



# THE HELPING HAT



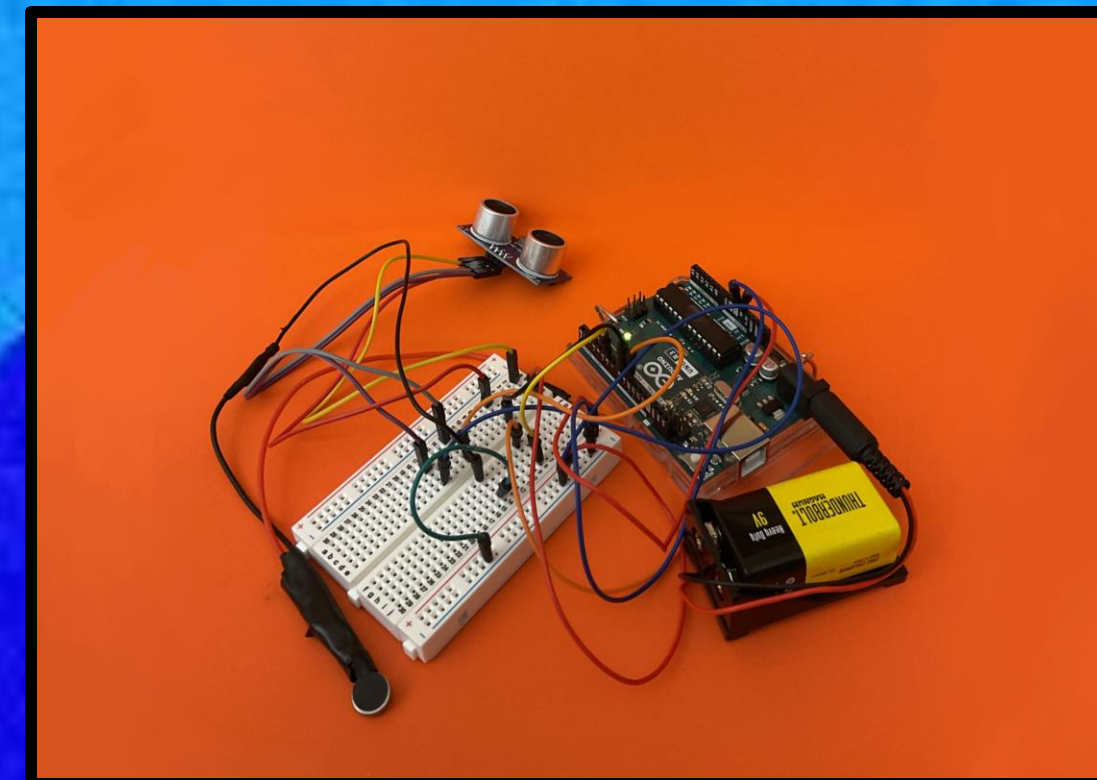
