

Application 1: Health Center

A private health center needs to improve its information system by developing an application to track the patients, medical records, doctors, doctors' availability, and booking appointments. We interviewed the managing director at the health center about the requirements. Here is the result:

In this health center, visiting a doctor is only possible by booking an appointment in advance (on Friday of each week for the coming week). In this project, three different types of users will work with the application: admin, doctor, and patient.

An **admin** can:

- Add a list of specialization of its doctors such as dentist, cardiologist, or psychiatrists, and their visit cost;
- Add the information about the health center's doctors, including employee number, full name, one specialization for each doctor, and phone. Admin can also delete a doctor from the health center.

A **doctor** can:

- Define his/her availabilities for each day of the week and time between 9:00 to 11:00 (as shown in the table below). The doctor can re-define/change the availabilities only if there is no booked appointment at that time for that week. *Please note that the doctor will be automatically available for the whole weekdays when the admin adds a doctor. Later on, a doctor can log in and update (define) his/her availabilities (see the below).*

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00					
9:30					
10:00					
10:30					

A **patient** can:

- Sign up and register him/herself by giving the basic information, including a medical number, which is a nine-digit number, first name, last name, gender, address, phone, birthdate. The registration date for each patient should also be recorded. Each patient can be registered only once before the first visit. It means that if the patient has been registered before, can only sign in and do the booking, etc., so there is no need to sign up anymore;
- Can see his/her basic information and edit the information except for the medical number and registration date, which are fix;
- Can book an appointment to visit a doctor: The patient can see a list of doctors and their specialization and the visit cost. Search for doctors with specific specialization. Select one doctor. See the available days and times for visiting the doctor, and book an appointment. The booking should be made every Friday of the week for the coming week. It means that if the current day is not Friday, the booking system does not work, or an informative message is shown. The date and time of booking should also be recorded.

The **admin** can also:

- See a list of information about the patients registered in the health center;
- See a list of all upcoming appointments;
- See a list of all medical record related to a specific patient (the medical information can be added by a doctor as explained below) ;
- See a list of all patients (including their medical number and full name) and their total (sum of all) visit costs.

A **doctor** can also:

- See a list of all his/her upcoming appointments.
- See a list of his/her patients and add a medical record for each of them. The medical information includes diagnosis, description, and drugs. In

each medical record, the visiting doctor and the visiting date (which is the current date) have to be recorded.