

Memorandum of Understanding (MoU)



between

TruCode Technologies, Kolhapur

and

**Vivekanand College, Kolhapur (Autonomous),
Maharashtra, India**

In accordance with a mutual desire to promote activities between TruCode Technologies and Vivekanand College, Kolhapur (Autonomous), Maharashtra, India, the two institutions (organizations) agree to the following statement of intent on knowledge transfer by cultural, educational, technical, ethical and research cooperation.

Cooperation and development of activities may extend to any fields and subjects in which the two institutions (organizations) may identify shared interests. The initial area of cooperation is academic and research collaborations.

The two institutions (organizations) agree to cooperate in the following general areas;

1. Technical consultancy services in Hardware and software domain
2. To provide training in various areas to the employees
3. To support internship facility to students
4. Invitations extended to experts to participate in conferences and symposia.
5. Exchange of intellectual property, consultancy, corporate training, along with knowledge transfer, academic materials, and publications in fields of mutual interest.

Both parties agree that all financial arrangements necessary to implement this General Agreement or any subsequent agreements must be negotiated according to the regulations of each institution, dependent upon the availability of funds. Both parties recognize that this General Agreement establishes a foundation of mutual understanding and interest, and does not in itself entail any financial obligations to either organization.

This agreement for partnership, cooperation and scientific exchange shall remain in effect for a period of five (05) years from the date of the last signature, with the understanding that it may be terminated by either party given three (03) months written notice to the partner institute.

This agreement may be amended with the consent of both institutions through a written addendum executed by authorized individuals from both institutions.



Mr. Aaditya A. Pise
Chairman

TruCode Technologies, Kolhapur



Dr. R. R. Kumbhar
Principal

Vivekanand College, Kolhapur (Autonomous)




Witness 1



(Minal Madan Patil)

TruCode Technologies, Kolhapur
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Email: trucodedetechnologies@gmail.com
Date: 21/07/2022

Witness 2



Dr. Shruti Joshi
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Vivekanand College,
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Email: info@vivekanandcollege.org
Date: 21/07/2022

TruCode Technologies



Manufacturer & Exporter of Laser Machines and SPM

Reg.Add:OFF . 367/9, "Mallhar Heights ", Ambai Defence Society,Nr.SIBER
Chowk, Opp NCC Bhavan ,E,Kolhapur-416008.

Corp.Add:A103, Sinchan, Off Veera Desai Road, Andheri(W), Mumbai,400053 MS
9821317635|trucodetechnologies@gmail.com

To,
The principal,
Vivekanand College, Kolhapur (Autonomous)

Subject: Request for Providing Consultancy from college Staff

Dear Principal,

I am writing to you on behalf of TruCode Technologies, located in Kolhapur, to convey our keen interest in getting consultancy services from your distinguished faculty in the field of software designing and development.

Our company is in need of expert guidance on various topics, and we believe that your esteemed institution can provide invaluable assistance in the following areas:

- Inventory Control System
- Salary Management System
- Design and Development of real-time interface communication card for the check weight unit and industrial Inkjet Printer
- Inward/Outward Register
- Website Designing

We are confident that the expertise of your faculty members aligns perfectly with our requirements, and we anticipate a fruitful collaboration. We eagerly await your positive response.

Thank you for considering our request.

Warm regards,
Mr. Aditya Pise
TruCode Technologies, Kolhapur



HOD
Geo, E/E, Com. Sec. B.C.A.
R
20/8/2022

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur
(Autonomous)

Project Report on
“TruLase Optronix, Kolhapur”

Created by

Submitted to

Internal Quality Assurance Cell (IQAC)
Vivekanand College, Kolhapur (Autonomous)

(2022 – 23)



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INTRODUCTION

TruLase Optronix, is the premier destination for efficient and reliable coding and marking solutions. Established in 2017 with a vision to provide cutting-edge technology at the most affordable cost of ownership, TruLase Optronix has swiftly emerged as a leader in the industry. With over 25 years of collective experience in the field, our promoters have honed their expertise to deliver Indianized machines tailored for the rugged conditions of the Indian market.

At TruLase Optronix, we pride ourselves on our state-of-the-art facility where we assemble a diverse range of coding and marking systems, including Continuous Inkjet (CIJ) printers, Thermal Inkjet (TIJ) printers, handheld devices, and laser marking machines on website platform. The objective for making website has been: getting thing done faster, cheaper and bringing together a selection of resources and attainments of services.

The website is accessible 24/7 and can be optimize for search engine to attract more visitor. TruLase Optronix website provide business with valuable inside into customer care and reference is analytic them to make inform this is on about product buying in the particular analyzing the full services available in that particular website.

In this documentation we will explore the development process of TruLase Optronix including requirement gathering design development testing and deployment. Will also discuss the key features and functionality of the websites such as product listing product methods. Finally we will cover the security and performance consideration that are essential for insuring the success of TruLase Optronix website interface

Our team of experience professional is dedicated to providing our customer with the best postpaid browsing experieInce.



Existing System

The existing system of a TruLase Optronix typically includes offline work system. They generate their enquiries through telephonic way which rate down their reach towards customer.

The TruLase Optronix may also provide broacher which help to reach their customer.

This kind of approach may leads to less reach to customer and reduce selling capacity of company.

However, depending on the target audience, the existing system of a TruLase Optronix may vary in complexity and may affect the market presence.



Proposed System

Most machine websites have evolved to offer a range of features that cater to the needs and preferences of modern customers. For instance, these websites typically have user-friendly interfaces that are easy to navigate, allowing customers to find what they're looking for quickly.

They often include online ordering systems that allow customers to place orders , as well as loyalty programs that reward repeat customers with discounts and special perks.

In addition, Machine websites often showcase the various machines, including different types of parts. Some companies may also feature detailed descriptions of the origin and flavor profiles of their product, highlighting their commitment to sourcing and roasting high-quality machines.

Many companies also use their website as a platform to share their brand story, values, and mission, creating a sense of community among their customers.

Lastly, most machine websites today are optimized for mobile devices, ensuring that customers can access the website from their smartphones and tablets with ease.

This is especially important given the prevalence of mobile devices in our daily lives.

Overall, the current systems found on machine websites prioritize convenience, quality, and community building to provide customers with an enjoyable and memorable experience.



Need and Scope

1. **Online Presence:** In today's digital age, having an online presence is crucial for any business, including machine. A website provides an online platform for customers to learn about the machine, its offerings, and its brand.
2. **Convenience:** A website with an online ordering system allows customers to conveniently place orders and make payments from the comfort of their homes or offices. This feature can attract busy customers who may not have time to visit the company in person.
3. **Marketing:** A machine website can be an effective marketing tool, providing a platform for promotions, loyalty programs, and events. A blog or newsletter can also help to engage with customers and promote the companies brand.
4. **Competitive Advantage:** A well-designed and functional website can provide a competitive advantage over other companies that do not have an online presence or have a less effective website.

The scope for a machine website includes the basic features such as information about the company location, hours of operation, menu, pricing, and contact information



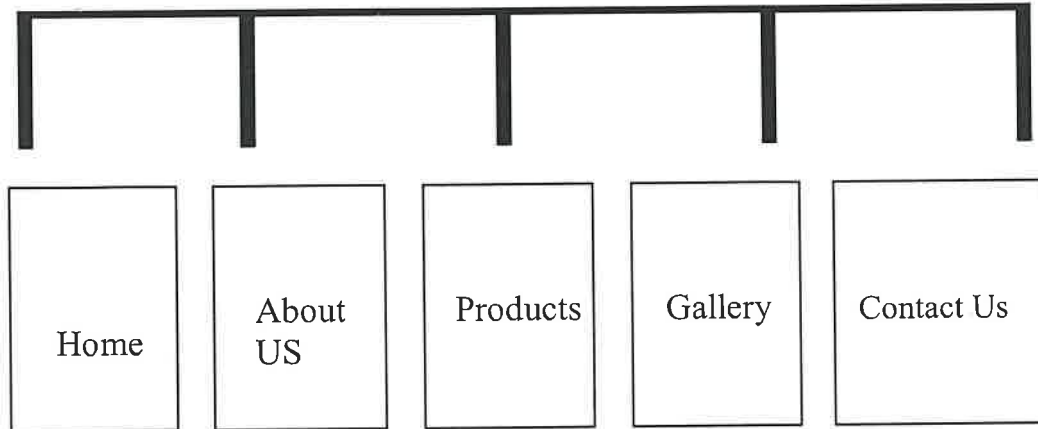
Objectives

1. Improving customer experience.
2. Increasing product sales.
3. Sustainability Practices
4. Community Events
5. Building customer loyalty.

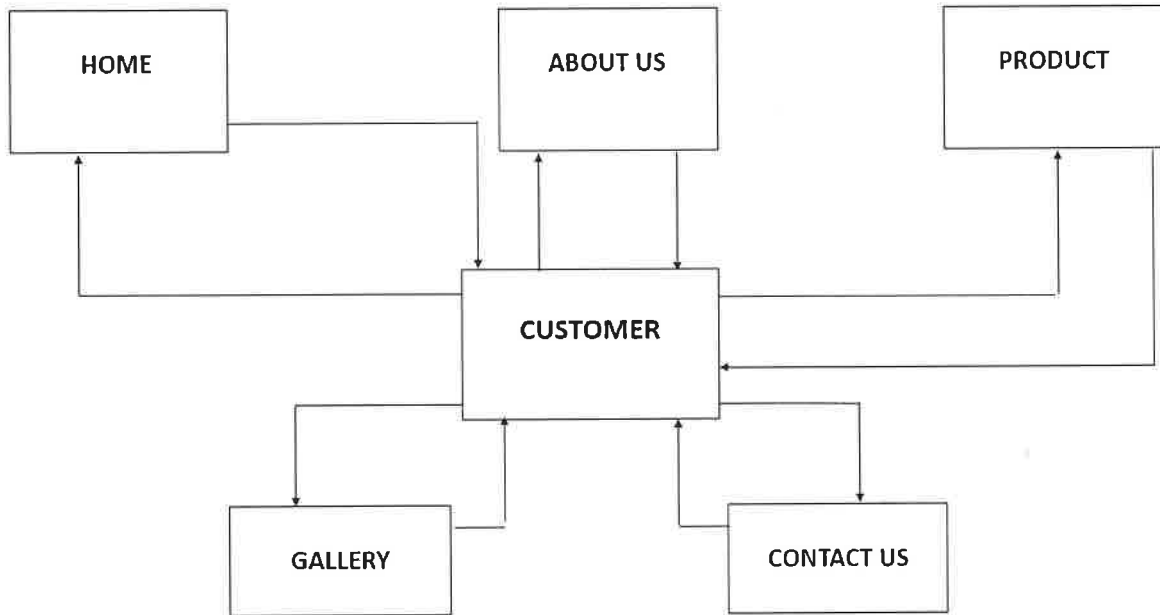


SITE MAP

Site map



DFD



System design

Home:

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Products

TC-FEX59

- Hi-speed motor
- Adjustable Vacuum



SFL-90

- No Consumables at all
- Easy icon down menu structure



- Powder Coated Ms Body
- Long Suction Conduit
- Long life Filters
- Lacking Castor Wheels

- Long Warranty - 2+1 Years
- Long life - at least 10 Years
- Lifetime free software upgrades
- No Consumables at all

[View More](#)

Check Our Products





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Our Address

#387/9, Malhar Heights, Opp NCC Dhawan,
Lokurata Sadashivrao Mandlik Marg, Ambal
Dafonse, Pralibhanagar, Kolhapur
Maharashtra, 416008.

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+91 8055940595

Your Name

Your Name

Your Company Name

Your Company Name

Subject

Subject

Your Email

Your Email

Your Company Contact

Your Company Contact

Your Company Name

Subject

Subject

Message

Your Message

Submit

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TRULACE

TruCode® is an organisation founded on the
experience and built on an in-depth expertise of
service to the coding and marking industry for
over a decade.

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Our Products

> TC-9500N

> TUJ

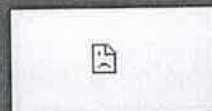
> A-Series

> LC-2000

> LF-2000

> TC-FEX59

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About Us



Trulase has been established in 2017 in a view to provide efficient coding and marking systems at the most affordable cost of ownership to the customers. Trulase has been assembling CO₂ Laser marking machines, TUV, handheld etc in India through its state of art facility. Trulase with its in-depth experience in coding and marking field of its promoters for more than 25+ years has learned to master the art providing Indianised machines suitable for Indian conditions thus providing rugged machines.

Trulase in a short span of time has been able to establish itself as the efficient and reliable systems provider to various multinational companies as well as small manufacturing units alike.

TRULACE	Useful Links	Our Products	Locate Us
Trulase is an organisation founded on the experience and built on an in-depth expertise of service to the coding and marking industry for over a decade. Phone: +91 2312657764 +91 805948595 Email: info@example.com	> Home > Products > Consumables > About us > Contact Us	> TC-8500N > TUV > A-Series > LC-2000 > LF-2000 > TC-FEXS9	

Products:

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Products



LU2000

Trulase LU2000 Series is a state of art high performance, Lowest Maintenance on-Fly UV Laser Coder. It adopts world class technology in order to provide uninterrupted consistent output without any consumable & lowest cost of maintenance. Trulase LU2000 Series adopts the most advanced polarized lens to ensure superior quality and high speed output. The entire system integrates Industrial Grade color touch screen controller, Optional European or Asian Laser Source and high performance SCANLAB Galvo from USA or optional Asian Galvo which provide quality high speed output in harsh environments.

