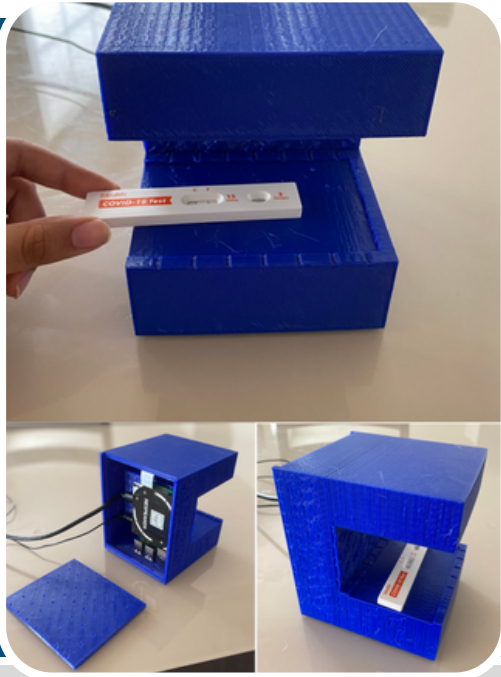


# COVision Aid

Zoe Butzke - *Chief Executive Officer*  
Sreeja Bolla - *Chief Technical Officer*  
Rhik Mazumder - *Chief Information Officer*  
Aaheli Saha - *Chief Mechanical Officer*



## MAKING COVID-19 RAPID TESTS ACCESSIBLE FOR INDIVIDUALS WITH VISUAL IMPAIRMENTS

We developed a device to improve the accessibility of testing instructions and results. Our device uses audio feedback to allow users to receive instructions and get test results.

### HOW DO YOU USE THE DEVICE ?

Currently, our device is tailored to be used with iHealth COVID-19 rapid testing kits.\*

The device will read out instructions step-by-step and takes verbal cues to move on to the next part. It will walk you through the entire test, including how to obtain your results. The device uses a camera to analyze the test and will verbally give the testing results.

\*Note: We intend to be expanding our range of test type options in future prototypes.



### Safety Warning

While our device itself does not pose any safety hazards, it is intended for use of COVID-19 testing. Please make sure to thoroughly disinfect your hands and the device before usage.

### HOW WAS IT CREATED?

Our device uses a Raspberry Pi, camera, speaker, and microphone.

- The outside shell of our device was modeled in SOLIDWORKS and 3D printed.
- Audio instructions were pre-recorded and begin once the device is turned on
- Raspberry Pi voice recognition software was used to identify the phrases that navigate the instructions
- The camera sits in the top of the shell and looks down on the COVID-19 test.
- A machine learning model was created using positive and negative tests so that the raspberry pi could identify results based on the camera image
- After reaching the corresponding step in the instructions and voice recognition software identifies the phrase needed to start analysis, the device will use the camera to read the test and relay the results through the speaker

