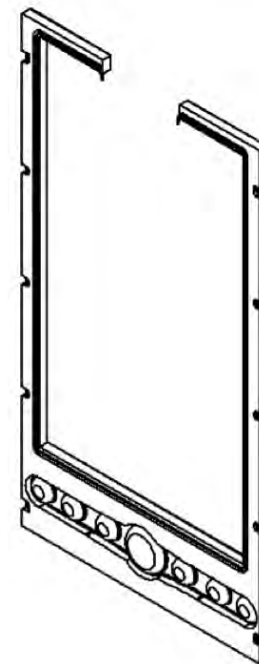
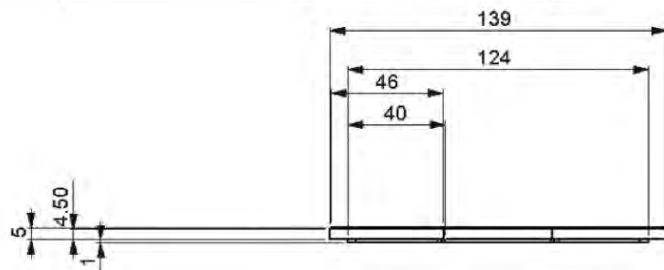
ALL DIMS. IN MM




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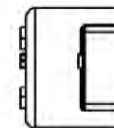
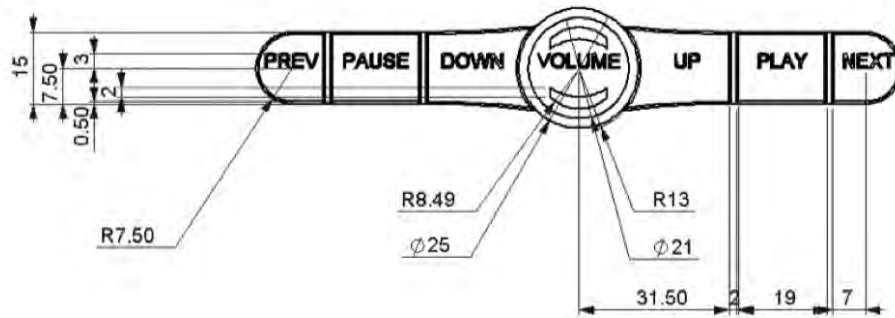
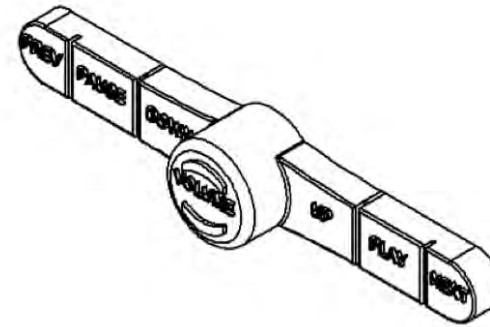
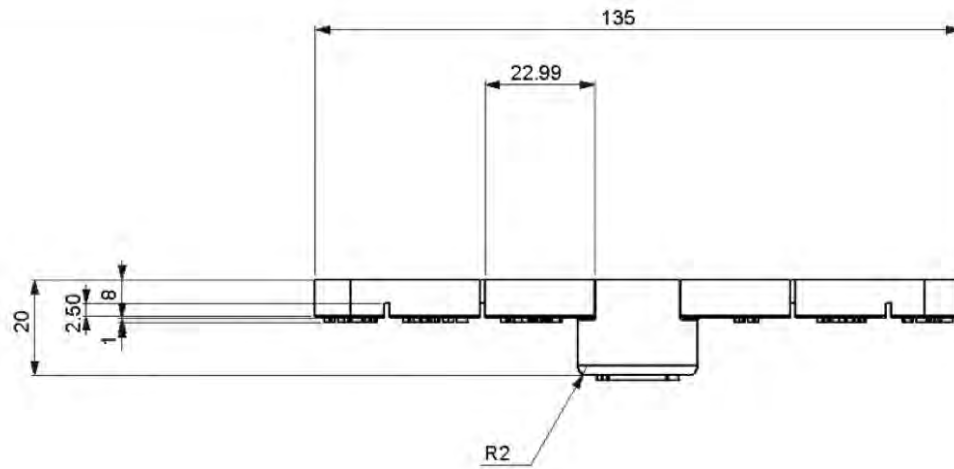
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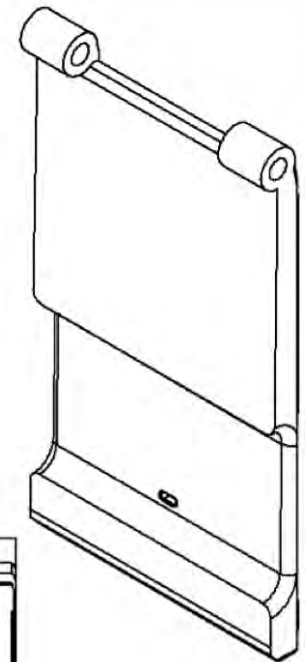
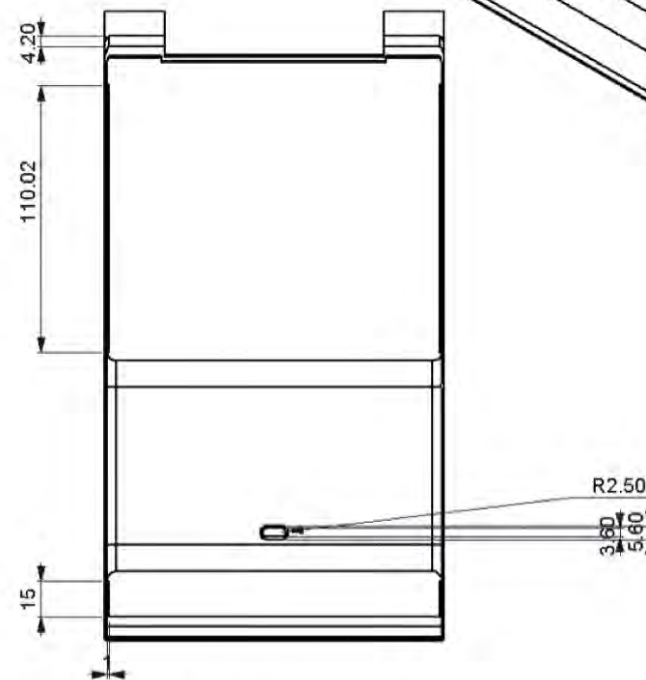
