SS BB

SAFETY SYSTEM
for
BLOOD BANKS

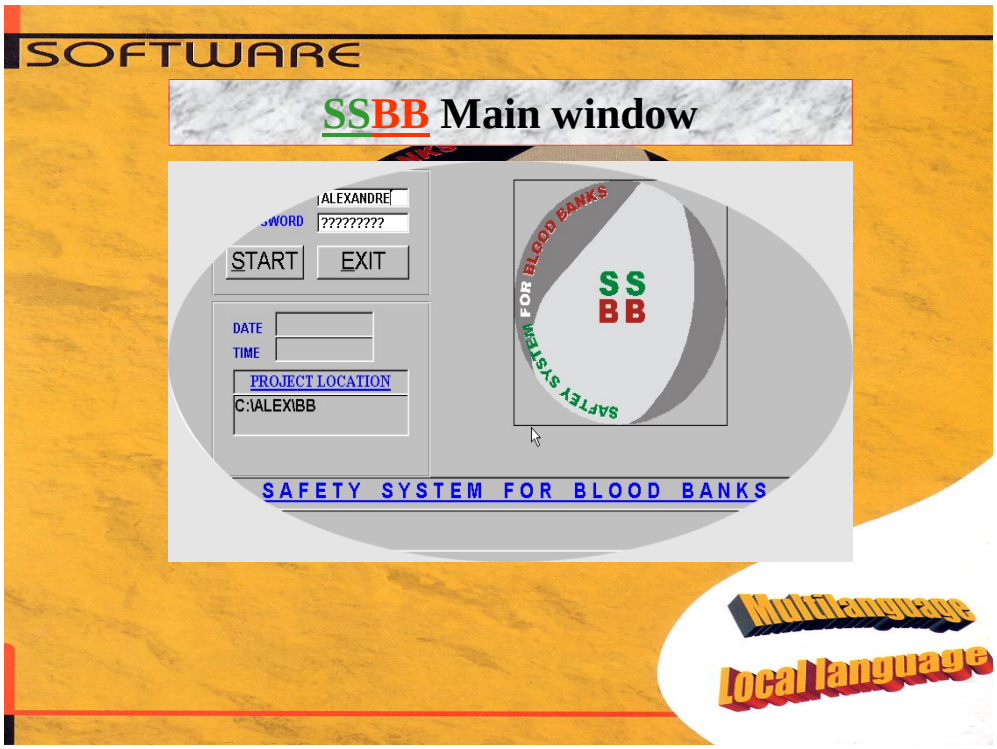
OWNER'S

MANUAL

AND

USER

QUIDE



A software that manages blood banks and transfusion safety.

Table of contents

PREFACE

This manual contains basic information necessary for both the end user and service personnel.
Although most of the information you need are contained in this manual.

We recommend you to contact an authorized dealer for service purposes.

Making personal alterations or modification to the system can violate the effectively of your warranty.

EDITORIAL

Thank you for purchasing our product for Blood banks management SSBB.

I want to thanks Dr. Issam Mansour, Who gave us a good support and the knowledge of all blood bank divisions, and for his technical solutions and scientific ideas.

WHO SHOULD READ THIS MANUAL.

This manual is written for those who want to make things happen in SSBB system.
Specifically, the following people will benefit greatly from the knowledge:

- The Blood Bank Technicians, those who wants to be more efficient.
- The Secretary, who wants to get quick results,
- The Boss, who wants, in an easy way, can find what he want.
- The IT Team, who wants to be export and help other people to solve their SSBB problems.
- The Doctor, who wants to give more security to his blood center

HOW THIS MANUAL IS ORGANIZED

This manual is organized to help the user find what he wants by module.
And inside each module, we find explanation of almost every window
And inside the window, we have a help for every button and control.

We include some general hints for using the Microsoft Windows
And we will explain in brief when we have a major background calculation in any module.

What is SSBB

A safety system for electronic management of blood banks.

It is an experienced system that covers the transfusion medicine integrally from donors to patients. It also provides a powerful tracking of donors, blood components, laboratory tests and recipients by reliable management of historical data and quick multi-parametric statistics.

It covers the homologous, family replacement, autologous, apheresis and bone marrow donations.

The software pilots the progression of units, issues bar code labels and controls the safety by successive automated validation procedures.

It offers several facilities for the management of stocks, tests, validation and many other procedures.

It is customizable to meet local needs, friendly user and functions simultaneously in Arabic, English and French.

The Purpose

The SSBB Software, electronically manages blood banks and the transfusion safety. It has been developed to meet the needs of several transfusion systems and to acquire data in different languages.

SSBB is complete and manages all types of procedures, starting from donor recruitment to patient follow-up.

SSBB is an integrated modular system.

SSBB presents exclusive features.

SSBB organizes tracking and communication, using paper work and electronic support.

SSBB has been developed to meet your needs.

What Makes SSBB competitive ?

SSBB acquires data in local languages for optimal tracking of donors and patients.

SSBB has simultaneous Multilanguage interface.

SSBB is user-friendly.

SSBB is validated.

SSBB is customizable along with active auditing and validation.

SSBB manages the homologous, family replacement, autologous, apheresis, life saving and bone marrow.

How does SSBB communicate ?

- Out-print barcode labels for units, tubes and records.
- Out-print cards, schedules, requests, working sheets, reports, flowcharts, lists and statistics.
- Exports Data to Microsoft Excel.
- Integrates with hospitals computer systems and laboratory analyzers.
- Assures networking among central blood banks, donation centers, mobile units, blood bank sections and hospitals.

Main advantages

- ☞ A complete system that covers the transfusion medicine.
- ☞ Complete controls of donors' identification, medical report and blood bank results.
- ☞ A complete control of the unit progression.
- ☞ Blood Transfusion safety using successive computerized barriers.
- ☞ A complete control of the patients' identification, transfusion history and laboratory results.
- ☞ Link between donors, blood components and patients to allow tracking of transfusion.
- ☞ Full and quick multiparametric statistical analysis
- ☞ Bar code reading to improve speed and safety
- ☞ Automatic bar code labeling of blood units and test tubes
- ☞ Multi-user network for the different blood bank sections
- ☞ Link among blood banks to develop common donor and patient registries
- ☞ Link between central blood banks and end-user centers.
- ☞ Link with other laboratory or hospital electronic systems.
- ☞ Link with laboratory analyzers.
- ☞ Works under windows and requires common computers.
- ☞ Friendly user and adapted to new computer users by promoting the "Push Button" entry system
- ☞ Customizable, Updateable and Upgradable.
- ☞ Functions simultaneously in Arabic, English and French

M A I N M O D U L E S

First screen, will ask us about the user and his password.
A foreign user can not invade this application till the supervisor gave him a unique name and a password.
If not, the foreign user will attempt to sign on for five times, and then the system will shut down.

And in this screen, we have also a path to find our current database.
Before answering for the log and name, we can not access any part of the system, but the pop up help only.

DONORS MODULE :

- HOMOLOGOUS WINDOW
- AUTOLOGOUS WINDOW
- CYTAPHERESIS HOMOLOGOUS WINDOW
- CYTAPHERESIS AUTOLOGOUS WINDOW
- BONE MARROW

ARE ALMOST HAVE THE SAME TECHNIC.

Some of the Donations features.

Two blood group determinations including all relevant group systems, donation dates, centers, reagents, batch number and operators.

Serology Includes 15 tests with a visual logo conclusion. Full data are stored including different techniques, duplicates and confirmatory tests.

Mandatory duplicate entry of results (groups and serology) to avoid clerical errors.

Control of component preparation, splitting, pooling, reconstitution, modification and treatment with reference to the operator, centrifuge, programs, and other devices.

Expiry dates are set automatically in function of the blood component, modifications, anticoagulants and additives. Each component receives a specific number and label in relation with the donation number. Labels are electronically validated to inhibit labeling errors.

A real time control of the unit stock and the stock history; Units are allocated to either quarantine, reserved or free stock in function of the completion of the security tests and blood orders.

A wise use of stock to reduce outdating of blood by full information
about a unit, a daily list of expired units, optional "first in first out" system, optimal matching of blood group phenotype, optional message for the CMV sero-negative unit release, priority

use of returned units and a multi-parametric assignment of units by ABO, Rhesus, phenotype, expiry dates .....

Automatic rejection of units showing forbidden Positive serology

Warnings for the presence of Irregular antibodies

Rejection of units returned twice

Elimination of labeling errors by an automatic issue of labels, a validation process and simultaneous labeling of units and test tubes

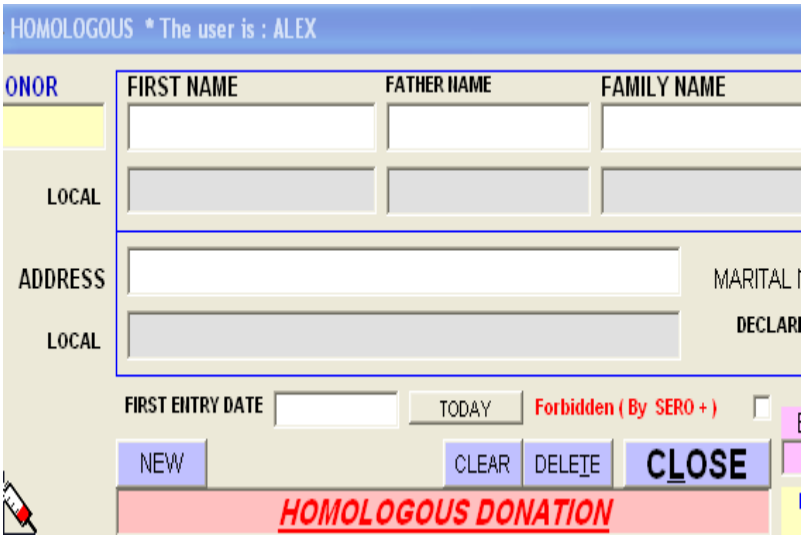
Elimination of clerical errors by using the MODULO 9 method for unit numbers and barcode reading

Attribution of a code number which combines the donation number, year of donation, centre of donation, component type and splits

Full detailed unit history is monitored by covering dates, products, kits, batch numbers, operators and results.