[Download Brochure](#)

LC2000

Trulase LC2000 Series is a state of art high performance, Lowest Maintenance on-Fly CO₂ Laser Coder. It adopts world class technology in order to provide uninterrupted consistent output without any consumable &






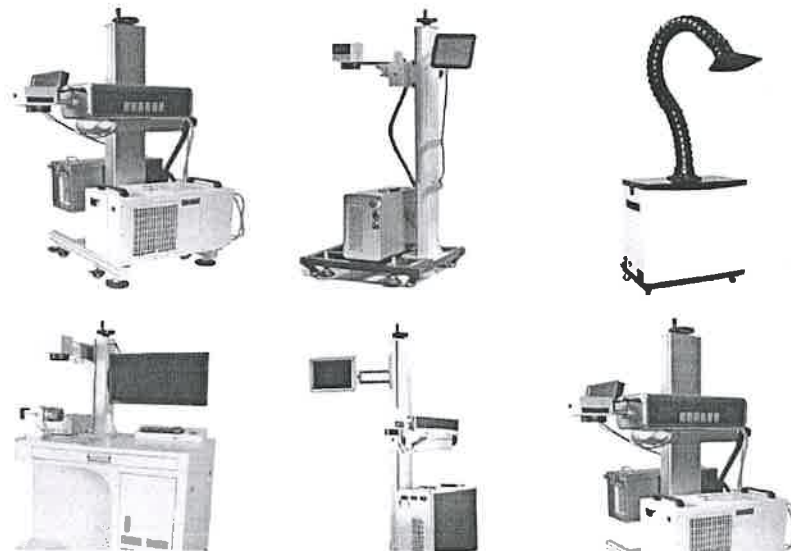
LC2000

Trulace TC2000 Series is a state of art high performance. Lowest Maintenance on-Fly CO2 Laser Coder. It adopts world class technology in order to provide uninterrupted consistent output without any consumable & lowest cost of maintenance. Trulace LC2000 Series adopts the most advanced polarized lens to ensure superior quality and high speed output. The entire system integrates Industrial Grade color touch screen controller. Optional European or Asian Laser Source and high performance SCANLAB Galvo from USA or optional Asian Galvo which provide quality high speed output in harsh environments.

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<p>TRULACE</p> <p>Trulace is an organisation founded on the experience and built on an in-depth expertise of service to the coding and marking industry for over a decade.</p> <p>Phone:</p> <p>+91 2312657764</p> <p>+91 8055649595</p> <p>Email: sales@trulace.com</p>	<p>Useful Links</p> <p>Home</p> <p>About Us</p> <p>Products</p> <p>Gallery</p> <p>Contact Us</p>	<p>Our Products</p> <p>> TC-9500N</p> <p>> TJ</p> <p>> A-Series</p> <p>> LC-2000</p> <p>> LF-2000</p> <p>> TC-FEX59</p>	<p>Locate Us</p> 
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Defensa, Pratibhansagar, Kolhapur,
Maharashtra 416008

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Your Name

Your Name

Your Company Name

Your Company Name

Subject

Subject

Message

Your Message

Submit

Your Email

Your Email

Your Company Contact

Your Company Contact



Implementation

System Requirement:

Hardware Requirement:

Processor: Intel(R) Core(TM) i5-4210U CPU.

Installed RAM: 4.00 GB

Edition: Windows 10 Home Single Language

Software Requirement:

1. NetBeans IDE
2. Google Chrome
3. Edge

Languages used:

HTML, CSS, BOOTSTRAP.



Conclusion

A website is an essential component of any Companies marketing and customer service strategy. A well-designed website can help Company to increase their online visibility, attract new customers, and engage with existing customers in new and innovative ways.

The website should be user-friendly, visually appealing, and functional, providing customers with easy access to information and a seamless ordering experience.

Key features such as online ordering, loyalty programs, social media integration, and reviews can help to enhance the customer experience and promote the Companies brand.

As technology and customer preferences continue to evolve, company should continually update and improve their website systems to stay competitive and meet customer needs. Overall, an Company website can be a valuable asset for any Company looking to grow their business and build a strong online presence.



Limitation:

1. Have limited service product options.
2. Don't have different payment options.
3. Not available delivery.
4. Not Fully Technical
5. Socialization
6. Basic design.



Future Updates

- **Responsive**
- **Availability Of Products**
- **Service At Home**
- **Ease of Access for highly skilled instruments**
- **Operating System Independent**



Bibliography

References:

<https://www.Truecode.com>

<https://www.google.com>

Book:

1. Effective java
Joshua Bloch,2001
2. Technologies .
Black Book
3. HTML , CSS & JavaScript.
SAMS -Person



**Vivekanand College, Kolhapur
(Empowered Autonomous)**

Department of Electronics

Summary of Consultancy Report

Customer Name: Trucode Technologies

Title: Design and develop real time interface communication card for check weight unit and industrial Ink-jet Printer.

Block diagram of proposed system:

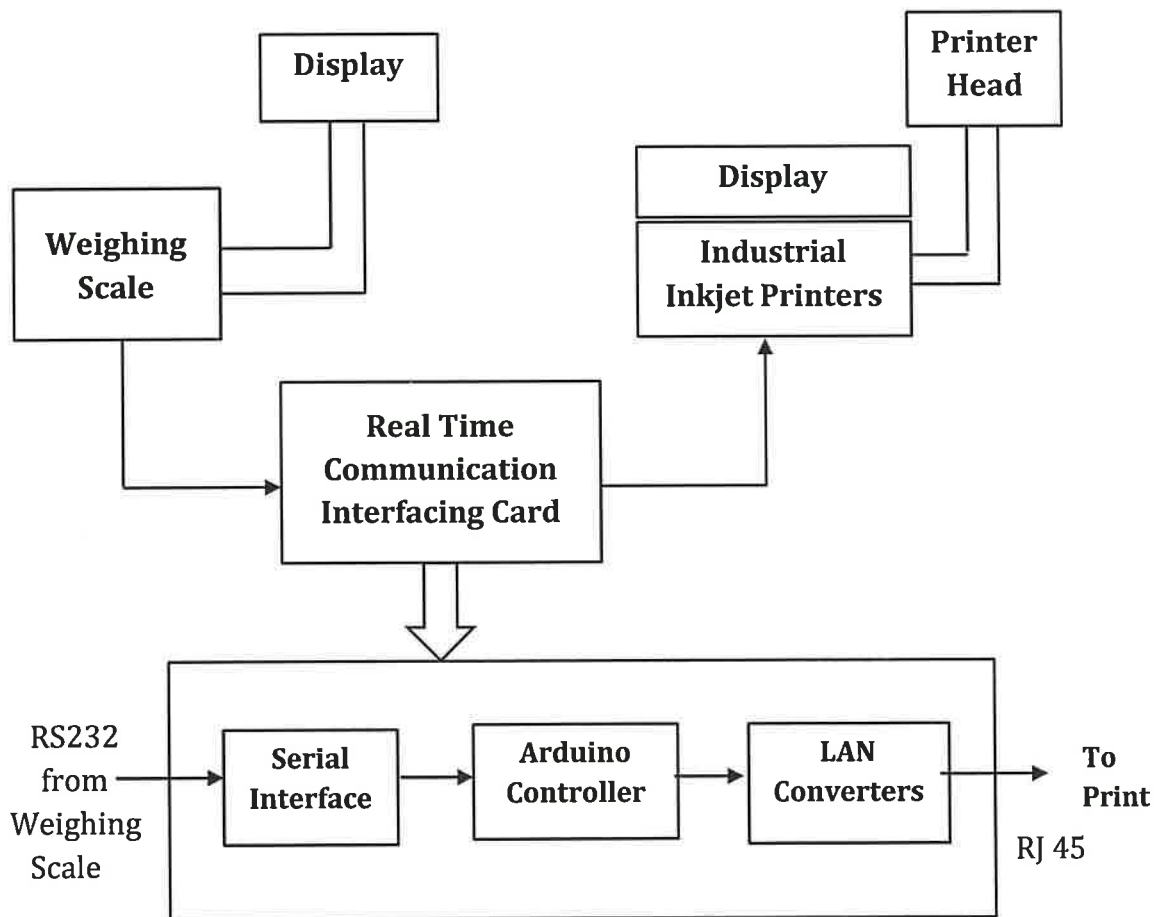
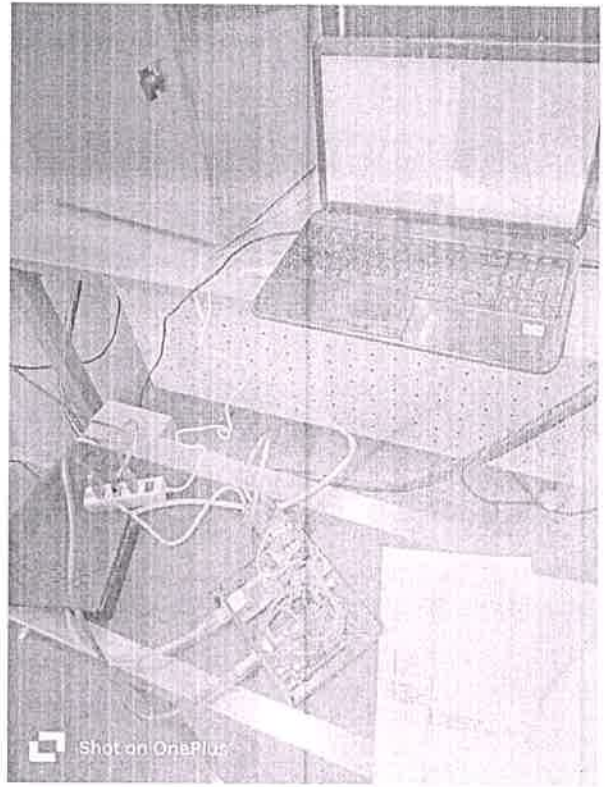


Figure-1: Block diagram of proposed system





Connection between Printer, Weighing Scale and Control Unit through Ethernet port



Implementing the circuit to print on the object



Circuit diagram of proposed system:

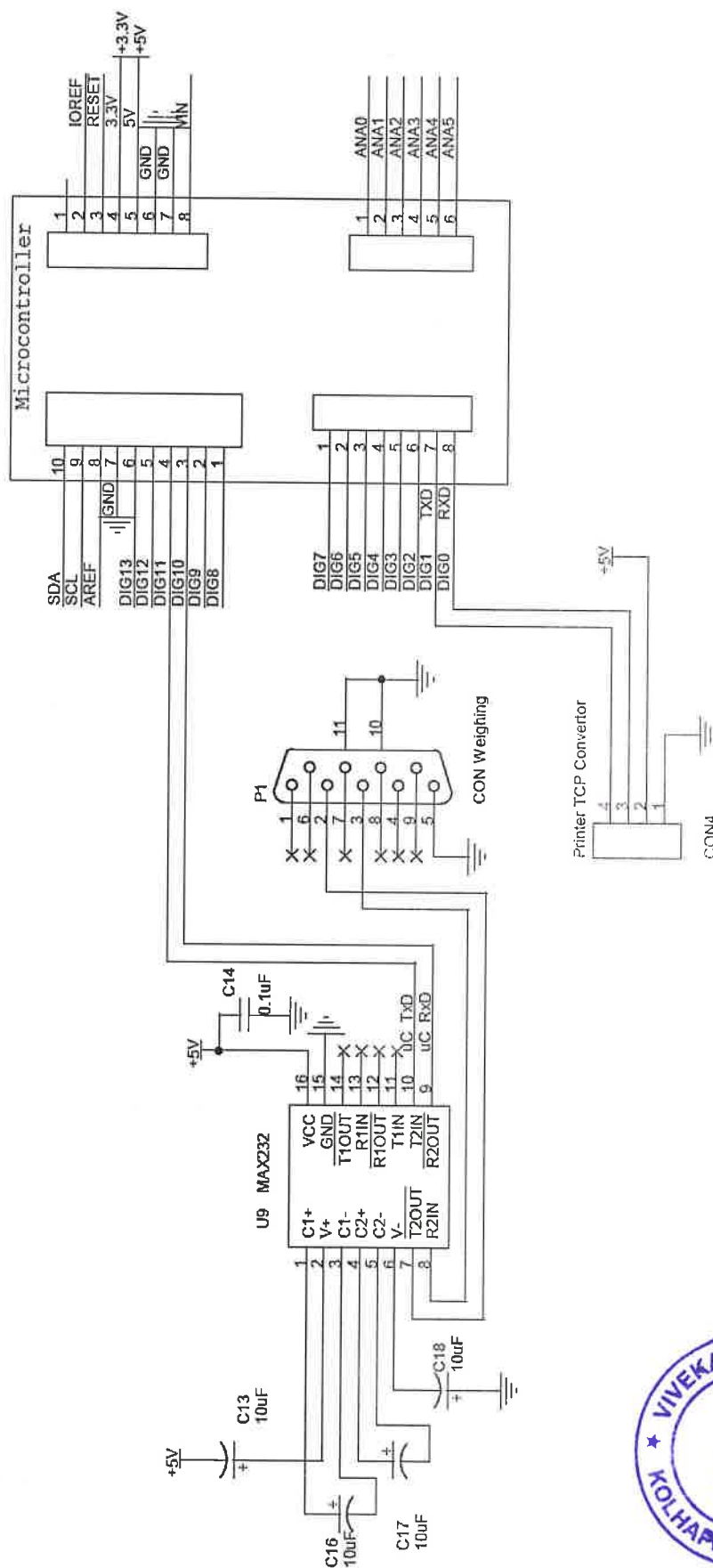


Figure: Circuit diagram of proposed system



The circuit diagram of the proposed system is shown here. The Arduino UNO microcontroller board is used. The weighing scale is having RS232 interface. The serial data frame format is 9600 baud rate, 8 data bits, 1 stop bit and no parity. The microcontroller is having TTL interface. The Max232 IC is used as serial driver IC which will convert the voltage levels from RS232 to TTL and vice-versa. The printer is having TCP/IP interface. Hence the serial Ethernet convertor is used here while interfacing the printer with microcontroller. The true UART pins 0 and 1 are connected to serial Ethernet convertor. The firmware code is developed in embedded C language.

