

D.T1.4.8

APP Manual & tutorial

Final version

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Project Partners



City of Križevci



Report provided by:
PP11 Upper Adriatic Technology Park
in collaboration with HealingPlaces project partners

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Application description - D.T1.4.6

The local stakeholders and PP11 commonly decided that the APP has these three scopes in its core for satisfying the local needs:

1. **INSERTING CONSUMPTION DATA:** the users and administrators will have the possibility to insert punctual and verifiable data, as key point to automatizing the process;
2. **VIEWING INFORMATION ON BIODIVERSITY, GEOLOGY AND LANDSCAPES:** the users and administrators will have the possibility to view info well levels, occupied beds and the relationship between touristic offer and consumption.
3. **AUTHOMATIC MONITORING OF VARIOUS WELL LEVELS:** automatic acquisition of maximum and minimum data of well levels based on existing data furnished by ARPAV. This functionality has been suggested by ARPAV (special agency of the Veneto Region in charge of monitoring health status of water). ARPAV does not use EU funds asked to allow a follow-up process upon the existing Healing Places' APP. This follow-up capitalisation process will consist on the activation of this 3rd functionality on expenses of Region Veneto itself in the after-life period of Healing Places, so to guarantee sustainability of the project and to allow the digitalisation process of the environmental monitoring Institutions (already planned by the Veneto regional administration).

The application gathers, aggregates and shows data furnished by different entities in the form of graphs/charts/histograms in order to make clear and immediate their reading. The aim has been creating a tool that can help technicians/ decision makers in the management of the thermal resources through different perspectives. On the other hand, the APP is the tool (used mainly by tourists and inhabitants of these areas as final beneficiaries) that emphasis the thermal water value as natural resource to be preserved and used in a proper way given the fact that is reducing in its reserves. The tool is usable by smartphone and PC and will be functionable on the management of the thermal water resources; the APP has been tested and implemented in the territories of project partners and associates (through an initially testing phase in the territory of reference), in particular those dealing with issues related to the management of thermal water and the development of SPAs. The final version of the APP is used to inform and guide visitors about the characteristics of the thermal waters and the environmental values of the SPA's sites. Furthermore, it is integrated by a user manual and training plan that provided in favor of APP users: stakeholders, SMEs, associated partners and other target groups (thermal public authorities, decision makers, technical public officers, SPA companies and the general public). After the APP

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realization, a technical APP validation report has been elaborated by taking suggestions and advices on local and new environmental conditions.

The involved entities throughout the realization and implementation process are:

- B.I.O.C.E. Gestione Unica del Bacino Idrominerario Omogeneo Colli Euganei / Homogeneous Hydromineral Basin of the Euganean Hills
- TERME COLLI MARKETING in agreement with BIOCE
- ARPAV (Regional Agency of Environment Protection of Veneto Region in agreement with BIOCE
- SPAs Owners
- PP11 - Upper Adriatic Technology Park of Pordenone

Beneficiaries and Final Users of the project:

- B.I.O.C.E.
- Municipalities of Thermal Basin of Euganean Hills
- Spa's owners
- ARPAV
- Students and tourists

The collected data are on these main topics:

- **Water Consumption**, furnished by Hotels and SPA's owners;
- **Occupied beds**, furnished by Hotels and SPA's owners;
- **Well levels**, furnished by ARPAV in agreement with B.I.O.C.E.;
- **Water temperature**, furnished by ARPAV in agreement with B.I.O.C.E.;
- **Water quality**, furnished by B.I.O.C.E.

APP ACCESS LEVELS

Users	Data Entry	Change/Delete inputs	View Entry
SUPERADMIN B.I.O.C.E.	Yes	Partial	Yes
USER GROUP 1 - B.I.O.C.E.	Yes	Partial	Yes
USER GROUP 2 - Spa's owners	Yes	Partial	Partial
USER GROUP 3 - Colli Marketing	Yes	Partial	Partial
USER GROUP 4 - ARPAV	Yes	Partial	Partial

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Viewer	No	No	Variable
Public Profile	No	No	Partial

