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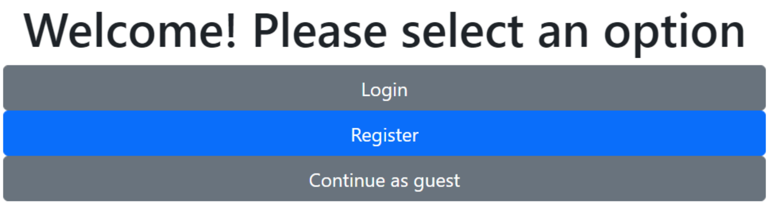
Project Name: Personalized Health

Course Name & Code: Web Programming (CS359)

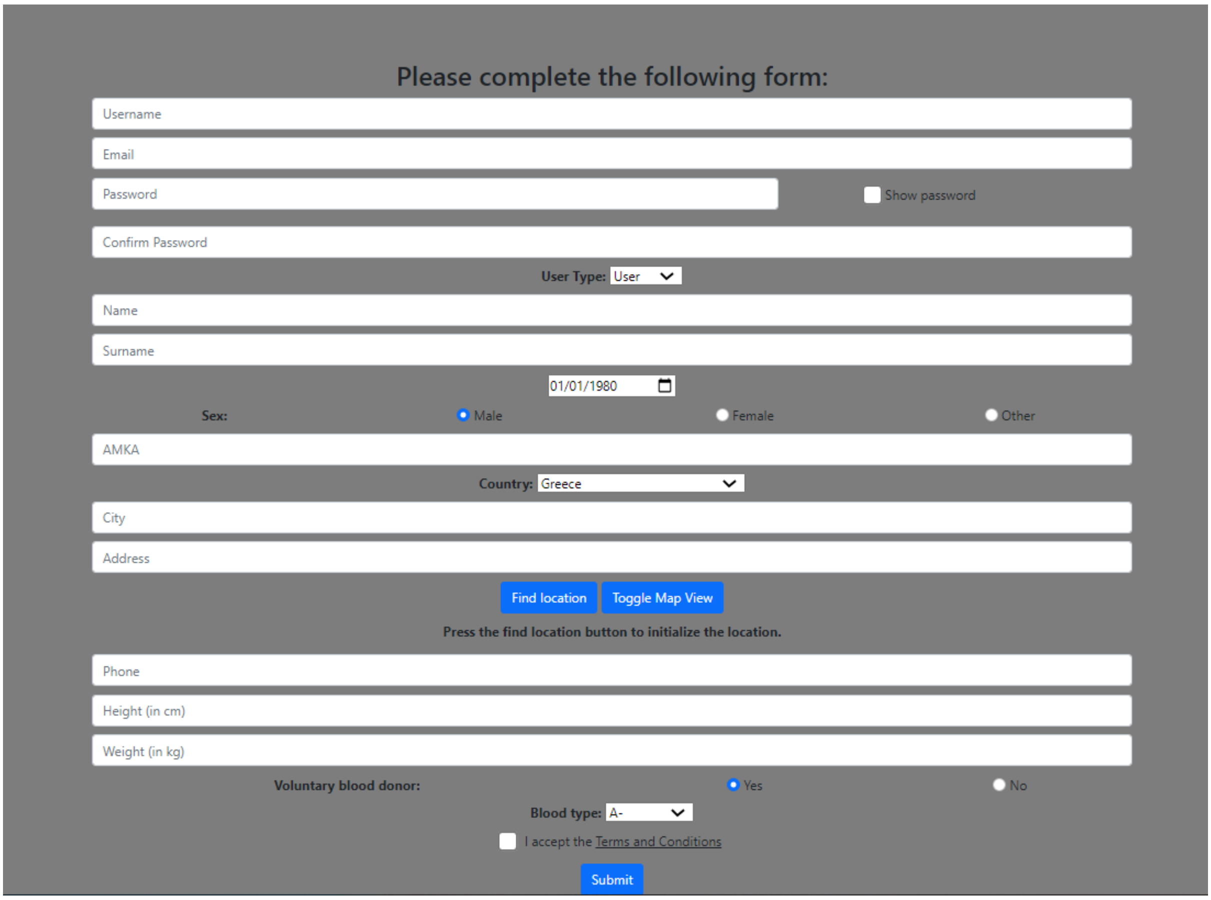
1. **System screens:**

   Home menu (user picks to register, login or continue as a guest)



Welcome! Please select an option

Register page



Please complete the following form:

Username

Email

Password ☐ Show password

Confirm Password

User Type: User

Name

Surname

01/01/1980

Sex: ● Male ○ Female ○ Other

AMKA

Country: Greece

City

Address

Press the find location button to initialize the location.