Homologous donation window:

New donors are identified by a donor number and a serial donation numbers. Medical reports including reasons of deferral are available. Computerized donor ID card, readable by barcode, and letters can be issued. Standard donation labels for units, test tubes and record book are issued.

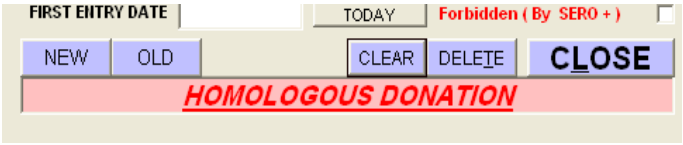


Computerized search of forbidden old donors is available. Search can be done by name, by donor number or other identification numbers. Donation interval, previous deferral, serology and laboratory results are automatically validated controlled. HLA and Platelet groups are also available for adequate indications.

The system pilots all clinical, biological and practical details during the family replacement transfusion system. An account balance of units for each patient is automatically established.

Guide Lines:

To start, we have two options, either a new donor or an old one.



When New donor, the system will give us a new donor number, and let us continue entering the all static data and the system disable the 'Find', 'Blood group' and 'Historic' Tabs.

When Old Donor, all the Tabs are disabling, except the 'Find', and the system gave us two choices;

To find a donor by his number (code)

To find a donor by his name, if this is the case, a new sub window appears to let us type one or more characters of the donor's name, family, I.D. #, and others, then will search for it.

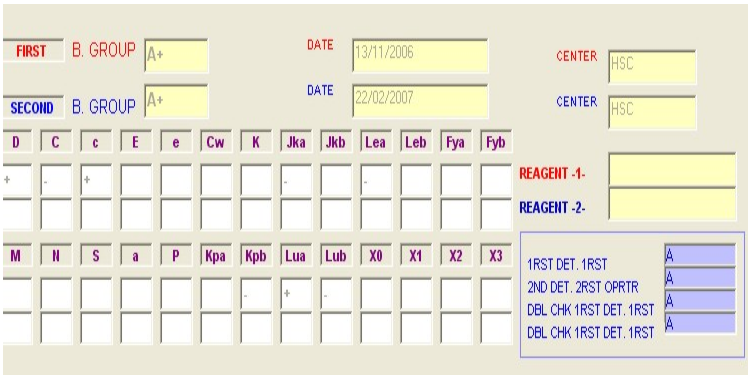
When we find the donor, all his data take places to let us change almost all of them.

After entering and checking of the static data, we can choose any of the available Tabs:

1 - Blood group tab:

A new sub window with two blood group determinations; and twenty six sub group for each determination will show up.

We can change the contents by typing the correct code or by clicking on it by the mouse. (customized by the administrator).

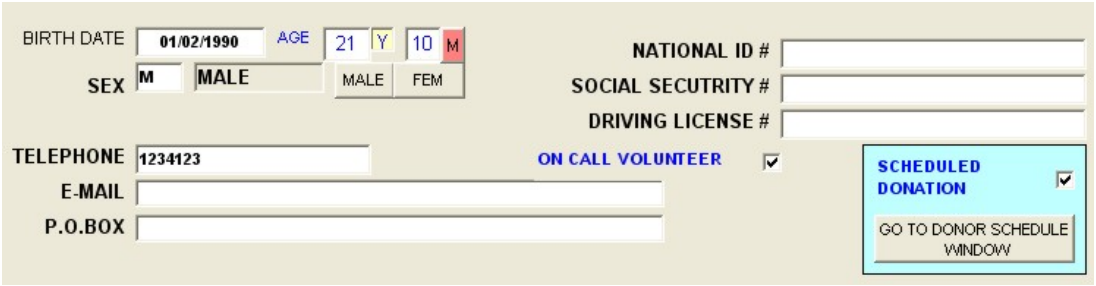


2 – Historic tab:

Will display all the previous donations and its serology results and the related medical reports and what were the answers for the questionnaires.

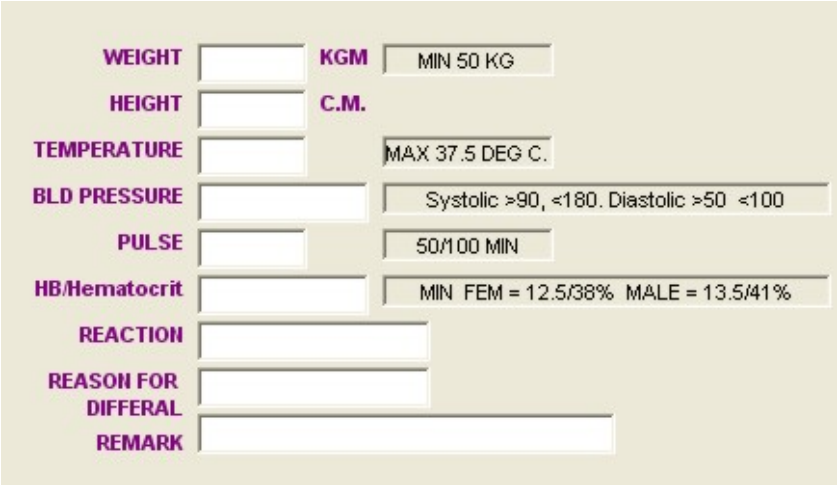
3 – Identity tab:

Add or change the static data as birth date, age, sex, remarks and others



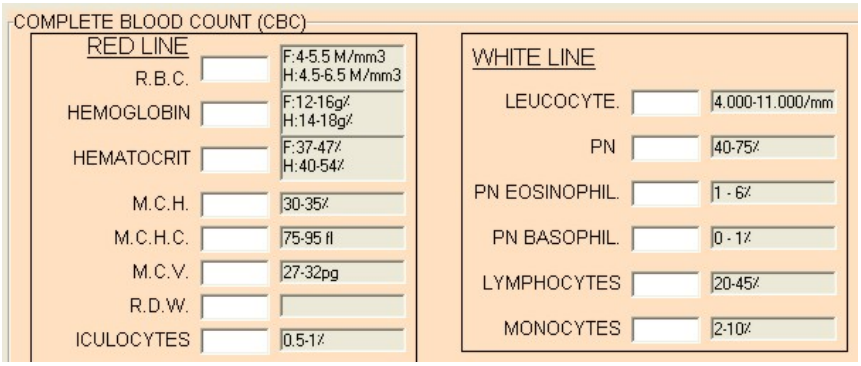
4 – Medical report tab:

This medical report linked to each donation that means, if the same donor does multiple donations, each donation had a different medical report.
The Sub window of medical report had nine questions, and every question had a predetermine range can play with it or the system will blink.

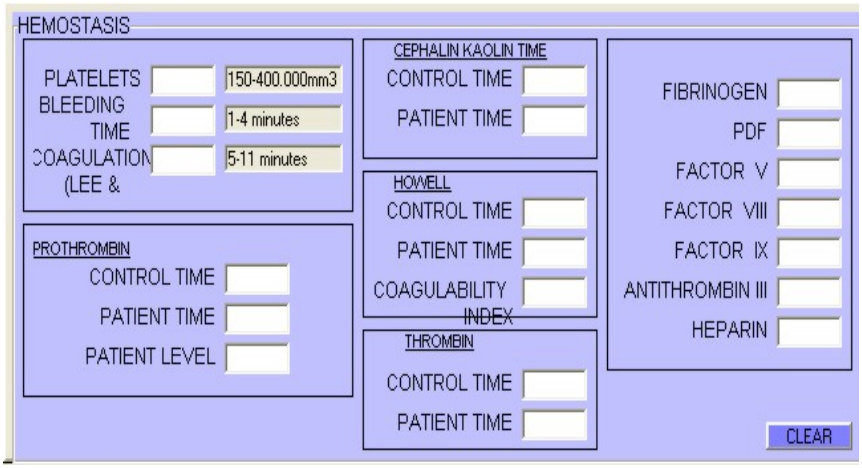


6 – Lab tab:
Many laboratory exams included in this tab:

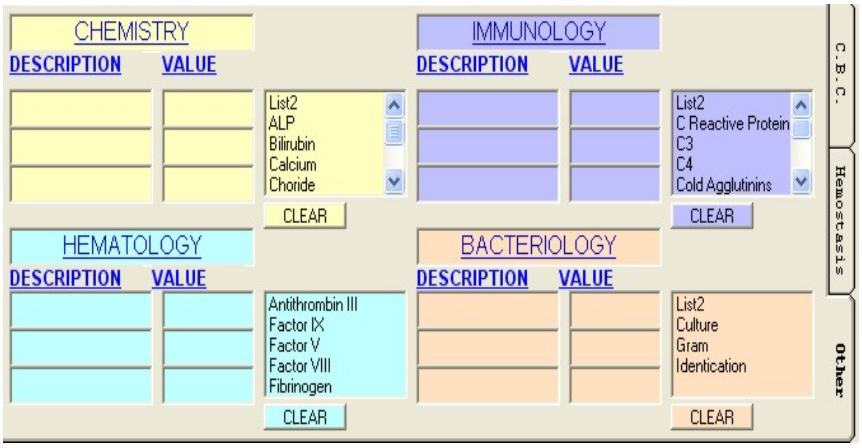
C.B.C.:



Hemostasis :



Chemistry,
Hematology,
Immunology,
Bacteriology.



7 – H.L.A. tab:
This sub window will show 11 groups, each one had 2 parameters.
This group linked to the donor that means each donor had only one set of HLA group.

