

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
“JNANA SANGAMA”, BELAGAVI - 590 018



A MINI PROJECT REPORT
on
“DAIRY MANAGEMENT SYSTEM”

Submitted by

Shrikanth

4SF19IS099

Shubham Sharma

4SF19IS101

BACHELOR OF ENGINEERING
in
INFORMATION SCIENCE & ENGINEERING

Under the Guidance of

Mrs. Harinakshi C,
Assistant Professor,
Department of ISE,

at



SAHYADRI

College of Engineering and Management
Adyar, Mangaluru - 575 007

2021 - 22

SAHYADRI
College of Engineering and Management
Adyar, Mangaluru - 575 007

Department of Information Science & Engineering



CERTIFICATE

This is to certify that the mini project entitled “**Dairy Management System**” has been carried out by **Shrikanth (4SF19IS099)** and **Shubham (4SF19IS101)** the bonafide students of Sahyadri College of Engineering and Management, Bachelor of Engineering in Information Science & Engineering of Visvesvaraya Technological University, Belagavi during the year 2021-22. It is certified that all corrections / suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The mini project report has been approved as it satisfies the academic requirements in respect of mini project work prescribed in File Structures Laboratory with Mini Project(18ISL67) for the said degree in sixth semester.

Signature of the Guide1
Mrs. Harinakshi C

Signature of the Guide2
Ms. Jayapadmini Kanchan

Signature of the HOD
Dr. Shamanth Rai

External Viva:

Examiner's Name

Signature with Date

1.

.....

2.

.....

SAHYADRI
College of Engineering and Management
Adyar, Mangaluru - 575 007

Department of Information Science & Engineering



DECLARATION

We hereby declare that the entire work embodied in this Mini Project Report titled **“Dairy Management System”** has been carried out by us at Sahyadri College of Engineering and Management, Mangaluru under the supervision of **Mrs. Hari-nakshi C**, for **Bachelor of Engineering in Information Science & Engineering**. This report has not been submitted to this or any other University for the award of any other degree.

Shrikanth (4SF19IS099)

Shubham Sharma (4SF19IS101)

Dept. of ISE, SCEM, Mangaluru

Abstract

Dairy Management System is software project that enables the management of data in Dairy shops and farms. It is designed to ease up the task of keeping track of daily sales and stocks of the dairy products, with a very high degree of fault tolerance. The user can manage the details of staffs, cows, milk, and other dairy products. User can insert, delete, modify the records. The user can also check the status of sales of cows, whether the required cow is sold or not. This project is developed using C++ language. The user is required to log in into the account or sign up if one doesn't already have an account. So to avoid mixing up of records of different customers or users. This software will reduce the work of storing the details manually. Also today's world is a genuine computer world and is getting faster day-by-day. Thus considering above necessities, the software for dairy management system has become necessary which would be useful in managing the bank more efficiently.

Acknowledgement

It is with great satisfaction and euphoria that we are submitting the Mini Project Report on “**Dairy Management System**”. We have completed it as a part of the curriculum of Visvesvaraya Technological University, Belagavi for the award of Bachelor of Engineering in Information Science & Engineering.

We are profoundly indebted to our guide, **Mrs. Harinakshi C**, Assistant Professor, Department of Information Science & Engineering for innumerable acts of timely advice, encouragement and We sincerely express our gratitude.

We express our sincere gratitude to **Dr. Shamanth Rai**, Head and Associate Professor, Department of Information Science & Engineering for his invaluable support and guidance.

We sincerely thank **Dr. Rajesha S**, Principal, Sahyadri College of Engineering and Management and **Dr. D. L. Prabhakara**, Director, Sahyadri Educational Institutions, who have always been a great source of inspiration.

Finally, yet importantly, we express our heartfelt thanks to our family and friends for their wishes and encouragement throughout the work.

