

7. Black-Box Testing

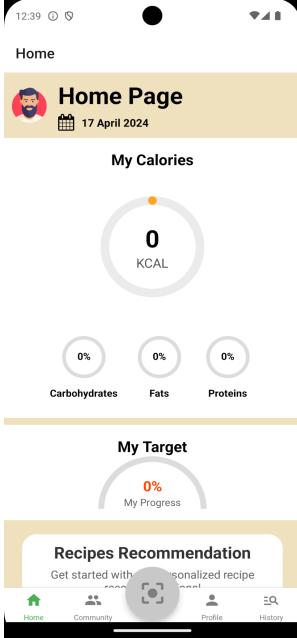
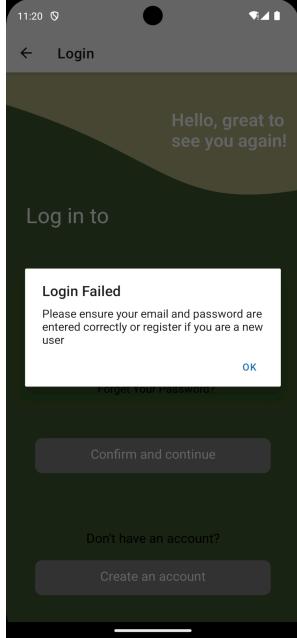
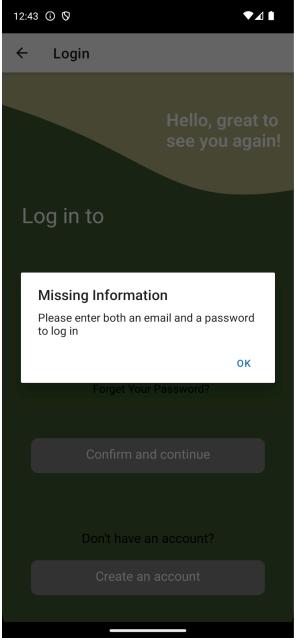
7.1 Login - Equivalence Class Testing

Generic Cases

Test Id	Scenario	Expected Result	Actual Result
1	Login with valid email and password	The system displays the home page for user to continue the operation	The system displays the home page for user to continue the operation
2	Login for the first time with valid email and password	The system displays create profile page for user to continue the operations	The system displays create profile page for user to continue the operations
3	Login without valid credentials	The system prompts the user to enter the credentials again or to register if he/she is a new user	The system prompts the user to enter the credentials again
4	Login without filling up the required fields	The system prompts the user to fill up the required fields for logging in	The system prompts the user to fill up the required fields for logging in

Specific Cases (Combination)

Email	Password	Expected Result	Actual Result
testuser	testpass	Successful login	Successful login
wronguser	testpass	Invalid email/password	Invalid email/password
testuser	wrongpass	Invalid email/password	Invalid email/password
Empty("")	testpass	Please fill in all required fields	Please fill in all required fields

testuser	Empty("")	Please fill in all required fields	Please fill in all required fields
			

7.2 Registration - Equivalence Class Testing

Generic Cases

Test Id	Scenario	Expected Result	Actual Result
1	Register with valid account email and password	The system displays the login page for user to continue the operation	The system displays the login page for user to continue the operation
2	Register with weak password	The system prompts the user to enter stronger password	The system prompts the user to enter stronger password
3	Register with incomplete fields	The system prompts the user to fill up the required fields for registration	The system prompts the user to fill up the required fields for registration
4	Register with password mismatch	The system prompts the user re-enter the password	The system prompts the user re-enter the password
5	Register without accepting terms and conditions	The system prompts the user to accept terms and conditions	The system prompts the user to accept terms and conditions

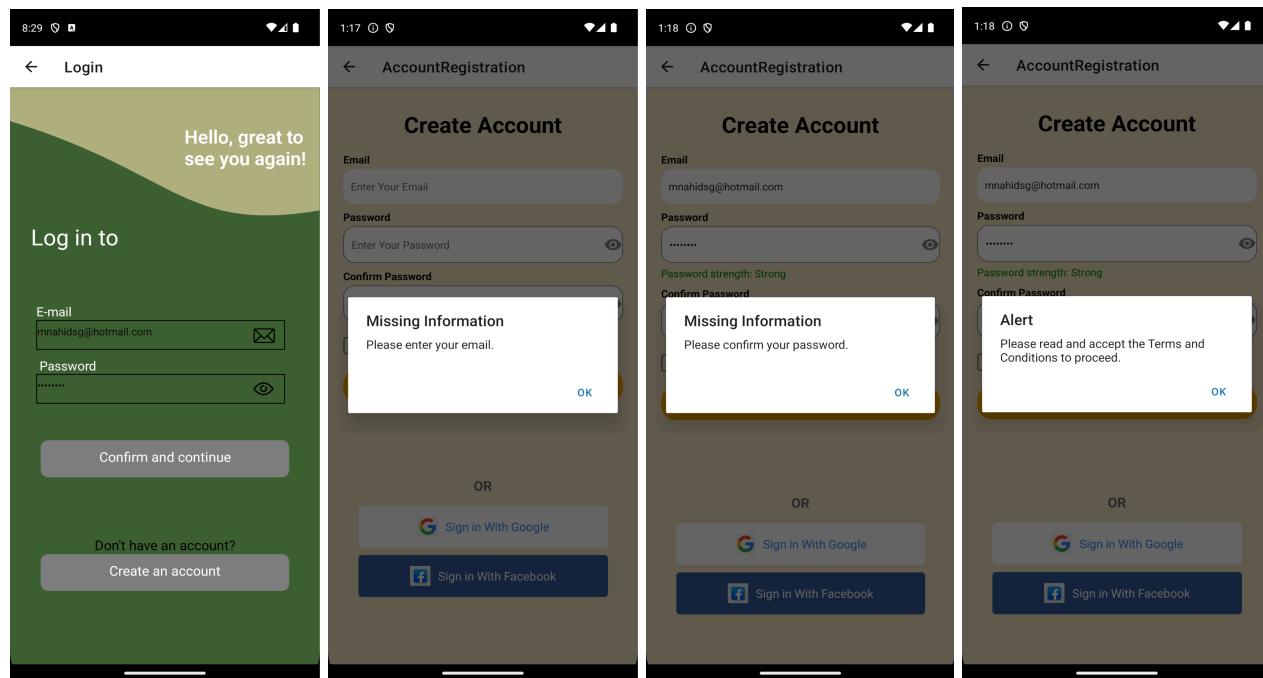
Specific Cases (Email address)