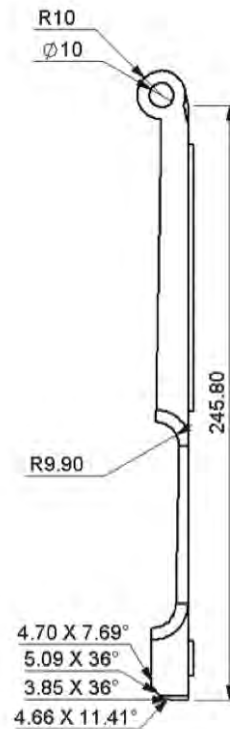
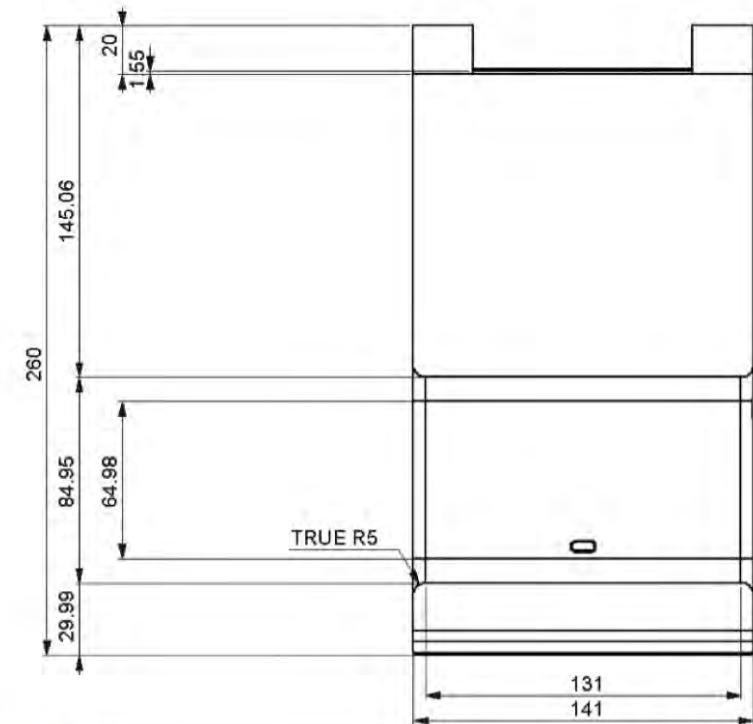
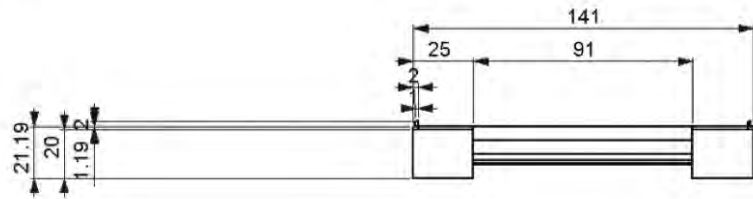
	TITLE		MATERIAL		DRAWN BY		GENERAL TOLERANCES		1:2	A3	DO NOT SCALE DRAWING	© NOUR NAME 2023
	FRONT BORDER		INJECTION MOULDED ABS		Your Initials		0.000 ±0.05 0.00 ±0.1 0.0 ±0.2 0 ±0.5 ANGLE ±0.5°					
PART/ASSY. NUMBER 12		REV 1	SHEET 1 OF 1		DATE 03.11.23		DRAWING NO 12		ALL DIMS. IN MM		www.your-website.com.au	