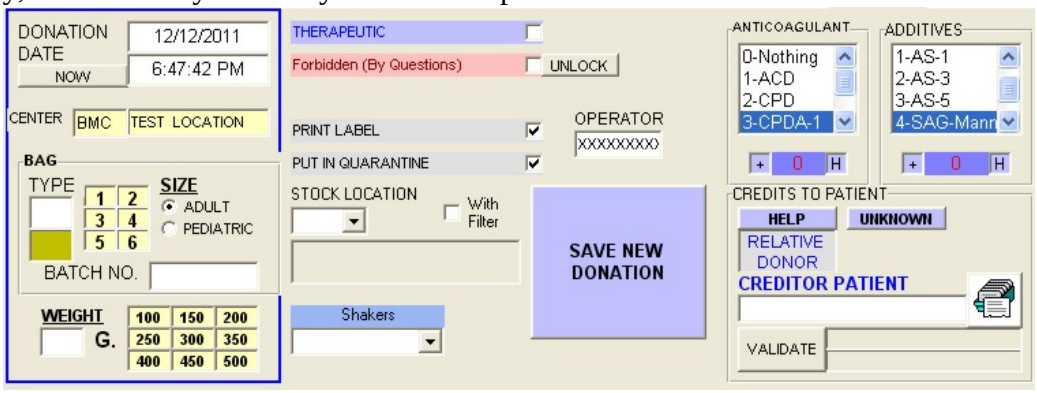
8 - Platelet tab:
Eight groups of platelet, each one had 2 parameters, and also it linked to the donor.

9 – New donation tab:

This is the most important tab,
because here we can create a new donation.

The system checks for an old donation.

We start by the date of the donation, from this date we can calculate the unit expiry date.
If we leave this date box empty, automatically the today date takes a place.



The operator's name entered automatically.

We can enter the centre of donation manually or by click one of the related options.
Also we have multiple options for the type and size and weight of pocket.

We can enter or leave the batch number box empty.

By set up of the customizable anticoagulants and additives tables, we can preset the default value and the affect to the expiry date, and the hours to be add, if any.

If this donor had a specific patient, then we can give that patient a credit for every donation.
If this patient is already in the hospital, just we have to enter his number and click on 'CHECK IT' button to get his name for more control.
But if the patient not yet in the hospital, we can press on 'UNKNOWN' button then we can type an abbreviation of his name to let us credit him these units later.
We must specify the relation if any between the donor and the patient, like mother, sister, father…
because the system will tell us if by mistake we are trying to release it to the same patient.

Finally, when we save, a new donation number appears in the yellow box, and the system will save all the new information as the static data , medical report, HLA and Platelet groups and the donation info.
if the 'PRINT LABEL' button checked, then the printer labels print small labels to stick them on the bags and the tubes.

PRINT CARD BUTTON:
To print a donor card for the blood group and other medical information

PRINT SCREEN BUTTON:

For some reasons we need to print out of what we see on the screen.
After printing, the donor window will automatically close up, and all new entered information will not saved.

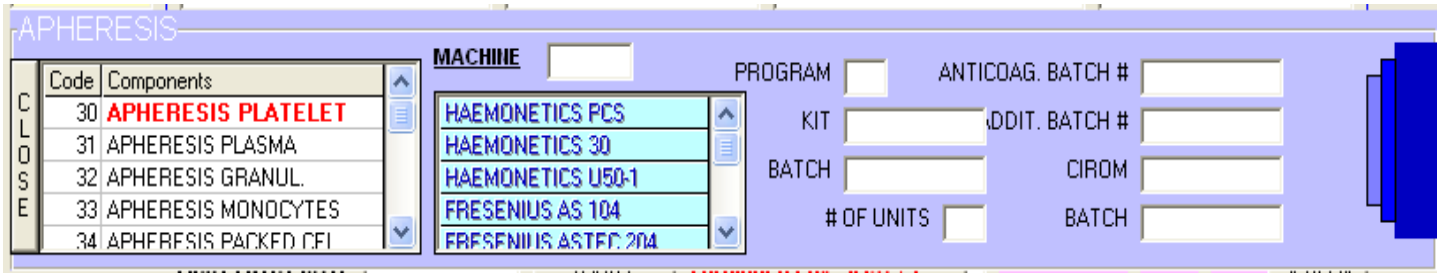
Note:
If we used the SAVE button on the upper right of the screen, will save only the static data and the HLA and the platelets.

The DELETE button, will delete the current donor.

Autologous donation window:

Optimal special criteria for autologous donation are available. The system provides a computerized control of donations in function of the surgery date and the transfusion protocol. Units are automatically reserved and identified by special labels.

Apheresis donation window:



Two windows for Aphaeresis: Homologous and Autologous and they acts like the previous donation protocol.
Criteria for Aphaeresis donations are available. Manages all types of donations, platelets, granulocytes, plasma, stem cells ... . All laboratory results, quality control, machine and programs are electronically managed.

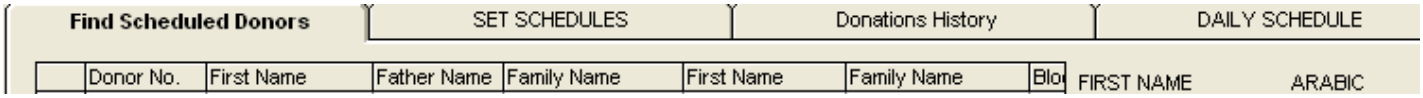
Bone Marrow donation window:

The system manages autologous and allogeneic bone marrow transplantation. It offers a complete control of the patient history, donor laboratory results, conditioning regiments, in vitro treatment, laboratory results and adapted calculations of the stem cells to be transplanted.

External donation window:

Similar to the Homologous donations, but we have to specify the external center of donation and the product given.
Some of the obligatory fields in other donations are here optional.

Scheduled Donation window:



When there are volunteers, this window will handle all the procedures to set new schedules, view old donations, at time contacts, and prepare the pre-scheduled donations.
It can helps in urgent cases when the hospital badly needs some immediate quantity of blood.

Change Donation Info window:

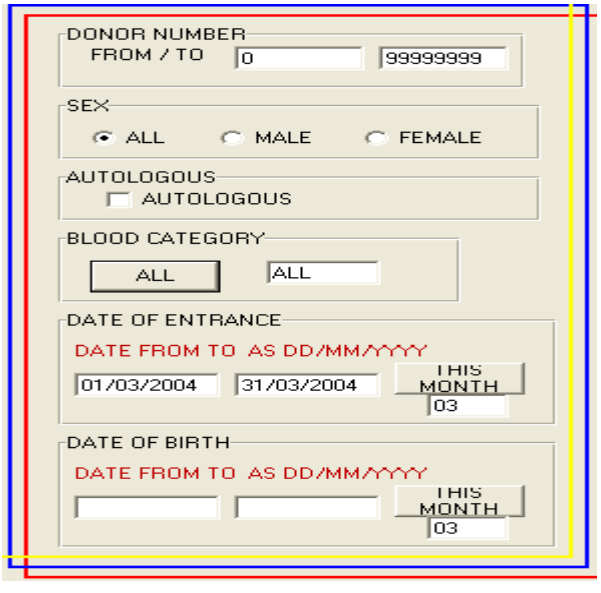
By typing the donation number will get the donor name and the donation info.
We can change these info delete them.
We can reprint the labels.

If we don't have the donation number, but we have the donor number,
by typing it in the find box, the system will search for all his donations,
just click on the desired one and we get its info.

Donation Reports:

A - DONOR FOLDER WINDOW:
Print out all of his information as groups, medical reports,.....

B - DONORS LIST WINDOW:
A print out of list of donors selected by many criteria and many sort options.

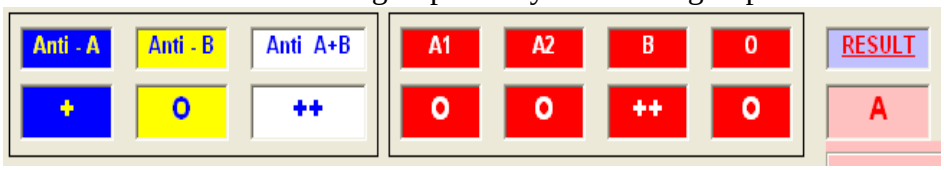


BLOOD GROUP MODULE:

BLOOD GROUP WINDOW:

Two group determinations are available.
To check out the existing blood group or to specify a new one,
By barcode reader, we get the donor number or the donation number, then we can see or change the blood group and the other parameters.

We can determine the blood group also by the 'blood group reaction' method.



Just enter the value of the tests and the system gave us the conclusion.

The system checks for similarity between the two determinations together and between them and the declared blood group in the donation module.

Use the mouse to edit the sub groups.

Optionally print a small label.

DOUBLE CHECK BLOOD GROUP WINDOW:

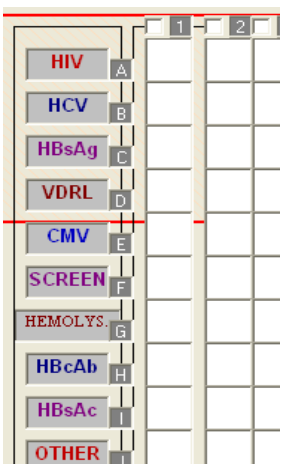
Double check the entry data by another operator.
without doing physically the group tests.

LIST OF DONATIONS WINDOW:

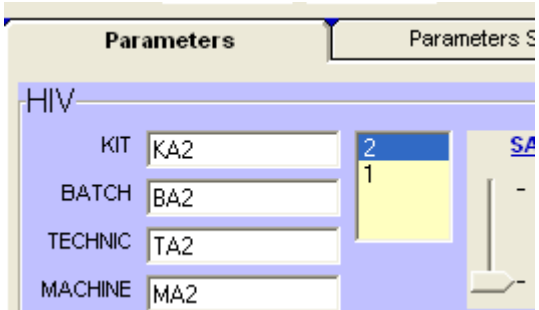
Print out the donations ; we can define many parameters, and many sort options,
and we have two different reports.

SEROLOGY MODULE:

SEROLOGY WINDOW:



The blood group must be done before the serology.
Up to 15 kinds of serology tests are available and each one has up to six trials.
By clicking on the test (HIV or HCV ...) all the related boxes will changes.
By clicking any trial (text1, duplicate...) all the related boxes also will changes.
By clicking directly inside the test box, will change to - , + , # , blank.
If the results are all negatives, automatically the unit exits from the quarantine stock.



