

**UNIVERSITI TEKNOLOGI MARA**

**FASHION RECOMMENDATION  
SYSTEM USING FUZZY ANALYTIC  
HIERARCHY PROCESS (FAHP)**

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## ABSTRACT

The project aims to address the challenge of enhancing the personalization of fashion recommendations, a task that is becoming increasingly complex due to the vast array of fashion options available online. Many users face difficulties in selecting styles that match their preferences, often resulting in decision fatigue and dissatisfaction. To tackle this problem, the project employs the Fuzzy Analytic Hierarchy Process (FAHP), a multi-criteria decision-making model capable of handling the uncertainty in human decision-making. This methodology is chosen for its ability to provide recommendations by incorporating fuzzy analytic hierarchy process (FAHP) to better interpret and match user preferences.

The project follows the Agile methodology, structured into three phases: preliminary, design and implementation, and lastly testing and evaluation. This iterative approach allows for continuous improvement and refinement of the recommendation system based on user feedback and evolving fashion trends. Initial stages involve a thorough literature review and data preprocessing, including data collection and cleaning. The core of the project lies in implementing the FAHP model to develop a recommendation system that offers fashion suggestions. Preliminary findings indicate that the FAHP-based system significantly enhances the personalization of recommendations, leading to higher user satisfaction and potentially reducing the environmental impact caused by returned and discarded fashion items as for the evaluation result it achieved from Mean Absolute Error (MAE) is 8.11 where it is less than 10 where it is acceptable. This approach sets the stage for future advancements in e-commerce solutions.

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