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QUT	TITLE BUTTONS AND DIAL			MATERIAL INJECTION MOULDED ABS	DRAWN BY Your Initials	GENERAL TOLERANCES	1:1	A3	DO NOT SCALE DRAWING	© NOUR NAME 2023
	PART/ASSY NUMBER 13	REV 1	SHEET 1 OF 1	COLOUR WHITE & BLACK	DATE 03.11.23	0.00 ±0.05 0.00 ±0.1 0.0 ±0.2 0 ±0.5 ANGLE ±0.5°				

218



TITLE
STAND PIECE ONE

PART/ASSY. NUMBER
14

REV. 1

SHEET 1 OF 1

MATERIAL
INJECTION MOULDED ABS

COLOUR
WHITE

FINISH
GLOSS

DRAWN BY
Your Initials

DATE
03.11.23

DRAWING NO.
14

GENERAL TOLERANCES
0.000 -0.05
0.00 -0.1
0.0 -0.2
0 -0.5
ANGLE -0.5°

1:2

A3

DO NOT SCALE DRAWING

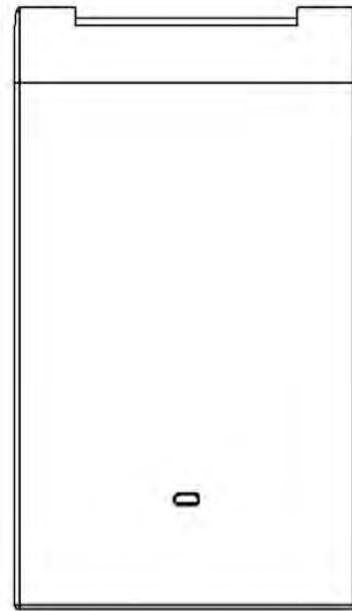
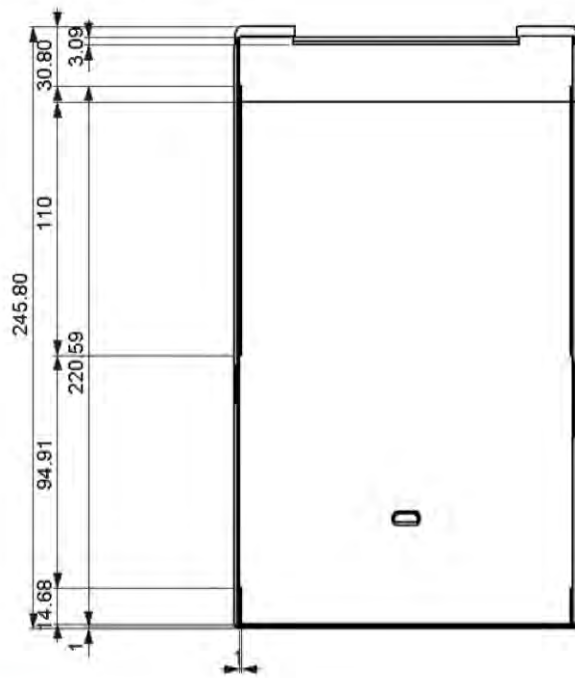
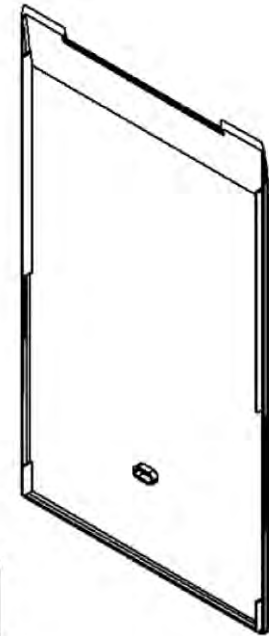
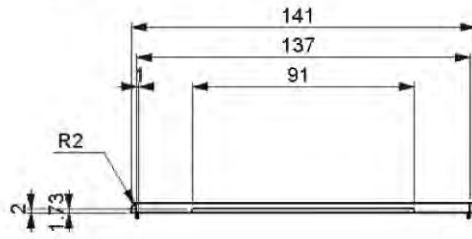
ALL DIMS. IN MM



