Project Plan
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Goals:
Create pen input to text software that utilizes the pen strokes during the writing process rather than analyzing the final characters. The goal is to make this software faster and more accurate than the later type of written to text software.

The 2 features of our software is to:
1. Identify the users input and output the correct letter quickly, if possible before they are done writing.
2. Clean up user input as necessary to handle a wider range of cleanliness. Specifically targeting those with hand tremors

Our goal for the presentation level software is a basic drawing screen, and an information screen on a large monitor visible to anyone else nearby. The drawing screen will simply take in a user input and possibly display the current output prediction. The Secondary large monitor will display a variety of interesting views about how our system breaks down input. We will also plan some way to demonstrate the ability to clean and use messier input such as particularly bad handwriting and hand tremor cases.

Motivation:
When trying to take notes with a stylus and touch screen we noticed that direct pen to art note taking, the difference in accuracy from real pen in paper made the handwriting less legible than pen to paper, and the built in pen to text software was too slow and inaccurate. The idea came about thinking of different ways to handle the pen input to work as quickly and accurately as needed to take notes in a classroom. We realized that by looking at how people write their letters, instead of the final outputs like most commercial products seem to do, there was potential to make a faster and more accurate prediction.

Technical Challenges:

The way we handle the learning system for this problem is and will mostly likely continue to be a major challenge. Finding a way to both optimize for all current input samples and adapt to new inputs seems to be impossible for this situation and so we must see which compromises can be made and create several options with no way of knowing how they will perform until we test them.

Progress Summary:
We have our base code complete and we are now integrating it with a database as well as setting up a website for people to submit sample inputs, hopefully getting a high volume of samples. Next we will try to implement several improved tree designs to find the best for our needs by testing it with what is stored in the database. Lastly, we will focus on UI in order to have a better presentation that will be user friendly and make clear what's happening.

Module/Features	Completion %	To do
Base Code	80%	Improve Tree system as well as minor improvements to input cleaning methods.
Database	25%	Continue to build upon it. We currently have one created but need to load it with inputs and set it up with the various ways to work with its data.
Application Website	5%	Create a website that will Allow people to submit sample inputs to our database.
Server	0%	Create a server that will host the database and website interactions.

Milestone 4:
Application website and server:
Start work on the website (Kasey) and server (Dominique).
The server will be used to host the database and the website will fill it with sample inputs.
We will demo a website that will take in input and store it in the database, as well as progress made with input cleaning over the break.

Website that allows for users to input letters and input them into our database to make it smarter:
On our main project application, we will have a window with the purpose of reviewing the sample inputs. By displaying unviewed examples and allowing us to make sure they are correctly labeled we can help make sure our predictions are as accurate as can be.

Milestone 5:
Testing multiple tree systems
Brainstorm and create several improvements on the current tree system.
Then test all systems using our database inputs in order to compare and find which is the most useful.
Track aspects of each test such as tree build time, tree prediction accuracy, tree size, and search time.
Display all of this information in a way that is easy to read/understand.

Milestone 6:
Prepare for showcase
Create a board, set up application on one monitor and have a separate monitor that displays the "background" work, this way people understand what's going on in the background. Focus will be minor improvements and specialized demo UI.

Task Matrix for Milestone 4:

Task	Dominique	Kasey
Setup application website		100%
Setup server and test that it can talk to the database	100%	
Begin to write a program that will accept/decline user input	50%	50%

Summary of tasks for Milestone 4:
1. Begin to create a user friendly application website.
2. Begin to create the server that will eventually host the database. Make sure the server is able to talk to the database. We will connect up to the database later.
3. Begin to write a simple program in VS that will take user input simplify it so we can easily accept/decline the input for our database.

Approval from faculty sponsor:
Signature: _____ Date: _____