CA326 Year 3 Project Proposal Form

SECTION A

Project Title: Type tutor: a touch typing tool

- **Student 1 Name**: *Shane Grouse*

    - ID Number: *17502633*

- **Student 2 Name**: *Jack Liston*

    - ID Number: *17497764*

Staff Member Consulted: *Tomas Ward*

1. **Description**
   We have decided that we are going to make a web application that is a training aid for teaching people to efficiently touch type. Touch typing is the most optimal form of typing where the user assigns certain columns of the keyboard to a particular finger. With a webcam, we will record the keyboard as the user types, tracking each of the specific fingers to ensure that they make each keystroke with the correct finger. We will use the data that we collect on users most common misclicks and give team typing tutorials based on this data.
   We plan on emphasizing data visualization through tools like heat maps to ensure the user understands where their most common errors are occurring and we will provide a custom set of training tasks for them to complete to ensure they effectively tackle their most common errors. The project will be written in python with the front end written in html/css and javascript. We will also be using flask and nginx for the back end of our project. Improving your typing speed and reducing typos is something that has an immediate effect on your productivity and being able to typing quickly and accurately will allow you to focus more on solving the problem at hand.

2. **Division of Work** - Outlines how the work is envisaged to be split equally among the team members.
   We will be splitting the project evenly as possible through each topic of the project. However, Jack will be putting more effort into hosting the web app, dealing with the front end and back end. Shane will work with the data sets that we collect to ensure that we give the most optimal learning experience to our users. We are both interesting in the visualization aspect but we think that as Shane will play more of a management role over the entire project Jack may end up dealing with the visual aspects slightly more but that is definitely subject to change.

3. **Programming language(s)** - List the proposed language(s) to be used

    - Python
    - Html/CSS
    - JavaScript

4. **Programming tool(s)** - List tools (compiler, database, web server, etc.) to be used

    - OpenCV

- Flask
- Nginx

5. **Learning Challenges** - List the main new things (technologies, languages, tools, etc) that you will have to learn

   - Image recognition
   - Data visualisation
   - Hosting a web app

6. **Hardware / software platform** - State the hardware and software platform for development, eg. PC, Linux, etc.

   - Laptops
   - Linux
   - Server space

7. **Special hardware / software requirements** - Describe any special requirements.

   - webcam