Shrikanth (4SF19IS099)

Shubham Sharma (4SF19IS101)

Table of Contents

Abstract	i
Acknowledgement	ii
Table of Contents	iii
List of Figures	1
1 Introduction	2
1.1 Purpose	2
1.2 Scope	3
1.3 Overview	3
2 Requirements Specification	4
2.1 Hardware Specification	4
2.2 Software Specification	4
3 System Design	5
3.1 Architecture Diagram	5
4 Implementation	6
4.1 Code for Dairy Management System	6
5 Results and Discussion	10
6 Conclusion	13
References	14

List of Figures

3.1	Architecture Diagram for Dairy Management System	5
4.1	Code displaying the number of cows	6
4.2	Code for reading the data	7
4.3	Code for modifying the dairy	7
4.4	Code for Dairy unpack	8
4.5	Code for Milk Search	8
4.6	Code for Deleting Staff	9
5.1	Add Staff	10
5.2	Display Product	11
5.3	Modify Product	11
5.4	Search Milk	12
5.5	Delete Milk	12

Chapter 1

Introduction

Buying and selling dairy products require a lot of data to be managed like seller details, product details, customer details etc. Dairy Management System is used to maintain day to day transactions in dairy products distribution. This system helps to register all the suppliers, Buyer details, purchase, Sales details etc. The main objective of this system is to automate the complete operations of the dairy products distribution. The dairy product distributors need maintain hundreds of thousands of records, which is time consuming and also hard with manual work. By automating the management, the work load is reduced and also more time can be given to other important works.

This software will reduce the work of storing the details manually. Also today's world is a genuine computer world and is getting faster day-by-day. Thus considering above necessities, the software for dairy management system has become necessary which would be useful in managing the bank more efficiently.

1.1 Purpose

The main purpose of this project is to manage the records of daily sales and stocks. this system is to automate the complete operations of the dairy products distribution. By automating the management, the work load is reduced and also more time can be given to other important works. This system also helps in the easy maintenance of the dairy products, buyer details, purchases and also their Sales details.

1.2 Scope

The main aim of an application is to somewhere automate records on the system. It gives all sorts of functions which are required by the dairy in order to run a stable system. In addition it also helps in keeping track of day-to-day transactions of the dairy products. The application changes or manipulates the new data that is added and is then re-recorded. One can register the details of the buyers, their purchase details and the sales details.

1.3 Overview

The Dairy Management System is an application for maintaining dairy products. This project has shown how dairy product distribution will take place and covers the basic functionalities such storing the buyer, sales and product details. The main aim of this project is to develop a system for Dairy Management System. This project has been developed to carry out the processes quickly and easily, which is not possible with manual system, which can be overcome by this system.

Chapter 2

Requirements Specification

2.1 Hardware Specification

- Processor : Intel(R) Core(TM) i3-1005G1 CPU @ 1.20GHz
- RAM : 8GB
- Hard Disk : 512GB
- Input Device : Standard keyboard and Mouse
- Output Device : Monitor

