Abstract− Inactive lifestyles and unhealthy diets are often the result of people's busy lives. because of these bad habits, many people are underweight. diet and lack of physical activity are factors that cause underweight. Due to lack of information, people prefer to live lazily and not exercise. To solve this problem, we propose a physical exercise recommendation system that is explicitly designed for Indonesian people who are struggling with underweight. Despite the existence of various research studies advocating for physical activities tailored to individual preferences, there is currently no recommendation system available within a chatbot framework that includes a comprehensive session to be completed, along with specific sets and repetitions for each activity. This research proposes the utilization of ontology and Semantic Rule Web Language (SWRL) to represent and process the knowledge presented, enabling the development of rules for generating physical activity recommendations based on user preferences. By integrating the user profile, ontology, and the rules created, our system recommends physical exercise based on gender, weight, height, activity level, difficulty of movements, and the type of muscle to be trained. From the sample user data obtained, 408 physical exercises menu are recommended. The performance of the system is quite good, together with the validation results from personal trainers, obtained a precision value of 0.8, recall of 1, and f-score of 0.888. Concluding that the system we designed can provide physical activity recommendations in accordance with user preferences.
Keywords: Ontology; Semantic Rule Web Language; Physical Exercise Recommender System; Underweight; Chatbot