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Organic Diet for Sustainable Future (Orgo-Farm)

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Abstract: *The broad utilization of synthetic compounds and anti-infection agents in inorganic food conception innovation has constrained health-conscious individuals to investigate and promote organic farming. The study reveals that the food created utilizing natural strategies tastes better and contains a superior equilibrium of nutrients and minerals than ordinarily developed food. Day by day utilization of organic food extensively decreases coronary failures, strokes, malignant growth, entrail malignancy, and numerous different sicknesses. In this paper, we come up with an approach of health analysis of users. As a part of this approach, we concentrate on common health problems faced in daily life. Consequently, we introduce techniques that can constrain these problems. We develop the data set that contains the data of the sattvic food as diet plan along with respective diseases data and health data. Further, we suggest the users with a suitable organic foods along with sattvic diet plan. Users must first complete a questionnaire that we give. Secondly, we collect the data chosen by the user, and the diet plan is generated with help of the CSV data and PANDAS library. Additionally, we provide an online organic e-commerce website to users to buy organic foods in suggested diet plans. Next, we suggest alternatives to unhealthy food habits and daily routines for a strong immunity system. Our approach mainly concentrates on the healthy diet of the user and suggests good organic foods along with a sattvic diet plan. We designed a dashboard that renders various services for the users.*

Keywords: Conventional farming, Genetically Engineered (GE) Seeds, Organic Farming, Biological Fertilizers, Nitrogen-Fixing Cover Crops, Organic Foods, Sattvic Food

I. INTRODUCTION

To expand the country's foodgrain production, the green transformation presented current compound composts, present-day cultivating methods alongside better seed the executives. Ordinary cultivating is the strategy for cultivating that incorporates the utilization of compound composts, manufactured pesticides, disinfectants, herbicides, and Genetically Engineered (GE) seeds that became uncontrolled and begun dirtying the total inventory network. Accordingly, youngsters were brought into the world with handicaps, wellbeing declined because of unsafe synthetics, and a few grounds became inefficient. Individuals gradually began moving to natural cultivating.Organic farming is an advanced and sustainable form of horticulture that uses ecologically based pest controls and biological fertilizers derived from creature and plant squander and nitrogen-fixing cover crops and provides natural farm products to customers[1]. Modern organic farming was developed as a response to the environmental harm caused by the use of chemicalpesticidesandsyntheticfertilizers in conventional agriculture, and it has numerous ecological benefits[2]. Sattva is a Sanskrit expression that is, by and large, deciphered as equilibrium or concordance. Sattva is an idea all the more generally connected with yoga. Nonetheless, in the advanced setting sattva is habitually expressed with the old Indian therapeutic arrangement of ayurveda in talks on food and diet. The comprehensive milieu is portrayed by talks and practices that underline wellbeing and prosperity for the mind, both the body and the spirit 1 In the broader context, the words "balance" and "accord" are huge, thus the idea of sattva is by all accounts especially appropriate[3].

More dry matter, minerals, and cancer-prevention compounds, such as polyphenols and salicylic acid, are found in organic products. Organic foods (94%–100%) contain no pesticide buildups in contrast with routinely developed food sources. Fruits and vegetables include a wide assortment of phytochemicals, for example, polyphenols, resveratrol, and favorable to nutrient C, and carotenoids which are by and large optional metabolites of plants. Organic fruits and vegetables provide 27 percent more vitamin C than conventional agricultural products, according to the study. These auxiliary metabolites have considerable administrative impacts at cell levels and are subsequently observed to be defensive against specific illnesses like tumors, persistent irritations, and different sicknesses[4]. Organic Natural wine has been accounted for to include a more elevated level of resveratrol [5].

As indicated by a Food Marketing Institute (2008), some natural food varieties like corn, strawberries, and marionberries have more noteworthy than 30% of malignancy battling cell reinforcements. The phenols and

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polyphenolic cancer prevention agents are at a more elevated level in natural leafy foods. It has been assessed that natural plants contain twofold the measure of phenolic compounds as traditional ones [7].

To conquer health issues, an Online Organic item E-Commerce dashboard is created. This mainly concentrates on the healthy diet of the user and suggests with the good organic foods along with diet plan. Consequently, to stay away from wellbeing disintegration this the site advances natural cultivating and its items.

