Speech To Braille

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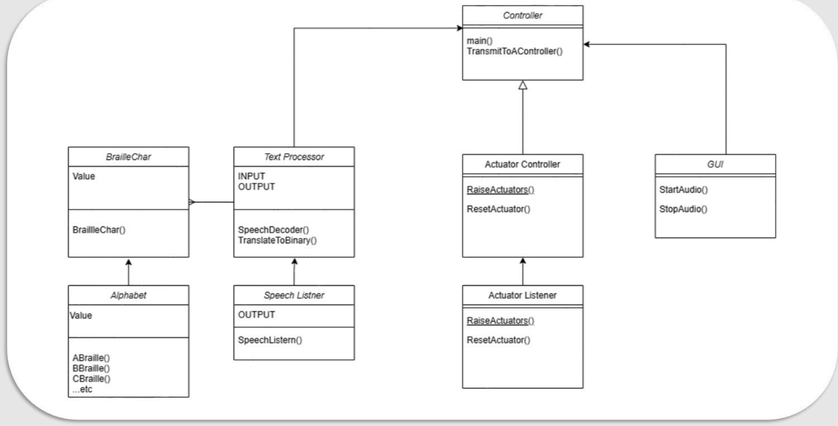
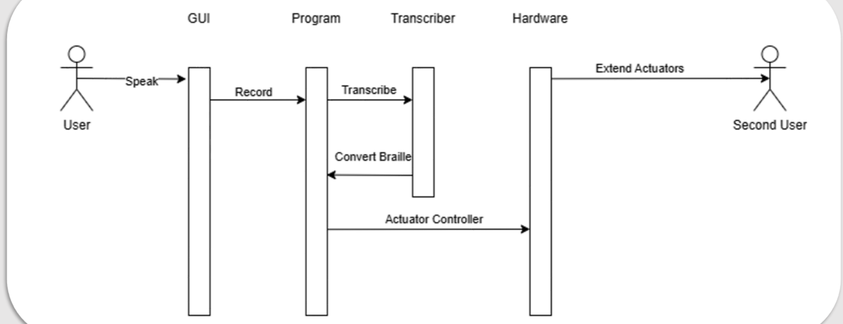
Problem:

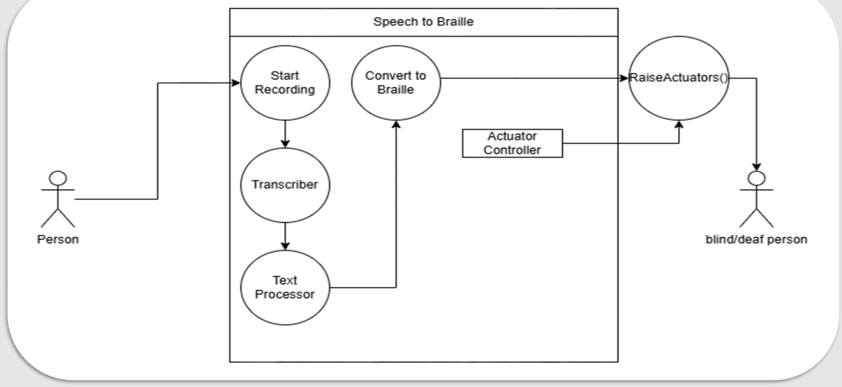
The focus of our project has been on trying to solve the difficulties of communicating with visually and audibly impaired people for those that aren't impaired due to either not knowing sign language or braille.

Motivation:

This idea sparked our interest to due to integrating multiple systems ranging from: Gui to Software to API Sever to Hardware. With this project we gain a deeper understanding for how all these systems interconnect in major systems, as well as providing a logistical challenge on how we would implement our ideas into a program and eventually physical form. Not only this, but the project provided us with an opportunity to provide and help for those that are visually and audibly impaired bettering their day-to-day experience.







Solution:

How were we going to solve this problem? Well, our group came up with the solution of trying to create a program that takes in audio whether it be pre-recording or live and transform it into a bit encoded version of braille which will then be created in physical form using actuators going letter by letter. Now this solution isn't the most efficient as our translations will be much slower with the person only being able to write one letter at a time, but we are better in that we are providing a portable way to translate in a portable and inexpensive manner. Not only this, but the ease of use we are bringing can't be ignored either with a simple GUI that is intuitive and easy to understand so anyone can use it.

Technologies

The project requires us to use many technologies such as coding IDEs(Eclipse), Github, RaspberryPi, solenoid linear actuators, and a bread board, to bring the project into fruition.

Next Steps

We're not done yet! To complete our project, we still need to construct the hardware to bring the braille into the real world as well as writing the programs to control the hardware and make it act accordingly.