Optionally we can leave this unit in the quarantine stock if needed.

Parameters:
We can set up the kit, batch, technique

and the machine used for every test, Once settled, will save the parameters for later traceability.
Two options to save, 'Auto' or 'manual'
If manual, we have to click on 'transfer' button to save each of the parameters sets'

DOUBLE CHECK SEROLOGY WINDOW:

Without doing the tests again, a next operator retypes the results for the second time.
And the system check the equality.

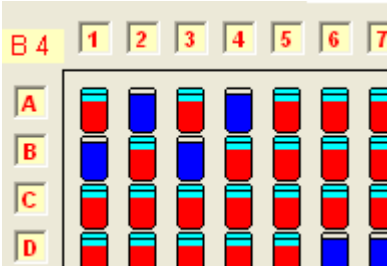
LIST OF SEROLOGY WINDOW:

Print out the serology tests; we can define many parameters, and many sort options,

QUARANTINE WINDOW:

Optionally reserve or free a unit from the quarantine stock.

SEROTECH WINDOW

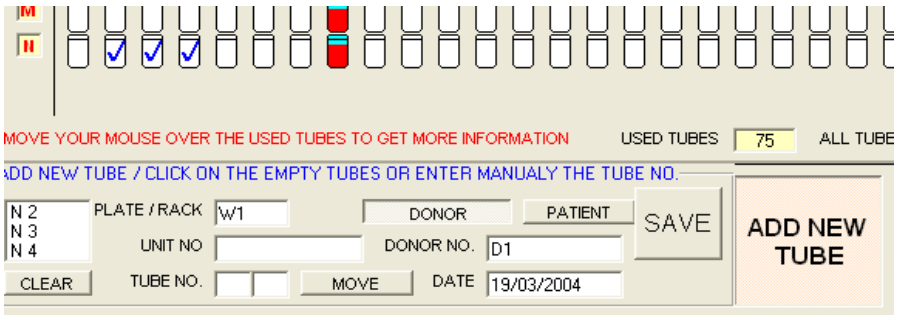


To save blood units for later control in special '-80' deg. Freezers, the serotech window help us to design the plats and to register the donors and patients samples.
Easily we can find any ten years old samples for an old donor or patient.

We can locate the samples visually or by ordinary table view.

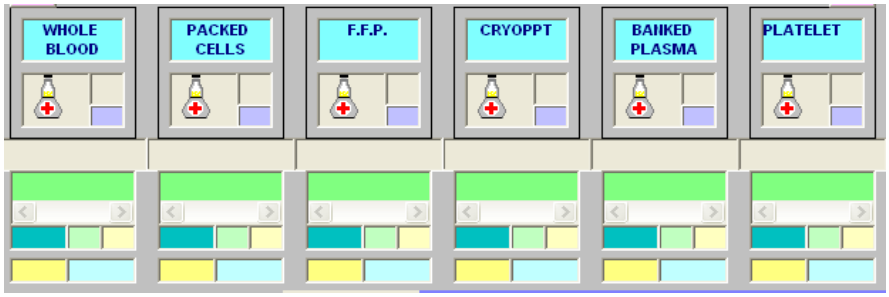
By drugging the mouse over the red or blue tubes, a small yellow tip appears, showing the donor number, the donation and the donation's date.
In the future, To find easily a unit, we must specify exactly the location, as the room, fridge, shelf, plate and the place inside the plate as; A1, B10,…
If we know the plate number where we can find the required donor, just type the donor/patient number and the system will change the related red tubes to blue color.
We can see the result visually as we mentioned before or as a table. this table can be sorted by any of its columns, by clicking on its column's head line.
If we know only the donor/patient number but we don't know the location, or the plate or the fridge…
just type the donor number and go to the third tab 'Find Serum' and click on one of the find options, the system show us all the plates and the tubes related to that person.

To save new tubes, click on 'Add new tube' to access the small window, then choose the correct location for that plate, specify the plate and click on the empty tubes on the visual table, the system mark this tube by 'ok' and save it for any research for the next years.



PREPARATION MODULE:

PREPARATION WINDOW:



By typing the donation number, we will see all the products of this donation.

The blood group and the serology must be done.

By clicking on the left cube in any pocket will disable or enable it.
By clicking on the blue area over the product name, the unit number will appear in a large font.
If we click on the packed cells or F.F.P box to activate, the Whole blood box will immediately deactivate.
The weights, location, Hb and other helpers tab will move following the mouse action.
The expiration dates boxes will be automatically calculated.

Print one or all the labels.

When saving, each colored cube means create it as a separate unit,
And each cleared cube, delete it if already exist.

Under the 'available units' table, each new selected product, the color is yellow
Each old existing unit, the color is white
And every deleted unit, the color is red.

The operator number will be saved automatically with every kind of product.

In the validation option, after printing each label, the system will ask us to read the donation number from the small label on the bag, then read the donation number from the new printed label within a specific period of time, to insure that the new label is strictly for that bag.

LIST OF UNITS WINDOW:

Print out the units or pockets; we can define many parameters, and many sort options,

LIST OF AUTOLOGOUS UNITS WINDOW:

Print out the autologous units or pockets; we can define many parameters, and many sort options,

LIST OF RETURNED UNITS WINDOW:

Print out the returned units or pockets; we can define many parameters, and many sort options,

SPLIT WINDOW:

We can split only the whole blood, packed sells or plasma,
by entering a donation number and its component number and the split number if already pooled
then press to 'FIND' button.
If find; by press on any SPLIT button we can define the number of divided pocket. 2 , 3 or 4 pockets.
For the new pockets , the donation number and the components will remain the same, but the split number will be increase one by one.
The weight of the original pocket will divided to be equal to all the pockets.
We must print new labels for each new unit.
Use the same technique for the validation procedure as in the preparation window.

POOLE WINDOW:

First enter the number of units for pooling, to check later if all units are pooled.
Only we can pool the CRYOPPT and the PLATELET components.
The new pooled pocket will take the same donation number of the first pocket and the same component but the sub unit number (split unit number) will be 100.
If there a pooled pocket had the same new pooled number then the system ask for other first pocket
We have about 17 pocket type to choose from.

RECONSTITUTION WINDOW:

Similar to pool window, but we will pool the products for the same donation together.
The system will check the availabilities of the units.

TREATEMENT WINDOW:

We can do one or more treatment for a blood unit, like freezing, irradiation or many others.
Each blood product was its own treatment functions, and its changed the expiry dates and others specifications differently from other products.
We can do one or more treatments for each unit.

Patient module :

- Complete record of the patient.
- Identification of the patient by the Id number, hospitalization numbers and names.
- Complete information about the blood bank test results.
- Redundant blood groupings are avoided.
- Validation of the irregular antibody screening in function of the date of the last screening, antibody specificity and last transfusion dates.
- Optional computerized selection of units by ABO, phenotype and HLA.
- Complete record of blood request.
- Complete record of blood samples and test request.
- Link between a blood unit and a blood sample for cross matches.
- Computerized control of blood group matching during reservation, cross matching and release to patients.
- Reservation is allowed only when pre-transfusional tests are completed.
- Patient record is accessible during reservation and release of blood.
- An electronic bedside control of transfusion is available in order to detect unit allocation errors.
- Electronic cross match including ABO groups, irregular antibodies, and optionally, partial or complete phenotype matching.
- ABO mismatches are allowed by a special procedure.
- Delivery slips, including a compatibility certificate, are issued for each blood component.

PATIENT INFO WINDOW:

By using a special multi criteria window to find an old patient, or by entering a new patient, we can add or change the necessary information as the name, address or others.

Three tabs included:

a - Personnel Info, is a table hold all the static data as the sex, the age, the telephone and many others.

b - Hospital Info is a table holds all the historic data as the doctor name, the reactions and remarks…

c – Lab & Clinic info, many clinical info included as screening DAT, IAT…

Also, if we click on any of the five box of antibody, will appear a list of available codes to choose from, when click on a code, the code moved to that antibody box. At the end click on CLOSE on the top of the list.

These tabs are cumulative, it means we can add information as much as we need, and save them sorted by date.

The patient number is preferable to be the same number as the hospital admission number.

PATIENT BLOOD GROUP WINDOW:

To check out the existing blood group or to specify a new group,
By barcode reader, we get the patient number. Then we can see or change the blood group and the other parameters.

The system checks for similarity of the two determinations
Also we can edit the sub group.
It is similar to the donor's blood group window.

DOUBLE CHECK BLOOD GROUP WINDOW:

Double check the entry data by another operator, without doing physically the tests.

SEROLOGY WINDOW:

The blood group must be done before the serology.
Up to 15 kinds of serology tests and each one have up to six trials.
By clicking on the test (HIV or HCV ...) all the related boxes are changes.
or by clicking any trial (text1, duplicate...) all the related boxes also changes.
Or by clicking directly inside the test box, will change to - , + , # , blank.
Unlike the donor serology window, we can do many serology tests for one patient.

RESERVE / RELEASE WINDOW:

To Find a patient; a sub window appears and ask for the criteria to summarize the result,
Then we choose one of the listed result by click any where on the line of the patient.

When we enter a patient number (up to 10 characters), the system search for it, if already exist the system gave us the historic data, or we have to go to the patient's info window to create new one.

If an old patient had a credit units of blood, will display the balance on the right top of the screen.
Also it will display the screening results and the last transfusion date, if any

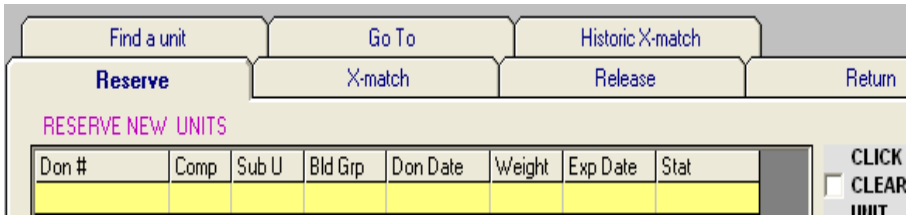
The unit 'DATE/TIME' boxes will save with any unit changes. We can see it in the table under name STS DATE.
In the first half of the screen, we have the patient static data, and in the next half, we have a table containing many tabs like: Reserve, X-match, Delivery and others.