1.1 Organic E-Commerce Website

The primary justification advancing organic items online is on the grounds that utilizing Internets intelligent abilities and giving consistent data, associations can draw in new consumers. This conventional idea of a market is confronted with various issues. These issues include:

- The fundamental requirement for purchasers and dealers to come into actual contact to do their market exercises
- The essential requirement for likely purchasers to visit the shop which might require some investment, cash and inconvenience
- Non-adaptability in time use

To beat these issues, On-line shopping dashboard is created.

The rest of the paper is organized as follows. Literature Review is explained in section II. Section III discusses the difficulties of conventional farming. Section IV explains the proposed model. Proposed Model is explained in section IV. Architecture design is explained in section V. Experimental results are presented in section VI. Concluding remarks are given in section VII.

II. LITERATURE REVIEW

The idea of organic farming incorporates three primary objectives—ecological wellbeing, monetary productivity, and social and financial value. The idea of supportability lays in the rule that we should address the issues of the present without putting people's ability to deal with their problems in the future at risk[6]. Food quality and safety are two essential factors that have achieved consistent attention in people. Developing natural cognizance and a few food hazards (for example dioxins, bovine spongiform encephalopathy, and bacterial defilement) have widely diminished the buyer's trust towards food quality somewhat recently. Concentrated regular cultivating can add defilement to the natural pecking order.

Consequently, purchasers quested for safer and better food varieties that delivered through more environmentally and genuinely by provincial frameworks. Naturally developed food and food items are accepted to meet these demands[7]. Natural cultivating and food handling rehearses are wide-running and require the improvement of socially, environmentally, and financially feasible food creation frameworks.

The main four principles of organic farming, as suggested by the International Federation of Organic Agriculture Movements (IFOAM), are health, environment, fairness, and caring. The main principles and practices of organic food production are to motivate and redesign organic cycles in the developing system, keep and improve profound established soil richness., diminish a wide range of contamination, sidestep the utilization of pesticides and manufactured composts, moderate hereditary variety in food, consider the tremendous socio-environmental effect of food creation, and produce great food in adequate amount[8].

Social sustainability is characterized as a system that improves the prosperity of individuals of an association while strengthening the capacity of future generations to maintain a robust society. It tends to be improved by engaging country poor to get a benefit from plant advancement, offering esteem to local data and practices close by present-day progress, encouraging gender equality in labour, full investment of dynamic rustic networks to upgrade their certainty and emotional wellness, and subsequently decreasing reckless rates among the farmers. Natural cultivating seems to create 30% greater work in rustic regions and work accomplishes better yields per unit of work input[9].

III. CHALLENGES IN CONVENTIONAL FARMING

Although conventional horticulture is a broad term with several definitions, a harvest can be classified as conventional if manufactured synthetics are employed to keep track of the plants. In today's farming, a lot of chemical and energy

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input is required to generate the highest possible crop yield. "In most cases, this practise degrades soil quality and removes biodiversity," says the author. [10].Conventional farming was built to make development more fruitful anyway achieves that adequacy at a massive cost for the environment.

The goal of traditional farming is to increase the maximum harvest yield possible. This is refined using made manufactured substances, genetically changed animals, and different other mechanical things. In keeping a standard structure, biodiversity, soil fruitfulness, and natural prosperity are compromised[11]. These harvests are critical not only for food security but also for the economy. At the point when set up, a conventional farm requires predictable upkeep anyway makes maximal yields.

Maintenance is simplified for ranchers as conventional cultivating normally includes monocropping, but at the same time is over the top expensive. In a regular framework, ranchers will distribute whole fields to only one harvest, which produces consistency. Consistency can decide both the achievement and disappointment of customary frameworks. A uniform yield is ideal since it diminishes work expenses and makes gathering simple, yet it can likewise affect biodiversity and make crops dangerous to microorganisms [12].

Synthetic compounds and hereditarily changed organic entities make the upkeep of traditional frameworks moderately basic for ranchers, however, need a steady contribution of energy and cash. In a traditional setting, farmers can apply pesticides and herbicides to crops at a much faster rate if they are made up of only one type of plant, but this has a number of unintended consequences. Since the objective of traditional farming is to boost yields, ecological wellbeing and biodiversity are typically not ensured.

