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**SYSTEM REQUIREMENTS SPECIFICATION
CSE 4316: SENIOR DESIGN I
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**LIFESAVERS
DONORS**

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1 PRODUCT CONCEPT

This section describes the purpose, use and intended user audience for Donors. Donors application will provide a platform for the people who want to donate their blood to the donation centers. And also help blood bank and hospitals to request for specific blood type.

1.1 PURPOSE AND USE

The purpose of Donors is to allow its users to get blood donation requests from different hospitals and care centers and also can search locations on their own depending on where they live. After receiving requests, they can opt to schedule the time and location for the donation.

1.2 INTENDED AUDIENCE

The intended audience of Donors will be the general people. However, when any person makes an account, he/she will be asked different health questions to be answered. For example, blood pressure, cholesterol level, medications, etc. The people who show significant differences than the required health condition will not be allowed to donate blood. The other part of the audience is hospitals and organizations who send blood donation requests to the people who have their account in the application.

2 PRODUCT DESCRIPTION

This section contains some description about Donors that will provide the readers a general overview of the application. It includes an explanation of functionalities and features that are present in the application along with the description of the general interface. The primary operational aspects of the product, from the perspective of end users, maintainers and administrators, are defined here. The user interfaces are described in the product as well including the critical user interface.

2.1 FEATURES & FUNCTIONS

Donors is a fully automated android application where a hospital or any organizations needing blood for their patients or any other uses sends the request through it. On the other side, a user gets the notification/message on their phone. When the user acknowledges the message, he/she can either accept or deny it. They can accept it by scheduling for the donation on the locations where they find it easy, or they can deny it if they do not want to donate for the time being. After donating blood, the user's record will be recorded in the database. Later, hospitals can go through each donor's profile to check their information like the number of times the donor's donated blood. Scheduling will be a lot easier because time and place where the donation is taking place will be explicitly shown to the users and they can just simply view and schedule. At any time they can cancel it too. Another feature is that the user can search the blood donation centers on their own and schedule instead of waiting for the requests.

2.2 EXTERNAL INPUTS & OUTPUTS

To get started with Donors, general users have to create an account which contains basic information like name, age, address, phone number etc, and health related questions like type of blood, blood pressure level, cholesterol level, allergies, etc. This information is stored in the database for further uses in the application. On the other hand, hospitals act as an admin and they must also register in the system to use the application. From the hospital's perspective, they will check the profile of any individual, and send a request for a blood donation. On the receiving end, the user gets the notification from the system, checks it and looks for the blood donation centers where they will schedule the time. After the donation is over, their record is updated and hospitals can check them later if needed.

2.3 PRODUCT INTERFACES

Donors provides a login page at the beginning where either users or hospitals can log in. Users will see a notification tab, a map tab where they can find the locations of blood donation centers, search tab, account(profile) tab, schedule tab, and home tab. Hospitals will have a profile tab where different users information will be available, a blood request tab, and donation events tab. No screenshot available right now.

3 CUSTOMER REQUIREMENTS

Here are some of the requirements that the users of Donors must fulfill in order to get a full satisfaction of the application.

3.1 ACCOUNT REGISTRATION

3.1.1 DESCRIPTION

Whenever a user wants to use our application, he/she must register the account where some basic and health related questionnaires are asked, only then they are able to log in to the system.

3.1.2 SOURCE

Customer

3.1.3 CONSTRAINTS

This depends solely on the database. There might be trouble loading the information the database due to network problem or the database could suddenly stop working due to network errors

3.1.4 STANDARDS

N/A

3.1.5 PRIORITY

Medium, because network error and database error does not remain forever.

3.2 LOGIN

3.2.1 DESCRIPTION

After registering, users shall be able to log in to the system by entering their credentials like user-name/password/email/ phone number etc.

3.2.2 SOURCE

Customer

3.2.3 CONSTRAINTS

If a database containing the user's information malfunctions due to network error, users cannot log in to the system.

3.2.4 STANDARDS

N/A

3.2.5 PRIORITY

Medium, because the network and database malfunction does not remain forever.

3.3 SEND REQUEST

3.3.1 DESCRIPTION

Hospitals must be able to send blood donation requests to its users.

3.3.2 SOURCE

Hospital

3.3.3 CONSTRAINTS

N/A

3.3.4 STANDARDS

N/A

3.3.5 PRIORITY

High

3.4 NOTIFICATION

3.4.1 DESCRIPTION

Each time any hospital sends a request for blood donation to the users, the user must receive the notifications in their application.

3.4.2 SOURCE

Customer

3.4.3 CONSTRAINTS

N/A

3.4.4 STANDARDS

N/A

3.4.5 PRIORITY

Medium

3.5 REQUEST LOCATION

3.5.1 DESCRIPTION

After getting a request, donors must be able to look upon the blood donation centers and confirm a fixed schedule based on time and location they prefer.

3.5.2 SOURCE

Customer

3.5.3 CONSTRAINTS

Some donation centers can be very far from the users reach so they will have to wait for other locations to be available.

3.5.4 STANDARDS

N/A

3.5.5 PRIORITY

High

3.6 SEARCH LOCATION

3.6.1 DESCRIPTION

Donors must be able to search for the blood donation centers by themselves as well.

3.6.2 SOURCE

Customer

3.6.3 CONSTRAINTS

Some donation centers can be very far from the users reach so they will have to wait for other locations to be available.

3.6.4 STANDARDS

N/A

3.6.5 PRIORITY

Medium

3.7 SEPARATE USER INTERFACE

3.7.1 DESCRIPTION

Depending on the user login (hospital/blood bank or user), a separate interface should be provided. Hospital/Blood bank users must be able to view the donor's profile in order to send the donation request.

