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WIPADA JUTAVIRIYA : A PROTOTYPE OF MACHINE TRANSLATION FROM PALI TO THAI. THESIS ADVISORS : SUPACHAI TANGWONGSAN Ph.D., DAMRAS WONGSAWANG Ph.D., 140 p. ISBN 974-662-789-9

This research proposes a prototype of machine translation from Pali to Thai, which is developed based on the BUDSIR and Pali-Thai dictionary project. In Buddhism study, the Pali language is important for the study of articles of the Dhamma, which is the Buddha's teachings. At present, there are only a few people who know the Pali language and most of them are novices, priests or Buddhist scholars. Since Pali language is rather difficult to study and understand, Thai people tend to use the Thai translations of the Pali Buddhist Scriptures. However, there are differences between the various Thai versions available, that make it difficult to select the right one to study. Moreover, Thai translations quite often give incorrect and ambiguous statements in the passages, when compared to the same sentences in the original Pali. Certainly, this is a serious problem in studying Buddhism with the Thai translations.

This project attempts to develop a prototype for machine translation from Pali to Thai. For the process of translation, it uses the concept of Natural Language Processing (NLP). Firstly, each word in the Pali sentence will be searched for root and type by using dictionary and for the declension by using the declension of nouns rules. After knowing the information about that word, then the program analyzes the Pali structure by using the function of word rules and the context-free grammar. The next step is to map from Pali structure into Thai structure by using Pali to Thai rules. Finally, the system will find the meaning of each word by using dictionary and then fine tune the sentence by using the fine tune rules. At the end, the system will display the results in Thai translation on the screen.

The prototype system uses Delphi II as the software tool and Paradox VII as a database system. In the experiment, the prototype system performed quite satisfactorily when compared with the Thai Pali Canon.