- A. SUPERADMIN B.I.O.C.E. has all accessibility privileges, manages the users and displays all the data. It has purely administrative role and is assigned to B.I.O.C.E. that can manage creation and cancellation of all levels of users; creates the passwords of each user; views all the data entered in the application in the form of both numbers and graphs; sets the rate at which updated data should be sent and sends expiration reminder alerts. This privileged user handles user group permission on system entities.
 - B. USER GROUP 1 - B.I.O.C.E. inserts data related to water quality and is able to see all data entered by other actors involved, that have agreements with it, in this process;
 - C. USER GROUP 2 - SPA OWNER inserts the data relating to its water consumption and the number of beds occupied. Failure to update shall be automatically reported to SUPERADMIN and upon entering the data, the SPA owners will be asked to send a photo (proof of evidence) of the counter
 - D. USER GROUP 3 - TERME COLLI MARKETING in agreement with B.I.O.C.E. inserts the data related to the occupied beds;
 - E. USER GROUP 4 - ARPAV in agreement with B.I.O.C.E. inserts the maximum and minimum well levels. 1st phase: manually and 2nd phase: automatically.
- These users see which data have been inserted and also public and existing data.
- F. GUEST USERS views the data related to the consumptions and bed occupations aggregate for basin and per municipality.

As required by the HealingPlaces Project, the APP permits the visualization of aggregated data per entity and the confrontation through the seasonal periods.

The application is in English and Italian languages. Clicking on this bottom you may access to the language:

Application sections and its functionalities

In this specific chapter, there will be explained the APP usability for USER GROUP 2 - SPAs owners for section nr. 4, who are in charge of inserting data in the APP in correspondence of each indicator, whilst the other ones are at disposal of each viewer. First of all, the application is composed by four sections that have different functionalities depending on type of user/administrator/viewer, as it is explained below and as it is possible to see from this webapp link <https://themeforest.iqbalnawaz.repl.co/index.html> :

1. HOME PAGE
2. BIODIVERSITY & THERMAL WATER SECTION
3. PHOTO GALLERY
4. INSERTING/VIEWING/MONITORING DATA

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In the 1st section HOME PAGE, it is possible have some general insights of the Pilot Action of Euganean Thermal Basin, in which the APP has been developed and implemented with all relevant stakeholders and experts.

First general explanatory visual

SPA AND EUGANEAN HILLS: THE FIRST REGENERATIVE HEALTH AREA IN EUROPE

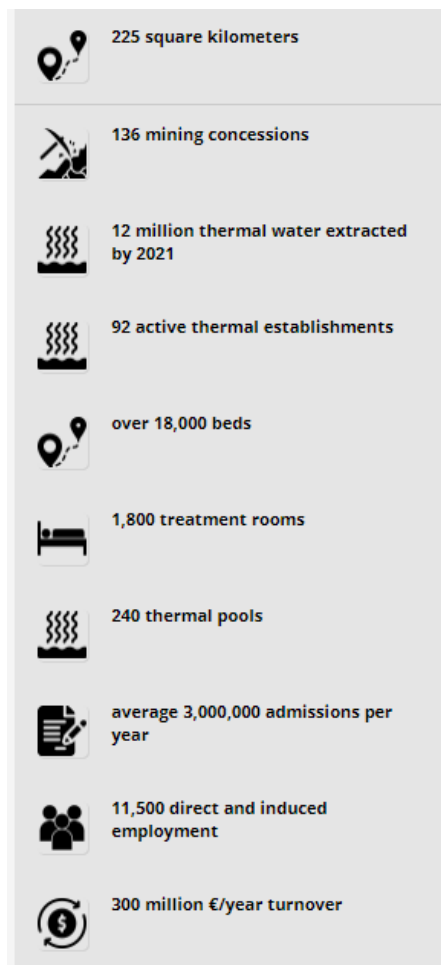
The thermal baths of Abano and Montegrotto are the largest thermal area in Europe, a tourist destination for over 3000 years for its hot thermal waters and curative mud with renowned therapeutic properties. Immersed in the green of the Euganean Hills Natural Park in the province of Padua, in the heart of the Veneto region and just a few kilometers from Venice, they are a place to be reborn and to spend a special holiday dedicated to those who love health and relaxation, cultural and artistic beauty, nature, sport and the pleasures of the table.

Second general explanatory visual

FORGET EVERYDAY STRESS

A holiday at the thermal baths of Abano and Montegrotto means forgetting everyday stress in a unique oasis of peace: more than 220 thermal pools where you can relax enveloped in the warmth of 37° C water and the possibility of having the spa centre directly in each hotel. A revitalizing atmosphere that guarantees comfort and well-being. Today, as three thousand years ago.

Third general explanatory visual



In the 2nd section **BIODIVERSITY & THERMAL WATER**, it is possible to see some explanations about main characteristics of the environment, species, flora and fauna of the Pilot Action of Euganean Thermal Basin, in which the APP has been developed and implemented with all relevant stakeholders and experts.

