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TITLE :

BLOOD BANK MANAGEMENT SYSTEM

ABSTRACT :

Blood Bank Management System (BBMS) is a system that is designed to store, process, retrieve and analyse information concerned with the administrative and inventory management within a blood bank. This project aims at maintaining all the information pertaining to blood donors, different blood groups available in each blood bank and help them manage in a better way. Aim is to provide transparency in this field, make the process of obtaining blood from a blood bank hassle free and corruption free and make the system of blood bank management effective. Our client is not interested in blood stocking instead we are stocking blood donors information. The donors who are interested in donating blood has to register in the database. There is no storage of blood so no complications in the project. The software is fully integrated with CRM (customer relationship management) as well as CMS (content management system) solution. It is developed in a manner that is easily manageable, time saving and relieving one from manual works. The requirement of the blood has to be requested and we supply the information of the donor. The donors can update their status whether they are available or not. The blood management information system offers functionalities to quick access to donor records collected from various parts of the country. It enables monitoring of the results and performance of the blood donation activity such that relevant and measurable objectives of the organization can be checked. It provides to management timely, confidential and secure medical reports that facilitates planning and decision making and hence improved medical service delivery.

KEY WORDS:

KEY PARTNERS :-

- Blood banks
- Hospitals/clinics
- NGO’s associated with Blood Donations (Red cross)
- Pharmacies
- Prospective / Repeat Voluntary Blood Donors
- Recipients / Patients
- Health and Wellness Programs

KEY ACTIVITIES :-

- Organizing Blood Camps
- Website Development
- Encrypted, custom Donor profile
- Blood Donor / Recipient query and support contact

KEY RESOURCES :-

- Website management
- Server maintenance
- Teams to organize blood donation camps
- Relationships managers to connect to hospitals / blood camps

CUSTOMER SEGMENTS :-

- All members of society across India
- Initial target in urban and semi-urban areas of population

CUSTOMER RELATIONSHIPS :-

- User's personal information is all securely encrypted before saved to the database
- Patients can see their requests
- Call support via the Contact Us Webpage

COST STRUCTURE :-

- Cost of buying server space , domain space and renewal values
- Utilities amount (Phone and Internet)
- Cost of organizing blood donation camps
- Promotions and Referral's fee

REVENUE STREAMS :-

- Revenue from customer acquisition fee from stores / labs
- Online Advertisements in Apps and Websites

CHANNELS :-

- Pharmacies
- Website
- Hospitals

VALUE PROPOSITIONS :-

- Creating an Encrypted Database for voluntary blood donors
- Patients find the right blood donors from database
- Patients request blood units required and identify prospective donors
- Pre-registration via Website
- Can be accessed anywhere , anytime
- Easy to use and understand

Literature Review :

Paper - 1 :

The basic building aim is to provide blood donation service to the city recently. Blood Bank Management System (BBMS) is a Web-based application that is designed to store, process, retrieve and analyze information concerned with the administrative and inventory management within a blood bank.

This project aims at maintaining all the information pertaining to blood donors, different blood groups available in each blood bank and help them manage in a better way.

Project Aim is to provide transparency in this field, make the process of obtaining blood from a blood bank hassle-free and corruption-free and make the system of blood bank management effective.

https://www.phptpoint.com/projects/blood-bank-management-system/

Paper 2 :

The purpose of this project was to develop a blood management information system to assist in the management of blood donor records and ease or control the distribution of blood in various parts of the country basing on the hospitals demand.

https://www.slideshare.net/JawharAli/full-report-on-blood-bank-management-system

Paper 3 :

LBBRF is a private organization that functions as a place to donate blood. They give a charge to the person or patient that is in needs of blood. However, the money that they collected is not for the profit for them but for recover the expenses incurred in recruiting and educating donors. This is also to ensure that the blood transfusion is as safe as possible. In Lions Bank & Research Foundation, They will make sure the availability of blood stock in their blood bank. They also published the current status of blood stock in their website homepage. This is for them to keep the website visitor especially donor informed about the needs of blood. They also inform the donor and the public where and when is their next event. However, this blood bank does not provide any facility for the donor and the patient. Therefore, they cannot know how many times that they have donated their blood. As for the donor, they cannot know their blood screening result for each time they donate their blood. Without having this function in the system, the donor cannot monitor his or her health condition. This will make the donor become unaware of their health condition.

http://www.lionsbloodbank.net/

ERP Tool Description :-

TOOL : ERPNEXT

ERPNext is a free and open-source integrated Enterprise Resource Planning (ERP) software developed by Frappé Technologies Pvt. Ltd. and is built on MariaDB database system using a Python based server-side framework. ERPNext is a generic ERP software used by manufacturers, distributors and services companies. It includes modules like accounting, CRM, sales, purchasing, website + e-commerce, point of sale, manufacturing, warehouse, project management, inventory and services. Also, it has domain specific modules like schools, healthcare, agriculture and non-profit.

Core Modules:

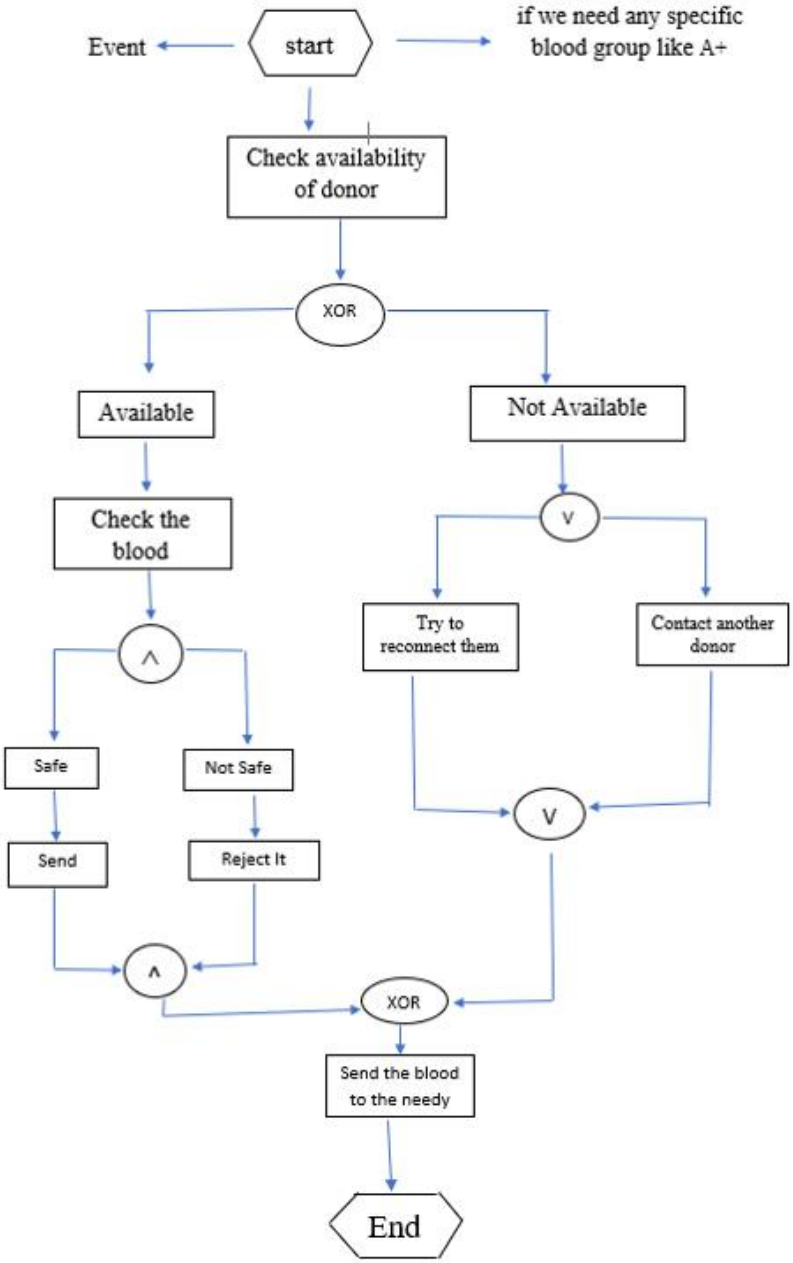
- Accounts
- Stocks
- Buying & Selling
- CRM
- Manufacturing
- Education

- Health Care
- Human Resource
- Assets
- Support

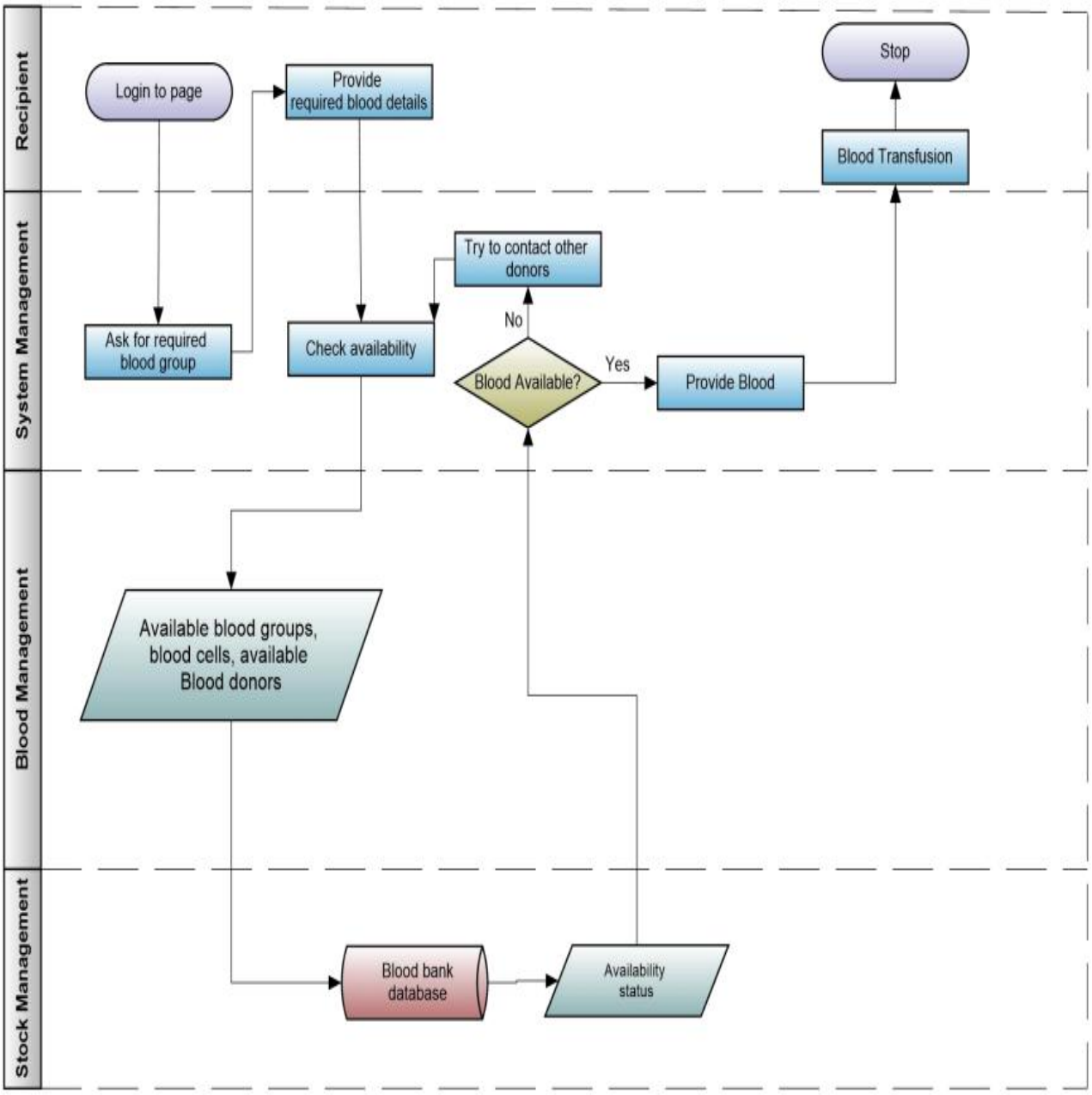
ERPNEXT : https://erpnext.com/

FLOW DIAGRAM :

EVENT DRIVE PROCESS CHAIN FLOWCHART



SWIMLANE CHART



Description of Functional Operations :

1) Getting Donor's Blood and its further processing

INPUT	FUNCTIONAL AREA RESPONSIBLE FOR INPUT	PROCESS	OUTPUT
Donor's Information	Human Resource Management	Getting the donor's full database about their health and personal information	Donor's details are entered into the system
Devices required for blood collection	Supply Chain Management	For collecting the blood some specific devices has to be bought in-order to collect the blood	Blood collecting devices are purchased from the manufacturer.
Blood Details	Human Resource Management	Blood details like type, RBC, WBC, platelets, etc.	Blood details of the respective donors are entered into the system.
Food purchases for Donors	Accounting and Finance	The food must be purchased for the donors for their health care.	Foods are served for them after the blood donation.
Blood Bank details	Marketing and Sales	The details of the blood sold and bought for others has to be maintained	Record of purchasing blood history the saved.

