

# Old Sinhala Newspaper Reader for People with Visual Impairment

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## Abstract

In Sri Lanka the blind or visually impaired people refer to non-current documents like old sinhala newspapers for their studies, research and other academic purposes. The Department of National archives in Srilanka provides repositories of non-current records to the people who need to deep dive into the past newspapers, However It is an extremely difficult job for visually impaired people to acquire information from those archived newspapers without guidance. In recent years The Sinhala Screen reader was implemented for 'Ranawiru Sevana' rehabilitation facility at Ragama to help the retired blind soldiers to access documents & web sources and to ease their day-to-day computer related work and support applications including web browsers, email clients, internet chat programs and office suites. However, in Sri Lanka still there is no proper offline application for blind or visually impaired people to assist them with reading physical printed newspapers which were published before the launch of e-newspapers.

Hence, this proposed solution is a real-time offline Sinhala Old newspaper reader with Smart assistant support to deliver the preferred news articles to the user with predefined question sets. The system consists of, Track and segment the newspaper article from scanned newspaper pages, segmentation of elements in the article and character by character segmentation, character recognition, feature extraction and use of classification model. In addition to that a high accurate word correction module will be used to provide accurate recognition of Sinhala characters and creates the corresponding corrected words. There can be word and nonword errors due to incomplete and incorrectly classified words due to the variation of characters and poor visual quality of the deteriorated old newspaper pages. At the final stage the preferred news content will be provided via audible clips to the user by using speech to text and text to speech tools.