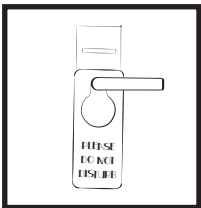
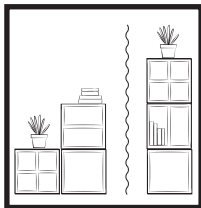
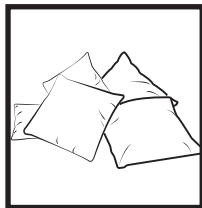
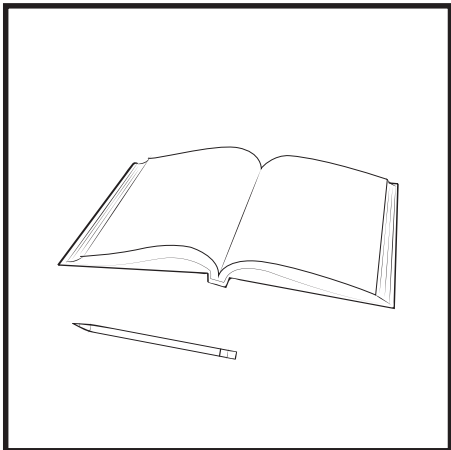
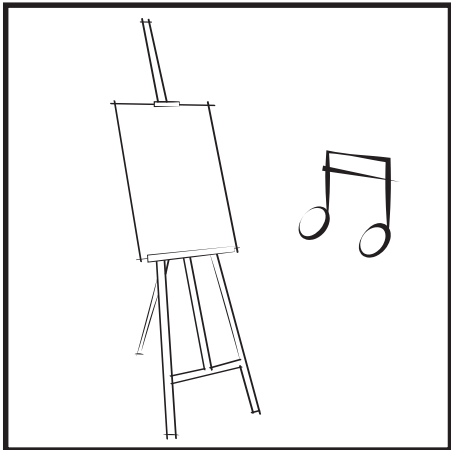
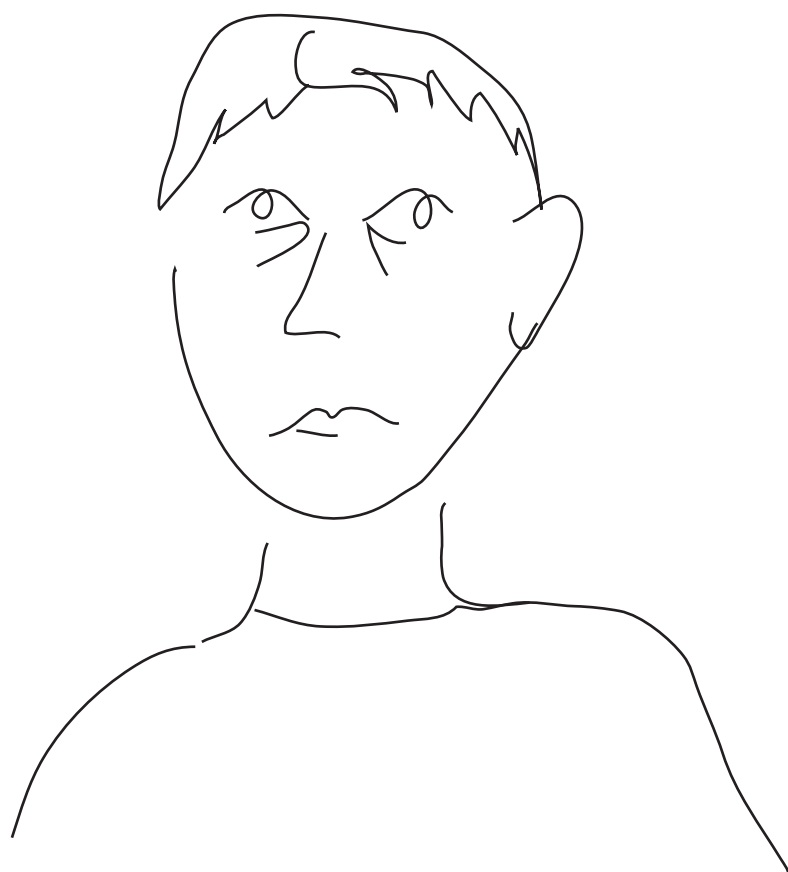


THE ARTIST-STUDENT PERSONA



Joe, 40

Joe is a 40 year old reoffender and is on the seventh year of his sentence. During this time, he's been to 5 different prisons. Before prison, he worked as a builder and is now a peer supporter/red band which means that he gets more time out of his cell than his peers.

MOTIVATIONS

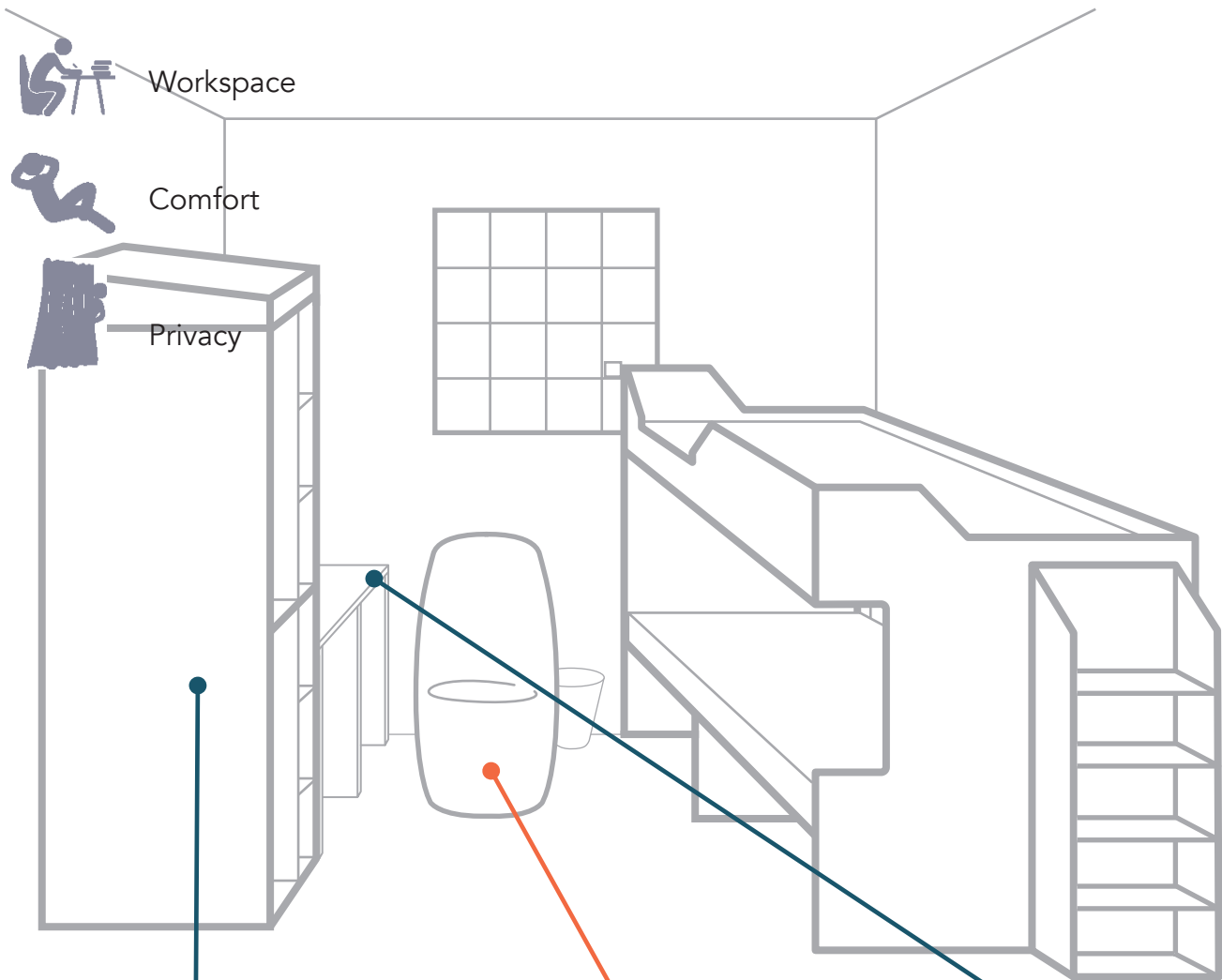
In his cell, he likes to **draw**, **read** and **watch TV**. Doing purposeful activities helps him relax, switch off and escape.

CHALLENGES

- 2 men bang ups make it harder to use his desk as he has to share
- He needs space for art and study materials, and a better way to organise his tools

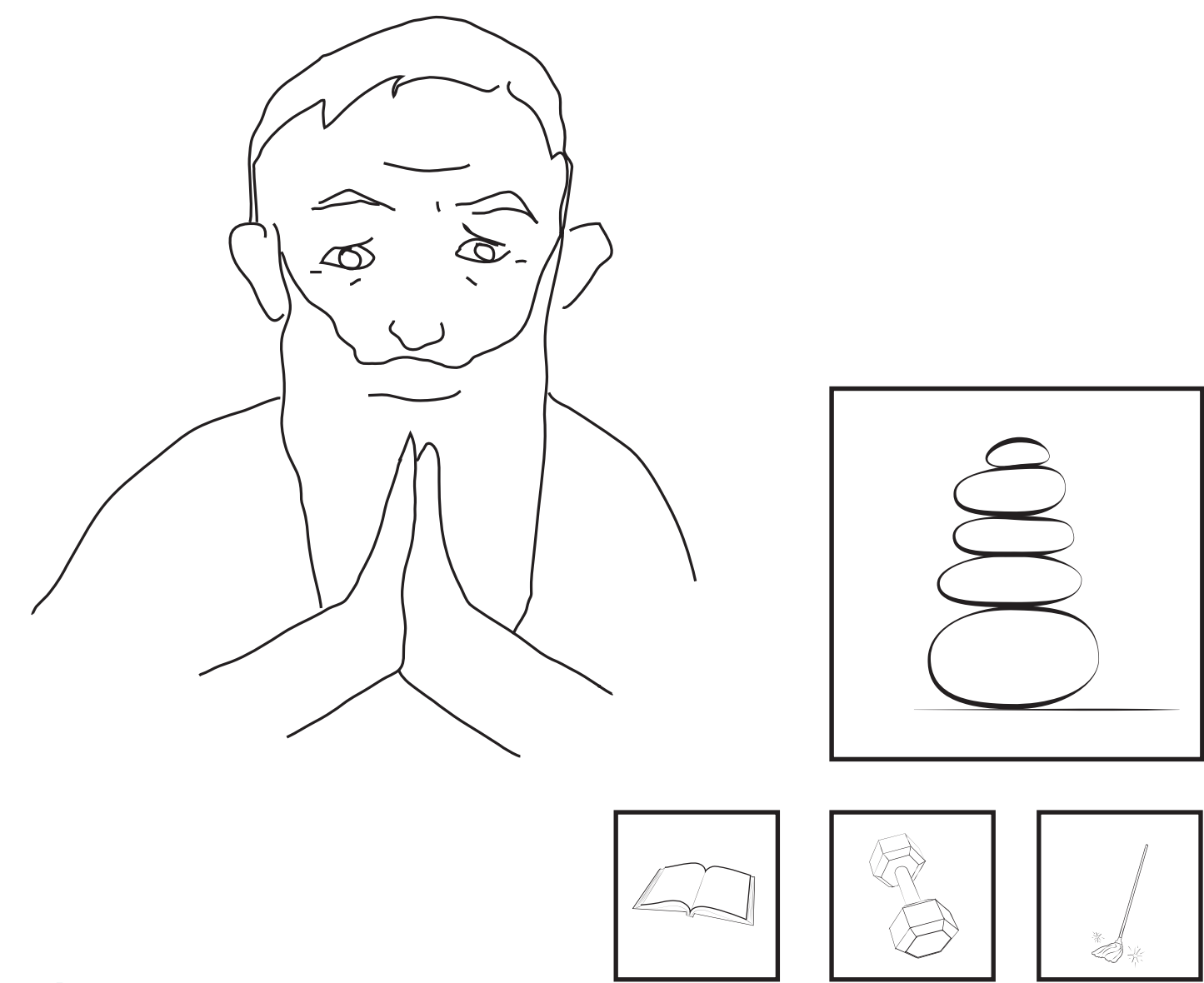
JOE'S FURNITURE NEEDS

Joe's main trait is being **productive**. He also finds **comfort** and **privacy** important. He needs a new **adjustable chair** that will help him **work comfortably**. He wants furniture that is **practical**.



STORAGE	CHAIR	DESK
<p>Wants to keep his cell tidy and have practical storage</p> <p>Wants storage that:</p> <ul style="list-style-type: none">- he can wipe clean- Modular- Has a door- Lockable	<p>Needs to be comfortable and practical as Joe uses it for long periods.</p> <p>Wants a chair that:</p> <ul style="list-style-type: none">- Adjustable in height- Wipe clean (no fabric, separate cushion preferred)- multifunctional	<p>Uses it for work and multiple activities</p> <p>Wants a desk that:</p> <ul style="list-style-type: none">- can fold-away- large work space- wipe clean- Hard-wearing

THE PRAYER AND MEDITATION PERSONA



John ‘B’, 60

John ‘B’ is a lifer and he’s been to numerous prisons. Before going to prison he used to be a drug dealer and is now a wing cleaner. He does his prison job for 30 to 45 minutes in the morning and in the afternoon, and is typically on a 12 hour bang up. In his cell he likes to pray, workout and clean daily.

MOTIVATIONS

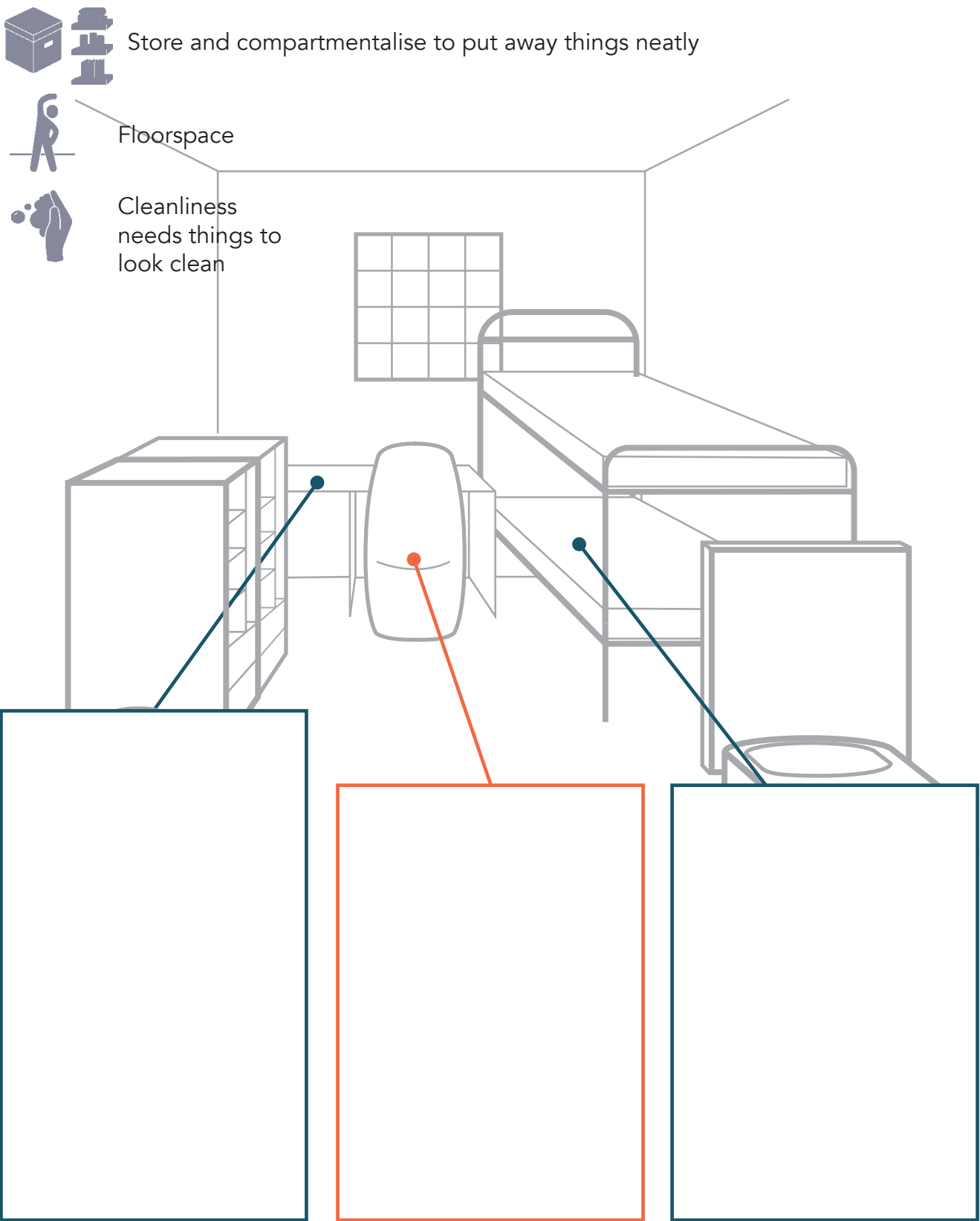
- In his cell, he likes to **pray** and **exercise**. He does this to stay focused, have a routine and keep his mind occupied.

