

IBD tool has been designed by Mauriziano Hospital in Turin and the Links Foundation, to develop a web application to support the monitoring of patients suffering from IBD (inflammatory bowel disease).

Inflammatory bowel disease (IBD) describes two ailments :Crohn's disease (CD) and ulcerative colitis (UC), that are characterized by chronic inflammation of the gastrointestinal (GI) tract, and they have different symptoms such as abdominal pain, diarrhea, rectal bleeding, and weight loss. IBDs are idiopathic ailments, and alleviating the pain of patients, limiting the degeneration of pathology, is an effective treatment for this disease.

Patients suffering from IBD experience two conditions:

1. periods of remission of the illness, with fewer symptoms detected
2. periods of relapse, with heavier symptoms.

Follow-up process is an important phase of the treatment procedure, which means constant monitoring of the health status of the patient, which has to intermittently send physicians

the effects of the disease and the degree of influence on their daily activities. In this scenario, the use of telemedicine is a perfect solution for the follow-up process, facilitating the interaction between patients and doctors to better follow the medical guidelines, with no need to go to the hospital when unnecessary. IBD tool is designed to provide an effective monitoring system to link patients and doctors. This web app has detailed questionnaires to help patients to describe the symptoms of their ailment to their doctors in a swift and well-organized manner. The monitoring process is performing by questionnaires scheduled and sent automatically by the platform. So, patients are able to fill out these questionnaires periodically; however, it is important to notify that they can complete a questionnaire at any time when they need to manually. A notification is sent to doctors whenever a patient compiles a new questionnaire, and doctors can assess the details and evaluate questionnaires results .

An elaborated and fast chat system is also designed for facilitating the interaction between physicians and patients making them able to send and receive instant messages and clinical files by using a dedicated chat.

This thesis focuses on enhancing the platform architecture, boosting its overall efficiency by providing more scalability, and developing novel functionalities to further supplement the platform.

In this thesis work the platform has been improved on the patient side. Problems related to page loading on different servers have been solved making the web-app even more user-friendly.

A new questionnaire (LARS score) was also added, it is a 5-item scoring tool, measuring bowel dysfunction after restorative surgery. Through this questionnaire it is possible to validate the use of IBD Tool to the subgroup of patients with operated UC, providing a new means of monitoring the aforementioned subset of patients. One of the objectives of the use of the

platform is to make the patient feel more involved and not alone, in order to pursue this goal the patient section has been implemented with personalized news about the pathology which the patient suffers.