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Pashupalak App

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ABSTRACT: Milk dairy farmers are dedicated individuals put an significant effort and are responsible for ensuring the supply of high-quality dairy items. They work long hours to secure their cows are healthy and well-fed. Milk dairy farmers must also be knowledgeable about the latest farming techniques and technologies to gain knowledge about the operations are efficient and sustainable. They play a vital role in food industry and are dedicated to providing high-quality dairy products to consumers around the world. The work provides user-friendly platform to empower dairy farmers by providing them with a transparent billing system that enables to get milk details and also can access detailed invoice and payment history. Through this work we provide computerized record maintainance and billing system. Manual system requires more time for processing and providing facility to view their payment details.

KEYWORDS: Fat, Milk Data, API, Farmer, Android, PHP.

I. INTRODUCTION

In the modern dairy industry, efficient management of milk production and billing processes is essential to ensure the smooth functioning of dairy farms and businesses. To streamline these operations and keep track of milk yields, quality, and transactions, an innovative solution known as the "Pashupalak App" has been developed. The Pashupalak app is a comprehensive software application designed to assist dairy farmers, milk cooperatives, and dairy businesses in recording, managing, and optimizing their milk-related activities. The proposed system joins cutting-edge technology and dairy industry expertise as user-friendly, cost effective, and reliable platform for all stakeholders. The system facilitates the recording of milk yields from individual cows, along with additional details such as milking times, Fat, and rate per ltr, total ltr rate. This data helps farmers monitor individual cow productivity, and make informed decisions to enhance overall milk production. Ensuring milk quality is a fundamental for dairy businesses. The system enables the collection and analysis of essential quality parameters like fat content. By tracking and addressing quality variations, farmers can maintain premium product. This application not only saves time but also reduces billing errors and disputes, creating a transparent and reliable payment system for dairy farmers and cooperatives.

II. RELATED WORK

In accordance with the author ,Patel Harshad. J Patel Nikhil. N et al. [1].The system will not allow to other for accessing data to the unauthenticated user and also it includes the staff details ,milk details are stored in the database and also displays the result for a authorized user. Nikhil Patil, Pradip Patil et al. [2] The project's objective is to create a comprehensive system for efficiently managing and overseeing milk testing, billing, and communication through SMS. This paper focuses on automating the milk collection process by utilizing various components such as the election card, GSM technology, load cell, smart card, photo diode, and LED. In [3], the author, Mr.yadav Omkar Mahadev explained his work that implemented on computer to remove drawbacks of manual work . and it will have efficient to retrieval of data ,in this work cannot be able to maintain milk billing system.When it comes to Iot field the authors Sharadha J. Dobariya,Sanchita S Landge [4] here the project title explains it is implemented using Iot , it ensure the quality of milk by measuring the vital parameters present in milk and adulterants that are added to milk,they measure in different parameter such as pH, turbidity, conductivity, odor, temperature using a sensor . In [5], the author , Mr Shaikh Shahid Miraj, Mr Shinde ketan Dilip are clearly explains how the dairy employees and users can manage the transaction activities. The authors in [6] created the work that help to dairy owner for storing all kinds of milk related information in project. This system contains information about Customer likes Id, Name , Mobile No, etc . Numerous studies have shown that new health management systems for dairy cows range from health monitoring to detection and treatment of

sick cows. With the help of Internet of Things technology, farmers can use surveillance systems to monitor the health of their cows over long distances. If we find any suspicious cattle, we will report it to the producer and get confirmation immediately. The node successfully measures the cow's temperature and heart rate values, sends them to the gateway, and forwards them to the server for display on the frontend [7]. Based on Arduino the authors Sumitra Goswami and Ashok Dangi et al. [8] proposed a system is designed as Arduino-based system to measure milk quality and provide a faster and more reliable result than the previously developed milk quality analyzer system. The authors B. M. Kiran Kumar, Srividya B.V et al.[9]. various factors are calculated, such as fat, pH, and the desired ratio of fat mass. The system calculates these parameters and the microcontroller reads the data and sends to android phone. The Blynk app installed on the phone it perform billing calculations and calculate the daily payments. This technology offers a clever mobile application that assist in determining the amount of fat in milk. Both Arduino boards and microcontrollers may use the sensor. In [10] goal of the study is to identify the fat, which can be inferred by looking at all of the aforementioned systems. Hazardous gases such ammonia, hydrogen sulphide, benzene series steam, smoke, and others are accurately detected by the MQ135 gas sensor The quantity per litter calculation, IOT cloud for remote monitoring, and the level of milk humidity are also applied.

