Food Plus

Abstract

Have you ever got headaches as thinking of what to eat today, what to cook to make a healthy meal for your family? You walk in a food court; you make several rounds walking before randomly picking something for your lunch. Or simply, you are a guy who loves to sample numerous cuisines. However, there are some flavors that you cannot eat and are scared of picking them accidently. With the purpose of curing your headache, **Food Plus** will help to choose your food with your preferences by asking simply questions, without you to go through each of the dishes and trying to imagine their taste.

Motivation & Objective

The headache of thinking what to eat or what to cook has been a daily problem, as we need to eat everyday. As a student, we often have lunch at the canteen, and it usually takes quite a lot of time for us to think of what to eat. There is also some food that we never try because of its look, without knowing about its taste. Although we all agree that we are willing to try new things.

With that motivation in the head, we tried to create an expert system that helps user to solve this daily problem. More specifically, the expert system can suggest what food you may like today. Depends on various conditions such as weather, seasons as well as which restaurant you are eating (may be at home), the system may ask you if you want some something fresh or something warm? Then it may ask if you have any preferences about the flavors, the taste as well as if you like Chinese food or Vietnamese food, etc. Then the system will work and give you a list of food that you may like to have.

In summary, Food Plus will try to help you save a lot of time and energy thinking about food.

Domain

Almost everyone can use this system, we all of us need to eat everyday. However, we can focus on helping people who touch this problem more usually:
- **Officers:** They usually have lunch at food courts every day. However, there are lots of choices in the food court, so it usually takes time.
- **Students:** Same reason as the officer, but in school canteens.
- **Travellers:** They always want to explore the food culture of where they go. However, they do not always know what if the food has something that they cannot eat. So we can simply specify their preferences in the system.
- **Housewives:** They need to cook for the whole family everyday. So they have to think a lot to make a good and healthy meal for their family. However, as they do this every day, they should be experts also.

By the way, the system needs data also. For home cooking, we can try to gather data from open source. However, for restaurants and food courts, we may need them to register their food into our system, for their customer's benefit. So the domain for the data is all restaurants, food courts and all the food in Singapore.

Scope & Source of Expertise

The domains of potential users and the data are quite large. Hence it may not possible for us to cover the entire field of these. So we discussed and focused on NUS students only. Specifically, we will gather food data from some canteens in NUS: E-canteen (PGP), the Deck, Terrace, etc. The expertise for the system will be NUS students.

Proposed Schedule

Basically we are going to build a web-based expert system using Python and CLIPS. The schedule is divided into 7 phases:
1. Discuss about the rules, how to define the food, user's preferences, etc. Get some sample data and build the core for the expert system using CLIPS.
2. Build the web-based client side using Python.
3. Gather data from NUS canteens.
4. Integrate the client side and the CLIPS core.
5. Integrate data into the system and testing.
6. Getting feedbacks, improve the system.
7. Doing documentation.

Phase 1 and 2 will be implemented concurrently. Phase 3 and 4 will be implemented concurrently, so as phase 5 and 6. We also set 3 milestones for this project:
1. 20 Mar 2016: Finish the code of each side (core and client).
2. 5 April 2016: Finish gathering data, integrating and testing the system.
3. 10 April 2016: Finish all the related documents.

Team Members & Distribution of workload:

Team members:
- Nguyen Viet Dung - A0112068N (**team leader, the contact point**).
- Nguyen Thanh Trung - A0137648U
- Nguyen Tan Sy Nguyen - A0099429

Basically all team members will have to contribute to all phases of the project. However, for each phase there will be a team member who is in charge and take lead of that phase:
- Nguyen Viet Dung: Take lead of the CLIPS core.
- Nguyen Thanh Trung: Take lead of the client site.
- Nguyen Tan Sy Nguyen: Be responsible for integration.
- All the documents, feedbacks, data gathering will be distributed equally among team members.