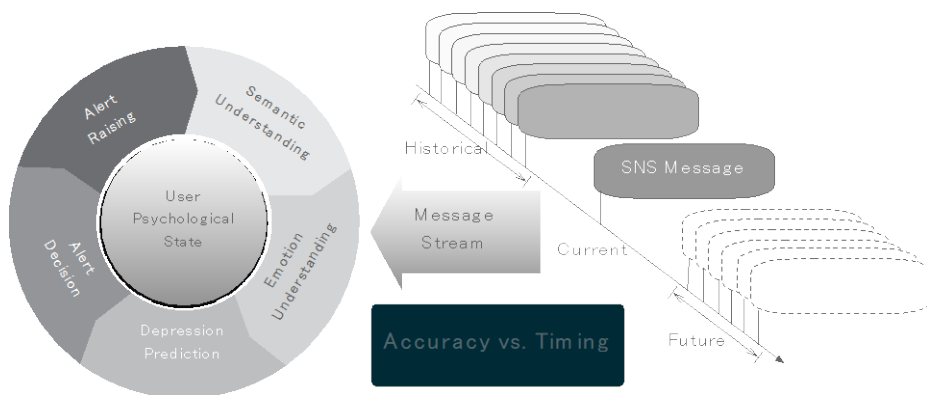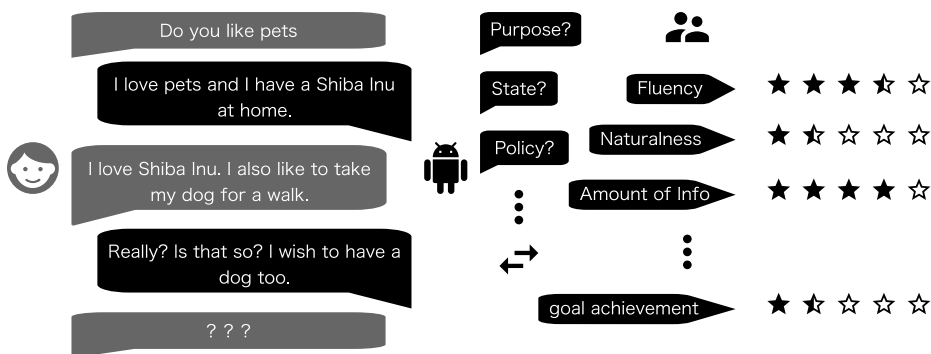# Research of Early Depression Detection & Research of Dialogue Quality Evaluation and Domain-Specific Dialogue Generation

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Early Detection of Depression

Dialogue quality evaluation & Domain-Specific Dialogue Generation

Early detection of psychiatric disorders has become an important issue for psychological treatment and rehabilitation. In this research we use semantic and emotion understanding modules for analyzing message streams of SNS users and propose a model for predicting their depression probabilities while learning a policy for raising the alert of depression as soon as possible. Alerts can be provided to SNS users or to the medical and hygiene institutions for further treatments. In this study, we examine various machine learning methods in order to resolve the contradiction between two important targets, that is, the detection accuracy and the alert raising time.

The rise of voice assistants such as Siri and Alexa is inspiring new researches for developing human-like dialogue systems. However, as the conversation scenario or purpose varies, uniformly defining "humanity" in the generated dialogues still challenges the academic society. Without clear constraints such as "humanity" to the learning target, dialogue systems tend to generate semantically conflicting or even ethically violating utterances, which are unacceptable in many real-world use cases. This research focuses on service counter conversation and psychological counseling conversation and experimenting psychological theories with various machine learning methods for automatically evaluating the humanity of dialogue systems while improving the quality of generated dialogues.