3.7.2 SOURCE

Hospital

3.7.3 CONSTRAINTS

N/A

3.7.4 STANDARDS

N/A

3.7.5 PRIORITY

Medium

3.8 DELETE PROFILE

3.8.1 DESCRIPTION

Users must be able to delete their profile whenever they want to.

3.8.2 SOURCE

Customer

3.8.3 CONSTRAINTS

N/A

3.8.4 STANDARDS

N/A

3.8.5 PRIORITY

Medium

3.9 UPDATE PROFILE

3.9.1 DESCRIPTION

After the user donates his/her blood, the profile will be updated. For example the statistics on the number of blood donations increases by 1. The users should be able to change their account information.

3.9.2 SOURCE

System

3.9.3 CONSTRAINTS

N/A

3.9.4 STANDARDS

N/A

3.9.5 PRIORITY

High

3.10 LOG OUT

3.10.1 DESCRIPTION

After using the application, the user must be able to log out of the system if he/she wishes to.

3.10.2 SOURCE

Customer

3.10.3 CONSTRAINTS

N/A

3.10.4 STANDARDS

N/A

3.10.5 PRIORITY

Medium

3.11 LOCATION ACCESS PERMISSION

3.11.1 DESCRIPTION

The system uses map services so the users must accept the permission to access their location when using the application.

3.11.2 SOURCE

Customer

3.11.3 CONSTRAINTS

Network or map error

3.11.4 STANDARDS

N/A

3.11.5 PRIORITY

Medium

3.12 SCHEDULE AND MODIFY APPOINTMENT

3.12.1 DESCRIPTION

The system must allow the user to schedule an appointment to donate blood. They should also be able to cancel the appointment or schedule it for a different date.

3.12.2 SOURCE

Customer

3.12.3 CONSTRAINTS

N/A

3.12.4 STANDARDS

N/A

3.12.5 PRIORITY

High

4 PACKAGING REQUIREMENTS

Donors is a completely online based application. There is no involvement of any hardwares at all.

4.1 SOFTWARE DISTRIBUTION - ONLINE PLATFORM

4.1.1 DESCRIPTION

The final delivery of our application will be on the google play store. The users should be able to download it from there.

4.1.2 SOURCE

Play store

4.1.3 CONSTRAINTS

The users who want to use our application in their personal computers or laptops will not be able to use it.

4.1.4 STANDARDS

N/A

4.1.5 PRIORITY

High

5 PERFORMANCE REQUIREMENTS

Since Donors is an online based android application, which is mostly used on smartphones, it is super fast and responsive.

5.1 FAST AND RELIABLE

5.1.1 DESCRIPTION

The application will be very easy to use since it can also be used by those people who are not forward to using smartphones. Also, the permanence of the application should be such that it does not take a long time to load a page, to input data, to show results, maps etc.

5.1.2 SOURCE

Depends on the front end of the application.

5.1.3 CONSTRAINTS

There will always be the possibility that some users will find it difficult to use the application.

5.1.4 STANDARDS

N/A

5.1.5 PRIORITY

High

6 SAFETY REQUIREMENTS

This is an online application which is accessible virtually for which we do not need any physical safety. Since it is an online application, the user has to input their personal information. All the user's information is saved on it so the data of the user should be kept confidential.

6.1 DATA PRIVACY

6.1.1 DESCRIPTION

There should not be any data leakage that is given to the system by the user. All the information provided by the user must be kept secure.

6.1.2 SOURCE

N/A

6.1.3 CONSTRAINTS

N/A

6.1.4 STANDARDS

N/A

6.1.5 PRIORITY

High

7 MAINTENANCE & SUPPORT REQUIREMENTS

Maintenance of the products are carried out online which includes updating, modifying and re-assessing. All the details will be provided online with steps.

7.1 SUPPORT SYSTEM

7.1.1 DESCRIPTION

Assistance such as debugging, installation, troubleshooting of the products needs to be done to keep the product well maintained which will support the overall system.

7.1.2 SOURCE

Customer

7.1.3 CONSTRAINTS

N/A

7.1.4 STANDARDS

N/A

7.1.5 PRIORITY

Medium

8 OTHER REQUIREMENTS

The application being developed will be completely android based. Any android devices with android version 4.0 and above will support the application. The application could be developed to support iOS devices if required.

8.0.1 DESCRIPTION

Application will be available in google play store and can be installed in android devices.

8.0.2 SOURCE

Team members

8.0.3 CONSTRAINTS

Lower versions of android with insufficient RAM may not support the application.

8.0.4 STANDARDS

N/A

8.0.5 PRIORITY

Medium

9 FUTURE ITEMS

This section lists all the requirements with high priority levels.

9.1 SEND REQUEST

9.1.1 DESCRIPTION

Hospitals must be able to send blood donation requests to its users.

9.1.2 SOURCE

Hospital

9.1.3 CONSTRAINTS

N/A

9.1.4 STANDARDS

N/A

9.1.5 PRIORITY

High

9.2 REQUEST LOCATION

9.2.1 DESCRIPTION

After getting a request, donors must be able to look upon the blood donation centers and confirm a fixed schedule based on time and location they prefer.

9.2.2 SOURCE

Customer

9.2.3 CONSTRAINTS

Some donation centers can be very far from the users reach so they will have to wait for other locations to be available.

9.2.4 STANDARDS

N/A

9.2.5 PRIORITY

High

9.3 SCHEDULE AND MODIFY APPOINTMENT

9.3.1 DESCRIPTION

The system must allow the user to schedule an appointment to donate blood. They should also be able to cancel the appointment or schedule it for a different date.

9.3.2 SOURCE

Customer

9.3.3 CONSTRAINTS

N/A

9.3.4 STANDARDS

N/A

9.3.5 PRIORITY

High

REFERENCES