2.2 Software Specification

- Programming Language : C++
- IDE : Turbo C++

Chapter 3

System Design

3.1 Architecture Diagram

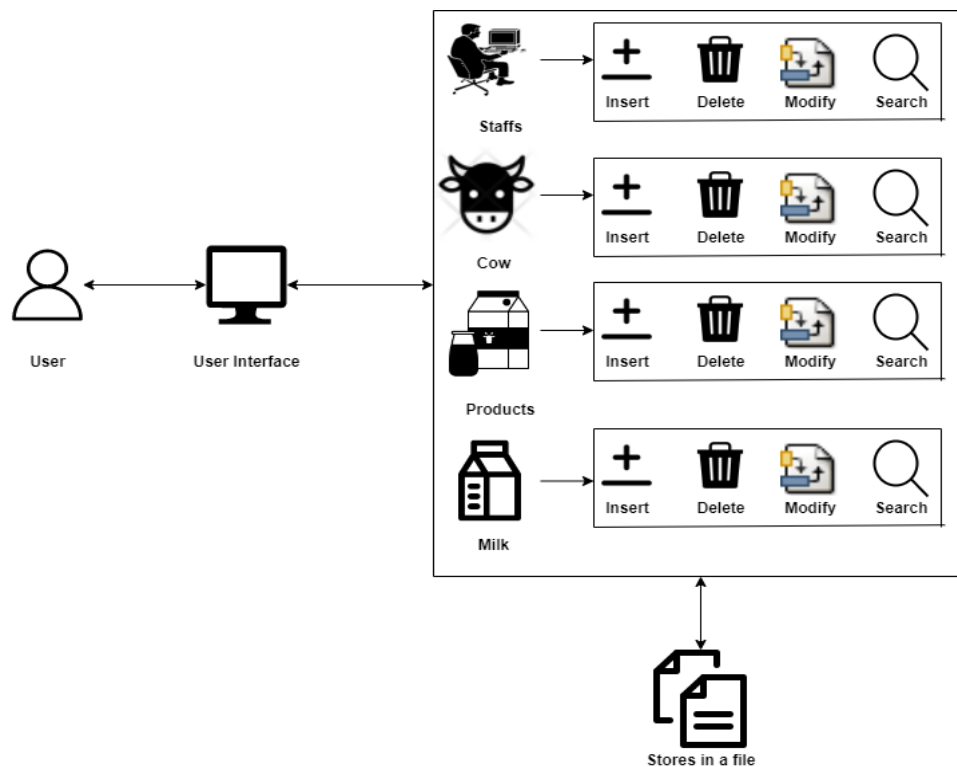


Figure 3.1: Architecture Diagram for Dairy Management System

User will interact with the system through user interface, and can manage records for Staff, Cows, Dairy Products and Milk. User can insert, delete, modify the records. The user can also search for the required record or data. At the end of the day all the details about the records of different entities will be stored in a file.

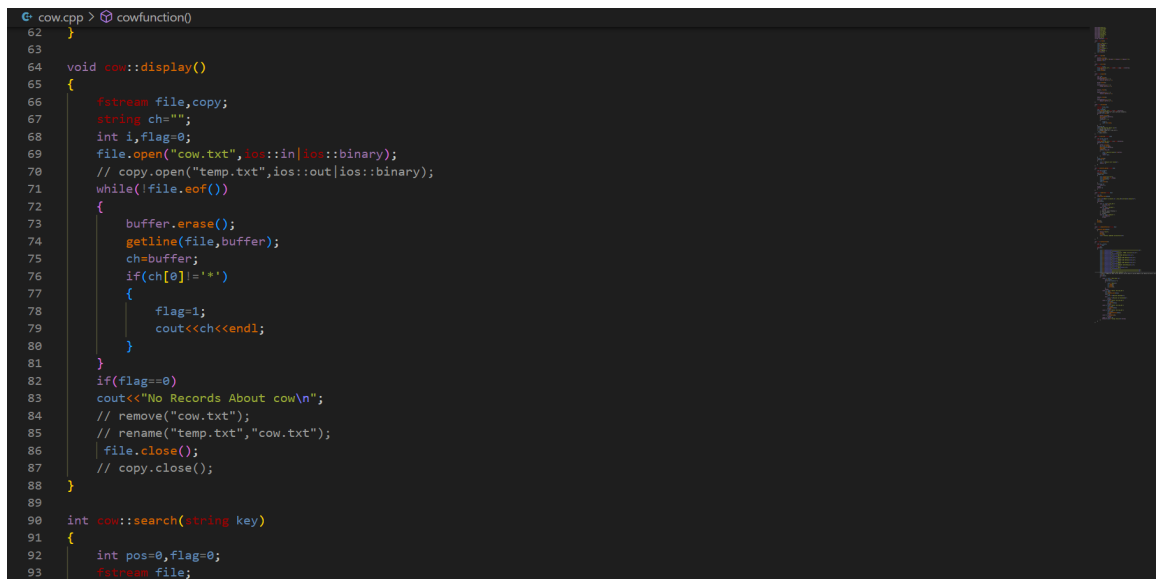
Chapter 4

Implementation

4.1 Code for Dairy Management System

Code displaying the number of cows:

The below figure is the code for displaying the number of cows. It displays the number of cows that are present.