Private Data Communication Protocol of printer is explained with TCP/IP frame format:

Use communication port is 4008, this port supports multiple connections. Before sending data, please confirm the number of fields inserted in the message template. If you need to use this protocol in serial port, please apply for and upgrade serial port protocol separately.

Data start: 0x1b 0x1f

Data stop: 0x1c 0x17

Data separator: 0x09

Command Bit : 0x0e Have buffer to receive data.

0x2c Sending new data will overwrite the previous data.

Data length: data content contains the separator length, the lower bit comes first. For example, if the data length is 666, the sending data is 0x9A 0x02; if the data length is 66, the sending data is 0x42 0x00.

[Print Count]: How many times a sent data can be printed, set to 0xFF is always print mode, if there is data resend then update the data again, otherwise it will keep printing this message.

【Start】 + 【Data length】 + 【Command Bit】 + 【Data】 + 【Print Count】 + 【Stop】

1a: send 1234, one field in total, print 1 time, Cache data

Send: 0x1b 0x1f 0x05 0x00 0x0e 0x31 0x32 0x33 0x34 0x09 0x01 0x1c 0x17

\$1b\$1f\$05\$00\$0e\$31\$32\$33\$34\$09\$01\$1c\$17

1b: send 1234, 5678, two fields in total, print 1 time, overwrite the previous data not printed.

Send: 0x1b 0x1f 0x0a 0x00 0x2c 0x31 0x32 0x33 0x34 0x09 0x01 0x1c 0x17

2. Confirmation of data reception feedback from printers:



Received successfully: 0x1b 0x1f 0x00 0x00 0x06 0x00 0x1c 0x17

Receive failed: 0x1b 0x1f 0x00 0x00 0x15 0x00 0x1c 0x17

3. Clear printer cache data :

Send: 0x1b 0x1f 0x00 0x00 0x10 0x00 0x1c 0x17

Receive: 0x1b 0x1f 0x00 0x00 0x10 0x00 0x1c 0x17

4. Data download to the printhead successfully, and get ready

Receive: 0x1b 0x1f 0x00 0x00 0x05 0x00 0x1c 0x17

5. Check if the printer print on:

Send: 0x1b 0x1f 0x00 0x00 0x0a 0x00 0x1c 0x17

Return printer print status

6. Printer print status return :

Receive: 0x1b 0x1f 0x00 0x00 0x0c 0x00 0x1c 0x17 Printing off

0x1b 0x1f 0x00 0x00 0x0b 0x00 0x1c 0x17 Printing on

7. Set print on:

Send: 0x1b 0x1f 0x00 0x00 0x11 0x00 0x1c 0x17

Return printer print status

8. Set print off:

Send: 0x1b 0x1f 0x00 0x00 0x04 0x00 0x1c 0x17

Return printer print status

9. Print count:

Receive: 1b 11 00 00 16 00 1c 17

Note: The printer product counter +1, the printer will actively return this data once.

10. Open file template command

For example:

18 1F 04 00 33 80 34 32 38 00 10 17

0x33 0428



File name length. Identifier File name

Return

Open successfully: 0x1b 0x110x00 0x00 0x33 0x00 0x1c 0x17

Open failed: 0x1b 0x1f 0x00 0x00 0x15 0x00 0x1c 0x17

Firmware code:

The programming code is as follows.

```
#include <SoftwareSerial.h>
#define rxPin 10
#define txPin 11
SoftwareSerial mySerial(rxPin, txPin);
char RxBuffFull = 1;
char FrameStart;
char ReceivedByte;
char FrameCount;
char ReceivedFrame[35];
char FrameLen;
char FrameReceived, i;

void setup()
{
  Serial.begin(9600);
  mySerial.begin(9600);
  pinMode(rxPin, INPUT);
  pinMode(txPin, OUTPUT);
  Serial.print('A');
  mySerial.print('B');
}
void loop()
{
  // read packet
  while (mySerial.available())
  {
    ReceivedByte = mySerial.read();
    RxBuffFull = 1;
    if(!FrameStart)
    {
      if(ReceivedByte == '<')
      {
        FrameStart = 1;
        for(FrameCount=0; FrameCount < 12; FrameCount++)
```

```

    {
        ReceivedFrame[FrameCount] = 0;
    }
    FrameCount = 0;
}
}
else
{
    if(ReceivedByte == '>' || FrameCount >= 35)//MAX_TEXT_LEN)'>' || FrameCount >=
35)//MAX_TEXT_LEN)
    {
        FrameReceived = 1;
        FrameStart = 0;
        FrameLen = FrameCount;
    }
    else
    {
        ReceivedFrame[FrameCount] = ReceivedByte;
        FrameCount++;
    }
    if(FrameCount >= 37)//MAX_TEXT_LEN)
    {
        FrameReceived = 1;
        FrameStart = 0;
        FrameLen = FrameCount;
    }
}
}
}
if(FrameReceived == 1)
{
    Serial.write(0x1b);
    Serial.write(0x1f);
    Serial.write(FrameLen+1);//FrameLen+0x09
    Serial.write(0x00);
    Serial.write(0x0e);
    for(i=0;i<FrameLen;i++)
    {
        Serial.write(ReceivedFrame[i]);
    }
    Serial.write(0x09);
    Serial.write(0x01);
    Serial.write(0x1c);
    Serial.write(0x17);
    FrameReceived = 0;
}
}

```



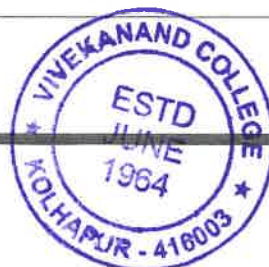
[Signature]
Head

Department of Electronics
Vivekanand College, Kolhapur.

Inventory Management System For TruCode

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INTRODUCTION OF PROJECT

“Inventory Management System For TruCode”

Objective :-

Aim of our system is manage stock, order and billing details for Inventory company, Fulfilling User Requirements, improving efficiency and ensuring reliability.

Introduction :-

Inventory management is a crucial aspect of any business operation, ensuring efficient tracking, control, and optimization of goods and materials. In recent years, the advent of technology has revolutionized traditional inventory management methods, leading to the development of sophisticated Inventory Management Systems .

Our project aims to design and implement an Inventory Management System tailored to meet the specific needs of TruCode Company. This system will streamline inventory processes, enhance accuracy, minimize costs, and improve overall operational efficiency.



Manual System :-

TruCode has been established in 2017 in a view to provide efficient coding and marking systems at the most affordable cost of ownership to the customers . TruCode has been assembling CU, Laser marking machines, TIJ, handheld etc in india though its state of art facility . TruCode with its in-depth experience in coding and marking field of its promotors for more than 25+ years has learned to the master the art providing Indianised machines suitable for Indian conditions thus providing rugged machines.

TruCode in a short span of time has been able to establish itself as the efficient and reliable systems provider to various multinational companies as well as small manufacturing units.

At present system is handled manually all details related to business are stored in different register. Customer order's printers of different types & spare parts to suppliers. After order we receive products & our stock updated. Details about products ,suppliers and spare parts are stored in respective register.

Customer visit the company to purchase printers as per requirement. details about customer billing is stored in billing register.



NEED AND SCOPE OF COMPUTER SYSTEM

Need:-

The Computer system is widest scope of performing different transaction to check various data, records for the system. All records or data is maintained easily and very fast. No need of more people. No need of paper work. Everything can be easily handled. Data can be easily added or removed. Therefore, Computer system is more preferable than manual system.

Scope:-

In this system there is widest scope of performing different transaction to check various data validation required for stock and billing. This system is useful to check any information about various Purchase and Billing activities, like maintain add new Entry, update entries.

- **Large Data Storage:** We can store large amount of data. Once the data is stored, we can retrieve it multiple no. of times.
- **Easy Search:** Searching any specific record becomes easier. Hence, there is no need to check the registers for verifying the details.
- **Reports:** Fetching reports becomes easy and printouts of the reports can easily be taken.
- **Cost Factor:** Due to computerization, extra man-power for keeping records is not needed.



PROPOSED SYSTEM

Proposed System:-

- Our system is fully computerized.
- It does reduce paper work.
- As all the entire working is done with the help of computers
- This will result in faster processing and improved performance.
- This information can get quickly.
- As compared to previous retrieval (Recovery) from files and registers.
- As all the details are started in a computer hard disk.
- The purpose of this system is to store information. Also it is possible to updating some details, which is not possible in manual system.
- It can be done very easily and accurately.



Objectives:-

1. User friendly:

-The system Inventory Management has a very user-friendly interface.

-The user will feel very easy to work on it.

2. Automation:

-The Inventory Management System each and every activity of the manual system.

-Thus, the response time of the system is very less and work fast.

3. Accuracy:

-The Inventory Management System produce quick response with very accurate information.

4. Maintenance Cost:

-The Inventory Management System reduce the cost of maintenance.



Software Requirement System(SRS)

Overall Description :-

The Printer Shop- Inventory Management System is a user-friendly web application that allows users to search a information for Printers based on their specifications. Users can search Printers, give order to supplier with many price range. The system provides a platform for users to book a Printers by selecting the Specifications.

Functional Requirements:-

User Registration: Users can register with the system by providing their personal details and creating an account.

Search Functionality: The system should allow users to search for product.

Availability : The system should display the availability of products and allow users to make order.

Payment Processing: The system should integrate with a payment gateway to process payments for ordering products.

Performance:

The system should be able to handle a large number of users simultaneously and provide a fast and responsive user interface.



Security:

The system should implement security measures such as encryption, authentication, and authorization to ensure the safety of user data and transactions.

Availability: The system should be available 24/7, and downtime should be minimized as much as possible.

Scalability: The system should be scalable to accommodate increasing numbers of users and data.

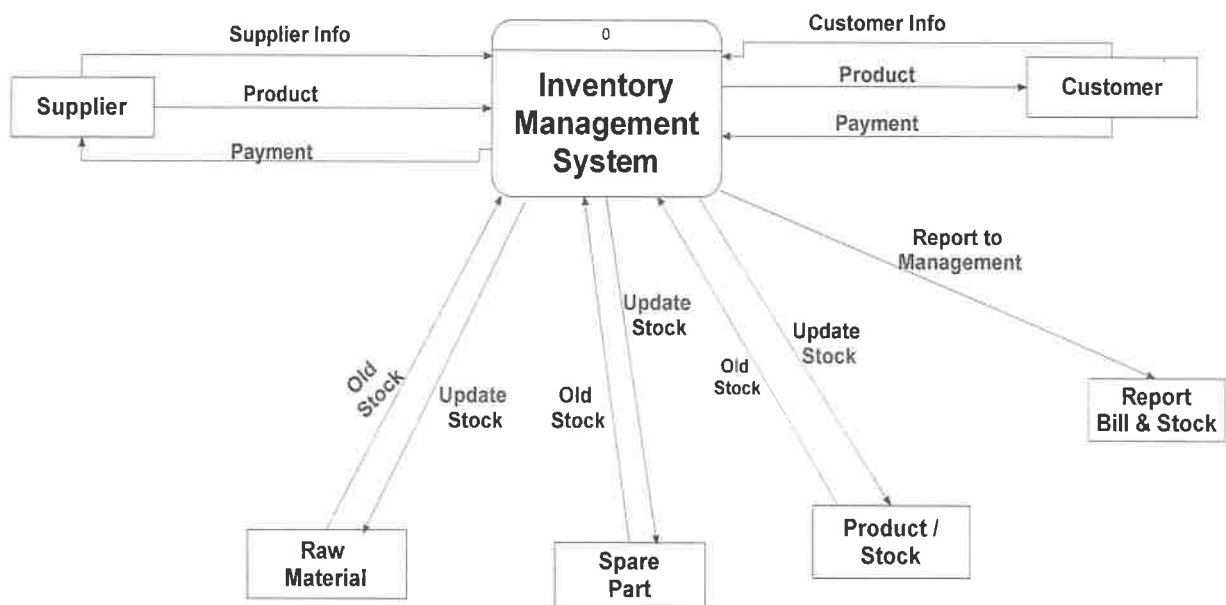
User-Friendly Interface: The system should have a user-friendly interface that is easy to use and navigate.