III. METHODOLOGY

Keeping record of milk measurement data, manual payment record keeping, complex billing calculation and large scale system leads to confusion. The milk details will entered in the cards which are issued by the cooperative society with the unique id number and leads complex problem . There are more chances of human error so building an web application to help the co-operative society employees by storing the each milk producers details and their payment invoices as well as developed a android application for farmers that will display their details and the payment history which has been updated by co-operative society employee. In the web application the employee can login with their credential details and update the farmer milk details and they can view the reports of each farmer in date wise and month wise. In the other side farmer can login in the android application and they can view their milk details and also the payment history.

Usecase diagram

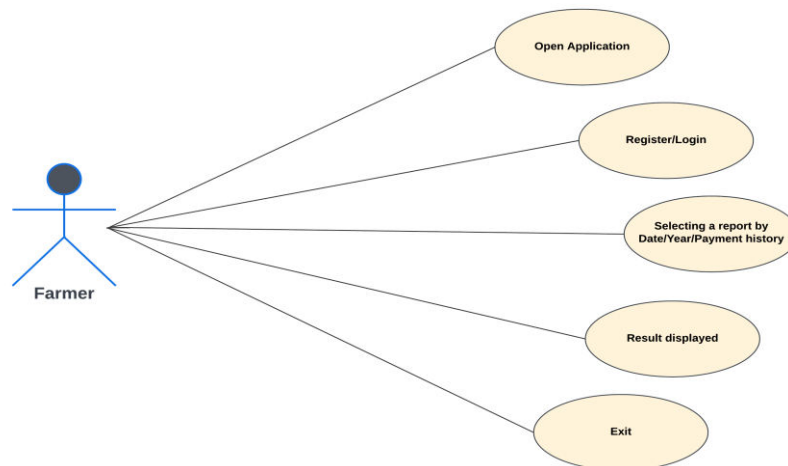


fig 1.uscase diagram for farmer

fig1.is a usecase diagram for farmers and it is a android application first step of farmer is to open the application and register for the application and login with his/her credential details. After logged in to the application he must select a date, year or payment history through the dropdown button .Once a button is selected from the dropdown list, the application will display the corresponding report.

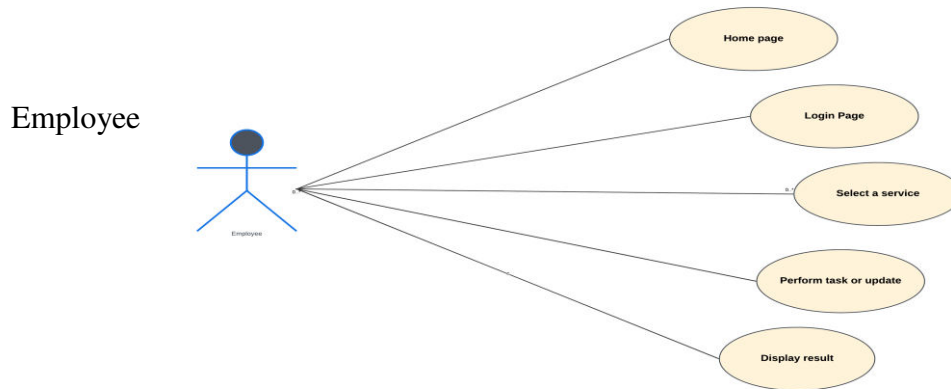


fig 2.usecase diagram for employee

fig2. this usecase diagram for employee which is designed in a web based platform ,first they have login for the application and select a services such as update the farmer milk data.