As the system name suggests the further process of the donor's blood is discussed here. The first step after the collection of blood is to make sure that the blood is safer for the recipient for in-take so it has to undergo several blood safety processes and the disease diagnosis for the verification of AIDS/HIV virus. Then it has to be tested for the platelets counts, RBC count, WBC count, etc. In case of any detection of any diseases the Donor has to be informed and taken care. The most

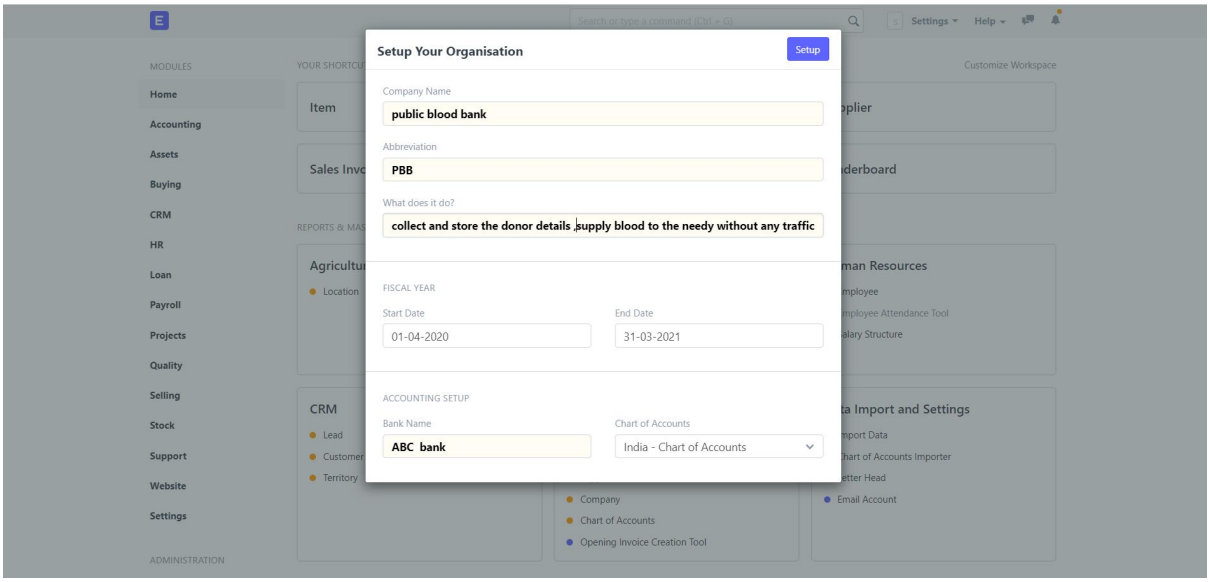
important part of blood bank is blood storage. The blood packages has to be stored in a cooled and contained environment for the betterment of the blood. And when the recipient requests the blood, it has to be transferred carefully to the required destination without any damage to the blood package and has to be injected to the recipient.

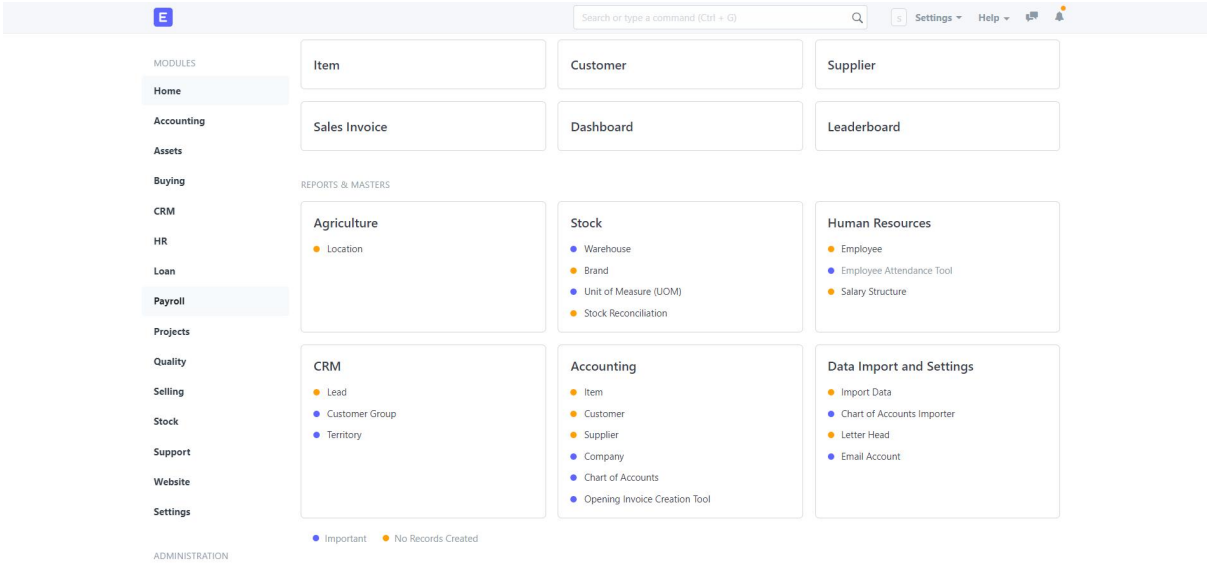
2) Interface development for the Blood Bank System

INPUT	FUNCTIONAL AREA RESPONSIBLE FOR INPUT	PROCESS	OUTPUT
Recruiting the developers	Human Resource Management	Interviews and chooses the developers to build the interface	Developers are recruited.
Financial support for purchasing the components	Accounting and Finance	Amount required is allotted	Price list required for purchasing is generated.
Purchase the necessary hardware to build the interface	Supply Chain Management	Hardware and Software	The developer gets the software and hardware component to develop the interface.
Software testing	Accounting and Finance	The created software has to be tested for bugs and error by professional tester of other company	Financial support is provided for testing the software.
Advertisement of the interface	Marketing and Sales	Promotion of the interface	Advertisement is created.

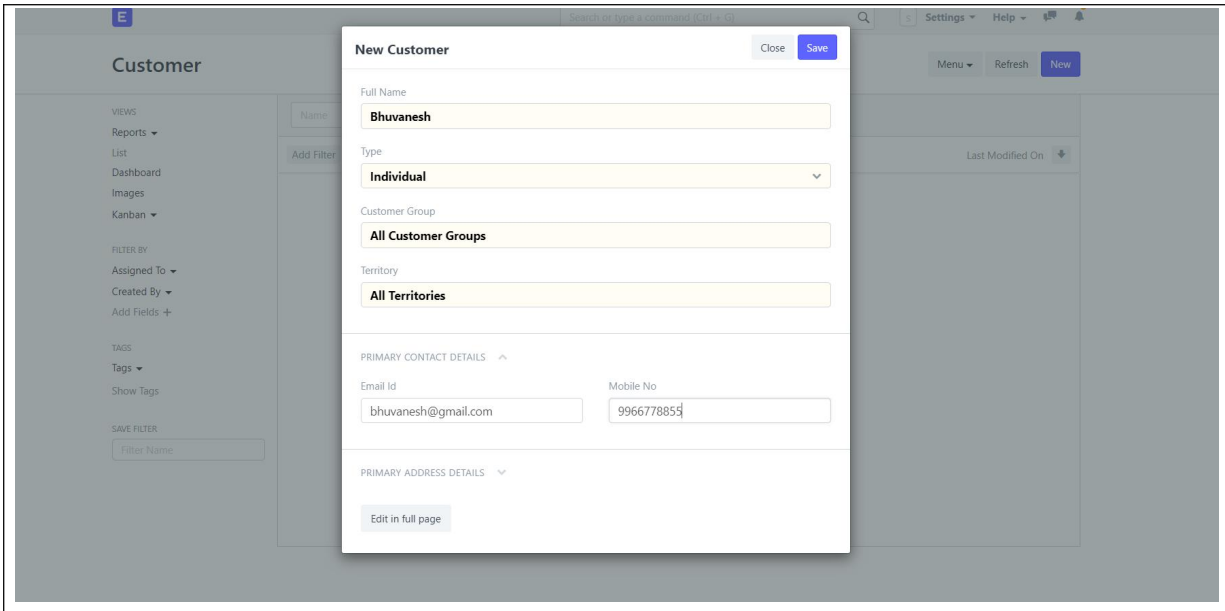
In our project we are creating an interface to manage the blood donor, receiver and bank. Hence the situation here is the creation of interface which requires the requirement specification, design, financial support and developers. For developing the interface we need to hire the developers, purchase the necessary hardware for building the interface and to promote the interface. Hence for this situation the scope is created.