SYSTEM ANALYSIS

❖ DATA FLOW DIAGRAM(DFD):-

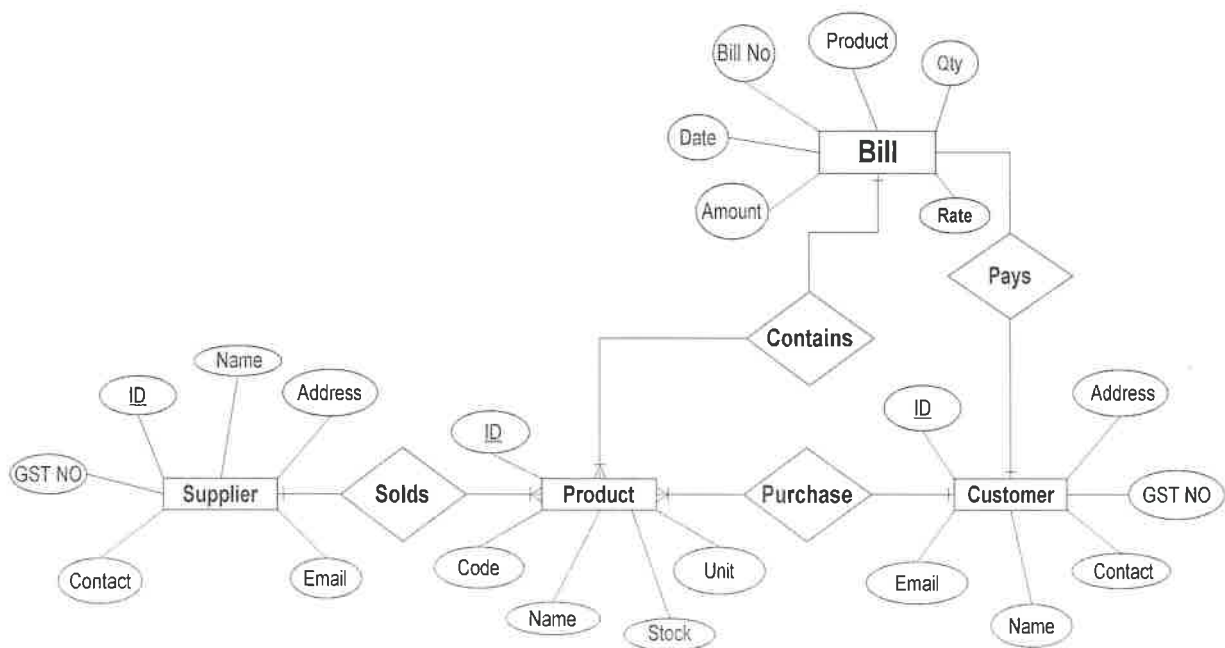
Context Level DFD:



CONTEXT LEVEL DFD



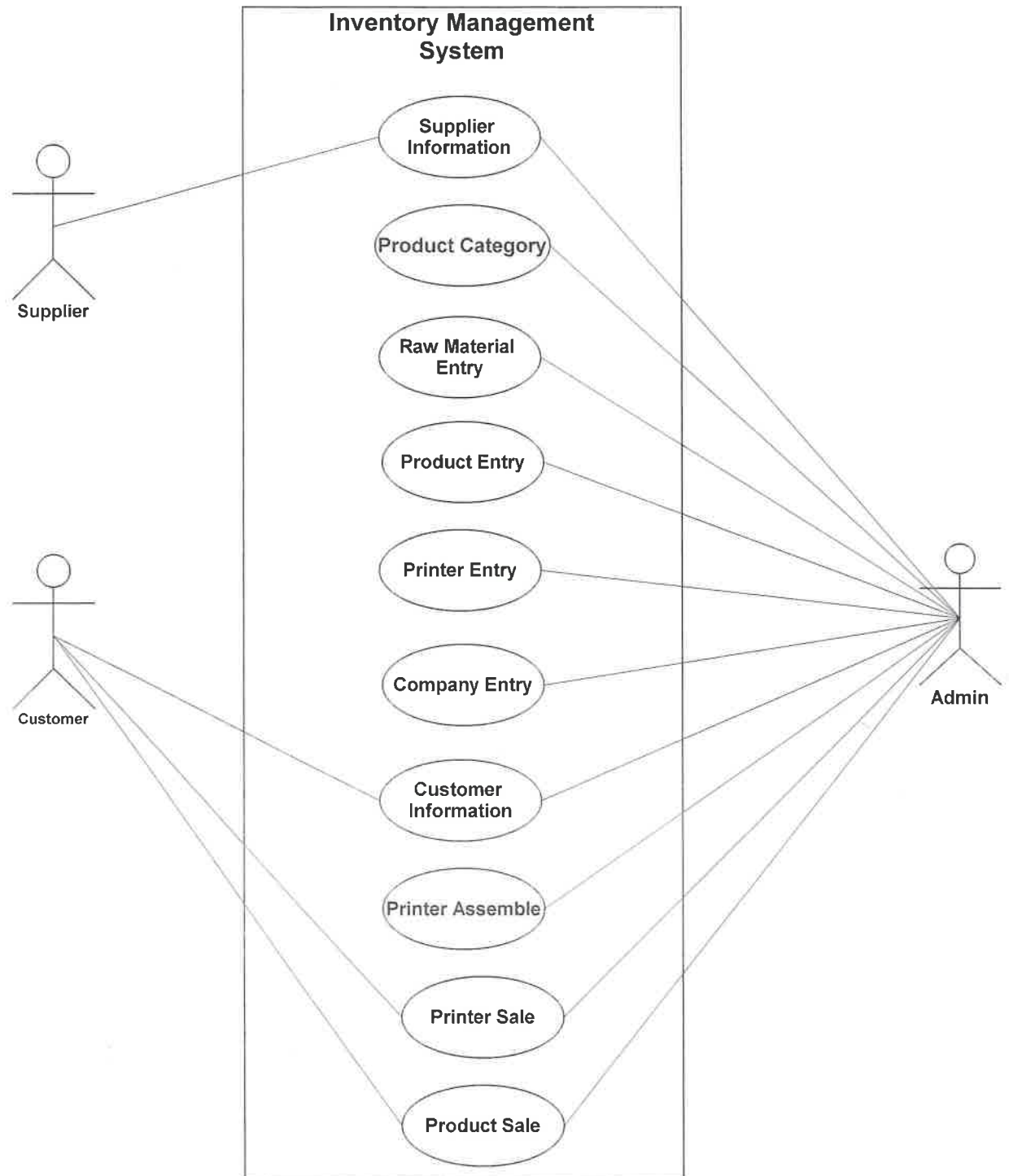
❖ ENTITY RELATIONSHIP DIAGRAM(ERD):-



ER DIAGRAM



❖ USE CASE DIAGRAM(UML):-



Use Case Diagram



SYSTEM ANALYSIS & DIAGRAMS

Database design:

Table Design

1)Login

Name	Data Type	Description	Constraints
username	Text(30)	username	
password	Text(30)	User password	

2)Company

Name	Data Type	Description	Constraints
ccode	Numaric	Company Code	Primary Key
name	Text(50)	Company Name	
address	Text(50)	Company Address	
city	Text(30)	Company City	
state	Text(30)	Company State	
lcontact	Text(11)	Landline Number	
mcontact	Text(10)	Mobile Number	
gstno	Text(15)	GST Number	
panno	Text(10)	PAN Number	
email	Text(50)	Company Email	
rdate	Date/Time	Registration Date	
bankname	Text(50)	Company Bank Name	
accno	Text(18)	Account No.	
ifsc	Text(11)	IFSC Code	



3)Supplier

Name	Data Type	Description	Constraints
id	Numaric	Supplier Id	Primary Key
name	Text(30)	Supplier Name	
address	Text(150)	Supplier Address	
state	Text(30)	Supplier State	
city	Text(30)	Supplier City	
lcontact	Text(11)	Landline Number	
mcontact	Text(10)	Mobile Number	
gstno	Text(15)	GST Number	
panno	Text(10)	PAN Number	
email	Text(50)	Supplier Email	
bankname	Text(50)	Supplier Bank Name	
accno	Text(18)	Account No.	
acchname	Text(30)	Account Holder Name	
ifsc	Text(11)	IFSC Code	
rdate	Date/Time	Registration Date	

4)Customer

Name	Data Type	Description	Constraints
id	Numaric	Customer Id	Primary Key
name	Text(30)	Customer Name	
caddress	Text(150)	Customer Communication Address	
daddress	Text(150)	Customer Delivery Address	
city	Text(30)	Customer City	
State	Text(30)	Customer State	
lcontact	Text(11)	Landline Number	
mcontact	Text(10)	Mobile Number	
gstno	Text(15)	GST Number	
panno	Text(10)	PAN Number	
email	Text(50)	Customer Email	
rdate	Date/Time	Registration Date	



5)Product

Name	Data Type	Description	Constraints
id	AutoNumber		Primary key
subcode	Text(10)	Product SubCode	
catcode	Text(10)	Product CatCode	
matcode	Numaric	Product MatCode	
productcode	Numaric	Product Code	
pname	Text(30)	Product Name	
unit	Text(10)	Product Unit	
reorder	Numaric	Reorder Level	
maxstock	Numaric	Maximum Stock	
minstock	Numaric	Minimum Stock	
hsn	Text	HSN Number	
rate	Currency	Product Rate	
gst	Numaric	GST Number	
stock	Numaric	Product Stock	

6)Category

Name	Data Type	Description	Constraints
id	Numaric	Category id	Primary Key
ctype	Text(30)	Category Type(Raw,Product,Spare)	

7)PrinterMstr

Name	Data Type	Description	Constraints
id	AutoNumber		Primary key
adate	Date/Time		
saledt	Date/Time	Printer Sale Date	
code	Numaric	Printer Code	
name	Text(30)	Printer Name	
saleqty	Numaric	Sale Quantity	
rate	Currency	Printer Rate	
amt	Currency	Amount	
balqty	Numaric		



8)Printer

Name	Data Type	Description	Constraints
id	Numaric		Primary key
name	Text(30)	Printer Name	
stock	Numaric	Printer Stock	

9)Raw

Name	Data Type	Description	Constraints
id	AutoNumber		Primary key
catcode	Numaric	Category Code	
subcode	Numaric	Sub Code	
matcode	Text(10)	Material Code	
name	Text(30)	Raw Name	
munit	Text(30)	Raw Material Unit	

10)InventoryMaster

Name	Data Type	Description	Constraints
billno	Numaric		Primary Key
invdt	Date/Time	Invoice Date	
ttype	Text(10)	Transaction Type	
dnote	Text(30)	Delivery Note	
pmode	Text(20)	Immediate/Credit	
gst	Text(15)	GST Number	
dur	Text(10)	Duration	
crdt	Date/Time	Credit Date	
paymode	Text(20)	Payment Mode	
bank	Text(20)	Bank Name	
chq	Text(20)	Cheque Number	



11)InventoryDetail

Name	Data Type	Description	Constraints
id	AutoNumber	Bill id	Primary Key
invno	Numaric	Invoice Number	
billdate	Date/Time		
srno	Numaric		
name	Text(30)		
rate	Currency		
unit	Text(20)		
pqty	Numaric	Purchase Quantity	
saleqty	Numaric	Sale Quantity	
balanceqty	Numaric	Balance Quantity	
amt	Currency	Amount	
balance	Currency		
discount	Numaric	In Percentage	
discountamt	Currency		
billamt	Currency		
gst	Numaric	Bill Amount %	
gstamt	Currency		
totamt	Currency		
cgst	Numaric	In Percentage	
cgstamt	Currency		
sgst	Numaric	In Percentage	
sgstamt	Currency		
igst	Numaric	In Percentage	
igstamt	Currency		



SYSTEM DESIGN

Inventory Management System

X

User Authentication

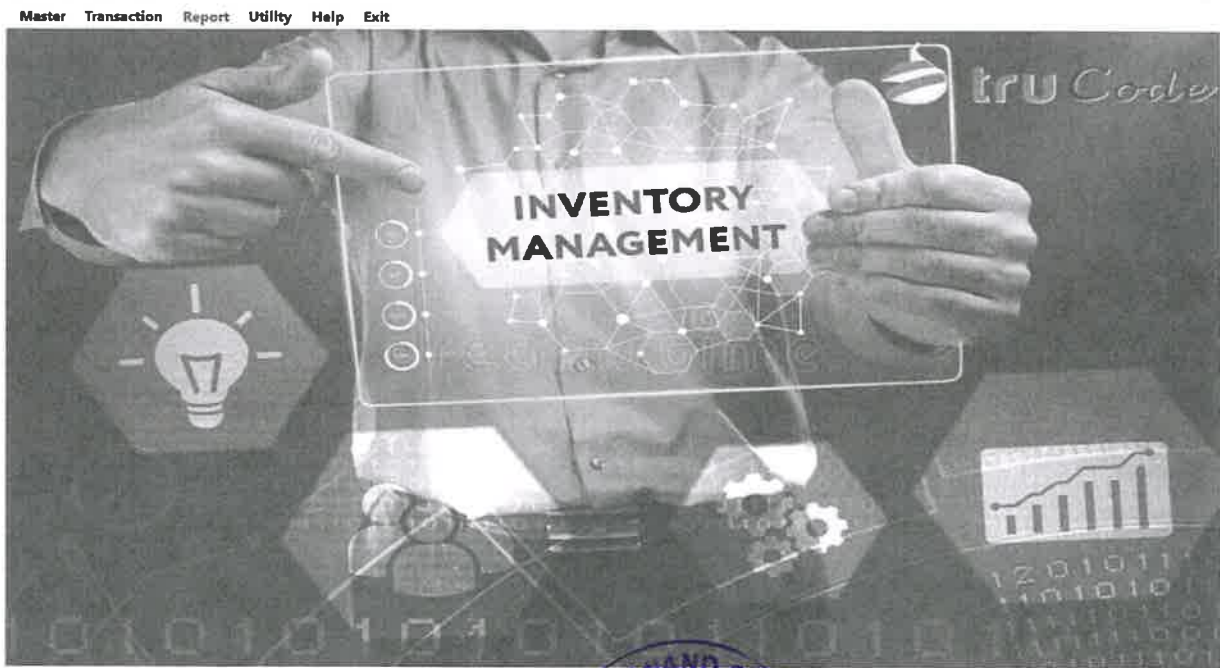
User Name

Password

Login Exit

Inventory Management System

X





Raw Material Informaiton

Sub Code	
Component Type	<input type="text"/>
Category	<input type="text"/>
Material	<input type="text"/>
Material Group	<input type="text"/>
Unit	<input type="text"/>

Select Material :



Printer Assemble

Invoice No	0	Issued On	12/03/2024	Unit	<input type="text"/>
SrNo	0	Component	<input type="text"/>	Material	<input type="text"/>
Quantity	<input type="text"/>	Unit	0	Stock	0
Transaction	Assemble	Issued For	Issued for Provider Assembly		



OUTPUT DESIGN

Inventory Management System

X

User Authentication

User Name

admin

Password

•••••

Login

Exit



IRUCode

Raw Material Informaiton

Sub Code : 11
Component Type : 11
Category Code : 0
Material Code : 1111
Material Name : connector
Unit : -

Update

Cancel

Exit

Select Material : connector

Search

X

Record Updated Successfully...

