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ECE 49022

Team 17: Blind Mice

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What have I accomplished recently:

Integrated the following code below into a single main code that executes the USB Check, Folder Select, and Play File modes:

* Created functional code that allows the user to select a desired folder stored within the root directory of the user’s USB flash drive using the play button.
* Created code that allows the user to use the forward and back buttons to navigate forward or backward to the first page and text of the next or previous chapter when pressed and to navigate to the first page and text of the first/final chapter of the text data when the forward/back buttons are pressed respectively while the e-book is reading from the last/first chapter.
* Created code that allows the microcontroller to stop its current output of text and go to the first page and text of the next or previous chapter when the forward or back buttons are pressed.
* Created code that makes the microcontroller increment to next chapter/page/text by default when both the forward and back buttons are not pressed.
* Created code that allows the user to use the mode button to switch between contracted and uncontracted braille output.
* Created code that allows the user to use the Where am I button to trigger the DAC to output an arbitrary voltage signal.
* Created code that makes the DAC output an arbitrary voltage signal when the microcontroller outputs the first character of a new array of text.
* Created code that makes the playing of Chapter and Page announcement audio take higher priority over playing the audio of the read text data so that if the user were to press the Where am I button before or during the time that DAC is outputting the audio of read text, the DAC would instead work on outputting the entire Chapter and Page announcement audio.
* Created code that makes the DAC stop/start its scrolling speed when the play button is pressed during Play File mode.
* Created code that establishes an index variable that begins incrementing its value at the same speed as the current scrolling speed right when a new array of braille characters is being displayed. This index variable represents the timing of when to display a certain i­th element of the braille array.

What am I working on now:

* Writing test code that can decode mp3 audio file input into an array of PCM data that can be read by the DAC to generate voltage signal output correctly corresponding to the data of the desired audio file to play.

What needs to be done next:

* Integrating speed button code into my main code to facilitate scrolling speed-changing functionality
* Integrating liblouis braille translation subsystem into my main code to facilitate contracted and uncontracted braille translation functionality.
* Creating test Code for storing the Mode and Speed settings data into Flash Memory to allow the e-book to save the user’s previous mode and speed settings.