Electronic dictionaries are storages of machine readable lexical
items. They are used in advanced word processors for word segmentation and
spelling checkers, and natural language processing for syntactic, semantic
and discourse analysis. Due to the advancement in computer processing of
Thai language, more attention has recently been paid to the development of
Thai electronic dictionaries.

This study proposes and develops two frameworks for Thai electronic
dictionaries employing double-array digital search tree. The first framework
treats a Thai word as a lexical entity and directly applies the double-array
digital search tree to store lexical entities. The second one recognizes the
fact that many Thai words are composed of few isolated words, and therefore
stores a word in terms of a few isolated words, resulting in less storage
space. Based on the dictionaries, a Thai word segmentation algorithm has
been developed which produces all possible segmentations.

Experiments have been conducted to evaluate performance of the pro-
posed frameworks. It has been found out that it takes more time for the
frameworks to retrieve words than the Kasetsart University's approach but
they allow the development of simple word segmentation algorithm.