IV. PROPOSED MODEL

Organic farming addresses the opposite limit of horticulture, while conventional farming handles the first. "Organic agriculture is a creation framework that promotes soil, environmental, and human prosperity". Rather than using inputs with negative consequences, it relies on eco-friendly cycles, biodiversity, and cycles tailored to area conditions. Organic agriculture consolidates culture, innovation, and science to serve the common climate and advance reasonable connections and great personal satisfaction for all included." [13]. Organic agriculture is an all the more sweeping approach to manage developing than ordinary in that it relies upon ecological advantages and is typically significantly less blocking to the incorporating scene. Sustainable agriculture is a trademark technique to create food and has different cultural, monetary, and natural benefits.

There are numerous sorts of organic cultivating that all depend on regular cycles to ensure plant prosperity and collect execution. Economical cultivating denies the usage of designed pesticides, herbicides, and composts to deliver food. All things being equal, ranchers will plant a grouping of plants together to energize biodiversity and stay away from bugs and microbes[14]. Where traditional frameworks advance consistency and depend upon designed engineered compounds for a safeguard against disease and vermin. To combat these issues, viable frameworks rely on biodiversity as an activity.

Ranchers, economies, and food banks all profit from organic farming, which is also environmentally friendly. Preservation agribusiness is one representation of various reasonable cultivating techniques that keep up with monetary benefits and natural well-being. "By increasing soil organic matter content and moisture-holding ability, CA can quadruple subsistence crop output in regions where fertiliser use is uneconomic, and it can maintain production in dry years." [15]. Protection horticulture underlines the focal point of supportable farming in that it centers around delivering exceptional returns without compromising the respectability of the climate.

In the wake of the COVID19 pandemic, individuals are progressively becoming mindful of the significance of good cleanliness, quality nourishment for guaranteeing ideal insusceptible capacity to keep viral/different diseases under control. Vitamin supplements are being consumed by people in order to improve their immune systems. People are gradually developing chronic diseases as a result of negative effects. Excess chemicals released from the medicines used for one particular body organ tend to store in the other organs and causing many chronic diseases. Pesticides and fertilisers are used in conventional farming to create dangerous vegetables and fruits. Cookware, Toothpaste, Soaps we have dangerous chemicals in them. Consequently, We are dealing with harmful and dangerous chemicals daily in every aspect that will not help us to maintain good health. Instead, these substances cause increased tension, rage, and anxiety. If we continue this type of lifestyle, then we indirectly invite many more destructive diseases.

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As we understand that the world is in quick need of changing its food propensities from garbage to natural items to keep a solid life, the musing is to foster a dashboard to purchase and sell natural items. The dashboard will contain three significant segments: health predictor, organic foods and healthy swaps, separately.

Any individual who is getting to the dashboard can all things considered purchase organic items like crude materials to develop plants without pesticides at home or straightforwardly buy organic food sources. Another exceptional component is the health predictor, the client can answer the poll to get a report on his wellbeing conditions. it can uninhibitedly give the organic and sattvic food diet plan and for the acquisition of those proposed food sources, there is a choice of purchasing here itself.

V. ARCHITECTURAL DESIGN

5.1 System

Organic Farming is a web application where it can recommend the necessary organic food sources dependent on the examiner the consumer fills. This application is fabricated utilizing a python flask where python is the simplest and quickest approach to run different calculations and execute them in less time. Flask is a web framework module accessible in python where tremendous web applications can be assembled. For the front-end part, HTML, CSS, JAVASCRIPT, and BOOTSTRAP are utilized in this application.

The essential capacities and elements that the dashboard offers are when the consumer will sign in/register or directly access the main page he will see three choices to be specific Questionnaire, Ancient Vedic Practices, and Buy Organic Products. On the off chance that the consumer is fascinated to purchase certain products, he can add those to the truck. Then, at that point, he can add the payment procedure and continue to pay to keep purchasing the items. Subsequent to submitting the request whenever attracted the consumer can then checkout from the site.

5.2 Architecture

Figure 1 shows the architecture of the web application. The modules developed are login screen, Questionnaire, purchase organic food varieties, purchase organic items, health predictor, truck, and checkout.