CHALLENGES

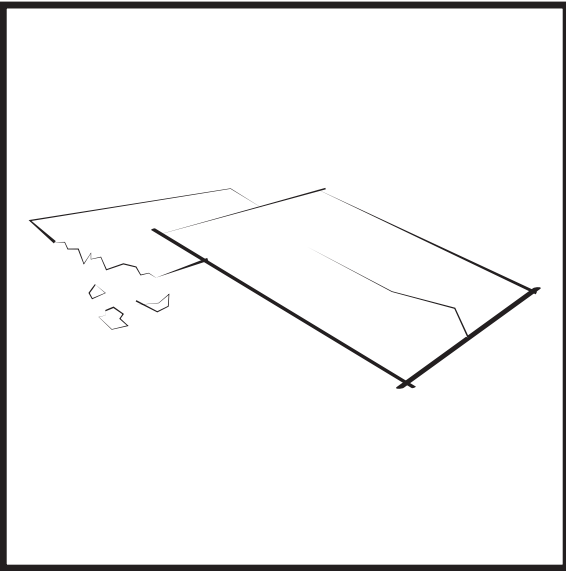
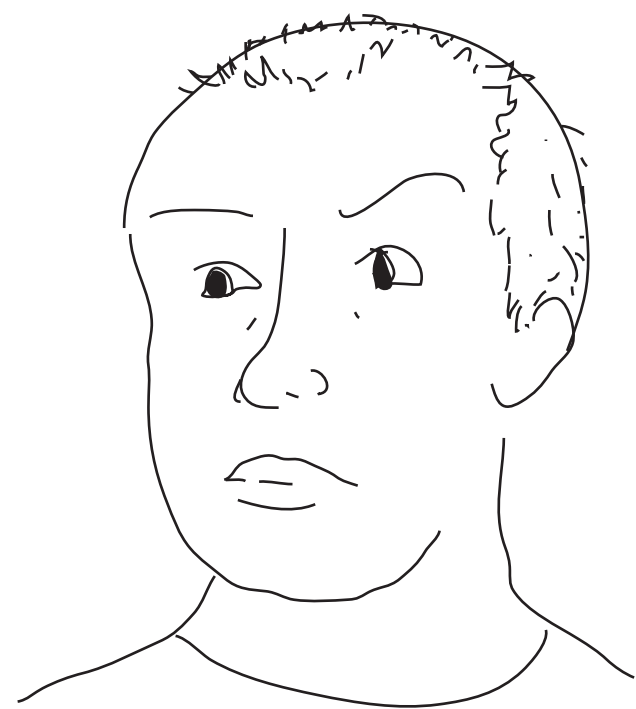
- He would like to be able to move the furniture.
- Things are difficult to clean in general and he would like glossy surfaces that look clean.

JOE’S FURNITURE NEEDS

John B’s main trait is being **spiritual, focusing on mind and body**. He also finds **cleanliness** and **storage space** important. He needs a new **multifunctional furniture unit** that will help him **mawimise his living space**. He wants furniture that has the characteristics of **multi-use** and **rewarding clean**.



THE FLAT-PACKER PERSONA



Dean, 22

Dean is a 22 year old reoffender. He used to be a drug addict and street robber and doesn't have a job in the prison yet. He spends 22 to 24 hours in his cell and is unable to focus. He has mental health issues, and he is often triggered when he hears 'no' from the prison staff. He is frustrated, has anger and seeks attention. He feels 'transient'.

MOTIVATIONS

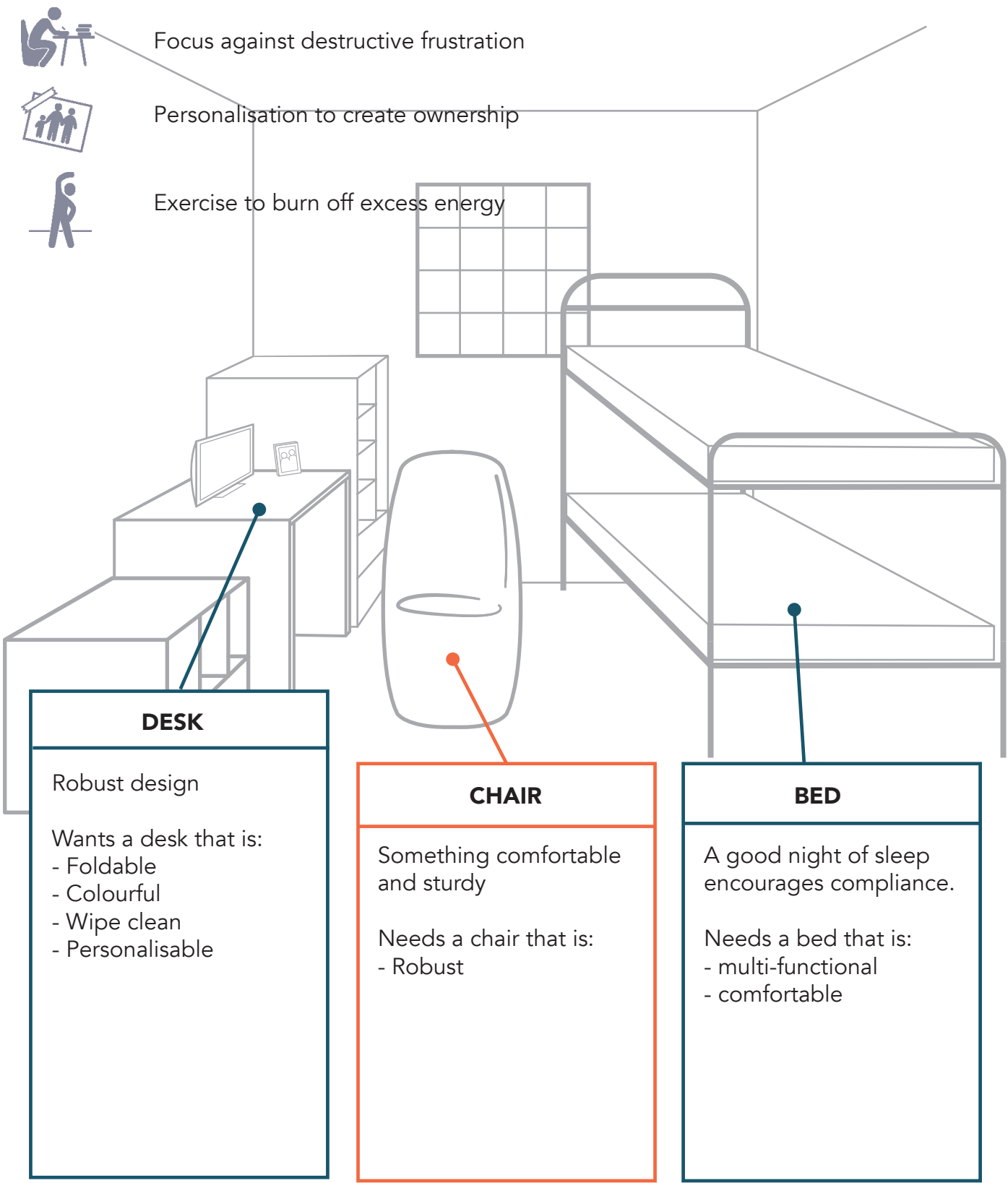
In his cell, he likes to **watch TV** and **play computer games** and **perhaps workout**. He needs to be occupied and distracted and feel in control.

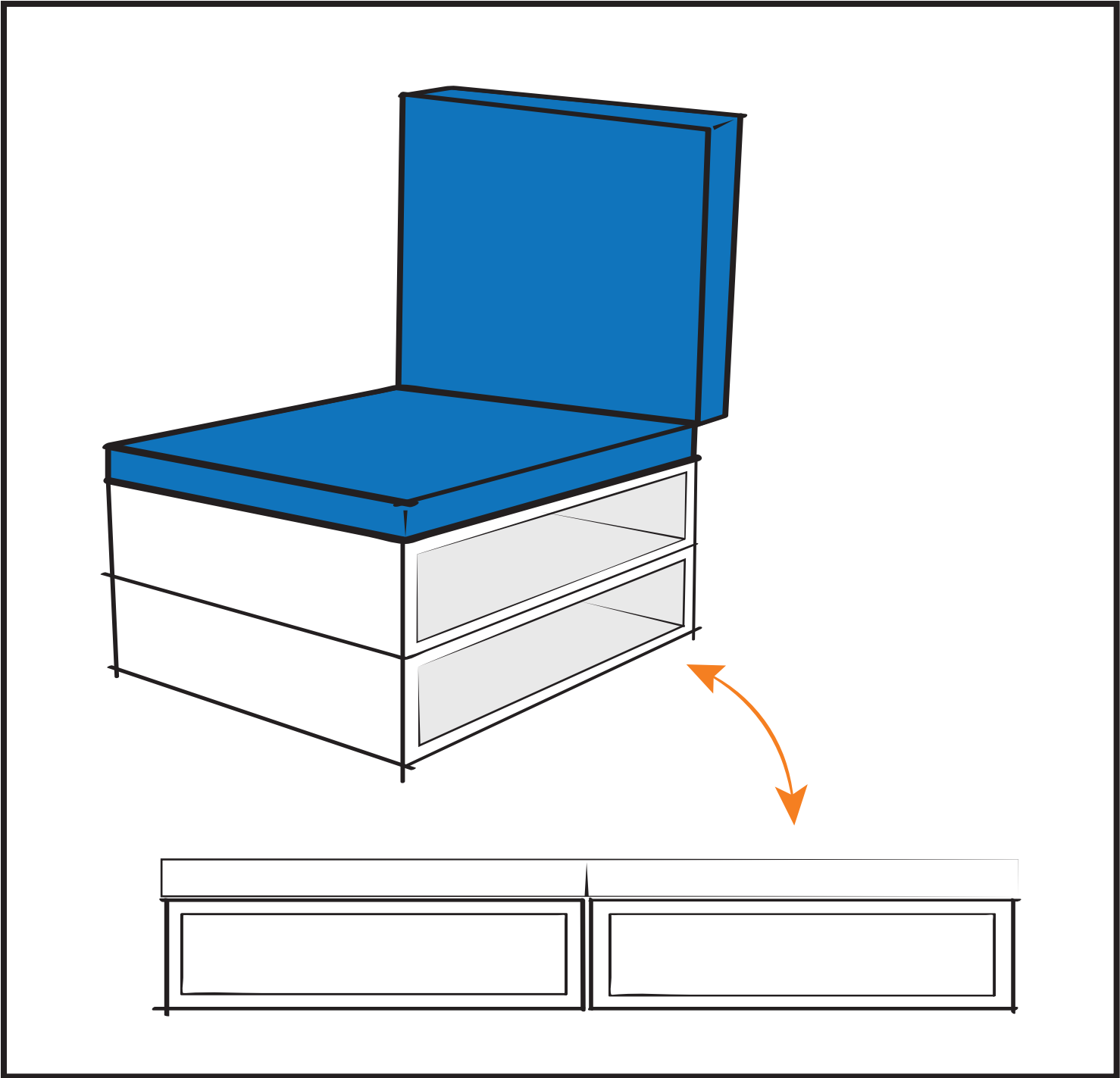
CHALLENGES

- He feels 'transient'
- He is impulsive and frustrated
- authority or lack of it
- compliance/rules
- Anger AD/HD
- Underlying mental anxiety
- Sees everything as punishment.

DEAN'S FURNITURE NEEDS

Dean's main trait is being **destructive**. He also finds **communication** and **symbolic gestures** important. He needs a new cell environment to help him **communicate his difficult feelings**. He wants furniture that has the characteristics of personalisation and **flexibility** to feel **empowerment**.





FURNITURE NAME: SOFA + BED + MATTRESS

KEY FEATURES:

- This is modular and stackable unit converts a bed into a comfy chair, using the mattress as a seat cushion.
- The storage elements are used as both the bed base and the seat base.

FEEDBACK:

- creates space
 - transforms use of room
 - creates differentiation between sitting on a bed and sitting on a chair
- stacking and lifting may be problematic for the elderly and people with physical ailments
 - would need a redesign of the mattress
 - mattress may need to fold in multiple spots in order to make a chair
 - having a split mattress might effect overall and long-term comfortability
 - need to use wall as back-support
 - size of storage elements might be large and impractical

PERSONA FIT:

JOHN ‘B’

- Prayer/Meditation, Cleaner, Student, Workout Guy, Relaxer

JOE

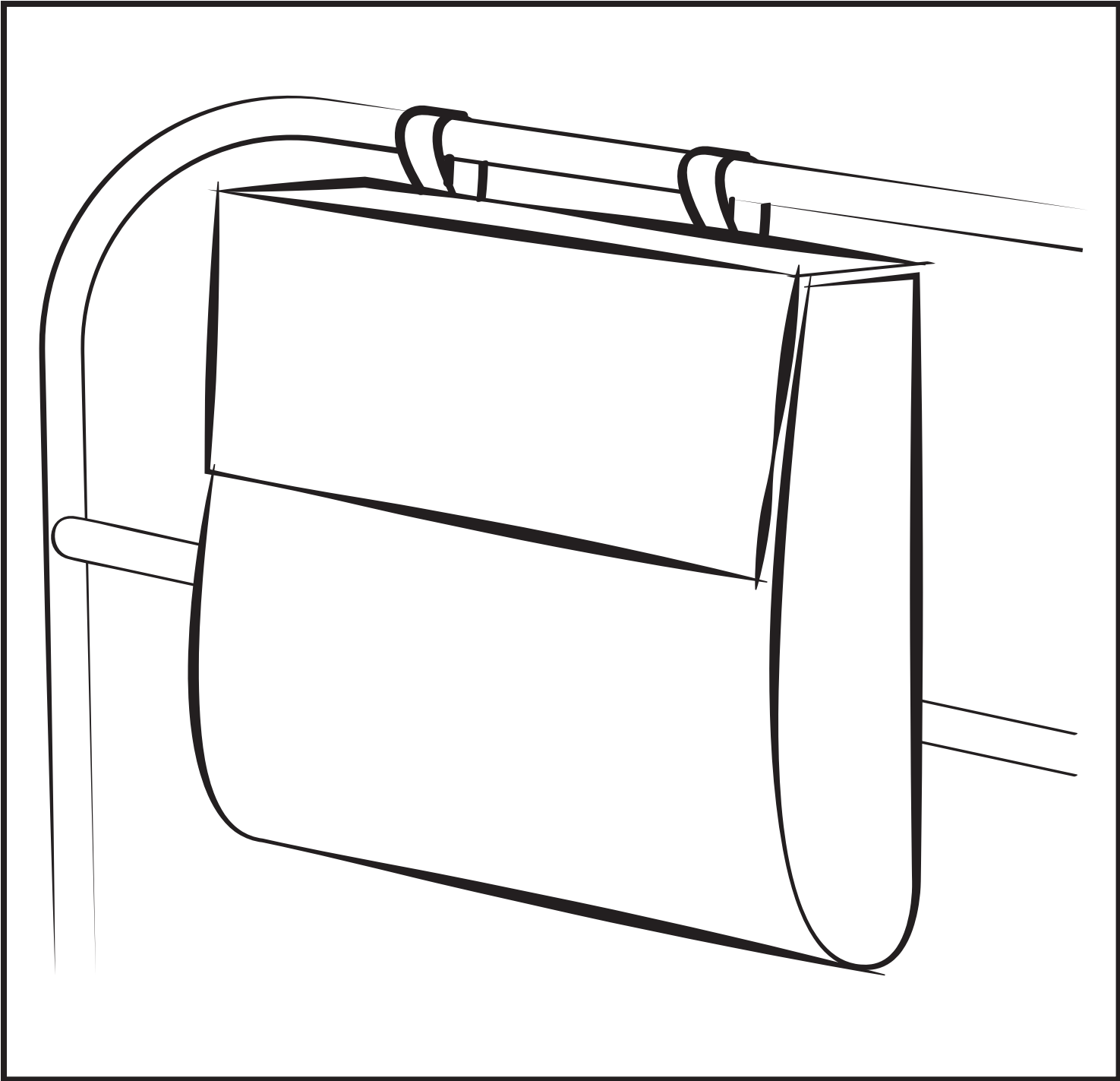
- Student, Artist, Customiser, Relaxer, Privacy-seeker

OLD MAN

- lifting the boxes to form the bed into a chair and vice versa could be tiring or problematic for someone with physical ailments

ASPECTS THAT THIS ITEMS IMPROVES:





FURNITURE NAME: HANGABLE FABRIC BAGS

KEY FEATURES:

- This bag is used as additional storage and organisation.
- It can be used with metal beds and chairs with arms rests by attaching to the furniture with velcro loops.

