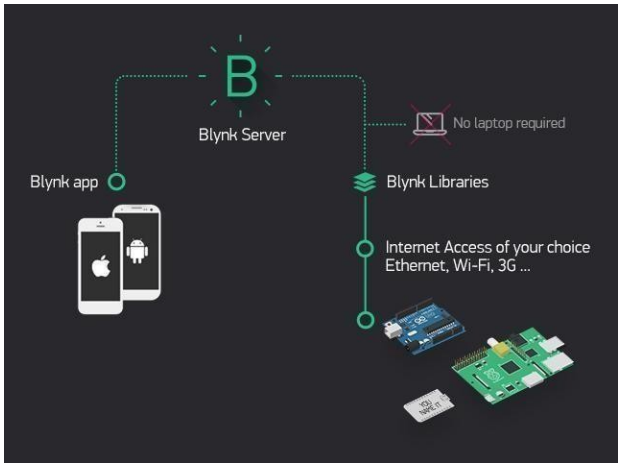
Over Food Production and Indigenous Food System

Mr.D.Jotheeswaran[1],M.Tech, D.Joshua Stewart[2], D.Manibarathi[3], G.Sothikesavanesh[4],
Assistant Professor, Department of Computer Science and Engineering[1],
Bachelor of Engineering[234], Department of Computer Science and Engineering[234],
Muthayammal College of Engineering[1234].

ABSTRACT-Food waste is becoming a more pressing issue because of its detrimental effects on the economy and the agriculture sector. According to research, homes appear to produce the most food waste in many nations, with some of this being due to food being thrown out because it has gone bad. The primary goal Our solution will notify users who have food waste so they can add their meal quantity and timing information. The globe faces a serious problem with food waste, since millions of tons of food are lost annually. An Android app called "Seva" for managing food waste was created in attempt to solve this issue. Users can contribute food to NGOs or farmers using the application, which also gives hotels a platform to sell unsold food. Other modules in the application include for admin, users, NGOs, farmers, and hotels. The system's modeling, analysis, conclusion, andrecognition are all presented in this work.

I INTRODUCTION

Eliminating food waste in our world today requires making use of the food sources that are readily available within local communities, including any perishable items that are not consumed in full withinthe intended period and leftover food items in restaurants, stores, and food distribution centers that may be about to expire. This is very important, especially in times of crisis like the COVID-19 pandemic. In order to address two important issues— hunger and food waste—this article focuses on developing the intriguing mobile application "Seva," which offers a widely used platform where users may see the food resources that are accessible in their neighborhood and then obtain food. This software falls into the general category of AI for Smart Living in Smart Cities and is relevant to the UN SDGs (United Nations Sustainable Development Goals). This work reduces hunger and food waste, which benefits the environment and healthcare in addition to involving ubiquitous computing and the Internet of Things.



Food production is a fundamental component of human civilization, encompassing the cultivation, harvesting, processing, and distribution of crops, livestock, and aquatic resources to meet the dietary needs of a growing global population. It plays a pivotal role inensuring food security, nutrition, and livelihoods for billions of people worldwide.

As the global population continues to rise, surpassing
7.8 billion people in 2021 and projected to reach over 9 billion by 2050, the demand for food is escalating. This demographic expansion, coupled with shifting dietary preferences, urbanization, climate change, and environmental degradation, poses significant challenges to sustainable food production.

II EXISTING SYSTEM

In existing system if anyone have extra food because of any function or in their home it will be become waste because instantly there is no way to share with anyone if they are having lots of food.
Even if they want to give that extra food to any orphanage or poor people they don't have time or don't have an idea about that. So that we have create a application for sponsor that extra food to poor people or nearby orphanage.

PROPOSED SYSTEM

By using the program, we can reduce food waste in the suggested system. This project aims to address food waste and poverty by redistributing surplus food, which has proven to be a very effective socialinnovation. The People input the food details and the amount of time left. The timer will be set as default on our refrigerator. The buzzer will notify the user as a reminder if the time is exceeded. Right now, our goal isto stay away from the main waste that often occurs in India, which is food