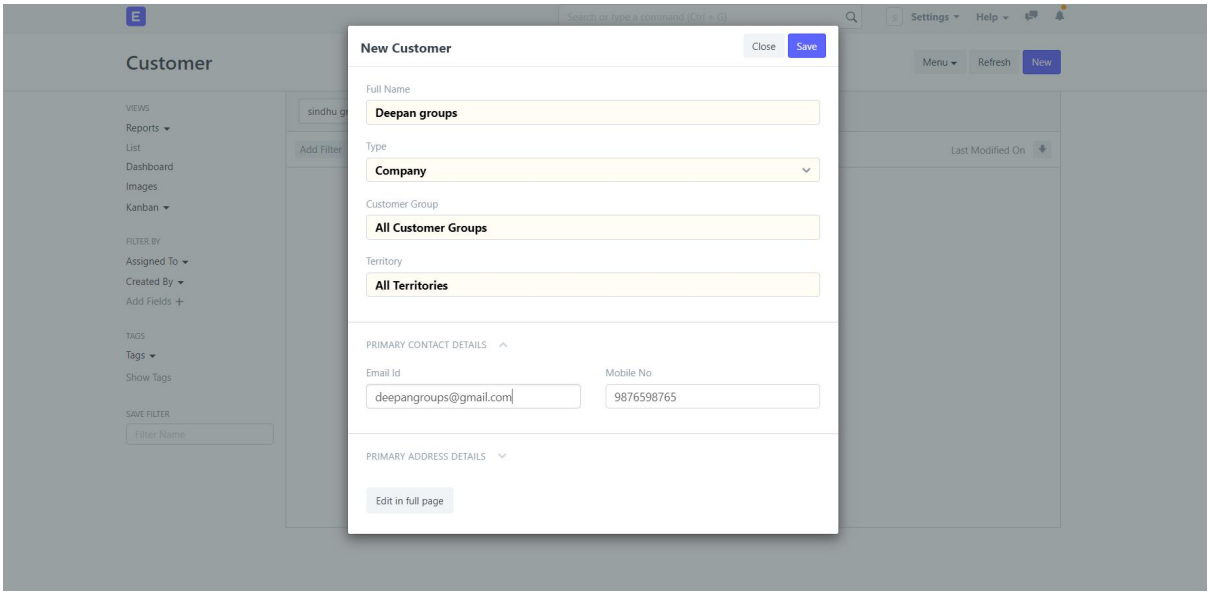
Features of ERPNEXT :

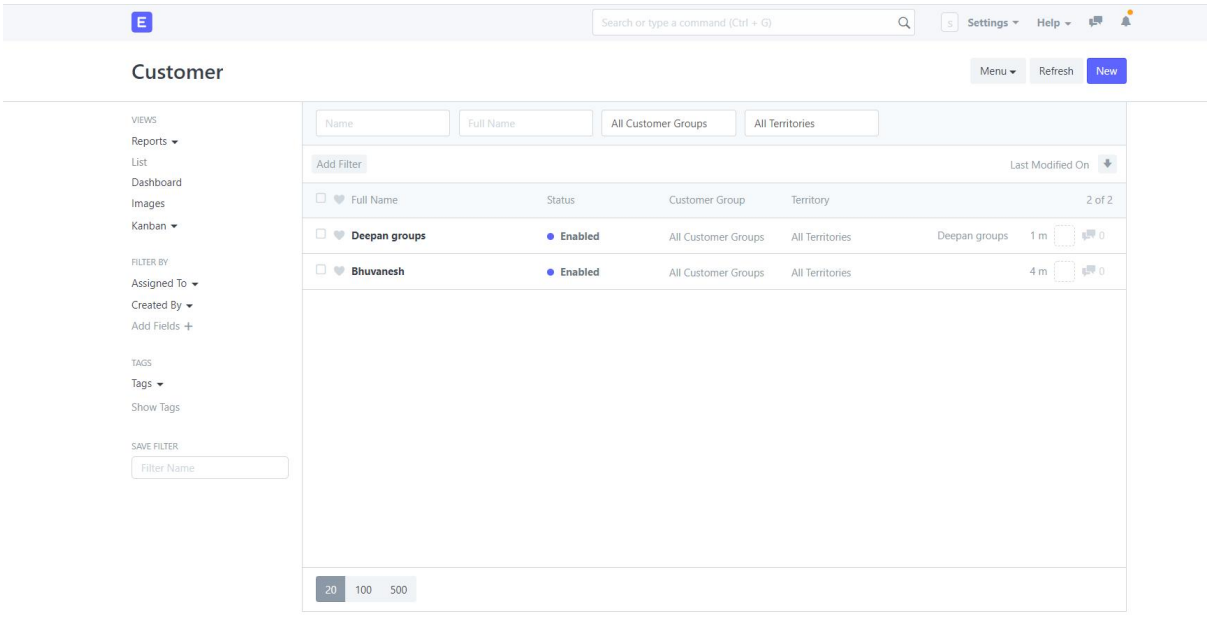




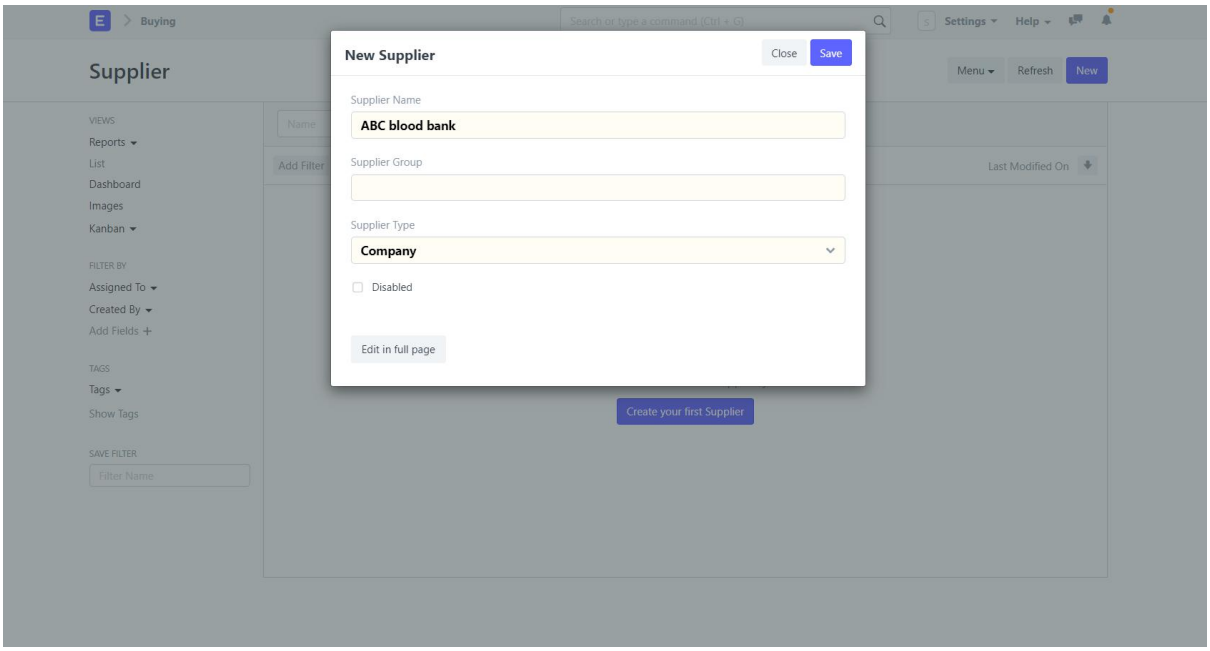
This feature lets you to setup our organization with its complete profile and details. In our case, we have planned for a blood bank management system organization which has a tie up with other blood bank agencies and hospitals around to help patients who are in need of blood. This feature also allows to maintain details of several organizations owned by a single irrespective of the type of each organization.

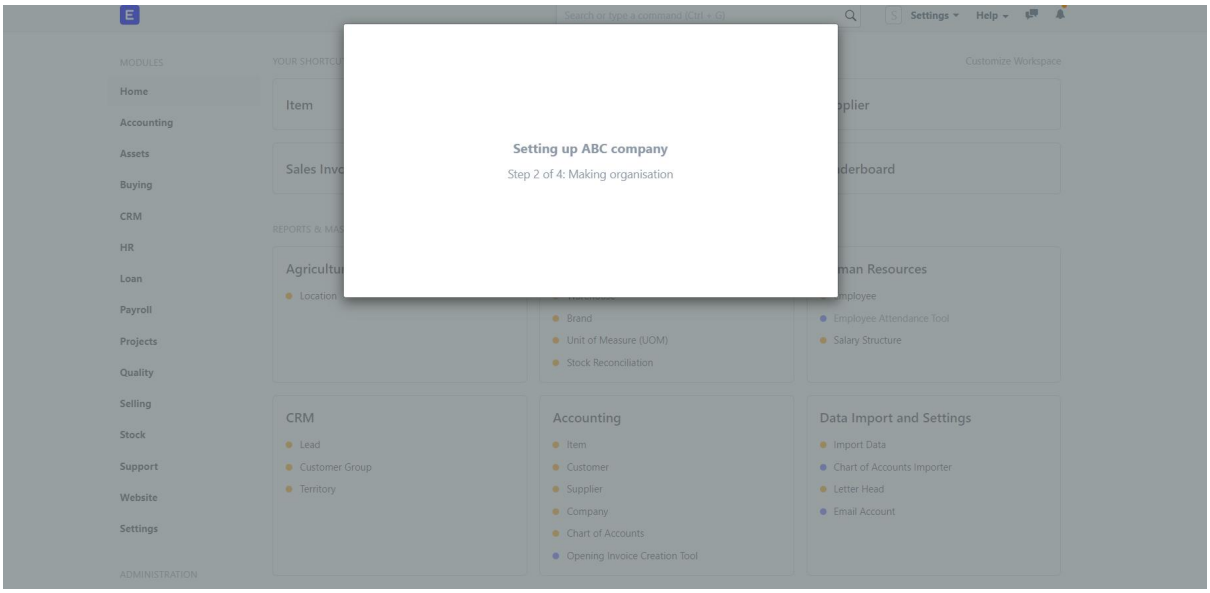

Customer
New Customer
Close
Save
Full Name
Bhuvanesh
Type
Individual
Customer Group
All Customer Groups
Territory
All Territories
PRIMARY CONTACT DETAILS
Email Id
bhuvanesh@gmail.com
Mobile No
9966778855
PRIMARY ADDRESS DETAILS
Edit in full page

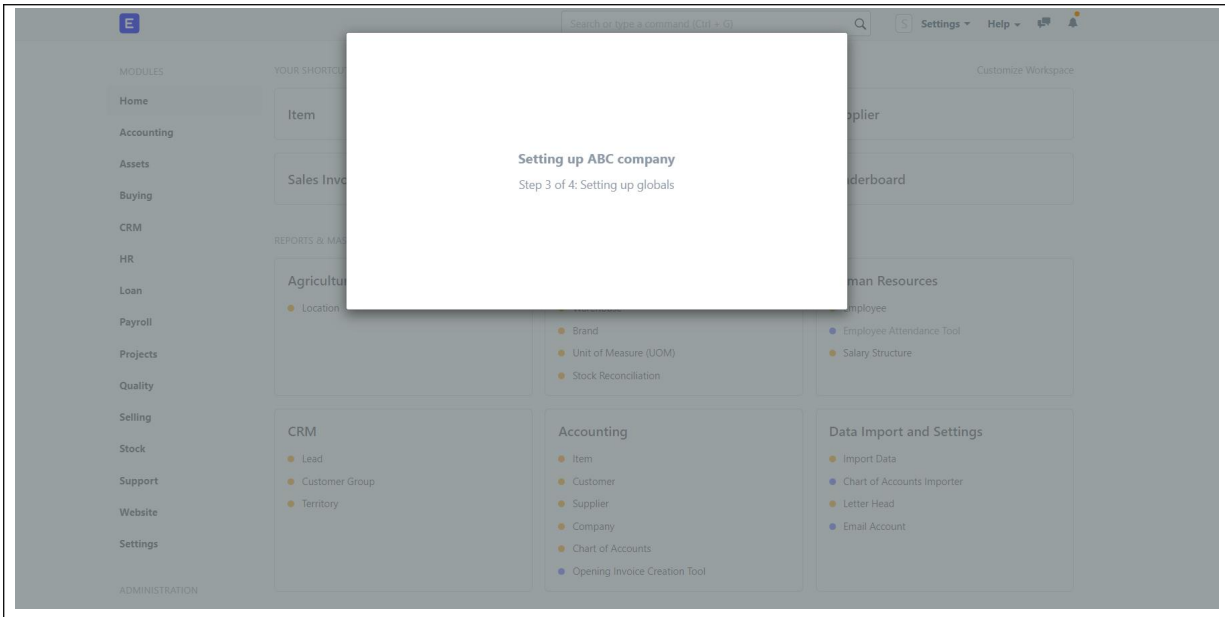

Customer
New Customer
Close
Save
Full Name
Deepan groups
Type
Company
Customer Group
All Customer Groups
Territory
All Territories
PRIMARY CONTACT DETAILS
Email Id
deepangroups@gmail.com
Mobile No
9876598765
PRIMARY ADDRESS DETAILS
Edit in full page

