

PALM TREES PREDICTION SYSTEM

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ANALYSIS OF REQUIREMENTS DOCUMENT

PURPOSE

The purpose of the document is to fully undress the use cases that are comprised of functional requirements and in turn represent those use cases diagrammatically using a use case diagram and system sequence diagram for the program.

EXECUTIVE SUMMARY

The user should be able to get a list of available courses for prediction, and then in turn key in marks for test 1 if a prediction is made using a single feature, or optionally for better results then user can key in marks for both Test one and Test two hence using two features to make a prediction.

The system in turn takes the keyed in marks as input runs them through the already trained Machine learning model to make a judgement as to whether the student is going to pass or fail.

User inturn requests to view the results in a form of a dashboard report on the screen and the system returns such a report in the correct format.

USE CASE SET

Use Case Name:	Read Courses
Scope:	Palm Trees System
Triggering Event:	User requests to select courses
Brief description:	A User opens the application and select the name of the course they wish to predict from the drop down menu.
Actor(s):	User (Primary) Palm Trees System (Pupporting)
Related Use Cases:	N/A
Stakeholders and Interests:	User: Wants quick and accurate list of available courses. Palm Trees System: Wants requests in correct format/ structure.
Pre-conditions:	N/A
Post-conditions:	Course is selected for prediction.

Flow of Activities:	1.User requests to view courses 2. User selects course.	1.1 opens a drop down list of courses. 2.1 selected course is loaded into the prediction model.
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Use Case Name:	Update Test 1
Scope:	Palm Trees System
Triggering Event:	User requests to enter a mark for test 1
Brief description:	A User enters a mark for test 1 as a single feature to predict the outcome.
Actor(s):	User (Primary) Palm Trees System (Pupporting)
Related Use Cases:	N/A
Stakeholders and Interests:	User: Wants to key in a mark for test only only to predict using a single feature. Palm Trees System: Wants requests in correct format/ structure.
Pre-conditions:	User must have selected a course related to the mark being entered.
Post-conditions:	Mark is recorded in the system.

Flow of Activities:	1.User requests to enter a mark for test 1. 2. User enters mark into input box.	1.1 opens an input box for a mark to be entered.. 2.1 Mark is recorded into the prediction model.
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Use Case Name:	Update Test 2
Scope:	Palm Trees System
Triggering Event:	User requests to enter a mark for test 2
Brief description:	A User enters a mark for test 2 to predict using both feature.
Actor(s):	User (Primary) Palm Trees System (Pupporting)
Related Use Cases:	N/A
Stakeholders and Interests:	User: Wants to key in a mark for test 2 to predict using a both feature. Palm Trees System: Wants requests in correct format/ structure.
Pre-conditions:	User must have selected a course related to the mark being entered.
Post-conditions:	Mark is recorded in the system.

Flow of Activities:	1.User requests to enter a mark for test 2. 2. User enters mark into input box.	1.1 opens an input box for a mark to be entered. 2.1 Mark is recorded.
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Use Case Name:	Create Prediction
Scope:	Palm Trees System
Triggering Event:	User requests to predict marks.
Brief description:	A User uses the entered Mark(s) to predict the output.
Actor(s):	User (Primary) Palm Trees System (Pupporting)
Related Use Cases:	Update Test 1 Update Test 2
Stakeholders and Interests:	User: Wants to load the entered marks into the prediction system and hence predict the outcome. Palm Trees System: Wants requests in correct format/ structure.
Pre-conditions:	User must have entered marks for test 1 or optionally test 2.
Post-conditions:	Marks loaded in to prediction model.

Flow of Activities:	1.User requests to predict outcome.	1.1 Initiates the model to predict using mark 1 and mark 2.
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Use Case Name:	Read Prediction
Scope:	Palm Trees System
Triggering Event:	User requests to view prediction results.
Brief description:	A User request to get predicted results from model .
Actor(s):	User (Primary) Palm Trees System (Pupporting)
Related Use Cases:	Update Test 1 Update Test 2 Create Prediction
Stakeholders and Interests:	User: Wants to view the predicted results in other read the outcome.. Palm Trees System: Wants requests in correct format/ structure.
Pre-conditions:	Palm Trees System must have successfully created a prediction .
Post-conditions:	Prediction results displayed on the screen.

Flow of Activities:	1.User request to read prediction.	1.1 The outcome is printed on the screen.
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Use Case Name:	Read Accuracy
Scope:	Palm Trees System
Triggering Event:	Create prediction is successful.
Brief description:	After a prediction has been created successfully, the system returns the accuracy score.
Actor(s):	Palm Trees System (Pupporting)
Related Use Cases:	Create Prediction
Stakeholders and Interests:	Palm Trees System: Wants requests in correct format/ structure.
Pre-conditions:	Prediction must have been created successfully..
Post-conditions:	Accuracy score returned and displayed on the screen.

