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## **BEES: A Machine Translation System for English to Sinhala**

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Machine Translation System is a computer software to translate text or speech from one natural language to another. Many countries in the world including India, and Japan have successfully used Machine Translation Systems as a solution for their Language Barrier. Similarly, Machine Translation technology can be used as an ideal solution for the language barrier in Sri Lanka. Therefore, we have designed and developed an English to Sinhala Machine Translation System which provides a grammatically correct Sinhala translation for simple English sentences.

This paper presents the design and implementation of the English to Sinhala Machine translation System known as BEES. The system has been developed through the Multi Agent System technologies and it works through eight agents namely English Morphological Agent, English Parser Agent, English to Sinhala Translator agent, Sinhala Parser Agent, Sinhala Morphological Agent, Transliteration Agent, Message Space Agent and the Request Agent. The English dictionary, Sinhala dictionary, concepts dictionary and the bilingual dictionary have used as ontology of the BEES. The concept of "Varanegeema" (conjugation) in Sinhala language is the philosophical basis of the BEES.

The system works on a limited set of words and it is in the experimental stage. At present, BEES can successfully translate simple sentences with simple and complex subject and object forms. BEES have been developed under the two modes; online and the standalone.