How can we start the reserve and release procedures?

To start loading units; the RESERVE option must be selected.

The cursor must be in the donation field, under the 'Reserve' label.

Read the unit number from the label on the bag, by using the bar code reader.



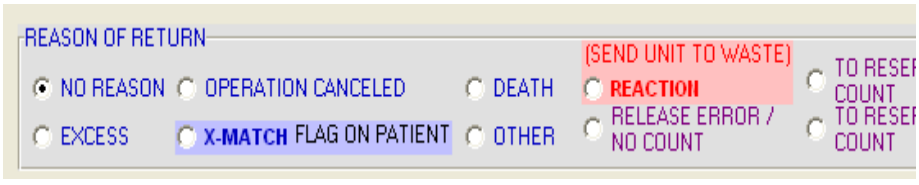
For every selected unit, the system will check blood group of the unit if compatible with this patient, and check the expiration date, and the serology tests, and hundreds of controls.
After the unit passes all these validations, it will reserve to that patient.
Under the STATUS column, the unit situation is 'IN STOCK'

After reservation, we must use the same technique to cross match the unit, activate X-match option and click to any desired unit. Or read the unit number by the barcode reader, a cross character appears in the first column of the table beside of clicked unit, it means that the unit is cross matched.
We can save some parameters with the cross match like the tube number, the result and others.

To deliver a reserved unit, activate the DLVRY button and press to unit with status (RESERVED) or read the unit number by the barcode reader, a cross character appears in the last column beside the clicked unit.

To save the reserved and distributed units, press on 'SAVE' button.
If the print option is activated, when save released units, a list will print contain information from the patient and its blood group, and a list of all the delivered units with some of information.

Under 'RETURN' tab, we can view all the delivered units, and for one of the available reasons we can select a unit and return it to the reserve status for the same patient or to the free stock to let us again reserve it to another patient.
The system counts the number of returns for each unit, if it exceeds three times, the system warning us to send it to waste.



‘Find units’ tab, help us to find the appropriate units for the patient.

We can specify the blood group, blood components, one or more qualifications CMV + or -

We can choose the sort by blood group or by FIFO

Then the result appears in the blue table.

By clicking on any unit the system check again if already expired or the serology tests are positives and gave us all hints possible to take the right decision.

‘Historic X-match’ tab, we can review all the results for the x-match done for this patient.

ELECTRONIC CROSS MATCH

The electronic cross match is to find the right units for a specific patient by checking one or more of his blood sub group with the units sub group,
and check the irregular antibody, and use the compatibility of blood group.

At the end we got a list of all the valid units.

UNKNOWN CREDITORS WINDOW:

In donation window, when we pressed on UNKNOWN creditors, the system will save those units for this screen.
The system will display all the unknown creditors units to give to a specific patient.
after selecting a patient, click to any unit you thing that is for this patient,
the system will clear it from the screen and put it as a credit unit for that patient.

LABELS VALIDATION WINDOW:

It is a small routine to check if all the bare codes on a pocket have the same number.

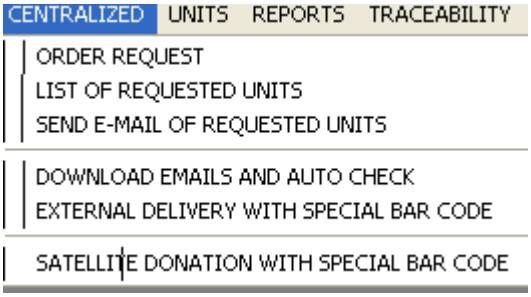
UNIT RECEPTION AND TRANSFUSION WINDOW:

When selecting a patient, all his units are display in a table,
To check if these units are delivered and used safely, the hospital must return a note for the blood bank .
If that happened, click beside of each delivered unit to put a mark.
Only the delivered units accept that mark.

Centralized Module:

This module is for the countries which have central blood bank connected to a numerous numbers of hospitals all around. Or to connect between many institutions they use our SSBB to facilitate the communication and to transfer the information in an easy and secure shape.

The communication took places by using the internet facilities to prepare and send the blood requests and to send back the answers of the availabilities.
When the center is ready for delivery, will print special two dimensions barcode labels to be stacked to every unit, which handled all the necessary data like the donor's static data and blood group and all the serology results and many others.
When the units received by the hospitals, by using a special barcode readers, they can download and store hundreds of information about this unit.



ORDER REQUEST WINDOW:

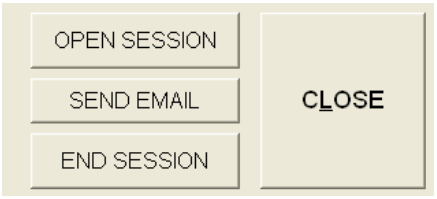
The hospital prepares the blood units needed, and specify the product as whole blood, plasma… and the treatments as washed, irradiated… and also the blood group, for each of these units.

LIST OF REQUESTED UNITS WINDOW:

To check and review all the ready orders for a period of time.

SEND EMAIL OF REQUESTED UNITS:

The hospital sends the ready orders to the donation center by emails, with a special coding system to minimize the errors and maximize the security.



DOWNLOAD EMAILS WINDOW:

The center downloads automatically the emails and the system start to prepare the response of the availability.

EXTERNAL DELIVERY WINDOW:

After the units preparation in the center, the system print a new two dimensional barcode label, which contains all the specification of each unit, like
-Donor's static data (name, address, age, sex …)
-Unit information (unit #, product, serology results, group, treatments…)
Then this label stacked on the unit bag, and it will be ready for the delivery trip.

SATELLITE DONATION WINDOW:

When the hospital received the unit, by a special barcode reader, can read and import the entire data from the label to the local database in a few seconds, the hospital can review the history of the unit, and can start doing the internal delivery procedure in a safe and secure manner.

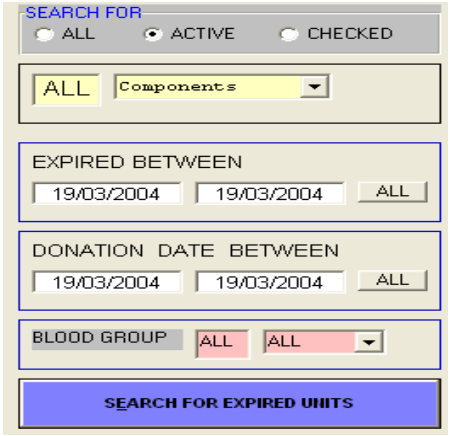
UNITS MODULE:

External Delivery window:

For external delivery, no need to do all the controls steps as blood group matching or cross match or other controls, but it will control the necessary steps like expiry date, then the delivery done to the external site.
If that institution has the same SSBB program, we can print a special label which contains all the donor and unit data.

CHECK THE UNITS' EXPIRY DATE:

By choosing the product and the period of dates and other parameters, the system will list out all the expired units. Then we can mark them as expired units.



CHECK THE UNITS' SITUATION:

For any reason, if we want to check the status of a unit. We enter the unit number and the system tells us the actual situation.
Some of the situations are changeable and some others reserved to the system to be strictly changed under its supervision.

INTERCHANGE THE CREDITS:

This window is to facilitate the change of the credits between patients.

FIND A SPECIAL UNIT WINDOW:

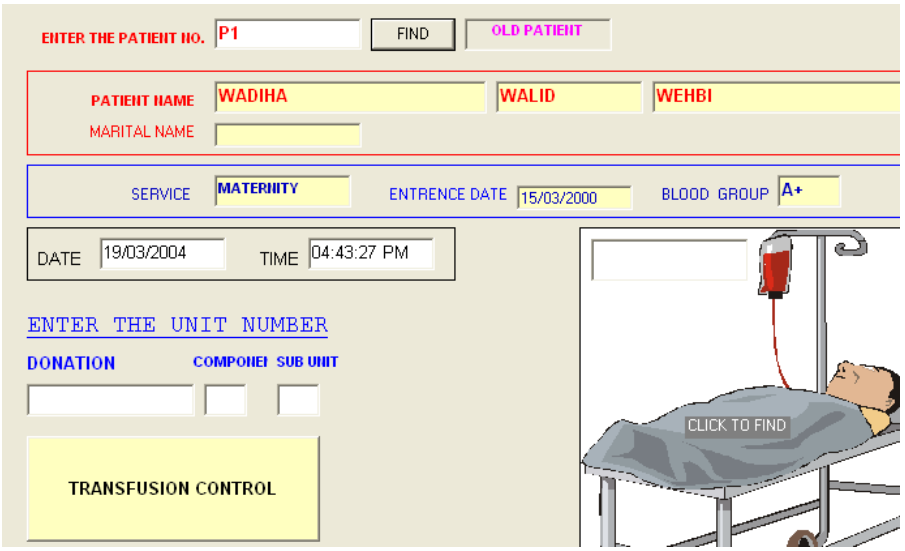
To find a special unit, we can find a very special unit by selecting from many parameters the ones we want;
we can specify the blood group and any sub group.
we can define the status of the unit : still in stock, delivered, wasted...
we can define any parameter of the pocket as the batch number...
we can specify any of the qualifications.

After the selection, press the FIND button to select the right units, and display them in the table.

Free the reserved units:

When we reserved the units for patients, may be after a while we want some of these units to be in the free stock to reserve them again to other new patients.
So, here we can specify the earlier date of reservation and let the system clear them automatically for us.

Bed side control:



It's easy, simple, efficient and eliminates the transfusion errors.
A special procedure used in the donation room where the transfusion will take effect, We have to have a network connected computer to the SSBB main server, the doctor will use the barcode reader to read only the patient number from the bracelet and to read also the unit number from the blood unit.
The system check if this unit is released exclusively for this patient, if no, the system refuse the delivery and a big red screen appears, or if yes, a big bleu screen with a visa number given to the doctor to assure the safe transfusion.

