

CCAS.4.3: Project

Milestone 4

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CCAS.4.3 Software Engineering

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i. Integration Testing

Definition: Testing that individual components or modules work together correctly.

Test Case	Components Tested	Test Steps	Expected Result
Name Should Not Contain Numbers	Name input field + Validation	1. Enter Mariam123 in name field 2. Trigger form validation	System should reject input, error message shown, form not submitted
Email Should Be Valid Format	Email input field + Validation	1. Enter mariam@test.com in email field 2. Trigger form validation	System accepts only valid email format; invalid formats rejected
Phone Number Length Validation	Phone number input + Form submission	1. Enter 01234567890 in phone number field	Input must be exactly 11 digits
Phone Number Numeric Validation	Phone number input + Form validation	1. Enter 01234567890 in phone number field	Only numeric input allowed; non-numeric rejected

ii. System Testing

Definition: Testing the entire system end-to-end to ensure it meets requirements.

Test Case	Requirement	Test Steps	Expected Result
Valid Registration Scenario	Full registration functionality	1. Enter all valid fields: - Name = Mariam - Email = mariam@test.com - Age = 20 - Phone = 01234567890 - Calories = 2000 2. Click Submit	Registration successful message shown; data saved to database

iii. Acceptance Testing

Definition: Verifying the system meets the requirements agreed upon with the client.

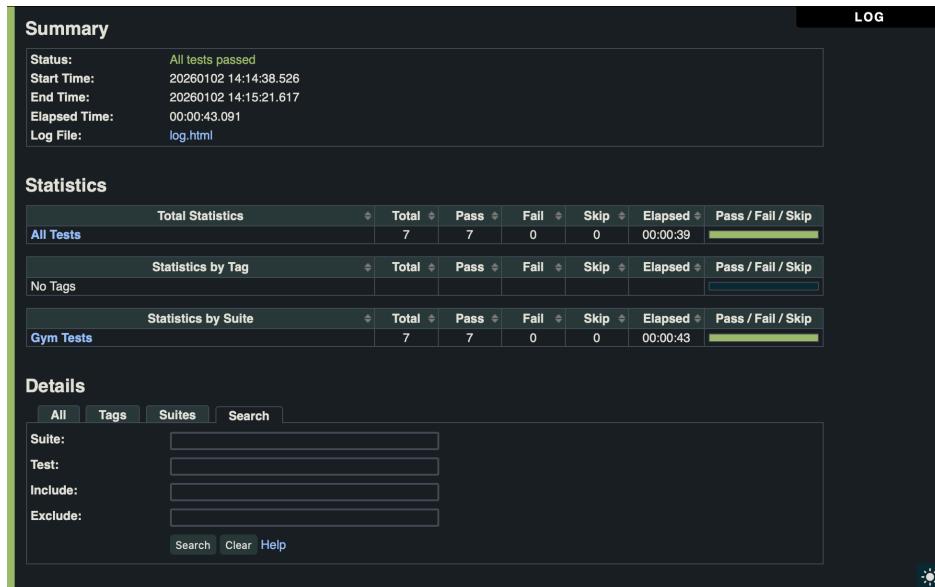
Test Case	Workflow Tested	Test Steps	Expected Result
Nutrition Plan Range Validation	Nutrition plan inputs (calories, carbs, fat, protein) + Form validation	1. Enter Calories = 2000, Carbs = 250, Fat = 80, Protein = 120	Each value must be within allowed min/max range
User Must Be Older Than Thirteen	Age input + Validation	1. Enter age = 10 2. Trigger form validation	System should reject age < 13, error message displayed

iv. Test case matrix

These test cases were used for automation testing using robot framework.

Test Case ID	Test Case Name
TC_001	Name Validation
TC_002	Email Format Validation
TC_003	Age Restriction Validation
TC_004	Phone Number Length Validation
TC_005	Phone Number Numeric Validation
TC_006	Nutrition Plan Value Range Validation
TC_007	Valid Member Registration

v. Results



All test cases for the Gym Management System executed successfully, with **all 7 tests passing** as expected. The system correctly validated inputs such as names, emails, age, phone numbers, and nutrition plan values, and successfully completed a valid client registration scenario. Since the actual outputs matched the expected results in every case, the system behaved as intended, demonstrating that it is functioning correctly. Therefore, **no defects were identified**, and no defect report is required.