Phone

Height (in cm)

Weight (in kg)

Voluntary blood donor: ● Yes ○ No

Blood type: A-

☐ I accept the Terms and Conditions

Login page

Please Login:

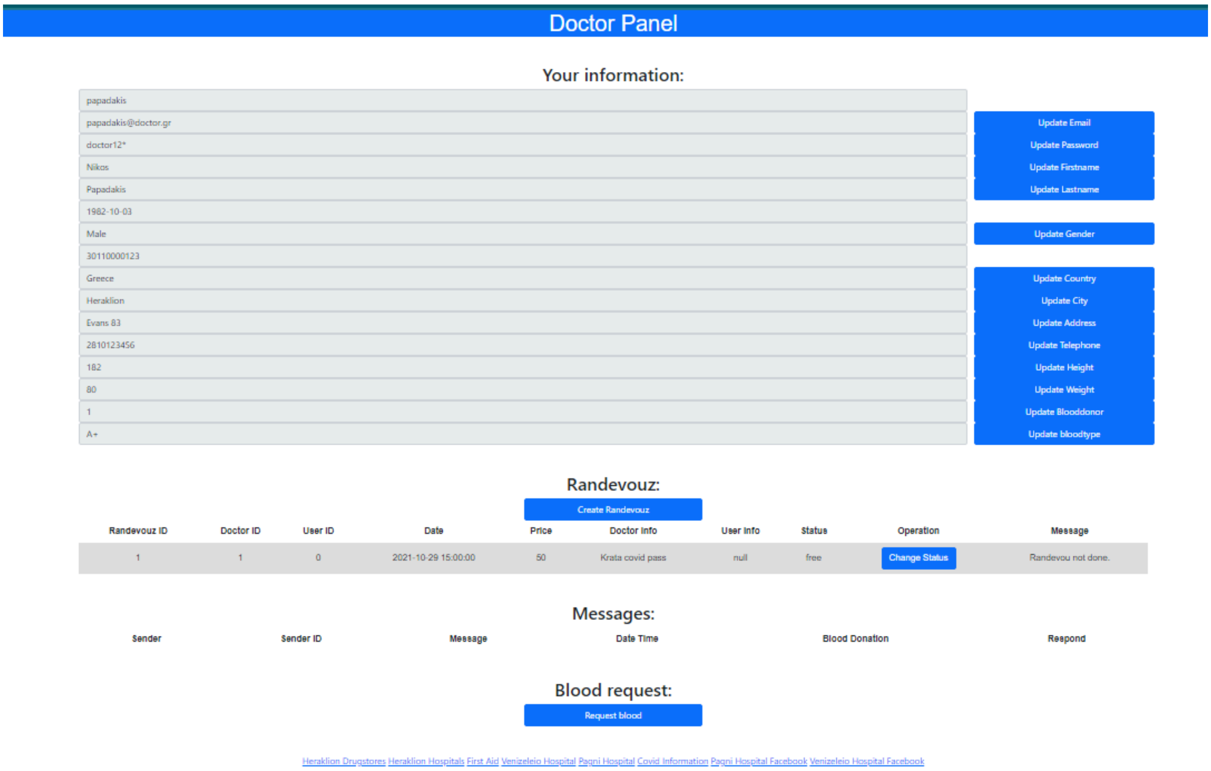
Username:

Password:

● User
○ Doctor
○ Admin

Login

Doctor Panel



Your information:

papadakis

papadakis@doctor.gr

doctor12*

Nikos

Papadakis

1982-10-03

Male

30110000123

Greece

Heraklion

Evans 83

2810123456

182

80

1

A+

Randevouz:

Randevouz ID	Doctor ID	User ID	Date	Price	Doctor Info	User Info	Status	Operation	Message
1	1	0	2021-10-29 15:00:00	50	Krata covid pass	null	free	Change Status	Randevou not done.

Messages:

Sender	Sender ID	Message	Date Time	Blood Donation	Respond

Blood request:

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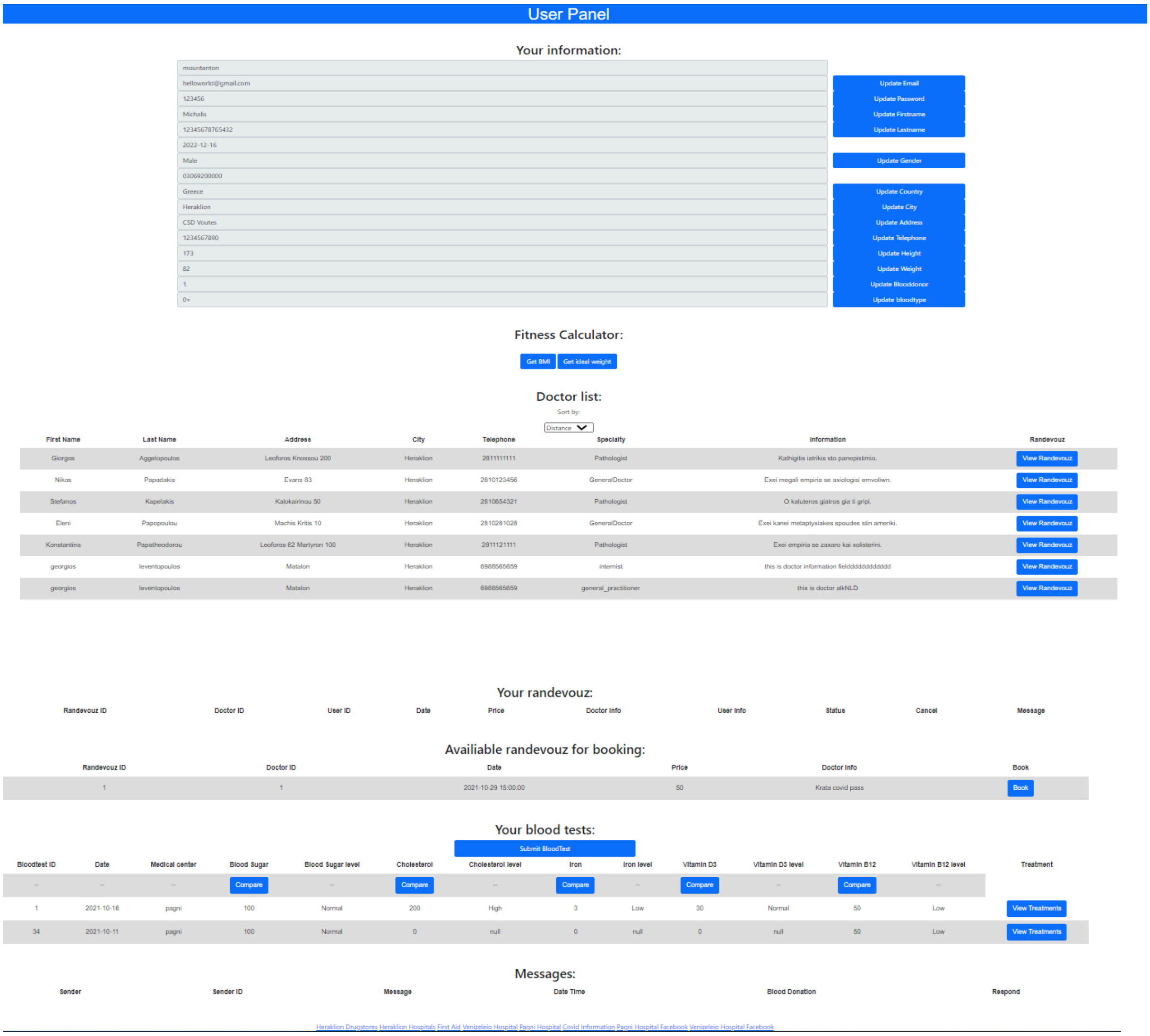
User Panel



User Panel

Your information:

mountanton	
helloworld@gmail.com	Update Email
123456	Update Password
Michalis	Update Firstname
12345678765432	Update Lastname
2022-12-16	
Male	Update Gender
03069200000	
Greece	Update Country
Heraklion	Update City
CSD Voutes	Update Address
1234567890	Update Telephone
173	Update Height
82	Update Weight
1	Update Blooddonor
0+	Update bloodtype

Fitness Calculator:

Get BMI Get ideal weight

Doctor list:

Sort by: Distance

First Name	Last Name	Address	City	Telephone	Specialty	Information	Randevouz
Giorgos	Aggelopoulos	Leoforos Knossou 200	Heraklion	2811111111	Pathologist	Kathigitis iatrikis sto panepistimio.	View Randevouz
Nikos	Papadakis	Evans 83	Heraklion	2810123456	GeneralDoctor	Exei megali empiria se axiologisi emvoliwn.	View Randevouz
Stefanos	Kapelakis	Kalokairinou 50	Heraklion	2810654321	Pathologist	O kaluteros giatros gia ti gripi.	View Randevouz
Eleni	Papopoulou	Machis Kritis 10	Heraklion	2810281028	GeneralDoctor	Exei kanei metaptyxiakes spoudes stin ameriki.	View Randevouz
Konstantina	Papatheodorou	Leoforos 62 Martyron 100	Heraklion	2811121111	Pathologist	Exei empiria se zaxaro kai xolisterini.	View Randevouz
georgios	leventopoulos	Matalon	Heraklion	6988565659	internist	this is doctor information fieldddddddddddd	View Randevouz
georgios	leventopoulos	Matalon	Heraklion	6988565659	general_practitioner	this is doctor alkNLD	View Randevouz

Your randevouz:

Randevouz ID	Doctor ID	User ID	Date	Price	Doctor Info	User Info	Status	Cancel	Message

Availiable randevouz for booking:

Randevouz ID	Doctor ID	Date	Price	Doctor Info	Book
1	1	2021-10-29 15:00:00	50	Krata covid pass	Book

Your blood tests:

Submit BloodTest

Bloodtest ID	Date	Medical center	Blood Sugar	Blood Sugar level	Cholesterol	Cholesterol level	Iron	Iron level	Vitamin D3	Vitamin D3 level	Vitamin B12	Vitamin B12 level	Treatment
--	--	--	Compare	--	Compare	--	Compare	--	Compare	--	Compare	--	
1	2021-10-16	pagni	100	Normal	200	High	3	Low	30	Normal	50	Low	View Treatments
34	2021-10-11	pagni	100	Normal	0	null	0	null	0	null	50	Low	View Treatments

Messages:

Sender	Sender ID	Message	Date Time	Blood Donation	Respond

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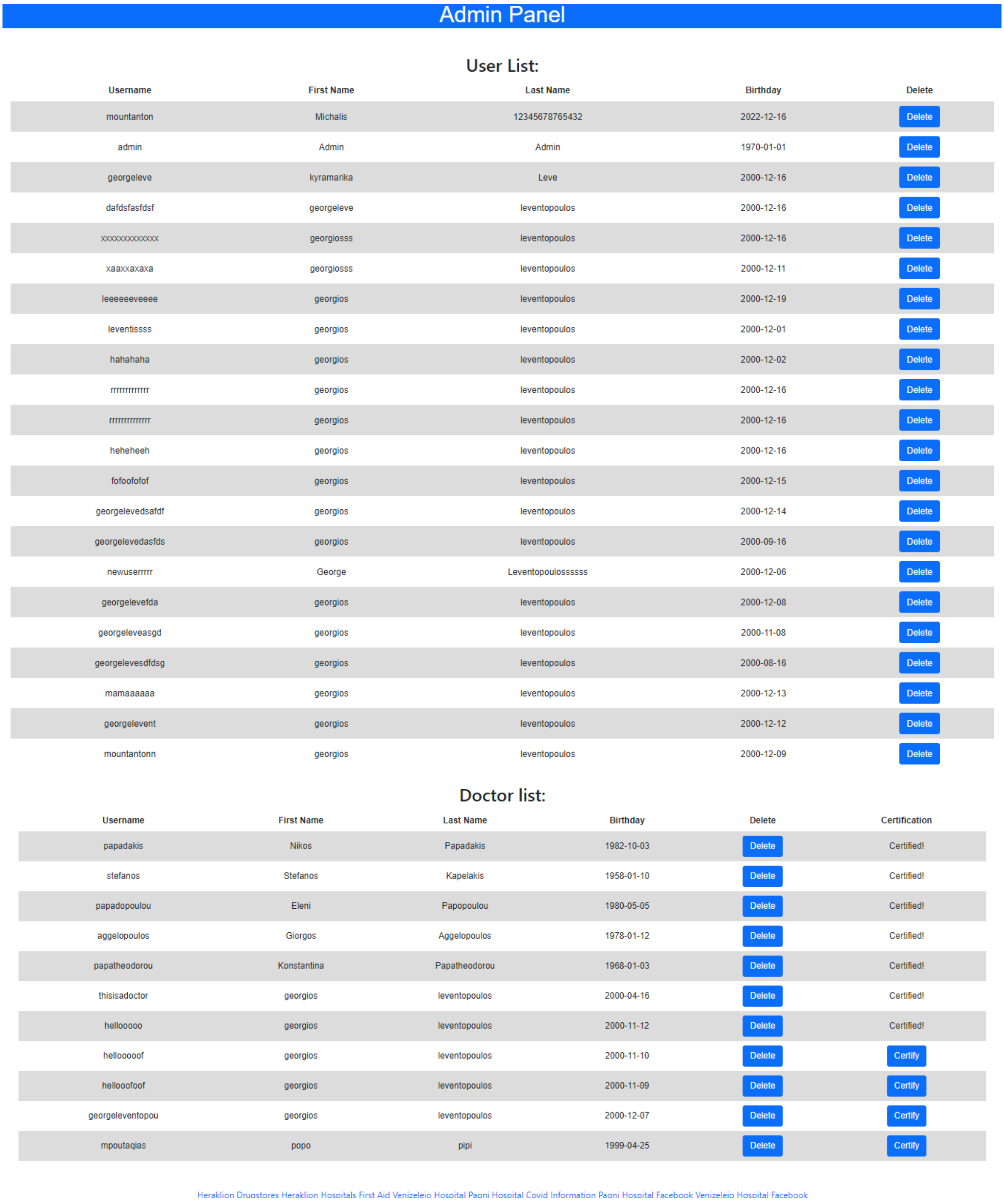
Admin Panel



Admin Panel

User List:

Username	First Name	Last Name	Birthday	Delete
mountanton	Michalis	12345678765432	2022-12-16	Delete
admin	Admin	Admin	1970-01-01	Delete
georgeleve	kyramarika	Leve	2000-12-16	Delete
dafdsfasfdsf	georgeleve	leventopoulos	2000-12-16	Delete
xxxxxxxxxxxxx	georgiosss	leventopoulos	2000-12-16	Delete
xaaxxaxaxa	georgiosss	leventopoulos	2000-12-11	Delete
leeeeeeveeee	georgios	leventopoulos	2000-12-19	Delete
leventissss	georgios	leventopoulos	2000-12-01	Delete
hahahaha	georgios	leventopoulos	2000-12-02	Delete
rrrrrrrrrrrr	georgios	leventopoulos	2000-12-16	Delete
rrrrrrrrrrrrr	georgios	leventopoulos	2000-12-16	Delete
heheheeh	georgios	leventopoulos	2000-12-16	Delete
fofoofofof	georgios	leventopoulos	2000-12-15	Delete
georgelevedsafdf	georgios	leventopoulos	2000-12-14	Delete
georgelevedasfds	georgios	leventopoulos	2000-09-16	Delete
newuserrrrr	George	Leventopoulossssss	2000-12-06	Delete
georgelevefda	georgios	leventopoulos	2000-12-08	Delete
georgeleveasgd	georgios	leventopoulos	2000-11-08	Delete
georgelevesdfdsg	georgios	leventopoulos	2000-08-16	Delete
mamaaaaaa	georgios	leventopoulos	2000-12-13	Delete
georgelevent	georgios	leventopoulos	2000-12-12	Delete
mountantonn	georgios	leventopoulos	2000-12-09	Delete