Fig 3.1 Microcontroller

Using Arduino Uno and a buzzer, you can implement a simple project related to food production, such as an automated system to alert farmers or gardeners about specific conditions in their crops. For example, you could create a system that monitors soil moisture levels and alerts the user when irrigation is needed.
Depending on the sensors you choose, connect them to the appropriate pins on the NodeMCU. For example, connect the temperature sensor to pin D1, the humidity sensor to pin D2, and the soil moisture sensor to pin A0.Connect the positive (longer) leg of the buzzer to a digital pin (e.g., pin D3).Connect the negative (shorter) leg of the buzzer to any GND pin on the NodeMCU. Use the Arduino IDE or another suitable development environment to write the code for the NodeMCU. Configure the NodeMCU to connect to your Wi-Fi network by providing the SSID and password in the code.Write the IoT code to read sensor data and trigger the buzzer:Use the Arduino IDE or a compatible programming environment to write the code for the NodeMCU.Implement code to read sensor data at regular intervals and send it to a cloud platform or IoT service over Wi-Fi.Set up rules or conditions in the IoT platform to trigger an alert (e.g., activating the buzzer) when certain thresholds are exceeded or specific events occur (e.g., temperature too high, soil moisture too low).Deploy and test the system:Upload the code to the NodeMCU using the Arduino IDE or another suitable method.
Power on the NodeMCU using a USB cable connected to a power source.Place the sensors in the desired locations within the food production environment (e.g., greenhouse, garden) .Monitor the system and verify that sensor data is being transmitted to the IoT platformand alerts are triggered correctly.Take appropriate actions based on the alerts:When the buzzer isactivated, take necessary actions to address the issue detected by the sensors (e.g., watering plants, adjusting environmental conditions).

III PROBLEM STATEMENT

In recent years, food production has become a pressing global issue due to various challenges and

complexities. Despite advancements in technology and agricultural practices, numerous factors continue to hinder efficient and sustainable food production. Therefore, the problem statement for food production encompasses several key areas:
Population Growth: The world's population is rapidly increasing, placing immense pressure on food production systems to meet growing demands. With estimates projecting a population of over 9 billion people by 2050, there is an urgent need to enhance food production to ensure food security for all.

Climate Change: Climate change poses significant challenges to food production through altered precipitation patterns, increased frequency of extreme weather events, and rising temperatures. These changes affect crop yields, water availability, and the prevalence of pests and diseases, threatening globalfood security.
Environmental Degradation: Agricultural practices contribute to environmental degradation, including deforestation, soil erosion, water pollution, and loss of biodiversity. These practices not only compromise ecosystem health but also undermine the long-term sustainability of food production systems.Resource Scarcity: Depletion of natural resources such as arable land, freshwater, and fossil fuels poses constraints on food production. As arable land diminishes and water scarcity intensifies, finding innovative and sustainable solutions to maximize resource efficiency becomes imperative.

Food Loss and Waste: A significant portion of the food produced worldwide is lost or wasted at various stages of the supply chain, from farm to fork. Addressing inefficiencies in storage, transportation, distribution, and consumption is crucial for reducing food loss and waste and optimizing food production.Socioeconomic Inequities: Disparities in access to resources, land ownership, technology, and market opportunities contribute to socioeconomic inequities in food production. Empowering smallholder farmers, improving access to markets, and promoting inclusive agricultural policies are essential for fostering equitable food systems.Technological Adoption: While technological innovations hold promise for enhancing productivity and efficiency in food production, disparities in technological adoption and access persist, particularly in rural and developing regions. Bridging the digital divide and promoting technology transfer and capacity building are critical for harnessing the full potential of technology in agriculture. Addressing these challenges requires a multidisciplinary approach that integrates scientific research, policy interventions, technological innovation, and community engagement. By identifying and prioritizing solutions to the complex problems facing food production, stakeholders can work collaboratively to build resilient, sustainable, and equitable foodsystems that meet the needs of present and future generations.

IV CONCLUSION

In summary, the prospects and difficulties associated with food production necessitate a comprehensive strategy that takes into account everything from resource shortage to climate change, while also utilizing sustainable practices and technologybreakthroughs. We can boost productivity while reducing our impact on the environment by embracing innovative agricultural practices like precision farming and vertical agriculture. In addition, creating a collaborative environment amongst stakeholders— farmers, researchers, policymakers, and consumers—is essential to creating comprehensive solutions that guarantee food security for present and future generations. By working together, we can create a just and resilient food system that will support our planet's and our communities' health while simultaneously meeting the demands of an expanding population.

