Food Mood Analytics - FoMos

Ayush Ghanekar[15], Urvi Bhanushali[05] and Harsh Dave[10]

Abstract— Are you constantly plagued by daily decisions of what to eat? And, do you live just by yourself where you have no one to cook for you? You sit with your phone and open a food app and see hundreds of option and you cant decide which leads to multiple thoughts, frustration and maybe you end up ordering food that was not the best choice for you.

What if, you have an all-time companion who will suggest you food items based on a lot of parameters including knowing the emotions and sentiments of the person? Hence, the FoMos (Food Moods) app is a high power analyzing engine used to suggest relevant food items which contain certain nutritional contents that are required to stabilize the emotions of humans. The key result is basically giving a customer caring experience.

Keywords - Emotional Analytics, Sentimental Analytics, Android Development.

I. INTRODUCTION

Studies show that the average person makes around 250 decisions about food every day breakfast or no breakfast? Pop-tart or bagel? Part of it or all of it? Kitchen or car? Yet out of these 200+ food decisions, most we cannot really explain. The key to getting a handle on food is to become aware of the series of choices you make each and every day.

Food is considered to be the most important elements of not only survival but also the mentally or emotional stability of humans. It is proven that there is a high correlation between the food and the mood. The mood changes indicate nothing but the want of certain nutritional contents that would stabilize our emotions. We face this dilemma of what we should eat a lot.

This problem either gets solved by the person taking the same food item again or if he is suggested a food item by someone else. What if, this dilemma could be removed by someone who could sense and analyze you and your emotions and based on that suggest you delicious and your favorite food items that only take care of the dilemma issue.

This solution is highly based on how our mood affect the food choices we make.
For example, it is currently hypothesized that people like indulgent foods when in a negative mood as such mood is more focused on current pleasures like flavour and experience of the senses, and current concerns like fixing mood. Contrarily, people like healthy foods when in a positive mood as such mood is focused on better health promotion and long-term well-being.

If you've ever found yourself in front of the TV after a bad day, mindlessly digging ice cream out of the container with a spoon, you know that mood and food are sometimes linked. But while stress eating is a verified phenomenon, the relationship between food and actual mood disorders, such as depression, is less clear.

Finally, in a harried and hurried world, a lot of our poor food choices really boil down to poor planning. You cant eat healthy food if theres no healthy food in the house. And waiting until youre half-starved to start thinking about what youre going to eat doesnt tend to lead to great decision making, either. Deciding when and what youre going eat (and taking steps to procure and prepare it) ahead of time can make a huge difference in how well you eat.

II. MOOD AND FOOD LINK

One study checked the effects of good mood on assessments of healthy and indulgent foods. Participants in good moods assessed healthier foods more positively as opposed to those in a control group who went for comfort foods.

Another study investigated the effects of negative and positive moods on assessments of healthy and comfort foods. Participants who were in a happy mood had more favourable evaluations of healthy foods as compared to comfort foods, while those in bad moods had more positive assessments of indulgent foods than healthy ones. Also, unlike subjects in negative moods, those in good mood replied in the positive about staying healthy as they grew older.

Another study looked for the effects of bad and good moods on future-focus and present-focus and its impact on intake of foods. It was found that the ratio of comfort foods to total consumed foods was higher in participants in present-focus situation as compared to those in the situation of future-focus.

Another study checked health benefits verses enjoyment aspect of the impact of mood on food intake. The study had subjects in negative, positive, and neutral moods along with

temporal present-focus and future-focus construal scenarios. It was found that subjects opted for healthier dishes when all dishes in the set had a combination of indulgent and healthy foods as compared to when a dish with just comfort food or dish with just healthy food were added to the set. Subjects with future focus conditions opted for dishes with greater amounts of healthy foods as opposed to participants in present-focus condition. Here are a few examples of the food choices that stabilize the emotional conditions of human.

1) Anger = stressed - calming foods containing Magnesium like dark chocolate, pumpkin seeds, brown rice, avocado, black beans and nuts.
2) Disgust = disillusioned (disinterested/apathetic) - foods to increase mood and brain function especially omega 3s (oily fish like salmon, mackerel, sardines, walnuts, flaxseed).
3) Fear = anxious - calming foods containing the amino acid tryptophan like nuts, seeds, tofu, cheese, red meat, chicken, turkey, fish, oats, beans, lentils, and eggs.
4) Surprise = excited - Blood sugar regulating low glycemic index foods like whole grains, lean protein (fish, chicken, low-fat dairy, lentils and beans)
5) Sadness = fed up - Vitamin D rich foods to boost mood like dairy products, eggs and oily fish.
6) Joy = cheerful - keep mood stable with vitamin B6 found in potatoes, chicken and eggs

III. Rough work flow of the App

1) The user has to register into the application if the user is using it for the first time otherwise login directly.
2) This registration accounts in taking basic user details (E.g.: Name, Email, Age, Gender etc.) and the constant food related information with respect to the user (Whether Veg/Non-Veg, Fitness freak/Flexible Diet etc.).
3) The user is directed to the page where quick questions are asked about the food items inferring to the users Sentimental Analysis. In the background, the users facial expressions are recorded and the emotion of the user is predicted. Based on the emotion and sentiments, the FoMos app analysing engine tries to suggest food items that would be the best choice for the users based on what nutritional contents are required to stabilize the users emotion
   a) This would not only help the user to decide the kind of food he/she should would eat but also prevents the wrong choices that the user makes due to dilemma.
4) Once the user knows the type of food there are a few features integrated with it.
   a) In the suggested food tab, there are two option
      i) This is for the people who wish to know what they should eat and they prefer making the food item at home.

ii) This is for the people who face the dilemma of what they should eat, when they see hundreds of options that the online food ordering companies offers. In this case the app will suggest the right choice from these online ordering apps.
   b) There is a current nutritional value needed insights tab which will display the detailed nutritional contents needed as per the current analysis and inform the user that current you are lacking of so and so vitamins or minerals etc.
5) Once the user choose to make the food item at home, he is directed to how to make Recipe guide that will provide a pictorial step by step of how to make that item.
6) If the user chooses the online ordering platform, then the user can proceed the normal way via delivery setting and payment gateway.
7) All the historical data of the person is saved for further analysis of the users emotional eating and food habits.

IV. Future Scope

The app handles instant care of what the user should consume based on certain factors like emotions and sentiments. However as a future scope, integrating this app with a healthy me kind of an app would make the entire purpose of leading a healthy and a planned and known life in terms of food complete. Basically instead of just tracking each food transaction independently, incorporating the historical data to guide the user that he/she should watch out on certain things as its not good for health.

Moreover we can integrate this app with the fine dine restaurants as Book a table. What this can do is give insights to the restaurants as people coming to this restaurant generally come with so and so emotions and sentiments. So the restaurant can use this personalized information about the customers to know that their overall popularity is rising or falling and they can also get to know the kinds of people coming to the restaurants.

Finally this entire idea is capable of creating and integrating four different business, all in one. Self FoMos app business, business from the apps like Swiggy, Zomato and foodpanda (who are the online ordering platforms), business from the healthify me kind of apps and business with the fine dine restaurants via book a table.

V. Conclusion

Since the mood and emotions that carry can define the food that we should consume, this App can help a lot of people with that one question of "what should we have ?" and the user's can benefit from the suggestion as it indirectly takes care of the health of the person and prevents them from making irrational decisions. Thus the FoMos app.

VI. ACKNOWLEDGMENT

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