# Requirements Document

## 1. Objectives

The objective of this software is provide a fast and efficient pen input to text application with features that include, removing white noise, and 'cleaning up' input, and converting input to text.

## 2. User Roles and Responsibilities

The users of this software are anyone that uses stylus input on a tablet. These user can range from people with perfect stylus handwriting to people with hand tremors, although those people with already perfect handwriting may not get much use out of the clean up, and noise reduction features, but they will get use out of the input to text feature.

This users roles are simply using stylus input on a tablet and choosing the feature they want to implement.

## 3. Interacting with other systems

Our software is interacting with a database, and a device. It is a simple app that can be downloaded on any device that has a stylus input and can run a c application. Our software involves a database that stores information that will be used for determine the pen input.



## 4. Functional Requirements

### Pen to text input feature

- The feature is able to be turned on and off
- The feature is not able to be turned on when another feature is turned on
- Pen to text input for the 26 english letters (A-Z, a-z)
  - Someone can input any of the 26 letters through the stylus and the software will output the correct letter
- Pen to text input for the digits 0-9
  - Someone can input any of the 0-9 digits through the stylus and the software will output the correct digit
- The Pen to text input should take no more than 1 second after the user picks up the stylus
  - We will test this thoroughly with multiple different pen inputs
  - We will look for accuracy of output also
- The pen to text output should be accurate
  - 10 out of 10 times our application should accurately determine the pen input
  - We will ensure all cases are captured in our application

**White noise removal feature (specifically for people with hand tremors)**
- The feature is able to be turned on and off.
- The feature is not able to be turned on when another feature is turned on
- The removal of white noise is complete no later than 1 second after the user picks up the stylus.
  - The white noise removal will be implemented as the user is creating pen input.

**Cleanup input feature**
- The feature is able to be turned on and off
- The feature is not able to be turned on when another feature is turned on
- The cleanup of input is complete later than 1 second after the user picks up the stylus
  - The cleanup will be implemented as the user is creating pen input.

**UI features and functionality of the application**
- Feature toolbar
  - The user interface will include a feature toolbar that will enable a user to choose between the different features to use
  - The toolbar will allow you to turn on only one feature at a time
  - The following will be included in the toolbar:
    - Pen to Text

- - - Removal of white noise
- A clear separation between an input and output window
  - An input window that only allows input and an output window that only allows output
- Compatible with ...
- Requires no connection with the internet