FEEDBACK:

- ownership
 - personalised bag graphics
 - ability to take the bags with you when you change cells or transfer prisons
 - mitigates dust in your belongings
 - fabric could be durable and difficult to destroy
 - adaptable for use with multiple types of furniture
 - provides additional privacy
- durable textile materials may be non-recyclable
 - bags may not work well with whitewood furniture but better with metal.

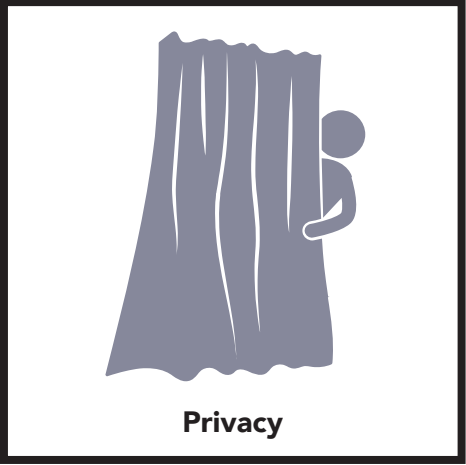
ASPECTS THAT THIS ITEMS IMPROVES:



Organisation



Storage



Privacy

PERSONA FIT:

JOHN ‘B’

- Prayer/Meditation, Cleaner, Student, Workout Guy, Relaxer

JOE

- Student, Artist, Customiser, Relaxer, Privacy-seeker

DEAN

- Flatpacker / Destroyer

OLD MAN

NO ONE

FURNITURE NAME: TRAY + STOOL + STORAGE

KEY FEATURES:

- These 'trays' are used as:
 - additonal stackable storage
 - a lap-tray when working or eating
 - a foot rest when sitting
 - a way to retrofit the comfy chair to be better suited for desk-work.
 - a workout tool
- Removable velcro cushion

FEEDBACK:

- mutli-use: sport, storage, seating
- simple to manufacture
- comfy chair not supposed to be used in cells

ASPECTS THAT THIS ITEMS IMPROVES:



PERSONA FIT:

JOHN 'B'

- Prayer/Meditation, Cleaner, Student, Workout Guy, Relaxer

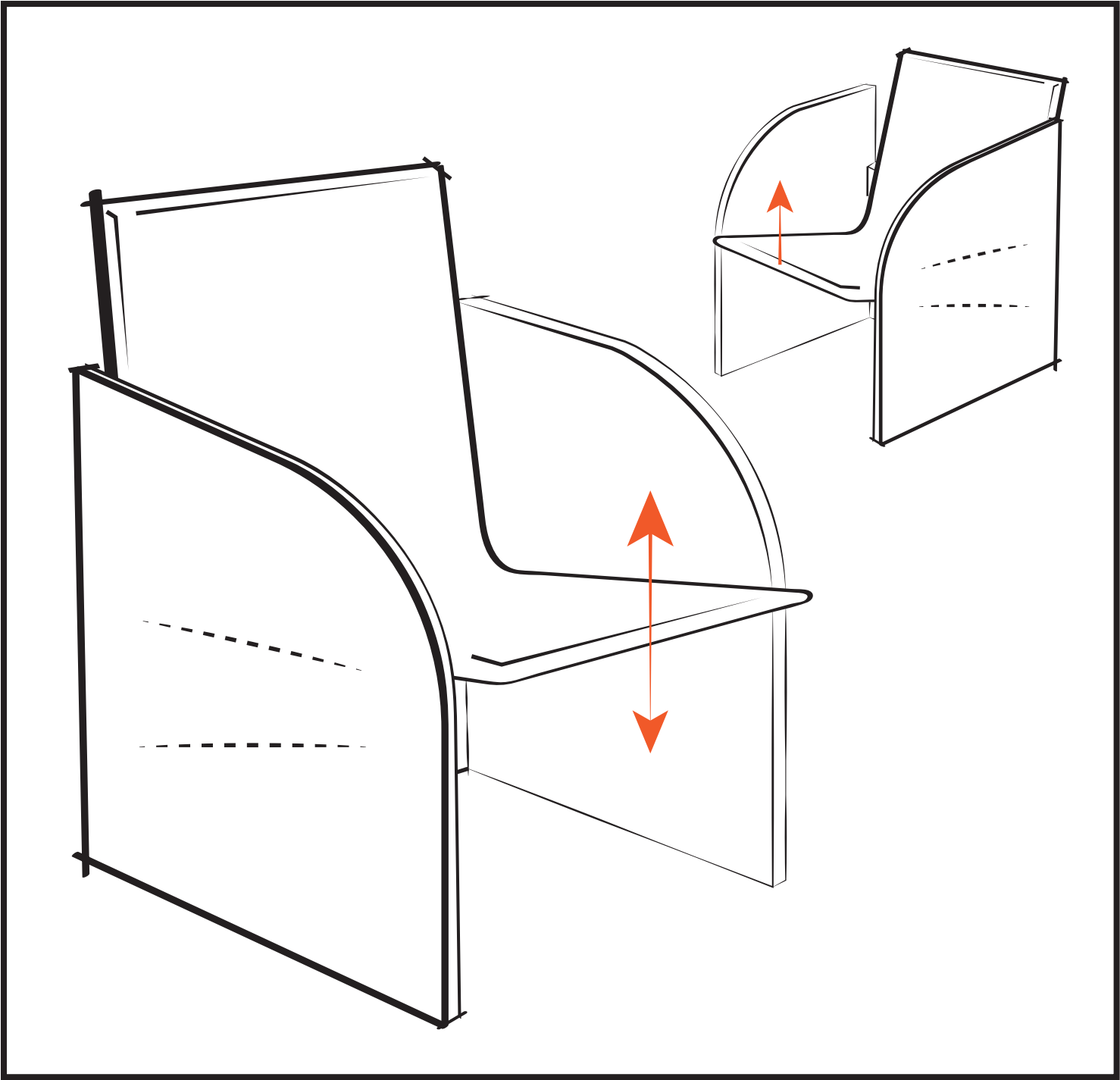
JOE

- Student, Artist, Customiser, Relaxer, Privacy-seeker

DEAN

- Flatpacker / Destroyer

OLD MAN



FURNITURE NAME: ADJUSTABLE CHAIR

KEY FEATURES:

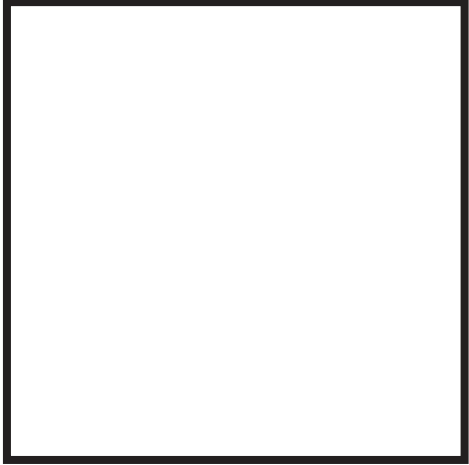
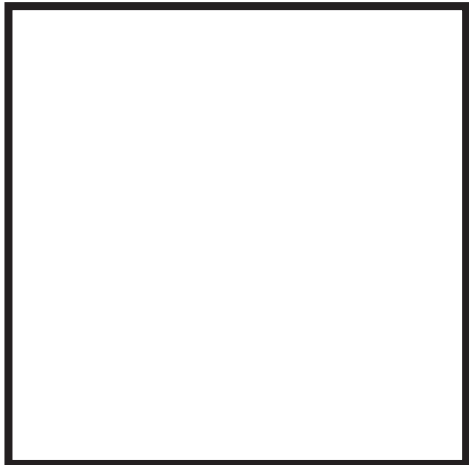
- Adjustable height seat so that chair can be used as a desk chair and a lounge chair.
- Arm rests that do not pose a ligature threat

FEEDBACK:

- adjustable
- multi-purpose
- comfortable
- robust
- modular
- potentially recyclable
- can be used for fitness (i.e. use for dips)
- could the chair frame also be used as a desk?

- potentially expensive to produce

ASPECTS THAT THIS ITEMS IMPROVES:



PERSONA FIT:

JOHN ‘B’

- Prayer/Meditation, Cleaner, Student, Workout Guy, Relaxer

JOE

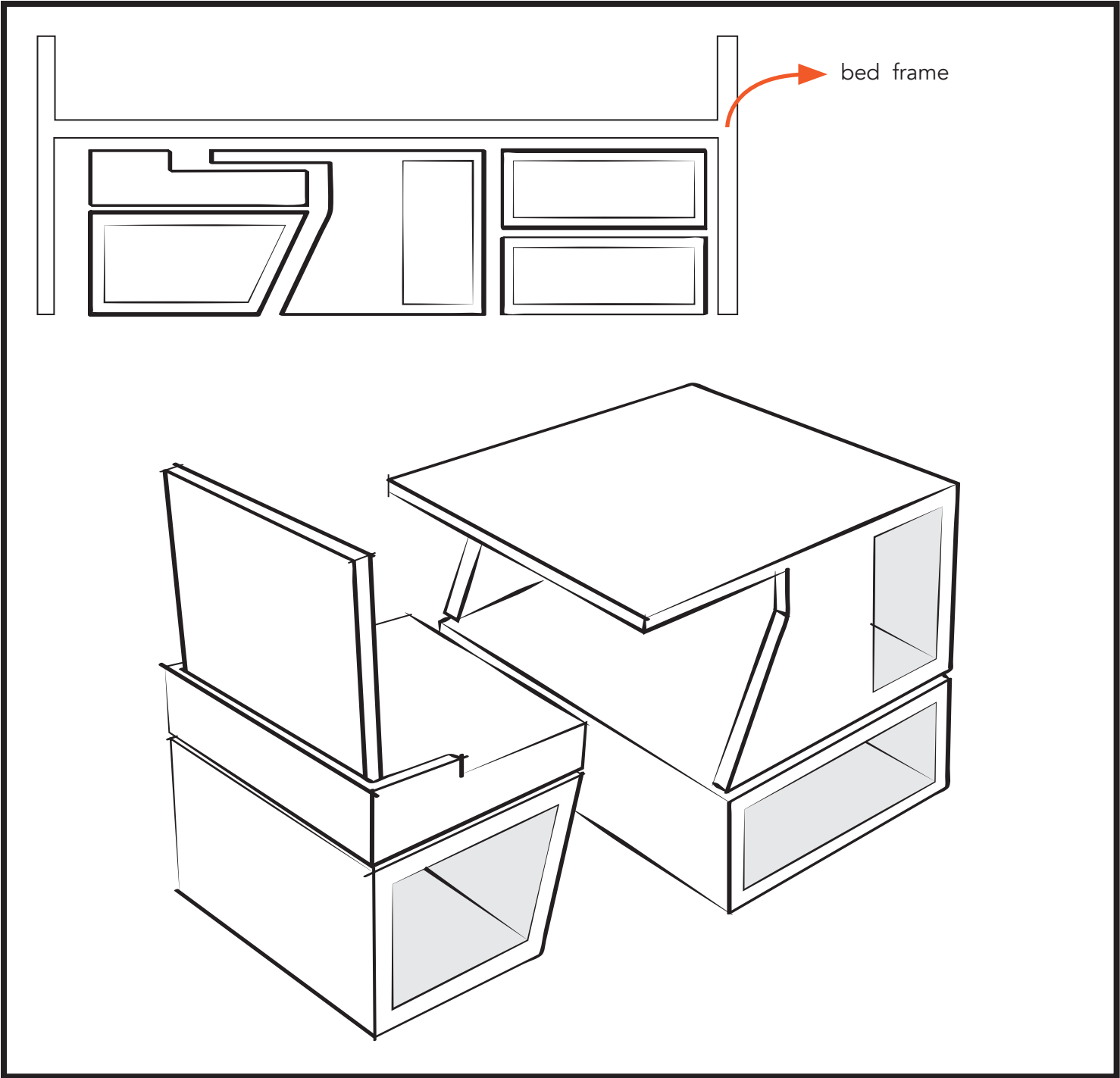
- Student, Artist, Customiser, Relaxer, Privacy-seeker

DEAN

- Flatpacker / Destroyer

OLD MAN

- seat could be difficult to adjust if user has physical ailments



**FURNITURE NAME: UNDER-BED MODULAR UNITS:
DESK + CHAIR + STORAGE**

KEY FEATURES:

- These modular units fit under the bed and increase floorspace
- One unit is a desk, one unit is a chair and the other units are for storage
- By stacking the various units, the user can adjust the height of the seat and the desk.
- the chair unit can be used as a desk height chair or it can be placed on the floor for a lower-height chair

FEEDBACK:

- more floor space
- ultra adaptable
- requires a lot of preparation
- chair doesn't look comfortable
- units could be difficult to move

ASPECTS THAT THIS ITEMS IMPROVES:



PERSONA FIT:

JOHN 'B'

- Prayer/Meditation, Cleaner, Student, Workout Guy, Relaxer

DEAN

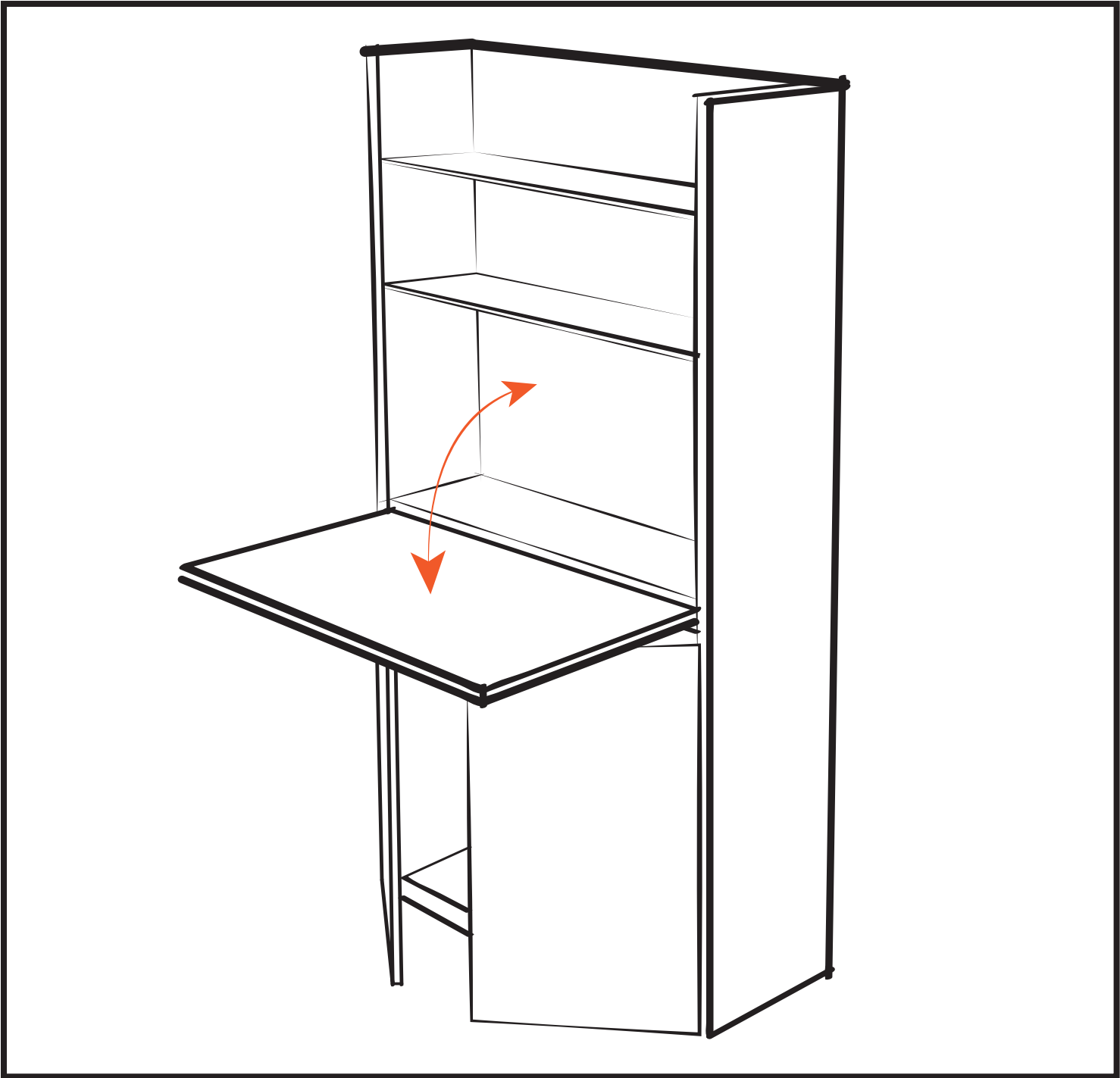
- Flatpacker / Destroyer

OLD MAN

- units could be difficult to move repeatedly

JOE

- Joe needs a large work space and the desk unit might be too small.



