Recipe Selector Program Report

Introduction:

The Recipe Selector program is a Prolog-based system designed to help users find recipes based on specific criteria such as the type of dish (savory or sweet), subtype, and maximum preparation time. The program includes a set of predefined recipes with details such as ingredients and preparation time. Users can interactively input their preferences, and the program returns a list of matching recipes.

Conception choices:

1. Data Representation:

Recipes are represented as facts with the following attributes: name, type (sale or sucre), subtype (e.g., salade, soupe), ingredients, and preparation time. This representation allows for easy retrieval and matching of recipes based on user preferences.

2. Interactive User Input:

The program utilizes the built-in read_line_to_string and writeln predicates to interact with the user. This ensures a user-friendly experience, prompting the user for input and displaying results in a clear manner.

3. Modular Structure:

The program is structured into distinct rules for different functionalities, promoting modularity and ease of maintenance. For example, there are rules for filtering recipes based on type and subtype, displaying available subtypes, displaying recipes, and showing ingredient details.

4. Recursive User Interaction:

The search_recipe rule allows users to iteratively search for recipes. After displaying a list of matching recipes, the user can choose to view the ingredients of a specific recipe or restart the search with a new set of preferences. This recursive approach enhances user engagement.

Program Workflow:

Loading the Program:

- Users load the program into the Prolog interpreter by consulting the source file.
- The predefined recipes are loaded as facts into the knowledge base.

User Input:

- Users input their preferences, including the type of dish (sale or sucre), subtype, and maximum preparation time.

Recipe Filtering:

- The program uses the input to filter recipes that match the specified criteria.
- Recipes are filtered based on type, subtype, and preparation time using Prolog rules.

Displaying Results:

- The program displays a list of matching recipes to the user.
- Users can choose a specific recipe to view its ingredients.

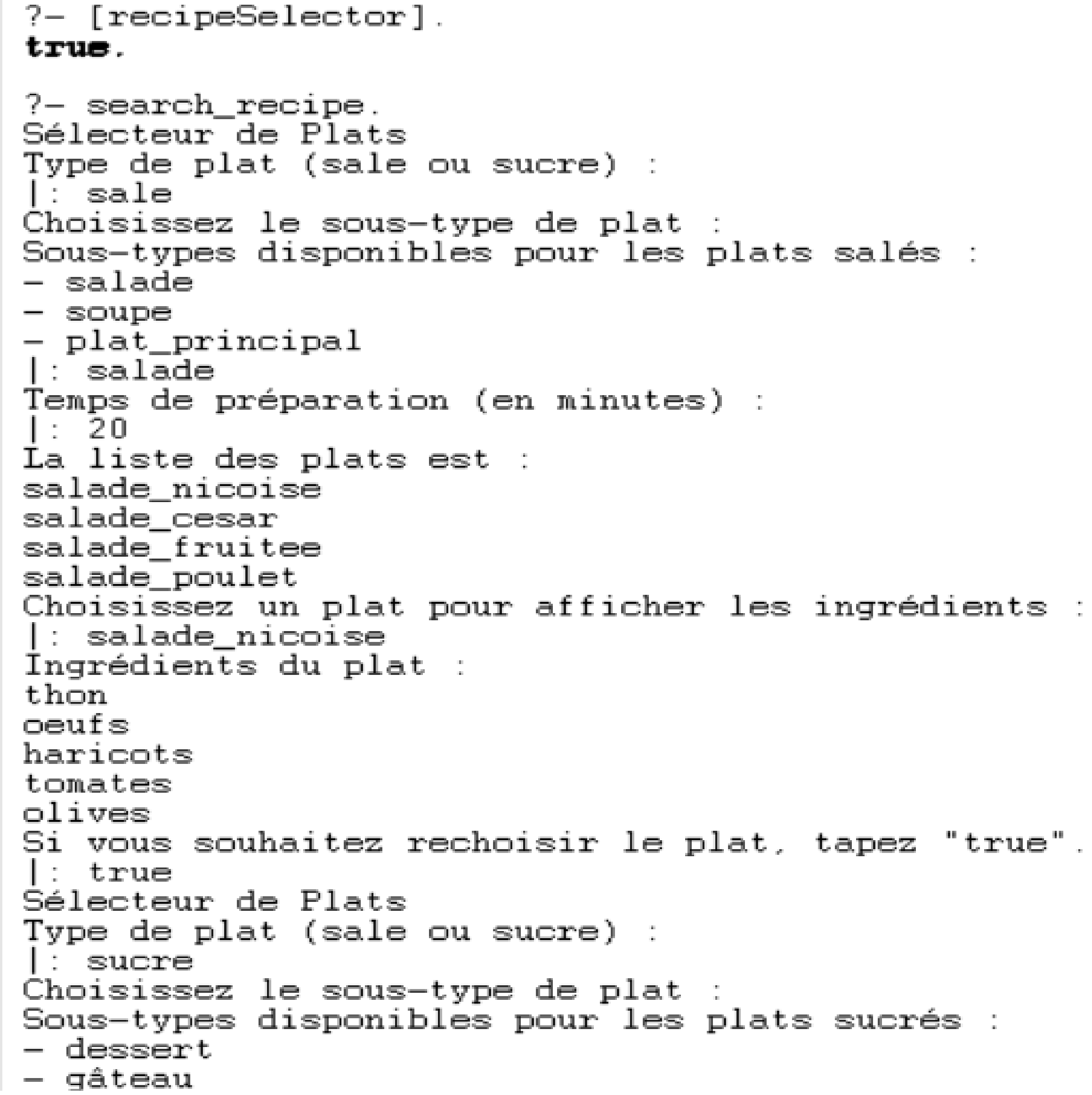
Ingredient Details:

- Upon user selection, the program displays the ingredients of the chosen recipe.

Recursive Search:

- After displaying the results, users can choose to perform a new search or exit the program.

Example Interaction with the Recipe Selector:



```
?- [recipeSelector].
true.

?- search_recipe.
Sélecteur de Plats
Type de plat (sale ou sucre) :
|: sale
Choisissez le sous-type de plat :
Sous-types disponibles pour les plats salés :
- salade
- soupe
- plat_principal
|: salade
Temps de préparation (en minutes) :
|: 20
La liste des plats est :
salade_nicoise
salade_cesar
salade_fruitee
salade_poulet
Choisissez un plat pour afficher les ingrédients :
|: salade_nicoise
Ingrédients du plat :
thon
oeufs
haricots
tomates
olives
Si vous souhaitez rechoisir le plat, tapez "true".
|: true
Sélecteur de Plats
Type de plat (sale ou sucre) :
|: sucre
Choisissez le sous-type de plat :
Sous-types disponibles pour les plats sucrés :
- dessert
- gâteau
```

Conclusion:

The Recipe Selector program provides a user-friendly and interactive way to discover recipes based on specific criteria. Its modular design, coupled with the power of Prolog, allows for easy extension and modification to meet future requirements. The program strikes a balance between simplicity and functionality, making it accessible to users with varying levels of expertise.