OK





Printer Assemble

Invoice No : 20 Date : 12/03/2024 Domino

SrNo : 2 Component Type : spare Code : 11 Product Name : TC Display Board

Quantity : 2 Unit : - Current Stock : 48

Transaction Type : Assemble Delivery Note : Issued for Provider Assembly

sno	component	product	unit	qty	stock
1	spare	TC Display Board	-	2	48

Save Cancel Exit

×

Record Saved Successfully

OK



IMPLEMENTATION

System Requirements:

- **Hardware Specification**

- **Processor:** Any processor with speed 1.06GHz or above
- **RAM:** 8GB RAM or above
- **Hard Disk:** Minimum 20GB free Space available

- **Software Specification:**

- **Operating System** – Windows 10.
- **Front End** – Visual C# 2013
- **Back End** – Microsoft Access (2007)
- **Reports** – Crystal Reports

❖ **User Guidelines**

In order to access to the system, you will have to log in the account with **User-Id** and **Password**. You are solely responsible for the activity that occurs on your account and you must keep your account password secure.



Guidelines:

First, the admin has to log in with his User-Id and Password. If both user-id and password are correct, he will have access to the MDI page of the system. Unsuccessful log in attempts will disable your account.

Once, you have accessed to the MDI parent form, you can view various Inventory Management System forms related to the system. Under Master form, you will see menu items like Supplier Entry, Product Category, Raw Material Entry, Product Entry, Printer Entry, Company Entry, Customer Entry.

Under Transaction Printer Assemble, Printer Sale and Product Sale are present. Fill in the details accordingly.

To add record new button is used and to save Records Save Button is used. To close the form Exit Button is need to click.

The same process is carried out for all the forms. In master respective supplier name has to be selected; the rest will be automatically done.

In the REPORTS section, reports for all Dates are maintained. There are various reports available. The most important is the one which displays the Printer Details and Billing Details.

Permissions and Restrictions:

1. You agree not to alter or modify any part of the system
2. You agree not to use any unauthorized means to access the system



CONCLUSION AND SUGGESTIONS

Conclusion:

- 1) By using this software, we will also able to maintain security & integrity of their data.
- 2) They can also maintain daily transaction by using this software.
- 3) Our main goal is to reduce complexity of Products and to reduce burden on staff member.
- 4) Saving of time, reducing over heads.
- 5) By using this software, it is possible to handle and store large records in Small size.

Limitations:

- 1) **Maintainance:-** Regular updates and maintainance are necessary to keep the system running smoothly, which can incur additional charges .
- 2) **Dependency:-** If the system fails or experiences downtime, it could significantly impact on company ability to manage inventory and customer relationships effectively.
- 3) **Security Risk:-**Security risk can pose significant threats to the integrity, confidentiality and availability of crucial data and operations.
- 4) **No Online Payment:-**This system does not support online payments . Instead, users would need to use alternative methods such as cash, checks or other offline payment options to complete their transactions.

Suggestion :

Little introduction and short training related to this system can result into completion of work more efficiently.

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2.9.22
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(AUTONOMOUS)



P. Kulkarni
PRINCIPAL
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TRUCODE TECHNOLOGY

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Maharashtra 416008

CUSTOMER REPORT

15-03-2024

ID	Name	Communication Address	Delivery Address	GST No	Pan No	Email
1	Rajesh Shinde	Surat	Surat Ahemadaba Gujrat 9483837983	45HHYTH4333T5F6	TIJDF4323D	rajesh@gmail.com
2	Shubham Pawar	Bengluru	Bengluru Bengluru Karantaka 9095398398	29MKGTF2454U8X6	ABKCJ6755W	shub@gmail.com
3	Ashish Patil	Panjim	Panjim Panjim Goa 9043483794	55NNITN0001A1Z5	GTMJC6754D	ashish@gmail.com
4	Shubham Mane	Panjim	Panjim Panjim Goa 8976408948	23BTSIK1264R7Z6	GAHGD7667S	smane12@gmail.com
5	Mayur Patil	Katraj	Kotharud Pune Maharashtra 9096863405	29GGTRG1314R9Z6	MHCTY1234D	mayurp@gmail.com
6	Shubham Khavare	Kolhapur	Chandgad Chandgad Maharashtra 9099887765	65GGZXY1511F8Y3	MAHGF4512T	shubh@gmail.com





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Maharashtra 416008

COMPANY REPORT

15-03-2024

Ccode	Name	Address	GST No.	Pan No.	Email ID	Acc No.
1000	TruCod	Kolhapur Maharashtra 3938393888	SMSHJ3983I83983	DLM9383983	true@gmail.com	132829392093028





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15-03-2024

CATEGORY REPORT

ID	Category Type
10	raw
11	spare
12	Product

Total Category **3**





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Maharashtra 416008

SALE REPORT

2024-03-15

Bill No	14		Bill Date	2024-03-15			
Customer	Shubham Pawar		Payment Mode	Credit		Bank Name	
Product Name	Rate	Qty	Amount	GST Amount	CGST Amount	SGST Amount	IGST Amount
TC Encoder	690	2	1380	248	124	124	0
TC Dual Head M	600	3	1800	180	90	90	0
TC Core Board V	566	3	1698	170	85	85	0
Taxable Amount				598	299	299	0
Discount Amount				821.43	Bill Amount		5202





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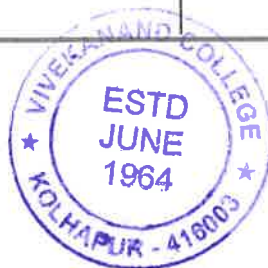
15-03-2024

PRINTER REPORT

Printer Name	Stock
TC HandH25	1
Mini Printer	1
TC Laser CO2	1
TC Fiber Laser	0
VJ Printer	1
Domino	0
Linx	0
Willet	0
Imaje	1
Printhead Stand	1
Conveyors	0
Hitachi	1
Best code	0
Laser XY stand	0
Mini conveyor	0
TC-9500N	0
TC-9500P(Converted)	0
Nextjet	0
TTO Printer 22M	0
TTO Printer 33M	0
Dual head	0
TC TIJ12.5	0



Printer Name	Stock
TC TIJ25	0
TC HandH12.7	1





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Maharashtra 416008

PRODUCT REPORT

- 15-03-2024

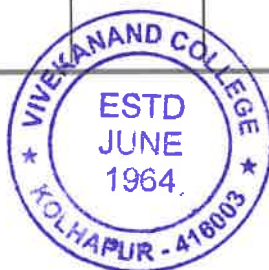
Product Code	Product Name	Unit	HSN No.	Rate	Stock
11130001	TC Bus Cable	-	20390299	₹ 1300.00	50
11110001	TC Connector 5PA Sensor (New Model)	-	10921092	₹ 500.00	48
11110002	TC Connector 5PA Sensor(Old)	-	02930930	₹ 560.00	50
11110003	TC Connector 7PA Encoder (New Model)	-	10219111	₹ 780.00	50
11110004	TC Connector 7PA Encoder (Old)	-	12121121	₹ 500.00	45
11140001	TC Core Board Black Ink	-	12032030	₹ 455.00	47
11140002	TC Core Board White Ink	-	10302030	₹ 566.00	50
11150001	TC Display Board	-	10910291	₹ 450.00	50
11150002	TC Dual Head Mother Board	-	20000000	₹ 570.00	50
11170001	TC Encoder	-	29302903	₹ 670.00	50
11150003	TC External Interface Board (New)	-	19909909	₹ 890.00	50
11150004	TC External Interface Board (Old)	-	30920392	₹ 980.00	50
11100002	TC Fiber Optic Sensor	-	92839230	₹ 1300.00	50
11180003	TC Filter Kit	-	12019201	₹ 789.00	50
11180004	TC Filter Kit Distribution block	-	10008998	₹ 1000.00	50
11100003	TC Gap Sensor	-	03920390	₹ 890.00	50
11190001	TC Gunbody (Nozzle)	-	23203920	₹ 1290.00	50



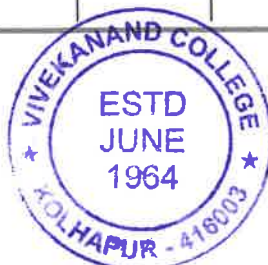
Product Code	Product Name	Unit	HSN No.	Rate	Stock
11150005	TC Ink Charging Board	-	10101010	₹ 578.00	50
11150006	TC Ink Interface Board (New)	-	20392039	₹ 678.00	50
11150007	TC Ink Interface Board (Old)	-	40349039	₹ 890.00	50
11180005	TC Inline Filter	-	12121212	₹ 890.00	46
11200001	TC Mixer Tank	-	12019210	₹ 999.00	50
11200002	TC Mixer Tank Gas Kit	-	30293028	₹ 1000.00	50
11140003	TC Motherboard Black Ink	-	23981020	₹ 1233.00	50
10100001	Empty TC Container	-	72738237	₹ 70.00	50
10100002	Empty TC Caps	-	34872389	₹ 50.00	50
10100003	Empty Linx Ink Container	-	37493849	₹ 200.00	50
10100004	Empty Linx Red Cap Container	-	42938293	₹ 180.00	47
10100005	Empty Linx M-up Container	-	34829382	₹ 40.00	50
10100006	Empty Domino Container	-	47293829	₹ 100.00	50
10100007	Empty Control print Container	-	38129182	₹ 45.00	47
10100008	Empty Willett Container	1000ml	19483904	₹ 100.00	50
10100009	Empty Imaje M-up Container	-	32938928	₹ 78.00	50
10100010	Empty Imaje ink Container	-	48239283	₹ 90.00	50
10100011	Empty Wash Container	1000 ml	38729382	₹ 90.00	50
10100012	Empty Domino AX Mup Container	-	31928918	₹ 67.00	50
10100013	Empty Domino AX Ink Container	-	89128918	₹ 56.00	50
10100014	Empty VJ Ineer Container	-	39239290	₹ 90.00	50
10100015	Empty VJ outer Container	-	13487293	₹ 67.00	50



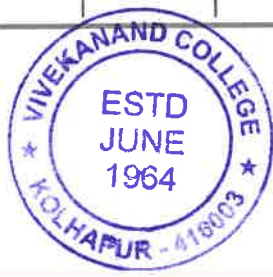
Product Code	Product Name	Unit	HSN No.	Rate	Stock
10100016	Empty Linx 8900 Ink Container	-	18927198	₹ 45.00	50
10100017	Empty Linx 8900 M-up Container	-	38927398	₹ 100.00	50
10100018	Empty Wash Container (Dome)	-	12981023	₹ 50.00	50
10110001	TC 9500N M-up chip	-	37298928	₹ 89.00	50
10110002	TC 9500N Ink chip	-	32129182	₹ 67.00	50
10110003	TC 9600A M-up chip	-	93892839	₹ 210.00	50
10110004	TC 9600A Ink chip	-	12901820	₹ 170.00	50
10110005	VJ 706 m-up chip	-	49203920	₹ 289.00	50
10110006	VJ 411 Ink chip	-	93829013	₹ 340.00	50
10110007	VJ 812 M-up chip	-	21821928	₹ 233.00	50
10110008	VJ 521 Ink chip	-	39283912	₹ 129.00	50
10110009	VJ 816 M-up chip	-	39189281	₹ 230.00	50
10110010	VJ 410 Ink chip	-	81291829	₹ 239.00	50
10110011	VJ 720 M-up chip	-	21092019	₹ 344.00	50
10110012	VJ 401 Ink chip	-	21982912	₹ 230.00	47
10110013	VJ 701 M-up chip	-	43849894	₹ 450.00	50
10110014	CP makeup Chip	-	29381922	₹ 289.00	50
10110015	CP INK Chip	-	83029302	₹ 234.00	50
10110016	D.Ax M-up chip	-	12918281	₹ 290.00	50
10110017	D.Ax ink chip	-	83923892	₹ 190.00	50
10110018	linx 8900 m-up	-	23923891	₹ 455.00	50
10110019	linx 8900 ink chip	-	38290382	₹ 180.00	50



Product Code	Product Name	Unit	HSN No.	Rate	Stock
10110020	Nextjet m-up chip	-	29129819	₹ 345.00	50
10110021	Nextjet ink chip	-	93023012	₹ 120.00	50
10110022	Dual head ink chip	-	39802930	₹ 290.00	50
10110023	Dual head m-up chip	-	23828392	₹ 189.00	50
10110024	Dc Jet	-	32093012	₹ 234.00	50
10110025	CYC Jet	-	39121029	₹ 145.00	50
10110026	Faith	-	30129019	₹ 156.00	50
10110027	Tij RFID chip	-	39231930	₹ 230.00	50
12100001	Tij 12.5mm Solvant base	-	21299999	₹ 10000.00	50
12100002	Tij 12.5mm Water base	-	29323029	₹ 12000.00	49
12100003	Tij 25mm Solvant base	-	10029302	₹ 13440.00	50
12100004	Tij 25mm Water base	-	39129018	₹ 15090.00	50
12100005	DC Jet cartridge	-	31921928	₹ 23000.00	50
12110001	55*900 linx	-	39812902	₹ 1650.00	49
12110002	33*700	-	12219281	₹ 1200.00	50
12110003	33*600	-	23912029	₹ 400.00	50
12110004	55mm*50	-	10901901	₹ 1000.00	50
12110005	33*50	-	49384983	₹ 677.00	50
12110006	33*500	-	29182918	₹ 890.00	50
12110007	Eco plus 22*600	-	23902391	₹ 567.00	50
10100019	TC Makeup Crt	750 ml	12918201	₹ 1000.00	50
10100020	TC Ink Crt	750 ml	23901029	₹ 1200.00	50