A screenshot of a code editor with a dark background. The code is written in C++ and is part of a class named 'cow'. It includes a method 'display()' which opens a file named 'cow.txt' in binary mode, reads its contents line by line, and prints each line to the console. If the file is empty, it prints 'No Records About cow\n'. The code also includes a 'search()' method which is partially visible at the bottom. The line numbers 62 through 93 are visible on the left side of the editor.

```
62 }
63
64 void cow::display()
65 {
66     fstream file,copy;
67     string ch="";
68     int i,flag=0;
69     file.open("cow.txt",ios::in|ios::binary);
70     // copy.open("temp.txt",ios::out|ios::binary);
71     while(!file.eof())
72     {
73         buffer.erase();
74         getline(file,buffer);
75         ch=buffer;
76         if(ch[0]!='\0')
77         {
78             flag=1;
79             cout<<ch<<endl;
80         }
81     }
82     if(flag==0)
83         cout<<"No Records About cow\n";
84     // remove("cow.txt");
85     // rename("temp.txt","cow.txt");
86     file.close();
87     // copy.close();
88 }
89
90 int cow::search(string key)
91 {
92     int pos=0,flag=0;
93     fstream file;
```

Figure 4.1: Code displaying the number of cows

Code for reading the data:

The below figure is the code for reading the data. This functions will read the data and stores it in a file.

```

cow.cpp > cowfunction()
11
12 void cow::read()
13 {
14     cout<<"COW ID:";
15     cin>>Cow_ID;
16     cout<<"BREED:";
17     cin>>Breed;
18     cout<<"STATUS:";
19     cin>>Status;
20     cout<<"PRICE:";
21     cin>>Amount;
22 }
23
24 void cow::pack()
25 {
26     buffer.erase();
27     buffer+=Cow_ID+"|"+Breed+"|"+Status+"|"+Amount+"$";
28     buffer+="\n";
29 }
30
31 void cow::write()
32 {
33     fstream file;
34     file.open("cow.txt",ios::out|ios::app|ios::binary);
35     file<<buffer;
36     file.close();
37 }
38
39 void cow::unpack()
40 {
41     int i=0;
42     Cow_ID.erase();

```

Figure 4.2: Code for reading the data

Code for modifying the dairy:

The below figure is the code for modifying the dairy. It allows the user to make any modifications if required.

```

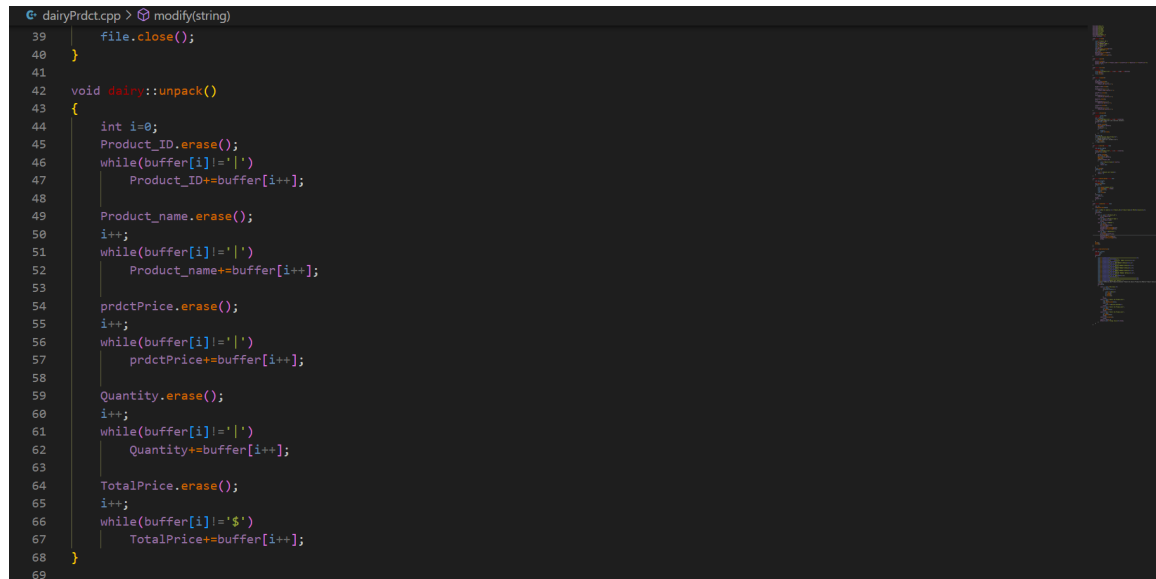
dairyPrdctcpp > modify(string)
142 void dairy::modify(string key)
143 {
144     int ch;
145     if(delete_data(key))
146     {
147         cout<<"\nWhat to modify:\n 1.Product_ID\n2.Product Name\n3.PRICE\n4.Quantity\n";
148         cin>>ch;
149         switch(ch)
150         {
151             case 1: cout<<"\nProduct_ID:";
152                     cin>>Product_ID;
153                     break;
154             case 2: cout<<"\nProduct Name:";
155                     cin>>Product_name;
156                     break;
157             case 3: cout<<"\nPRICE:";
158                     cin>>prce;
159                     qnt=stoi(Quantity);
160                     ttl=prce*qnt;
161                     prdctPrice=to_string(prce);
162                     TotalPrice=to_string(ttl);
163                     break;
164             case 4: cout<<"\nQuantity:";
165                     cin>>qnt;
166                     prce=stoi(prdctPrice);
167                     ttl=prce*qnt;
168                     Quantity=to_string(qnt);
169                     TotalPrice=to_string(ttl);
170                     break;
171         }
172     }
173     pack();

