NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

School of Computer Science and Engineering
College of Engineering

Cognitive Companion for Elderly

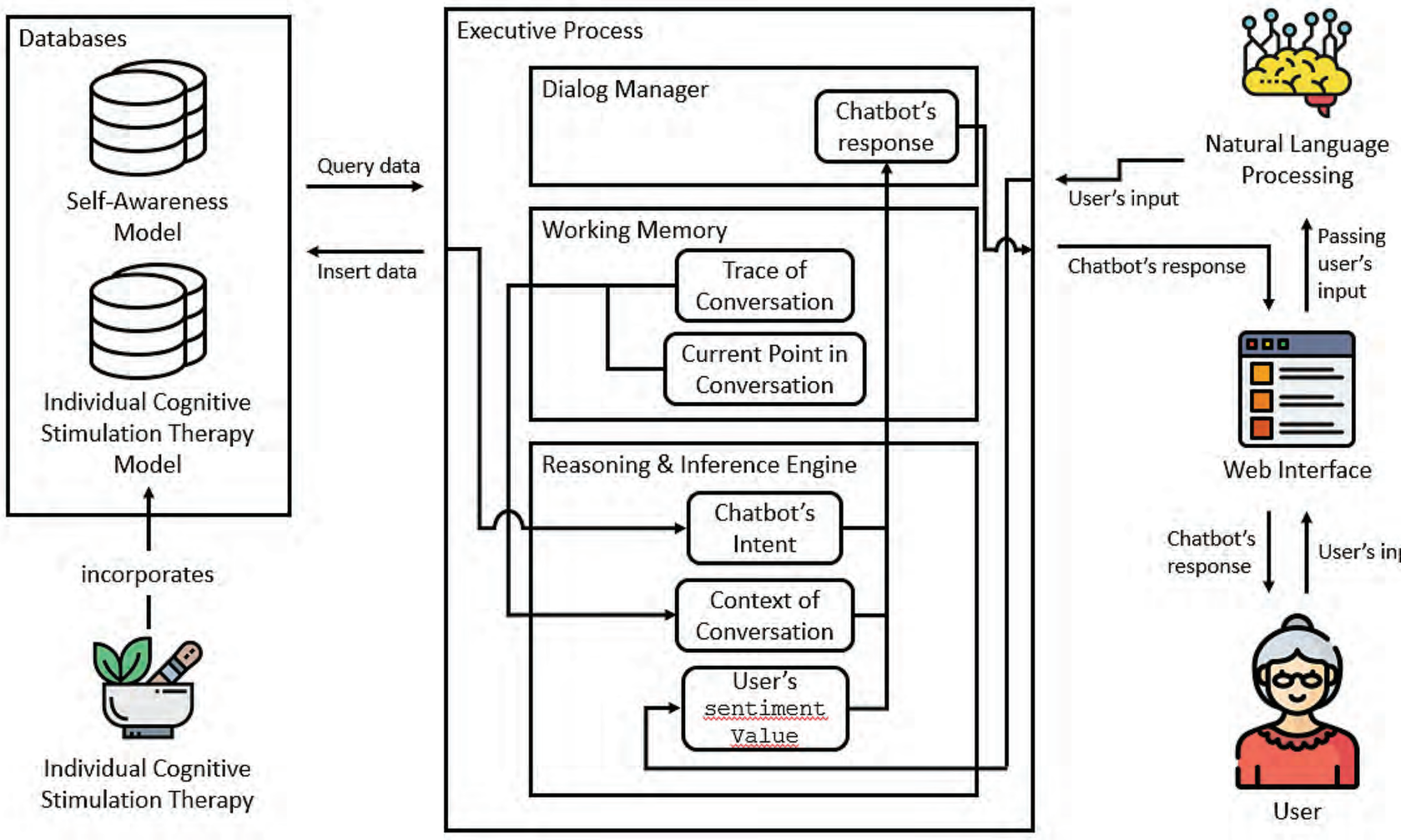
This project aims to create a self-aware agent that delivers Individual Cognitive Stimulating Therapy (ICST) to elderly suffering from dementia

Motivation

By 2050, it is projected that 50% of the population in Singapore would be aged 65 and above. Elderly faces issues with physical mobility and mental agility in psychological and cognitive functions. One such issue is dementia, which is the deterioration of the ability to process. ICST, which is a psychosocial intervention to improve the cognitive function of the elderly, is used effectively to combat dementia.

Architectural Diagram of Cognitive Companion

This project has a web-based chatbot for the elderly to converse with and receive therapy. Architecture designed integrates agent's self-awareness + knowledge on ICST to carry out conversations and therapy.



Utterance from elderly into an NLP framework, which produces intent of the user. Intent is then given to the Executive Function (brain of agent) which processes current conversation and returns an appropriate response.

Self-awareness aspects – identifying herself and person she is talking to + recall past conversations and memories.

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