Product Code	Product Name	Unit	HSN No.	Rate	Stock
10100021	TC SPA Ink Crt	-	29182019	₹ 1500.00	50
10100022	TC OR Ink Crt	-	12102101	₹ 1990.00	50
10100023	TC High Cont Ink Crt	-	10090910	₹ 1700.00	50
10100024	Wash Solutions	1000 ml	10291029	₹ 1890.00	50
10100025	Vj Ink 750 ml Cart	750 ml	29390923	₹ 1788.00	50
10100026	Vj MU 750 ml Cart	750 ml	10090909	₹ 12.00	50
10100027	Domino M-up Cart	825 ml	92102901	₹ 1230.00	50
10100028	Domino Ink Cart	825 ml	92192019	₹ 1290.00	50
10100029	Linx ink Cart	500ml	19102901	₹ 1900.00	50
10100030	Linx makeup Cart	500ml	23920390	₹ 1233.00	50
10100031	Imaje Ink Cart	925ml	01902919	₹ 1455.00	50
10100032	Imaje Makeup Cart	925ml	94802302	₹ 1400.00	50
10100033	Control P Ink Cart	600ml	20293090	₹ 2378.00	50
10100034	Control P M-up Cart	600ml	12102901	₹ 1000.00	50
10100035	Willett ink Cart	-	12901291	₹ 1450.00	50
10100036	willett Makeup Cart	1000 ml	10291029	₹ 1234.00	50
10100037	Wash Solutions (RENT)	-	12012901	₹ 1000.00	50
10100038	Linx M-up Cart Red Cap	-	12102901	₹ 1030.00	50
10100039	Ink Black	1000ml	19201920	₹ 1450.00	50
10100040	Ink Glass	1000ml	12109201	₹ 1390.00	50
10100041	Ink O.R.	1000ml	12222222	₹ 1450.00	50
10100042	Ink SPA	1000ml	18990909	₹ 1678.00	50



Product Code	Product Name	Unit	HSN No.	Rate	Stock
10100043	Ink Purple	1000ml	12309093	₹ 1890.00	50
10100044	Ink White Hard Pigmented	1000ml	21929182	₹ 1400.00	50
10100045	Ink White Semi Pigmented	1000ml	12909898	₹ 1234.00	50
10100046	Ink HC	1000ml	28918291	₹ 1000.00	50
10100047	Ink Yellow	1000ml	12293823	₹ 2890.00	50
10100048	Ink Red	1000ml	10009309	₹ 1283.00	50
10100049	Ink Green	1000ml	19093092	₹ 1200.00	50
11100001	Eye Mark Sensor	-	20192012	₹ 1500.00	50
11240001	TC 2 Way Soilnoid Valve	-	28398293	₹ 2340.00	50
11180001	TC 24 Volts Switch with Electric Filter	-	39823820	₹ 1300.00	50
11120001	TC Buffer	-	20392039	₹ 1345.00	50
11180002	TC Bullet Filter	-	20390239	₹ 3020.00	50





TRUCODE TECHNOLOGY

B1 , 367/9, E ward Malhar Heights, Ambai Defence
Society, Samrat Nagar, Pratibha Nagar, Kolhapur,
Maharashtra 416008

RAW MATERIAL REPORT

15-03-2024

Category Code	SubCode	Material code	Name	Unit
10	10	1010	Consume bal	-
10	11	1011	Chip	-
11	10	1110	Sensor	-
11	11	1111	connector	-
11	12	1112	buffer	-
11	13	1113	cable	-
11	14	1114	ink	-
11	15	1115	Board	-
11	16	1116	Distribution Block	-
11	17	1117	encode	-
11	18	1118	filter	-
11	19	1119	gun body	-
11	20	1120	mixer tank	-
11	21	1121	nozzle	-
11	22	1122	ring	-
11	23	1123	overlay	-
11	24	1124	valve	-
11	25	1125	socket	-



Category Code	SubCode	Material code	Name	Unit
11	26	1126	switch	-
11	27	1127	pump	-
11	28	1128	printer head	-
11	29	1129	reader	-
11	30	1130	smgs	-





TRUCODE TECHNOLOGY

B1, 367/9, E ward Malhar Heights, Ambai Defence
Society, Samrat Nagar, Pratibha Nagar, Kolhapur,
Maharashtra 416008

15-03-2024

SUPPLIER REPORT

ID	Name	Address	GST No.	Pan No.	Email
1	Sambhaji Patil	Shiye Kolhapur Maharashtra 9383703397	66GFHFF7746T8U7	JFHFH7848T	sam@gmail.com
2	Pankaj Patil	SambhajiNagar Pune Maharashtra 8739809383	78ASRTD8977H87G	HJYTR1243C	pankaji@gmail.com
3	Ratan Devan	Ahemadabad Ahemadabad Gujrat 9877393983	67FRTCT7655K7L6	GHVCT6566U	ratan@gamil.com
4	Shreysh Sharma	Virar Mumbai Maharashtra 9087877778	98HJTYU7677J9K4	UYTYE7665T	shrey@gmail.com
5	Pavan Chaugule	Pandharpur Pandharpur Maharashtra 9089898787	78HJDHJ7676Y6R5	LKHJF7855N	pavan@gmail.com



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2	PROPOSED SYSTEM - REQUIREMENT ENGINEERING <ul style="list-style-type: none"> • REQUIREMENT GATHERING • OBJECTIVES • SRS 	
3	SYSTEM ANALYSIS & SYSTEM DIAGRAMS <ul style="list-style-type: none"> • DATA FLOW DIAGRAM • ENTITY RELATIONSHIP DIAGRAM • UML 	
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INTRODUCTION OF PROJECT

“Payroll System For TruCode”

Objective:–

Maintain accurate and up-to-date employee records, including personal information, department details, designations, and attendance data.

Calculate employee salaries based on various factors such as basic pay, allowances, deductions, and leave records.

Introduction :-

The Payroll System is a comprehensive software application designed to streamline and automate the payroll processes for [Company Name]. This system provides an efficient and accurate means of managing employee information, attendance records, deductions, advances, and salary calculations.

The Payroll System aims to enhance organizational efficiency by automating time-consuming payroll processes, thereby reducing errors and ensuring timely salary disbursements.



Manual System :-

TruCode, founded in 2017, has swiftly emerged as a reliable provider of coding and marking solutions, leveraging its founders' 25+ years of industry expertise. Renowned for its commitment to affordability and quality, TruCode operates a state-of-the-art facility in India, assembling a diverse array of coding and marking machinery tailored to Indian conditions.

Currently, TruCode manages its operations manually, maintaining various registers to track customer orders, product inventory, and billing. However, recognizing the need to streamline processes and ensure accuracy, TruCode is embarking on a transformative journey by implementing a comprehensive Payroll System.

This modern system will serve as a centralized hub for managing employee data, attendance records, salary calculations, and deductions. By automating these critical functions, TruCode aims to minimize errors, enhance efficiency, and enable timely salary disbursements, thereby optimizing its workforce management processes.

The Payroll System underscores TruCode's commitment to innovation and customer satisfaction, aligning with its mission to provide reliable, Indianized coding and marking solutions to a diverse clientele. Through this strategic initiative, TruCode seeks to bolster its operational capabilities, strengthen its market position, and continue delivering exceptional value to its customers.



NEED AND SCOPE OF COMPUTER SYSTEM

Need:-

Computer systems facilitate various transactions and efficient management of data and records, eliminating the need for extensive manual work and paperwork. They offer swift processing, easy maintenance, and seamless integration, making them the preferred choice over traditional manual systems.

Scope:-

This system encompasses comprehensive payroll functionalities, allowing for efficient processing of payroll-related transactions. It facilitates tasks such as calculating salaries, managing employee records, and generating payroll reports.

- **Ample Data Storage:** The system efficiently stores vast amounts of employee data, ensuring it's readily accessible for multiple retrievals.
- **Effortless Search:** Searching for specific employee records is simplified, eliminating the need for manual searches through paper records..



- **Report Generation:** Generating comprehensive reports on payroll activities is straightforward, allowing for easy analysis and decision-making. Additionally, printing out reports is easily achievable.
- **Cost Factor:** Due to computerization, extra man-power for keeping records is not needed.



PROPOSED SYSTEM

Proposed System:-

- All tasks, from data entry to processing, are automated, resulting in faster and more accurate outcomes. It does reduce paper work.
- As all the entire working is done with the help of computers.
- This reduces the likelihood of errors and ensures that payroll processing is done with precision.
- With the elimination of manual data entry and calculations, the system ensures accuracy in all operations.
- This information can get quickly.
- As compared to previous retrieval (Recovery) from files and registers.
- As all the details are stored in a computer hard disk.
- Comprehensive reporting features enable users to generate various reports on payroll activities.
- It can be done very easily and accurately.



Objectives:-

- **User-Friendly Interface:**

The payroll system will feature a highly intuitive and user-friendly interface.

Users will find it easy and straightforward to navigate and perform tasks.

- **Automation:**

The payroll system automates all manual payroll-related activities, reducing the need for manual intervention.

This automation ensures swift processing and minimal response time.

- **Accuracy:**

The payroll system guarantees accurate processing and generation of payroll information.

Users can rely on the system to provide precise calculations and reports.

- **Cost-Effective Maintenance:**

The payroll system is designed to minimize maintenance costs.

By automating processes and reducing manual work, the system reduces the need for ongoing maintenance efforts, leading to cost savings.



Software Requirement System(SRS)

Overall Description:-

➤ **Product perspective:**

The Payroll System will integrate with the organization's existing HRIS system to retrieve employee data and feed processed payroll information back to the HRIS.

➤ **Product functions:**

The major functions include employee management, time tracking, payroll processing, tax calculation, pay slip generation, and reporting.

➤ **User characteristics:**

The target users are HR personnel, payroll administrators, and employees who need to access their pay slips and manage time tracking.

➤ **Constraints:**

The system must comply with the organization's policies and applicable work laws and regulations.



Specific Requirements

▪ **Functional requirements:**

- Employee management (add, update, terminate employees based on data).
- Time tracking (clock-in/clock-out, calculations based on companies policies).
- Pay slip generation (electronic format for employee self-service portal, printable PDF format)
- Reporting (payroll summaries, tax reports, attendance reports, reports on accrued PTO and leave balances)
- Integration with Oracle HCM Cloud HRIS and QuickBooks Enterprise accounting system

Performance:

The system should be able to handle a large number of users simultaneously and provide a fast and responsive user interface.

Security:

The system should implement security measures such as encryption, authentication, and authorization to ensure the safety of user data and transactions.

Availability: The system should be available 24/7, and downtime should be minimized as much as possible.

Scalability: The system should be scalable to accommodate increasing numbers of users and data.



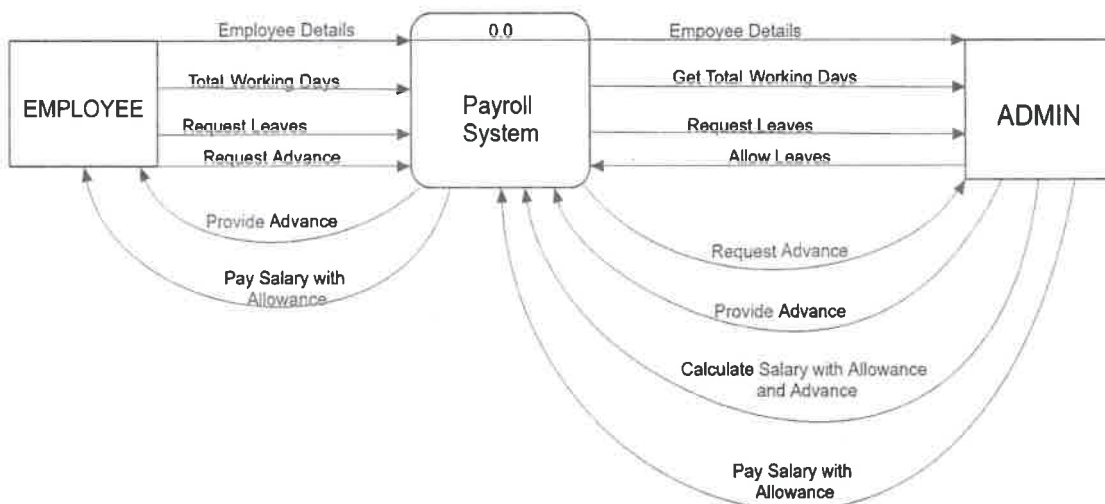
User-Friendly Interface: The system should have a user-friendly interface that is easy to use and navigate.