Flow of Activities:	1.System requests to read accuracy score.	1.1 Accuracy score printed on the screen.
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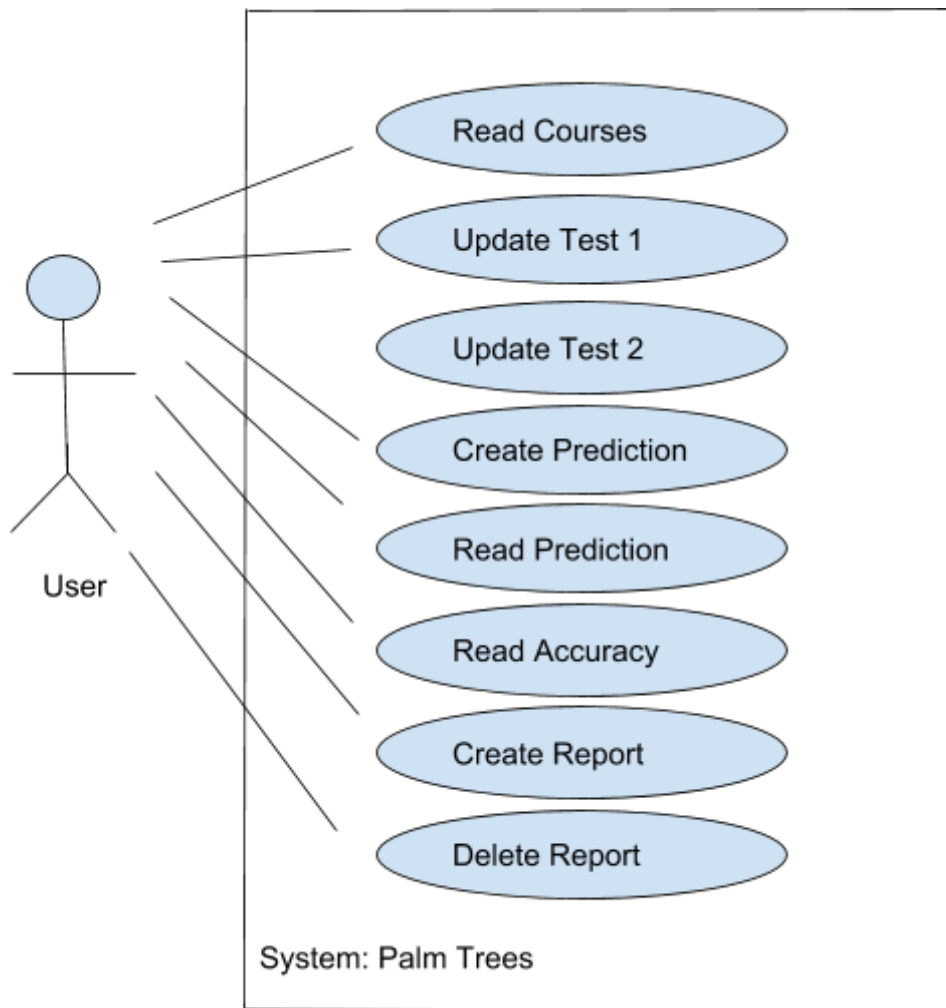
Use Case Name:	Create Report
Scope:	Palm Trees System
Triggering Event:	User requests to Create report.
Brief description:	A User requests to generate report from predicted results and accuracy score.
Actor(s):	User (Primary) Palm Trees System (Supporting)
Related Use Cases:	Update Test 1 Update Test 2 Read Prediction Read Accuracy Score
Stakeholders and Interests:	User: Wants to generate results of accuracy score , predicted results and marks keyed in.. Palm Trees System: Wants requests in correct format/ structure.
Pre-conditions:	Prediction and accuracy score must be successful.
Post-conditions:	Report generated in the correct format.

Flow of Activities:	1.User requests to generate reports.	1.1 Report generated.
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Use Case Name:	Delete Report
Scope:	Palm Trees System
Triggering Event:	User requests to delete report.
Brief description:	A User deletes the report to clear the system for new predictions.
Actor(s):	User (Primary) Palm Trees System (Pupporting)
Related Use Cases:	N/A
Stakeholders and Interests:	User: Wants to clear the system to prepare it for new predictions or to exit the system. Palm Trees System: Wants requests in correct format/ structure.
Pre-conditions:	A report is generated successfully.
Post-conditions:	A report is deleted successfully..

Flow of Activities:	1.User requests to delete report.	1.1 report is archived or deleted successfully..
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Use Case Diagram



System Sequence Diagram