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TITLE
STAND PIECE TWO

PART/ASSY. NUMBER: **15**

REV **1**

SHEET **1 OF 1**

MATERIAL
INJECTION MOLDED ABS

COLOUR
WHITE

FINISH
GLOSS

DRAWN BY
Your Initials

DATE
03.11.23

DRAWING NO.
15

GENERAL TOLERANCES

0.000 ±0.05

0.00 ±0.1

0.0 ±0.2

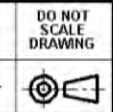
0 ±0.5

ANGLE ±0.5°

1:2

A3

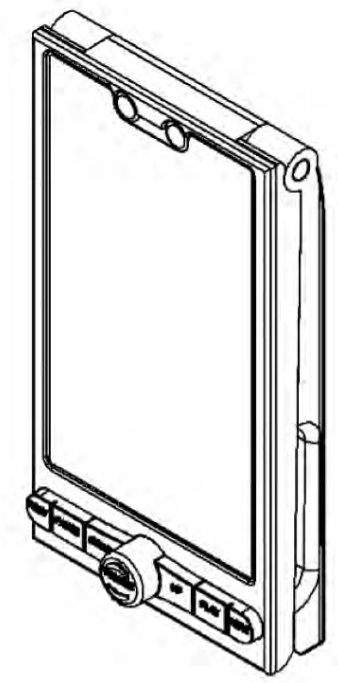
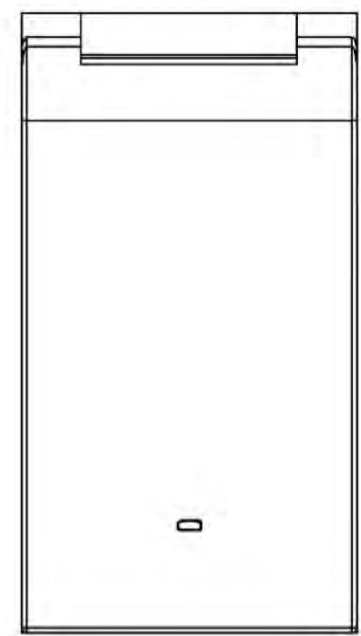
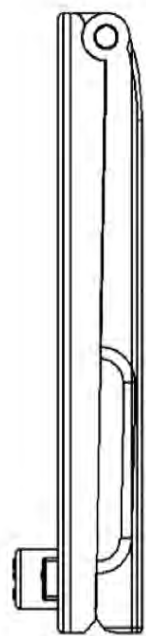
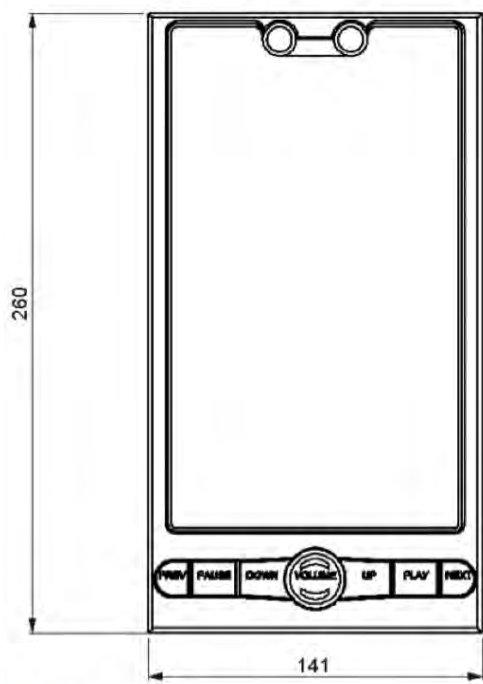
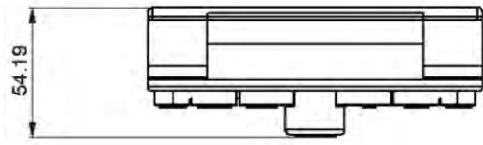
ALL DIMS. IN MM



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TITLE
ASSEMBLY

PART/ASSY NUMBER
NIL

REV **1**

SHEET **1 OF 1**

MATERIAL
NIL

COLOUR
NIL

FINISH
NIL

DRAWN BY
Your Initials

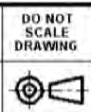
DATE
03.11.23

DRAWING NO.
NIL

1:2

A3

ALL DIMS. IN MM



DO NOT SCALE DRAWING

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BILL OF MATERIALS

Part Number	Qty.	Description	Material	Stock/ Manufacture	Source	Cost	
1	HP0390	10	M2 x 8mm Metric Metal Thread Fasteners	Metal	Stock Part	Jaycar	\$1.85 4PK
