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## DESIGN AND DEVELOPMENT OF A DATABASE-DRIVEN APPLICATION FOR SINHALA ETYMOLOGICAL ANALYSIS

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**Abstract:** The Sinhala language, a member of the Indo-Aryan family, is spoken by over 20 million people in Sri Lanka and boasts a rich etymological heritage shaped by influences from Sanskrit, Pali, and Dravidian languages. However, the lack of digital tools tailored for its linguistic study has hindered systematic analysis of its etymological and morphological structures. This research presents the design and development of a database-driven application that serves as a repository of Sinhala words annotated with detailed etymological information. The application classifies words into derivative, borrowed, or native categories, generates grammatical forms for linguistic exploration, and offers an intuitive web-based interface for users. The open-source platform is geared towards educational and research purposes, aiming to support advancements in Sinhala linguistic studies. The paper details the design, implementation, and validation process, highlighting the tool's potential to enhance etymological research and pedagogy.

**Keywords:** Sinhala language, Etymological Analysis, Morphological Analysis