FURNITURE NAME: FOLD-UP DESK + STORAGE

KEY FEATURES:

- Fold-up desk to save space and maximise floor space
- Additional hanging space when desk is folded away

FEEDBACK:

- individual storage
- space saver
- contributes to privacy when desk is folded-up
- multi-purpose hanging could be incorporated

- potential ligature
- expensive repair
- uses a lot of material. What material is viable?
- robustness – hinges could easily be broken

ASPECTS THAT THIS ITEMS IMPROVES:



Organisation



Floor space



Work Space

PERSONA FIT:

JOHN ‘B’

- Prayer/Meditation, Cleaner, Student, Workout Guy, Relaxer

JOE

- Student, Artist, Customiser, Relaxer, Privacy-seeker

DEAN

- Flatpacker / Destroyer

FURNITURE NAME: FABRIC DOOR RETROFIT

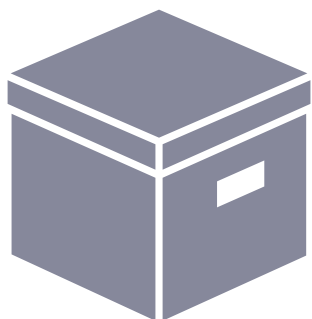
KEY FEATURES:

- This cover replaces the current wood/MDF doors on the wardrobes, cupboards and lockers.
- These retrofit doors/covers would be easily replaceable.
- The covers could be rigid – made out of cardboard – or soft and flexible – made out of textile.

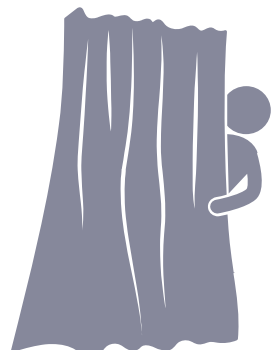
FEEDBACK:

- adaptable to all prison estate furniture
- custom graphics on the covers could lead to greater personalisation of the cell space
- supports privacy
- cheap and easy repair/replacement
- dust prevention
- stealing deterrent
- easy to manufacture
- strong material might pose ligature concerns
- textiles might not be recyclable
- textiles manufacturing might be overwhelmed

ASPECTS THAT THIS ITEMS IMPROVES:



Storage



Privacy



Hygiene

PERSONA FIT:

JOHN 'B'

- Prayer/Meditation, Cleaner, Student, Workout Guy, Relaxer

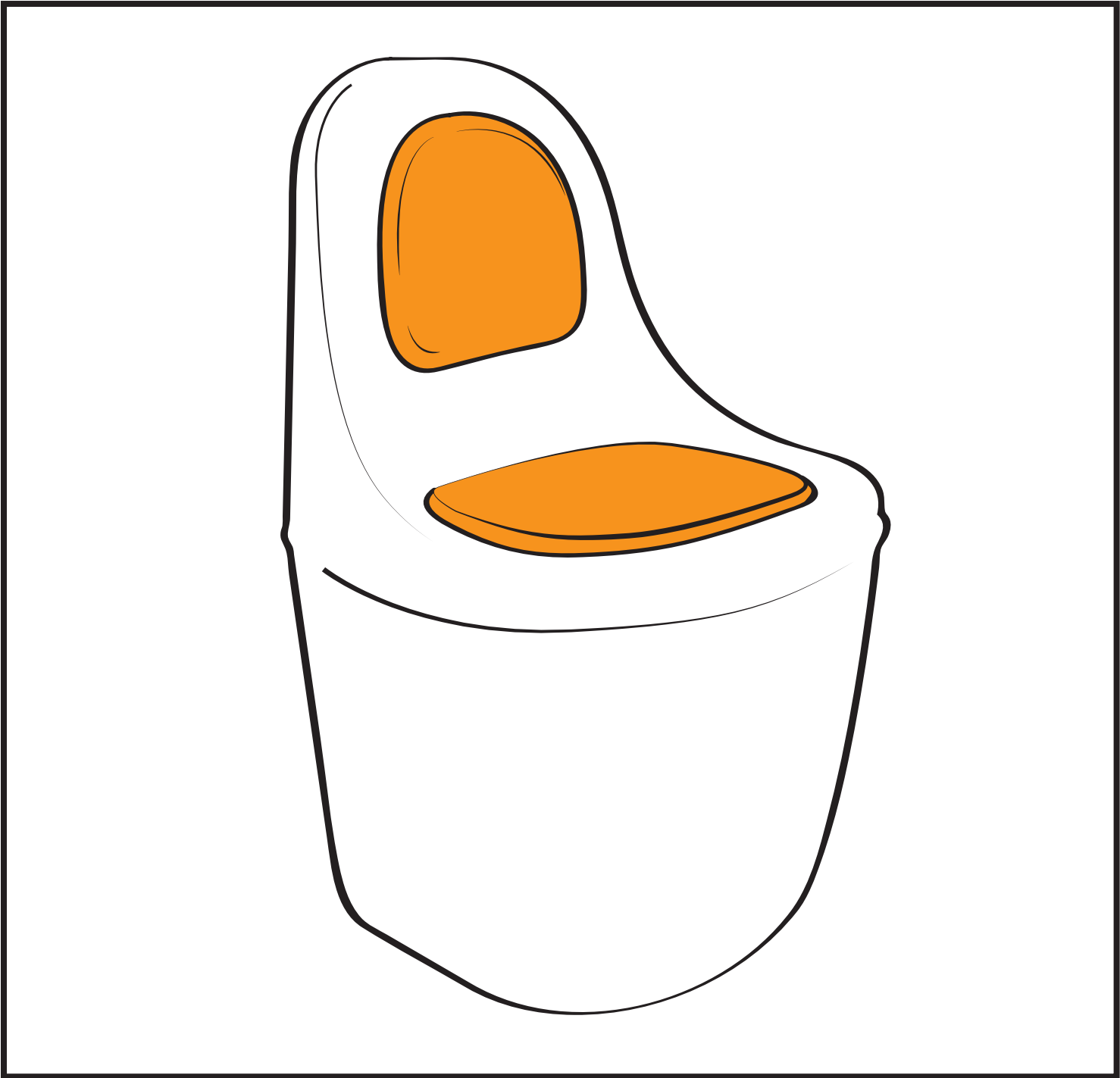
JOE

- Student, Artist, Customiser, Relaxer, Privacy-seeker

DEAN

- Flatpacker / Destroyer

OLD MAN



FURNITURE NAME: REMOVABLE CUSHIONS:
PLASTIC CHAIR RETROFIT

KEY FEATURES:

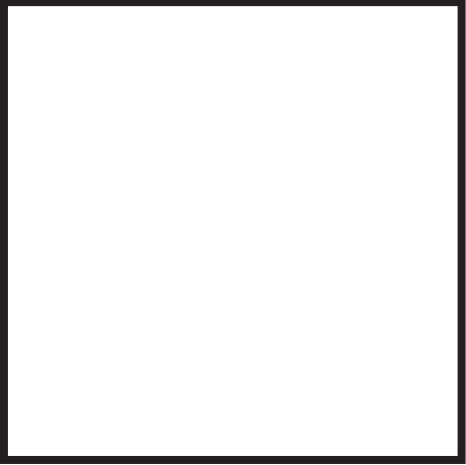
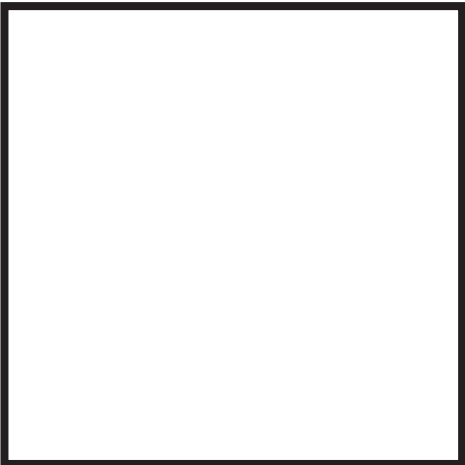
- removable cushions to retrofit the existing plastic chair

FEEDBACK:

- makes plastic chair more comfortable
 - washable cushions would support hygiene
 - could be implemented and put into production quickly
- temporary solution for an unpopular and uncomfortable chair
 - cushions could get stolen
 - does not resolve any misuse (e.g. brewing hoogh) issues that existing chair presents

ASPECTS THAT THIS ITEMS IMPROVES:

Comfort



PERSONA FIT:

JOHN ‘B’

- Prayer/Meditation, Cleaner, Student, Workout Guy, Relaxer

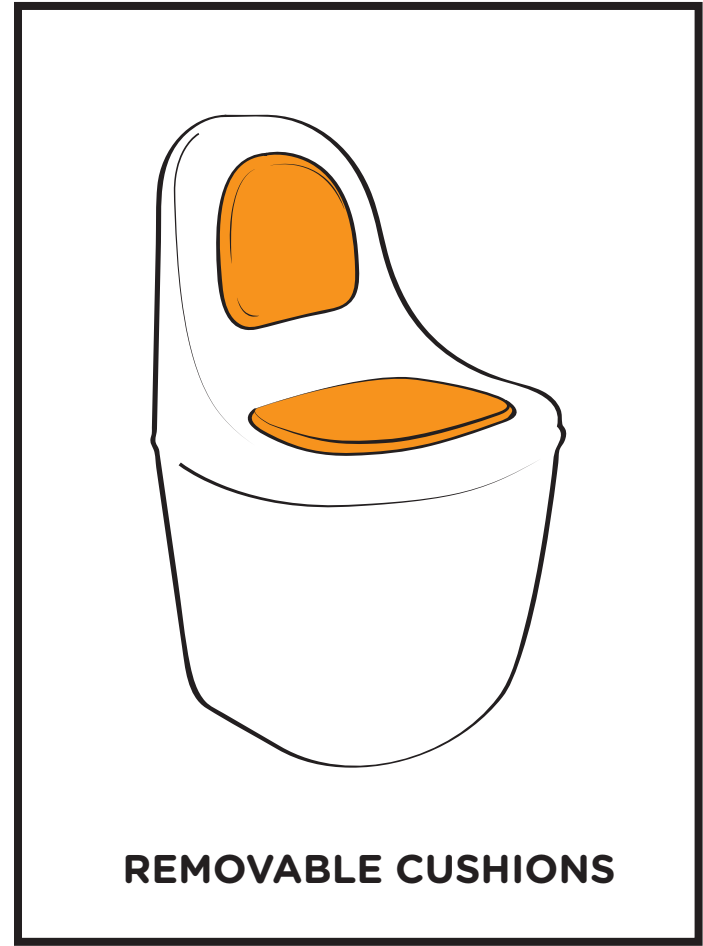
JOE

- Student, Artist, Customiser, Relaxer, Privacy-seeker

DEAN

- Flatpacker / Destroyer

OLD MAN



COLOUR, MATERIAL & FINISH



Cover Material

- PU vinyl – same product used for mattresses and pillows
- fire-retardent wool

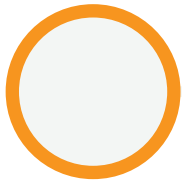


Cushion Material

- foam – same product used in mattresses and pillow
- recycled textiles
- recycled plastic foam

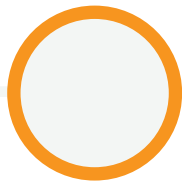
DEVELOPMENT OPPORTUNITIES

- Make cushion graphics/patterns customisable through dye techniques like sublimation or screen printing. The processes could contribute top skill learning opportunities.
- Use other fire-retardent foams or materials in the cushions



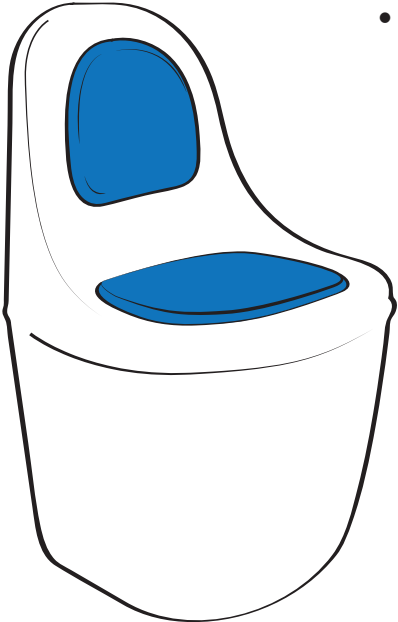
RETROFIT EXISTING

- Velcro attachments
- Cushions made by Carpenters using same foam and materials as current mattress and pillow.

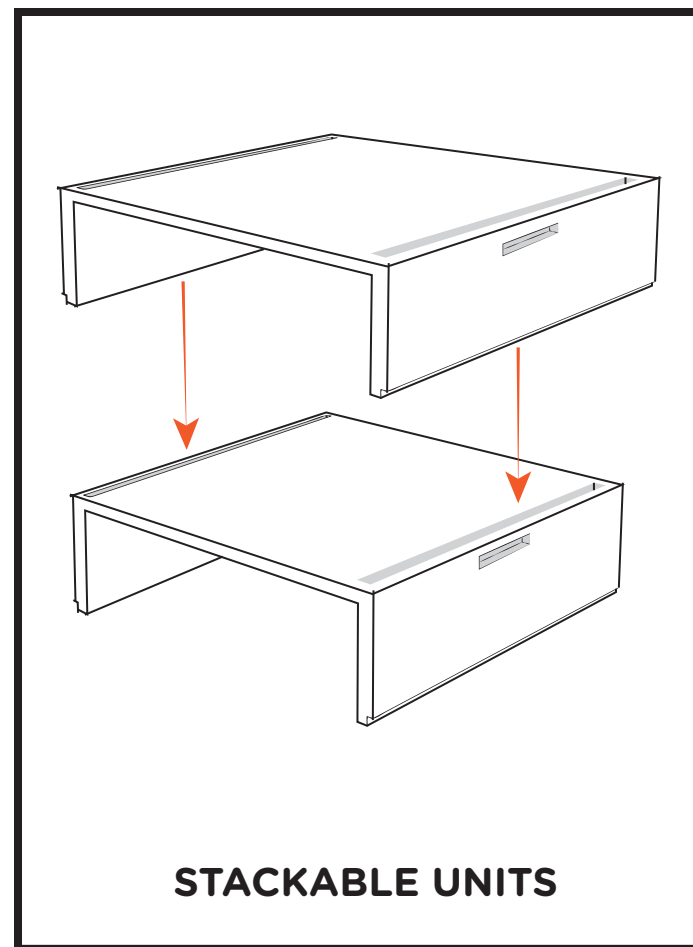


PRESENT FEASIBLE

- Use other fire-retardent foams and materials with longer product life spans.