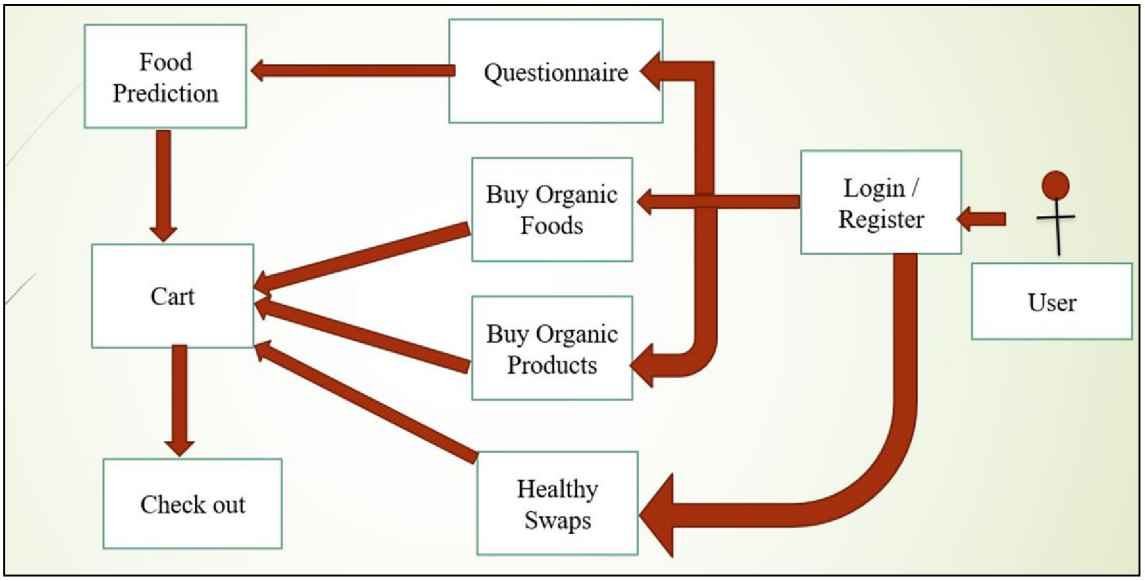

Fig 1: Architectural Design

1. **Login Screen:** The consumer will either register or sign in to utilize the application with the support of this module. This module assists the consumer with filling the individual details to keep up with the details for additional cycles.
2. **Questionnaire:** This is a module that contains a structure with not many basic inquiries which are useful for

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anticipating the diet plans regimen plans.

a Health-related questions are asked
b Data is gathered utilizing the POST method
c Diet plan is recommended using CSV data
d check the alternatives of unhealthy food habits
e Ancient Vedic practices are provided
f Buy proposed items

3. **Purchase Foods:** This module will let the consumers to purchase natural food varieties like organic products, vegetables, and millets which are accessible at sensible costs.
4. **Purchase Products:** Ordering other natural items like organic manure is likewise accessible from this spot. Thus, this advances the idea of balcony cultivating at home, along these lines helping the climate.
5. **Diet Plan Prediction:** This module that conveys the diet plan prediction is this. Here the consumer will get a suitable eating regimen plan dependent on the data sources gave in the survey.
6. **Cart:** When the consumer is keen on purchasing, then, at that point he will put the items in the truck. Here the entire cost is determined.
7. **Check out:** This module is the place where the charging details are assembled and shown to the client prior to leaving the truck.

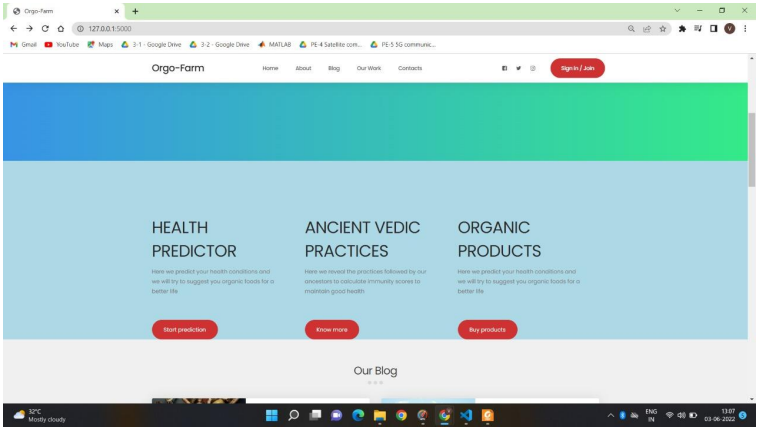
The following technologies were used to create the web application's modules:

- **PANDAS:** Pandas is an open-source, BSD-licensed library for python that renders high-performance, easy-to-use data structures and does data analysis. Pandas is a project supported by Number Focus.
- **DATETIME:** It is a python module that will automatically receive the date and time from the global time. We can also receive long ad short time based on the methods it has.
- **FLASK:** Flask is a web development tool that is an easy and fast way to build applications and run anywhere throughout the world.
- **JavaScript :** JavaScript functions are used to the obtain the alternatives of junk foods, unhealthy foods, and cookware utensils.
- **App.py:** This is the module from which the entire programme can be run. It has many methods which support to redirect the web pages from one to another. This is the main function where it can load all the essential template and static folders which can store css and javascript files.
- **Predict.py:** The primary algorithm and the CSV data are worked on in this module. This module will generate the diet plan based on the questionnaire the user fills.