Unit Log:

To find out all the history of a whole donation or a specific unit of that donation, just enter the number of the unit and the system tell us all the steps the unit passed thru, all the operators and dates concerning that steps.

Retained units:

Any operator can retain and lock a unit for certain reason, he can put a remark for the others or for later use,
The retain technique is similar to the quarantine, but the unit retained still locked and nobody can free it unless the same operator.

Statistics and reports module :

Historical data are stored for donors, units, tests and patients. These information are used by and easy and powerful module to produce multiparametric statistics and reports.

Multi-Criteria Statistics:

We can get many of statistic results by selecting one or more criteria.

Output to Microsoft Excel:

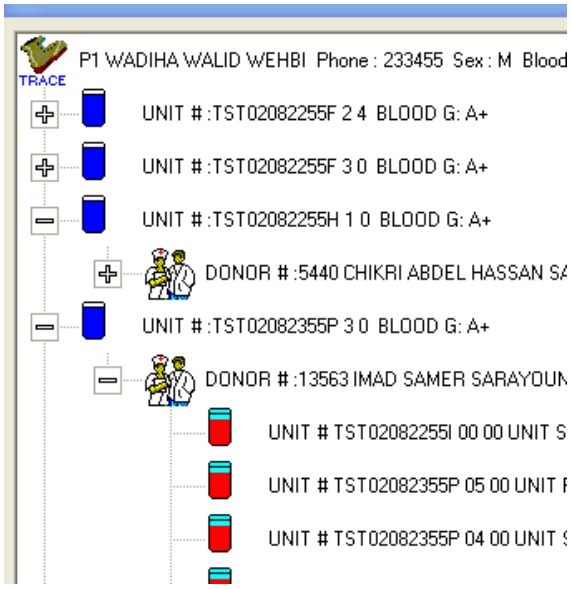
Many of the computers' users prefer to do charts and tables and to change the way of looking for the statistical reports using MS-Excel,
This window will gather the requested data and launch automatically the Excel program and export the result to it.

On the excel sheet, the user is free to manipulate the data in any way he likes without accessing the real data in the SSBB database.

Billing Reports:

Two main windows in the billing module, the first one, is the billing set up, which we can tell the system what kind of tests and procedures we want to charge and what is the cost of each.
The second window is to export the data as a text file to be handled from the institution's main invoicing system, or to launch a summary report for the patient's charges.

Traceability module :



The donor, unit and patients modules are linked so that the system provides a powerful tracking of donors, patients and blood components including splits and pools. It allows a full control of the link between donors and recipient, the search for a donor of a unit, the search for donors of one recipient, the search for recipients of one donor and a complete tracking of components of one whole blood unit.

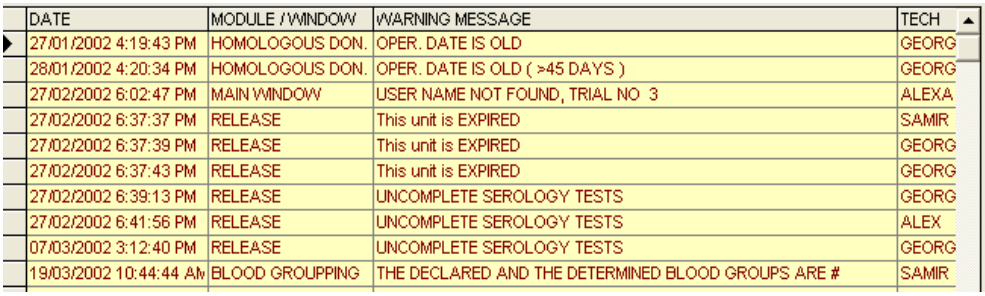
Any donor or patient found it in this window; it will be linked automatically to the serotech window.

We can see the result as a tree to simplify the reading and to print it as well.

Hierarchy, responsibilities and passwords module :

The system is secured by locked entry using a user name and a password. Specific tasks per user are allocated in order to organize the responsibilities.

Warnings:



DATE	MODULE / WINDOW	WARNING MESSAGE	TECH
27/01/2002 4:19:43 PM	HOMOLOGOUS DON.	OPER. DATE IS OLD	GEORG
28/01/2002 4:20:34 PM	HOMOLOGOUS DON.	OPER. DATE IS OLD (>45 DAYS)	GEORG
27/02/2002 6:02:47 PM	MAIN WINDOW	USER NAME NOT FOUND, TRIAL NO 3	ALEXA
27/02/2002 6:37:37 PM	RELEASE	This unit is EXPIRED	SAMIR
27/02/2002 6:37:39 PM	RELEASE	This unit is EXPIRED	GEORG
27/02/2002 6:37:43 PM	RELEASE	This unit is EXPIRED	GEORG
27/02/2002 6:39:13 PM	RELEASE	UNCOMPLETE SEROLOGY TESTS	GEORG
27/02/2002 6:41:56 PM	RELEASE	UNCOMPLETE SEROLOGY TESTS	ALEX
07/03/2002 3:12:40 PM	RELEASE	UNCOMPLETE SEROLOGY TESTS	GEORG
19/03/2002 10:44:44 AM	BLOOD GROUPPING	THE DECLARED AND THE DETERMINED BLOOD GROUPS ARE #	SAMIR

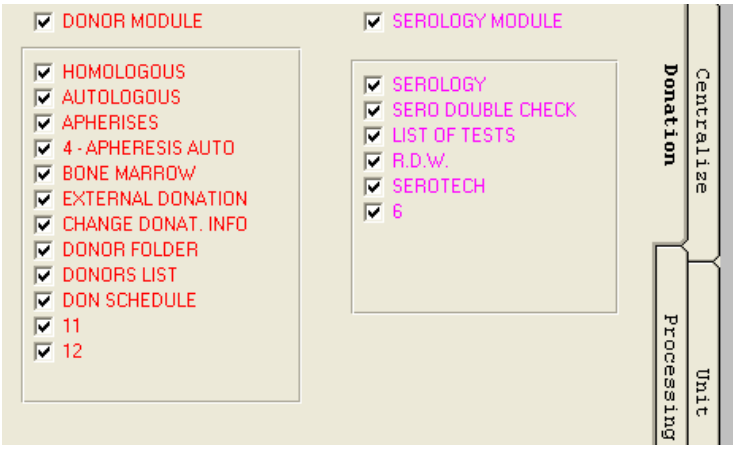
It is like numbers of cameras are built inside the program to capture Any unusual action taken by the operator or any mistakes happened by the system or the user, or any illegal results appears when working, the system save them and list them for the administrator to take all the appropriate actions.

System log window:

When the responsible wants to know about all his technicians and what they did from now backward to the early morning.
He can sort the result by many options, as date, technician, module or the job done in the center.

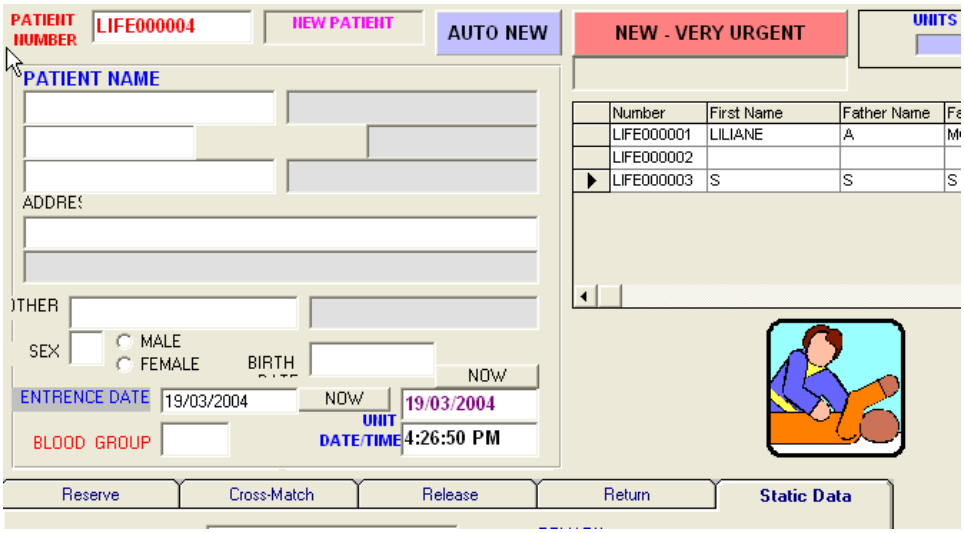
Users and Permissions window:

Only the responsible can access this window. By this window we can give the technician the authorities to access any of the project modules and features. we can specify the language and other options.



LIFE SAVING WINDOW:

When we have an urgent situation, the time is an important variable, every second can give more chance for the patient, for that, we have the quick life saving procedure.



Two kinds of urgent can choose to proceed;

The urgent: in case we have a little time to ask the patient about his name and telephone and some miner data, we can reserve, X-match and release the appropriate units.

The very urgent: there is no time for any question, the patient in a critical condition, we do not need his name, we don't have time to reserve or x-match, just get the unit, read the unit number by the barcode reader, and let the system reserve, release and do all the necessary controls.

When the patient moved from the urgent service to the hospital, we can convert all its info from the life saving file to a normal patient file.

Options & Features

No.	Module Name	Features / Functions	Customizable	Note
1	**General**			**The features under the general module can affect all the project.**
1-a	General	Multi-Language	yes	Up to 3 Languages simultaneously
1-b		Local + Main language	yes	Hide/Unhide the local language. Will facilitate the traceability in the local language
1-c		User name / Password	yes	Define the user authorities, To limit the tasks for each user, and to keep track of the user all around the project.
1-d		Voice messages	yes	Activate/deactivate the voice messages in local or main language
1-e		Double check system for blood grouping and serology	yes	Can activate/deactivate the double check system by the Administrator
1-f		Labels validation	yes	Can activate/deactivate the validation system by the Administrator
1-g		Print Labels (barcode)	yes	Can activate/deactivate the printing system by the Administrator
1-h		Label printers	yes	Accept many brands of label printers
1-I		Labels Validation technique	yes	The validation procedure between two labels is controlled by a specific period of time, and the user must respect the given time, or the system will reject this validation.