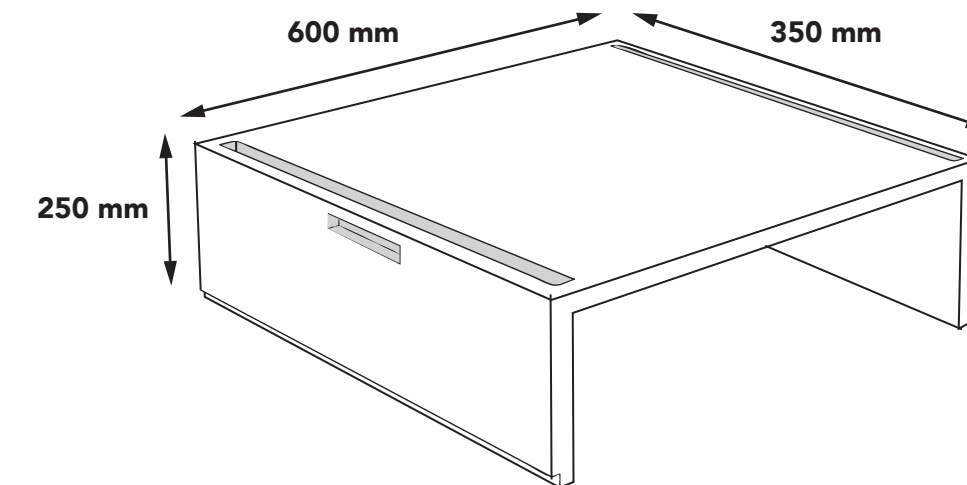
FUTURE POSSIBILITIES



DEVELOPMENT OPPORTUNITIES

- Equip the stackable units with covers (see flexible door retrofit)
- Retrofit the 'comfy chair' for use in CAT A, B, C so that the trays can be used modularly with the chair

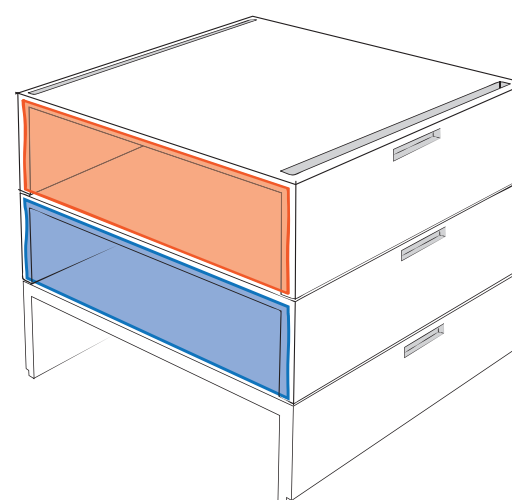
DIMENSIONS



RETROFIT EXISTING

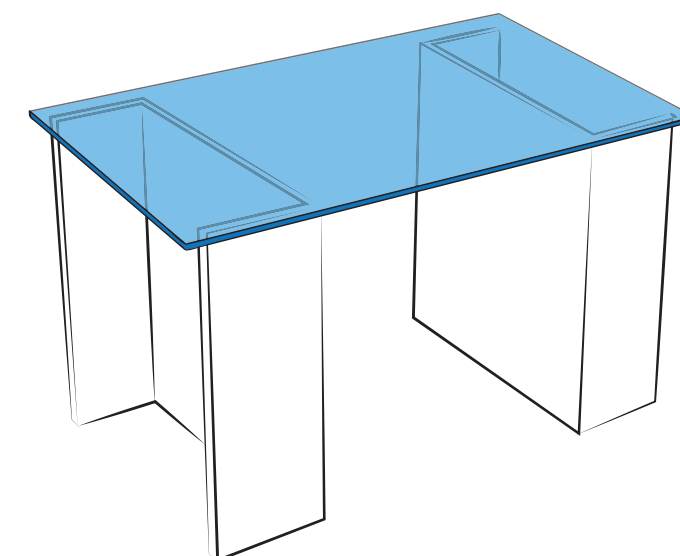
PRESENT FEASIBLE

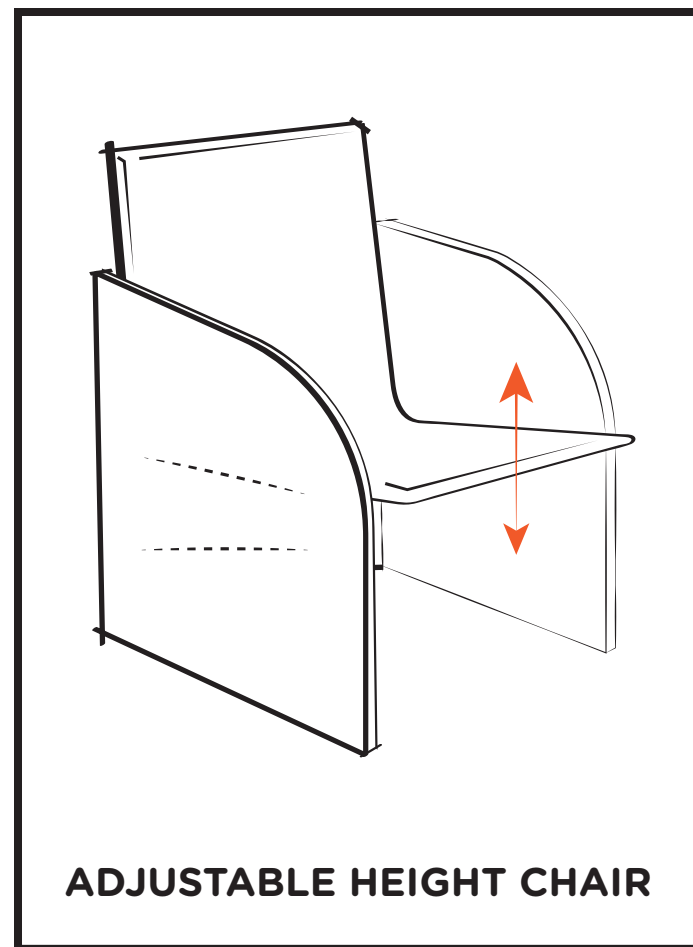
- Lumber plastic – recycled
- CNC manufacture with plastic welded connections – 3-5 pieces per tray
- Equip velcro PU vinyl covers for dust and privacy



FUTURE POSSIBILITIES

- 1 piece injection moulded plastic unit
- Make trays in different sizes to generate different stacking options

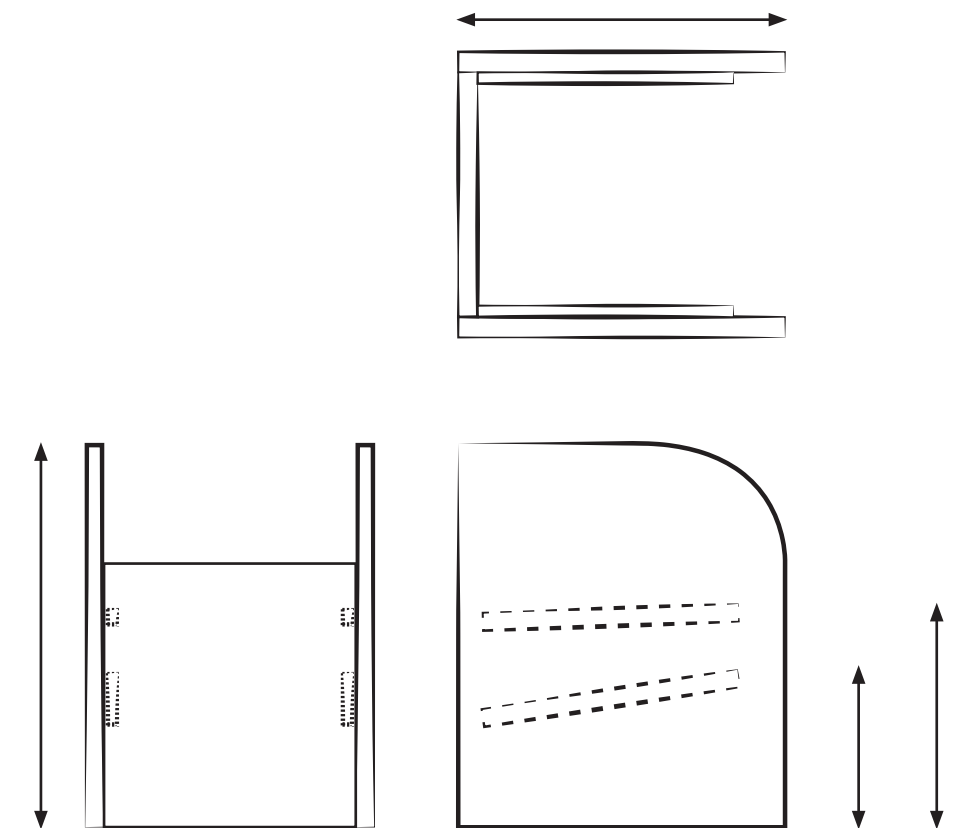




DEVELOPMENT OPPORTUNITIES

- Make the seat rockable?
- Possibility use as workout equipment
- Could the chair frame components also make a desk?

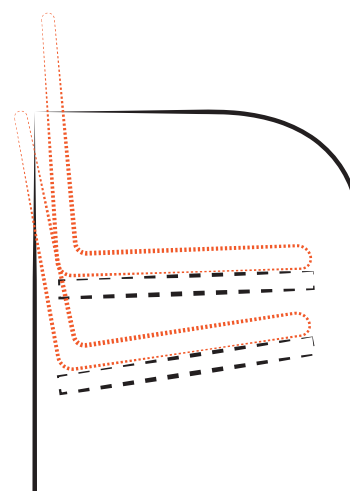
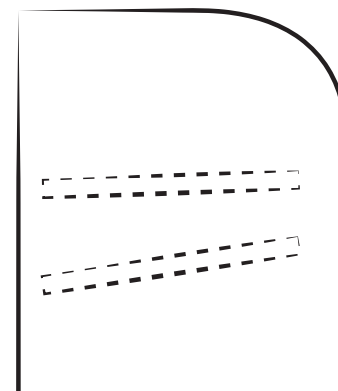
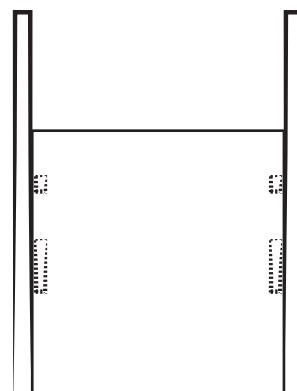
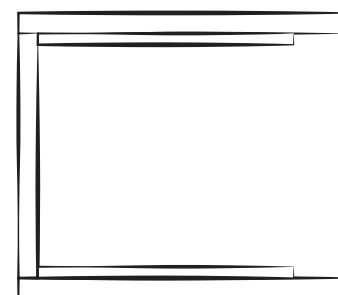
DIMENSIONS



RETROFIT EXISTING

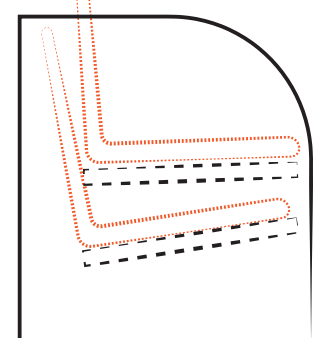
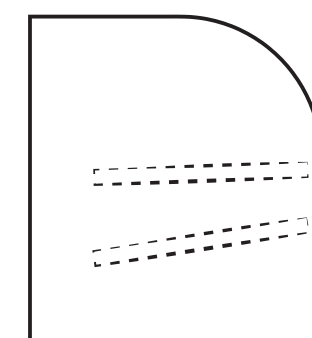
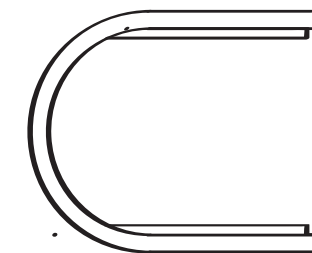
PRESENT FEASIBLE

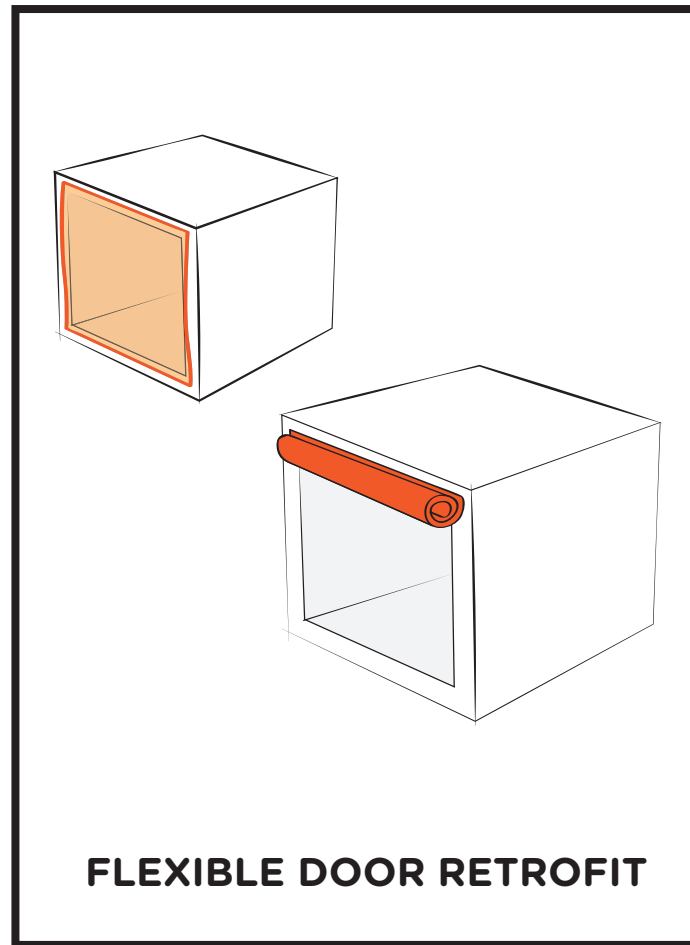
- Lumber plastic – recycled
- CNC manufacture with plastic welded connections – 3-5 pieces to assemble the chair frame



FUTURE POSSIBILITIES

- Injection moulded plastic seat and chair frame





COLOUR, MATERIAL & FINISH

Door/Cover Materials

- recycled textiles
- cardboard
- PU fabric

Fastening Material

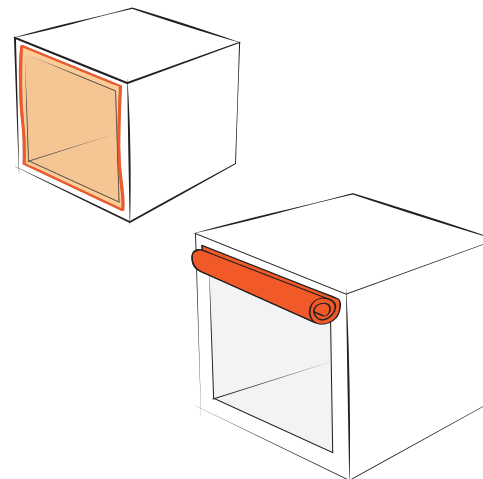
- nylon velcro
- plastic velcro >>
- magnets
- snap fasteners >>



RETROFIT EXISTING

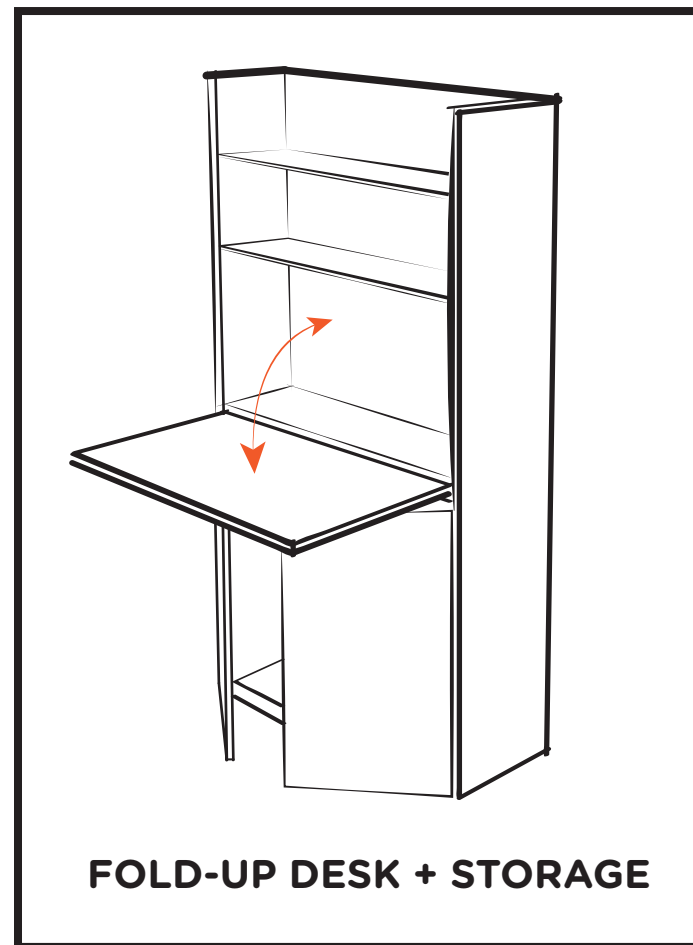
PRESENT FEASIBLE

- Velcro attachments
- Covers/doors made in sizes to fit existing furniture units



FUTURE POSSIBILITIES

- Create personalised/customisable covers using, for example, PU vinyl and applying dye techniques like sublimation or screen printing. The processes could contribute top skill learning opportunities.
- Incorporate plastic velcro into new injection moulded plastic furniture units.



