

## ABSTRACT

Technology was created to facilitate human in doing various activities. There is a possibility that there are some human jobs that can be replaced by machines because of the growing influence of the times. Just like in the search for information, ordinary people do question and answer activities to obtain an information. Therefore, a question and answer system needed that can help people obtain information. This question and answer system is very necessary, whether it is in place of public facilities, or in the area of education. In this research, the authors take the example of Telkom University.

Based on the problem, the author designed a question and answer system to solve the problem. This system is designed based on the questions that will be asked by the user. Where this system can answer the question exactly. This research uses personal computer that has applied natural language processing with semantic annotation on question and answer system based on speech to speech. The question and answer system is used as a system capable of answering various questions. Natural language processing is used to help the system to understand the language used by humans. Semantic annotation is used as a method to search for meaning in the question posed. Speech to speech is used to make it easier for users to ask questions and receive answers.

By using semantic annotation, the system can know the meaning of the question and get the answer according to the known meaning, the system can work on the question sentence with the complete word structure as well as the question phrase whose word structure is randomized. As long as the question has the keywords contained in the rules then the question can be known its meaning and so is the answer.

Keyword: natural language processing (NLP), semantic annotation, speech to speech, question answering system