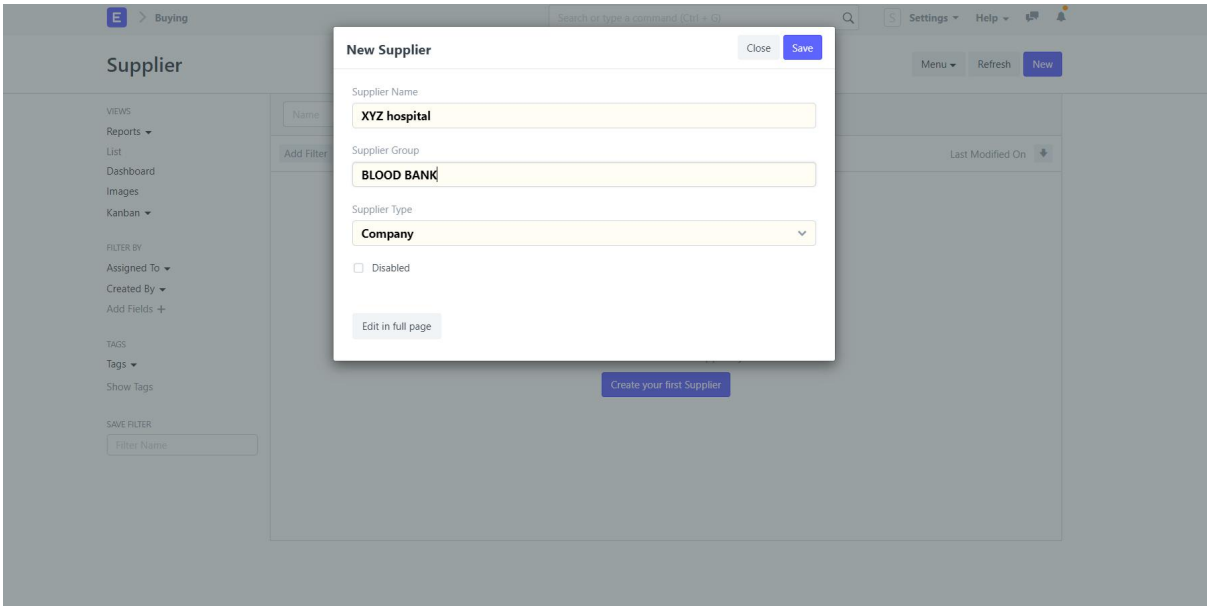

Customer
Menu
Refresh
New
Name
Full Name
All Customer Groups
All Territories
Add Filter
Last Modified On
Full Name
Status
Customer Group
Territory
2 of 2
Deepan groups
Enabled
All Customer Groups
All Territories
Bhuvanesh
Enabled
All Customer Groups
All Territories
20
100
500

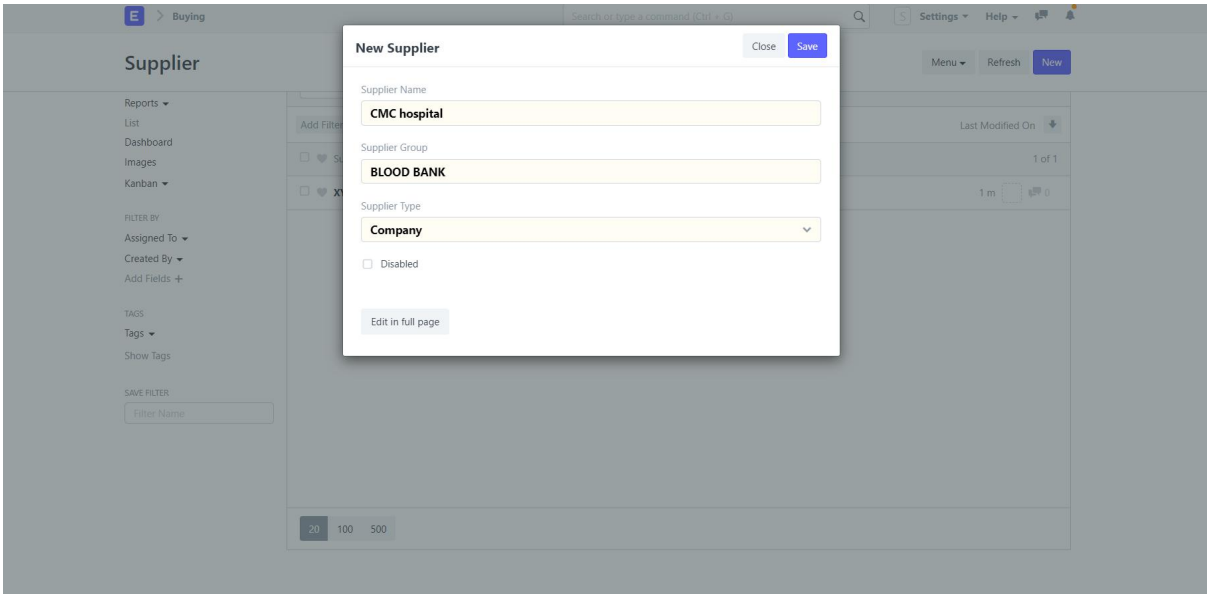
The above feature helps to maintain a particular donor/customer's details as a complete database with regular updates .It also allows to have record of a particular organization that has a number of donors too with each of the organisation's details along with each of its donor's details.






Setting up ABC company
Step 3 of 4: Setting up globals


New Supplier
Close
Save
Supplier Name
XYZ hospital
Supplier Group
BLOOD BANK
Supplier Type
Company
Disabled
Edit in full page
Supplier
Create your first Supplier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Save
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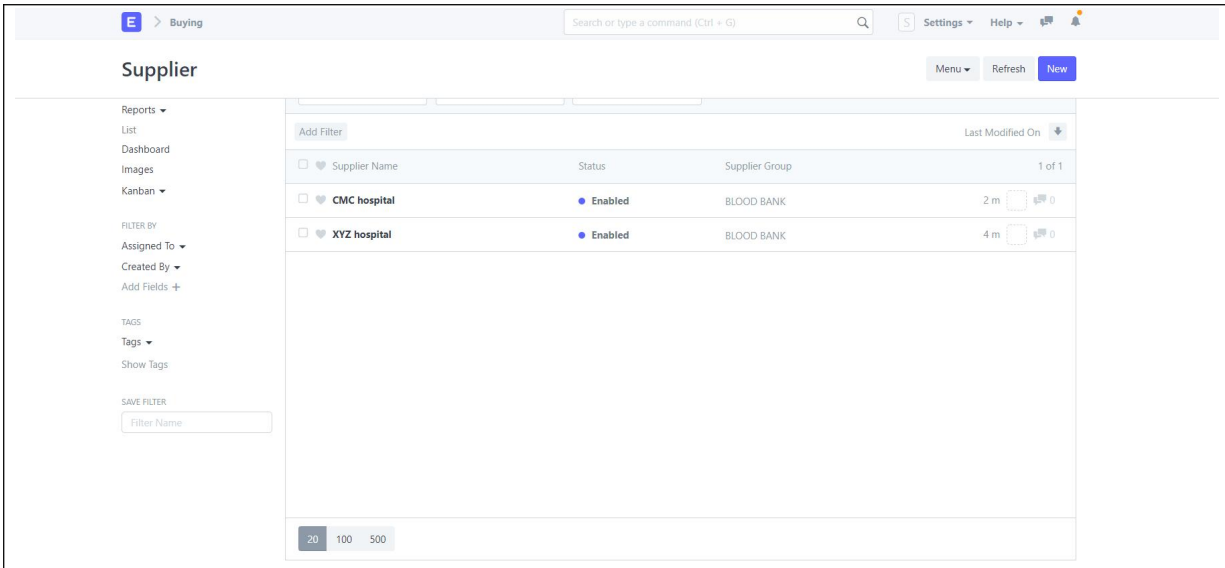
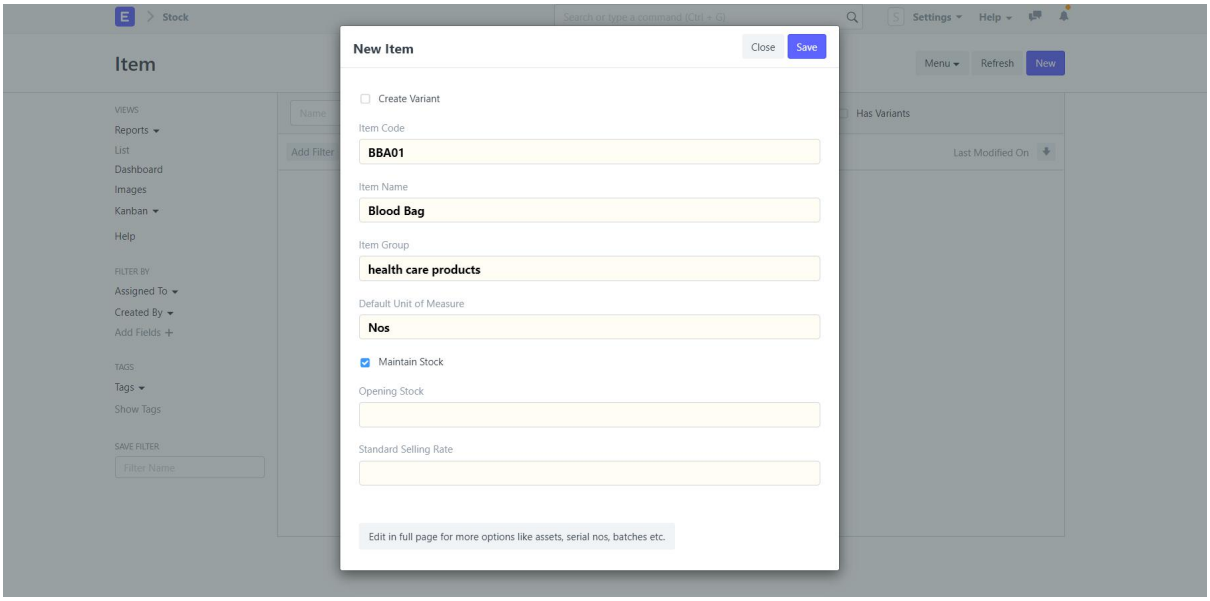
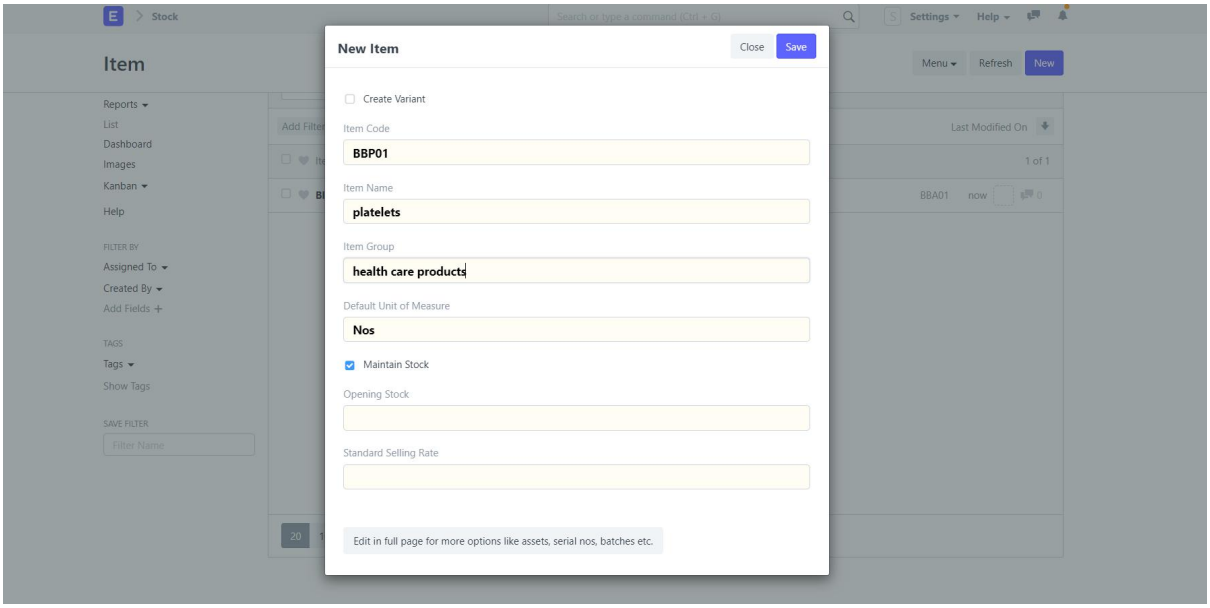
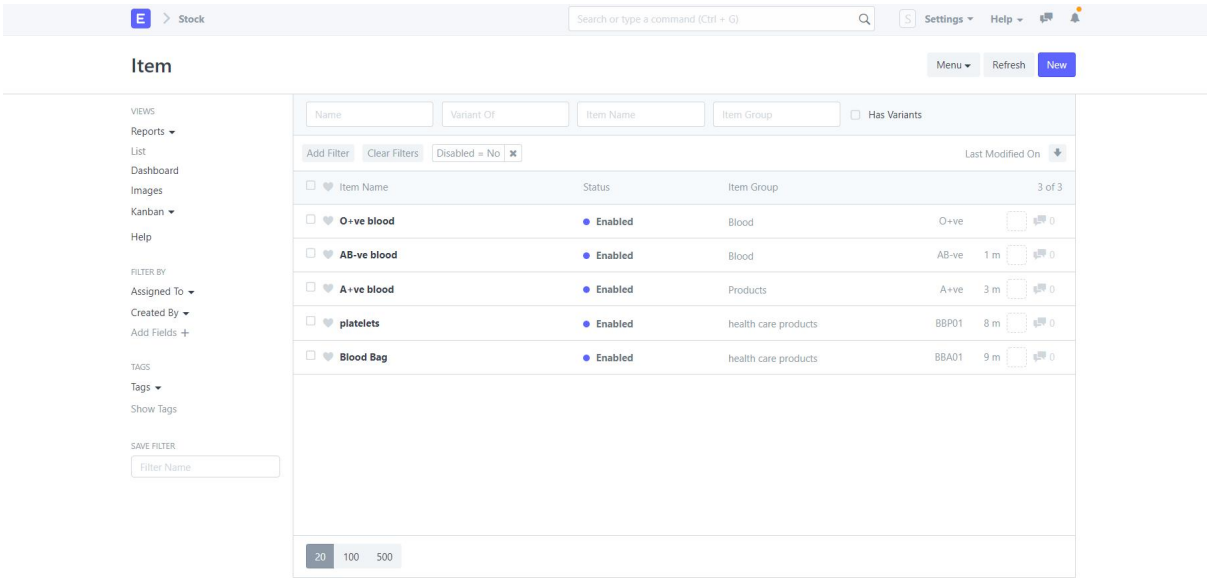
CMC hospital
Supplier Group
BLOOD BANK
Supplier Type
Company
Disabled
Edit in full page
Supplier



