**Functional requirements:**

* A user can register as a regular citizen, a doctor or a pharmacist
* Every citizen has a medical history on the system. The medical history is a collection of entries, each entry should contain patient symptoms, diseases, prescription, doctor remarks, doctor name, the name of the medical organization and the date
* While adding a disease to the medical history of the patient, the doctor can mark it as a genetic disease
* While writing the prescription, the system suggests alternative medicines to the doctor. The doctor prescribes any medicines he wants and chooses which of the suggested alternatives are acceptable
* Doctor can export his prescription to a PDF file
* Doctor prescriptions are visible to the patient and all pharmacists. The pharmacist should see all medicine alternatives *that where accepted by the doctor*
* A doctor can add an attachment as an entry in the medical history of the patient, for example, he can attach the result of a medical analysis, X-ray image, … etc.
* Doctors are able to create a profile for the following medical organizations:
* Hospital
* Clinic
* Radiation center
* Medical analysis laboratory

Also, pharmacists can create a pharmacy profile

* Medical organization profile contains its name, description, photo, contacts, location and provided services
* Every medical organization can edit services (e.g. X-ray, eye clinic) or care units (e.g. incubators, ICUs) they provide. They can update the number of available rooms in every care unit
* After a doctor adds a new entry in the medical history of a user, the system asks the user to give a feedback to the service. According to that feedback, the system updates the rate for that service
* Every user can search for other user accounts. Also, a user can mark another user as friend, parent or sibling
* Every user can search for medical organizations and sort the results by any combination of the following:
* Distance
* Cost
* Popularity
* Rating
* A citizen can send an SOS signal which is automatically delivered to the *nearest* hospitals according to the location of the citizen. The SOS also is sent to his siblings, parents and friends. The citizen can optionally add a description of the emergency situation
* The system provides a prognosis service. It warns the citizen from diseases that he might catch depending on the medical history of him and his family, and considering his demographic location
* Medical organizations are able to publish advertisements on the system. The higher the rating of the medical organization, the greater the priority given for its advertisements to appear
* A citizen can search for a medicine/ injection in surrounding pharmacies
* The system should send notification in the following cases:

|  |  |
| --- | --- |
| **Notification trigger** | **Receivers** |
| A new attachment is added to a medical history | The medical history owner (citizen) |
| Citizen A marks citizen B as friend, parent or sibling | Citizen B |
| A *genetic* disease is added in the medical history of some citizen | Citizen’s family |
| A specialist requests membership in a medical service, care unit or a pharmacy | Medical organization admins |
| A membership request is confirmed | The specialist who made the request |
| A specialist requests a care unit (e.g. Incubator, ICU) for his patient | The staff working in the care unit |
| A care request is confirmed | The specialist who requested the care unit |
| Some citizen sends an SOS | Friends, family and the nearest hospitals |
| Some hospital responds to an SOS | The SOS sender, his family and his friends |
| A specialist has added a medical organization to the system | System admin |
| System admin approves a medical organization | The specialist who added the organization |

**Non-functional requirements:**

**Usability:**

* The number of clicks doesn’t exceed 6 clicks to perform any task on the website
* No need to help manuals or instructions. The interface is easy to learn, and it is easy to remember how to use some feature (due to interface simplicity)
* *When possible*, users do not type anything but they just click buttons or choose from checkboxes and radio-buttons

**Reliability:**

* The system validates the family tree and prevents illogical relationships between users. For example, a user *cannot* mark the parent of his sibling as sibling!
* The system asks care unit owners to update number of available rooms every 2 hours to keep track of it with minimum possible error
* System provides auto-complete feature to the user while typing an input (when possible). This minimizes problems that can be caused by typo-errors

**Performance:**

The website takes less than 5 seconds to load any page

**Supportability:**

When an error occurs within the system, the user can contact the support. The support responds within 24 hours

**Scalability:**

10,000 users can interact with website simultaneously without affecting its stability

**Security:**

* No one can access the system without username and password
* In case of IQR loss, user can re-generate a new one using his password
* Citizen can recover his username and password using his phone number
* No citizen can access the medical history of another citizen unless he is a doctor. Even doctors need patient’s IQR Code to access his medical history *for the first time only*
* Doctor cannot join a medical organization without a confirmation from its admin
* Only admin(s) of a medical group have the authority to add doctors, add services, stop services and edit schedules for that group
* Only the creator of a medical group can remove admins from that medical group
* No citizen can request care unit unless he is a doctor

**Cost:**

Website is available for free, but advertising on the website may not be for free