REFERENCES

[1] Gupta, Awaysheh, Benson, M., Azab, M., Patwa, F., and Sandhu, R. offer an attribute-based access control system for cloud-enabled industrial smart cars. IEEE Transactions on Intelligent Systems, 17, 4288–4297 (2021).
[2] Trends, dangers, and approaches related to user authentication on mobile devices 2020, 170, 107118; Wang, C.; Wang, Y.; Chen, Y.; Liu, H.; Liu, J. Computer. Netw.
[3] Federico, S., Gabriele, C., Roberto, C., and Nicola, Z.: Multi-factor authentication for online banking survey in real-world settings. Digital. Safety. 2020, 95, 101745
[4] Wang, D., Zhang, X., Zhang, Z., and Wang, P. Understanding the security flaws in multi-factor authentication systems for multi-server configurations. Safe. Computer. 2020, 88,101619
[5] C.Nagarajan and M.Madheswaran - 'Experimental verification and stability state space analysis of CLL-T Series Parallel Resonant Converter' - Journal of ELECTRICAL ENGINEERING, Vol.63 (6), pp.365-372, Dec.2012.
[6] C.Nagarajan and M.Madheswaran - 'Performance Analysis of LCL-T Resonant Converter with Fuzzy/PID Using State Space Analysis'- Springer, Electrical Engineering, Vol.93 (3), pp.167-178, September 2011.
[7] C.Nagarajan and M.Madheswaran - 'Stability Analysis of Series Parallel Resonant Converter with Fuzzy Logic Controller Using State Space Techniques'- Taylor & Francis, Electric Power Components and Systems, Vol.39 (8), pp.780-793, May 2011.
[8] C.Nagarajan and M.Madheswaran - 'Experimental Study and steady state stability analysis of CLL-T Series Parallel Resonant Converter with Fuzzy controller using State Space Analysis'- Iranian Journal of Electrical & Electronic Engineering, Vol.8 (3), pp.259-267, September 2012.

[9] Nagarajan C., Neelakrishnan G., Akila P., Fathima U., Sneha S. "Performance Analysis and Implementation of 89C51 Controller Based Solar Tracking System with Boost Converter" Journal of VLSI Design Tools & Technology. 2022; 12(2): 34–41p.
[10] C. Nagarajan, G.Neelakrishnan, R. Janani, S.Maithili, G. Ramya "Investigation on Fault Analysis for Power Transformers Using Adaptive Differential Relay" Asian Journal of Electrical Science, Vol.11 No.1, pp: 1-8, 2022.
[11] G.Neelakrishnan, K.Anandhakumar, A.Prathap, S.Prakash "Performance Estimation of cascaded h-bridge MLI for HEV using SVPWM" Suraj Punj Journal for Multidisciplinary Research, 2021, Volume 11, Issue 4, pp:750-756
[12] G.Neelakrishnan, S.N.Pruthika, P.T.Shalini, S.Soniya, "Perfromance Investigation of T-Source Inverter fed with Solar ec.2007
[13] M Suganthi, N Ramesh, "Treatment of water using natural zeolite as membrane filter", Journal of Environmental Protection and Ecology, Volume 23, Issue 2, pp: 520-530,2022
[14] M Suganthi, N Ramesh, CT Sivakumar, K Vidhya, "Physiochemical Analysis of Ground Water used for Domestic needs in the Area of Perundurai in Erode District", International Research Journal of Multidisciplinary Technovation, pp: 630-635, 2019
[15] Characteristics in ABAC with group hierarchy: reachability analysis IEEE Trans. Reliable Secure Computer. 2022, 20, 841–858, Gupta, M., Sandhu, R., Mawla, T., & Benson, J.
[16] Barkadehi, M.H.; Nilashi, M.; Ibrahim, O.; Fardi, A.Z.; Samad, S. reviewed and categorized the literature on authentication systems in Telemat. Information. 35, 1491–1511 (2018).
[17] Blockchain identity authentication system- based IoT terminal connection service architecture 2020, 160, 411–422. Huang, J.C.; Shu, M.H.; Hsu, B.M.; Hu, C.M. Computer. Communication.
[18] In 2020, Zahid, G., Shafiq, A., Khalid, M., Hafizul, S., Mohammad, M.H., and Giancarlo, F. introduce an improved authentication technique for remote data access and sharing over cloud storage in cyber-physical-social systems. IEEE Access 8, 47144–47160.
[19] 9.Iris Technology: An Overview of Biometric Systems Based on Iris for Personalized Human Identification, Int. Granth aalayah J. Res. 2018, 6, 80–90; M.V.B. Reddy, V. Goutham