DEVELOPMENT OPPORTUNITIES

Shelving

- to be defined



Living hinges

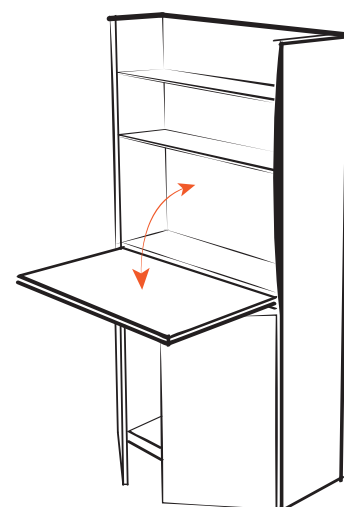
- Laser cut hinges into on wood or plastic (some not all) material

No hinges: sliding tabletop

RETROFIT EXISTING

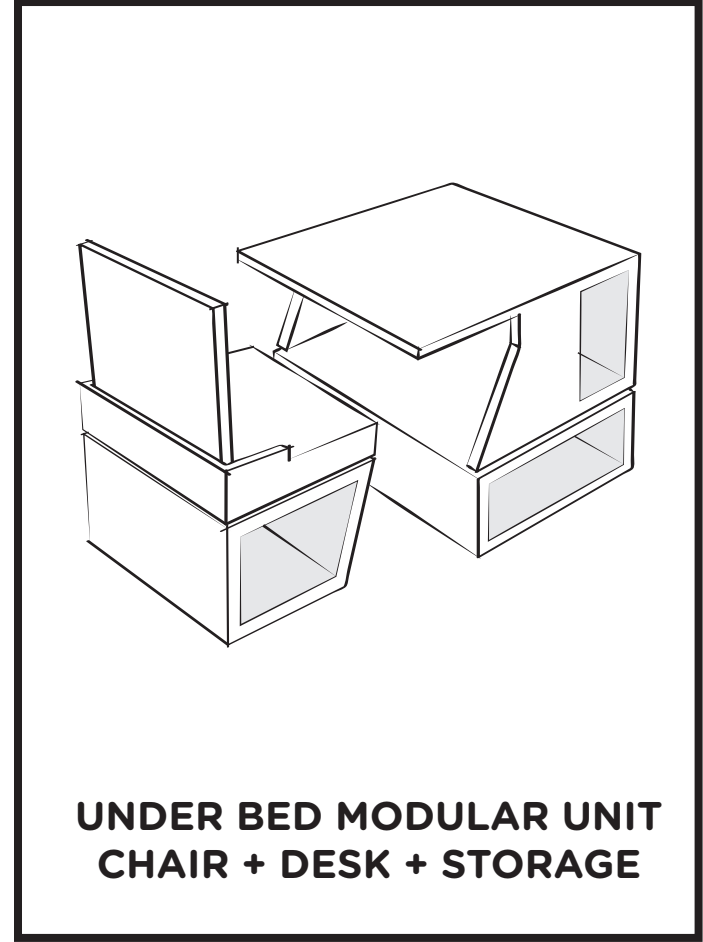
PRESENT FEASIBLE

- Can be coded to be CNC cut on existing whitewood sheets



FUTURE POSSIBILITIES

- Could be done in plastic lumber or with some roto-moulded parts.



DEVELOPMENT OPPORTUNITIES

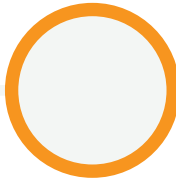
- Reduce number of parts/units to make it easier to use and manufacture
- Redesign beds, like the metal bed to have a higher bed base height that would allow for more storage space under beds.



**RETROFIT
EXISTING**

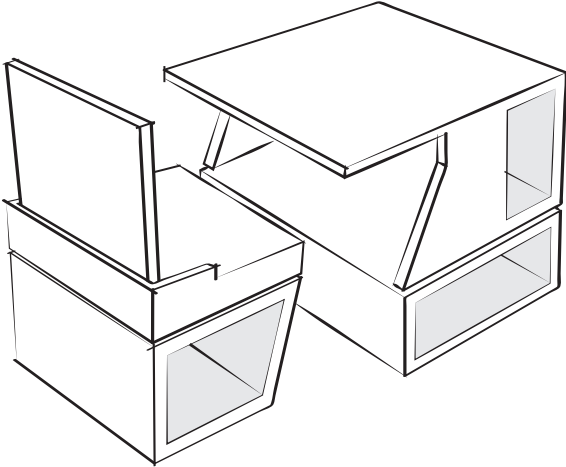


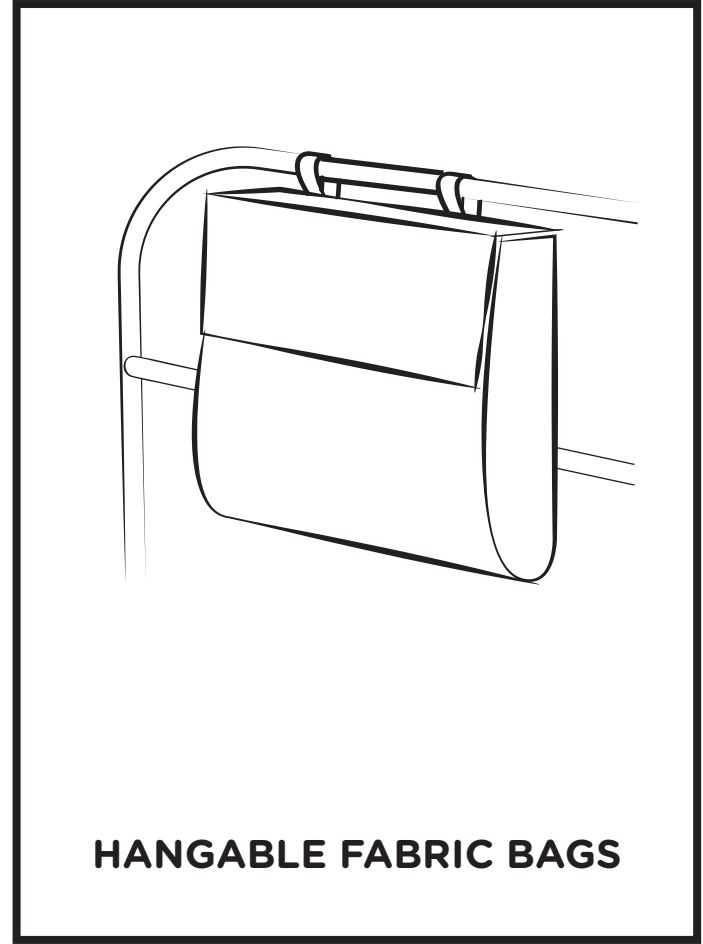
**PRESENT
FEASIBLE**



FUTURE POSSIBILITIES

- In order to work practically, the bed heights of the metal bed and whitewood bed would need to be elevated so that the units could fit underneath.





COLOUR, MATERIAL & FINISH

Cover Material

- PU vinyl – same product used for mattresses and pillows



Attachments

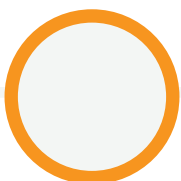
- velcro
- snap fasteners

DEVELOPMENT OPPORTUNITIES

- Make bag graphics/patterns customisable through dye techniques like sublimation or screen printing. The processes could contribute to skill learning opportunities.
- Make it work for all beds
- boxes could be like drawers and adapted to whitewood furniture and future furniture



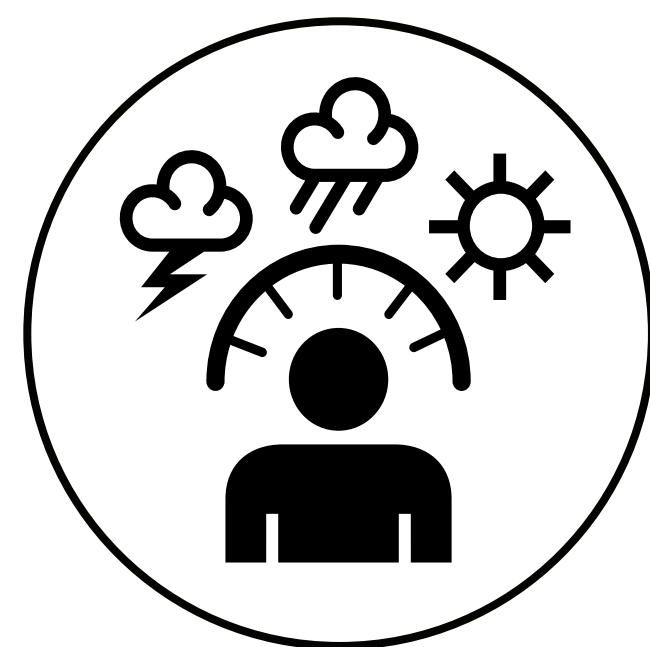
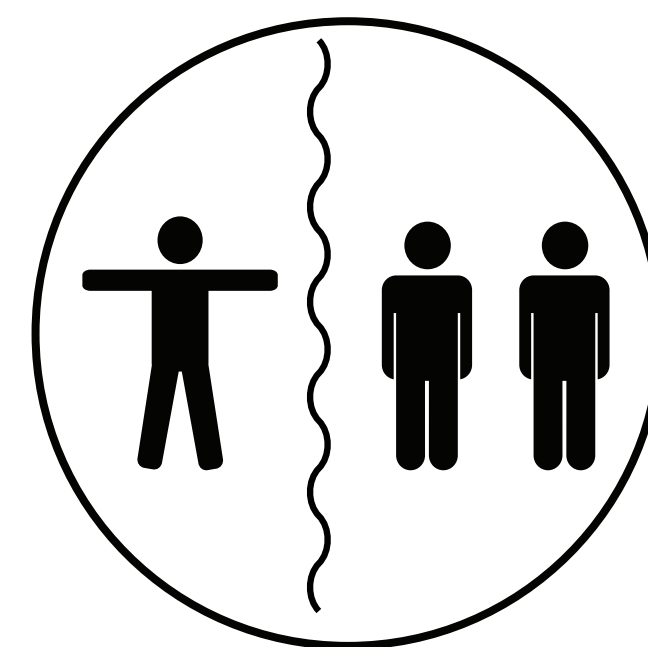
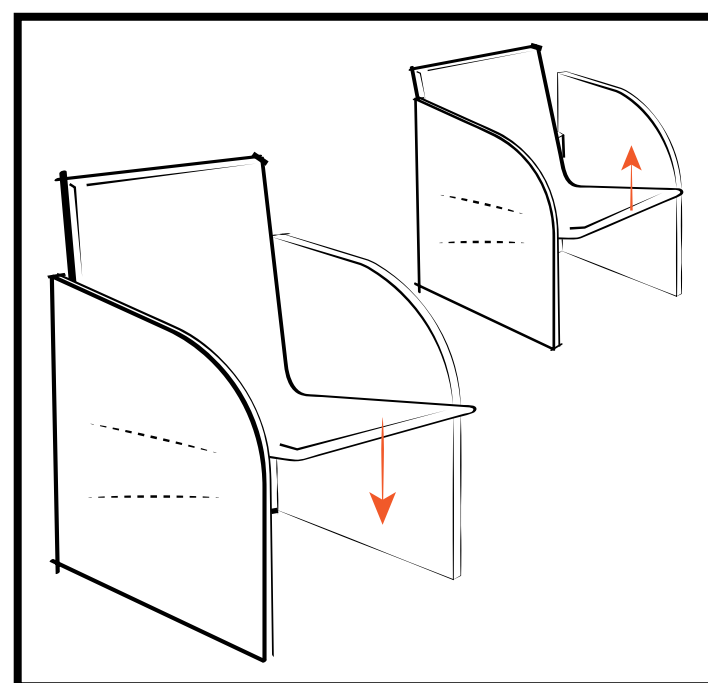
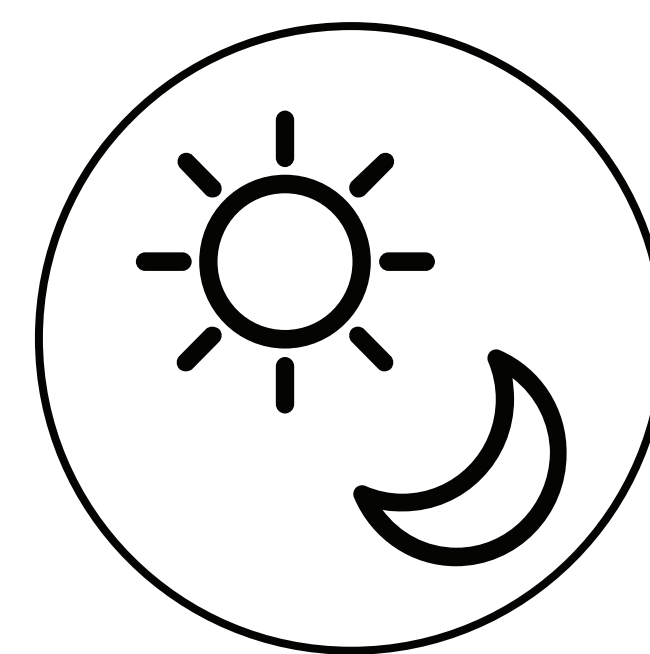
RETROFIT
EXISTING

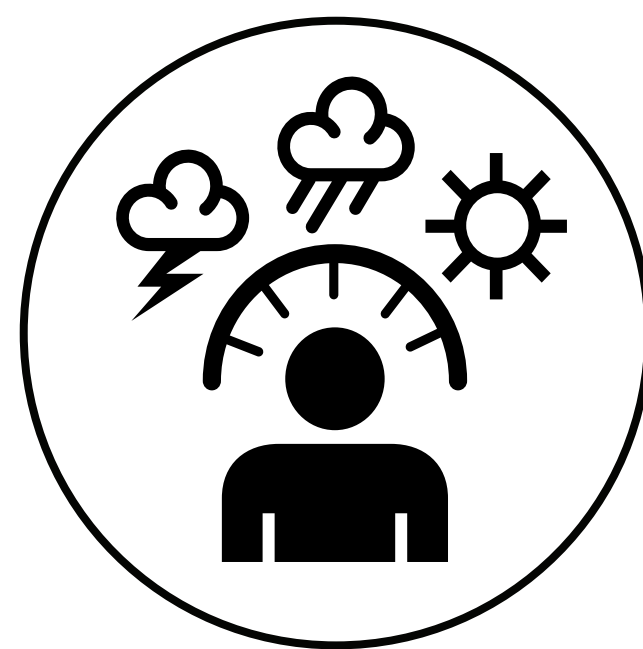
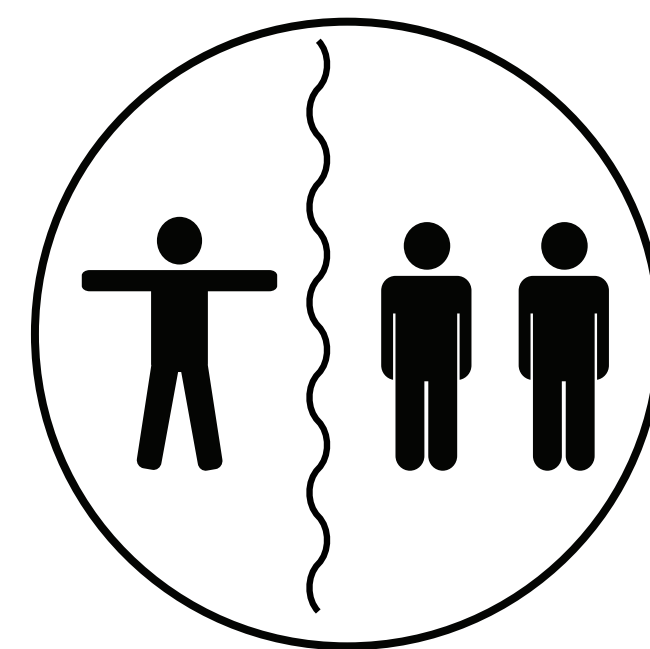
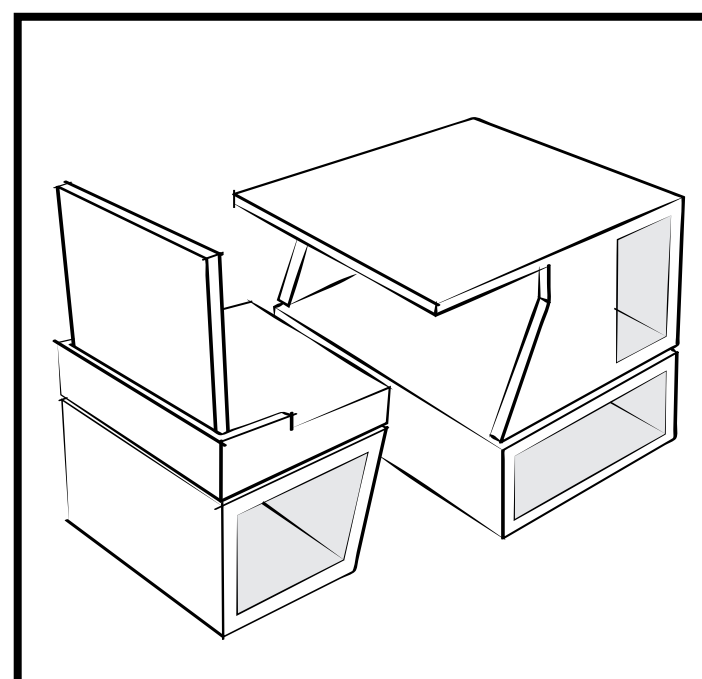
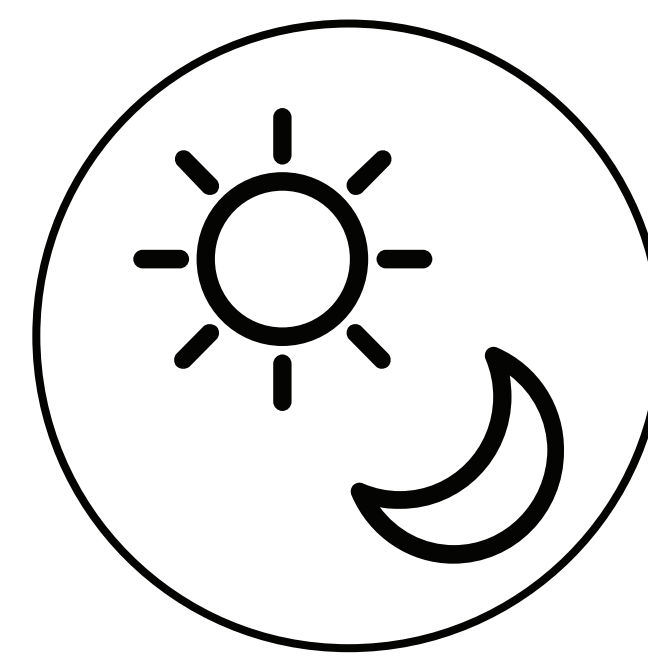


