

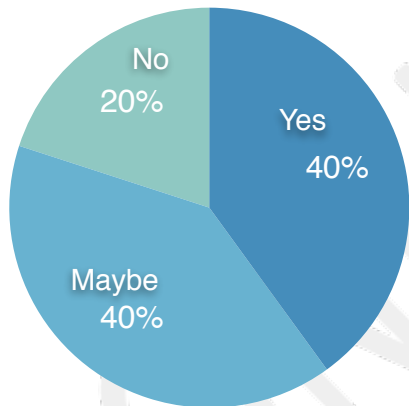
CUSTOMER ENGAGEMENT

Method

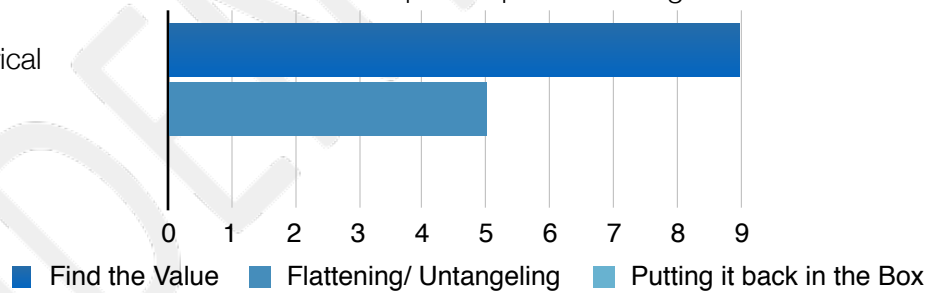
The Dream Team sought customer validation by conducting interviews with people that fit the customer profile outlined in the team’s previous memo. As stated in the previous memo, the profile includes all people and organizations the work with electronic components regularly. We have also done user testing before the prototype by having students take a survey. The survey provided insight to how the customer base responded to the problem that the product is trying to solve. The people surveyed responded with 80% that stated they would use this product.

Several prototypes were presented in the last memo to gauge customer interest. The defining features that the team pitched included, an ohm meter, locking drawers, and a method to uniquely identify drawers. Ultimately, potential customers were asked for initial thoughts of the idea in general, willingness to purchase such a product, and suggestions for modification of the current prototype.

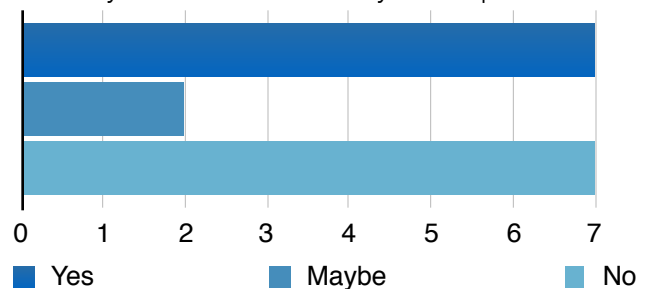
Would you use a product that organizes electrical components?



What is the most painful part of sorting?



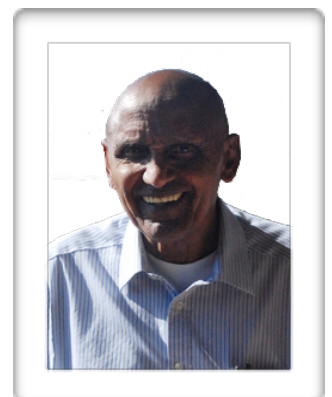
Have you ever thrown away a component?



Yohannes Kahsai - Electrical Engineering Lab Manager

Kahsai responded that the product is a useful tool for laboratory work. Additionally, this idea can further be expanded to include other electrical components like transistors, capacitors, and inductors. Another suggestion that he provided was expanding the product lineup to include sorting other small components. The example that he gave the team was to create a drawer that was capable of sorting small screws.

Kahsai’s suggestions were practical, but due to time constraints, will not be implemented. Ultimately, Kahsai said that he would buy the product.



Robert McDonald - Smart Product Design Lab TA

McDonald provided two pieces of feedback. Instead of using servos to lock the drawer, use a linear actuator instead. The actuator would serve two purposes, it would lock the drawer and provide a way to visually show which drawer the resistor would go into. A benefit of this design is that the actuator would serve two purposes and eliminate excess components. The detriment is that an actuator for each drawer could potentially drive up costs.

The other piece of feedback from McDonald was to use conductive pads in order to measure the resistance value instead of inserting it into a breadboard. The benefit of this design is that the conductive pad makes the system easier to operate. Instead of unbending the connections and placing them in the holes, the user would just have to touch the leads to the copper pads.

The team plans to incorporate both suggestions into the final product design. Additionally, McDonald said that he would use this product.



Dr. Andrew Wolfe - Mechatronics Professor

Dr. Wolfe provided the suggestion to further subdivide each drawer so each drawer holds two resistor values instead of one. The main concern with the current design was that it would not hold enough resistance values. Additionally, he suggested that the use of servos were redundant and instead, the LED to indicate proper drawer is good enough. Dr. Wolfe further stated that he has been using the same box of resistors for years because he does not want to rewrite labels.

The perspective to not use servos is a good idea because it would make the entire unit cheaper and simplify the entire design. Additionally, the fact that he has used the same drawer for years indicates that the customer wants a simple system that just works.

Dr. Wolfe said that he would also use this product.



Conclusion

The customers that the Dream Team surveyed all had a stake in the niche market described. Each customer stated that they would use the product in its current form. Additionally, each customer provided good feedback that the Dream Team will use to iterate on the design. The Dream Team plans to test the feasibility of servos or linear actuators and if those actuators are actually necessary.