2	XC3735	1	Duinodech Arduino Compatible IR Distance Sensor	Plastic	Stock Part	Jaycar	\$18.95
3	FLESM1189	1	T515 SIM Card + Micro SD Card Tray	PCB	Stock Part	BB Mobile Parts	\$4.04
4	AF28B5D35	2	Loudspeaker Module	Plastic	Stock Part	Rounded Parts	\$26.97 EA
5	BATSM4021	1	Battery	Rechargeable Lithium-Ion	Stock Part	BB Mobile Parts	\$17.29
6	SCRSMT6933	1	LCD Screen Assembly	NIL	Stock Part	BB Mobile Parts	\$72.27
7	NIL	1	Motherboard	PCB	Stock w/ Custom Programming	Polar Tech	\$120
8	FLESM1186	1	Type-C Charging Port	PCB	Stock Part + LED + Speaker Module	BB Mobile Parts	\$4.24
9	NIL	1	Pivot	ABS	Injection Moulded	Dienamics	\$0.02
10	NIL	1	Cover	ABS	Injection Moulded	Dienamics	\$0.64
11	NIL	1	Front Housing	ABS	Injection Moulded	Dienamics	\$3
12	NIL	1	Front Border	ABS	Injection Moulded + LED Bar	Dienamics	\$1
13	NIL	1	Buttons + Dial	ABS	Injection Moulded + Rotating Module	Dienamics	\$0.1
14	NIL	1	Stand (Piece One)	ABS	Injection Moulded	Dienamics	\$2.2
15	NIL	1	Stand (Piece Two)	ABS	Injection Moulded	Dienamics	\$0.2
16	CB9150	1	Slipstick Square Gripper Pads 38mm	Rubber	Stock Part	Bunnings	\$6.80 8PK
ALL PRICING FOR INJECTION MOULDED PARTS ARE FROM CUSTOMPART.NET						TOTAL (EST.)	\$310.25