Doctor list:

Username	First Name	Last Name	Birthday	Delete	Certification
papadakis	Nikos	Papadakis	1982-10-03	Delete	Certified!
stefanos	Stefanos	Kapelakis	1958-01-10	Delete	Certified!
papadopoulou	Eleni	Papopoulou	1980-05-05	Delete	Certified!
aggelopoulos	Giorgos	Aggelopoulos	1978-01-12	Delete	Certified!
papatheodorou	Konstantina	Papatheodorou	1968-01-03	Delete	Certified!
thisisadoctor	georgios	leventopoulos	2000-04-16	Delete	Certified!
hellooooo	georgios	leventopoulos	2000-11-12	Delete	Certified!
hellooooof	georgios	leventopoulos	2000-11-10	Delete	Certify
hellooofoof	georgios	leventopoulos	2000-11-09	Delete	Certify
georgeleventopou	georgios	leventopoulos	2000-12-07	Delete	Certify
mpoutaqias	popo	pipi	1999-04-25	Delete	Certify

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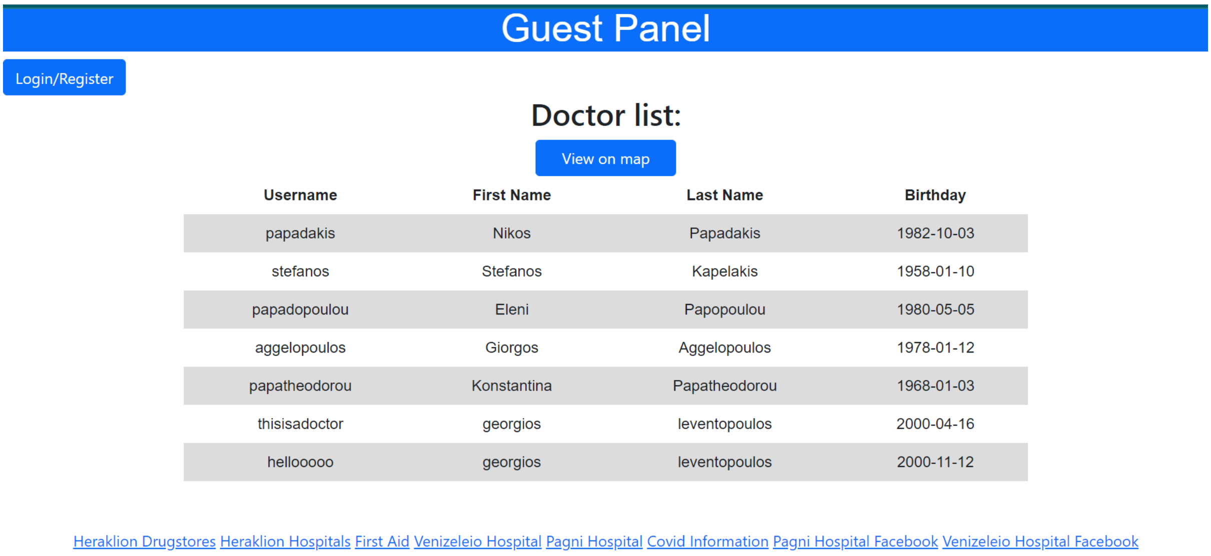
Guest Panel



Guest Panel

Doctor list:

Username	First Name	Last Name	Birthday
papadakis	Nikos	Papadakis	1982-10-03
stefanos	Stefanos	Kapelakis	1958-01-10
papadopoulou	Eleni	Papopoulou	1980-05-05
aggelopoulos	Giorgos	Aggelopoulos	1978-01-12
papatheodorou	Konstantina	Papatheodorou	1968-01-03
thisisadoctor	georgios	leventopoulos	2000-04-16
hellooooo	georgios	leventopoulos	2000-11-12

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2. Classes and Methods that we used:

● API Package:

Classes:

AdminApi.java

Methods:

```
/*
 *      A       /admin/delete/doctor/{doc_id}
 *      B       /admin/delete/user/{user_id}
 *      C       /admin/certify/{doc_id}
 */
```

BloodTestApi.java

Methods:

```
/*
 *      A       /bloodtest/newBloodTest
 *      B       /bloodtest/bloodTests/{AMKA}
 *      C       /bloodtest/bloodTestMeasure/{AMKA}/{Measure}
 *      D       /bloodtest/bloodTest/{bloodTestID}/{measure}/{value}
 *      E       /bloodtest/bloodTestDeletion/{bloodTestID}
 */
```

GenericApi.java

Methods:

```
/*
 *      A       /generic/users
 *      B       /generic/doctors
 *      C       /generic/user/getIdFromUsername/{user_username}
 *      D   /generic/user/getAmkaFromUsername/{user_username}
 *      E       /generic/user/getAmkaFromUserID/{user_ID}
 *      F       /generic/doctor/getIdFromUsername/{doc_username}
 *
 */
```