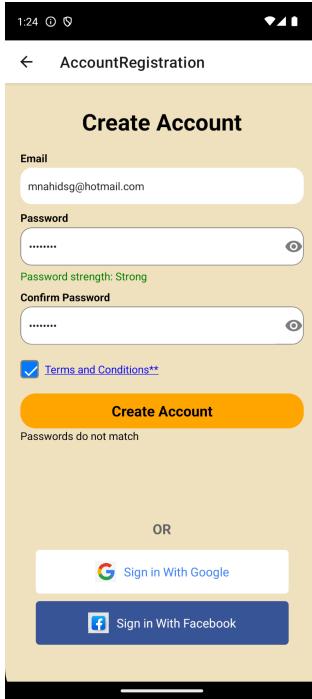
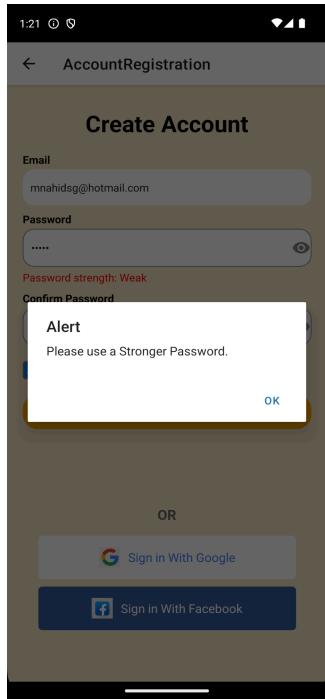
Test Id	Email Address	Expected Result	Actual Result
1	test@gmail.com	Approve	Approve
2	test	Reject	Reject
3	test@asghiuash	Reject	Reject

Specific Cases (Combination)

Email Address	Password	Confirm Password	Accept Terms and Conditions	Expected Result	Actual Result
user@gmail.com	Testpass@123	Testpass@123	Accept	Created new user	Created new user
Empty("")	Testpass@123	Testpass@123	Accept	Please fill in all required fields	Please fill in all required fields

user@gmail.com	Empty("")	Testpass@123	Accept	Please fill in all required fields	Please fill in all required fields
user@gmail.com	Testpass@123	Empty("")	Accept	Please fill in all required fields	Please fill in all required fields
existing@gmail.com	Testpass@123	Testpass@123	Accept	Email has been used	Email has been used
user@gmail.com	Testpass@123	Testpass@123 4	Accept	Entered passwords do not match	Entered passwords do not match
user@gmail.com	Testpass@123 4	Testpass@123	Accept	Entered passwords do not match	Entered passwords do not match
user@gmail.com	Testpass@123	Testpass@123	Did not accept	Please accept the terms and conditions	Please accept the terms and conditions





7.3 Profile Creation - Equivalence Class Testing & Boundary Value Testing

Generic Cases

Test Id	Scenario	Expected Result	Actual Result
1	Create profile with valid gender, name, date of birth (DOB), height and weight	The system displays the goals registration page for user to continue the operation	The system displays the goals registration page for user to continue the operation
2	Register with incomplete fields	The system prompts the user to fill up the required fields for registration	The system prompts the user to fill up the required fields for registration
3	User tries to register with out of bonds DOB	The system prevents the user from selecting an out of bounds DOB	The system prevents the user from selecting an out of bounds DOB
4	Register with invalid height	The system prompts the user re-enter the height	The system prompts the user re-enter the height
5	Register with invalid weight	The system prompts the user re-enter the weight	The system prompts the user re-enter the weight
6	Register without selecting gender	The system prompts the user to select a gender	The system prompts the user to select a gender

Specific Cases (Date of Birth)

Test Id	Test Input Date of Birth	Test Case	Expected Result	Actual Result
1	01/01/1901	Lower boundary	Approve	Approve
2	Today's date	Upper boundary	Approve	Approve
3	31/12/1899	Just below lower boundary	Reject	Reject
4	Tomorrow's date	Just above upper Boundary	Reject	Reject

Specific Cases (Height)

Test	Test Input	Test Case	Expected Result	Actual Result

Id	Height (cm)			
1	1	Lower boundary	Approve	Approve
2	300	Upper boundary	Approve	Approve
3	0	Just below lower boundary	Reject	Reject
4	301	Just above upper Boundary	Reject	Reject

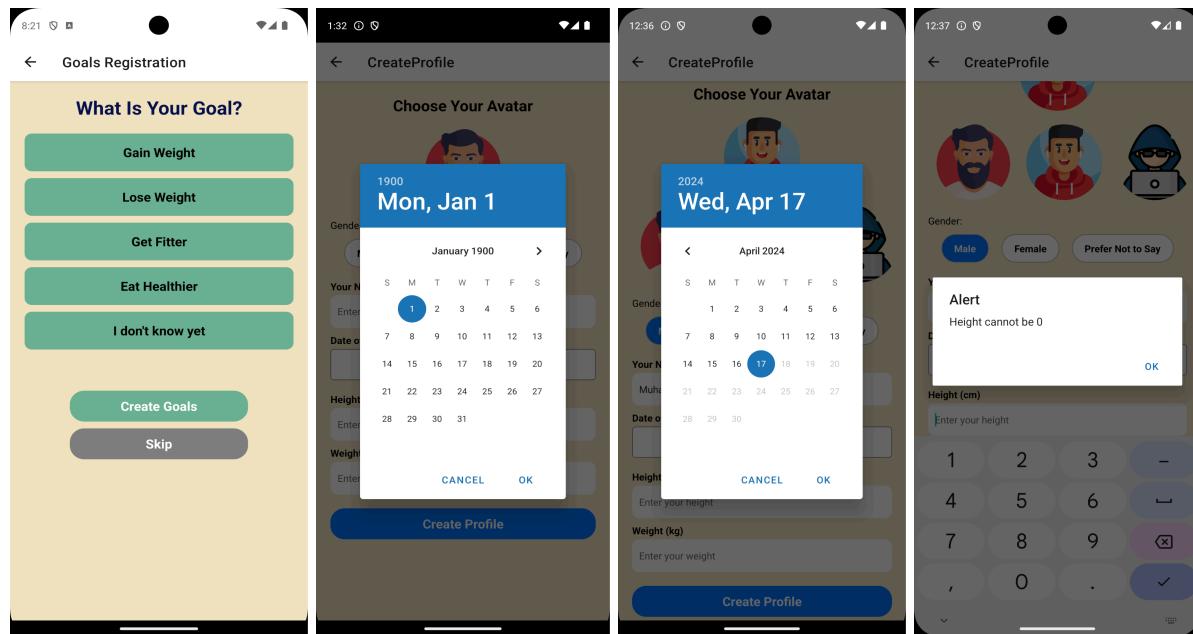
Specific Cases (Weight)

