"D.A.H.A.R"

Designated App for Human Activities Recommendations

I.   INTRODUCTION

Everyone can create an application to search and display data, but is that what we want? Amazon and eBay can display the items we are looking for easily, but it still feels like we **do not know** what we want to buy. Google Maps and Waze can show the closest route to any place, but we still feel **confused** about where to go. Yelp and Zomato can show all the restaurants near us, even with complete reviews, but we are often still **confused** about where to eat.

What is missing? **<u>Personalization.</u>**

We, Thornhill, aspire to fulfill your desires before you even know what you want. Sounds strange, doesn't it? But what is the point of algorithms, machine learning, and effective data processing if they cannot read your mind. let's explore this **crazy idea** further.
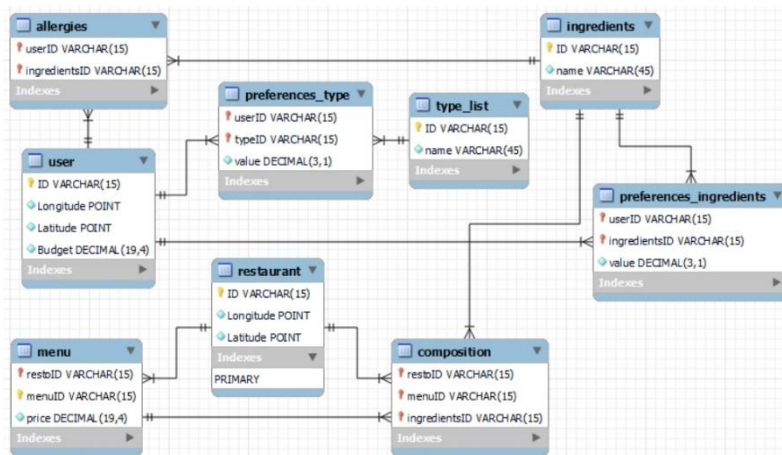We will realize this idea slowly, by first starting by only considering restaurants. We thought of a way to produce restaurant recommendations that suit the preferences (tastes) and limitations (budget and allergies) of each user. Of course, this general overview of concepts can be used in any field.

II.   TECHNOLOGY

let us discuss what components we need to realize this idea.

II.A. DATABASE

Good algorithms and machine learning can only be done with complete, valid, and informative data. We store data in the form of relational data (JSON format is being developed) which stores all the variables that are the main consideration for carrying out calculations. The calculation will produce points that will be used to generate recommendations that are relevant to users.

II.B. ALGORITHM

The algorithm we use is designed to be able to calculate the relevance between the list of available restaurants and each user's preferences.

Data modeling like what we do in Firebase also allows fast and effective read operations, making it easier to compare and calculate between data.

II.C. IMPLEMENTATION

The technology we have, we implemented in flutter. Flutter FFI also allows us to use a more strongly typed and optimized language when compiling to perform fast and efficient calculations. The compatibility between Flutter and Firebase also makes it easier for us to store data and make maximum use of the API.