TALLINN UNIVERSITY OF TECHNOLOGY

School of Information Technologies

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Blood Donation System

Building Distributed Systems

Project Scope

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Author’s declaration of originality

I hereby certify that I am the sole author of this thesis. All the used materials, references to the literature and the work of others have been referred to. This thesis has not been presented for examination anywhere else.

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Contents

1. Original content

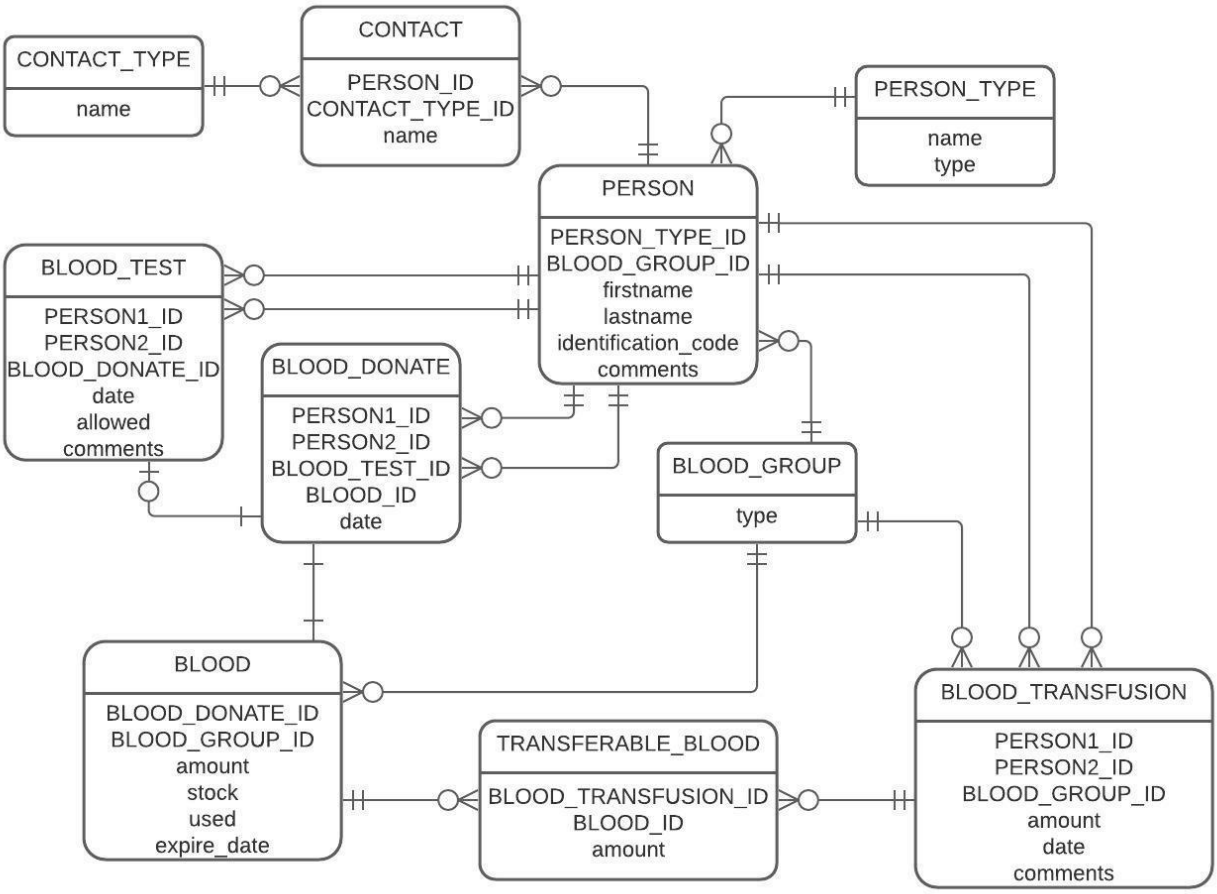
The project aims to make a blood donation system. The system must be single hospital based and only be used by doctors or secretaries. The page would show who has donated blood, the amounts of blood available and where the blood has been used. The blood donor is entered into the database if he is not already there. The system would be able to see whether the person is permitted to donate blood at the moment. Site would be able to choose from whom the blood is transferred. This can probably be the hardest job. It must be calculated in the backend whether the corresponding transfer is possible. If yes then take in the stock of just the right blood. It must also be taken into account when transferring blood that it is possible to use only a part of the amount of blood or even several blood.

