

	Data Processing
	Data Calculating
	User Interface

Class Name    Food	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Have Name</li> <li>• Have Group</li> <li>• Have CO<sub>2</sub> Emissions/kg</li> <li>• Have Calories/kg</li> </ul>	<ul style="list-style-type: none"> <li>• FoodDataReader.java</li> </ul>

Class Name    Dishes	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Have Name</li> <li>• Have Category</li> <li>• Have CO<sub>2</sub> Emissions/kg</li> </ul>	<ul style="list-style-type: none"> <li>• DishesDataReader.java</li> </ul>

Class Name    FoodDataReader	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Read data from a CSV file</li> <li>• Save data to a HashMap format</li> <li>• Assign data to different attributes of Food</li> </ul>	<ul style="list-style-type: none"> <li>• Food.java</li> <li>• Food.csv</li> </ul>

Class Name    DishDataReader	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Read data from a CSV file</li> <li>• Save data to a HashMap format</li> <li>• Assign data to different attributes of Dishes</li> </ul>	<ul style="list-style-type: none"> <li>• Dishes.java</li> <li>• Dishes.csv</li> </ul>

Class Name    FoodRecommender	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Reads the table of user-input food items and respective weights obtained from CalculatorFrame.java</li> <li>• Find the top 3 food in the same group with similar calories but lower carbon emissions - (From Calculator).</li> <li>• Find the top 5 dishes contains the low-carbon food-(From Calculator).</li> <li>• Output:</li> </ul>	<ul style="list-style-type: none"> <li>• CalculatorFrame.java</li> <li>• FoodDataReader.java</li> <li>• Calculator.java</li> <li>• ResultsFrame.java</li> </ul>

<ul style="list-style-type: none"> <li>(1) The exact attribution (Carbon Emission, Calories) of that food</li> <li>(2) The recommend low-carbon food list</li> <li>(3) The recommend low-carbon dishes by category(breakfast, sides, dessert..)</li> </ul>	
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Class Name    Calculator	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Create a food list in the same group with user input (matched) and have similar calories.</li> <li>• Output top 3 (ascending) food of carbon emission in the list.</li> <li>• Create a dish list which contain the food from the low carbon food list.</li> <li>• Output top 5 (ascending) dishes of carbon emission in the list (by category).</li> </ul>	<ul style="list-style-type: none"> <li>• FoodRecommender.java</li> <li>• UserInputMatcher.java</li> </ul>

Class Name    UserInputMatcher	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Read the user input of food name from CalculatorFrame</li> <li>• Calculator the similarity between user input provided in the CalculatorFrame and the name (index) of FoodData</li> <li>• Output the food with the highest similarity score</li> </ul>	<ul style="list-style-type: none"> <li>• CalculatorFrame.java</li> </ul>

Class Name    MainWindow	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Provide a welcome screen for user to input name and email address</li> <li>• Provide a 'Begin' button to bring user to the CalculatorFrame</li> </ul>	<ul style="list-style-type: none"> <li>• CalculatorFrame.java</li> </ul>

Class Name    CalculatorFrame	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Provide input fields for user to input food and food weight</li> <li>• For each user input, check if the item exists in Food.csv database. If</li> </ul>	<ul style="list-style-type: none"> <li>• MainWindow.java</li> <li>• UserInputMatcher.java</li> <li>• FoodRecommender.java</li> <li>• ResultsFrame.java</li> </ul>

<p>not, find closest food item using UserInputMatcher</p> <ul style="list-style-type: none"> <li>• Provide a drop-down menu for user to select group/category</li> <li>• Provide buttons for user to add food items and/or delete items from a list of added foods</li> <li>• Provide button for user to calculate food environmental footprint of added food items, which also brings user to the ResultsFrame</li> <li>• Generate a table of user-input food items and respective weights</li> </ul>	
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Class Name      ResultsFrame	
Responsibilities	Collaborators
<ul style="list-style-type: none"> <li>• Present results produced by FoodRecommender <ul style="list-style-type: none"> <li>(1) Display the carbon emission and its equivalent car mileage,</li> <li>(2) Display suggested low carbon food list,</li> <li>(3) Display suggested low carbon dishes list,</li> <li>(4) Display a list of suggested environmental protection websites/logos.</li> </ul> </li> <li>• Provide button for user to generate PDF of results</li> <li>• Provide button for user to email results to user's email address</li> </ul>	<ul style="list-style-type: none"> <li>• CalculatorFrame.java</li> <li>• FoodRecommender.java</li> <li>• Outside superlinks</li> <li>• APIs for generating PDFs and emailing content (the team will need to carry out further research on this topic)</li> </ul>