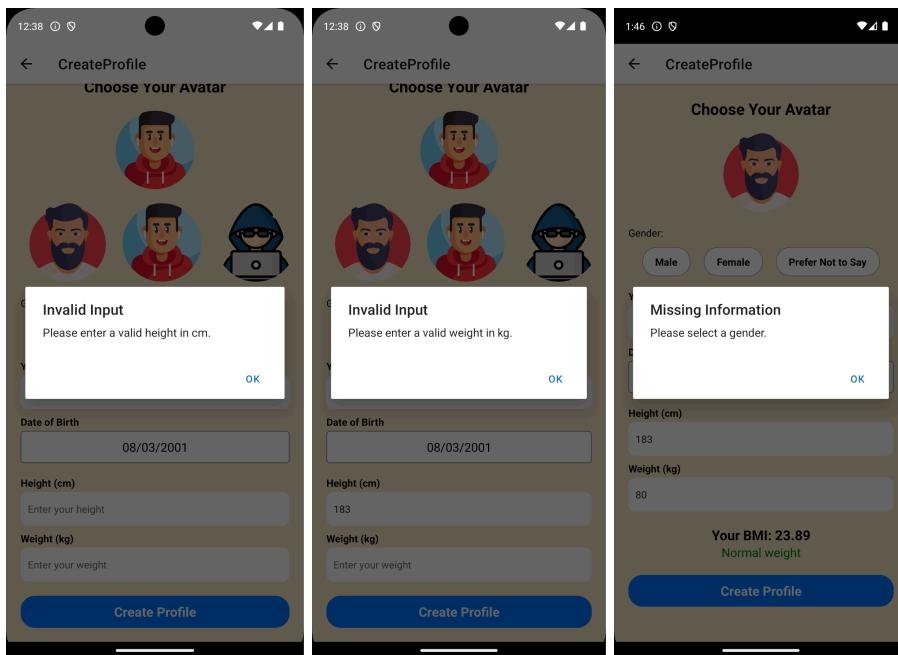
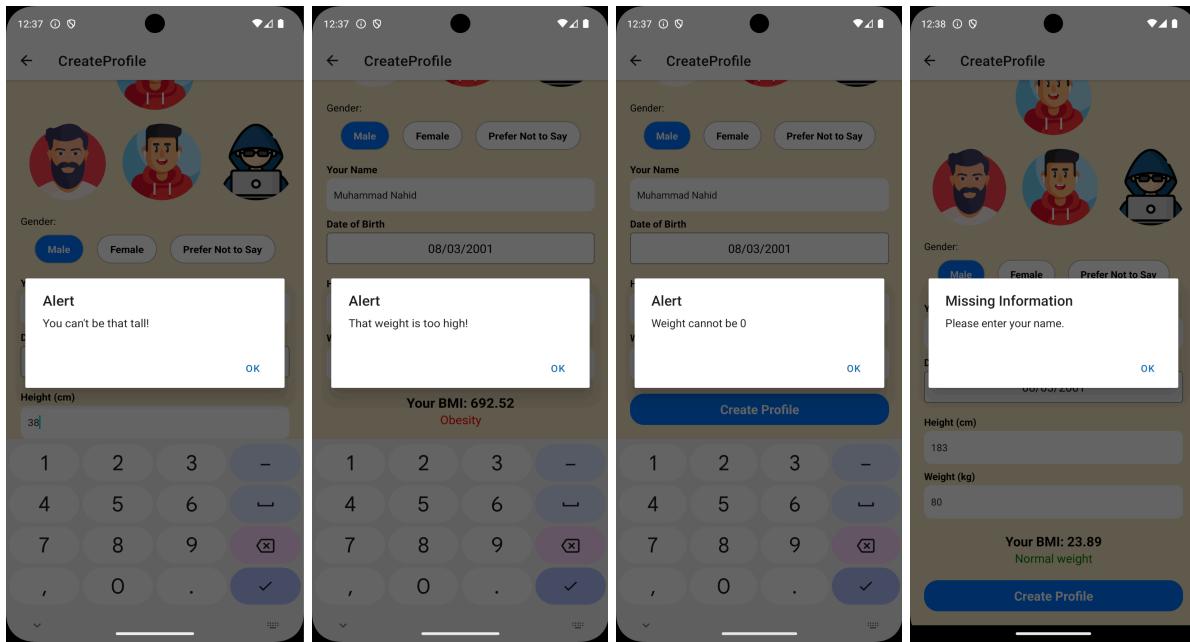
Test Id	Test Input Weight (kg)	Test Case	Expected Result	Actual Result
1	1	Lower boundary	Approve	Approve
2	1000	Upper boundary	Approve	Approve
3	0	Just below lower boundary	Reject	Reject
4	1001	Just above upper Boundary	Reject	Reject

Specific Cases (Combination)

Name	Date Of Birth	Height (cm)	Weight (kg)	Gender	Expected Result	Actual Result
John Doe	01/01/1998	183	80	Selected	Created new profile	Created new profile
Empty("")	01/01/1998	183	80	Selected	Please fill in all required fields	Please fill in all required fields
John Doe	Empty("")	183	80	Selected	Please fill in all required fields	Please fill in all required fields
John Doe	01/01/1998	Empty("")	80	Selected	Please fill in all required fields	Please fill in all required fields

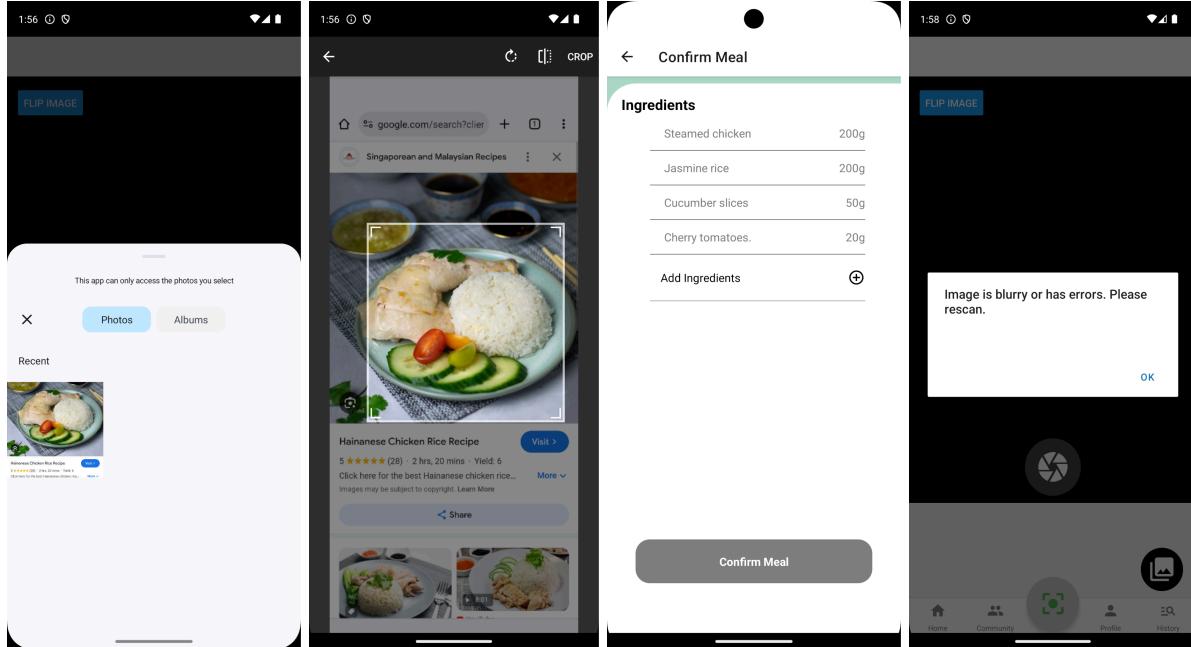
John Doe	01/01/1998	183	Empty("")	Selected	Please fill in all required fields	Please fill in all required fields
John Doe	01/01/1998	183	80	Unselected	Please fill in all required fields	Please fill in all required fields
John Doe	31/31/1900	183	80	Selected	Date of birth is out of bounds	Date of birth is out of bounds
John Doe	01/01/1998	0	80	Selected	Please enter valid height	Please enter valid height
John Doe	01/01/1998	183	0	Selected	Please enter valid weight	Please enter valid weight





