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Kissan Kiosk For Rural Areas

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Abstract: Kissan-Kiosk is a computing unit that provides access to bill status, bill payments, agriculture updates, soil testing, and crop advisory for farmers. These kiosks were originally similar in appearance to telephone booths, but they have since been improved and expanded to better serve their customers. They are typically placed in high-traffic areas that are easily accessible to farmers, such as shops and hotel lobbies. With the integration of new technologies, Kissan-Kiosks are now capable of performing various functions, such as facilitating bill payments. For instance, these kiosks can enable users to pay electricity bills, water bills, phone bills, and more. Moreover, the application of Kissan-Kiosks can be extended to various platforms, including tourist places for guiding tourists, railway stations for displaying train information and ticket vending, hospitals for dispensing medicines, and educational institutions for disseminating campus information**.**

Keywords: Kiosk, Bills ,Payment, RFID, Schemes

I. INTRODUCTION

Bill payments can be a time-consuming and inconvenient task, especially in rural areas where there may be long queues and a lack of internet connectivity for online payments. According to a survey conducted in July 2018, 43,088 out of 5,97,618 villages in the country do not have proper internet connections to make payments online. To address this issue, a Bill Payment Kiosk Machine has been designed to provide integrated bill payment services under one roof, eliminating the need for long queues and ensuring fast billing services. This multi-purpose Kiosk also offers multiple modes of payments and high-security features for collecting cash. This project aims to reduce the inconvenience faced by people in rural areas who may not have access to reliable internet connectivity. The Kiosk accepts any type of bill, including electricity, water, and phone bills. Additionally, agriculture plays a vital role in India's economic development, further highlighting the need for this project.

II. LITERATURE SURVEY

1. Mr. K.KANNAN-2013 International Journal of Scientific & Engineering Research Title: SECURED PIN ENTRY METHOD FOR ATM USING MICROCONTROLLER In this Paper they have proposed the use of embedded system and basic visual programing to build a secured ATM transaction system in a better and easy manner. The Bank provides card to the user and gives random number, a pseudo random code is sent to the card users when they insert their cards in the ATM machine using their phone number. In order to continue their transaction, the users must enter the code received through mobile. If the code entered is incorrect then ATM machine gets locked. This will prevent unauthorized access to the bank account and misuse of lost card by the intruders. This will provide one more layer of security for the account.
2. Akshay Badhe-2018, International Journal on Future Revolution in Communication and Computer Science Engineering Title: Smart Agriculture and the Soil Nutrient Detection System using IoT Agriculture development with new technology is very much useful for farmers as it increase the yield. In this technological era, farming without testing soil and without knowledge about the crops will results tin lowering the yield, thereby results in loss to the farmers. This paper gives useful information about soil testing and it’s monitoring using different technologies and sensors. Different sensors are used to measure the soil moisture, temperature, pH value of water source and humidity. The information from the sensors is sent to the ADC then it send to the cloud through Raspberry pi. Finally we can save the information to the cloud and also we can see in mobile phone as well as laptop. Using this information we can know which crop is suitable for the given soil sample. In this way the technology aids farmers to get the exact information about the soil and also it makes the soil testing procedure a lot easier.
3. Kanthimathi-2015 International Journal of Advanced Research Trends in Engineering and Technology (IJARTET) Title: GSM Based Automatic Electricity Billing System Using GSM technology a meter can be designed which reads the information automatically. The GSM module is interfaced with embedded micro controller. The system is installed in home, and a micro controller is fitted with energy meter. The system senses the information from the meter fitted. The sensed information is transferred to GSM module using an external serial port. The processor executes the required codes to send the message to the system using GSM module. One more system is installed in EB office, where the authority is with that office. They will send the request to the system installed in homes. Later using GSM module, a unit signal is

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sent to the office. Based on the received information, the customer will receive bill information from Authority officer at the office. The power supply to the house will be turned off by giving command to the microcontroller by sending message through GSM module, if the bill is not paid before the time given. Once bill is paid the power supply is given to the customer. Here Power management concept is introduced.

III. METHODOLOGY

Initially bill payment KIOSK displays a message on LCD that "WELCOME TO KISSAN-KIOSK". User has to initiate the bill payment by pressing key. KIOSK ask to enter the bill number. User has to enter the Bill no using Keypad. It will display the bill amount on LCD. Then user has to select the payment option. User can make the payment in two methods: 1.Debit card and 2. Cash Deposit. If the debit card option is selected then it will ask for the user to swipe the card. Then user has to enter associated password. It will verify and deduct the payment from account. If Cash deposit option is selected then it will ask to put cash in cash tray. An IR sensor will detect the currency and tray will take the cash. GSM is used so that the payment information is sent to the user. The pH (NPK) sensor is used to monitor the soil pH and based on the value system will advise the suitable crops.