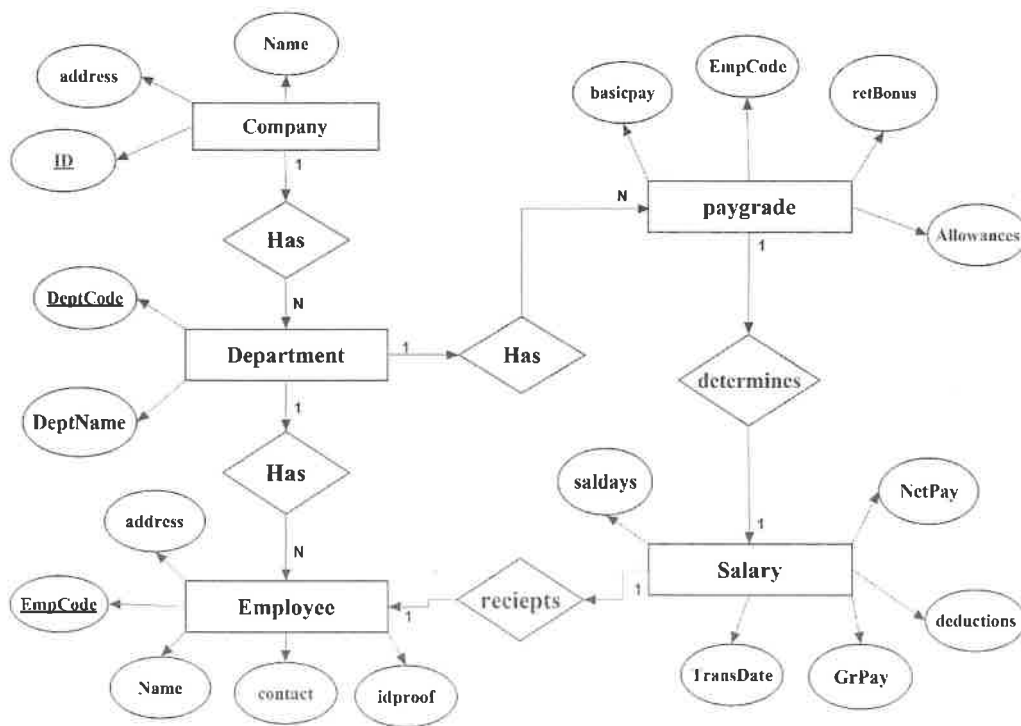
SYSTEM ANALYSIS

❖ DATA FLOW DIAGRAM(DFD):-

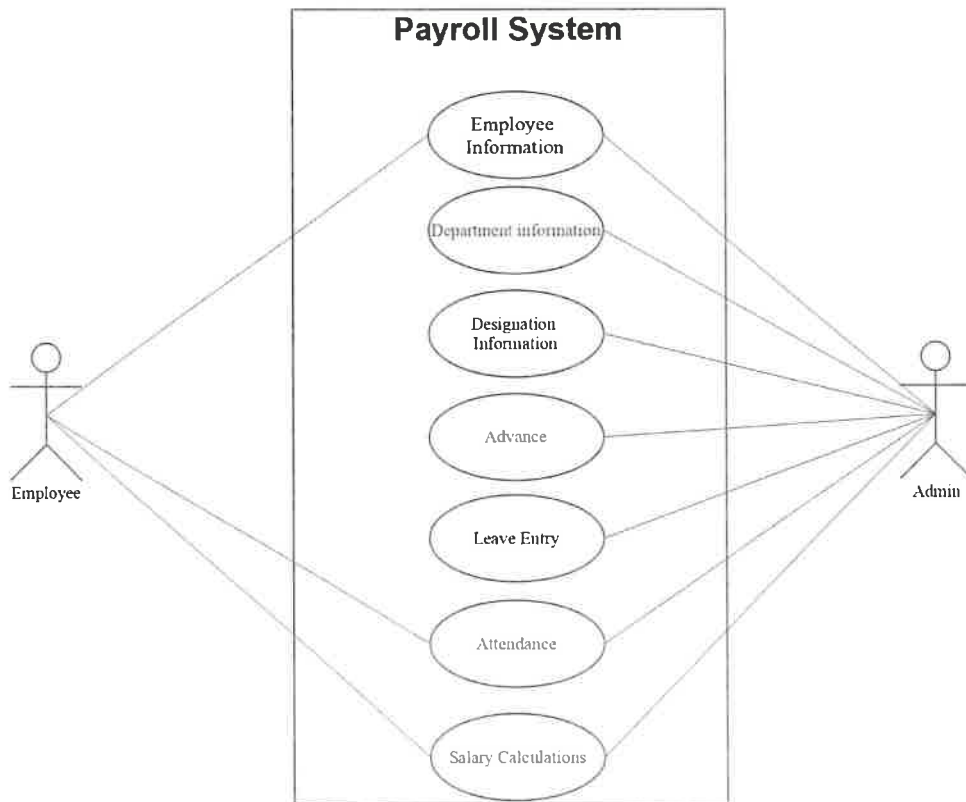
Context Level DFD:



❖ ENTITY RELATIONSHIP DIAGRAM(ERD):-



❖ USE CASE DIAGRAM(UML):-



SYSTEM ANALYSIS & DIAGRAMS

Database design:

Table Design

Login

FieldName	FieldType	Description
ID	AutoNumber	Unique ID
UserName	text	User Name
Password	text	Password

Department Information

FieldName	FieldType	Description
DeptCode	integer	DepartmentCode
DeptName	text	DepartmentName

Designation

FieldName	FieldType	Description
DesgCode	integer	DesignationCode
DesgName	text	DesignationName

Standard Deductions

FieldName	FieldType	Description
DedCode	integer	StandarddeductionCode
DedDesc	text	Deductiondescription
DedPer	Double	Deductionpercentage



Leave Type

FieldName	FieldType	Description
LeaveCode	integer	LeaveCode
LeaveType	text	Leavetype
salDed	Double	Salarydeductionforleave

Employee Master

FieldName	FieldType	Description
EmpCode	integer	EmployeeCode
EmpName	text	EmployeeName
EmpAddress	Text	Address
Mobno	Text	Mobilenummer
AdharNo	Text	Adharcardnumber
PanNo	Text	Pancardnumber
DeptName	Integer	Employeeedepartmentcode
DesgName	Integer	Employeeedesignationcode
EmpImagePath	Text	Image Path
EmpPhoto	Oledbobject	Employee'sphoto
BankAcNo	Integer	Bankaccountcode
BasicPay	Currency	Basicsalary
MobAllow	Currency	Mobileallowance
PL	Integer	TotalallowedPaidleaves
CL	Integer	TotalallowedCasualleaves
JoinDate	Date/Time	Joined Date

Employee advance master

FieldName	FieldType	Description
EmpCode	integer	EmployeeCode
advDate	Date/time	Advancetaken date
advAmt	Currency	AdvanceAmounttaken
Reason	Text	Reasonforadvance

Employee advance transaction

FieldName	FieldType	Description
EmpCode	integer	EmployeeCode
TranDate	Date/time	Transactiondate
DrAmt	Currency	Advancetakenamount
CrAmt	Currency	Advancepaidamount
Balance	Currency	Balanceamount



Employeeattendance

FieldName	FieldType	Description
EmpCode	integer	EmployeeCode
SalDate	Date/time	Salarypostingdate
Stddate	Date/time	Monthstartingdate
Enddate	Date/time	Monthendingdate
monthDays	Integer	Totaldaysinmonth
Sundays	Integer	TotalSundaysinmonth
Workdays	Integer	Totalworkingdays
LateMarks	Integer	Totallatemarks
PL	Integer	Paidleaves
CL	Integer	Casualleaves
LWP	Integer	Leavewithoutpay
SalDays	integer	Totaldaystocalculatesalary

Retentiondata

FieldName	FieldType	Description
EmpCode	integer	EmployeeCode
TranDate	Date/time	Transactiondate
TrType	Text	Transactiontype(instalment/interest/withdraw)
DrAmt	Currency	WithdrawalAmount
CrAmt	Currency	Depositedamount
Particular	Text	Particularabouttransaction
Balance	Currency	Balanceamount



Employeesalary:

FieldName	FieldType	Description
EmpCode	integer	EmployeeCode
Stddate	Date/time	Startingdateforsalarymonth
Enddate	Date/time	Endingdateforsalarymonth
salDate	Date/time	Salarydate
Monthdays	Integer	Totalworkingdaysinmonth
Workday	Ineger	Totaldaysworkedinmonth
Basic	Currency	Basicpay
mobAllow	Currency	Mobileallowance
GrPay	Currency	Grosspay(basic+moballow)
advAmt	Currency	Advanceamount
retBonus	Currency	Retentionallowance
lateMarkDeduction	Currency	Totaldeductionforlatemarksinmonth
Other	Currency	Otherdeductions
dressCode	Currency	DeductionsforDresscode
totDed	Currency	Totaldeductions
netPay	Currency	Netpay
AdvanceAmtBorrow	Currency	Total advance amount



Employee attendance transaction:

FieldName	FieldType	Description
EmpCode	integer	EmployeeCode
SalDate	Date/time	Salarypostingdate
1	Text	Monthstartingdate
2	Text	Monthendingdate
3	Text	Totaldaysinmonth
4	Text	TotalSundaysinmonth
5	Text	Totalworkingdays
6	Text	Totallatemarks
7	Text	Paidleaves
8	Text	Casualleaves
9	Text	Leavewithoutpay
10	Text	Totaldaystocalculatesalary
11	Text	
12	Text	
13	Text	
14	Text	
15	Text	
16	Text	
17	Text	
18	Text	
19	Text	
20	Text	
21	Text	
22	Text	
23	Text	
24	Text	
25	Text	
26	Text	
27	Text	
28	Text	
29	Text	
30	Text	
31	Text	
pDays	Integer	Totalpresentdays
HalfDays	Number	Total Half Days
LateMarks	Integer	Totallatemarks
PL	Integer	Paidleaves
CL	Integer	Casualleaves
LWP	Integer	Leavewithoutpay
BasicPay	Currency	Standard Salary(Basic+MobAllow)
GrossPay	Currency	Gross Pay



Manual System :-

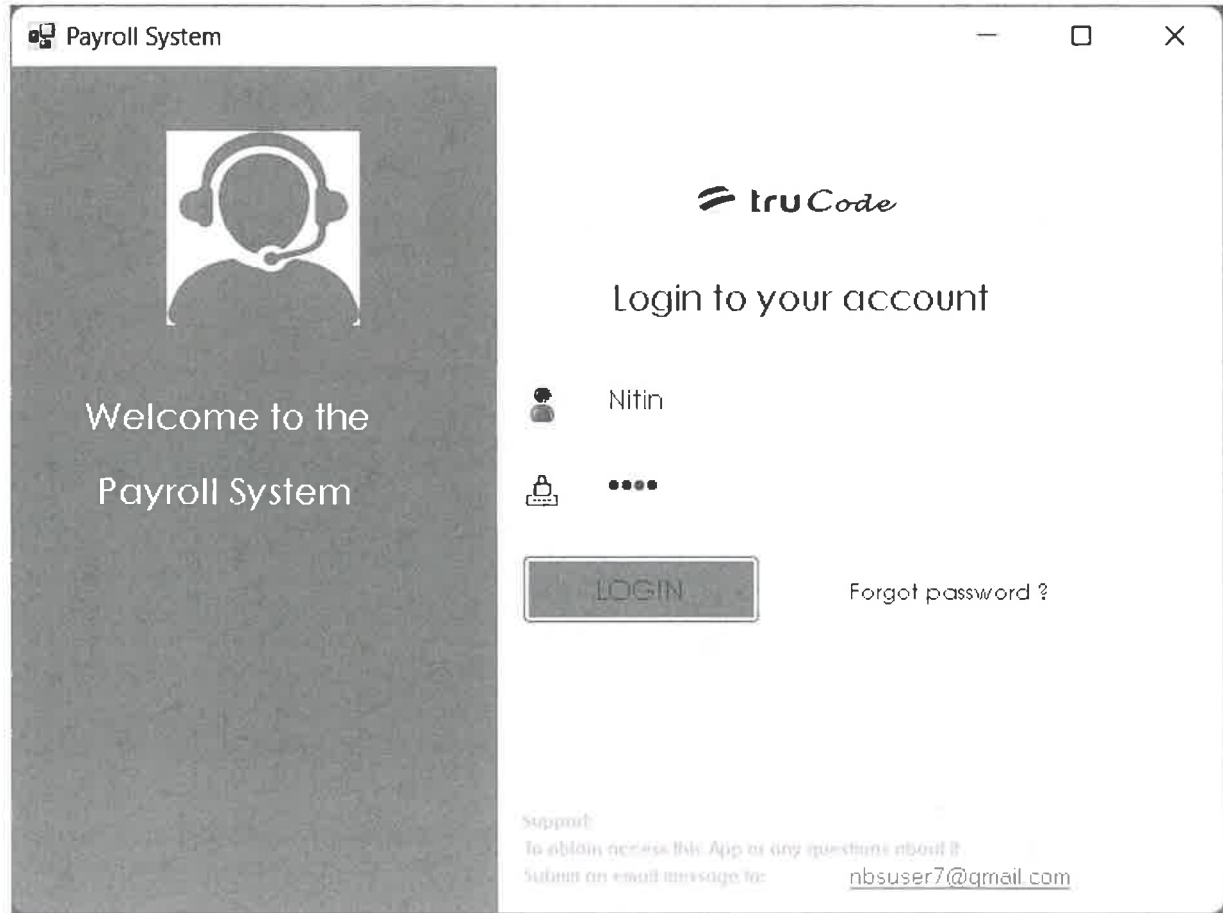
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OUTPUT DESIGN



Employee Details

Payroll System

Employee Code: 16

Name: Kartik Aryan Patil

Bank Acc No: 11295678997

Address: AT-Post Kolhapur, District- Kolhapur

Department: Management - 6

Designation: Manager - 1

Mobile No: 7666502344

Basic Pay: 14000


Adhar No: 780278017887

Mob Allowance: 500

PAN No: ATDST9090Y

Casual Leave: 22

Paid Leave: 12

Employee photo: 

Upload

Remove

New Save Update Search Next

X

Data Saved Successfully ...