Android application

Dairy management

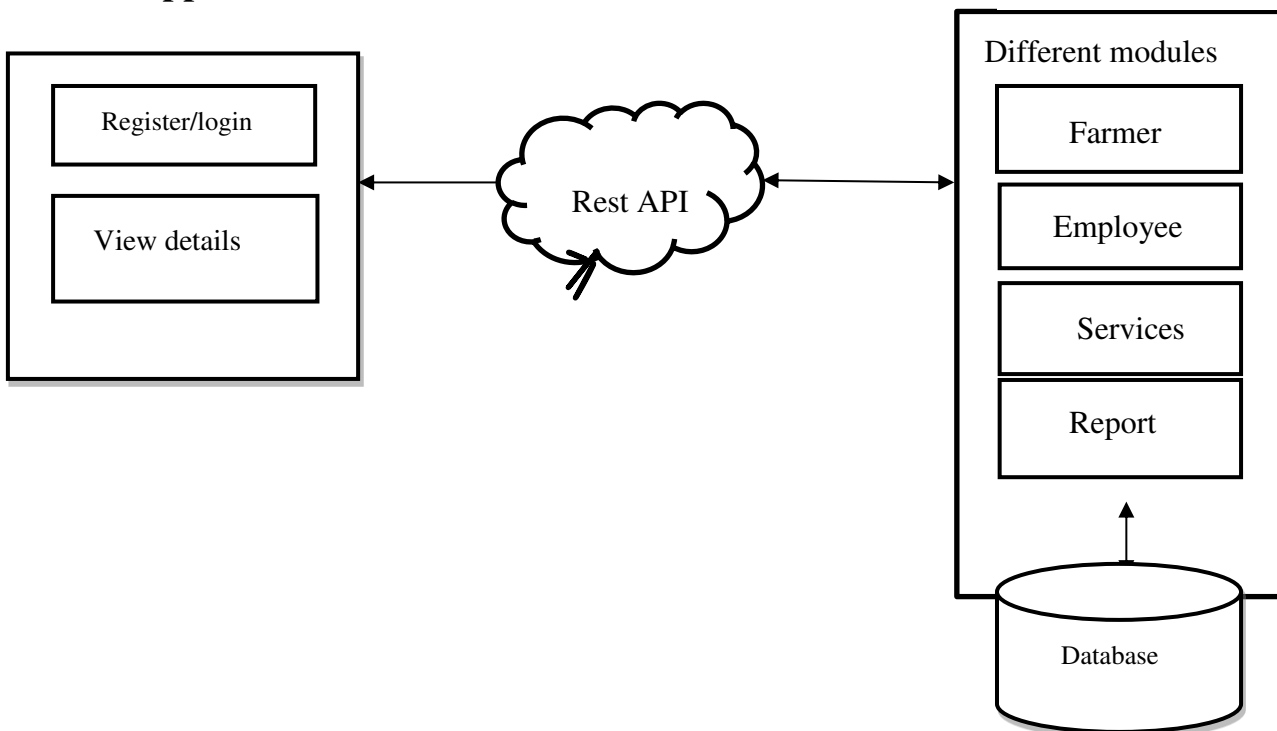


fig.3 system architecture

IV. EXPERIMENTAL RESULTS

Figures shows the outcome of Pashupalak App. Figs. 4 (a) shows the login page dairy employee can access their account using email and password. 4(b) is the service page for the dairy employee which they can update the farmer details. Figs(c). update the farmer details.

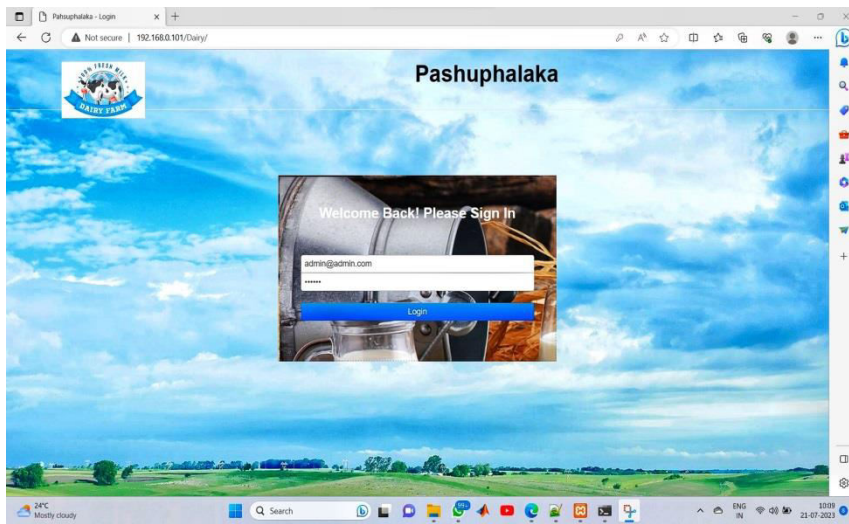


Fig 4(a)