VI. RESULTS

STEP 1:

When the consumer enters the website, he receives Login Screen wherein he has to Sign in/Register to further utilize the assistance.



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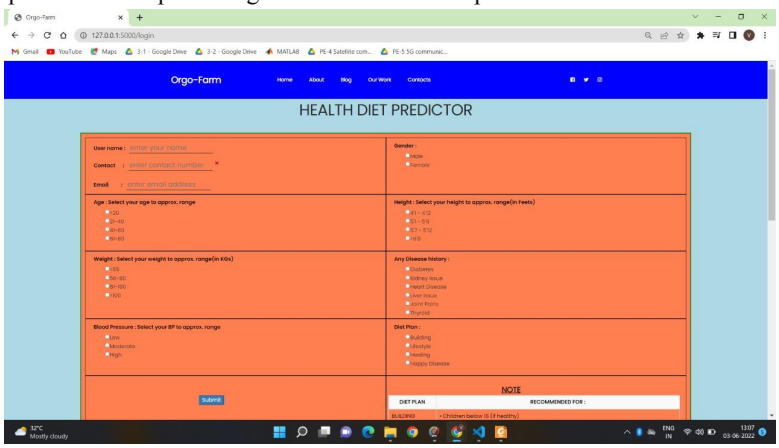
STEP 2:

Out of the three options the consumer can pick anyone to proceed with; For instance, if he prefers to predict his health he should answer the questions and upon doing so he receives a diet plan.



Step 3

After submitting the responses, the consumer will receive the diet plan along with the alternatives of unhealthy food habits and ancient Vedic practices.

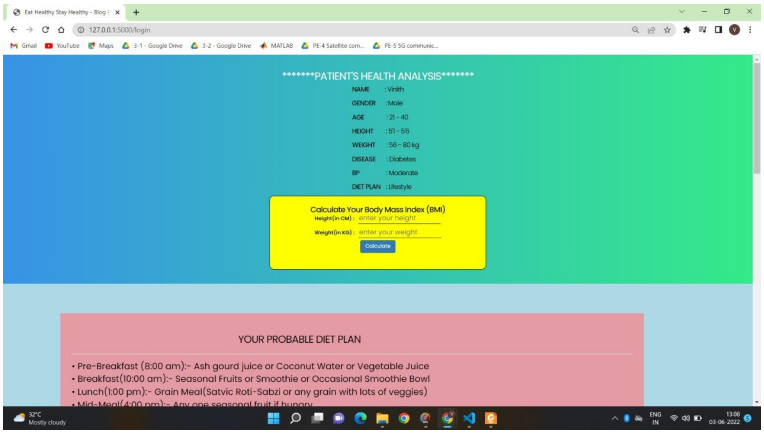
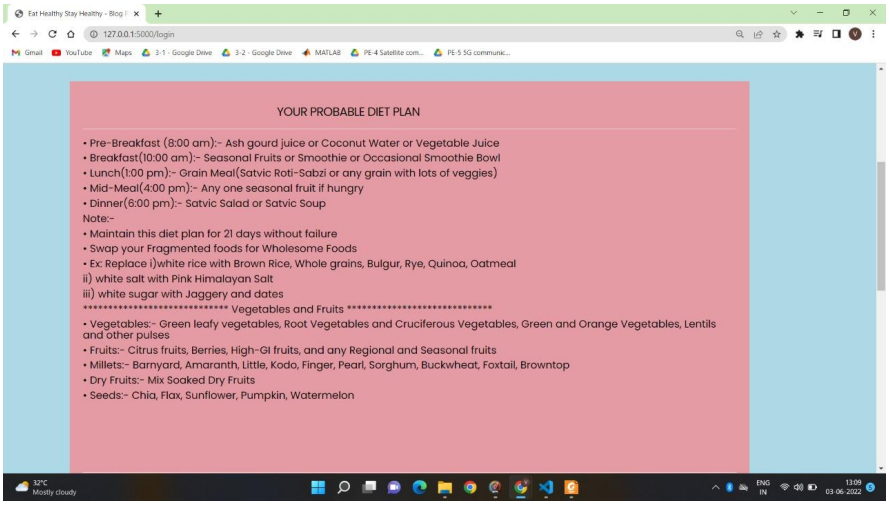


