Survey on Crop Fertilizer Advisor

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Abstract*: Agriculture is a major sector of our country economy. The main problem facing farmers in real life is that they do not have the right crop growth technique for better growth of yields. "Crop Fertilizer Advisor" helps Indian farmers make informed decisions about which crops to grow based appropriate fertilizer recommended at every stage of growth. The application also keeps track of food given to the crops. When analyzing crops, it's crucial to understand the specific needs of each crop. For young crops, a focus on nitrogen-rich fertilizers is often beneficial. Regular monitoring of the crop's progress allows for adjustments in fertilizer application based on its growth stages. This dynamic approach helps optimize nutrient supply, preventing deficiencies or excesses that can hinder crop development. Such an application would empower farmers and agricultural professionals to make informed decisions, enhancing crop health, yield, and sustainability.*

Keywords: Agriculture

I. INTRODUCTION

In the ever-evolving landscape of agriculture, harnessing the power of technology to optimize crop production has become imperative. As we navigate a world with increasing population demands and changing climatic conditions, the need for innovative solutions in the agricultural sector is more pronounced than ever.

Modern agriculture faces multifaceted challenges, ranging from unpredictable weather patterns to the growing demand for sustainable farming practices. Farmers must adapt to dynamic conditions while ensuring efficient crop yields to meet the demands of a burgeoning global population. It is within this context that CropCuisine emerges as a revolutionary solution, seeking to empower farmers with a comprehensive tool that combines cutting-edge technology and agricultural expertise.

OBJECTIVES:

- **Optimize crop selection:** Increase crop productivity by guiding farmers towards selecting crops that are well-suited to their geographical and market conditions
- **Enhance Cultivation Practices**: administrator can easily add, update and delete the data of the students and control the overall system.
- **Improve User-Friendly Interface:** Facilitate widespread adoption by ensuring that the application is easy to navigate, enabling farmers to seamlessly integrate technology into their daily farming activities.
- **Enable Data Security and Privacy:** Build trust among users by prioritizing the security and confidentiality of their data, encouraging widespread adoption of the this platform.
- **Facilitate Continuous Improvement:** Ensure the application remains relevant and effective by incorporating user feedback, staying abreast of technological advancements, and adapting to evolving agricultural practices.

II. LITERATURE SURVEY

BASF's xarvio Field Manager:
Developed by BASF, xarvio Field Manager utilizes crop modeling and agronomic algorithms to offer farmers personalized crop protection and fertilizer recommendations.

CropX:
CropX is a company that offers a smart farming platform, including a mobile app, which integrates soil data, weather information, and satellite imagery to provide precise irrigation and fertilizer recommendations.

John Deere's Mobile Farm Manager:
John Deere, a well-known agricultural machinery manufacturer, has a Mobile Farm Manager app that provides farmers with tools for field and crop management, including fertilizer and nutrient management features.

Yara's Atfarm:
At farm, developed by Yara, is an app designed to help farmers optimize the crop nutrient applications. It considers factors like weather, soil conditions, an crop growth stages for personalized fertilizer recommendations.

Virendra Panpatil ET:
It had accomplished enormous work for Indian ranchers by making productive yield proposal framework. They created framework utilizing classifier models. The proposed framework can be utilized to figure out best season of farming, development of crop and crop reaping.

Mayank ET:
User Interface, increment the precision value of crop yield forecast, investigate distinctive climatic boundaries, for example, overcast cover, precipitation, temperature, and so on In the proposed framework they zeroed in on maharashtra State for implantation, information gathering they utilized government web site.

AgroStar:
AgroStar is an agricultural technology company that offers a mobile app providing farmers with information on crop care, including fertilizer recommendations based on soil health and crop type.

Plantix:
While not exclusively for fertilizer recommendations, Plantix is a plant disease diagnostic app that also provides some information on nutrient deficiencies and recommendations for various crops.

FarmLogs:
This platform offers farm management tools, including soil health monitoring and fertilizer recommendations based on the specific needs of the crops.

NutrientStar:
NutrientStar, developed by the Agricultural Nutrient Management Council, provides fertilizer guidance for corn crops in the United States.