FEATURES & USE CASE

- ↳ FAMILY MEMBERS CAN UPLOAD PHOTOS/VIDEOS WITH COMMENTARY THROUGH AN APP, WHICH THEN SHORTLY APPEARS ON THIS DEVICE
- ↳ CAP IN STAND TO EASILY MOVE BACK WITH MINIMAL EFFORT. SMALL DIVOTS ON INSIDE, ALLOW FOR DIFFERENT ANGLES, & TRACTION WITH THE INCLUSION OF RUBBER FEET
- ↳ NEW CONTENT DOES NOT PLAY UNTIL IR SENSOR IS TRIGGERED
- ↳ PATIENT CAN NAVIGATE THROUGH NEW & PRE-EXISTING CONTENT WITH THE PHYSICAL CONTROLS
- ↳ VOLUME CAN ALSO BE ADJUSTED USING EITHER A DIAL OR BUTTONS TO INCREASE OR DECREASE, TACTILE FEEDBACK
- ↳ ALL BUTTONS ARE RAISED & FEATURE TACTILE FEEDBACK

↳ WHEN FAMILY IS VISITING, CAN BE USED AS A TALKING POINT, INSTEAD OF BRINGING PHYSICAL PHOTOS & TRYING TO REMEMBER THE EVENT DETAILS

↳ ASSISTS DEMENTIA PATIENTS' MEMORY

↳ GOES TO SLEEP IF THE IR SENSOR IS NOT BEING TRIGGERED.

↳ LIGHT BAR STAYS ON ALL THE TIME, BUT IT IS FAINT. PULSATES IF THERE IS NEW MEMORY CONTENT & WILL IMMEDIATELY PLAY WHEN TURNED ON NEXT

↳ THE QR CODE ON THE REAR, IS TO ACCESS & DOWNLOAD THE APP. INSTANTLY LINKS TO THAT SPECIFIC MODEL

↳ APP ALLOWS FAMILY TO UPLOAD & SHARE CONTENT TO THEIR DEMENTIA RELATIVE

↳ SCREEN SHOULD FIT 16:9 ASPECT RATIO PHOTOS PERFECTLY

↳ THIS IS THE MOST COMMON ASPECT RATIO USED FOR EVERYDAY CONTENT. THE NATURE OF UPLOADING CONTENT IS INTENDED TO BE NATURAL & CHILL

HOW IS IT PURCHASED?

THIS DEVICE'S INTENTION IS TO BE USED BY A WIDE RANGE OF DEMENTIA PATIENTS, MORE TOWARDS THOSE IN THE MIDDLE TO SEVERE STAGES. SO THIS DEVICE NEEDS TO BE EASILY ACCESSIBLE.

THE FAMILY WOULD PURCHASE THIS DEVICE FOR THEIR DEMENTIA RELATIVE LIVING IN A CARE HOME, THROUGH AUSTRALIA'S ONLINE DEMENTIA SHOP. ALTERNATIVELY, THEY CAN RECEIVE FUNDING IF THEY ARE WITH NDIS. OR GET REFERRED TO BY A HEALTH PROFESSIONAL. INITIAL SET UP WOULD BE DONE BY THE FAMILY.

