**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
* Every citizen is provided with an IQR code, and the IQR code can be used by specialists to access his medical history
* While adding a disease to the medical history of a 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
* A doctor can export his prescription to a printable 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
* Pharmacy

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 or denied* | 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 or denied* | 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 citizen creates an account | System admin |
| A specialist adds a medical organization to the system | System admin |
| System admin *approves or denies* 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
* *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 cannotmark the parent of his sibling as a sibling!
* The system reminds care unit owners of updating the number of available rooms to keep track of it with minimum possible error. The reminder rate is controllable
* ***When possible***, the system provides auto-complete feature to the user while entering a textual input. This minimizes problems that can be caused by typo-errors

**Performance:**

The website takes no more 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:**

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

**Security:**

* No one can access the system without providing his username and password. However, guest users can only contact support
* A Specialist cannot see the medical history of a patient ***for the first time*** without using the patient’s IQR code
* A user can only recover his account with his phone number
* A specialist cannot join a medical organization on the system without a confirmation from one of its administrators
* Only the administrators of a medical organization can add specialists, add services, stop services or edit schedules for that organization
* Only the owner of a medical organization can remove administrators from it

**Cost:**

“Care Point” is available for free, but the only feature that can chargeable is adding advertisements for medical services