No	Module Name	Features / Functions	Customizable	Note
2	**Donation Module**	**Different kind of donations**		**Homologous-Autologous-Apheresis-Bone marrow-External donation (for mobile units and centralized donations)**
2-a	Homologous	Easy find an old donor		Find the donor by name(first or family) using the main or local language, and by national ID #…
		Auto search for last donation		Detect the last donation date. To accept the new donation.
		In case of an old donor		View of the historic of Platelet, HLA, Medical report, Blood group, Phenotype, Serology results and Cytology
		Questions “Forbidden by questions”	Yes	Up to 50 questions are in the three languages, we can set temporary or definitive forbidden, if this is the case, will send the unit to the waste.
		Forbidden by Serology	yes	If previous serology test was positive, an auto control, lock the next donation.
		For new donation		-New and unique donation number. -Select the Anticoagulant. -Select The Additives -Stock location for future use -Options like Therapeutic, Quarantine -Bag parameters as; type, size, batch no. and weight
		Two tables, anticoagulants and additives	yes	To specify the default option, and to calculate the new expiry date enhancements.
		Family replacement system		To control the transfusion and keep track of the relatives' units.
		Creditors		Balance the donated and transfused units of a patient.
		Personal info.		As age, email, driving license and other.
		Cytology / Hemostasis/ C.B.C. / and others		Includes Cytology and Hemostasis parameters.
		Expiry date	yes	Automatic calculation of the units' expiry date
		Printing of small labels	yes	Will print defined number of small labels, to cover all the units, Tubes and the necessary manual archive
2-b	Autologous	Autologous flag		Same as Homologous, with additional of autologous flag for future use.
2-c	Apheresis	Additional top window		Same as above, with a top window for apheresis machines and all related parameters. And also a table for the blood products.
2-d	Change Donation Info	Window for data correction.		This window lets the user change some of the fields without touching the security of the system.
2-e	Donors' list / Donor's info	Reports		Two windows for donor's reports
2-f	Scheduled donations	Find and set the schedules		Window to set and retrieve the volunteer donors depending to their schedule. Also check the daily schedules and the serology of old donations,

No	Module Name	Features / Functions	Customizable	Note
3	**Blood Grouping Module**			**Contains Blood group, Double check and some reports.**
3-a	Blood group	Blood Group determinations		Two determinations will be set and compared with the declared blood group. Including many parameters like the reagent, centers, batch numbers and two sets of phenotype.
		Blood group reactions		To determine the group by entering the results of the reactions manually.
3-b	Blood group double check	Check the data entry	yes	This window will check only the result of the two determinations, concerning only the data entry of another operator.
3-c	List of donations	Reports		List of donations in different criteria.

No	Module Name	Features / Functions	Customizable	Note
4	**Serology Module**			**Contains Serology tests, Double check, Quarantine, serotech and reports.**
4-a	Donor's Serology	Each donation has its own serology results	yes	Up to fifteen Serology tests can be made for each donation. For each test we can do up to six trials.
		Parameters	yes	For each test/trial we can save automatically the kit used, batch #, technique and the machine name.
4-b	Serology Double check.	Check the data entry	yes	This window will check only the result of the serology, concerning only the data entry of another operator.
4-c	Quarantine	Lock / Free the units		We can lock / free a unit in quarantine stock.
4-d	Serotech	Management of samples	yes	To keep serum for a long period, Many methods exist to search for a serum; visually, by table results, by Donor, by period of time, just move the mouse over the serum icon to know the identity of the donor/patient.

No	Module Name	Features / Functions	Customizable	Note
5	**Processing Module**			**Components preparation, Splitting, Pooling, Reconstitution and treatment.**
5-a	Components preparation.	Visual interface and mouse driven parameters.		Prepare the blood for different products, for each product specify the related parameters as; Expiry date, location, weight…
		Big labels	yes	For each product we will have a big label to stick it on the unit
		Validation	yes	Every printed label will be validated before use. This label contains the serology results, Blood group and more useful info.
5-b	Splitting	Visual split.	yes	By a mouse click, you can divide a unit up to seventeen pediatric units, the weights changes automatically, The labels printed for all those splitted units.
5-c	Pooling	Join multi-units together		Pool more than one unit together for the same products.
5-d	Reconstitution			Re-pool the products of the same donation.
5-e	Treatment	Add qualifications of a unit	yes	For every kind of product, Visually have a table of related qualifications and their parameters. Auto-calculate of the expiry date. Check the old qualifications/parameters of the present unit.
5-f	Reports			Many reports for processing module.

No	Module Name	Features / Functions	Customizable	Note
6	**Patient Module**			**Patient's info, Reserve, Release units and others are covered by this module**
6-a	Patient Info	Includes Personal info, Hospital info and Lab/Clinic info		Personal info as Name, Sex, Address and others. Hospital info as Ward, Physician … Lab/Clinic info as Irregular antibodies, DAT, IAT, Screening and many others.
6-b	Blood group	Blood Group determinations		Two determinations will be set Including many parameters like the reagent, batch numbers and phenotype. Check also the blood group of the mother or of the bone marrow's donor
6-c	Blood group double check	Check the data entry	yes	This window will check only the result of the two determinations, concerning only the data entry of another operator.
6-d	Patient's Serology	Unlimited number of serology tests per patient.	yes	Up to fifteen Serology tests are available, and for each test we can do up to six trials. It includes also two serology reports.
6-e	Reserve/Release units	Using Barcode reader and the mouse to accomplish this important task		More than hundred control must be done before reserving or releasing a unit for a patient.
		Steps to do		Reserve a unit, Cross match it, then release it.
		In case of unit return		Depend of the return option, will reserve it again or send it to the stock or to the waste.
		To find a unit		If we want a special unit for this patient, just go to "find a unit", put some criteria, and the system will give us a list of matched units and sorted by FIFO or by group.
		Historic x-match		A table to show all the X-matched units for this patient.
6-f	Check the operator	Control window		To check all the operators who worked on a unit, Like grouping, serology, preparation…
6-g	Electronic X-match	Quickly find a unit for a patient		Choose a patient, choose irregular antibodies and let the system find matched units.
6-h	Unit Reception/Transfusion	Receive the released units		This window is used by the operation room, to confirm the acceptance of the released units.
6-I	Unknown creditors	Set up the patient's credits		In donation, when family replacement system is on, Here we can add credits for concerned new coming patients.
6-j	Label validation	Control window		To check the compatibility of barcode numbers between many labels
6-k	Leaving patients	Flag for the leaving patients.		To minimize the search area of patients
6-L	Reports			Many reports for patient module.

No	Module Name	Features / Functions	Customizable	Note
7	**Centralized Module**	**Communication System**		**To communicate between a central blood bank and the satellite hospitals**
7-a	Order request	First step (in hospitals)		The hospital prepares the requests order as quantity of bags, blood group and phenotype and can specify the qualifications.
7-b	List of Requests	Second step (in hospitals)		Print or view the requests to check the order.
7-c	Send the requests.	Third step (in hospitals)		The hospital send by email the orders to the central blood bank, by click only three buttons. An email address must be settled only for this job.
7-d	Read the emails	Forth step.(in the central)		The central blood bank receive automatically the emails. Will control for good emails, any received email not sent by the SSBB will be rejected. After receiving, we can check electronically the contents and the availability of the units in the stock.
7-e	External delivery	Fifth step .(in the central)	yes	When the center has all the units ready for delivery, by the bar code we can collect them and save them in this window ((after a wide electronic control)).
				For each unit, we print a new special label with a special barcode which contains all data needed for the hospital; as the donor info, blood group and phenotype, serology results and others.
7-f	Satellite donation	Sixth step (in hospitals)	yes	When the hospital receive the units from the central blood bank, here all the necessary data can be read only by a special barcode reader.
				After reading the data, we can check automatically the existence of the donor, if not, We can create it by single click, and also its blood group and serology tests.

No	Module Name	Features / Functions	Customizable	Note
8	**Units Module**			**To check the unit's situation, Expiry date and retained units.**
8-a	Check the units' expiry date	Specify the criteria		Specify the period, the group and the products to get a list of expired units. Put a flag to eliminate them from stock.
8-b	Check the units' situation			Up to 24 situation the unit can be; as : Available in stock, Released, Reserved, Punctured, Splitted…
8-c	Interchange the credits	Between two patients		We can interchange the credits from patient to another.
8-d	Find a special unit	Help window		To find a special unit, we can set the blood group, phenotype, unit's situation, product, qualifications and many others, then the system will give us a table of matched units.
8-e	Free the reserved units			Many methods includes in this windows to free the old and not needed reserved units.
8-f	Bed site control	Applicable in the operation room		To check if this existing unit in the operation room is really sent to this patient.
				By barcode reader, read the bracelet of the patient and the unit number from the bag
				If not confirmed, the system refuses the delivery and send an alarm, if confirmed, the system give a visa number and accept the unit.
8-g	Unit log	Control window		To track all the steps and what is done for each unit. It saves the date, operator, module name and the action taken.
8-h	Retained units	Lock the doubtful units		If a technician got a doubtful results or had a suspicious information of a unit, the technician could retain it with a remark to explain the act. No other technician can unlock this unit.

No	Module Name	Features / Functions	Customizable	Note
9	**Reports Module**			**Multi-parametric reports, Out to Excel reports and Billing.**
9-a	Multi-parametric Report	Use multi-criteria concept		By choosing one or many criteria as, Blood group, Products, Additives, Qualifications and others; You will get a table of the result.
9-b	Output to Excel	Use MS-Excel		Statistic reports for Donors, Donations and Patients Send the results to MS Excel.
9-c	Billing setup		yes	Setup the billing table to define the price of each test, product and qualification.
9-d	Billing Report		yes	Get the bill by patient or summary by period.

