**Research Project (IT4010)**

**Group Assessment File**

**Project ID**  **: TMP-22-109**

**Supervisor : Mrs. Anjalee Gamage**

**Project Title:**

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| Mobile Application to Analyzing fisheries Market, Shrimp Farming and Identifying Fish Species using Image Processing |

**Group Details:**

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| --- | --- |
| **Student ID** | **Student Name** |
| IT19101248 | A.L.G.Sachini Sumeera |
| IT19033860 | Nipun Pesala H.R |
| IT19191584 | Maleesha Thilani M.A |
| IT19517766 | Perera M.G.S |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID** **: TMP-22-109**

**Student ID : IT19101248**

**Student Name : A.L.G.Sachini Sumeera**

**Research Domain:ICT for Development(ICTD)**

**Project Title**

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| --- |
| Mobile Application to Analyzing fisheries Market, Shrimp Farming and Identifying Fish Species using image processing. |

**Project Subtitle**

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| Predict the fish market prices. |

**Individual Component Abstract**

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| Sri Lanka has been earning a large income from the fishing industry from ancient times to the present. The Customers and suppliers nowadays need a good application to assist them to overcome the issue of rising of fish prices. This study aims to predict the fish price and predict the annual fish harvest increase or decrease for particular fish using ,  **Data mining Algorithms(Linear Regression,SMOReg,Multilayer Perceptron,MLP Regressor)** and studying the Past Data in the fish market. The suitable algorithm, which provides good performance, has been chosen for developing an application. This research study will add to the customers and suppliers to forecast the current least prices in Sri Lankan Fish Market. Customer can buy fish at the right and fair price without being fooled by fraudsters. They can buy fish without any hassle by comparing the two prices. At reasonable Price so you can get an idea of the changes in fish prices during the season buying and selling can be done. |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-109**

**Student ID : IT19033860**

**Student Name : Nipun Pesala H.R**

**Research Domain:ICT for Development(ICTD)**

**Project Title**

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| --- |
| Mobile Application to Analyzing fisheries Market, Shrimp Farming and Identifying Fish Species using image processing. |

**Project Subtitle**

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| Identify fish species using image processing |

**Individual Component Abstract**

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| In this component mainly focus to identifying fish fish species, identifying endemic fish species in Sri Lanka, identifying endangered fish species in Sri Lanka.  It is hoped to use the following technique for this component machine-learning algorithm - convolutional neural network (CNN) algorithm, training, validating, and testing the generated model.This study present an application that employs a machine-learning algorithm to identify fish species (mainly focused to Sri Lankan species). And identify endemic, endangered species in Sri Lanka. It aims to help students and scientists with their identification and data collection. Fish species images are used for training, validating, and testing the generated model using convolutional neural network (CNN) algorithm. The result shows that the model performs well in predicting the name of given fish. |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-109**

**Student ID : IT19191584**

**Student Name : Maleesha Thilani M.A**

**Research Domain:ICT for Development(ICTD)**

**Project Title**

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| --- |
| Mobile Application to Analyzing fisheries Market, Shrimp Farming and Identifying Fish Species using image processing. |

**Project Subtitle**

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| Identify the shrimp disease facing shrimp farmers. |

**Individual Component Abstract**

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| This study explored the incidence of shrimp disease and how the disease affects the annual harvest of shrimp farming according to the exact area of the pond. Excessive shrimp farming in shrimp cages also leads to many diseases. Therefore, the data should be manipulated to cultivate the required number of shrimps that can be grown in the shrimp box according to the specified area. Shrimp growers lack that knowledge and do not have a suitable app for it, which makes shrimp more susceptible to disease. Also, this app is very useful as the smartphone is in the hands of anyone today. The other thing is that data trained determine shrimp’s age according to it length. Age depends on the length of the shrimp, so the exact time, month and day of harvest should be considered. This app is very useful for visitors to shrimp cages as you can use this app to determine the age of the shrimps in the cages for that reason, this will benefit both of shrimp farmers and the shrimp visitors. If the entire harvest is destroyed due to a disease, it will be a great loss to the grower. If the disease is caused by a fungus or a bacterium, it can be diagnosed early and treated. For this task we hoped to use the following technique for this component machine-learning algorithm - convolutional neural network (CNN) algorithm, training, validating, and testing the generated model. Shrimp diseases and length are used for training, validating, and testing the generated model using convolutional neural network (CNN) algorithm. |

**Research Project (IT4010)**

**Student Assessment File**

**Project ID : TMP-22-109**

**Student ID** **: IT19517766**

**Student Name** **: Perera M.G.S**

**Research Domain:ICT for Development(ICTD)**

**Project Title**

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| --- |
| Mobile Application to Analyzing fisheries Market, Shrimp Farming and Identifying Fish Species using image processing. |

**Project Subtitle**

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| Identify the ornamental fish disease aquarium fish farmers. |

**Individual Component Abstract**

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| Ornamental fish are very sensitive creatures with a sensitive immune system. They often get various diseases, and it is hard for a fish owner to keep them alive. It is difficult yet to diagnose the disease while they are alive because it is hard to examine them. Since some of the species of fish are very expensive it is crucial that there must be a method to identify the diseases, they contract. Also, it is important that this system must suggest medicines for the diseases after identifying them correctly. Hence, we will be creating a chatbot that is capable of identifying the diseases contacted by the ornamental fish and suggest the relevant medicines to cure these diseases. This chatbot consists of a huge collection of details regarding the fish, diseases they might contact and the possible medicines to cure these diseases in a model which is used to train the system. This chatbot collects the images and other relevant details about the particular fish species and check them against the data it already posses to identify the disease successfully. With this chatbot, the users are able to ask questions and get accurate answers regarding the ornamental fish diseases. The chatbot will also be able to respond to the users quickly regarding their inquiries. This chatbot will be created using NLP, machine learning and AI. |