TEST PLAN FOR
PCOcare: PCOS Prediction and Detection

Project Id - PCS24-51

ChangeLog

Version	Change Date	By	Description
001	31.10.23	Aditi Singh	Initial Draft

MAJOR PROJECT PRESENTATION [31th of October,2023]

PCOCare [PCS-51]

Various Test Cases Related to the project Development

Project Title: PCOS Prediction and Detection Model

Date: 29th October,2023

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Executive Summary:

This testing report provides an overview of the testing process, methodologies, results, and conclusions for the PCOS Prediction and Detection Model developed by [Your Company]. The objective of this model is to predict and detect Polycystic Ovary Syndrome (PCOS) based on certain input parameters and medical data.

1. Introduction:

1.1 Purpose: The purpose of this report is to document the testing efforts and outcomes related to the PCOS Prediction and Detection Model.

1.2 Scope: The testing process included evaluating the model's accuracy, reliability, and performance in predicting and detecting PCOS using various test cases and real-world medical data.

Test Levels

The testing to be performed is white box testing.

The testing is performed by the developers team along with QA and Configuration Manager.

Unit Testing:

Scope: Individual components and functions of the ml model

Objective: To verify that each component works as intended, including layers, loss functions, and optimization steps.

Testing Approach: Developers and machine learning engineers conduct unit tests to validate the correctness of the algorithm at a granular level.

Integration Testing:

Scope: The interactions and interfaces between various components, libraries, and frameworks used in the project.

Objective: To ensure that the integration of different components does not introduce errors or inconsistencies in the style transfer process.

Testing Approach: Developers and testers assess the data flow and interactions between components and detect any integration issues.

Functional Testing:

Scope: The complete the pcos prediction model.

Objective: To validate that the system functions according to specified requirements and that it performs accurate style transfers.

Testing Approach: Testers execute functional tests by providing input images and verifying that the output images meet the desired content and style transfer criteria.

Performance Testing:

Scope: Assessing the system's speed and efficiency in handling style transfer tasks.

Objective: To measure how well the system performs in terms of processing time, memory utilization, and resource consumption.

Testing Approach: Performance tests evaluate the system's response time and resource usage under various loads and conditions.

Usability Testing:

Scope: The user interface and user experience.

Objective: To assess how user-friendly and intuitive the interface is for users uploading content and style images.

Testing Approach: Usability tests involve users interacting with the system to evaluate the ease of use, clarity, and navigation of the interface.

Security Testing:

Scope: The system's security mechanisms, especially for handling user data.

Objective: To identify and mitigate potential security vulnerabilities, including data breaches and unauthorized access.

Testing Approach: Security testing includes penetration testing, data encryption checks, and access control assessments.

Compatibility Testing:

Scope: The system's compatibility with various platforms and devices.

Objective: To ensure that the system functions correctly on different browsers, operating systems, and devices.

Testing Approach: Testers verify that the system is compatible with a range of devices and configurations.

Regression Testing:

Scope: The entire system after updates or changes.

Objective: To confirm that new changes or enhancements do not introduce defects or negatively impact existing functionality.

Testing Approach: Automated regression tests are executed to validate that previously tested features still work as expected.

Test cases :

Handling Missing Data:

Test Case 1: Ensure missing values are identified and handled appropriately (e.g., imputed with mean, median, or mode).

Test Case 2: Verify that the imputation method does not introduce bias into the dataset.

Test Case 3: Check if there is a limit on the percentage of missing values allowed in the dataset.

Test Case 4: Checking login into the system

Test Case 5: Checking for various prediction criteria

Test case 6: using equivalence class testing

DECISION TABLE FOR LOGIN ON THE WEBSITE:

Conditions	**Rule1**	**Rule2**	**Rule3**	**Rule4**
Username	False	True	false	True
Password	False	false	True	true
Output(e/h)	error	error	error	homepage

DECISION TABLE FOR VARIOUS PREDICTION CRITERIA:

Conditions	**Rule1**	**Rule2**	**Rule3**	**Rule4**
Irregular periods	False	True	false	True
Overweight	False	false	True	True
Output(yes/no)	no	no	no	yes

EQUIVALENCE CLASS TESTING ON THE BASIS OF NO.OF DAYS OF PERIODS:

No.of days	precentage	Yes/no
1-5	0	no
5-9	50	Yes
9-14	75	yes

1.1 Test Environment

It mentions the minimum **hardware** requirements that will be used to test the Application.

Following **software's** are required in addition to client-specific software.

- Windows 8 and above
- Office 2013 and above
- MS Exchange, etc.

Conclusion:

The PCOS Prediction and Detection Model have been rigorously tested and evaluated. The results indicate that the model performs with high accuracy and reliability, making it a valuable tool for predicting and detecting PCOS based on the provided input parameters and medical data.

Recommendations:

- Further testing with diverse and larger datasets to enhance the model's accuracy and reliability.
- Continuous monitoring of the model's performance in real-world scenarios.
- Collaboration with medical professionals for domain-specific insights and feedback.