```

Figure 4.3: Code for modifying the dairy

Code for Dairy unpack:

The below figure is the code for Dairy unpack. It returns a list of individual values extracted from the string.



```

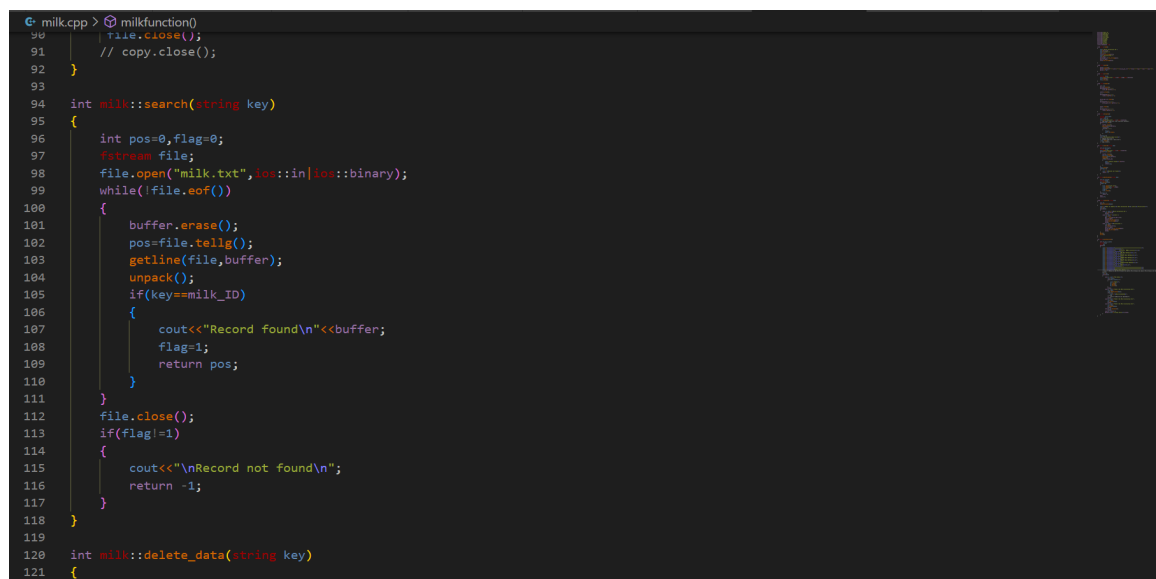
39     file.close();
40 }
41
42 void dairy::unpack()
43 {
44     int i=0;
45     Product_ID.erase();
46     while(buffer[i]!='|')
47         Product_ID+=buffer[i++];
48
49     Product_name.erase();
50     i++;
51     while(buffer[i]!='|')
52         Product_name+=buffer[i++];
53
54     prdctPrice.erase();
55     i++;
56     while(buffer[i]!='|')
57         prdctPrice+=buffer[i++];
58
59     Quantity.erase();
60     i++;
61     while(buffer[i]!='|')
62         Quantity+=buffer[i++];
63
64     TotalPrice.erase();
65     i++;
66     while(buffer[i]!='$')
67         TotalPrice+=buffer[i++];
68 }
69