No	Module Name	Features / Functions	Customizable	Note
10	**Traceability Module**			
10-a	History of a unit			View a donation and all related units, all serology, preparation and all other functions.
10-b	Patient tracing			In less than 10 seconds, we can get all the units transfused to a patient. Get the donor of every unit, Get all the donations and units for the donor. And finally get the situation of every unit and if transfused, get the patient's info.
				Two different views can be set, the ordinary one, by form of tables, and the enhanced one, by form of tree.
10-c	Warnings			We installed more than 25 detectors to capture the important and the dangerous issues that the operators can make; like delivery of an expired unit, or transfuse a unit for a wrong patient.

No	Module Name	Features / Functions	Customizable	Note
11	**Life saving Module**	**Urgent situation**		**We can transfuse units to an unknown urgent patient, We do less steps and less control but in secured manner.**
				Two level of security we can set, the urgent and the very urgent, in the first one we can write the name, address and some personal info of the patient, and we have to reserve the units, x-match them and then release them. In the second level, nothing we have to do, just get the unit, read it by the bar code reader, and the system do all the controls and the necessary steps to accept or reject the transfusion.

No	Module Name	Features / Functions	Customizable	Note
12	**Help Module**			**This module must be controlled by the administrator or the responsible only.**
12-a	Users and Permissions		yes	The administrator give each user the appropriate permissions to limit the access of each user.
12-b	Database utilities		yes	To clean or repair the main database.
12-c	Backup / Restore			To save periodically the data base from any accident.
12-d	Company info		yes	By this window we can setup and maintain many parameters concerning the center and the other coordinated sites and the way of communication and the kind of printer labels.
12-e	Transporter			Specify the internal and external transporters.
12-f	Qualifications table		yes	Specify the qualifications for each product and how can affect the expiry date

Technical Information

SSBB ABBREVIATION BOOKLET

BLOOD COMPONENT

CODE	NAME	CODE	CNAME
00	WHOLE BLOOD	60	SPLIT APHER.PLATELET
01	PACKED CELLS	61	SPLIT APHER.PLASMA
02	F.F.P.	62	SPLIT APHER.GRAMULOC
03	CRYOPPT	64	SPLIT APHER PACKED C
04	BANKED PLASMA	70	POOL APHER PLATELETE
05	PLATELET	80	POOL PLATELET
06	BUFFY COAT	81	POOL CRYOPPT
30	APHERESIS PLATELET	82	POOL PLASMA
31	APHERESIS PLASMA	90	STEM CELL CORD BLOOD
32	APHERESIS GRANUL.	91	RECONSTITUTION BLOOD
33	APHERESIS MONOCYTES	92	LYOPHILIZED PLASMA
34	APHERESIS PACKED CEL		
35	STEM CELL APHERISYS		
36	FROZEN APHR PLASMA 1		
37	FROZEN APHR PLASMA 2		
38	FROZEN APHR PLASMA 3		
39	FROZEN PACKED CELLS		
40	FROZEN APHR PLATELET		
50	SPLIT WHOLE BLOOD		
51	SPLIT PACKED CELLS		
52	SPLIT PLASMA		
53	SPLIT F.F.P.		

UNIT SITUATION

0	AVAILABLE	10	DOUBTFULL	20	BAD STORAGE
1	DISTRIBUTED	11	INSUFFICIENT QTY	21	SPLITTED
2	EXPIRED	12	ICTERIC	22	THERAPEUTIC
3	SERO +	13	23LIPIDIC	23	RETAINE
4	PUNTERED	14	WRONG LABELING	24	OTHER
5	HEMOLISIS	15	EXTERNAL DEL		
6	COAGULATED	16	NOT USED AT TIME		
7	RARE GROUP	17	NO ROOM		
8	RESERVED	18	MULTIPLE DLVRY		
9	IAT	19	MALARYA		

SUB UNIT

00 -	ORIGINAL UNIT
00.01.02.03...	SPLITTED UNITS
100	POOLED UNIT

REASON OF RETURNED UNIT

NO REASON	X-MATCH ERROR
OPERATION CANCELED	RELEASE ERROR
DEATH	TO RESERVE
REACTION	OTHER
EXCESS	

Donation number partitions:

The first three characters are the abbreviation of the hospital, like CCC, HDF, CHN …
The second six characters are the date as dd/mm/yy
And the last three characters are the serial number, starting from 001 to ZZZ

By this combination, we can do 55728 different donations in one single center in one day and the donation still has a unique number comparing with all the hospitals using the same software.

Unit number partitions:
The unit number consists from the donation number (12 characters) plus:
Two characters for the product; 00 for WHOLE BLOOD, 01 for PACKED CELLS…
Last two characters for the pediatric units. When using the split technique, as 00,01,02…

QUOTATION FORM

Date : _____ Country : _____

Institution : _____

[ ] - Hospital [ ] - Blood Bank Center [ ] - Other
[ ] - Private [ ] - Governmental [ ] – Other

Person in charge _____ Title _____
Contact Person _____
Address _____
_____

Phone Office _____ Mobile _____
Fax _____
Email _____

Number of centers / branches: [1] [2] [3] [4] _____
Number of users (operators) in each center: _____

Is there an existing software in your Blood Bank : [yes] [no]
If yes; Description: _____

Technicians' level of computer knowledge 0 - 1 - 2 - 3 - 4 - 5 - Excellent

How many computer are available in the Blood Bank 0 - 1 - 2 - 3 - 4 - 5 - [ ]

Network available between the center and the Blood Bank [yes] [no]

How many analyzers are available [ ] Name/Specs: _____
_____

Total number of refrigerators and freezers [ ] Name/Specs: _____
_____

Estimated number of Donors / Year [ ]
Estimated number of donated units / Year [ ]
Estimated % of scheduled Donors [ ]
Estimated number of Patients / Year [ ]
Estimated number of released units / Year [ ]

Size of available stock [ ] units
Estimated purchasing date of SSBB _____

Required information: _____
_____
_____

SSBB Modules selection:

1 - The Basic Installation (Required)		[25p]	
2 - Donation: 7p	(a) Homologous [2p] (d) External [1p]	(b) Autologous [1p] (e) Schedule [1p]	(c) Apherersis [1p] (f) Reports [1p]
3 - Blood Grouping: 4p	(a) Blood Grouping [2p]	(b) Double Check [1p]	(c) Reports [1p]
4 - Serology: 6p	(a) Serology [2p] (d) Reports [1p]	(b) Serology [2p]	(c) Serotech [2p]
5 - Processing: 7p	(a) Components prep. [2p] (d) Pooling [1p]	(b) Splitting [1p] (e) Reconstitution [1p]	(c) Reports [1p] (f) Treatment [1p]
6 - Patient: 10p	(a) Patient Info [2p] (d) Serology [1p] (f) Electronic X-Match [1p]	(b) Blood grouping [2p] (e) Reservation / Release [2p] (g) Tools [1p]	(c) Double check [1p]
7 - Centralization: 4p	(a) Order Request + List + Send Email + Satellite donation [2p] (b) Download Emails + External Delivery [2p]		
8 - Units: 10p	(a) Expired units [2p] (d) Credit System [1p] (g) Bed side control [1p]	(b) Unit's situation [1p] (e) Find a unit [1p] (h) Unit log [1p]	(c) Reports [1p] (f) Free reservations [1p] (i) Retained units [1p]
9 - Statistics/Reports: 4p	(a) Reports [1p]	(b) Reports to Excel [1p]	(c) Billing [2p]
10 - Traceability: 4p	(a) Patient Traceability [2p]	(b) Warnings [1p]	(c) System Log [1p]
11 - Life Saving: 2p	(a) Life Saving [2p]		

Total Units: 25 + 58 = 83 Points
One point = __150___ $

Example of minimum installation: 1 + 2a + 3a + 4a + 5a + 6a + 6b + 8a = 45 points

Requirements

Hardware:

Minimum requirements:

-Two computers as :

Pentium IV 1.4 GHz
128 Mega memory
15” Screen
40 Giga Byte hard disk.
Network card
CD Rewritable.

-One Laser or Inkjet Printer.
-Two Printers labels.
-Two Barcode readers.

Software:

Windows 98 , Windows XP or Windows NT

Our references

Abr	Institution's name	Address	Responsible
HDF	Hotel Dieu de France	Achrafieh - Beirut	Dr. Roger Namaan
CCC	Chronic Care Center	Hazmieh – Beirut	Mdm. Michele Abi Saad
CHN	Centre Hospitalier du Nord	Zgharta – Nord	Dr. Salam Samad
GIH	Geitaoui Hospital	Achrafieh – Beirut	Dr. Hachem
SJH	St. Joseph Hospital	Daoura – Beirut	Sister Nadia
HHP	Hammoud Hospital	Saida	Dr. Kazma
HYH	Hayat Hospital	Beirut	Mdm Sanaa
HKH	Khoury Hospital	Bekaa-Zahli	Dr. Kadery
CDL	Clinique du Levant Beirut	Sin El Fil-Beirut	Président Jean Raad
ESH	Islamik Hospital	Tripoli	Dr. Naboulsi
CHH	Chiha Hospital	Zahle	Dr. Kadery
RYH	Rayak Hospital	Bekaa	Dr. Araji
BKH	Bekaa Hospital	Bekaa	Dr. Dalloul
STH	St. Charles Hospital	Hazmieh	

WARNINGS:

NOTE:

This Program is tested and checked by :
1 - Dr. PHILIPPE ROUGER, Directeur de L'Institue National de Transfusion Sanguine (INTS) France.
2 - Mr. GEORGES CONGIANO, EX Directeur de la Commissiond Europeene pour L'Informatisation de la Securite Transfusionelle Etablissement Fransaice du Sang (EFS).

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5 – Questions tab:

About 50 questions the donor has to answer before the donation. we can optionally determine each question as a 'T'emporary forbidden or 'D'efinitive forbidden.

If the answer for these kind of questions was 'Yes' the system locked on that unit and print a special label with a headline 'For test only', we can continue the serology tests but we can not do any preparation or delivery.