

Braille-Tutor

As much as I have learnt about art and presentation from this class, I also want to explore a project with more practical meaning than aesthetic. To this end, I want to create a braille six pin machine paired with a companion android app.

The purpose of the project will be to automate braille instruction to blind learners. Using speech recognition on the android app, auditory cues and the six pin machine, I want to create a module that can completely automate teaching of numbers and the English alphabet independently, without help, to blind students.

If completed in the time span, I can move on to add stories/different teaching, instruction styles etc.

Hardware:

- 3D printed frame for encasing the six-pin machine
- Coolant to prevent solenoid pins from warming up
- Bluetooth module (HC-05)
- Power source, battery
- Solenoids
- Fabric for covering six pin machine for contour/touch.
- Coolant

Software:

- Software for bt communication
- Android app
- Backend server in Node.js (if needed)
- Arduino Code for solenoid control

Order of Construction and Testing:

- Create protoype pin arrangement.
- Create android app. Debug
- Bt communication control
- App UI polish, followed by pin machine polish