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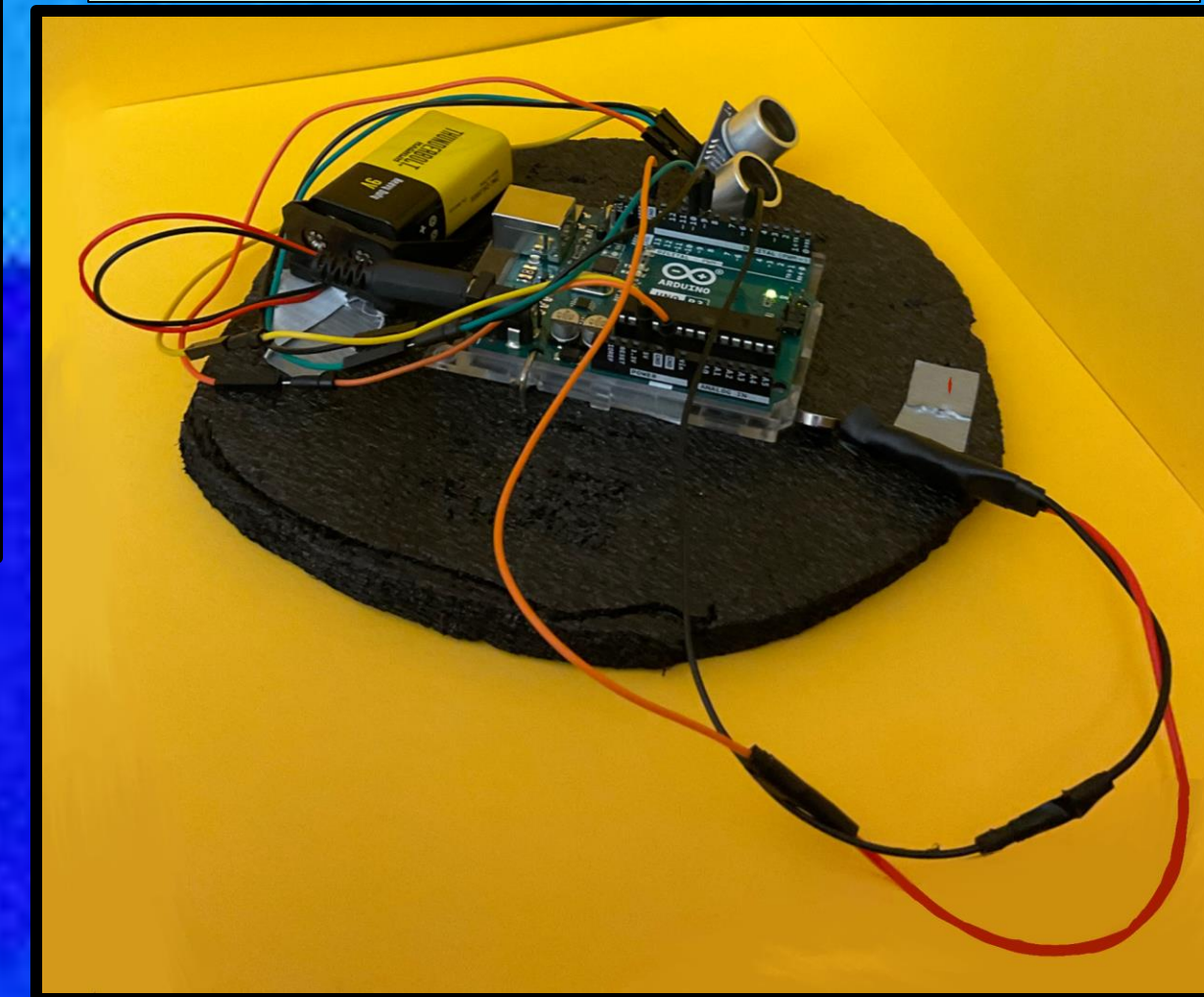
## THE PROBLEM

