

ABSTRAK

Penelitian ini bertujuan menerapkan metode *Pattern Matching* pada chatbot *Frequently Asked Questions* (FAQ) serta membangun chatbot berbasis Telegram sebagai layanan tambahan yang berfungsi sebagai pusat informasi edukatif (*knowledge base*) mengenai layanan Samsat Bandung Timur. Metode penelitian yang digunakan adalah *Prototype* yang meliputi tahapan komunikasi, perencanaan cepat, perancangan cepat, pembangunan *Prototype*, serta penyerahan dan umpan balik. Proses pencocokan pertanyaan dilakukan menggunakan *Pattern Matching* yang didukung normalisasi teks, tokenisasi, penghapusan *stop word*, perluasan sinonim, *custom pattern*, dan *Regular Expression*. Basis pengetahuan chatbot disusun dalam 150 dataset FAQ yang bersumber dari informasi resmi Samsat Bandung Timur. Hasil penelitian menunjukkan bahwa chatbot berhasil diimplementasikan pada platform Telegram dan mampu memberikan jawaban secara otomatis sesuai dengan ruang lingkup dataset. Berdasarkan hasil pengujian, seluruh fungsi utama sistem berjalan sesuai dengan rancangan, meliputi penyajian informasi berdasarkan kategori maupun pertanyaan bebas, penanganan *multi-intent*, respons *fallback*, serta pencatatan penilaian kepuasan pengguna. Dengan demikian, metode *Pattern Matching* yang didukung *Regular Expression* sesuai diterapkan pada chatbot FAQ untuk membantu pengguna memperoleh informasi layanan Samsat Bandung Timur secara cepat, mudah, dan konsisten.

Kata kunci: *Chatbot, FAQ, Pattern Matching, Regular Expression, Samsat Bandung Timur.*

ABSTRACT

This study aims to implement the Pattern Matching method in a Frequently Asked Questions (FAQ) chatbot and to develop a Telegram-based chatbot as an additional service that functions as an educational information center (knowledge base) for the services of Samsat Bandung Timur. The research employed the Prototype development method, which consists of the communication, quick planning, quick design, Prototype construction, and deployment with feedback stages. The question-matching process was carried out using the Pattern Matching method supported by text normalization, tokenization, stop-word removal, synonym expansion, custom patterns, and Regular Expressions. The chatbot's knowledge base was developed using 150 FAQ datasets derived from official information provided by Samsat Bandung Timur. The results indicate that the chatbot was successfully implemented on the Telegram platform and was able to provide automatic responses according to the scope of the available dataset. Based on the testing results, all major system functions operated as intended, including category-based and free-text information retrieval, multi-intent handling, fallback responses, and user satisfaction feedback recording. Therefore, the Pattern Matching method supported by Regular Expressions is suitable for implementation in an FAQ chatbot to assist users in obtaining information about Samsat Bandung Timur services in a fast, convenient, and consistent manner.

Keywords: *Chatbot, FAQ, Pattern Matching, Regular Expression, Samsat Bandung Timur.*