Fig 4: displays the consumer's health details



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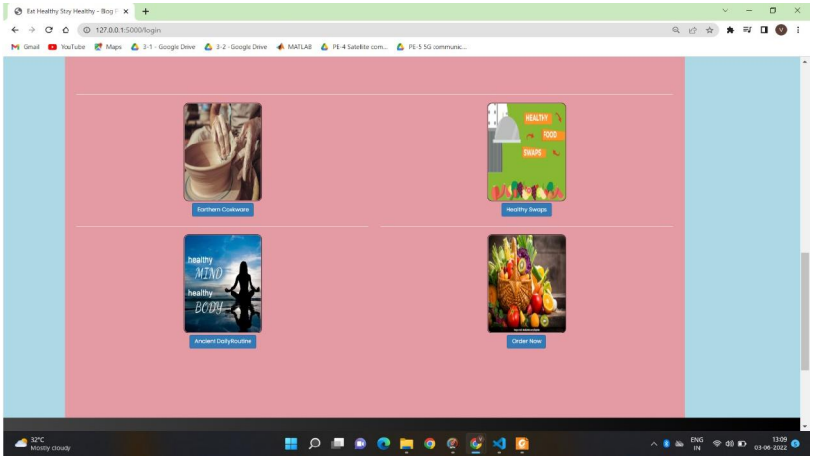
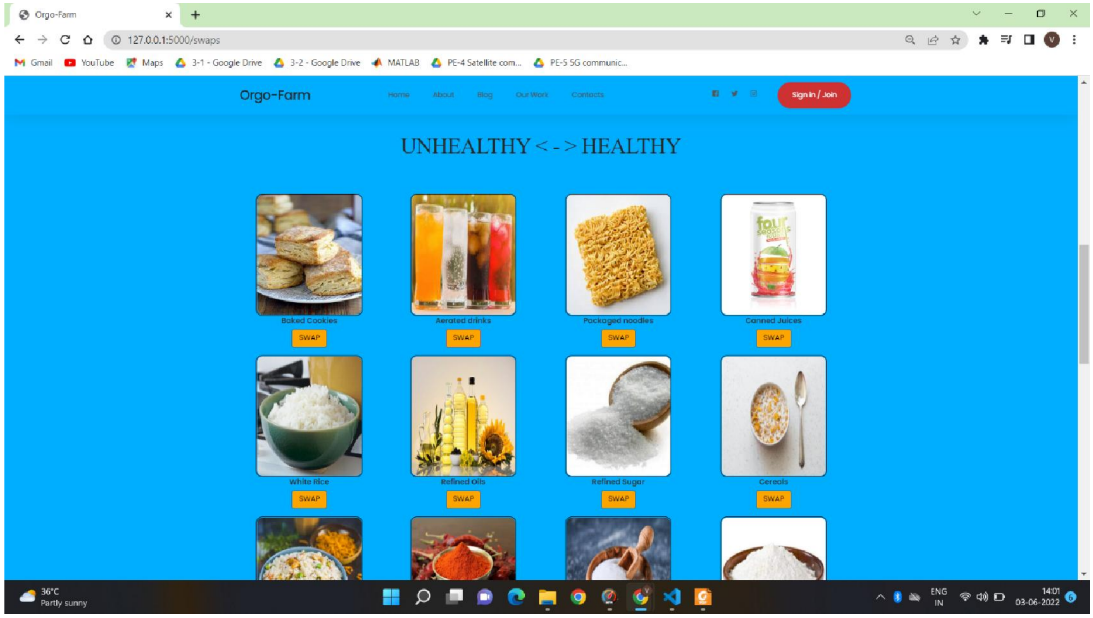


Fig 6: Demonstrates the four possibilities for a happy and healthy existence

Step 4

If the consumer wants to know the alternatives to unhealthy food habits then he has to click on the healthy swaps and check those alternatives.