```

Figure 4.4: Code for Dairy unpack

Code for Milk Search:

The below figure is the code for searching milk. The user can search for milk to see if they are available or not.



```

90     file.close();
91     // copy.close();
92 }
93
94 int milk::search(string key)
95 {
96     int pos=0,flag=0;
97     fstream file;
98     file.open("milk.txt",ios::in|ios::binary);
99     while(!file.eof())
100     {
101         buffer.erase();
102         pos=file.tellg();
103         getline(file,buffer);
104         unpack();
105         if(key==milk_ID)
106         {
107             cout<<"Record found\n"<<buffer;
108             flag=1;
109             return pos;
110         }
111     }
112     file.close();
113     if(flag!=1)
114     {
115         cout<<"\nRecord not found\n";
116         return -1;
117     }
118 }
119
120 int milk::delete_data(string key)
121 {

```

Figure 4.5: Code for Milk Search

Code for Deleting Staff:

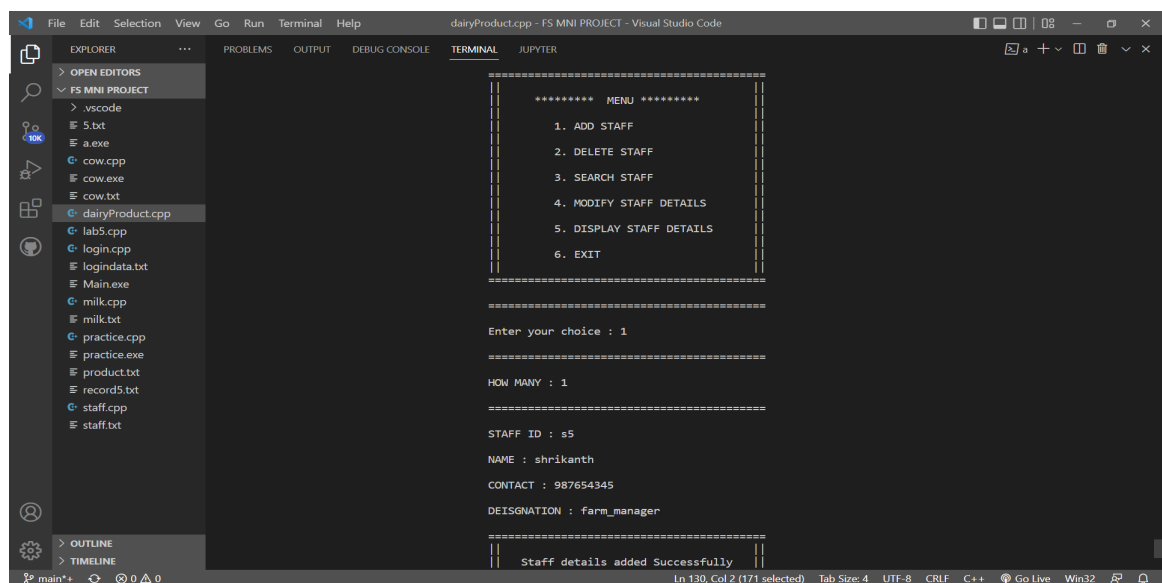
The below figure is the code for deleting the staff. Here the admin can delete the staff if any changes takes place.

```
105     file.close();
106     if(flag!=1)
107     {
108         cout<<"\nRecord not found\n";
109         return -1;
110     }
111 }
112
113 int staff::delete_data(string key)
114 {
115     int pos,flag=0;
116     fstream file;
117     pos=search(key);
118     if(pos>=0)
119     {
120         file.open("staff.txt");
121         file.seekp(pos,pos::beg);
122         file.put('*');
123         flag=1;
124         file.close();
125     }
126     if(flag==1)
127         return 1;
128     else{
129         return 0;
130     }
131 }
132
133 void staff::modify(string key)
134 {
135     int ch;
136     if(delete_data(key))
```

