**School of Computer Science & Mathematics**

**5200COMP – Group Project**

**Progress Report**

This form is used to document the third milestone deliverable for the assessment. It should represent the progress made with the initial proposal outline (deliverable 1) following the first progress meeting. The final proposal does not have to match the ideas presented here, though you should discuss and document changes to direction at the second progress meeting.

The form should be submitted to Canvas by **Friday 16th February 2024**.

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| **Group Name**  (as per Canvas) | SCI11 |
| **Present at meeting** |  |
| **Apologies** |  |
| **Absent** |  |
| **Updated Proposal Outline**  Provide a more detailed proposal idea including the nature of any supporting practical work. This should reflect on progress made since the first deliverable and the discussions in the progress meeting. The outline should be around 700-800 words. | The idea for our project is to develop an AI to accurately identify dog breeds. This system could streamline the process of identifying dog breeds for pet owners, veterinarians, and animal shelters. The primary milestones for the project include finding an appropriate dataset that we can use to train the AI on, using the appropriate algorithms as well as the dataset we found to train the AI, creating a simple and easy to understand user interface for our users and finally ensuring the systems accuracy, efficiency and reliability though testing and optimisation.  To find an appropriate dataset we plan on searching through various websites such as Roboflow and Kaggle until we find a comprehensible dataset with multiple pictures of various dog breeds for us to use. This should be the simplest of all the milestones to achieve.  To train the AI we first need to do research into the potential libraries that we could use for the machine learning such as TensorFlow and then learn how to leverage these libraries to train our own AI.  To develop a user interface, we will use the python library Tkinter. The primary feature that needs to be included in the UI to make it simple to users is an image upload feature.  To ensure accuracy and reliability we will continue testing and training our AI whilst making changes to optimise it. We will also vigorously test the UI to remove any bugs and ensure reliability for our users.  Among the libraries we are using is Tkinter. We are using this to provide an intuitive user interface that allows users to easily use the application. Providing a UI is essential as people that are not code literate should be able to use the application. This will reduce the amount of training needed to use it. Another library that helps with the user experience is warnings. This library allows us to have warnings pop up to inform the user of an error that would/has occurred without ending the code and giving an error. To do the main machine learning part of the code, tensor flow is used. Tensor flow is a very high-performance numerical computation module that is open source and is easy to use to make machine learning models. It has high level APIs that help simplify the building and training of neural networks which helps make it more user friendly. And in our case, it is good with image recognition. We might also be using matplotlib and pandas in order to process and visualise large data sets like the one we will be using. Matplotlib is a great library for creating in depth visualisations of data and pandas is great for using with a large data set as it has functions for analysing, cleaning, manipulating and exploring data. |
| **Issues**  Briefly document any issues the group has faced and how these are being addressed. |  |