

AI Assignment 2: Smart Dish Advisor

Description: This application, based on the ingredients available, and the time constraint(if mentioned), suggests a dish that can be prepared;

Application execution details:

1. The app requests user of list of various available ingredients using simple (y/n) questions.
2. Based on the ingredients available, and the rules set for different curries and the time duration if specified, we create a list of curries which can be prepared.
3. Once all the rules have been gone through, a complete compiled list of possible dishes is listed to the user.

Implementation Points:

1. Most of the code has been documented properly in the code itself.
2. Codebase consists of two files:
 - curryAdvisor.clp: the main file, containing the templates functions and facts
 - modules.clp: contains various modules used to implement the curry advisor system.
3. Most important codes are as follows:
 - Templates: curry, ingredient, possibleCurries, fuzzyTemp, fuzzyQuant
 - Modules:
 - curryRules: Contains all the rules required to make a curry. They are fired up once all the ingredients available have been given
 - questions: Rule in this module iterates over all the possible ingredient to know which are available.
 - report: Rule in this module finally displays all the possible dishes that can be made with the available ingredients.
 - fuzzyVarSetup: Rule in this initializes the fuzzy variables used for the temperature, complexity and quantity of each element.
 - Fuzzy logic:
 - User is asked the serving temperature of the curry, e.g. hot, very hot, cold, med etc. The suitable dish is found using fuzzy logic to get the dishes.
 - User is asked the complexity of a dish he/she wishes to implement. Note: if hard is selected, all complexities are returned, as even easy one can be done.
 - User is asked the quantity of different ingredients, which is used in different dishes to see if the dish is feasible.
 - Functions:
 - displayCurryResult: shows curry's details
 - ask-user: ask's user an input by asking the question passed as parameter

Future steps to be implemented for the app:

1. Simpler UI to make it easier for user to use it. e.g. simple checkboxes.
2. Veg and Non-veg classifications.
3. More details to be displayed, e.g. link to the recipe, images of the final dish, images of intermediate stages of dish, video of the whole preparation.
4. And, if we want to go even more crazy, we can create a machine learned app which can detect the ingredients using camera.

Testing steps:

1. The application asks some y/n questions, so different combinations can be used for testing. Also, ensure the code is running in fuzzyMain.