Figure 4.6: Code for Deleting Staff

Chapter 5

Results and Discussion



The screenshot shows the Visual Studio Code interface with a project named 'FS MINI PROJECT'. The Explorer sidebar on the left lists various files, including 'dairyProduct.cpp'. The main editor area displays the code for 'dairyProduct.cpp', which contains a menu with six options: 1. ADD STAFF, 2. DELETE STAFF, 3. SEARCH STAFF, 4. MODIFY STAFF DETAILS, 5. DISPLAY STAFF DETAILS, and 6. EXIT. The terminal window at the bottom shows the execution of the program, where the user has entered choice 1. The program then prompts for 'HOW MANY' (1), 'STAFF ID' (s5), 'NAME' (shrikanth), 'CONTACT' (987654345), and 'DESIGNATION' (farm_manager). The final output in the terminal is 'Staff details added Successfully'.

```
===== MENU =====
1. ADD STAFF
2. DELETE STAFF
3. SEARCH STAFF
4. MODIFY STAFF DETAILS
5. DISPLAY STAFF DETAILS
6. EXIT

=====
Enter your choice : 1
=====
HOW MANY : 1
=====
STAFF ID : s5
NAME : shrikanth
CONTACT : 987654345
DESIGNATION : farm_manager
=====
Staff details added Successfully
```

Figure 5.1: Add Staff

The above figure is the Add Staff page. Here the admin can add new staff by typing the name, contact and description.

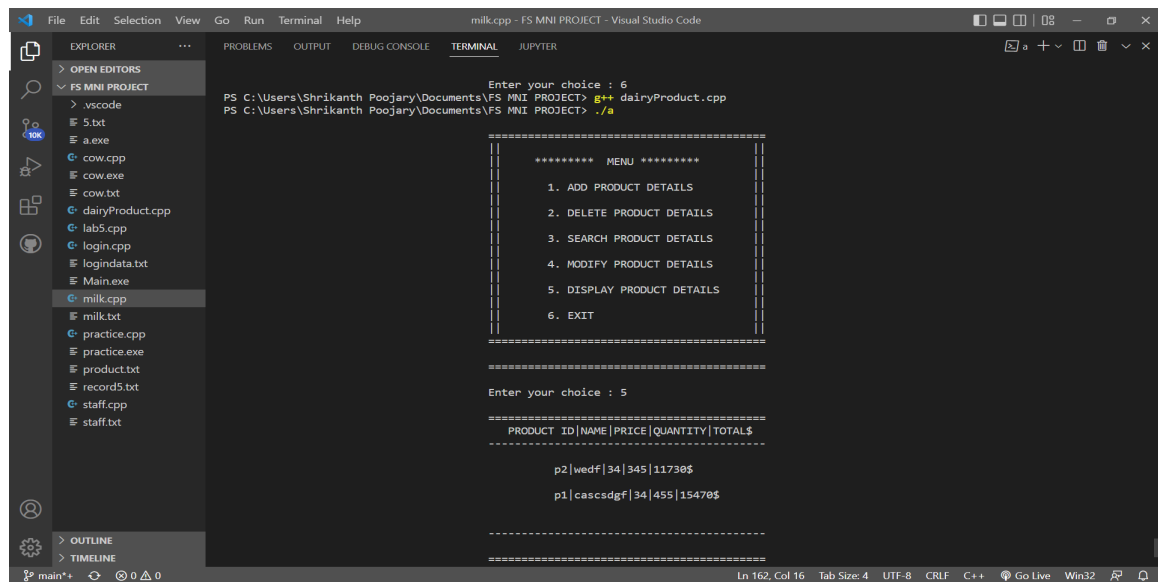


Figure 5.2: Display Product

The above figure is the Display Product page. This page displays the different types of products available in the dairy.

