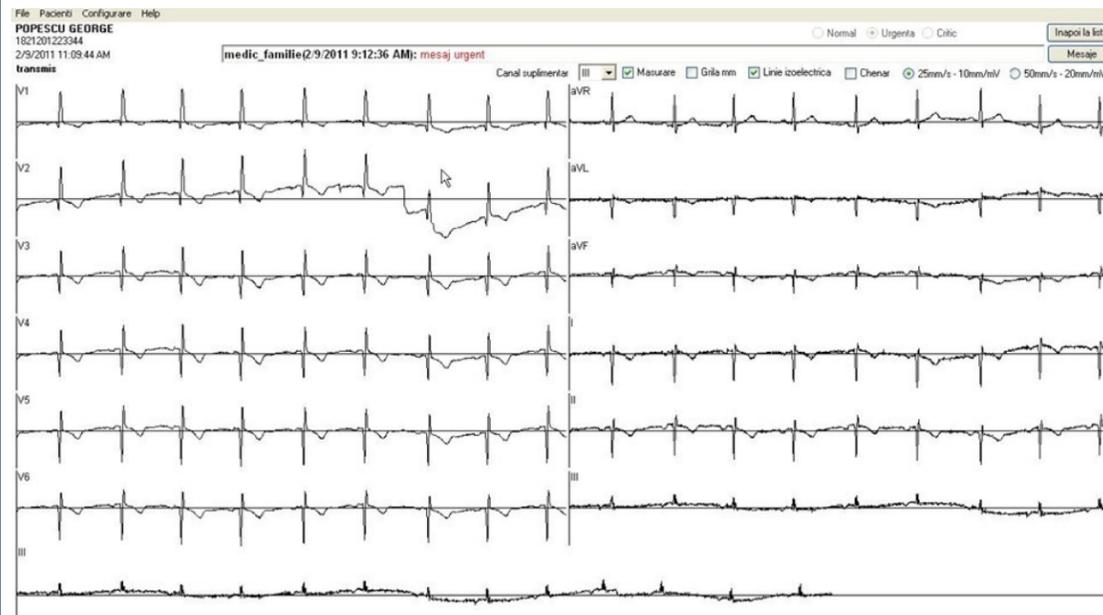




Extensibility. Regionalization

Depending on the number of general practitioners registered in the system and on their activity amount, with the purpose of preserving the response duration, it is possible to assign doctors on groups of medical practices, on dynamic assignation criteria (such as region, location, area etc.). Thus, every cardiology specialist will receive on his screen only the messages from general practitioners that were assigned to him.

Another option would be the one where the patient has the investigation alone with the help of the device in the image below. In this case, data will automatically be transmitted to the central server, and the patient will receive the cardiology specialist's interpretation.



GREEN CARDIO

Objectives

The improvement of medical services quality by creating a more efficient communication between **general practitioners** and **cardiology specialists**, with the purpose of taking better decisions in due time;

Supporting the medical staff in taking the best decisions concerning the medical act, by using techniques of artificial intelligence in order to obtain pre-diagnosis alerts;

The deployment of a modern integrated information system designed for monitoring medical assistance.



OVERVIEW

The creation of a distributed information system for remote monitoring and diagnosis of patients with cardiac pathology, allows the expansion of ECG investigations capabilities to the patients that can't benefit from the medical services specialized in cardiology:

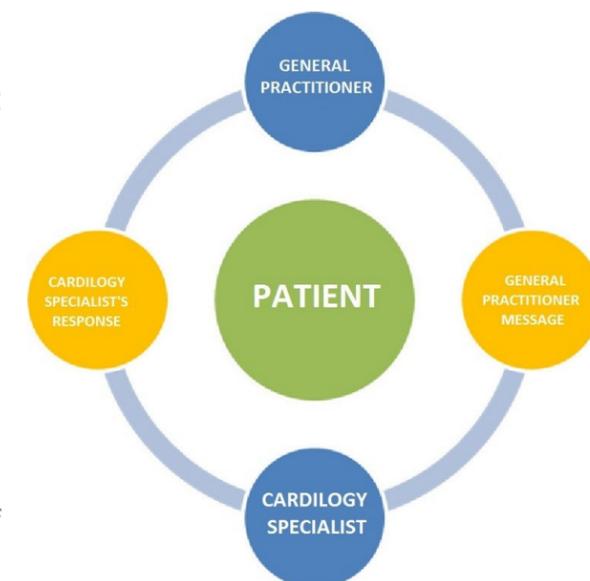
- * Patients living in rural areas or patients that can't be transported.
- * Patients that want to see their medical status without going to the specialist.