On the front page there is login screen. Only those who have a user can log in. Users are pre-created by the admin and cannot be added by anyone else. when logging in, the user is presented with a search engine. From there it is possible to search for a donor, doctor or patient on the basis of three parameters (first name, lastname, personal identification code). On the sidebar you can choose aslo to see blood bank where do you see all the blood what are or were in the stock. The plan is there to use diagrams to get better view to statistics. On the persons page you can add persons in the system and also see all the people who are in the database. The blood testing, donation and transfusion pages would be functionally similar. These pages would be designed to add data.

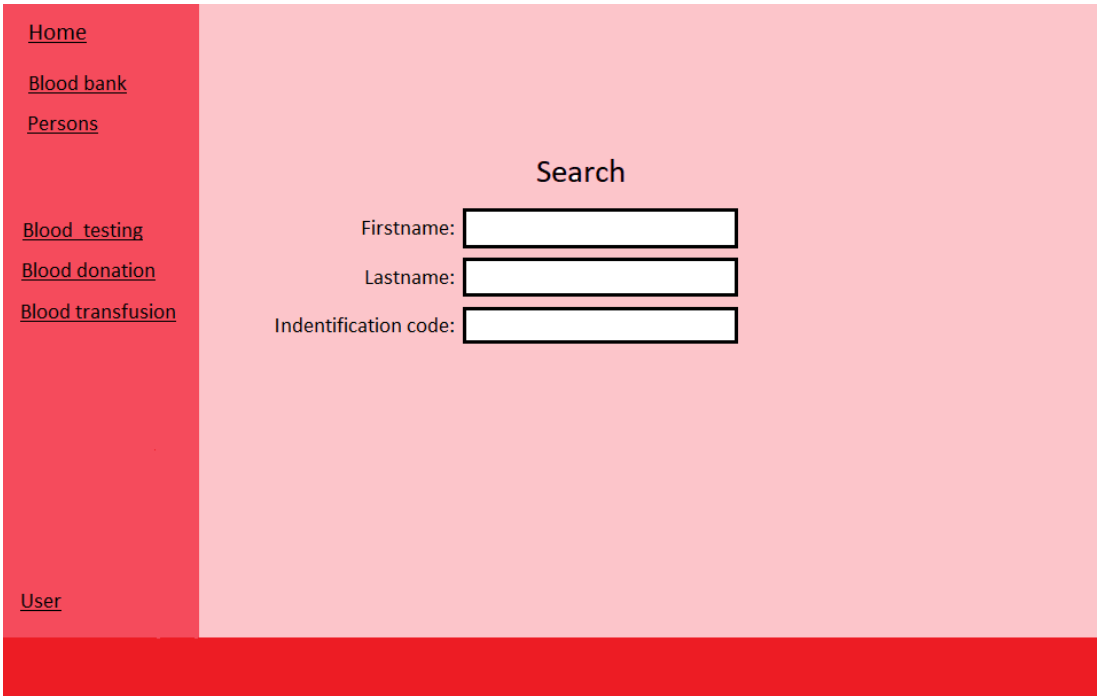
When I coding I try to consider that the code is part of a larger system. For example, it would be an interface to a whole hospital information system in the future. I make the code into as small pieces as possible.

In the ERM scheme the tables do not have ID’s. Actualy they are but just not in the scheme. I did not add them because I assumed it is understandable that every table have private key. Since there were exactly 10 tables in total, I try to make a perfect system where no errors can be found. Also add some cool javascript features to make user experience to best.

2. ERD Scheme



3. Main client screen



4. Updated content

The project aims to make a blood donation system. The system must be single hospital based and only be used by doctors or secretaries. The website show who has donated blood, the amounts of blood available and where the blood has been used.

On the front page there are a search engine which you can use to find a person quickly. You can search for a person by first name, last name and personal identification code.

The peson is entered into the database if he is not already there. If the person is entered in the database then it is possible to add contacts to the person. In the person detail view there you can see either the person is permitted to donate blood at the moment. It is also possible to see from which date he has the opportunity to donate blood.

