Project Plan (Semester 2)

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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

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

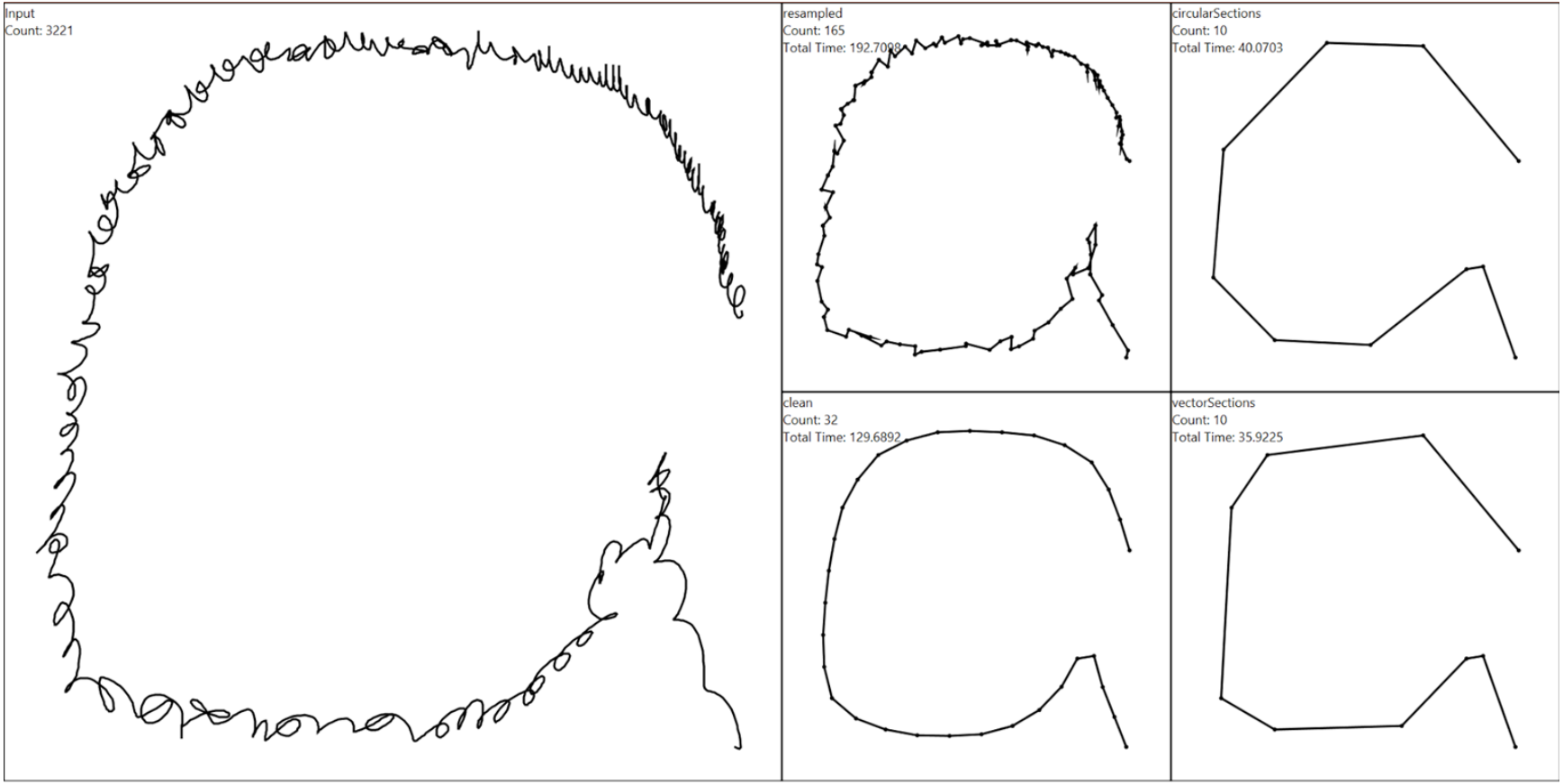
- Tree system needs improvements
  - Finding a balance between large trees that can accept new data, and algorithms that create efficient and small trees that most likely need to be recreated every time new data is added.
  - Hard to find which is best without testing on data.

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.

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.

Current State of Program



Milestone 4

- Start work on the website (Kasey) and server (Dominique).
- For now, the server will be used to host the database and the website will accept user input and fill in the database.
- We will have the ability to review the sample input. By displaying unreviewed examples and allowing us to make sure they are correctly labeled we can help make sure our predictions are as accurate as can be.

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%

Milestone 5

- **Testing multiple tree systems:**
  - Brainstorm and create several improvements on the current tree system.
  - 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.