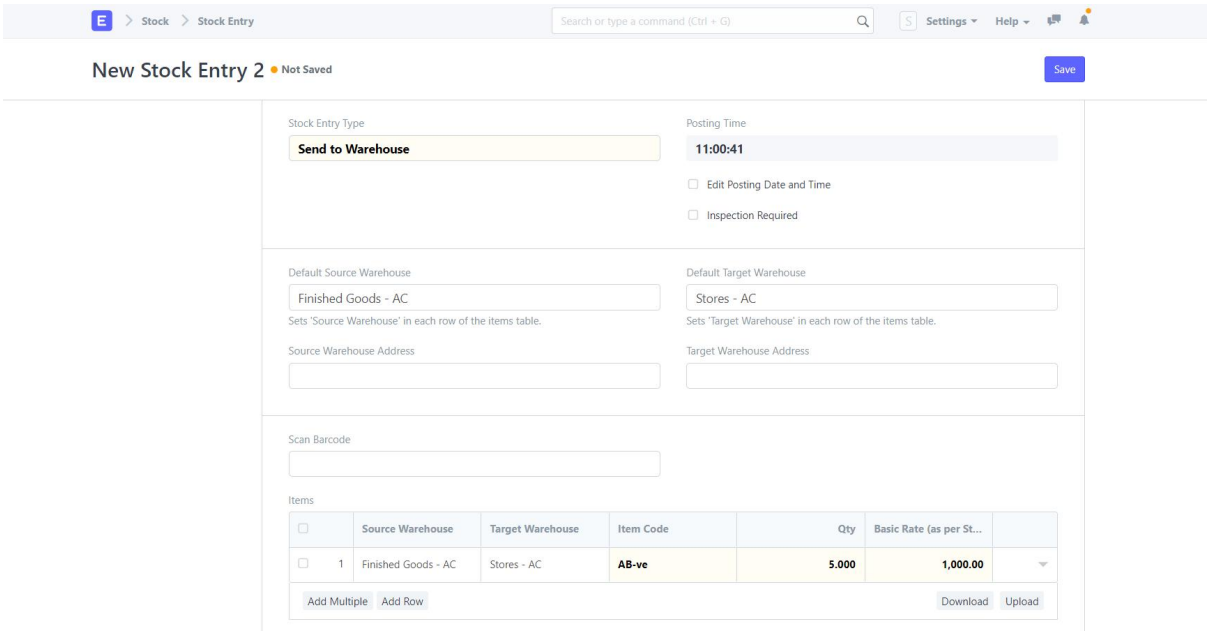
Incase of emergencies, when there is lack of blood bags in our bank, then it may be necessary to contact other blood bank agencies and hospitals to collect the blood bags. In such case details of the in and around blood bank agencies and hospitals is needed to have contact with them. The above feature provides a way to have a complete detailed record of all those nearby organisations be it a hospital or another blood bank agency.

