Name: Galiwango Charles Jovans

RegNo: S19B23/119

Project **:** A SMART FOOD DELIVERY SYSTEM WITH MULTILINGUAL CHATBOTS USING NATURAL LANGUAGE PROCESSING TECHNOLOGY

**TECHNICAL PLAN**

**1. Introduction and summary of constraints:**

(a) character of the system to be developed;

Multilingual chatbots help food businesses such as restaurants stay ahead of the curve in terms of customer service experience. Contact centers leveraging multilingual chatbots help and troubleshoot problems for customers in a language that they are most comfortable with. A multilingual chatbot can seamlessly switch between languages, hence enhancing and personalizing the customer service experience.

A food delivery system with multilingual chatbots will enable the customers to easily place orders or even navigate the menus and prices of different commodities in any language of their choice with less interactions with the staff of the business asking for help here and there.

The system will use technologies of Natural Language Processing. Natural Language Understanding (NLU) is a branch of Artificial Intelligence that uses intelligent chatbots to understand input made on form of text or speech and responds in the same manner and context

(c) user requirements concerning implementation.

The system will have to cover the needs of the parties that are to use the system for example the clients(buyers), the Suppliers(sellers) and also include an option for couriers (delivery guys)

For the *Clients’ perspective* of the system

* Simple Registration, the clients will be required to register in their details and there will be a choice of sign-up methods such as create new account using email address, Facebook etc
* Placing and order, So here there will be an option of using the Chatbot system or manually navigating through the system and the manual part will have functionalities such as add, edit remove orders. and also include an order summary, also the seller or supplier the client would prefer
* Various payment methods; these will include mobile money, credit card usage etc
* Delivery time estimation, the efficiency of the system is one of the important issues and it would really make sense if the time of the delivery would be included

For the *Sellers’ perspective* of the system

* Registration, the users to act as sellers need to create accounts to manage the whole supply chain on their own. The registration will definitely be different from the client’s registration this will include the part asking for their physical address verification, business information etc
* Content Management; the sellers always have to add general information including address, working hours, food/ goods offerings etc
* Order Management; great management begins with receiving the detailed order request and finding the appropriate ways to carry it out.

**2. Recommended approach**

Selected methodology or process model;

For the Smart Food Delivery system with multilingual chatbot, The Rapid Application Development would be the best methodology to consider using the *Prototyping Model* specifically

*The Prototyping Model*

This is a software development model in which a prototype is built, tested and reworked until an acceptable prototype is achieved.

*Reason for Using Prototyping Methodology*

Since it’s a food and market application it’s better to give the customers/users a working model much sooner even though it’s not perfect because this helps you to find out the missing functionality in the system for example making sure the buyers can easily swipe to as many sellers as possible without any limits. This reduces the risk of failure.

It also enables Users to be involved actively in the development of the software. Therefore, errors can be detected in the initial stage of the software development process

The prototyping methodology helps gain better understanding of the customer’s needs hence quicker user feedback helping one to achieve better software development solutions.

**3.Tools and Technologies to used**

To build a good food application, the following actors should be put in mind

* Customers
* Restaurants
* Administrators
* Flutter a cross-platform framework will be used as the framework
* For the payment gateway, PayPal, google/apple pay and mobile money
* For the Backend and admin panels, Python(Django) or PHP(Laravel)
* For the databases MySQL will be used
* It also includes AB library which is provided by the ALICE (Artificial Linguistic Internet Computer Entity) which handle the AIML (Artificial Intelligence Markup Language) files
* Further, in AIML information retrieval is based on four pattern matching techniques they are, symbolic reduction, divide and conquer, synonyms resolution, keywords detection. These methods are predefined in AB library.