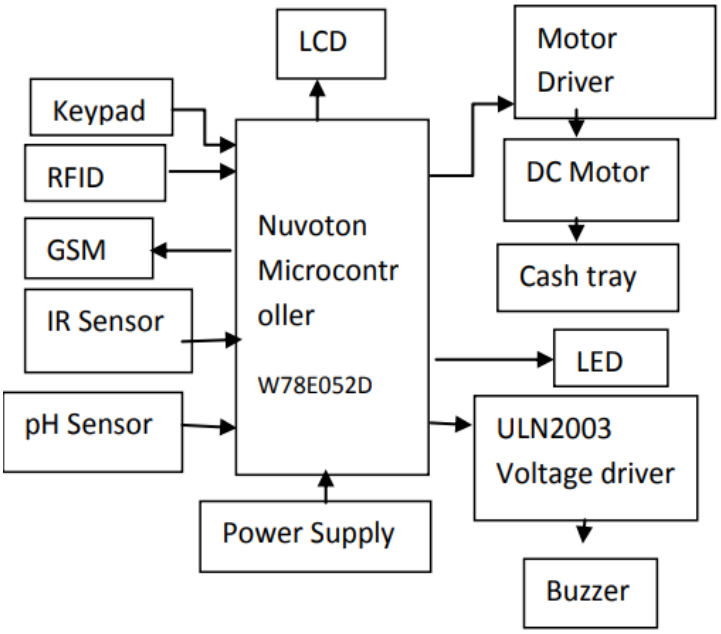

Figure 1: Block Diagram

LCD: It is used to interact with the users.

RFID Reader and Tags: These are captured by a device that stores the data in memory. In this project RFID is used to store the bill details.

GSM: In this project, it is used for communication of information between different systems.

pH Sensor: pH is the measure of acidity and is reported as a number between 0.0 to 14.0, Below 7.0 is acidic (sourness), Above 7.0 is alkaline(sweetness) and 7.0 is neutral. Below 7 is acidic in pH. pH of 1 is more acidic than pH of 5, in the same way pH of 13 is more basic that pH of 9. Soil pH measures how much hydrogen relative to how much calcium, magnesium, potassium, sodium, ad aluminium are in the soil. When there is more hydrogen, the soil is acidic and when there is more nutrients, the soil is alkaline. Most of the plants grown in the range of 5.5 to 7.5 pH value. We can measure pH of soil by inserting pH Sensor meter into the soil-water mixture, users can get the data from the display.

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Fig 2: Power Supply Circuit.

Transformer: It is used either step up or step down the ac signal. It uses the coils mounted on Ferro magnetic materials. Based on the number of terns on input and output sides, the signal will be stepped up or stepped down.

Rectifier: As a full wave rectifier, the diodes D1 and D2 are connected across the secondary winding of the transformer. During the positive half-cycle of voltage, the secondary winding end A becomes positive and end B becomes negative. Therefore diodeD2 conducts and D1 does not.The current across the center tap terminal is in the same direction for both half cycles of AC voltage. Therefore pulsating DC is obtained at the point C with respect to ground.

Filter: The capacitor C1 is used for filtering and connector across the rectifier output. Capacitor filters AC component present in the rectifier DC and gives steady DC Voltage. As a rectifier voltage increases, it charges the capacitor and also supplies current in the load. When capacitor is charged to the peek value of the rectifier voltage, rectifier voltage starts decrease.

Voltage Regulation: It is the supporting system used to keep the voltage level within the range of operation. If the voltage varies, voltage regulator will do some action to keep the voltage in the range of operation.

IV. RESULTS

Fig 3: LCD Display

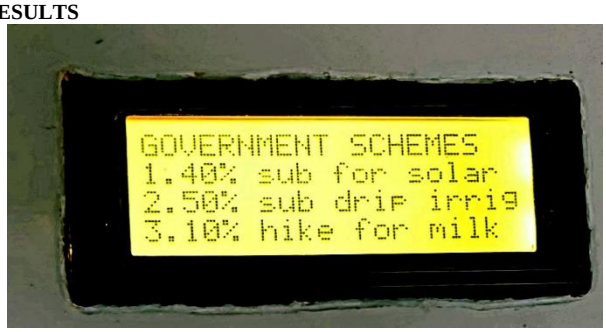

Fig 5:Display of Government Schemes

Fig 4:Main Menu Display

Fig 6: Bill Payment Display

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Fig 7: Completion of Bill Payment

V. CONCLUSION

Kiosk is a machine used to guide people without human interference. In this project we are designing a kiosk, which is helpful for bill payments and farmers in rural areas. Kiosks are majorly installed at locations with high movements of people so in future we can do similar types of kiosks which is used in historical places to guide the visitors, in colleges to give information about colleges, in hospitals to vend medicines, in railway stations, etc. Kiosks reduces the man work and they are easy to handle by the people.

VI. FUTURE SCOPE

- Tokenization will play a major role.
- KIOSKS will power cross-brand/location marketing Most of the people are still not using smartphones to make the payments in rural areas.
- Connected platforms will deliver hybrid virtual physical services.
- Smart KIOSKS will respond to real-time shopping patterns.
- Expansion to more rural areas: The Kissan-KIOSK project can be expanded to cover more rural areas, especially those that are remote and have limited access to agricultural inputs and resources. This can be done by setting up more KIOSKs in these areas or by using mobile KIOSKs that can reach out to these areas.
- Partnership with government agencies: The project can also partner with government agencies to offer subsidies and other incentives to farmers who use the KIOSK. This will help to encourage more farmers to use the KIOSK and also make it more affordable for those who are already using it.
- Integration of new technologies: The project can be enhanced by integrating new technologies such as precision farming, IoT, and AI. This can help farmers to optimize their crop yields and make better use of resources like water, fertilizers, and pesticides. Additionally, using data analytics and AI can help to predict weather patterns and assist farmers in making informed decisions.
- Integration with e-commerce platforms: The KISSAN-KIOSK can be integrated with e-commerce platforms to enable farmers to sell their produce online. This can help farmers to reach a wider market and get better prices for their produce.

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