



INFORMATICS  
INSTITUTE OF  
TECHNOLOGY

INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

UNIVERSITY OF WESTMINSTER

# **Voice Instructed Meal Ordering System for Sri Lankan Restaurants (FoodieTalk)**

A Thesis By

**Ms. Tharusha Perera**

Supervised by

**Mrs. Theja Perera**

Submitted in partial fulfillment of the requirements for the BSc (Hons) Computer Science degree at the University of Westminster.

**May 2023**

## ABSTRACT

Voice instructed meal ordering systems can offer several benefits to the food service industry in Sri Lanka. The language barrier is one of the biggest issues the sector is now dealing with. With a diverse population and many different languages spoken across the country, it can be difficult for customers to order meals in a restaurant if they are not fluent in the language used on the menu or ordering system. Traditional ordering methods frequently rely on visual cues, such as menus, which can be inaccessible to persons with visual impairments. Furthermore, these methods could call for direct physical contact with a menu or waiter, which can be challenging for people with limited mobility.

To address the difficulties of language barriers and limited accessibility in Sri Lankan restaurants, a voice-instructed food ordering system was created that supports both Sinhala and English, the two most commonly spoken languages in Sri Lanka. The system recognizes and comprehends spoken language using speech recognition /natural language processing techniques, allowing customers to place orders by voice. With features including voice-controlled navigation and audible instructions, the system was created to be usable by people with impaired vision or mobility. Furthermore, Machine learning techniques were used to enable the system to provide food recommendations based on a customer's previous orders, enhancing the personalized dining experience. The customer then receives the recommendations via a voice message provided by the system.

**Keywords: voice-instructed meal ordering system, natural language processing, speech recognition, restaurant ordering**