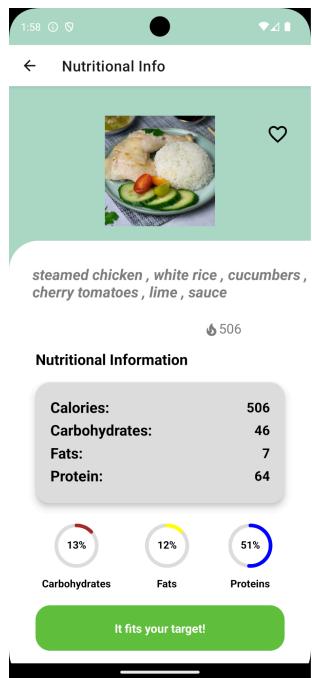
7.4 Image Detection - Equivalence Class Testing

Test Id	Scenario	Expected Result	Actual Result
1	Upload photo which image recognition API can detect	The system displays confirm meal page for user to continue the operations. The confirm meal page contains the ingredient list and their corresponding weights.	The system displays confirm meal page for user to continue the operations. The confirm meal page contains the ingredient list and their corresponding weights.
2	Upload photo which image recognition API cannot detect	The system prompts the user to retake or re upload photo	The system prompts the user to retake or re upload photo



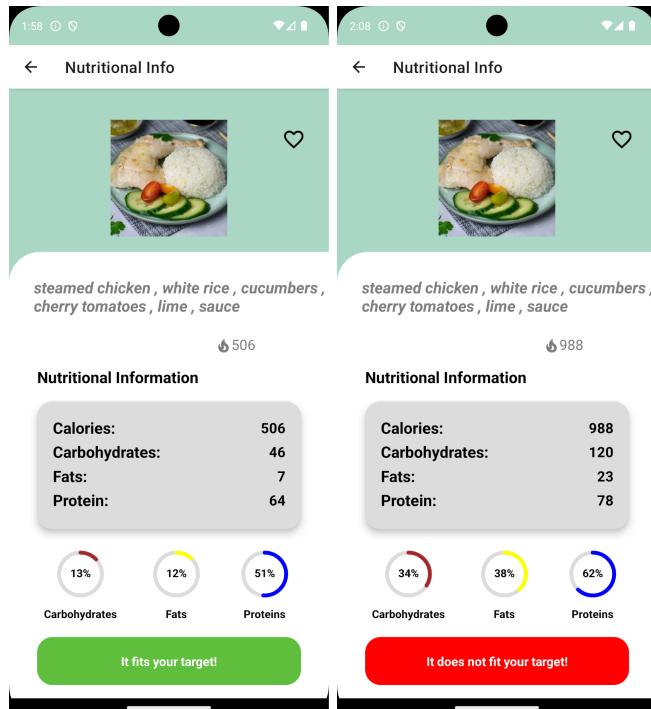
7.5 Ingredient Detection - Equivalence Class Testing

Test Id	Scenario	Expected Result	Actual Result
1	Successful API call of ingredients to Calorie Ninja	The system displays the nutritional info page for the user to continue the operations. The nutritional info page contains macros of each ingredient.	The system displays the nutritional info page for the user to continue the operations. The nutritional info page contains macros of each ingredient.
2	Unsuccessful API call of ingredients to Calorie Ninja	The system prompts the user to re enter the ingredients.	The system prompts the user to re enter the ingredients.



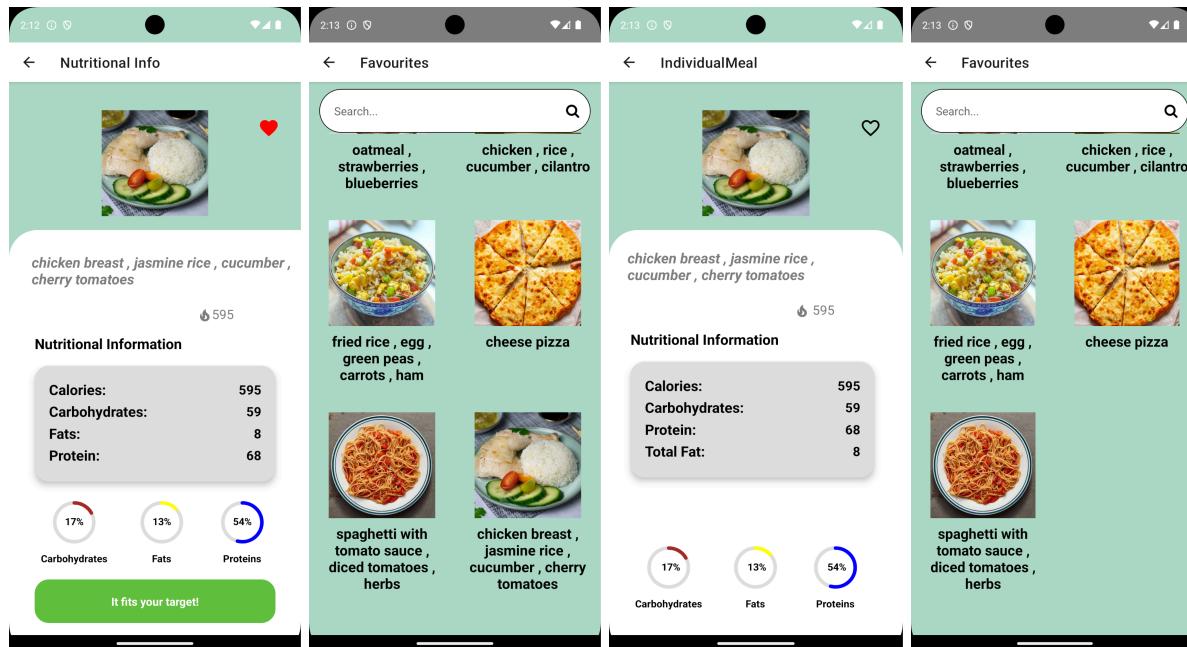
7.6 Meal Confirmation - Equivalence Class Testing

Test Id	Scenario	Expected Result	Actual Result
1	Calories fit dietary goals	The system displays a green button that says "It fits your target!". Upon clicking, the system saves the meal into the database and brings the user to the scanner page.	The system displays a green button that says "It fits your target!". Upon clicking, the system saves the meal into the database and brings the user to the scanner page.
2	Calories do not fit dietary goals	The system displays a red button that says "It does not fit your target!". Upon clicking, the system saves the meal into the database and brings the user to the scanner page.	The system displays a red button that says "It does not fit your target!". Upon clicking, the system saves the meal into the database and brings the user to the scanner page.