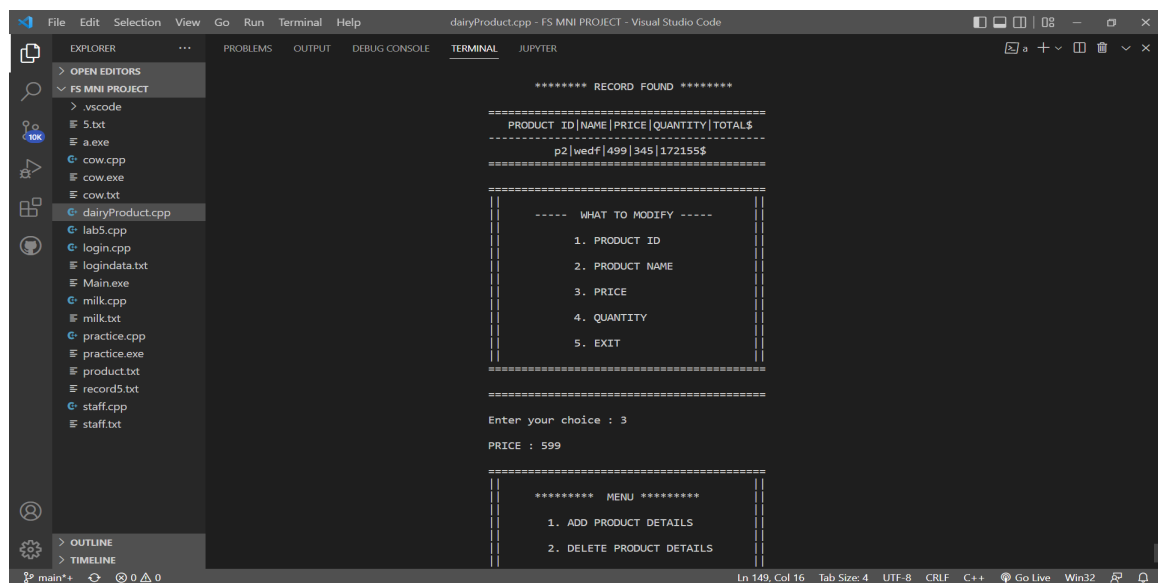


Figure 5.3: Modify Product

The above figure is the Modify Product page. Here the admin will be able to modify the products if any changes are required.

```

Enter your choice : 6
PS C:\Users\Shrikanth Poojary\Documents\F5 MNI PROJECT> g++ milk.cpp
PS C:\Users\Shrikanth Poojary\Documents\F5 MNI PROJECT> ./a

***** MENU *****
1. ADD MILK DETAILS
2. DELETE MILK DETAILS
3. SEARCH MILK DETAILS
4. MODIFY MILK DETAILS
5. DISPLAY MILK DETAILS
6. EXIT

Enter your choice : 3

ENTER THE MILK COLLECTION_ID : m2

***** RECORD FOUND *****

MILK_ID|LITERS|PRICE/LITER|TOTAL|DATES
-----
m2|20|30|600|17-7-2022$

```

Figure 5.4: Search Milk

The above figure is the Search Milk page. Here the users will be able to search for milk.

```

***** MENU *****
1. ADD MILK DETAILS
2. DELETE MILK DETAILS
3. SEARCH MILK DETAILS
4. MODIFY MILK DETAILS
5. DISPLAY MILK DETAILS
6. EXIT

Enter your choice : 2

ENTER THE MILK ID : m2

***** RECORD FOUND *****

MILK_ID|LITERS|PRICE/LITER|TOTAL|DATES
-----
m2|20|30|600|17-7-2022$

Record Deleted

```

Figure 5.5: Delete Milk

The above figure is the Delete Milk page. The admin can delete the milk if its out of stock or if it is not available.

Chapter 6

Conclusion

Dairy Management System developed for a bank has been designed to achieve maximum efficiency and reduce the time taken to handle the data. It is designed to replace an existing system thereby reducing time taken for calculations and for storing data. The system is strong enough to withstand regressive daily operations under conditions where the record is maintained and cleared over a certain time of span. The implementation of the application in the dairy fields will considerably reduce data entry, time and also provide readily calculated reports. This project has many future applications like it can be used for better management using other techniques.

References

- [1] Michael J. Folk, Bill Zoellick, Greg Riccardi: File Structures-An Object Oriented Approach with C++, 3rd Edition, Pearson Education, 1998.
- [2] K.R. Venugopal, K.G. Srinivas, P.M. Krishnaraj: File Structures Using C++, Tata McGraw-Hill, 2008.
- [3] Scot Robert Ladd: C++ Components and Algorithms, BPB Publications, 1993.
- [4] Raghu Ramakrishnan and Johannes Gehrke: Database Management Systems, 3rd Edition, McGraw Hill, 2003.