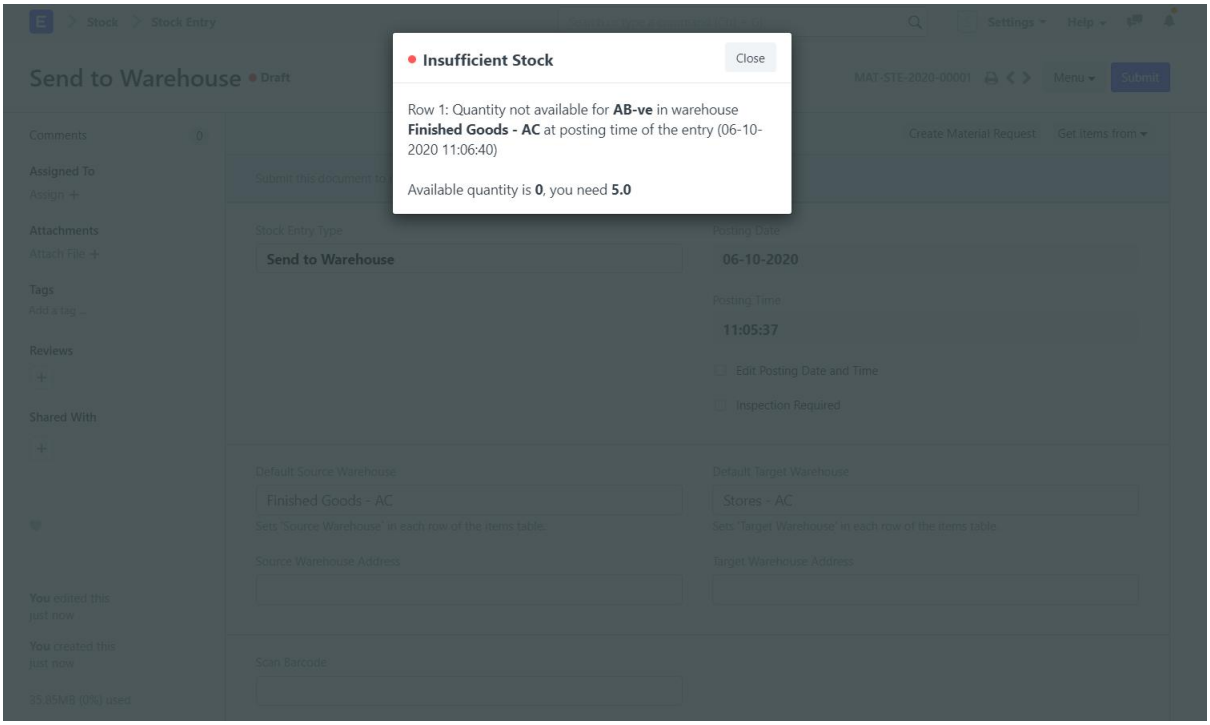


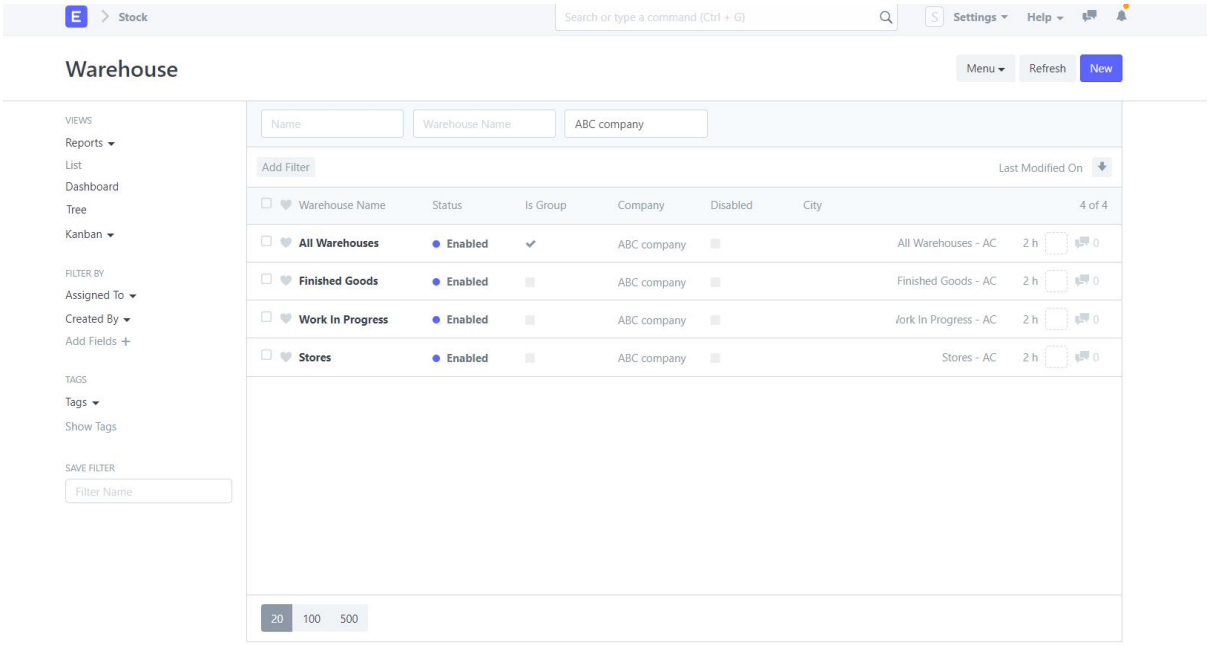




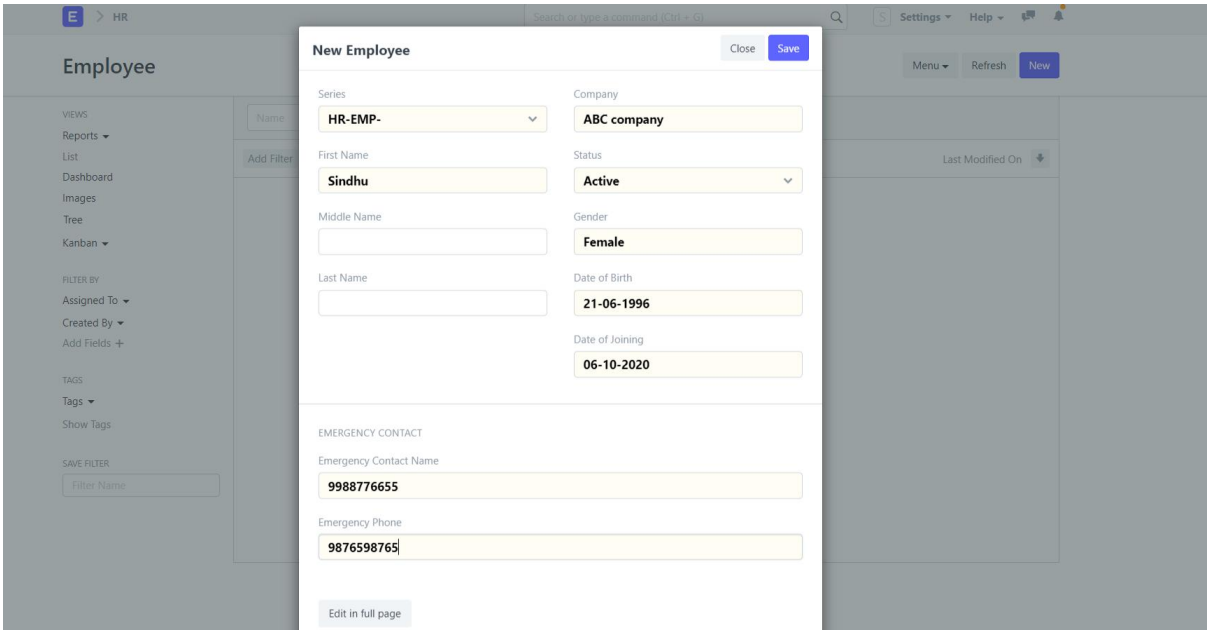
Our blood bank agency provides blood bags of all groups and platelets alone too. So the two major items are blood bags and platelets. So, it is necessary to keep track of their vitals like date of collection, location, etc and the availability of each group and type should be updated time to time. Hence, the details of each item is recorded and updated regularly

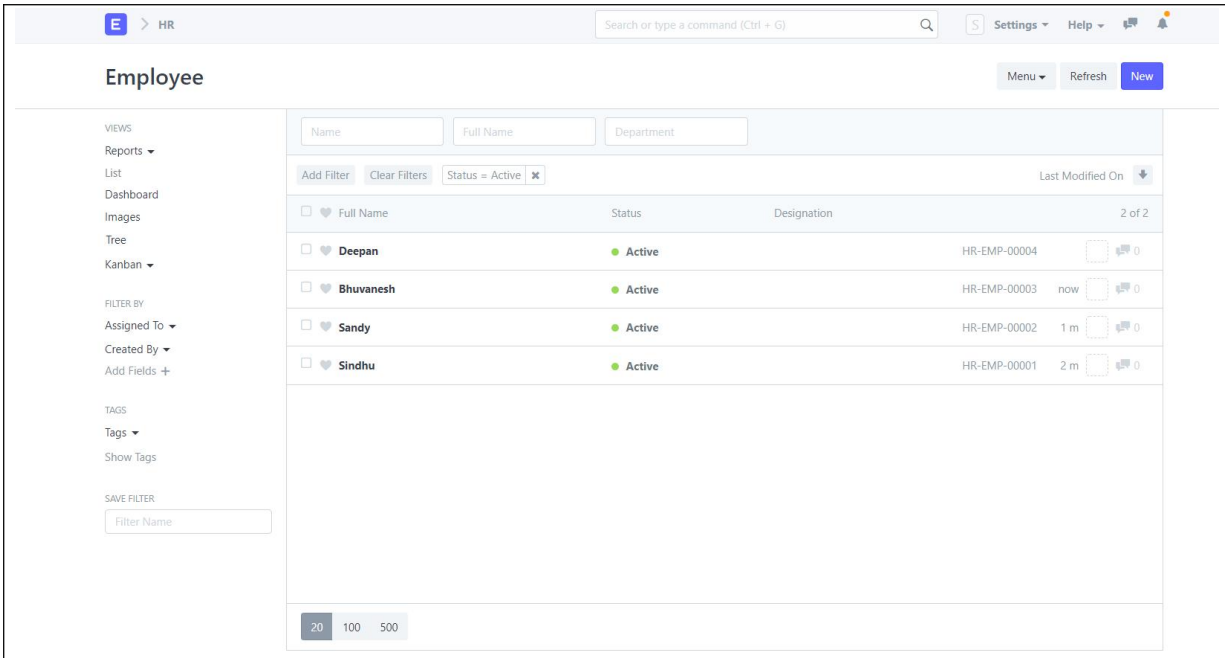

Stock
Stock Entry
Search or type a command (Ctrl + G)
Settings
Help
New Stock Entry 2
Not Saved
Save
Stock Entry Type
Send to Warehouse
Posting Time
11:00:41
Edit Posting Date and Time
Inspection Required
Default Source Warehouse
Finished Goods - AC
Sets 'Source Warehouse' in each row of the items table.
Default Target Warehouse
Stores - AC
Sets 'Target Warehouse' in each row of the items table.
Source Warehouse Address
Target Warehouse Address
Scan Barcode
Items
Source Warehouse
Target Warehouse
Item Code
Qty
Basic Rate (as per St...
1
Finished Goods - AC
Stores - AC
AB-ve
5.000
1,000.00
Add Multiple
Add Row
Download
Upload

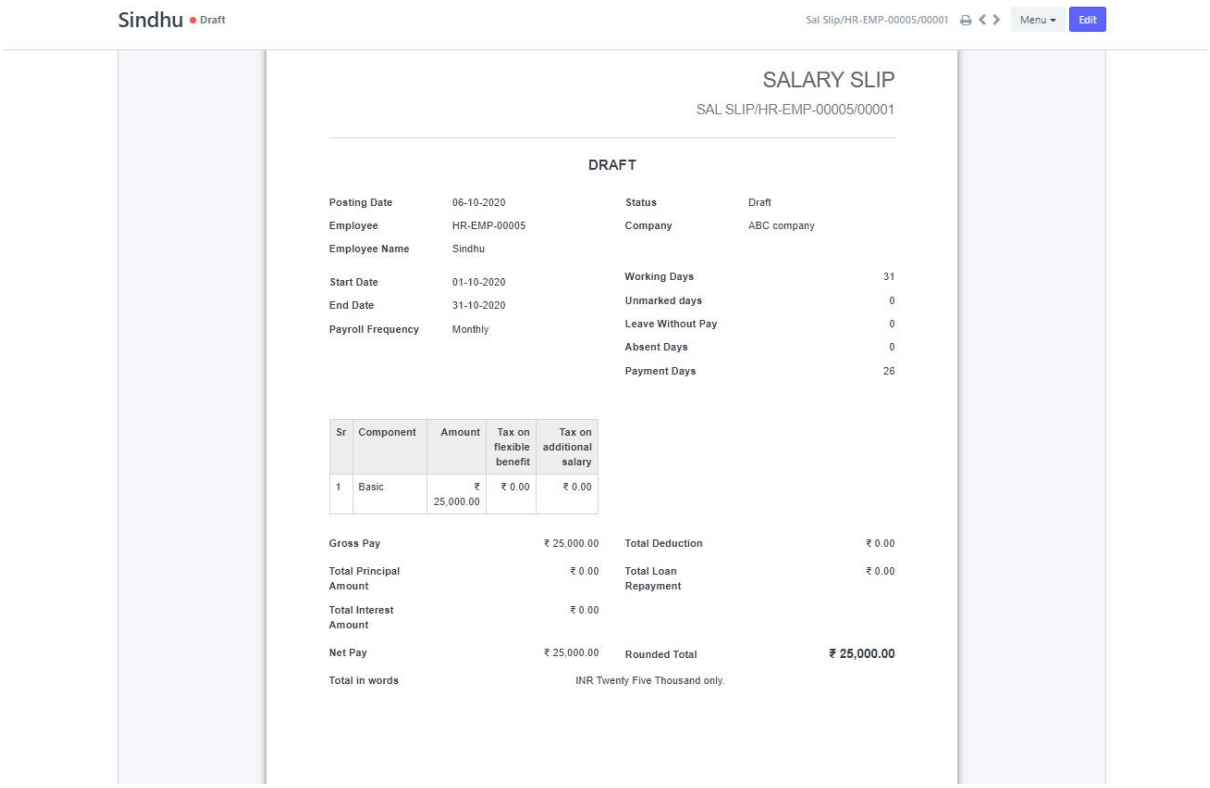

Insufficient Stock
Close
Row 1: Quantity not available for AB-ve in warehouse Finished Goods - AC at posting time of the entry (06-10-2020 11:06:40)
Available quantity is 0, you need 5.0
Send to Warehouse
Draft
Submit
Stock Entry Type
Send to Warehouse
Posting Date
06-10-2020
Posting Time
11:05:37
Edit Posting Date and Time
Inspection Required
Default Source Warehouse
Finished Goods - AC
Default Target Warehouse
Stores - AC
Source Warehouse Address
Target Warehouse Address
Scan Barcode



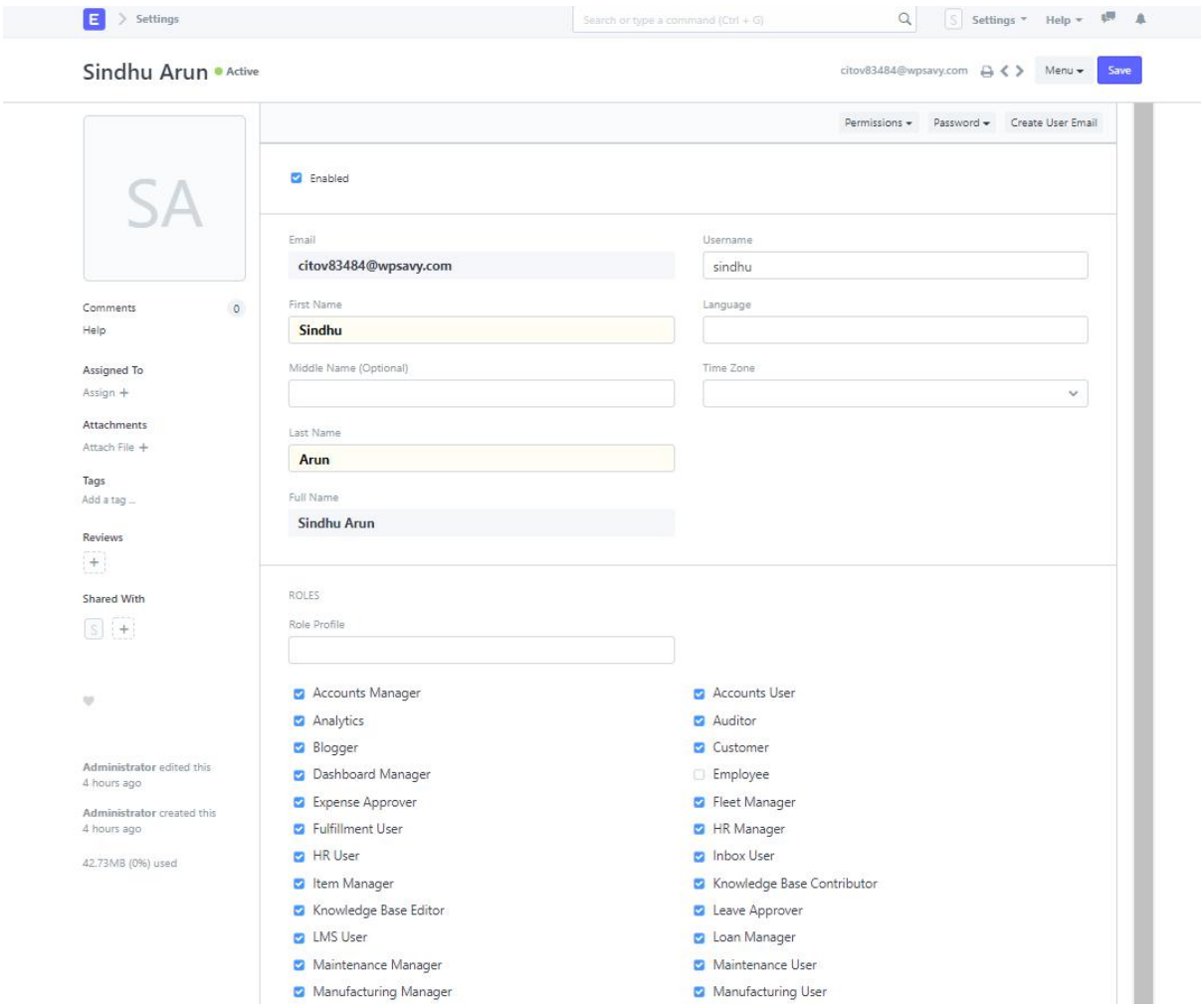
Our organisation has a lot of blood bank points each of which has its own warehouse. A complete list of all our blood bank points and warehouses is produced. So, the above feature helps in maintaining the database of each warehouse that consists of stock details, availability details, and how active each point works.