Fig 4(b)



Fig 4(c)

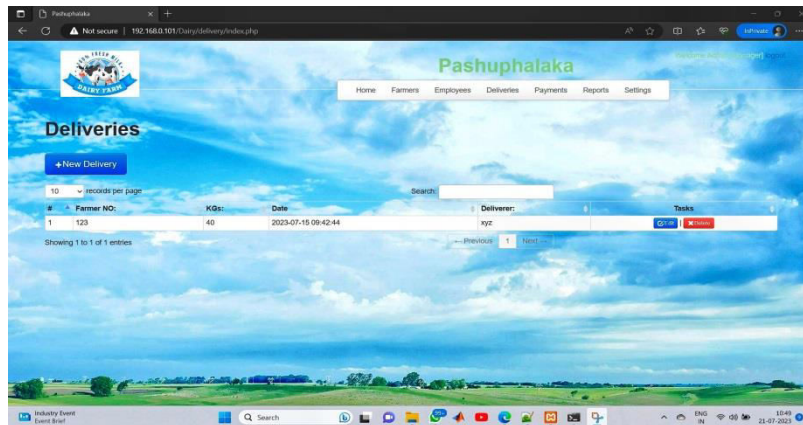


Fig 4(d)

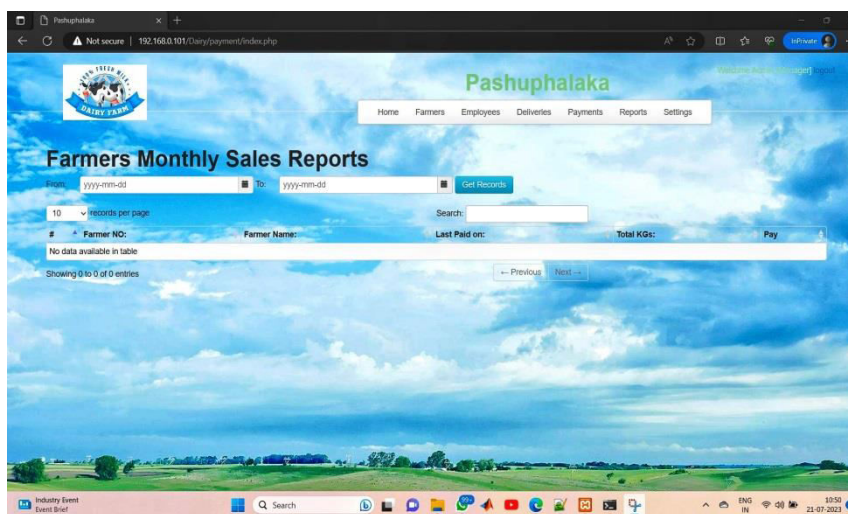


Fig 4(e)

Fig.4(d) deliveries page which is used to update the farmer details Fig4 (e) report of farmers milk data in monthly wise

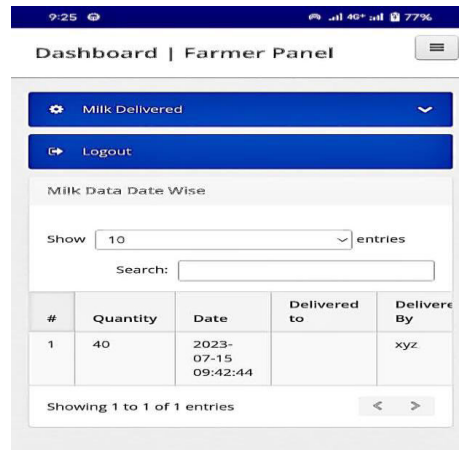


Fig. 5(a)

Fig. 5(a) is a android application it is used by the farmer to view their milk details and the payment details

V. CONCLUSION

In conclusion, Throughout the project, extensive research was conducted to understand the requirements of milk farmers and the existing issues they faced in billing and payment management. In the time of development worked diligently to implement a comprehensive billing system that caters to the specific needs of milk farmers, store the factors such as milk quantity, quality, pricing, and customer records. The usability and user experience of the billing system were given significant attention during the development process. Extensive user testing and feedback collection were carried out to ensure that the system is user-friendly, intuitive, and meets the specific needs of milk farmers.

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