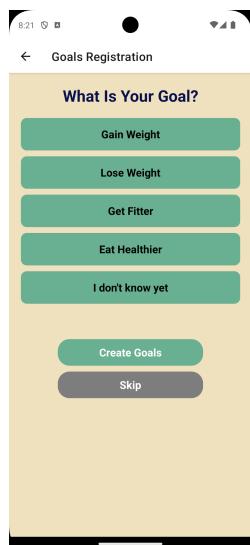
7.7 Favourites - Equivalence Class Testing

Test Id	Scenario	Expected Result	Actual Result
1	Selecting heart icon on an individual meal	The system changes the database attribute "favourite" to "True". The meal gets displayed on the Favourites page.	The system changes the database attribute "favourite" to "True". The meal gets displayed on the Favourites page.
2	Unselecting heart icon on an individual meal	The system changes the database attribute "favourite" to "False". The meal does not get displayed on the Favourites page.	The system changes the database attribute "favourite" to "False". The meal does not get displayed on the Favourites page.



7.8 Goals Creation - Equivalence Class Testing

Test Id	Scenario	Expected Result	Actual Result
1	Selected a goal: 'Gain Weight', 'Lose Weight', 'Get Fitter', 'Eat Healthier'	The system updates the database with user's dietary goal requirements.	The system updates the database with user's dietary goal requirements.
2	Selected 'skip' or 'I don't know yet'	The system updates the database with generic dietary goal requirements.	The system updates the database with generic dietary goal requirements.
3	Unsuccessful update of dietary goals in database	The system displays error message and prompts user to reselect a goal.	The system displays error message and prompts user to reselect a goal.



7.9 Edit Profile - Equivalence Class Testing & Boundary Value Testing

Generic Cases

Test Id	Scenario	Expected Result	Actual Result
1	Successful updating of profile.	The system displays the profile page with updated details.	The system displays the profile page with updated details.
2	Unsuccessful updating of profile.	The system displays an error message saying 'profile update unsuccessful'.	The system displays an error message saying 'profile update unsuccessful'.
3	Empty or Invalid update of profile details	The system displays an error message and prompts the user to reenter the details.	The system displays an error message and prompts the user to reenter the details.

Specific Cases (DOB)

Test Id	Test Input Date of Birth	Test Case	Expected Result	Actual Result
1	01/01/1998	Within Range	Approve	Approve
2	01/01/1900	Lower Boundary	Reject	Reject
3	01/01/2025	Upper Boundary	Reject	Reject

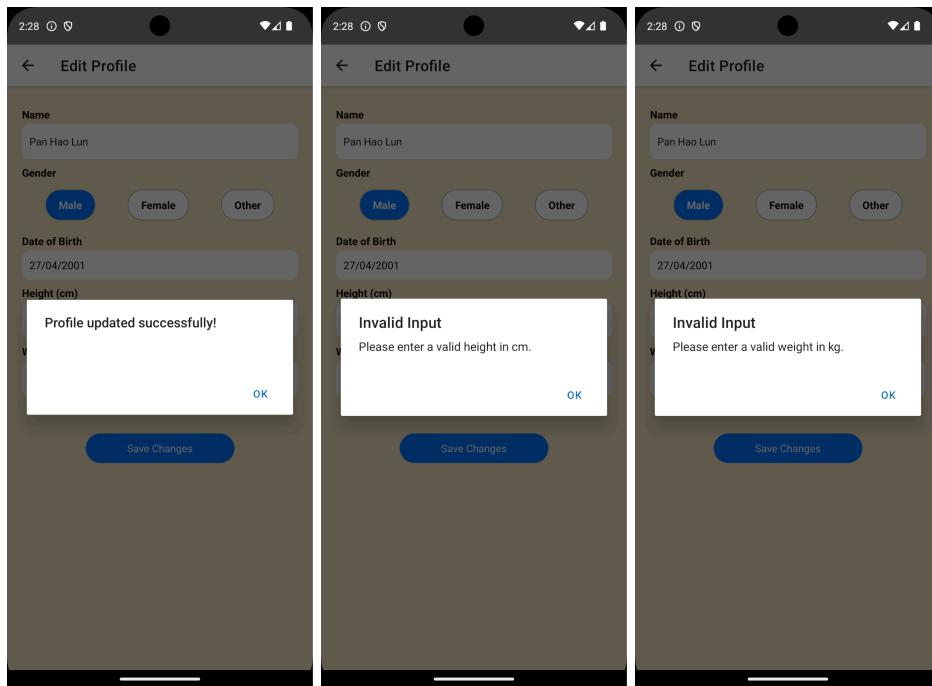
Specific Cases (Height)

Test Id	Test Input Height (cm)	Test Case	Expected Result	Actual Result
1	183	Within Range	Approve	Approve
2	300	Upper Boundary	Reject	Reject
3	0	Lower Boundary	Reject	Reject
4	-1	Lower Boundary	Reject	Reject

Specific Cases (Weight)

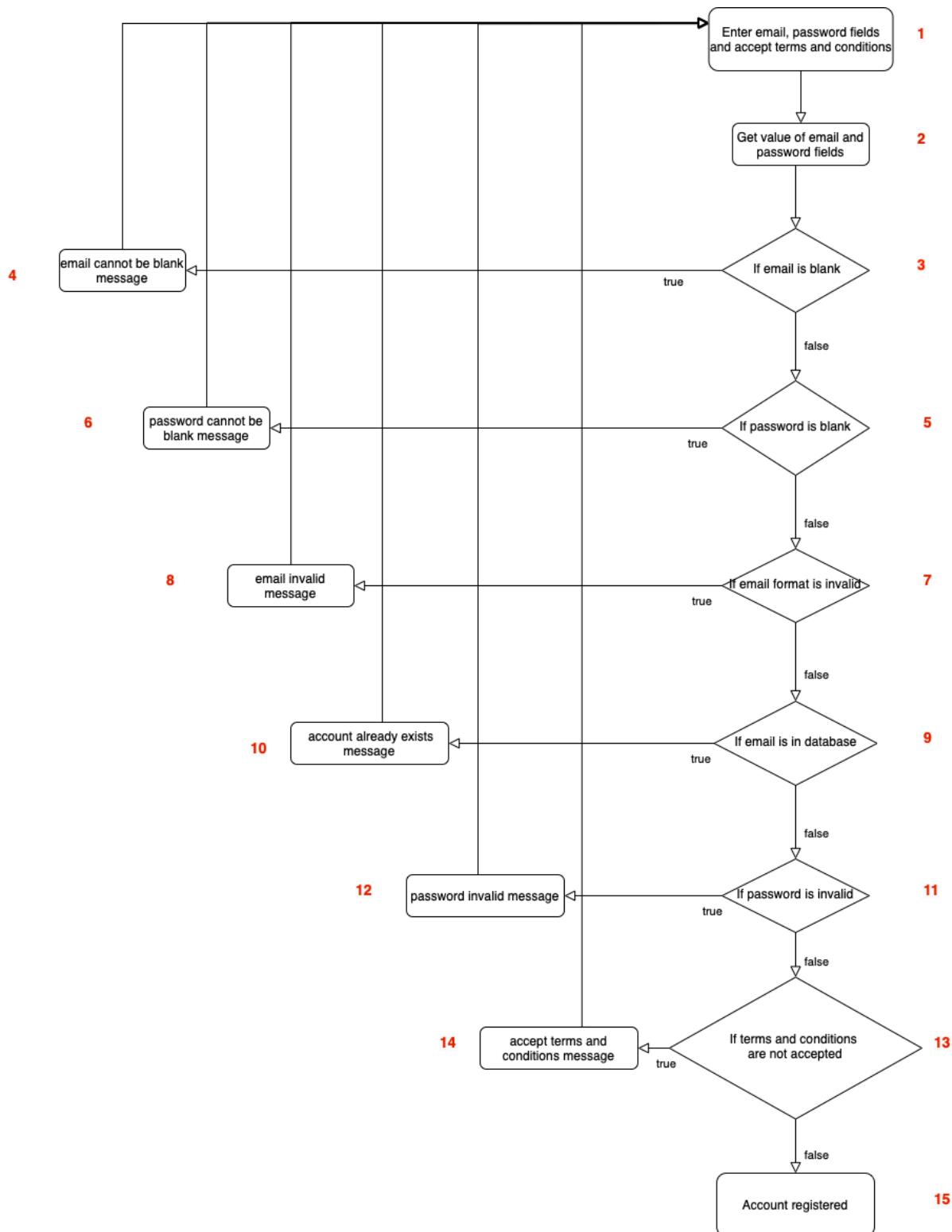
Test	Test Input	Test Case	Expected Result	Actual Result