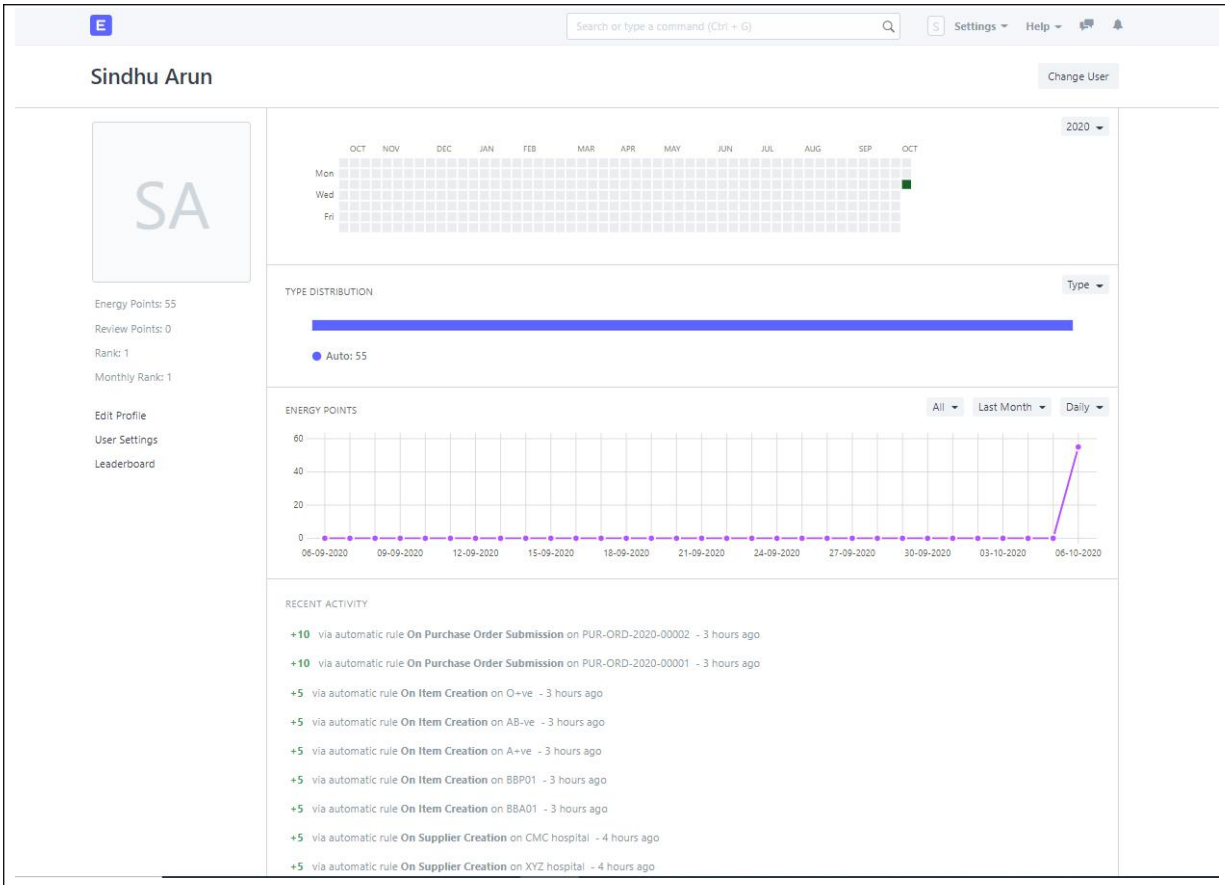




Our blood bank organization has a number of employees working in it. The above helps us to have a complete database of each employee's details in the form of list along with each of their salary details which can be updated if any kind of changes are required.

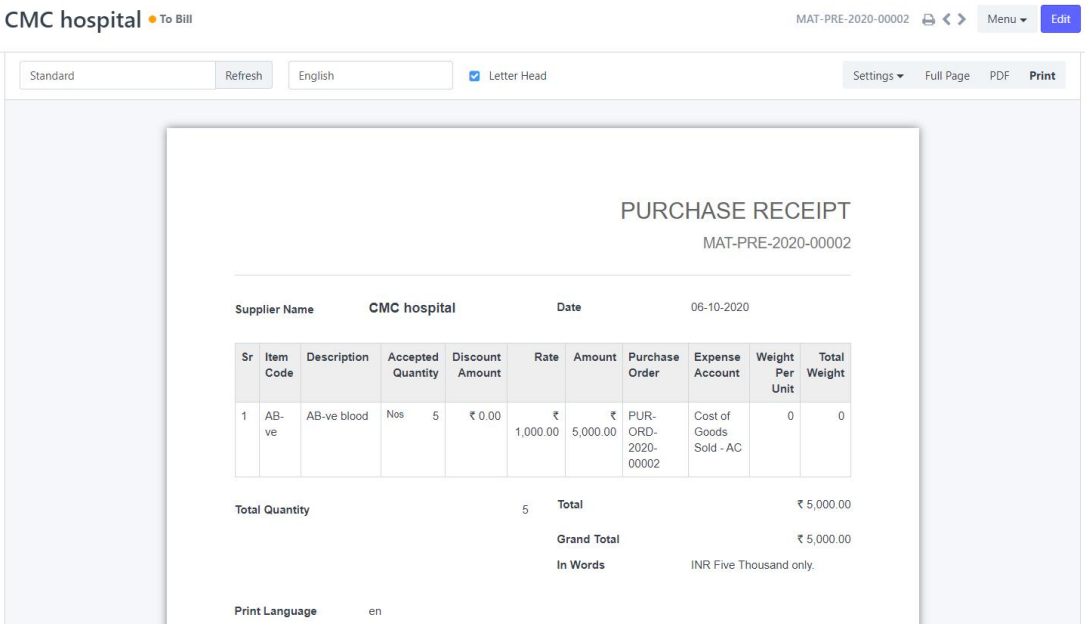


The above feature gives a complete picture of what are all the access control that each user has over this ERP tool.



The above features gives a complete record of each user's activity status and an overall overview of their work done with the tool.

Reports from ERPNext are attached below:-



Stock Ledger • Enabled

Menu Edit

REPORT

STOCK LEDGER

Report Name	Stock Ledger	**Report Type**	Script Report
Ref Doc Type	Stock Ledger Entry		
Is Standard	Yes		
Module	Stock		

Sr	Role
1	Stock User
2	Accounts Manager

Stock Ledger

Menu Refresh

Set Chart Create Card

ABC company | 06-09-2020 | 06-10-2020 | Warehouse | Item

Item Group | Batch No | Brand | Voucher # | Project

Include UOM | Show Cancelled Entries

Item	Item Name	Stock UOM	In Qty	Out Qty	Balance Qty	Voucher #	Warehouse	Item Group	Brand	Descripti
AB-ve: AB-ve ...	AB-ve blood	Nos	5.000	0.000	5.000	MAT-PRE-2020-00001	Stores - AC	Blood		AB-ve blo
AB-ve: AB-ve ...	AB-ve blood	Nos	5.000	0.000	10.000	MAT-PRE-2020-00002	Stores - AC	Blood		AB-ve blo