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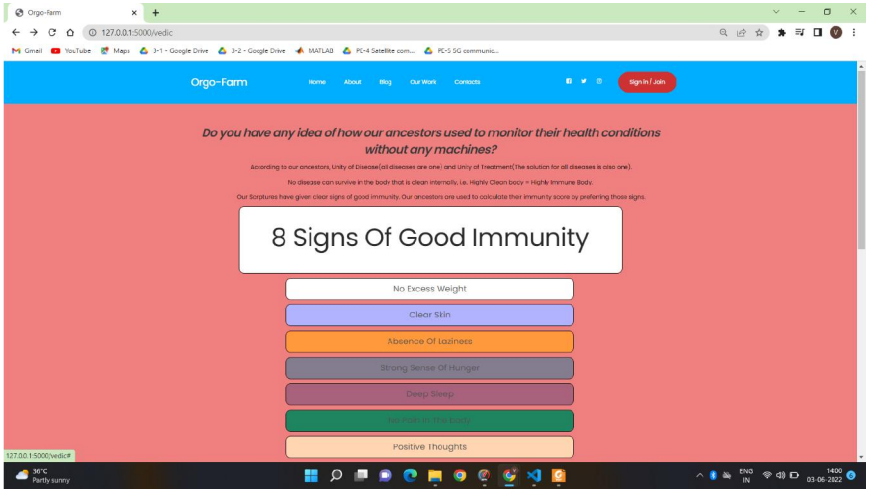
Step 5 :

If the consumer wants to know the ancient Vedic practices to boost the immunity system then he has to click on the Ancient Daily Routine.



Step 6

If the consumer wants to purchase foods then receives to select from the available items and add them to the cart.

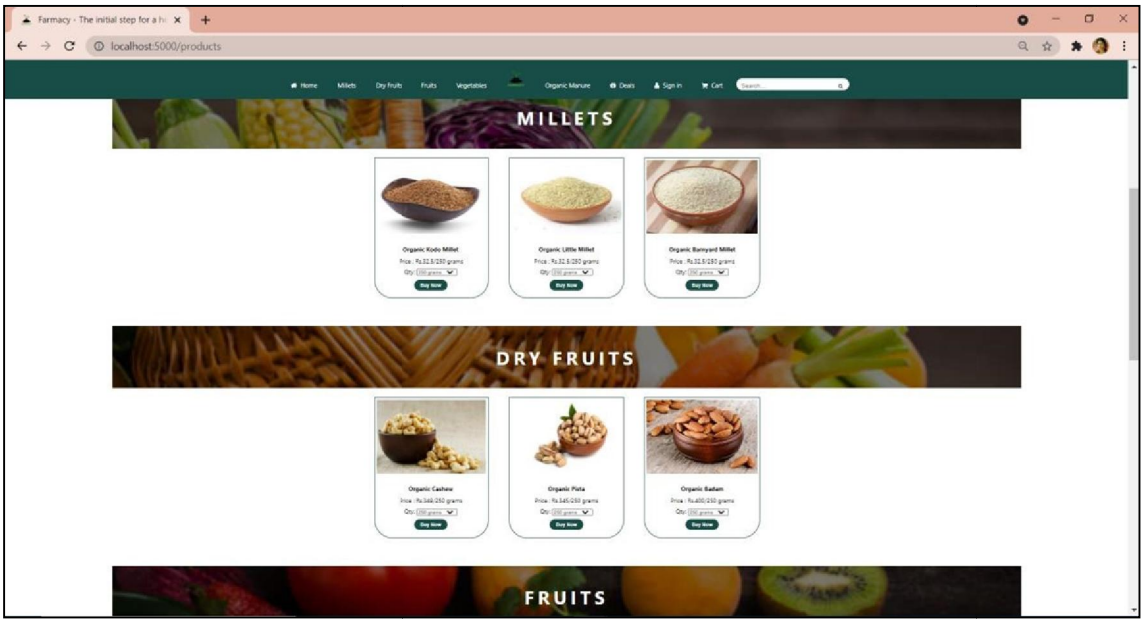


Fig 9: displays the available list of foods.

VII. CONCLUSION

To end this paper, implementing organic farm practices is the only way to protect future generations from dangerous chemicals and health hazards. Following the sattvic food diet plan improves the positive thoughts among the people and promotes peace and prosperity everywhere. Our approach is to promote chemical-free soil and healthy people for a sustainable future.

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Though consuming organic foods has been followed in the villages, we want to implement it in cities where the people suffered more from health issues. This web application can be additionally evolved and changed over to a handy application where it can caution the client not to miss their eating regimen as per the time set by the client himself . The remainders will be intriguing and may be useful to the elderly.

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