VISUALLY IMPAIRED STRUGGLE WITH NAVIGATION

## A PREVIOUS DESIGN



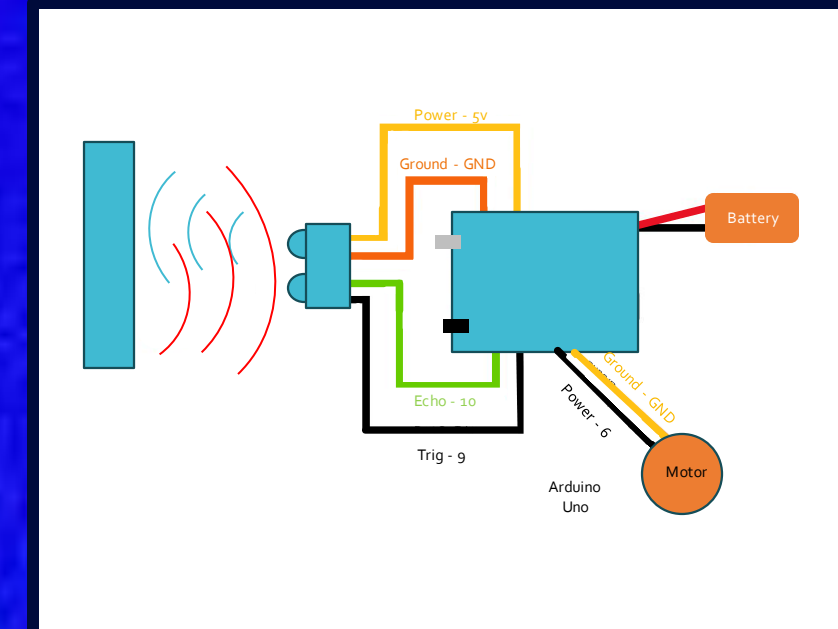
## CURRENT DESIGN



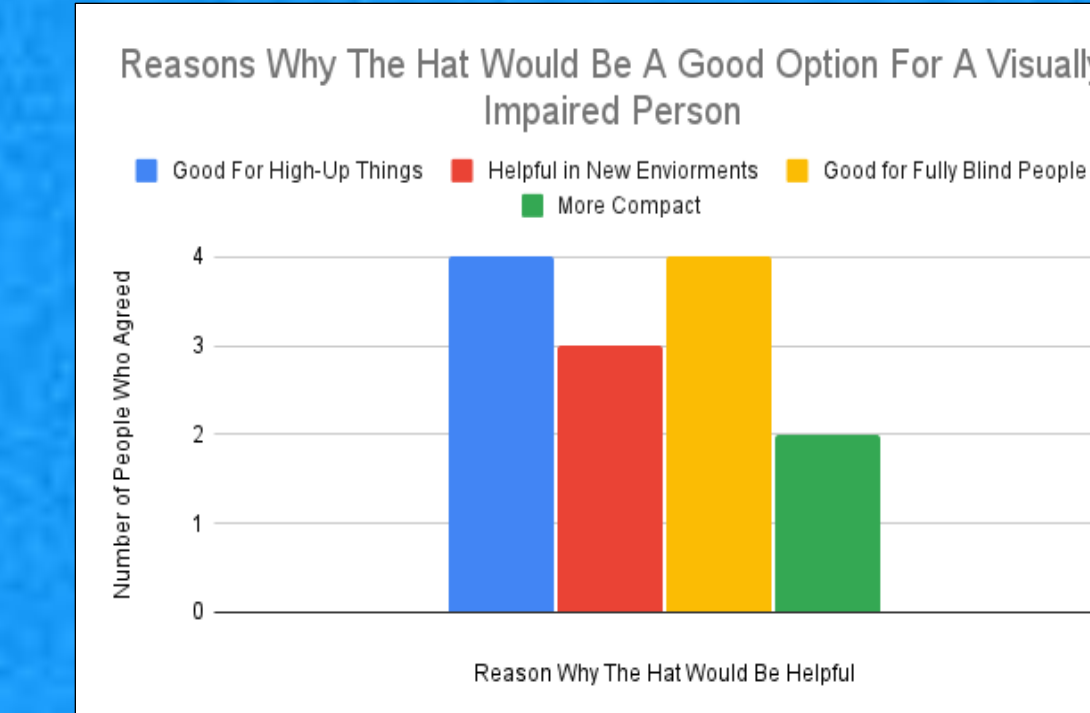
## OUTSIDE VIEW



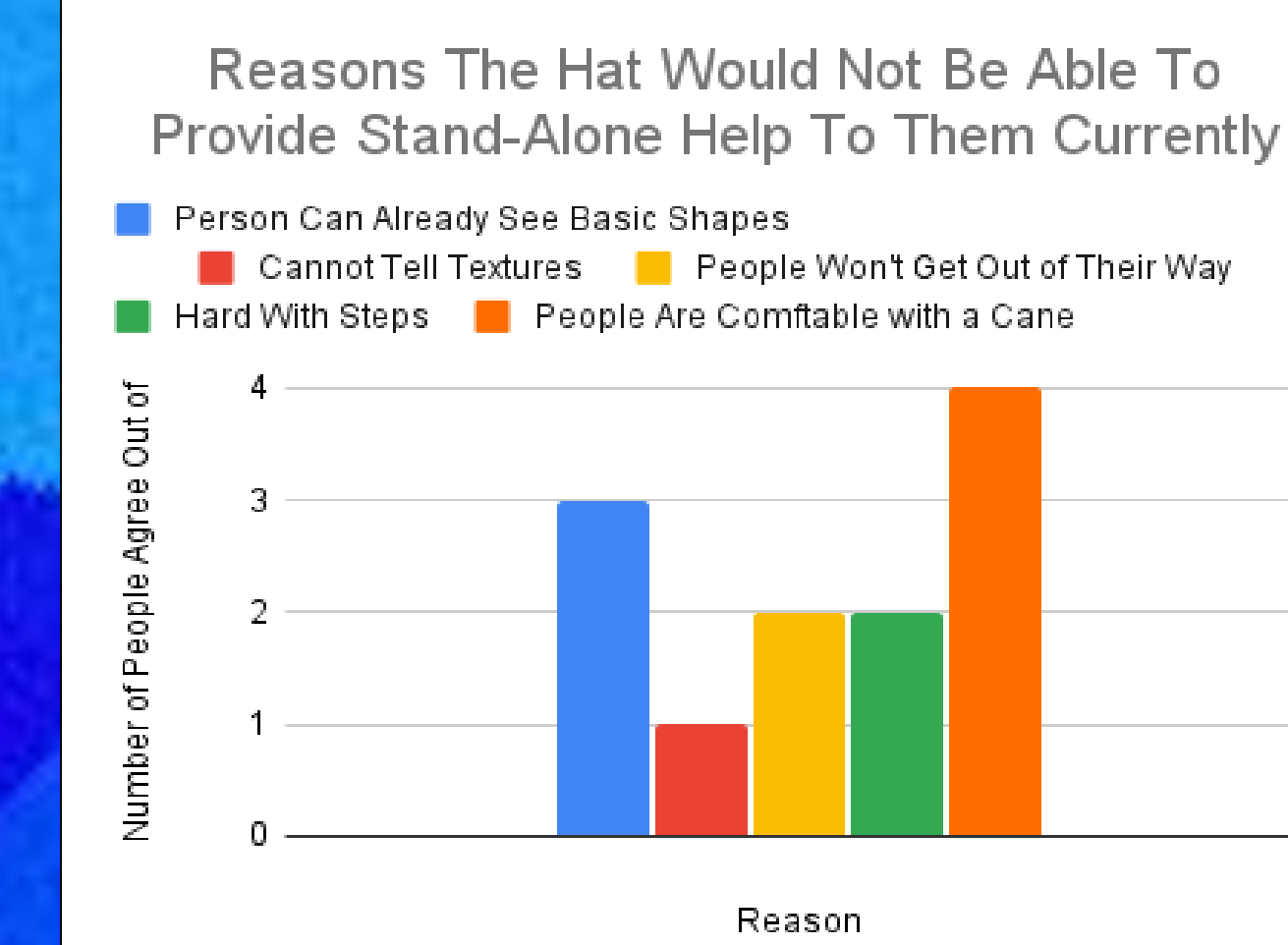
## GRAPHIC



## DATA



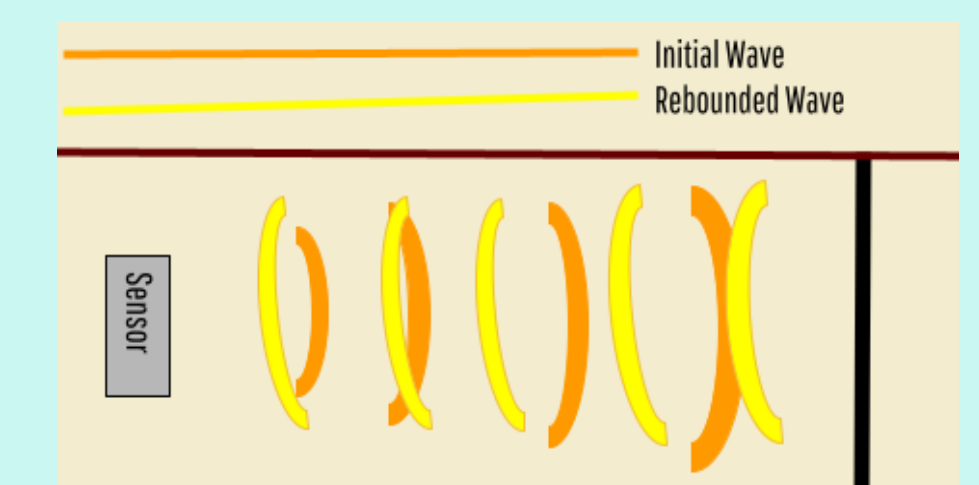
## DATA



## TESTING PROCESS

- BLINDFOLDED, AND SPUN
- WALK AROUND THE ROOM FOR 3 MINUTES
- FIRST WITH WHITE CANE, THEN WITH HAT

## DATA



WE GOT OUR DATA BY VISITING THE SCHOOL OF DEAF AND BLIND AND INTERVIEWING THE PEOPLE THERE ON HOW MUCH THEY THOUGHT THE HELPING HAT WOULD AID THEM.