It provides the recording, the interpretation and the on-line medical decision of ECG data by means of a constant data flow between patient- ECG remote device-doctor-tele-

medicine system monitoring center.

The application contains two modules:

- **General Practitioner Module (GP)**
- **The Cardiology Specialist Module. (CS)**





The description of the process

1. The patient arrives at his general practitioner.

If the patient is not already registered, his personal file is registered in the GP module of the information system.

2. Connecting the patient to the ECG equipment.

The GP module helps controlling the ECG equipment in order to perform an ECG investigation and collecting the results in the local database.

3. Visualizing the results of the investigation (the graphic ECG).



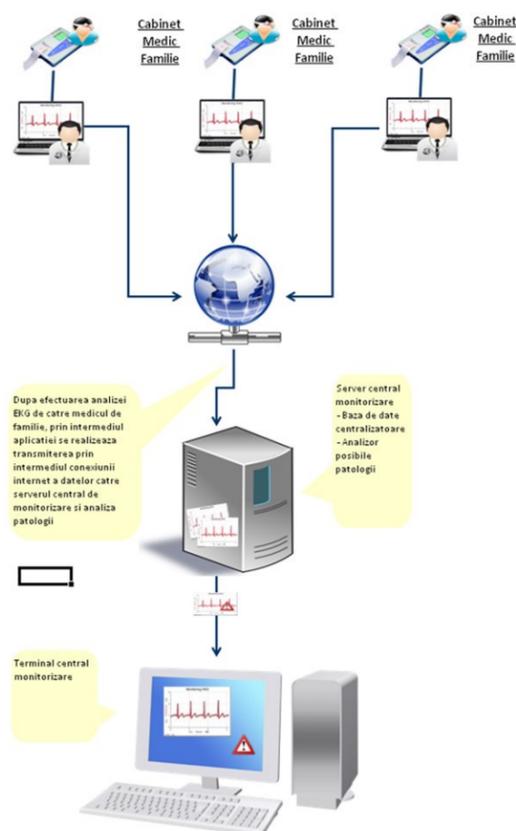
The application's workflow

The information system runs distributed as follows:

In the general practitioner: as a distinct module (**GP-Desktop**) - installed on a computer or laptop connected to an ECG investigation device; The ECG device will be controlled with the help of this module. The results of the ECG investigation will be collected and automatically assigned to the patient. The data concerning the ECG will be first stored locally in a database. Depending on the availability of an Internet connection, the results of the ECG investigation will be transmitted to the central server for processing and monitoring.

On a **central server (Collecting/Analysis- Web Based)**: where data centralization, pre-diagnosis algorithms and investigation alerts will run.

In the center of permanent monitoring (**Cardiology Specialist**): where data concerning patients for whom investigation results have been received will be displayed along with potential alerts of possible pathologies discovered during the processing stage on the central server.



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The General Practitioner module

This software component appears as a desktop application developed to run on a computer that is located in the physician's practice. The role of this component is to provide a record of patients' files, to retrieve the results of the investigation from the ECG device (in digital format) and to associate them to the patient's file, followed by sending the information to the monitoring center.

The Cardiology Specialist module

This software component appears as a desktop application developed to run in the monitoring center. The specialist has instant access to data concerning the patient file; the current ECG investigation as well as all the ECG investigations registered in the past for that patient, regardless the locations of the investigation (another family physician). The specialist has access to software instruments for visualizing and analyzing the investigation's result, based on which he can make recommendations or alerts which can be sent instantly to the general practitioner practice where the investigation took place.



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The description of the process

4. Sending the patient's personal information (personal physician, ID's) and the result of the investigation to the central server.

5. Receiving and storing the data on the central server.

6. Running the analysis algorithms on the central server.

7. Data display+ analysis results+ alerts on the monitoring screen/ specialist.