MessagesAPI.java

Methods:

```
/*
 *      A       /generic/users
 *      B       /generic/doctors
 *      C       /generic/user/getIdFromUsername/{user_username}
 *      D    /generic/user/getAmkaFromUsername/{user_username}
 *      E       /generic/user/getAmkaFromUserID/{user_ID}
 *      F       /generic/doctor/getIdFromUsername/{doc_username}
 *
 */
```

-RandevouzApi.java

Methods:

```
        /*
         *      A       /randevouz/create
         *      B       /randevouz/doctor/dailyRandevouz/{doc_id}/{date}
         *      C       /randevouz/doctor/allRandevouz/{doc_id}
         *      D       /randevouz/user/allRandevouz/{user_id}
         *      E       /randevouz/updateStatus/cancel/{randevouz_id}
         *      F       /randevouz/updateStatus/done/{randevouz_id}
         *      G
/randevouz/updateStatus/selected/{randevouz_id}/{user_id}/{user_info}
         *      H       /randevouz/getFree
         */
```

-Registry.java

Methods:

getClasses()
getSingletons()
addRestResourceClasses(Set<Class<?>>)

-TreatmentApi.java

Methods:

```
/*
 *        A  /treatments/newTreament/
 *        B  /treatments/getTreatments/{bloodtest_id}/
 */
```

- **database package:**

Classes:

-DB_Connection.java

Methods:

getConnection()
getInitialConnection()
printResults(ResultSet)
getResultsToJSON(ResultSet)
userExists(String, String, String)

-EditBloodTestTable.java

Methods:

deleteDoctor(int)
deleteUser(int)
certifyDoctor(int)
bloodTestExists(int)
amkaExists(String)
addBloodTestFromJSON(String)
jsonToBloodTest(String)
bloodTestToJSON(BloodTest)
databaseToBloodTestRange(String, String, String)
databaseToBloodTest(String, String)
updateBloodTestBloodSugar(int, double)
updateBloodTestIron(int, double)
updateBloodTestB12(int, double)
updateBloodTestD3(int, double)
updateBloodTestCholesterol(int, double)
deleteBloodTest(int)
createBloodTestTable()
createNewBloodTest(BloodTest)

-EditDoctorTable.java

Methods:

getAllDoctors()
updateDoctorValue(String, String, String)
updateDoctorValue(String, String, int)
updateDoctor(String, int)
printDoctorDetails(String, String)
databaseToDoctor(String, String)
databaseToCertifiedDoctors()
databaseToJSON(String, String)
createDoctorTable()
addNewDoctor(Doctor)
doctorExists(String, String)
getIdFromUsername(String)
isCertified(String)
usernameExists(String)
emailExists(String)
amkaExists(String)

-EditRandevouzTable.java

Methods:

getRandevouzOfUser(int)
getFreeRandevouz()
getDailyRandevouzOfDoctor(int, String)
getRandevouzOfDoctor(int)
loadRandevouByID(int)
updateRandevouzStatus(int, String)
updateRandevouzStatus(int, int, String, String)
randevouzToJSON(Randevouz)
updateRandevouz(int, int, String, String)
deleteRandevouz(int)
createRandevouzTable()
addRandevouzFromJSON(String)
createNewRandevouz(Randevouz)

-EditSimpleUser.java

Methods:

getAllUsers()
updateSimpleUserValue(String, String, String)
updateSimpleUserValue(String, String, int)
printSimpleUserDetails(String, String)
databaseToSimpleUser(String)
databaseUserToJSON(String, String)
createSimpleUserTable()
addNewSimpleUser(SimpleUser)
getIdFromUsername(String)
getAmkaFromUsername(String)
getAmkaFromUserID(int)
userExists(String, String)

usernameExists(String)
emailExists(String)
amkaExists(String)

-EditMessageTable.java

Methods:

getRandevouzOfUser(int)
getFreeRandevouz()
getDailyRandevouzOfDoctor(int, String)
getRandevouzOfDoctor(int)
loadRandevouByID(int)
updateRandevouzStatus(int, String)
updateRandevouzStatus(int, int, String, String)
randevouzToJSON(Randevouz)
updateRandevouz(int, int, String, String)
deleteRandevouz(int)
createRandevouzTable()
addRandevouzFromJSON(String)
createNewRandevouz(Randevouz)

-EditTreatmentTable.java

Methods:

findTreatmentsFromBloodtestId(int)
addTreatmentFromJSON(String)
treatmentToJSON(Treatment)
databaseToTreatment(int)
createTreatmentTable()
createNewTreatment(Treatment)

- **models package:**

Classes:

-BloodTest.java

Methods:

getBloodtest_id()
setBloodtest_id(int)
getVitamin_d3()
setVitamin_d3(double)
getVitamin_b12()
setVitamin_b12(double)
setValues()
getCholesterol()
setCholesterol(double)
getBlood_sugar()

setBlood_sugar(double)
getIron()
setIron(double)
getVitamin_d3_level()
setVitamin_d3_level()
getVitamin_b12_level()
setVitamin_b12_level()
getCholesterol_level()
setCholesterol_level()
getBlood_sugar_level()
setBlood_sugar_level()
getIron_level()
setIron_level()
getAmka()
setAmka(String)
getTest_date()
setTest_date(String)
getMedical_center()
setMedical_center(String)

