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PDII Tech Issues and Solutions
WRR 1
1)

I believe something having good Human Centered Design means that it functions easily, with as little thought as possible. It should be used correctly by pure accident, as it's what any human will naturally do with it. The door is the most common example of this. There are a few factors that determine what you will do to a door when you approach it. Firstly, all else held equal, are you entering a space? or are you exiting a space? It often aligns with both safety and space availability that doors should open outwards, even if handles on both sides are the same. Just imagine a car door, they often have a similar style of short horizontal pull to unlock handles on both the inside and outside, but it's natural to open them outwards from either side, because from the outside the pull to unlock leads to the door being opened as well, and from the inside it's quite obvious that there's no space for it to open inwards. These short handles also indicate that they need to be pulled (even if it's just to unlock it and then be pushed) as things the size of a hand will naturally be gripped and easily pulled.

It's also natural to put your hand in a vertical position to lift or pull small objects, so making a handle vertical also implies for you to pull it. This makes a short vertical handle ideal for a pull door. Similarly, a push door does not need to be gripped and can be pushed in a variety of ways, by your elbow or by turning your back/side to it as you walk through. The ideal design here is a push plate, so there's simply no way to pull, so you must push. This isn't the best in all situations though, for example, you don't want a bunch of fingerprints on your glass doors, and it doesn't look good from the other side if you are to mount a large push plate on it. This leaves our only option to be a bar of some sort. We often naturally turn our wrists horizontally to push, so our bar must be horizontal, and it must be wide so it can easily be pushed in a variety of ways. The only issue this can incur is the lack of an indicator of what side the hinge is on. This is often fixed by a lock or the opposite pull handle being clearly visible, and telling you what side to push on for better leverage.

2)

Mapping is when the controls mimic what is being controlled. It's almost like giving the user their own "voodoo doll" of the device, as the two are closely mapped together. The user can push

the little car seat forward, and their seat leans forward. They push the bottom of the seat up, and their seat moves up.

Feedback is when the device tells the user that it's working. In this case, the more informative and easy to understand, the better. If you press a button on an elevator, it should light up so you know the button press worked, and there should be a display of some sort indicating what floor the elevator is on, showing you exactly how much progress it's made toward you.

3)

The main doors of DCC. It's very frequent that I and others will push on the wrong side of the handle when exiting, and because the doors are quite heavy, it can be hard to realize that it's not just the weight of the door or a cold windy day, but that you're pushing on the side by the hinges. I believe this is due to two reasons. Firstly, they are glass doors with pull handles on the other side that you could use to determine which side to push on, but due to the thick metal bezels on all the glass, it's far from easy to notice. Secondly, there are four doors, and most people are used to doors in sets of two that open in the middle, but all four of these doors open towards the middle. I believe our brains parse these four into two sets of two, and want us to push at the ¼ and ¾ marks, but on the middle two doors, that ends up near the hinges and makes the doors impossible to open. I believe this is due to designing for form over function, which I would put under social/cultural issues. I certainly understand the aesthetic design appeal of four single doors all opening towards the center, but it results in issues that the regular two sets of double doors would have easily solved for.