Id	Weight (kg)			
1	80	Within Range	Approve	Approve
2	1000	Upper Boundary	Reject	Reject
3	0	Lower Boundary	Reject	Reject
4	-1	Lower Boundary	Reject	Reject



8. White-Box Testing

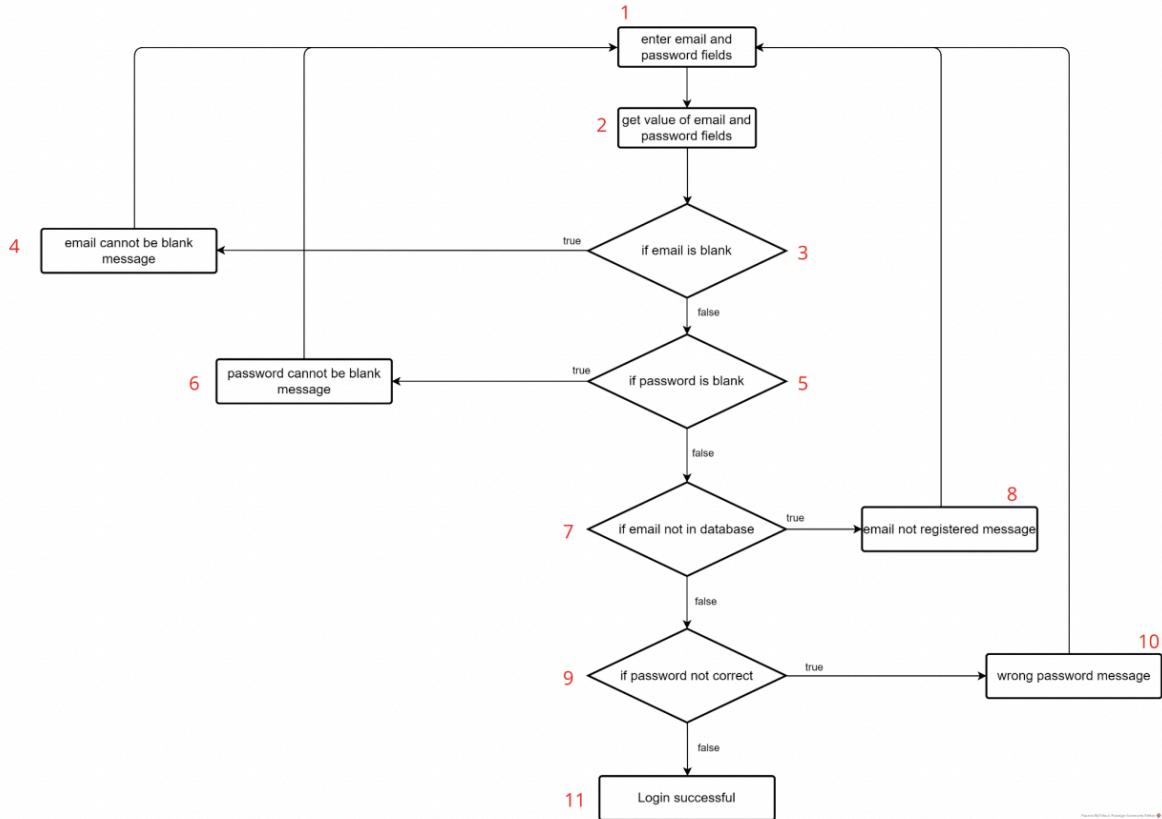
8.1 Registration



Cyclomatic Complexity = 6 (Binary Decision Points) + 1 = 7
 We need 7 Basis Paths.

Path no.	Path	Email	Password	Email format invalid	Email registered	Password invalid	Terms and conditions not accepted
1 (baseline)	1,2,3,5,7, 9,11,13,15	johndoe123@gmail.com	J0hn321!	No	No	No	No
2	1,2, <u>3,4,1</u> , 2,3, 5,7,9,11, 13,15	(Blank)	—	—	—	—	—
3	1,2,3, <u>5,6</u> , 1,2, 3,5,7,9,11, 13,15	johndoe123@gmail.com	(Blank)	—	—	—	—
4	1,2,3,5, <u>7,8,1</u> , 2,3,5,7,9, 11,13,15	johndoe123@gmail.com	J0hn321!	Yes	—	—	—
5	1,2,3,5,7, <u>9,10,1</u> , 2,3,5,7,9, 11,13,15	johndoe123@gmail.com	J0hn321!	No	Yes	—	—
6	1,2,3,5,7, <u>9,11,12,1</u> , 2,3,5,7,9, 11,13,15	johndoe123@gmail.com	J0hn321!	No	No	Yes	—
7	1,2,3,5,7, <u>9,11,13,1</u> <u>4,1,2,3,5</u> , 7,9,11,13, ,15	johndoe123@gmail.com	J0hn321!	No	No	No	Yes