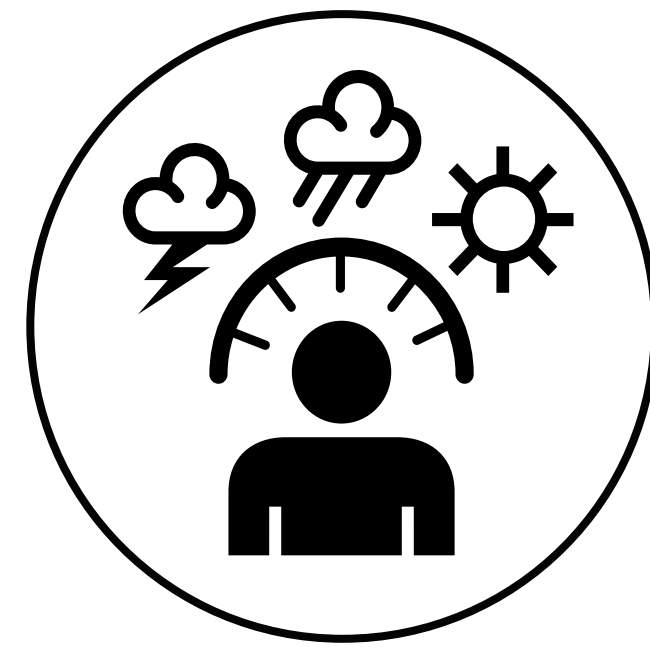
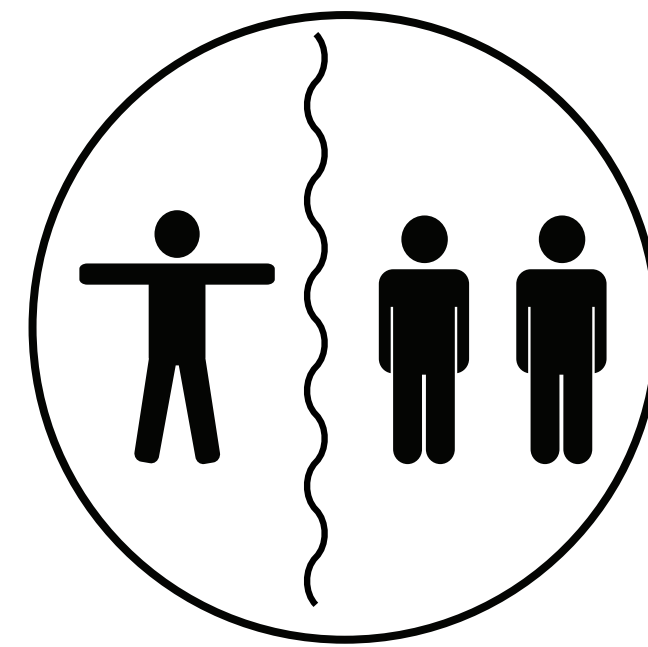
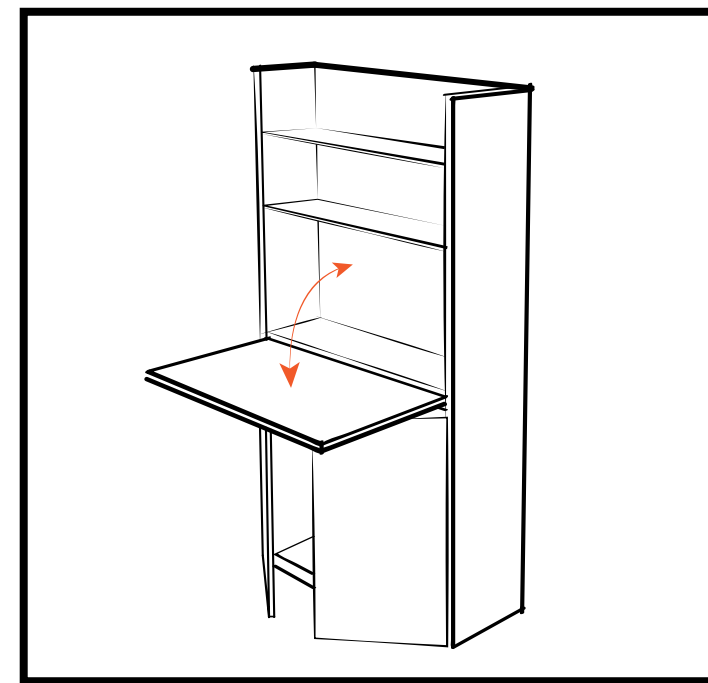
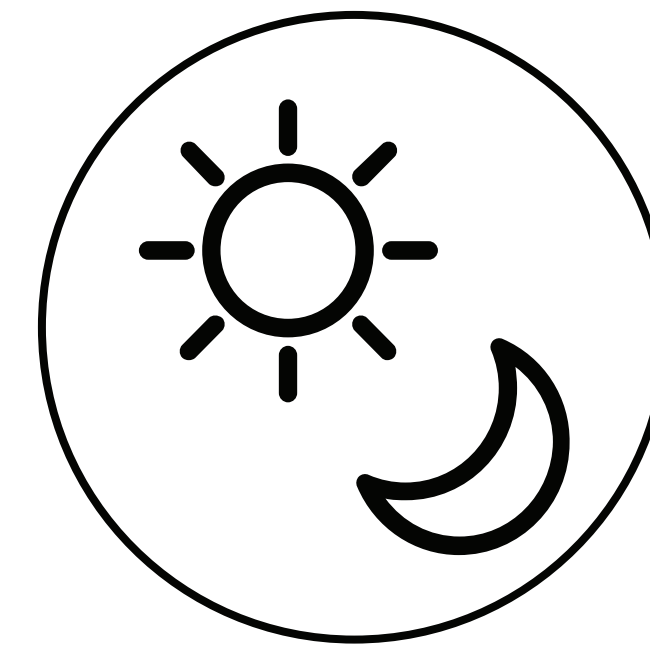
PRESENT FEASIBLE

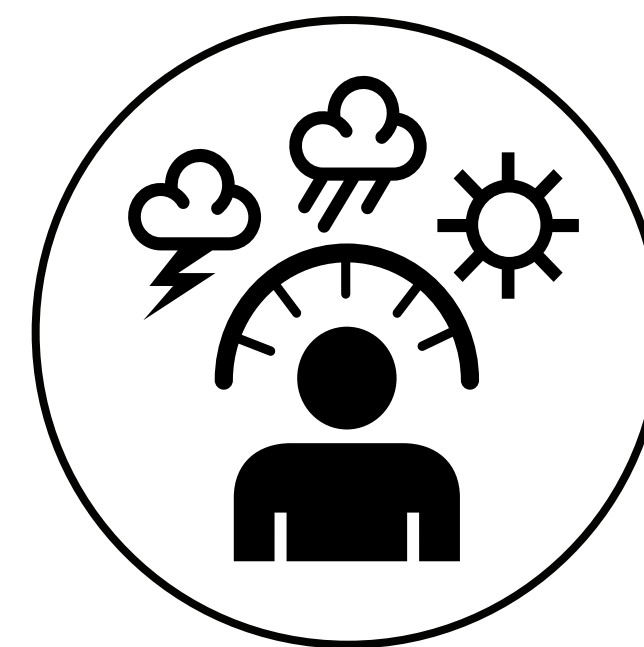
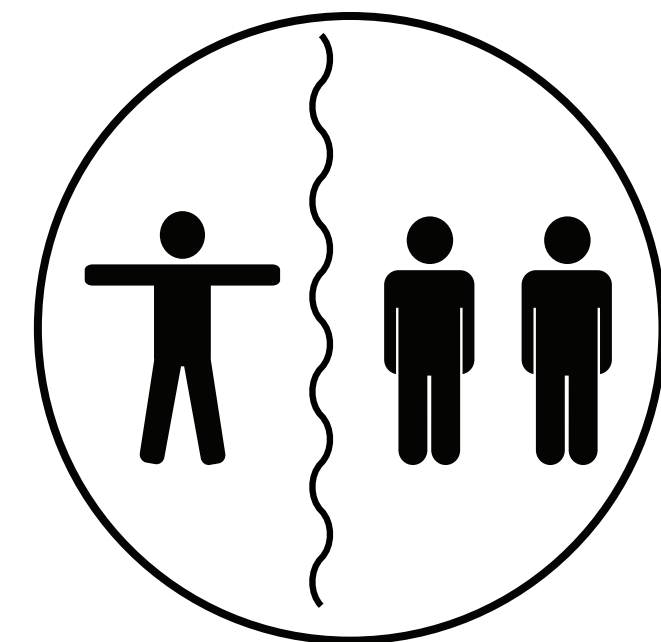
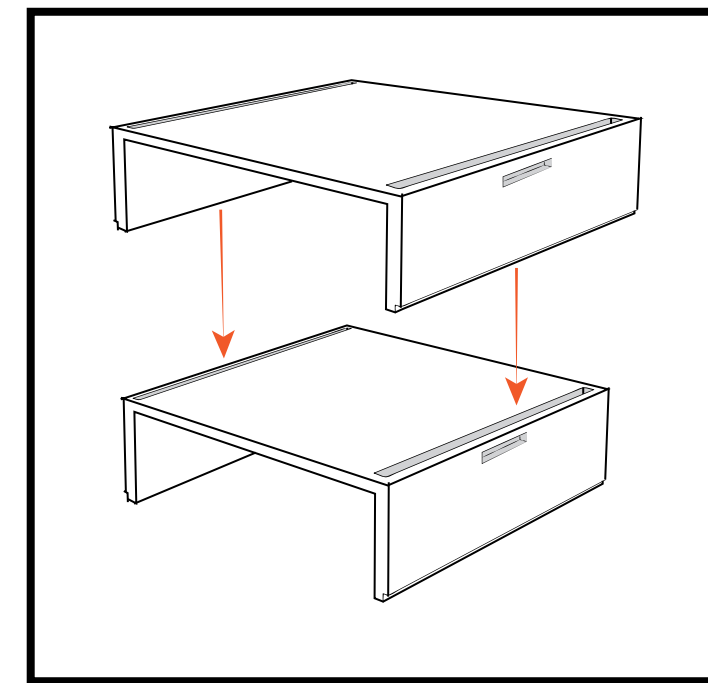
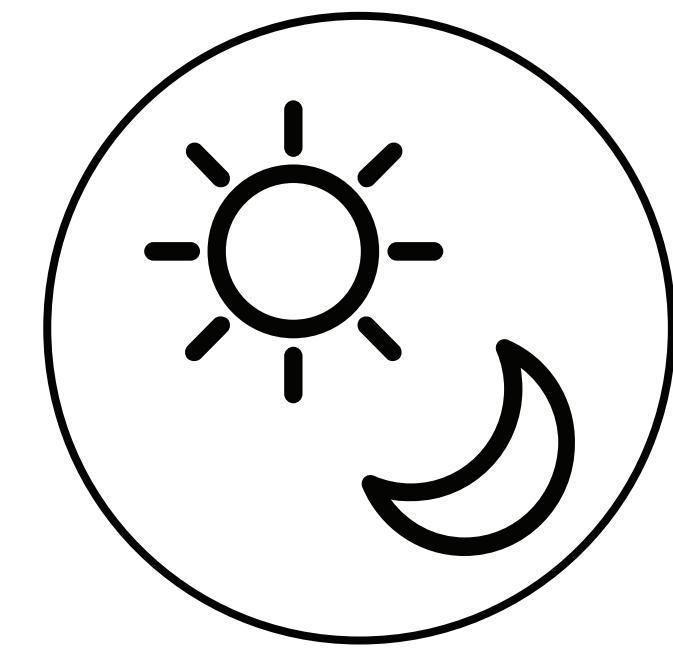


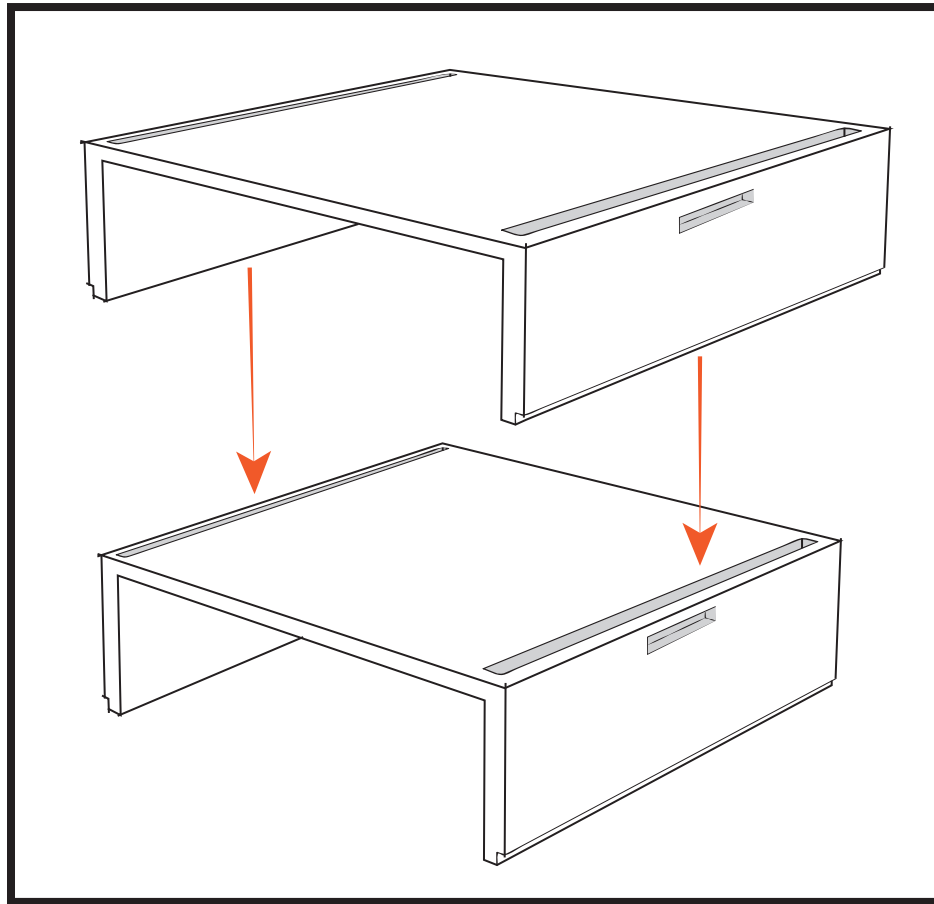
FUTURE POSSIBILITIES











FURNITURE NAME: STACKABLE TRAY AND STORAGE

DESIGN REQUIREMENTS AND CONSIDERATIONS:

SENSORY: FEEL

- two textures: 1 on top and 1 on the side
- flat area to draw and write on and textured side to grip
- surface that is nice to draw/write against (e.g. slightly soft/maleable, for example, high density rubber)
- robust anyone should be able to sit on it
- looks clean when wiped down
- easy to put away
- rounded edges
- non-slip when stacked
-

SENSORY: SIGHT

- doesn't leave marks on the floor
- looks clean when wiped down
- rounded edges

SENSORY: SOUND

- does it make a lot of noise when putting it together

OTHER

- could be compatible with other pieces of furniture (e.g. the tray can stack on top of the desk for additional storage)
- could be used both ways
- add a back to it to increase strength and stability
- ridge on edge to keep things from sliding off

