

INTENTION RECOGNITION IN SINHALA LANGUAGE

V.S. Nimantha Kariyakarawana

A dissertation submitted in partial fulfilment of the requirement for
Master of Science degree in Advanced Software Engineering

Department of Computing

Informatics Institute of Technology, Sri Lanka
in collaboration with
University of Westminster, UK

2020

Abstract

The main communication media of humans is the Natural language (NL). The NL spoken by humans is of very complex construction and diverse due to the many number of languages spoken around the world. These languages are used to describe objects, feelings, memories, expectations, and etc. The human brain is capable of processing these complex languages and understand them. Natural language processing (NLP) is the computerized approach to identify these complex languages. Therefore, we can define that the goal of NLP is to give human-like language processing capabilities to the computers. NLP techniques are used for various purposes, such as automatic speech recognition, language translation, artificial intelligence, text classification, question, and answering, etc.

Intention recognition can be interpreted as the identification of user intentions. Intention can be defined as a plan to do a specific thing for a certain purpose, such as achieving a goal. Identification of the intention is the base of many intelligent systems such as intelligent agents, furthermore, identifying the user's intention is useful for many areas such as chatbots, marketing, artificial intelligence, etc.

There are many NLP techniques available for identification of the intention of meaningful text sentence by a computer. Text classification, grammatical approach, machine learning, are a few such examples. Even though there are many applications available for intention recognition, most of them are capable of identifying western languages such as English, Spanish, etc. Due to a lack of research and interest to build such systems for the Sinhala language, most of the application developers are forced to use traditional approaches such as expert systems or rules base systems to identify the intention for a given Sinhala sentence.

This research is aimed at building an intention recognition engine for Sinhala language using the grammatical approach. This document provides further insights into the intention recognition project, with information regarding the literature reviews, methodologies used, requirements identified, system design, development and testing, and finally the evaluation of the system.