

Abstract

Today's lifestyle and eating patterns tend to be irregular due to busyness. People tend to prefer to eat food that are fast and easy to get, but they do not know what nutritional content is in them. Such eating patterns lead to unbalanced nutritional quality and cause various health problems and diseases, such as overweight and obesity. People tend to take drugs rather than learn about a healthy diet due to a lack of information, making it difficult for them to decide what menu to choose or what type of food to consume. At this time, there have been many studies to recommend healthy food according to user preferences, but there is no recommendation system that includes serving size and budget for each daily food recommendation that is implemented in the chatbot framework. In this study, we used ontology and Semantic Web Rule Language (SWRL), in which the ontology is used as a store of knowledge. Then the ontology will be processed using SWRL to produce food recommendations according to user preferences. From a sample of user data, 170 recommended menu items were obtained. Based on the validation results of nutritionists, the system's performance is quite good, having obtained a precision value of 0.859241, a recall of 1, and an F-score of 0.920634. So that a healthy food recommendation system can be used to help users implement a diet that suits their nutritional needs and according to the required budget.