III. CONCLUSION

The Crop Fertilizer Advisor application project, stands as a beacon of innovation in the field of agriculture, promising to usher in a new era of efficiency, sustainability, and empowerment for farmers worldwide. Through a meticulous combination of advanced technology, data analytics, and agricultural expertise, this application aspires to revolutionize traditional farming practices and navigate the challenges posed by a rapidly changing global landscape. It emerges as a solution that not only addresses immediate concerns but also fosters a sustainable and resilient agricultural future. By providing farmers with real-time, personalized recommendations based on local conditions, market dynamics, and cutting-edge research, transforms farmers into knowledgeable food advisors, capable of making informed decisions that transcend the limitations of traditional farming practices.

Moreover, the emphasis on a user- friendly interface ensures that the benefits of this application are accessible to farmers across different technological proficiencies, promoting inclusivity and widespread adoption. The integration of

robust data security measures underscores the commitment to safeguarding sensitive information, building trust among users and fostering a secure digital environment

In essence, this application is more than a project; it is a catalyst for change in the agricultural sector. By harnessing the power of technology and human expertise, it paves the way for a sustainable, resilient, and prosperous future for farmers and communities around the world. As this transformative journey unfolds, Food Advisor for crops promises to redefine the landscape of agriculture, proving that innovation and sustainability can go hand in hand, cultivating not only crops but also a brighter and more sustainable future for generations to come.

REFERENCES

[1] https://www.basf.com/global/en/ media/news-releases/2020/02/p- 20-128.html New nutrient and buffer zone management features launched xarvio™ FIELD MANAGER already used by more than 17,000 farmers globally on over two million hectares of farmed fieldsLeading to higher return on investment and more sustainable farming

[2] CropX-System-Product- Brochure_Email-4.pdf : Founded in 2014, CropX Technologies is one of the fastest growing providers of agribusiness farm management solutions in the world, deployed in over 60 countries and across all the arable continents.Our expertise is grounded in farming, agronomy, hydrology, machine learning, engineering and tech. We create a synergy of contributions that draws on the wisdom and practical knowledge of our farmer-employees, founders and customers. Our team spans four continents with offices in the United States, the Netherlands.

[3] https://www.deere.com/en/technolog y-products/precision-ag- technology/data-management/john- deere-mobile-farm-manager/Access field information from a mobile device. Perform soil sample tasks from the field. Easily share information with trusted advisors. Compatible with APEX

[4] https://www.yara.co.uk/crop- nutrition/farmers-toolbox/atfarm/ As a global leader in nitrogen (N) fertiliser production, Yara's key ambition in the next decade is to build a nature-positive food future. Yara Research and Development created Atfarm in 2018 to help farmers reach these goals. In today's world when nitrogen fertiliser prices are volatile and their usage is regulated more every year, tools like Atfarm bring the power of technology to your fields using the computer and smartphone you already have.

[5] Crop, Fertilizer and Pesticide Recommender System using Machine Learning pdf page-419: It can do a lot of additional features to the system. Currently, it takes necessary environmental factors as inputs and suggests a very suitable crop to be cultivated.And to suggest more than one crop with more accuracy.In our project we found that the accurate prediction of different specified crop yields across different districts will help to farmer. From this farmers will plant different crops in different districts.In the near future, geospatial analysis will be added to data processing models to increase accuracy and better integrate geospatial data.

[6] Agrostar advanced plant growing techniques pdf: Need for a scalable model to deepen the penetration Almost after a year of passing the farm bill amendment laws, India is still divided on the bill. In the politics of states vs. center, the ultimate sufferer is that small and marginal farmer. While, technological advancements are facilitating farmers to eliminate the middlemen with ease and the amendments provided the window wherein they can sell the produce to anyone directly and even enter into the contract manufacturing; however, the reality of this happening seems to be farfetched yet.

[7] https://plantix.net/en/Plantix helps farmers diagnose and treat crop problems improve productivity and provide farming knowledge Achieve your farming goals and improve your agriculturai experience with Plantix.

[8] https://blog.bushelfarm.com/farmlog s-is-now-bushel-farm FarmLogs got its start in 2011 when its co-founders saw technology making things easier for the world, but not back home on the farm. Over the next several years, the FarmLogs team built easy-to-use software that would help farmers run more efficient operations. In June 2021, Bushel acquired FarmLogs and made a commitment to build upon the strong foundation the FarmLogs team created while taking the farm management software to the next level.