## RESULTS

WE MANAGED TO CREATE A FULLY-FUNCTION PROTOTYPE AND A WEBSITE TO EDUCATE PEOPLE ON VISUALLY IMPAIRED PEOPLE.

## CONCLUSION

THE HELPING HAT IS AN EFFECTIVE ADDITION OR REPLACEMENT OF THE WHITE CANES. WE MIGHT ADD 360-DEGREE SENSORS AND MOTORS.

## DATA

TO SIMPLIFY NAVIGATING FOR VISUALLY IMPAIRED PEOPLE.

## PROTOTYPE DETAIL

- BATTERY – PROVIDES ELECTRICITY THROUGH CHEMICAL REACTIONS
  - ARDUINO – THE BRAIN
- SENSOR – THE THING THAT CREATES ECHOLOCATION
  - PAGER MOTOR – GIVES A SIGNAL TO THE USER
  - (USED TO HAVE BREADBOARD) TO ORGANIZE WIRES.

## DESIGN PROCESS

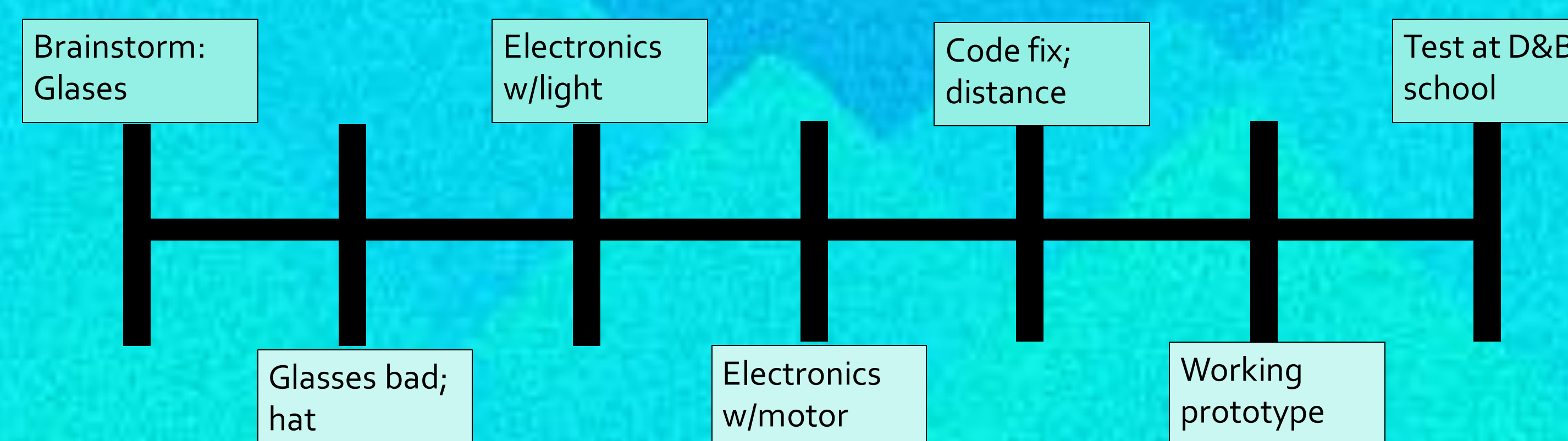
- BRAINSTORMING
- FINDING MATERIALS
- LEARNING SKILLS – PROBLEM SOLVING
- TEAMWORK

## DESIGN ITERATIONS

- NO HAT, LED
- MOTOR – 4 IN
- MOTOR IN HAT – 4 IN
- MOTOR IN HAT – 4 FT
- MOTOR IN HAT – NO BREADBOARD

## THE ISSUES WITH CURRENT SOLUTIONS

- PRICE
- USER ERROR
- AVAILABILITY
- COMPATIBILITY WITH ONLY SOME SURROUNDINGS



Or visit the website at <https://thehelpinghat.weebly.com/>