

Parametric Analysis

For this analysis, group members tried to look from the below listed parameters to get more deeper insights which areas were causing some kind of problems. We looked every parameter with alien eyes and did a back and fourth between the 5 WHY analysis.

Critical Observations	Feedback	Pattern	Behaviour	Safety	Material and form
The user was required to hold down the lever completely to open the door (Lever operated mortise lock)	Visual cue Audio cue Tactile cue	-Repetition -Activity -Demanded by the product	Psychological aspect	Well being of user physically and emotionally	Natural property of material
Some users hide their lock such that lock is not visible to outsiders	User want to hide the locking system/ keyhole	-----	User needs psychological sense of assurance	User need to know that only he can access the locking mechanism. User needs to feel that their locking system is sufficient.	-----
The user uses tangible keys	User want to control whom can access the locking mechanism	-----	User needs to understand why he needs tangible keys at first place (user needs to have a sense of choice)	User needs dependability from their locking mechanism	The material and form of the locking mechanism should suit the users need/ requirements
There tend to be at least two locking mechanism on a main door. Some user tend to use more locks	User needs an assurance that their locking mechanism is easy and sufficient	User needs one locking system, that does not require any backup/ replacement/ added safety	-----	User needs dependability from their locking mechanism	-----
Interaction with locks have changed during the pandemic. Locks and handles were cleaned more often, users avoided direct contact with handles	User needs an assurance that their handle is safe to touch	User needs to reduce the nos of steps required to sanitize the locking system/ door handle. User needs to reduce the frequency	User needs an assurance that their handle is safe to touch	User needs an assurance that their handle is safe to touch	The material needs to be self cleaning and shouldn't be damaged by repeated application of sanitizers
User sometimes shares the second key with Neighbors, Friends and Family members	-----	The user needs control over whom to give the authority/ access. Need of backup should be eliminated	-----	User needs an assurance in case they lose their primary key	-----
User was seen using a toe to unlock the bottom tower bolt	-----	Need for an easy mechanism, which is comfortable to use	-----	The interaction with the locking mechanism needs to be safe	The material and form of the locking system should be ergonomic.
User tend to rotate the turn piece in both direction to ascertain the right direction for locking and unlocking	User needs to know what is the direction of turning the thumb turn/ key/ knob for locking and unlocking	User needs reduced steps	Anxiety and confusion in operating a locking/ unlocking system	-----	-----
User tends to check if door is locked/ unlocked (Even after just clicking it)	User needs to know whether the door is/has locked or unlocked	The need to check the door should be eliminated /user needs reduced steps	User needs to feel assured	The user needs reliability from their locking mechanism	-----
There is an audio cue(click sound) cue and friction when user locks/unlocks	User needs to know whether the door is/has locked or unlocked	-----	-----	-----	The material should be conducive to creating an appropriate cue for the user
There is an audio cue(click sound) cue and friction when user locks/unlocks	User needs to know whether the door is/has locked or unlocked	User needs to be comfortable while approaching keyhole	-----	-----	-----
The keyhole is placed generally below the handle	User needs to know whether the door is/has locked or unlocked	User needs to be able to operate the locking system with minimum effort	-----	User needs to be safe while applying extra force (if required)	The material and form should facilitate the insertion of the key
Insertion of keys is not smooth in case of keyhole locks	User needs to insert the key smoothly/ easily	User needs to reduce the steps to check the right side of the key	The aanxiety/ Pressure of inserting the right side of the key needs to be reduced	-----	The material and form should facilitate the insertion of the key
The latch was seen scraping the door frame	User needs to know if the lock(dead bolt) was completely retracted.	User need no scratch marks created by the lock on the frame	User needs to be conscious about opening and closing the locking mechanism	-----	The material form should prevent any potential scraping
The user was having a hard time finding the right key	User needs to know which key belongs to which lock	User needs to know which key belongs to which lock	Confusion about finding the right key needs to be reduce	-----	The material and form should facilitate the right key