Blood test must be done before blood is collected. If the blood test results are satisfactory only then patient can donate blood. When creating donating blood, blood tests for the last 24 hours are displayed. You can choose the right one from among them.

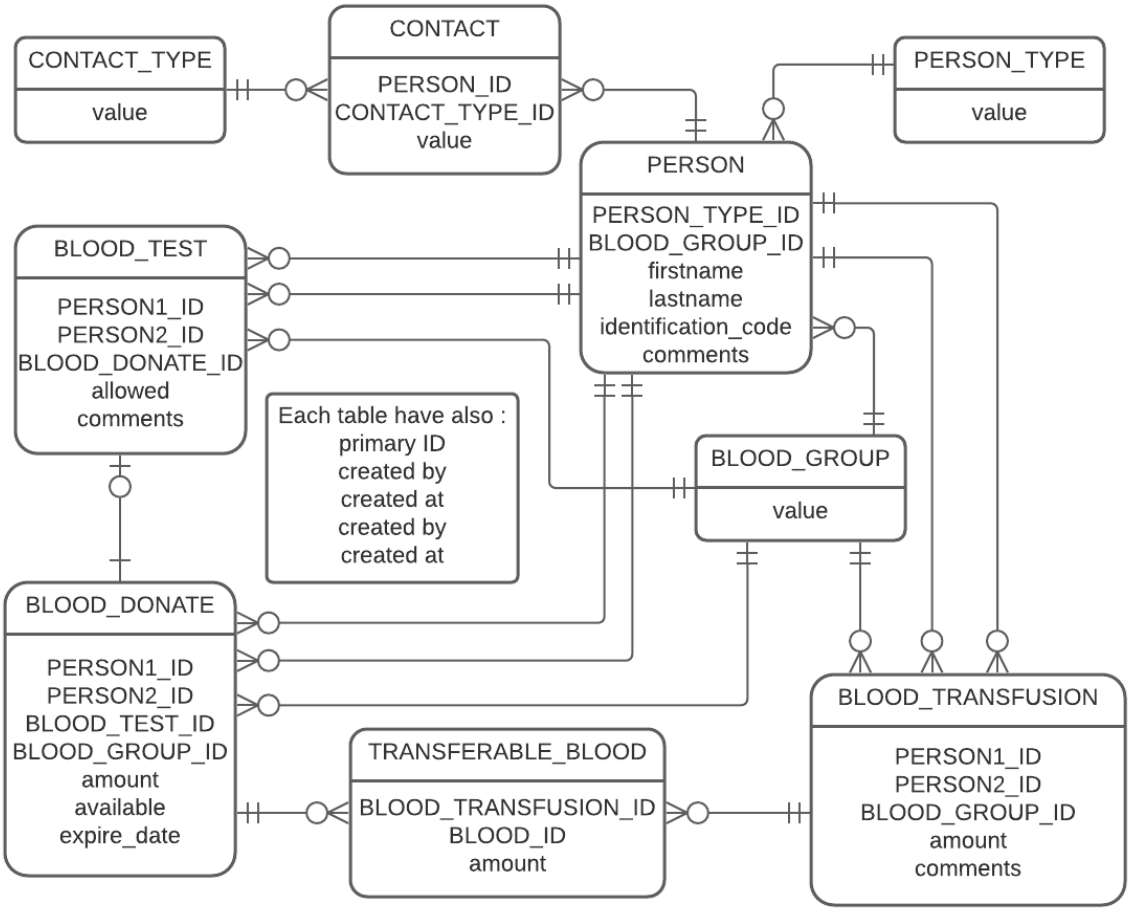
When transferring blood, there may be a situation where there is not enough blood to transfer. If there is enough blood, then the text is displayed as "there is not enough blood to transfer". All the blood that should be transferred will also be displayed on the transfer details view.

There is also a statistics pages on the website. There you can find statistics on blood donations and blood transfusions over time, blood donations in all blood groups and blood transfusions in all blood groups.

Admin has access to edit and view all tables in the database.

During the work, the 2 tables became one(BloodDonate and Blood). This was due to the problem of entering 2 tables at a time, given that the tables were linked in one to one relationship. I saw that there is really no great need to keep the tables separately.

5. Updated ERD Scheme



6. Updated main client screen