

Archeoscriptor: Early Brahmi Ceylon Inscriptions Translator

Vimukthi Gunarathna

A dissertation submitted in partial fulfilment of the requirement for the Bachelor of
Engineering (Honours) degree Software Engineering

Department of Computing
Informatics Institute of Technology, Sri Lanka in collaboration
with University of Westminster, UK

2020

Abstract

Epigraphy is the study of inscriptions which were engraved on durable materials in which case Sri Lanka is rich in inscriptions belonging to different eras in history. These are the primary source used by archeologists and they offer a praiseworthy contribution in revealing economic, political and social statuses of Sri Lanka. Translation of these inscriptions take up a considerable amount of time complicating the tasks at hand for archeologists. Character recognition of an inscription and the translation of the meaning can be a tedious task not to mention that it requires a certain skill set and knowledge while consuming a tremendous amount of time and effort when the process is carried out manually.

Through the research it was discovered that the requirement of a technology to translate the inscriptions discovered by archeologists at a swift rate was highly essential. To which this project would provide a sensible solution by developing an automated system for the translation of early Brahmi inscriptions. Upon the insertion of an image of a transcription the system would process the image, recognize the respective characters and determine the meaning in Sinhala which would later be translated to English with considerable accuracy. Moreover, OCR algorithms were used to enhance the precision of the outcome. Image processing, natural language processing and neural networks were the technologies applied throughout the development of the system. The targeted class of individuals, archeologists in this case are believed to be greatly benefited through the successful completion of the project.