

Abstract: Pregnancy is a crucial period in a woman's life because her body must prepare and support the growth and development of the fetus. During pregnancy nutritional needs will increase. Lack of nutritional intake during pregnancy can cause serious health problems, one of which is anemia. However, excess nutrition during pregnancy also has a negative impact on pregnant women. Therefore, a recommender system is required to provide food menu recommendations according to the daily nutritional needs of pregnant women. Currently, there has been a lot of research on ontology-based food recommender systems that can provide food recommendations to users, but there is no research that specifically provides food menu recommendations tailored to the requirements of pregnant women. Therefore, this study proposes an ontology-based food menu recommender system using SWRL (Semantic Web Rule Language) rules for pregnant women. In this study, ontology is used to represent food knowledge and its nutritional content, and SWRL rules are used to reason logical rules in the ontology to determine the appropriate food menu for pregnant women. This recommender system also considers diseases and allergies that pregnant women have so that it can provide food menu recommendations that are more suitable for users. From 15 data samples from pregnant women, the system provides 75 food menu recommendations for pregnant women. Based on the validation results that have been carried out, the precision value is 0.986, the recall is 1, and the F1-score is 0.992.

Keywords: Food Recommender System; Ontology; Pregnant Woman; Recommender System; SWRL