-Doctor.java

Methods:

getDoctor_id()
setDoctor_id(int)
getDoctor_info()
setDoctor_info(String)
getCertified()
setCertified(int)
getSpecialty()
setSpecialty(String)

-JSON_Conventer.java

Methods:

getJSONFromAjax(BufferedReader)
jsonToUser(String)
jsonToUser(BufferedReader)
jsonToDoc(String)
jsonToDoc(BufferedReader)

-Message.java

Methods:

getReceiver()
setReceiver(String)
getSeen()
setSeen(int)
getBloodtype()

setBloodtype(String)
getMessage_id()
setMessage_id(int)
getBlood_donation()
setBlood_donation(int)
getDoctor_id()
setDoctor_id(int)
getUser_id()
setUser_id(int)
getDate_time()
setDate_time(String)
getMessage()
setMessage(String)
getSender()
setSender(String)

-Rendevous.java

Methods:

getRandevouz_id(),setRandevouz_id(int)
getDoctor_id(), setDoctor_id(int), getUser_id(),setUser_id(int),getPrice(), setPrice(int),getDate_time(),setDate_time(String), getDoctor_info(),setDoctor_info(String), getUser_info(),setUser_info(String), getStatus(), setStatus(String),

-SimpleUser.java

Methods:

getUser_id(), setUser_id(int)

-Treatment.java

Methods:

getTreatment_id()
setTreatment_id(int)
getTreatment_text()
setTreatment_text(String)
getDoctor_id()
setDoctor_id(int)
getUser_id()
setUser_id(int)
getStart_date()
setStart_date(String)
getEnd_date()
setEnd_date(String)
getBloodtest_id()
setBloodtest_id(int)

-User.java

Methods:

getAddress()
setAddress(String)
getFirstname()
setFirstname(String)
getLastname()
setLastname(String)
getTelephone()
setTelephone(String)
getUsername()
setUsername(String)
getEmail()
setEmail(String)
getPassword()
setPassword(String)
getBirthdate()
setBirthdate(String)
getCountry()
setCountry(String)
getCity()
setCity(String)
getLat()
setLat(Double)
getLon()
setLon(Double)
getHeight()
setHeight(int)
getWeight()
setWeight(double)
isBloodDonor()
getAmka()
setAmka(String)
getBlooddonor()
setBlooddonor(int)
setBloodDonor(int)
getGender()
setGender(String)
getBloodtype()
setBloodtype(String)
toString()

- **servlets package:**

Classes:

-Login.java

Methods:

Login()
doGet(HttpServletRequest, HttpServletResponse)

doPost(HttpServletRequest, HttpServletResponse)
adminLogin(String, String, HttpSession, HttpServletResponse)
userLogin(String, String, HttpSession, HttpServletResponse)
doctorLogin(String, String, HttpSession, HttpServletResponse)
setBloodtype(String)
toString()

-Logout.java

Methods:

Logout()
doPost(HttpServletRequest, HttpServletResponse)

-Register.java

Methods:

Logout()
doPost(HttpServletRequest, HttpServletResponse)

-AdminManagment.java

Methods:

AdminManagement()
doPost(HttpServletRequest, HttpServletResponse)
doPut(HttpServletRequest, HttpServletResponse)

-UserManagment.java

Methods:

DoctorManagement()
doPost(HttpServletRequest, HttpServletResponse)
doPut(HttpServletRequest, HttpServletResponse)

-DoctorManagment.java

Methods:

DoctorManagement()
doPost(HttpServletRequest, HttpServletResponse)
doPut(HttpServletRequest, HttpServletResponse)

In JavaScript:

login.js:

Methods:

loginPOST()

registerJS.js:

Methods:

togglePasswordVisibility, validatePassword, displayMissmatch, displaySecurity, pwSecurity, docUpdate, validateAmkaDate, insertAfter,findLocationPress, toggleMapViewPress, setPosition, errorAlert, registerPOST

utils.js:

Methods:

errorAlert, askInput, requestEmpty, requestJson, getSession, getUserIdFromUsername, getDoctorIdFromUsername, getAmkaFromUsername, getAmkaFromUserID, logoutPOST, requestEmpty, submitMessage, messageUserToDoctor, messageDoctorToUser, messageSystemToDoctor, messageSystemToUser, setMessageAsRead, findCarDistanceAndDuration, getCordsFromUserUsername

adminManagment.js

Methods:

loadData, loadUserInfo,loadDocInfo, insertCertifyButton, insertRowCell, insertDelButton

doctorManagment.js

Methods: loadData, loadPersonalInfo, update

guestManagment.js

Methods:

loadData,loadDocInfo, insertRowCell,viewDoctorsOnMap,toggleMapViewPress, setPosition,insertAfter

userManagment.js

Methods:

loadData, loadPersonalRandevouz, insertMessageDoctorButton, insertCancelButton, loadPersonalInfo, loadDocInfo, insertViewRandevouzButton, insertRowCell, update, getBMI, getIdealWeight

