

UNIVERSITI TEKNOLOGI MARA

**PET HERO PET CARE SERVICES
MOBILE APPLICATION
RECOMMENDATION SYSTEM USING
CONTENT-BASED FILTERING**

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ABSTRACT

Following the abatement of the COVID-19 epidemic, there was a notable surge in the demand for pet care services and various other commercial enterprises. Due to the high demand, pet owners frequently express dissatisfaction with the lack of immediate availability of pet care services, which is attributed to the significant demand for such services. Additionally, pet owners had difficulty finding pet care service providers that fit their budgets and preferences. Therefore, the introduction of the Pet Hero Pet Care Services Mobile Application using Content-Based Filtering techniques with TF-IDF algorithm can help overcome these challenges. The mobile application was developed utilizing the Mobile Application Development Life Cycle (MADLC). The system generate pet care service provider recommendations by calculating the cosine similarity score between the user's input preferences and pet care service providers information available in the system, identifying the most relevant providers and ranking them as top-N recommendations. This is done by comparing the TF-IDF weights of the content features in the user's preferences and the item. The cosine similarity is a numerical value that falls between the interval of 0 and 1. When the magnitude of the value approaches zero, it indicates that the two vectors are orthogonal or perpendicular to one another. A value closer to one indicates a smaller angle and a higher degree of similarity between the examined items. The study findings revealed that pet care service providers with a cosine similarity score higher than 50% are very relevant to users, while those with lower scores still provide value by suggesting new pet care service providers that may be of interest. Next, precision and recall are used to evaluate the accuracy of the deployment of the recommendation model. Thus, to address future work, a hybrid model combining collaborative and content-based filtering should be implemented with a context-aware pre-filtering approach to address data sparsity. With the introduction of semantics and factorization, the similarity of contexts can be addressed further to aid in handling sparsity.

Keywords: Pet Care Service Providers Recommendation, Content-Based Filtering , TF-IDF algorithm, Precision and Recall

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