8.2 Login

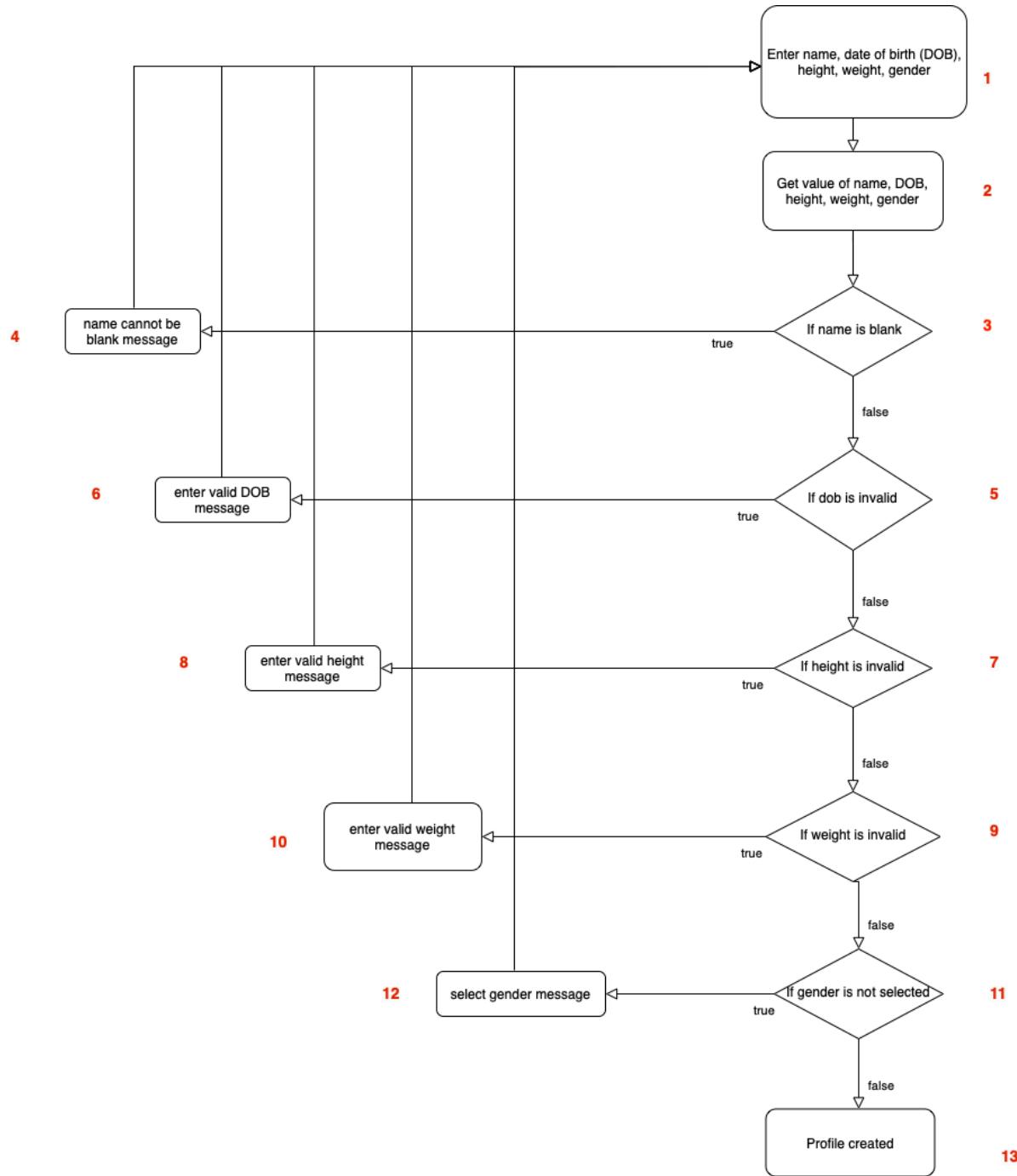


Cyclomatic Complexity = 4 (Binary Decision Points) + 1 = 5
 We need 5 basis paths.

Path no.	Path	Email	Password	Email registered	Password match
1 (baseline)	1,2,3,5,7,9,11	johndoe123@gmail.com	J0hn321!	Yes	Yes
2	1,2, <u>3,4</u> ,1,2,3,5,7,9,11	(Blank)	—	—	—
3	1,2,3, <u>5,6</u> ,1,2,3,5,7,9,11	johndoe123@gmail.com	(Blank)	—	—
4	1,2,3,5, <u>7,8</u> ,1,2,3,5,7,9,11	johndoe123@gmail.com	J0hn321!	No	—

5	1,2,3,5,7,9,10 ,1, 2,3,5,7,9,11	johndoe123@g mail.com	J0hn321!	No	No
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8.3 Profile Creation



Cyclomatic Complexity = 5 (Binary Decision Points) + 1 = 6
 We need 6 basis paths.

Path no.	Path	Name	Date of birth invalid	Height invalid	Weight invalid	Gender unselected
1 (baseline)	1,2,3,5,7, 9,11,13	John Doe	No	No	No	No
2	1,2, <u>3,4</u> ,1, 2,3, 5,7,9,11, 13	(Blank)	–	–	–	–
3	1,2,3, <u>5,6</u> , 1,2, 3,5,7,9,1 1,13	John Doe	Yes	–	–	–
4	1,2,3,5, <u>7</u> , <u>8</u> ,1, 2,3,5,7,9, 11,13	John Doe	No	Yes	–	–
5	1,2,3,5,7, <u>9,10</u> ,1, 2,3,5,7,9, 11,13	John Doe	No	No	Yes	–
6	1,2,3,5,7, <u>9,11,12</u> ,1 2,3,5,7,9, 11,13	John Doe	No	No	No	Yes

9. Other Testing

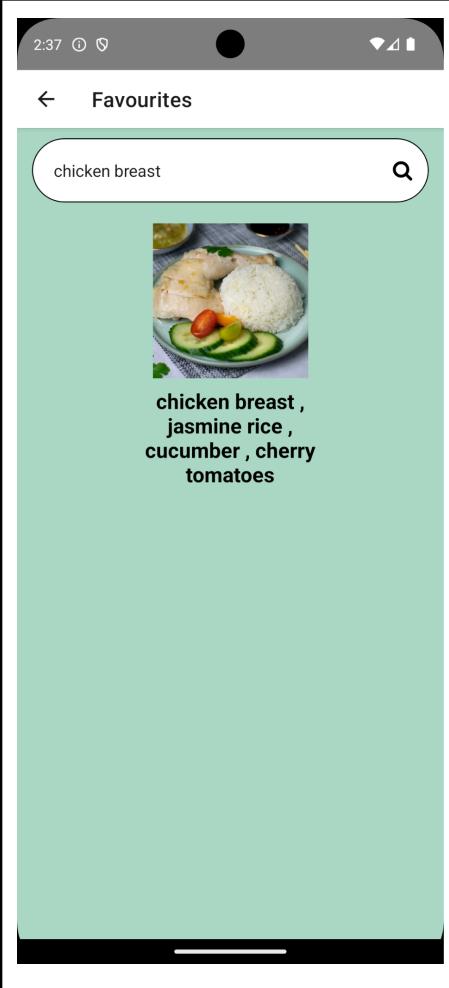
9.1 Search Test Cases

Test Input	Expected Output	Actual Output
User types "ch"	Only meals with names having the phrase "ch" will be shown	 <p>The screenshot shows a smartphone interface with a search bar at the top containing the text "ch". Below the search bar, the title "Favourites" is visible. The main content area displays two meal items:</p> <ul style="list-style-type: none">A dish labeled "chicken , rice , cucumber , cilantro" with an image of a plate.A dish labeled "cheese pizza" with an image of a pizza. <p>Below these, another dish is partially visible, labeled "chicken breast , jasmine rice , cucumber , cherry tomatoes" with an image of a plate.</p>

User types "chicken breast"

