

## **Hackerearth International Women's Day Hackathon 2018**

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According to UNICEF India, approximately 33% of women of reproductive age in India are undernourished, with a body mass index (BMI) of less than 18.5 kg/m<sup>2</sup>. This paints an extremely worrisome picture of the health conditions of rural Indian women.

This Women's day, I would like to contribute to the field of health development of the rural Indian women. An important factor is that while these women aren't financially independent and more socially restricted as compared to women in cities, it is essential to throw light upon and acknowledge their problems in order to identify and implement a feasible solution.

A major challenge generally faced by the women I met in my village in Bihar, is to identify what constitutes a balanced diet. While the staple diet is high on carbohydrates, it usually lacks in proteins and minerals. Dietary requirements vary according to age, too. Lack of awareness of a balanced diet often leads to these women compromising with their health. Even if we consider some of them to be aware in some cases, accessibility to quality food remains a hurdle.

I aim to create an application that takes in user input from these women about their age, weight, location and in general, any medical conditions. Based upon that, it would suggest the best possible balanced diet. The speciality of the app that I plan to implement is that based upon the location of the woman, the application provides the list of foods providing balanced nutrition which is locally grown along with its location specific market-price. This is primarily done so that the constituents of a balanced diet are accessible. If for example the woman is a vegan, then all the items which provide protein in a vegetarian diet and are locally available will be included in the balanced diet chart. Often in other applications or the usual google search gives result of foodstuffs which are not locally accessible to rural women. They need to make the most of what is easily and inexpensively available. In case the woman needs additional assistance or is not satisfied with the results, then she can also call the nearest physicians/nutritionist/clinic available. I plan to have this list too with the diet chart. Besides this, how to prepare delicious food items from a given ingredient on the diet chart will also serve a useful purpose. I plan to include a 'watch preparation video' giving a list of dishes that can be made with the location specific ingredient. This will solve the dilemma of what to cook which often becomes tedious and unexciting for women.

These are the immediate features that I would be implementing. Further, on an advanced stage, I would like to visit a nearby semi-urban or rural area to have a ground-level check of my ideas and further for testing. I had been to the village Nere earlier in my sophomore year when I was building a mobile app for the farmers there as a part of my internship. Moreover, I would like to include the voice feature by connecting alexa, so that the rural women just have to speak and get the answers in return through Alexa-enabled version of my app. Another thing that could be implemented would be if the language could be made location-specific. This will increase the reach of the application.

### **WorkFlow Implementation:**

1. Login

2. Enter User details: age, BMI, location, medical details
3. Response generated based on location.
4. Response includes elements of balanced diet based on availability of foodstuff in the region.
5. It's price, contents is displayed.
6. Youtube option for watching dish prepared using that ingredient.
7. Option for consulting nearby clinics/nutritionist.
8. Comments and opinions section.

#### **Unique features of the app:**

- Novel location-based nutrition app which takes care of nutrition by keeping in mind availability and accessibility. The location based feature is useful as the user gets details of ingredients available in her region which is more accessible. Availability of bananas and oranges is more likely than blueberries and cherries in the Indian context for similar nutritional benefits.
- Also, the user can specify vegetarian/non-vegetarian balanced diet plan. Ingredients will be displayed according to chosen preference.
- Additional feature for youtube video demonstration of a dish prepared using that ingredient, which will lead to more familiarisation with the ingredient in case she doesn't know the method to cook a dish with or wants to look for a recipe.
- The user can also choose to consult a nearby physician from the list of doctors in the region option available to her for additional queries.
- Comments and discussion option for the women to post their opinions.

#### **Requirements of the app:**

1. Internet connection
2. Location identifier, GPS enabled device

After successful implementation till this point, I plan to include voice recognition features probably using Amazon Echo so that the women who cannot efficiently query in written can just speak into their demand. I also plan to make it available in the local language which will increase the app's demand and will be successful in reaching out to more women.