SAFETY

- hollow construction make it lighter and less effective as a weapon (aka: bludgeoning device or projectile)

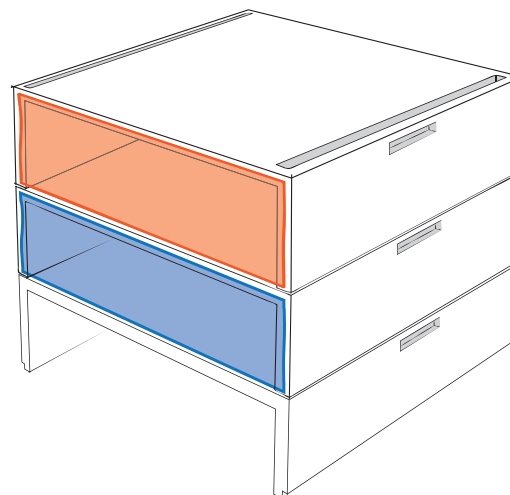
KEY FEATURES:

- These 'trays' are used as:
 - additional stackable storage
 - a lap-tray when working or eating
 - a foot rest when sitting
 - a way to retrofit the comfy chair to be better suited for desk-work.
 - a workout tool
- velcro cushion attachment

RETROFIT EXISTING

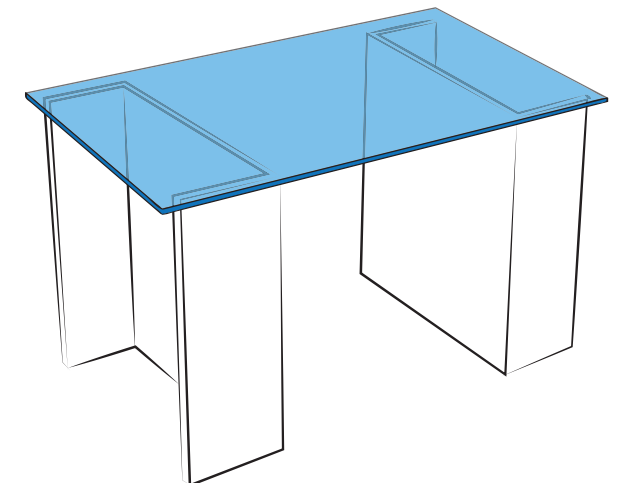
PRESENT FEASIBLE

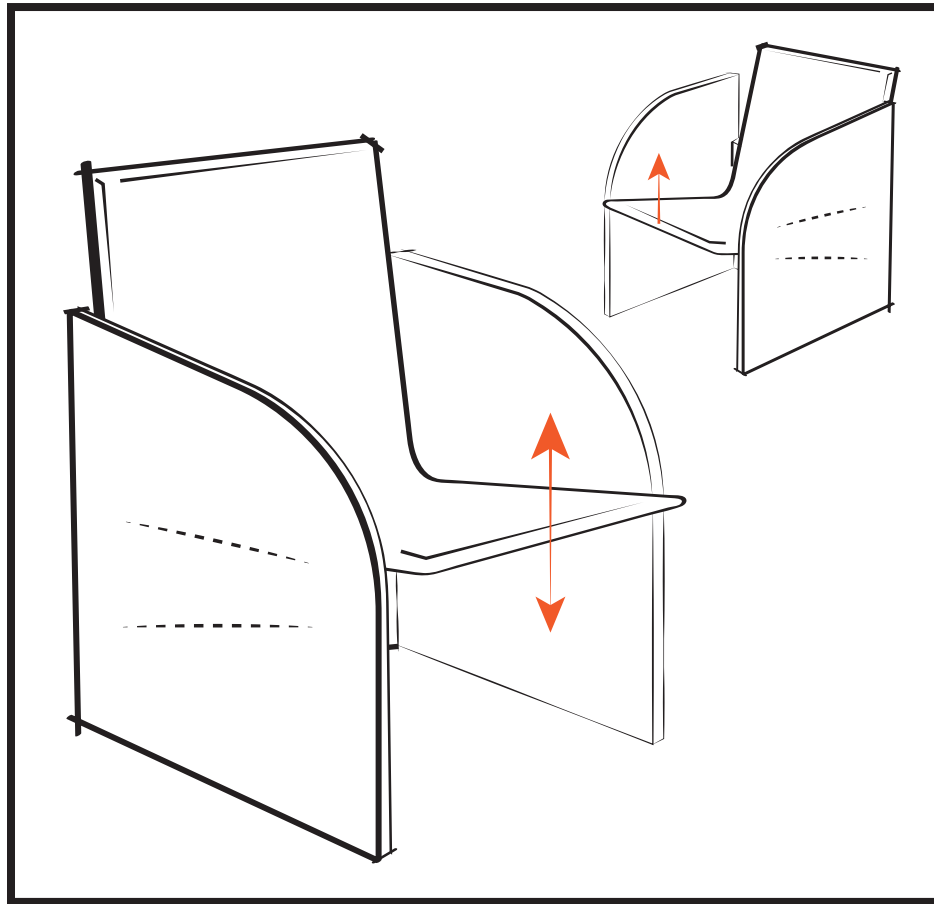
- Lumber plastic – recycled
- CNC manufacture with plastic welded connections – 3-5 pieces per tray
- Equip velcro covers for dust and privacy



FUTURE POSSIBILITIES

- 1 piece injection moulded plastic unit
- Make trays in different sizes to generate different stacking options





FURNITURE NAME: ADJUSTABLE CHAIR

DESIGN REQUIREMENTS AND CONSIDERATIONS:

SENSORY: FEEL

- water-resistant (for coffee stains, etc.)
- avoid shoulders cramped when resting on armrests
- fire-resistant
- arm rest shaped to to accept changeable cushions
- comfortable hand grip when doing dips or for moving the chair
- wipe clean

SENSORY: SIGHT

- doesn't leave marks on the floor
- looks clean when wiped down
- rounded edges

SENSORY: SOUND

- no squeaking fabric
- liimit scraping on floor

OTHER

- make sure two of them fit in cell
- floorspace: can you push it away
- lightweight but strong
- not too light
- floor studs wear down over time and damage floor

SAFETY

- make sure seat cannot be wielded – staff could get hit

KEY FEATURES:

- Adjustable height seat so that chair can be used as a desk chair and a lounge chair.
- Arm rests that do not pose a ligature threat

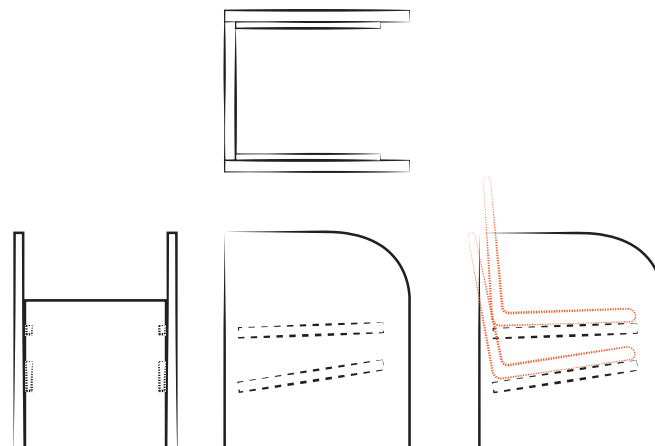
RETROFIT EXISTING

PRESENT FEASIBLE

- CNC manufacture with recycled lumber plastic with plastic welded connections – 3-5 pieces to assemble the chair frame

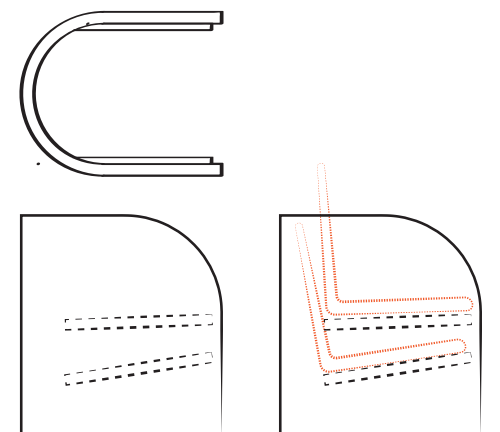
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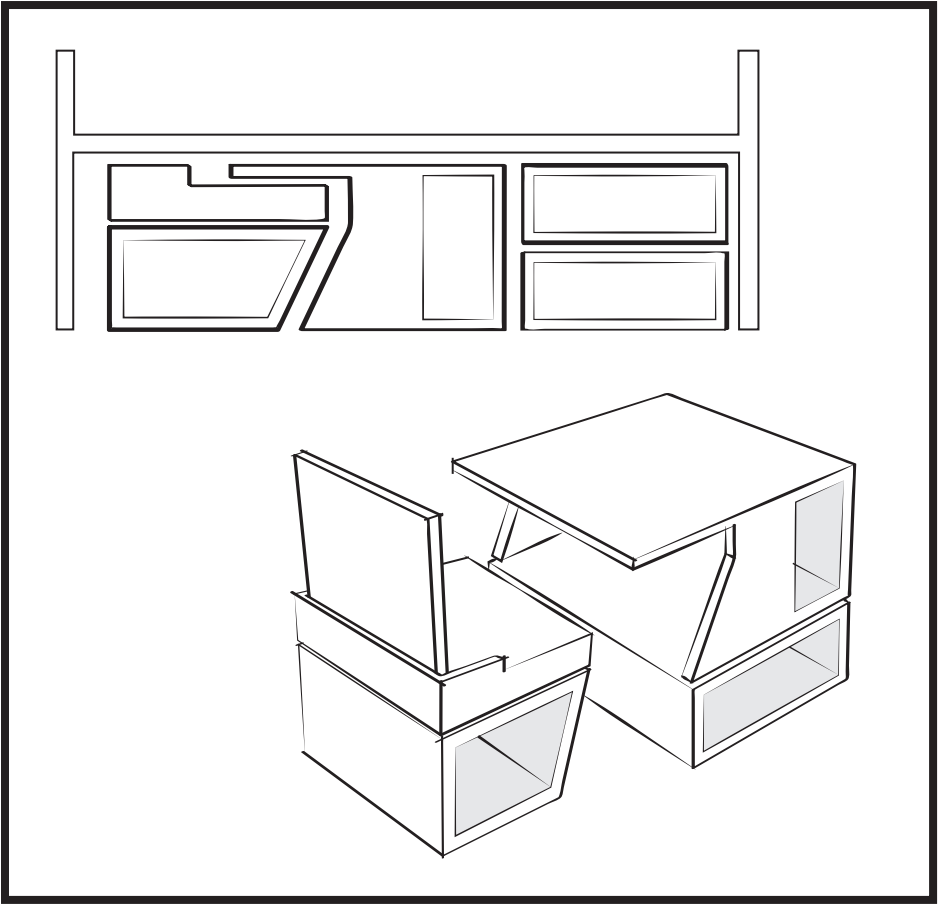
- 3-piece injection molded recycled plastic frame and 1-piece plastic injection moulded chair



FUTURE POSSIBILITIES

- 1-piece injection moulded plastic chair frame and 1-piece injection moulded chair





FURNITURE NAME: FOLDABLE DESK + CABINET

DESIGN REQUIREMENTS AND CONSIDERATIONS:

SENSORY: FEEL

- easy to grip; handles?
- light but strong
- some units wipe clean, some have textured finished
- adjust the backrest of the chair for comfort

SENSORY: SOUND

- reduce dragging noise

OTHER

- not too heavy
- easy to take out and put away for everyone (including old, disabled, etc.)
- use the tray as one of the units or as a base for the chair and/or desk
- same workspace as current desk.
- can you put your feet under the desk?

SENSORY: SIGHT

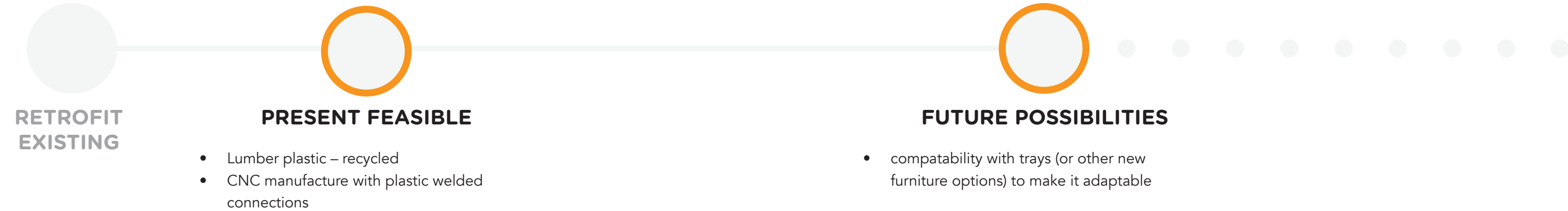
- round/soft edges
- units look like they fit in with the other furniture
- make it easy to assemble

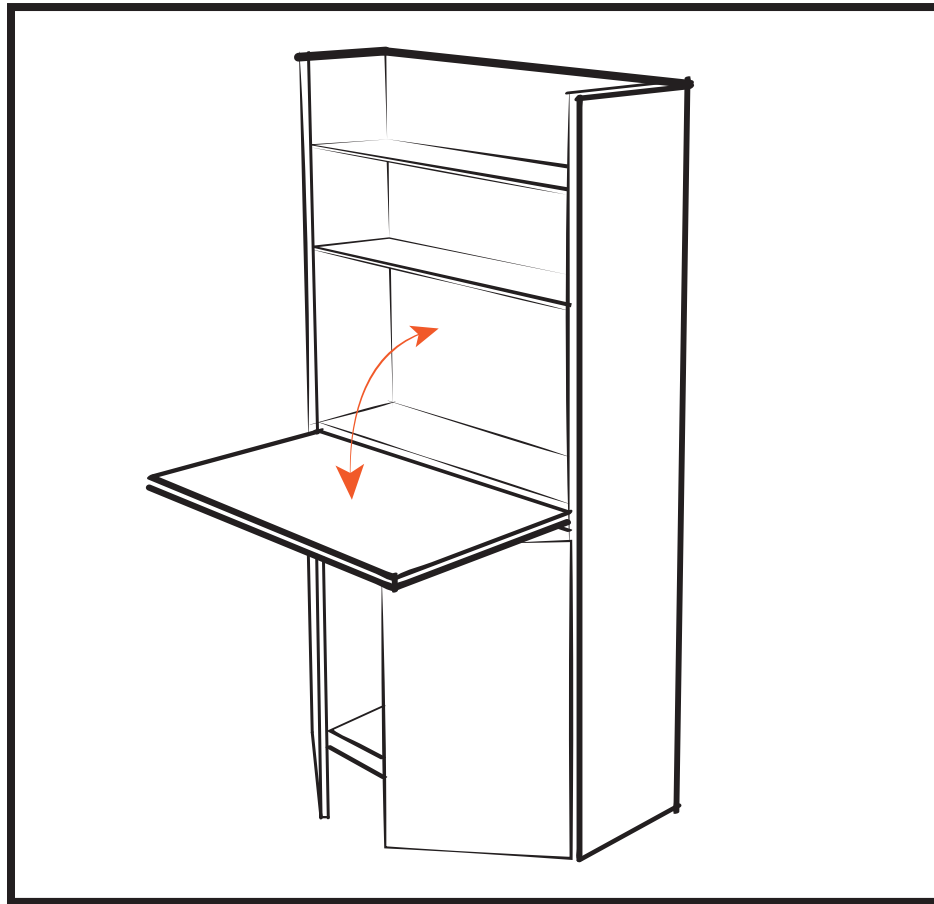
SAFETY

- can't break the desktop off at the hinge

KEY FEATURES:

- desk, chair and storage units all fit under bed
- each unit is modular and stackable with the other units





FURNITURE NAME: FOLD-UP DESK + STORAGE

DESIGN REQUIREMENTS AND CONSIDERATIONS:

SENSORY: FEEL

- curved corners so it's easy to wipe clean
- wipeable
- light but strong
- can open and close with one hand

SENSORY: SOUND

- quiet to open and close

OTHER

- all in one: storage and desk
- needs to be lockable for shared cells
- satckable with other furniture
- add trays to add height and storage capacity

SENSORY: SIGHT

- notice baord on the inside and outside
- wipe clean
- made to fit in aesthetically with other items in the cell
- privacy – hide valuables when open/closed

SAFETY

- can't break the desktop off at the hinge

KEY FEATURES:

- Fold-down desk
- When desk is folded away, it provides privacy by concealing what is behind it.

RETROFIT EXISTING

PRESENT FEASIBLE

- Lumber plastic – recycled
- CNC manufacture with plastic welded connections

FUTURE POSSIBILITIES

- make compatible with trays (or other new furniture options) to make it adaptable