**Testing and Evaluation**

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# **Product Testing**

**Tests plans**

Table 1. Null value test

|  |  |
| --- | --- |
| ID | 1 |
| Test | Null value |
| objectives | To check the data if it contains a null value |
| precondition | Data should be preprocessed |
| Expected output | The dataset should not contain any null value |
| output |  |
| Result | Test pass |

Table 2. Accuracy testing

|  |  |
| --- | --- |
| ID | 2 |
| Test | Accuracy |
| objectives | To check the accuracy of the machine learning model |
| precondition | Train and apply a machine learning algorithm |
| Expected output | Achieve accuracy above 90% |
| output |  |
| Result | Test pass |

Table 3. Country selection

|  |  |
| --- | --- |
| ID | 3 |
| Test | Select one or multiple countries |
| objectives | To check if it displays selected country data |
| precondition | Users should select a country from the dropdown menu |
| Expected output | Specific data of a particular country |
| output |  |
| Result | Test pass |

Table 4. Date selection

|  |  |
| --- | --- |
| ID | 4 |
| Test | Select a date |
| objectives | To check whether it provides selected date Covid-19 data |
| precondition | Users should select a date from a dropdown menu |
| Expected output | Covid-19 data of selected date |
| output |  |
| Result | Test pass |

Table 5. Case selections

|  |  |
| --- | --- |
| ID | 5 |
| Test | Select a country’s case type |
| objectives | To check whether it displays a chart of selected country’s case |
| precondition | Users should select a case type from a dropdown menu |
| Expected output | Graphs and plots of selected country’s case |
| output |  |
| Result | Test Pass |

Table 6. Upload CSV file

|  |  |
| --- | --- |
| ID | 6 |
| Test | Upload a CSV file |
| objectives | To check whether it uploads the user CSV file |
| precondition | Users should drag or drop CSV files from a computer |
| Expected output | Dataframe of the uploaded file and its information |
| output |  |
| Result | Test pass |

Table 7. Chart selection

|  |  |
| --- | --- |
| ID | 7 |
| Test | Chart selection |
| objectives | To check whether it renders the data along with a selected chart |
| precondition | Users should define the chart type from the chart selection dropdown |
| Expected output | Display data of x and y columns in charts or graphs |
| output |  |
| Result | Test pass |

Table 8. X and Y column

|  |  |
| --- | --- |
| ID | 8 |
| Test | X and Y axis columns |
| objectives | To check whether it displays chart as per x and y columns |
| precondition | Users should define the variable for x and y columns |
| Expected output | Display data of x and y columns in charts or graphs |
| output |  |
| Result | Test pass |

Table 9. Overview of Report

|  |  |
| --- | --- |
| ID | 9 |
| Test | Overview of report |
| objectives | To check whether it generates the report of users uploaded dataset |
| precondition | Users should upload a CSV file |
| Expected output | Display the report of an uploaded dataset |
| output |  |
| Result | Test pass |

Table 10. Model Prediction

|  |  |
| --- | --- |
| ID | 10 |
| Test | Prediction |
| objectives | To check whether it predicts the covid-19 cases |
| precondition | Users should select the number of days for prediction |
| Expected output | Displays the predicted outcome with a graph |
| output |  |
| Result | Test pass |

Table 11. Working links

|  |  |
| --- | --- |
| ID | 11 |
| Test | Working links |
| objectives | To check whether it redirects from one site to another |
| precondition | Users should select click on the links and picture to redirect |
| Expected output | Move from one site to another site efficiently |
| output |  |
| Result | Test pass |

# **Product Evaluation**

Table 12. Covid-19 analytics report

|  |  |
| --- | --- |
| Requirement | Covid-19 Analytics Report |
| Expected | Result of data analysis and visualization in the analytics report |
| Outcome |  |
| Evaluation | Success |

Table 13. Covid-19 Dashboard

|  |  |
| --- | --- |
| Requirement | Covid-19 Dashboard |
| Expected | Interactive Covid-19 Dashboard for visualization |
| Outcome |  |
| Evaluation | Success |

Table 14. Data visualization web app

|  |  |
| --- | --- |
| Requirement | Data Visualization Web App |
| Expected | Live Covid-19 Data visualization |
| Outcome |  |
| Evaluation | Success |

Table 15. Visualizing data

|  |  |
| --- | --- |
| Requirement | Upload own data set and select the chart type |
| Expected | User should be able to visualize own data by different user input |
| Outcome |  |
| Evaluation | Success |

Table 16. Report generation

|  |  |
| --- | --- |
| Requirement | Generate an overview of users dataset |
| Expected | The user should be able to generate an overview of the report |
| Outcome |  |
| Evaluation | Success |

Table 17. Covid-19 Prediction

|  |  |
| --- | --- |
| Requirement | Covid-19 Prediction |
| Expected | Predict the Covid-19 data |
| Outcome |  |
| Evaluation | Success |