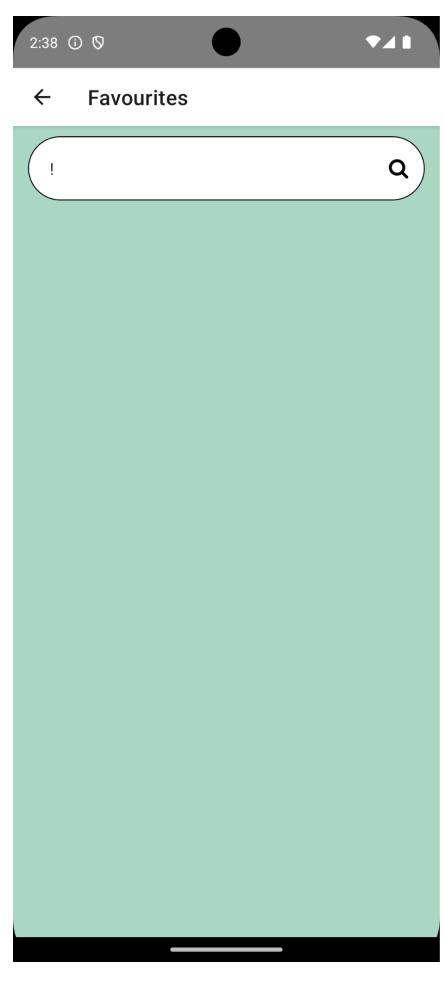
"chicken

Only meals with names having the phrase "chicken breast" will be shown



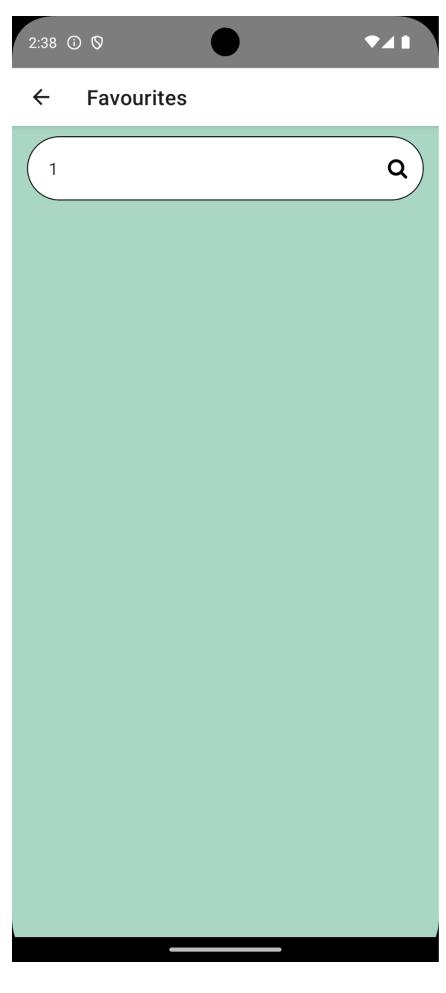
User types in special characters such as “!”

No meals will be shown to the user.

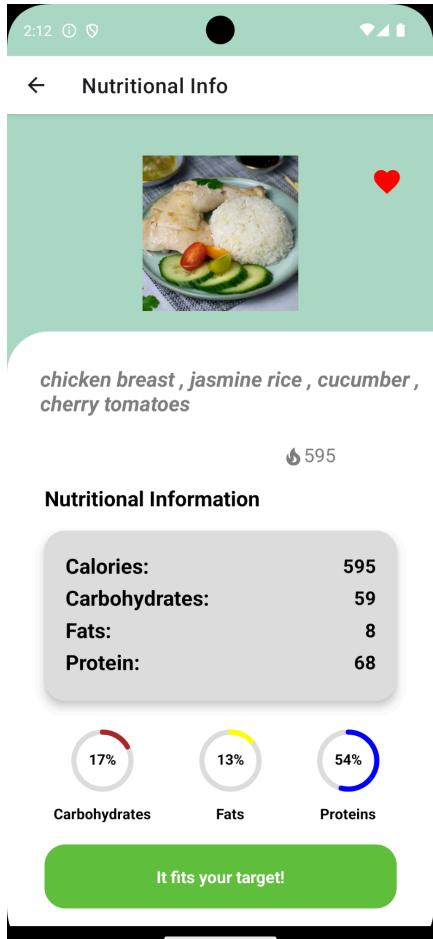


User types in numbers such as "1"

No meals will be shown to the user.



9.2 Favourites Test Cases

Test Input	Expected Output	Actual Output								
User ‘favourites’ a meal by clicking the ‘heart’ button.	Meal gets added to favourites list in Favourites page	 <p>chicken breast , jasmine rice , cucumber , cherry tomatoes</p> <p>595</p> <p>Nutritional Information</p> <table> <tbody> <tr> <td>Calories:</td> <td>595</td> </tr> <tr> <td>Carbohydrates:</td> <td>59</td> </tr> <tr> <td>Fats:</td> <td>8</td> </tr> <tr> <td>Protein:</td> <td>68</td> </tr> </tbody> </table> <p>17% 13% 54%</p> <p>Carbohydrates Fats Proteins</p> <p>It fits your target!</p>	Calories:	595	Carbohydrates:	59	Fats:	8	Protein:	68
Calories:	595									
Carbohydrates:	59									
Fats:	8									
Protein:	68									

2:13 ⓘ 🔋

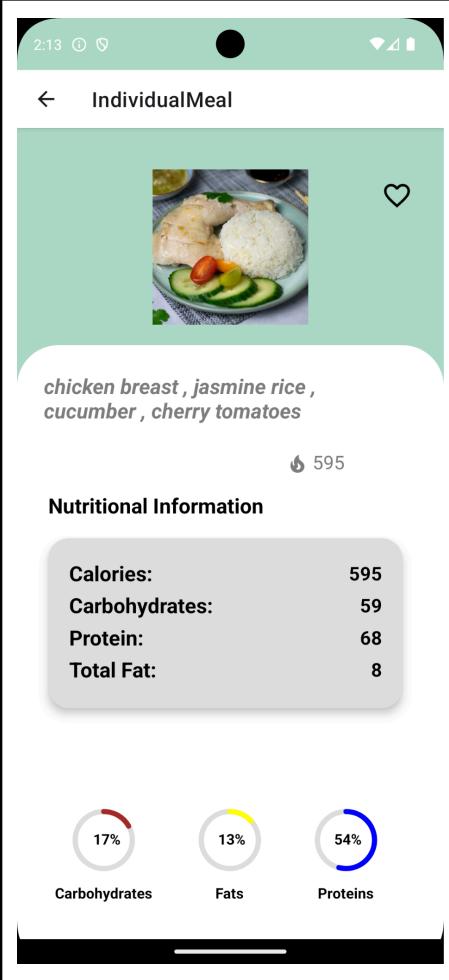
← Favourites

Search... 

<p>oatmeal , strawberries , blueberries</p>  <p>fried rice , egg , green peas , carrots , ham</p>	<p>chicken , rice , cucumber , cilantro</p>  <p>cheese pizza</p>
<p>spaghetti with tomato sauce , diced tomatoes , herbs</p>  <p>chicken breast , jasmine rice , cucumber , cherry tomatoes</p>	

User ‘un-favourites’ a meal by unclicking the red heart button

The meal gets removed from the favourites list in the Favourites page



2:13 ⓘ 🔍

← Favourites

Search... 

oatmeal , strawberries , blueberries 

chicken , rice , cucumber , cilantro 

fried rice , egg , green peas , carrots , ham 

cheese pizza

spaghetti with tomato sauce , diced tomatoes , herbs 