bloodDonationManagment.js

Methods:

bloodDonationRequest

messageManagment.js

Methods:

messageToUser, loadDoctorMessages, insertReplyButton

notificationManagment.js

Methods:

checkForSystemNotifications, check

randevouzManagment.js

Methods:

loadRandevouz, insertMessageUserButton, insertViewBloodTestsButton, insertCompareButton, viewBloodTests, insertTreatmentViewButton, insertTreatmentCreateButton, insertStatusUpdateButton, insertRowCell, createRandevouz

bloodTestManagment.js

Methods:

submitBloodTest, insertCompareButton, insertTreatmentViewButton, loadBloodTests

messageManagment.js

Methods: messageToDoctor, loadUserMessages, insertReplyButton

notificationManagment.js

Methods: checkForSystemNotifications, check

randevouzBooking.js

Methods:

openDoctorRandevouz, loadAllRandevouz, insertBookButton, bookRandevouz

3. General Architecture of the System:

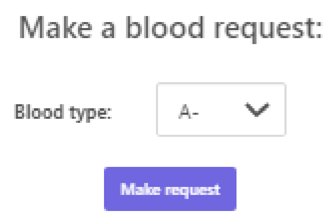
● Number of **servlets**: we used 6 servlets

Login.java: we use this servlet when a simple user/doctor/admin wants to log in
Logout.java: we use this servlet when a simple user/doctor/admin wants to logout
Register.java: We used this if a user/doctor wants to make a new account
and in the Management package,
AdminManagment.java: We manage whatever happens in the Admin Panel
DoctorManagment.java: We manage whatever happens in the Doctor Panel
UserManagment.java: We manage whatever happens in the User Panel

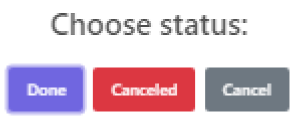
● How many **JavaScript Libraries**/html/jsp:

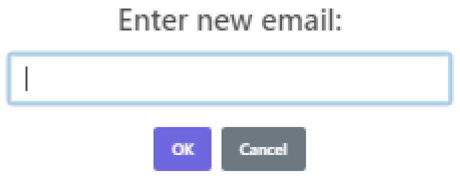
For JavaScript Libraries we used Sweat Alerts for the forms, the pop-up messages and also for failure and success messages.

Some examples are here:



Blood type: A-





We used seven **.html files**:
adminManagment.html: shows Admin Panel
doctorManagment.html shows the doctor Panel
guestManagment.html: shows the guest panel
userManagment.html: shows user panel
index.html: shows the options to log in, register, or continue as guest
login.html: implements the login panel
register.html: implements the register panel for users and doctors

We used eighteen **.js files**:

These are javascript files for general purposes:
barChart.js, jquery-3.6.0.min.js, login.js, registerJS.js, sweatAlert2.js, utils.js

These .js files handle the admin, users, doctors, and guests actions:
adminManagment.js, doctorManagment.js, guestManagment.js, userManagment.js

These .js files handle managing doctor’s tasks:
bloodDontationManagment.js, messageManagment.js, notificationManagment.js, randevouzManagment.js

These .js files handle managing user's tasks:
bloodTestManagment.js, messageManagment.js, notificationManagment.js, randevouzBooking.js

● How many css:
We used 4 .css files
adminManagmentStyle.css: makes the admin panel beautiful
doctorManagmentStyle.css: makes doctor panel beautiful
guestManagmentStyle.css: makes guest panel beautiful
userManagmentStyle.css: makes user panel beautiful

● In client-side Javascript we did:
We used javascript so whenever a user wants to get data, he presses a button and we call an API. For example, if the user wants to register, we are calling an API and we do a POST Request to add data to the database. We also used JavaScript to hide handle doctor and user registration on the same page (for example we hide user address when the user type changes from simple user to doctor).

● The Ajax parts are:
We use Ajax mostly when we want to call an API. For example, the API to get the B.M.I.: Specifically when we are calling, AdminAPI, BloodTestAPI, TreatmentAPI, MessagesAPI, RandevouzAPI, and all the other APIs in the https://rapidapi.com/

● I used REST Requests in:

GET: To get data from the database (e.g. the user takes information about a treatment).

POST: To add new data to the database (e.g. a doctor adds a new treatment).

PUT: To update data to the database (e.g. an admin certifies a doctor).

DELETE: To delete data from the database (We did not use this one)
If we want to update a random status, we do that using a PUT request that sets the status as "canceled".

● Which APIs did we use?
AdminAPI, BloodTestAPI, TreatmentAPI, MessagesAPI, RandevouzAPI

Also, we used Rapid API for the API below:
https://rapidapi.com/trueway/api/trueway-matrix/
https://developers.google.com/chart
https://developers.google.com/maps

● I made these changes in the database shape
In the "message" table, I add two more columns: receiver and seen

receiver column: has the receiver of the message
seen column: has 0 if the message is seen else it has 1

Extra Libraries that we used for the project:

- We used the sweat alerts library to create the pop-ups
- And https://github.com/parallax/jsPDF for the doctor to make a pdf with the rendezvous