Bhuvanesh • Enabled

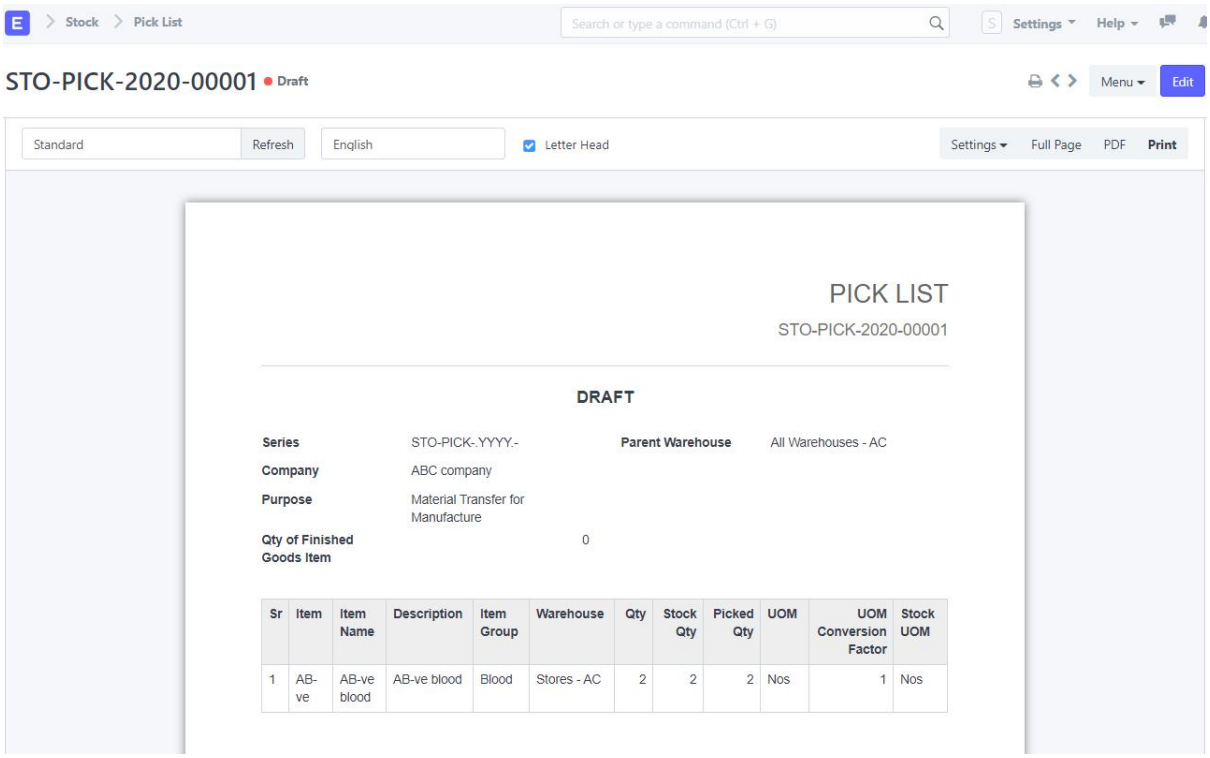
Menu Edit

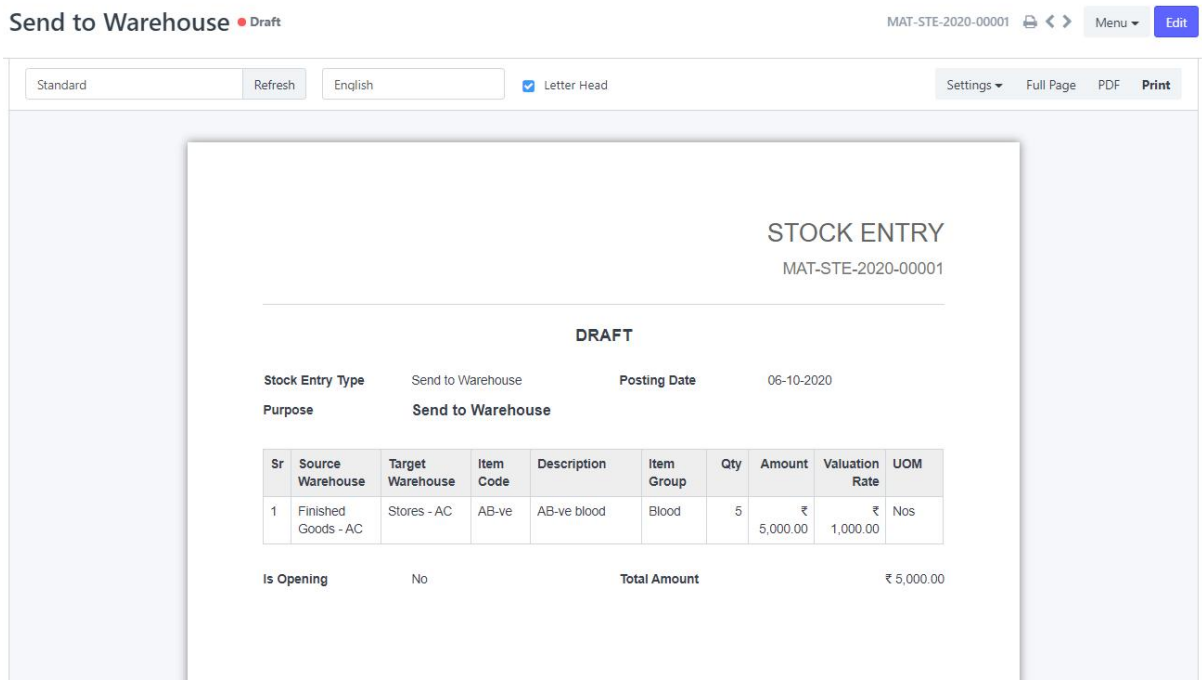
Standard Refresh | English | Letter Head | Settings Full Page PDF Print

CUSTOMER

BHUVANESH

Series	CUST-.YYYY.-	**Customer Group**	All Customer Groups
Full Name	**Bhuvanesh**		
Type	Individual		
GST Category	Unregistered		
Export Type	Without Payment of Tax		
		Print Language	en
Customer Primary Contact	Bhuvanesh-Bhuvanesh		
Mobile No	9966778855		
Email Id	bhuvanesh@gmail.com		
Commission Rate			0


Stock
Pick List
Search or type a command (Ctrl + G)
Settings
Help
STO-PICK-2020-00001
Draft
Menu
Edit
Standard
Refresh
English
Letter Head
Settings
Full Page
PDF
Print
PICK LIST
STO-PICK-2020-00001
DRAFT
Series
STO-PICK-.YYYY.-
Parent Warehouse
All Warehouses - AC
Company
ABC company
Purpose
Material Transfer for Manufacture
Qty of Finished Goods Item
0
Sr
Item
Item Name
Description
Item Group
Warehouse
Qty
Stock Qty
Picked Qty
UOM
UOM Conversion Factor
Stock UOM
1
AB-ve
AB-ve blood
AB-ve blood
Blood
Stores - AC
2
2
2
Nos
1
Nos


Send to Warehouse
Draft
MAT-STE-2020-00001
Menu
Edit
Standard
Refresh
English
Letter Head
Settings
Full Page
PDF
Print
STOCK ENTRY
MAT-STE-2020-00001
DRAFT
Stock Entry Type
Send to Warehouse
Posting Date
06-10-2020
Purpose
Send to Warehouse
Sr
Source Warehouse
Target Warehouse
Item Code
Description
Item Group
Qty
Amount
Valuation Rate
UOM
1
Finished Goods - AC
Stores - AC
AB-ve
AB-ve blood
Blood
5
₹ 5,000.00
₹ 1,000.00
Nos
Is Opening
No
Total Amount
₹ 5,000.00

Item-wise Price List Rate • Not Saved

Menu ▾ Refresh New

List
Dashboard
Kanban ▾

FILTER BY
Assigned To ▾
Created By ▾
Add Fields +

TAGS
Tags ▾
Show Tags

SAVE FILTER
Filter Name

Add Filter | Add Group | Last Modified On

	ID	Price List	Currency	Item Code	Brand	Rate
1	55adb39dd1	Standard Buying	INR	AB-ve		₹ 1,000.00
2	dcce9b7a77	Standard Selling	INR	O+ve		₹ 1,500.00
3	8f6eb7cc67	Standard Selling	INR	A+ve		₹ 1,200.00
4	86afe2cb42	Standard Selling	INR	BBP01		₹ 1,000.00
5	d1f45fed7c	Standard Selling	INR	BBA01		₹ 700.00
6	f7f830eb4c	Standard Selling	INR	B+ve		₹ 2,000.00
7	45ece28ed4	Standard Selling	INR	AB+ve		₹ 3,000.00
8	7846d1e07a	Standard Selling	INR	A-ve		₹ 2,500.00
9	8e008da4cc	Standard Selling	INR	B-ve		₹ 1,700.00
10	f5ac313d3f	Standard Selling	INR	O-ve		₹ 2,500.00

A+ve blood • Not Saved

A+ve Menu ▾ Edit

ITEM

A+VE

Series	STO-ITEM-.YYYY.-	**Maintain Stock**	✔
Item Code	**A+ve**	**Include Item In Manufacturing**	✔
Item Name	**A+ve blood**	**Opening Stock**	**0**
Item Group	Products	**Standard Selling Rate**	**₹ 0.00**
Default Unit of Measure	Nos	**Over Delivery/Receipt Allowance (%)**	0
		Over Billing Allowance (%)	0

A+ve blood

Shelf Life In Days	0	**Weight Per Unit**	0
End of Life	31-12-2099	**Weight UOM**	Unit
Default Material Request Type	Purchase		

Sr	UOM	Conversion Factor
1	Nos	1

Max Sample Quantity	0
Variant Based On	Item Attribute

Sr	Company	Default Warehouse	Default Price List	Default Buying Cost Center	Default Supplier	Default Selling Cost Center
1	ABC company	Stores - AC	Standard Selling	Main - AC	CMC hospital	Main - AC

Is Purchase Item	✔	**Lead Time in days**	0
Minimum Order Qty	0	**Last Purchase Rate**	0
Safety Stock	0		
Country of Origin	India		
Is Sales Item	✔	**Max Discount (%)**	0
		No of Months	0
		No of Months	0
Weightage	0		

SUCCESS AND FAILURE OF ERP SYSTEM :-

SUCCESS:

1.GET YOUR OBJECTIVES RIGHT

Your ERP programme should suit your business, but it can only do so if you know what your business is trying to achieve with an ERP package. So, think about business objectives and ensure that your ERP strategy folds around these objectives rather than aimlessly implementing features which sound attractive, but which do not offer meaningful benefits for your business.

2.FOCUS ON PLANNING

Next to a clear view of your ERP objectives sits planning. ERP is a complex software product that takes time to integrate with your business. Allow enough time for each step, ensure important milestones get priority and manage schedules tightly. Project management skills are essential and it may be worth buying these skills in if your existing staff does not have the experience.

3.BUDGET RIGOROUSLY

Implementation will carry several layers of costs, including software license fees and the help of an integrator. Other costs include internal staff's time as well as any disruption to your business during implementation. Add these costs up and budget so that a lack of resources does not trip up your ERP programme.

4.SELECT THE RIGHT ERP PARTNER

There are two factors to get right in the selection process. First, your business should be looking for ERP experts who have in-depth experience of implementing ERP solutions rather than just broad software experience. Next, your partner of choice must understand your business including the verticals in which you operate, and your customers.

5.ENSURE EVERYONE IS BASED

ERP implementation can bring challenging changes to everyday operations, particularly where ERP has never been used in an organization before. Staff need to adapt to this change and will do so more easily if they feel motivated and part of the process. Communication is key, a communications strategy must ensure all-round participation.

6.WATCH AGAINST CUSTOMIZATIONS

It can be tempting to fine-tune ERP systems down to the source code, but beware that the more tinkering your business does, the more difficult future changes and upgrades will turn out to be. When a new version of a software suit rolls out you may need to re-implement and test every customization. Make changes only where it is essential.

7.CONSIDER A STAGED APPROACH

Particularly where ERP programmes are large and all-encompassing, a staged approach can offer benefits. Instead of attempting to roll out the entire implementation at once, a careful step-by-step deployment can help avoid major setbacks while allowing your business to diagnose potential issues early on.

8.TEST AS YOUR PROGRESS

Correcting course once your implementation is nearly complete can be expensive and time-consuming. Wherever possible test software and processes to see whether the implementation is achieving what it should be. Measure results: gauge to what extent ERP is meeting your objectives throughout the implementation period.

9.DON'T SKIMP ON TRAINING

Software packages can be challenging to use for the uninitiated. Often it is merely a matter of a training hurdle, and for this reason, ERP implementation benefits from extensive, comprehensive training post-implementation. Training increases engagement and reduces staff frustration, rapidly benefitting productivity.

10.ONGOING TWEAKING AND MAINTENANCE

Few ERP projects get everything right from the start. Instead, ERP implementations evolve, adjusting to the reality on the ground. Prepare for post-implementation adjustments that can further enhance the benefits that ERP brings to your business. Regular evaluation of fit and efficacy will help pinpoint where ERP projects that are already up and running, can improve.

FAILURES:

Negative's attracts eye balls

The horror stories of failed ERP projects are now the stuff of legend. According to one recent report, more than 29% of ERP implementations fail to achieve even half the planned business benefits. Some well known examples include Waste Management suing SAP for $500 million for a failed ERP implementation, Hershey Foods' 19% drop in profits from a failed SAP implementation at Halloween time a few years ago, the complete bankruptcy of FoxMeyer Drug, a $5 billion pharmaceutical distributor over a failed $100 million ERP implementation, and, perhaps most troubling, the over $1 billion spent by the US Navy on four different ERP systems, all of which have failed. There are many lessons to be learned from these failed ERP implementations. (You can find these case studies flooded on the internet)

The implementation problems these large ERP systems face are driven by the complexity, risk, and integrated nature of the business processes they automate. ERP systems today touch almost every aspect of a company, so whether it is a completely new system or just a major upgrade, there are a number of common pitfalls companies can avoid.

10 reasons for ERP Implementation failures:

1. Doing it in the first place.
2. No clear destination.
3. A good plan or just a plan?
4. Part-time project management.
5. Under-estimating resources required.
6. Over-reliance on the consultants.
7. Customization.
8. On the job training.
9. Insufficient testing.
10. Not enough user training.

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