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RotoStorage Shelf Storage System

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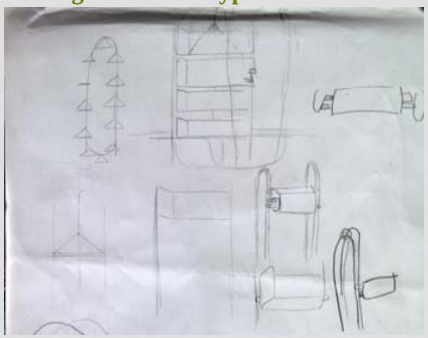
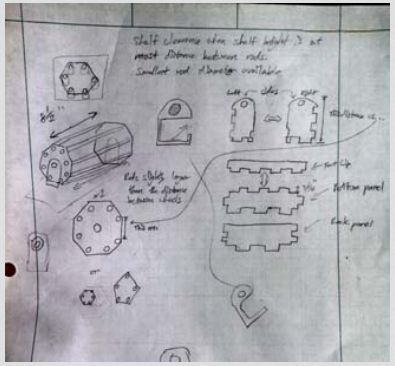
PROBLEM/OPPORTUNITY

Figure 1: Prototype sketches





A problem faced by the elderly is the accessibility and ergonomics of storage space. The elderly often are unable to store items in higher places due to physical limitations. The current options for reaching items in high places are bulky, hard to use, and impractical.

After interviewing the elderly at , it was found that many seniors were not comfortable with storing items in higher places as they did not want to climb chairs to access the items. They also did not want to stoop to reach items in lower places due to the physical strain.

Our storage solution increases the accessibility and ergonomics for the elderly while decreasing their risk of falling as it allows them direct access to anything they need.

HUMAN IMPACT

Our shelf storage system reduces physical strain elderly people experience while bending down or climbing chairs to reach certain items. It also decreases their chances, and fears, of falling as it keeps them from having to use stepstools or ladders to reach high shelves. Overall the impact is to increase the efficiency of storage as well as the safety of the elderly.

Figure 2: Incomplete Prototype

SOLUTION

Figure 3: The AutoPantry

Creating a rotating storage carousel would allow the elderly to store what they wish even in higher places, as the cabinets would rotate back to a comfortable level.

As seen in the photos in Figure 3, a similar solution has already been created by StorageMotion called the “AutoPantry”. Despite this, it contains multiple flaws as it requires equal weight distribution and does not include sensors, putting the user at risk.

Figure 4: Acrylic models of a hexagonal plate and a small-scale shelf