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English

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Addressing inconsistencies in Romanization: Towards an integrated program for the Unified Arabic System for the Romanization of Names

Summary **

    The diversity of Romanization Systems of Arabic geographical names has led to significant inconsistencies in writing these names in Latin letters, causing communication and information exchange challenges among specialists in geographical and geospatial fields. To address this issue, the research paper proposes developing an integrated program based on the Unified Arabic System for the Romanization of Names, endorsed by the United Nations for its simplicity and effectiveness. The program aims to standardize the Latin script for Arabic geographical names accurately and methodically by designing algorithms that adhere to the grammatical and phonetic rules of both Arabic and English. It also includes a user-friendly interface that allows users to input Arabic geographical names and instantly obtain their Romanized versions via user direct typing in the program or via loading names from an Excel spreadsheet, enhancing user experience while ensuring accuracy and speed.

    The paper follows a comprehensive methodology, including studying current Romanization systems, analyzing the linguistic rules of Arabic, designing an effective software structure, and focusing on development using appropriate programming languages. The program's performance will be evaluated through comparisons with other systems and expert and user feedback. The program is expected to achieve notable results, such as providing a comprehensive tool for accurately and quickly converting Arabic geographical names, contributing to the standardization of Latin script for these names, reducing existing inconsistencies, and supporting scientific research, particularly in geographical and geospatial fields.

    Furthermore, the project offers a practical solution to the challenges of varied Romanization systems and enhances information exchange in multiple domains, including geomatics, tourism, and transportation. By adhering to precise scientific principles and offering a flexible user interface, this program becomes a valuable tool for both specialists and researchers alike. Additionally, the application holds significant potential for broader linguistic utility, as the robust algorithm it employs could be adapted for use with other languages beyond Arabic. Moreover, its algorithmic foundation allows for the development of reverse transliteration capabilities, enabling the conversion of names from Latin script back into Arabic, further expanding its scope and usability.