OK



frmSalary3

Payroll System

Start Date: 01-03-2024

End Date: 31-03-2024

Employee Code:

Standard Deduction:

Other Deductions: 0

Dress Code: 0

Filter

Refresh

Next

Final Salary

EmpCode	Sundays	WorkDays	LateMarks	pl	cl	lwp	saldays	StdSalary	grosspay
10	5	26	0	0	0	0	26	28500	28500
11	5	26	0	1	0	0	25	12300	11827
12	5	26	900	0	0	0	25.5	16400	16085
13	5	26	400	0	0	0	26	14300	14300
14	5	26	0	0	0	1	24.5	25500	24029
15	5	26	0	0	0	1	25	16200	15577
1	5	26	500	0	1	0	24.5	15000	14712
3	5	26	1500	1	0	3	21.5	560600	463573
4	5	26	0	0	0	0	25.5	790600	775396
5	5	26	500	0	1	0	24.5	15300	15006
6	5	26	200	0	1	0	24.5	14500	14221
7	5	26	50	0	1	0	24.5	12400	12162
8	5	26	600	0	0	0	25.5	20500	20106
9	5	26	500	0	0	0	26	28500	28500

×


Data Updation Succesfull

OK



REPORT

- SALARY SLIP

 truCode		SALARY SLIP			
		March			
EMPLOYEE NAME	Pratik Kadam				
DESIGNATION	Assistant				
DEPARTMENT	Assistance				
MONTH	March	EARNINGS/DAY	577.00	OP ADV	20000
MONTH DAYS	31	LEAVES TAKEN	0.00	CURRENT ADV	20000
SUNDAYS	5	CASUAL LEAVES	1	TOTAL ADV	20000
WORKING DAYS	26	PAID LEAVES	0	DEDUCTED ADV	₹ 5000.00
LATE MARKS	₹ 500.00	DAYS WORKD	24.50	BALANCE	₹ 220.00
DESCRIPTION	EARNINGS		DESCRIPTION	CALCULATIONS	
BASIC PAY	14500		GROSS PAY	14712	
MOBILE ALLOWANCE	500		DEDUCTIONS	6250	
			RET. BONUS	750	
			ADVANCE	5000	
			LATE MARK	500	
			OTHER		
			DRESS CODE		
STANDARD SALARY	₹ 15000		NET PAY	8462	
NET PAY			8462.00		
eight thousand four hundred sixty-two and xx / 100					
NOTE: THIS IS AN ELECTRONICALLY GENERATED STATEMENTS HENCE DOES NOT REQUIRED ANY SIGANTURE					



• EMPLOYEE LIST



truCode Technologies

B1 , 367/9, E ward Malhar Heights, Ambal Defence Society,
Samrat Nagar, Pratibha Nagar, Kolhapur, Maharashtra,

03-16-2024

Employee List

Id	Employee Name	Employee Name
1	Pratik Kadam	03-07-2024 00:00:
2	Prathamesh Sutar	03-12-2024 00:00:
3	Bhushan Musale	03-12-2024 00:00:
4	Shubham Mane	03-12-2024 00:00:
5	Harsharaj Wakase	03-12-2024 00:00:
6	Sandip Gosavi	03-15-2024 00:00:
7	Riteshi Kishor Jadhav	03-16-2024 00:00:
8	Komal Ram Mane	03-16-2024 00:00:
9	Pratiksha Karan Kale	03-16-2024 00:00:
10	Ram Rajesh Kumbi	03-16-2024 00:00:
11	Shubham Kashir Kale	03-16-2024 00:00:
12	Sruti Ram Puiari	03-16-2024 00:00:
13	Radha Rajesh Patil	03-16-2024 00:00:
14	Kiran Ramesh Mali	03-16-2024 00:00:
15	Srutika Karan Kali	03-16-2024 00:00:



• ADVANCE DETAILS



truCode Technologies

B1, 367/9, E ward Malhar Heights, Ambai Defence Society,
Samrat Nagar, Pratibha Nagar, Kolhapur, Maharashtra.


03-16-2024

Advance Details

Sr.No	Date	Employee Name	Total	Remaining Balance
1	03-01-2024	Pratik Kadam	54465	₹ 220
4	06-15-1894	Shubham Mane	80000	₹ 75000
6	06-15-1894	Sandip Gosavi	20000	₹ 15000
7	06-15-1894	Ritesj Kishor Jadhav	15000	₹ 10000
14	06-15-1894	Kiran Ramesh Mali	18000	₹ 15000



• ATTENDANCE SUMMARY



truCode Technologies

B1, 367/9, E ward Malhar Heights, Ambal Defence Society,
Samrat Nagar, Pratibha Nagar, Kolhapur, Maharashtra,

Attendance Summary

Summary			
Employee Code	Employee Name	Present Days	Absent Days
10	Ram Rajesh Kunbi	26	0.00
9	Pratiksha Karan Kale	26	0.00
7	Ritesi Kishor Jadhav	25	1.00
6	Sandip Gosavi	25	1.00
5	Harsharai Wakase	25	1.00
4	Shubham Mane	25	0.00
1	Pratik Kadam	24	2.00
12	Sruti Ram Pujari	25	0.00
13	Radha Rajesh Patil	26	0.00
11	Shubham Kashir Kale	25	1.00
3	Bhushan Musale	22	4.00
8	Komal Ram Mane	25	0.00
15	Srutika Karan Kali	25	1.00
14	Kiran Ramesh Mali	24	1.00


 2.9.22
HEAD
 DEPARTMENT OF B.SC. COMPUTER SCIENCE
 (ENTIRE)
 VIVEKANAND COLLEGE, KOLHAPUR
 (AUTONOMOUS)




PRINCIPAL
 VIVEKANAND COLLEGE
 KOLHAPUR (AUTONOMOUS)

Consultancy Document for Online Web Portal for Inward Outward Maintenance

Introduction

In today's fast-paced business environment, efficient management of inward and outward processes is crucial for organizations of all sizes. An online web portal dedicated to inward and outward maintenance can streamline these processes, enhance transparency, and improve overall operational efficiency. This consultancy document outlines the key features, requirements, and benefits of such a portal.

Objectives

- Develop a user-friendly online portal for managing inward and outward processes.
- Enable real-time tracking and monitoring of inward and outward movements.
- Facilitate efficient communication between stakeholders involved in the process.
- Ensure data security and compliance with relevant regulations.

Key Features

User Authentication and Access Control: Implement secure login mechanisms with role-based access control to ensure that only authorized personnel can access specific features and data.

Dashboard: Provide a customizable dashboard for users to view key metrics, pending tasks, and alerts related to inward and outward processes.

Inward Process Management:

- **Creation of Inward Requests:** Allow users to create inward requests specifying details such as sender, recipient, description of items, quantity, and expected delivery date.
- **Approval Workflow:** Implement an approval workflow for inward requests to ensure proper authorization before processing.
- **Receipt Confirmation:** Enable recipients to confirm receipt of inward items through the portal, updating the status accordingly.

Outward Process Management:

- **Outward Requests:** Allow users to create outward requests including details such as sender, recipient, items to be sent, quantity, and delivery instructions.
- **Approval Process:** Similar to inward requests, implement an approval workflow for outward requests.



- **Tracking and Tracing:** Enable real-time tracking of outward shipments with status updates at various stages of the delivery process.

Document Management: Provide a centralized repository for storing and managing documents related to inward and outward processes, such as invoices, delivery notes, and receipts.

Notifications and Alerts: Implement automated notifications and alerts to keep stakeholders informed about the status of their requests, pending approvals, and deadlines.

Reporting and Analytics: Generate comprehensive reports and analytics on inward and outward movements, including trends, turnaround times, and performance metrics.

Integration Capabilities: Ensure compatibility and seamless integration with existing ERP systems, accounting software, and other relevant applications.

Technology Stack:

- Frontend: HTML5, CSS3, JavaScript (React.js or Angular)
- Backend: Node.js, Express.js
- Database: MongoDB or PostgreSQL
- Authentication: JSON Web Tokens (JWT)
- Real-time Communication: WebSocket or Socket.io
- Security: HTTPS, Encryption (SSL/TLS), OWASP Top 10 Compliance

Benefits:

- **Improved Efficiency:** Streamline inward and outward processes, reducing manual efforts and eliminating paperwork.
- **Enhanced Transparency:** Enable stakeholders to track and monitor movements in real-time, fostering transparency and accountability.
- **Better Decision Making:** Access to comprehensive analytics and reports empowers management to make informed decisions and optimize processes.
- **Cost Savings:** By automating tasks and reducing errors, the portal can lead to cost savings in terms of time and resources.
- **Compliance and Security:** Ensure compliance with data protection regulations and industry standards, while also enhancing data security through encryption and access controls.

Conclusion:

An online web portal dedicated to inward and outward maintenance can significantly enhance operational efficiency, transparency, and communication within an organization. By leveraging modern technologies and best practices, this portal will streamline processes, improve decision-making, and ultimately contribute to the overall success of the organization.



Online Web Portal for Inward Outward Maintenance Development Schedule

Phase 1: Planning and Requirements Gathering (Week 1-2)

Project Kickoff Meeting:

- Discuss project objectives, scope, and deliverables.
- Identify key stakeholders and their roles.
- Establish communication channels and project management tools.

Requirements Gathering:

- Conduct interviews and workshops with stakeholders to gather detailed requirements.
- Document functional and non-functional requirements.
- Define user stories and acceptance criteria.

Phase 2: Design and Architecture (Week 3-5)

System Architecture Design:

- Design the overall architecture of the web portal.
- Define database schema and data models.
- Select technologies and frameworks for frontend and backend development.

UI/UX Design:

- Create wireframes and mockups for the user interface.
- Develop a design system for consistent UI elements.
- Review and finalize design with client feedback.

Phase 3: Development (Week 6-25)

Backend Development:

- Setup project structure and environment.
- Implement user authentication and authorization.
- Develop APIs for inward and outward process management.

Frontend Development:

- Implement dashboard layout and components.
- Develop forms for creating inward/outward requests.
- Integrate frontend with backend APIs for data retrieval and manipulation.

Inward and Outward Process Management:

- Implement creation, editing, and deletion of inward/outward requests.
- Develop approval workflows with notification mechanisms.
- Integrate document management functionality for attaching files to requests.



Phase 4: Testing and Quality Assurance (Week 26-30)

Unit Testing:

- Write unit tests for backend and frontend components.
- Perform test-driven development (TDD) where applicable.

Integration Testing:

- Test interactions between different modules and components.
- Verify data integrity and consistency across the system.

User Acceptance Testing (UAT):

- Conduct UAT sessions with client representatives.
- Address any issues or feedback identified during testing.

Phase 5: Deployment and Launch (Week 31-32)

Deployment Preparation:

- Prepare deployment scripts and configurations.
- Set up hosting environment (cloud server, database, etc.).

Deployment and Staging:

- Deploy the web portal to a staging environment for final testing.
- Conduct final checks and performance optimization.

Client Training:

- Provide training sessions for end-users on how to use the web portal.
- Create documentation and user guides for reference.

Phase 6: Post-Launch Support and Maintenance (Week 33-35)

Bug Fixes and Updates:

- Address any post-launch issues or bugs reported by users.
- Implement minor updates and enhancements as needed.

Monitoring and Performance Optimization:

- Set up monitoring tools to track system performance and usage.
- Optimize database queries and server configurations for better efficiency.

Client Handover and Review:

- Conduct a final project review with the client.
- Hand over all project documentation, source code, and credentials.
- Provide ongoing support and maintenance services as per the agreed-upon contract.



Progress Report and Meeting Details: Online Web Portal for Inward Outward Maintenance

Date:

Meeting Attendees:

Principal: Dr. R.R.Kumbhar

IQAC Cootdinator : Dr. Shruti Joshi

Web Development Organization Representative:

Dr. V.B.Waghmare H.O.D. Dept. of Computer Science

Dr. Rajashree Patil Asst.Prof.

Dr. Irfan Mujawar Asst. Prof.

Ms. Mrunal Dinde Asst.Prof

Ms. Shubhangi Bais Asst. Prof

Ms. Vaishnavi Patil

Agenda:

Review of Project Progress:

- Status update on development tasks
- Any challenges or roadblocks encountered
- Discussion on solutions and mitigation strategies

Demo of Implemented Features:

- Presentation of completed features/modules
- Feedback from client representatives
- Any additional requirements or changes requested

Upcoming Milestones and Deliverables:

- Discussion on remaining tasks and timelines
- Agreement on priorities for upcoming sprints or development phases

Any Other Business:

- Open floor for discussion on any other relevant topics
- Addressing any concerns or questions from client representatives

Progress Update:

During the meeting, the development team provided a comprehensive progress update on the Online Web Portal for Inward Outward Maintenance project. Key highlights include:



Backend Development:

- Implemented user authentication and access control features.
- Completed database schema design and setup.
- Developed API endpoints for inward and outward process management.

Frontend Development:

- Designed and developed the user interface for the dashboard.
- Implemented forms for creating inward and outward requests.
- Integrated frontend components with backend API endpoints.

Inward and Outward Process Management:

- Implemented basic functionality for creating, editing, and deleting inward/outward requests.
- Developed initial versions of approval workflows for inward/outward requests.

Document Management:

- Set up the document repository module with basic CRUD operations.
- Implemented file upload functionality for attaching documents to inward/outward requests.

Demo of Implemented Features:

The development team provided a live demo of the implemented features, showcasing the following:

- User authentication and login process.
- Dashboard displaying key metrics and pending tasks.
- Creation of inward and outward requests with associated details.
- Approval workflow for inward/outward requests.
- Document management functionality for attaching files to requests.

Upcoming Milestones:

The following milestones and deliverables were discussed and agreed upon:

- Next Sprint Goals: Complete the implementation of approval workflows, including notifications and alerts.
- Integration Phase: Begin integration with external systems such as ERP and accounting software.
- Testing and QA: Conduct comprehensive testing of all features to ensure reliability and functionality.
- Client Review: Schedule a review session for the client to provide feedback on the implemented features and suggest any changes or enhancements.

Next Steps:

- Development Team: Continue working on the remaining tasks according to the agreed-upon timeline.
- Project Manager: Coordinate with the client to schedule regular review meetings and ensure alignment with project objectives.



- Client Representatives: Provide feedback on the demoed features and communicate any additional requirements or changes.

Conclusion:

The progress meeting provided an opportunity to review the current status of the project, demo implemented features, and discuss upcoming milestones. The development team is committed to delivering a high-quality online web portal for inward and outward maintenance, meeting the client's requirements and expectations.



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