First explanatory visual on Euganean Biodiversity

BIODIVERSITY

The Euganean Hills contain an astonishing number of plant species, about 1,700, equal to about 1/6 of Italian flora. The geological origin of the terrain, the morphology of the reliefs, which is responsible for contrasting microclimates and biotopes, isolation from other mountain groups and the alternating climatic events linked to glacial cycles, are the main architects of the great diversification of the Euganean flora. Here live, in close contact, botanical species adapted to the heat and others of a mountain character: from Mediterranean pseudomacchia to chestnut and oak woods, from arid meadows, the vegri, to black locust scrub. If you walk around one of the many volcanic cones, you can observe how, with varying exposures, vegetations of a hot arid environment (thermophilic) live side by side with others of a mountainous character (microthermic) or submontane. The Euganean Hills Natural Park is also a rather diverse environment in terms of type and number of animal species, particularly when compared to the surrounding plain. Mammals such as foxes, weasels and beech martens are present among the carnivores, as well as the badger; among small insectivorous mammals, hedgehogs, moles and shrews are common; among rodents, the dormouse and the dormouse. Imported by man and over time becoming pests are the fallow deer and, above all, the wild boar. Over 120 bird species have been reported, including resident, migratory and migratory birds. There are also reptiles, amphibians, fish and small invertebrates.

Second explanatory visual on Euganean Thermal Water

HOW THERMAL WATER IS FORMED

the genesis of the euganean thermal circuit is linked to the infiltration of rainwater in the area of the small dolomites, towards tonezza, and between schio and vicenza, where a number of faults are present. once the water enters the subsoil, thanks to a particular geological structure, it is enriched with salts and heated. over a period of hundreds of years, the water travels 80 km and reaches a depth estimated at between 2 and 3 kilometres, heating up to 100°. the outflow towards the plains and the particular structural conditions of the euganean area favour its retrieval underground. the natural rapid rise of the thermal fluids allows their temperature to be maintained at a high level. Levels vary throughout the year and are at their highest during the low season, i.e., summer and winter, while in spring and autumn there are minimum levels due to increased extraction caused by an increase in hotel demand.

The analyses and evaluations carried out by the Gubioce have shown that a substantial balance has been achieved in the basin in relation to its exploitation. a reduction in water extraction must be carefully assessed and monitored because it is true that the impact of hot water with surface fluids has increased since extraction for thermal use, on the other hand it must be emphasized that in the absence of extraction there would be a free flow of thermal water at a higher temperature than at present. The quantities would be significantly lower than the thermal activity being managed, but could jeopardize the current territorial and urban planning.

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What type of water do we find in the Euganean basin? The water in the basin is of the saline-bromine-iodine type. The temperature varies within the basin between 72°-85° at Abano, between 60°-80° at Montegrotto and between 40°-71° at Battaglia Terme. Salinity also follows the same pattern as temperature, so there is more salt at Abano and less at Battaglia Terme. The thermal and chemical peculiarities of Euganean thermal waters, which determine their therapeutic properties, are unique and impossible to replace or 'artificially produce'.

The use of thermal mud represents the other type of therapeutic treatment envisaged in the hotels of the euganean thermal area. the thermal waters are used in the mud maturation process, conferring through exchanges of chemical elements the particular therapeutic characteristics of the mud. therefore, even in this case, there is no possible alternative to the use of another "raw material" to carry out these particular processes. The use of thermal water must be carefully managed because it is a resource that is produced by processes lasting thousands of years.

In the 3rd section **PHOTO GALLERY**, there are some visualizations of the Pilot Action of Euganean Thermal Basin, in which the APP has been developed and implemented with all relevant stakeholders and experts.



These images represent naturalistic routes in the Euganean Regional Park, thermal water properties, facilities and exploitation solutions in the Euganean SPAs.



These images represent unique cultural and historical heritage of the territories of the Euganean Thermal Basin.


In the **4th section INSERTING/VIEWING/MONITORING DATA**, it is possible to get access through a specific registration phase and by main users and responsible entities identified in the Euganean territory, in fact there are some sections for inserting/viewing/monitoring thermal data. This below is the view and the bottom to be clicked:

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Applicazione

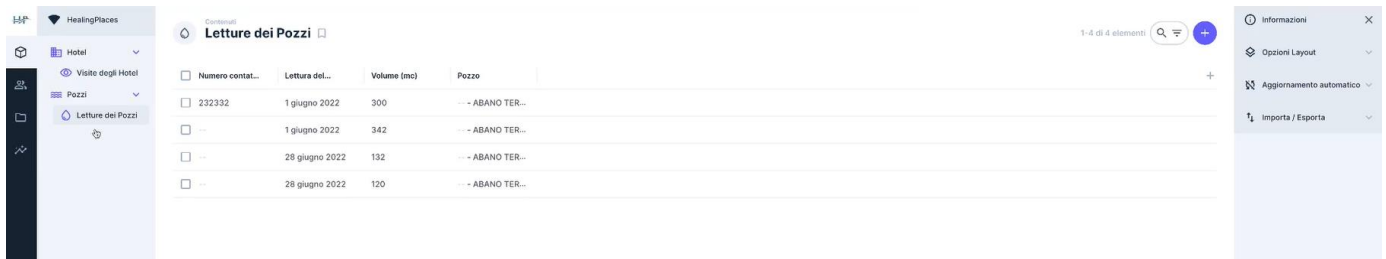
Accedi

Accedi Ha dimenticato la password

Non autenticato



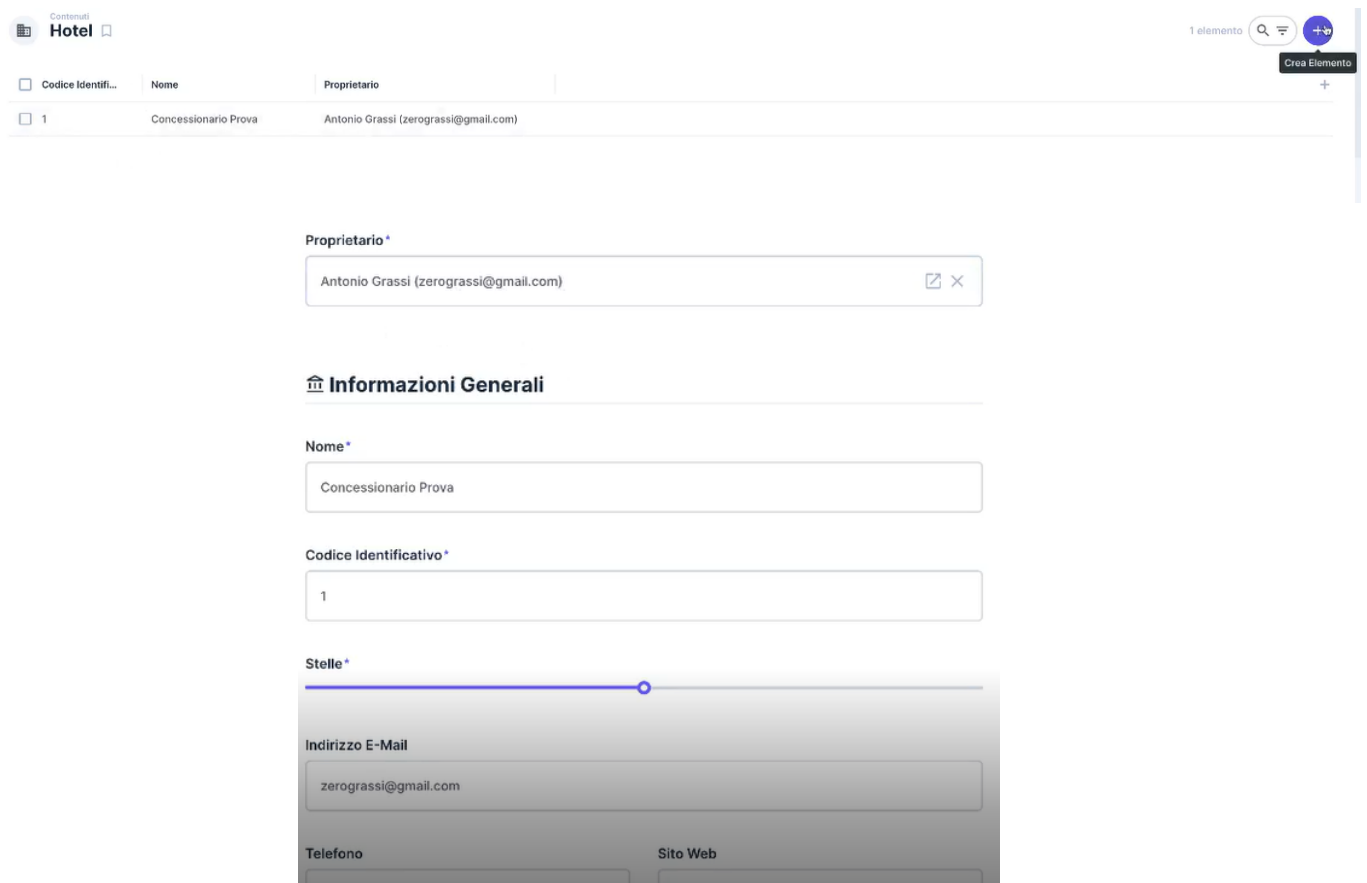
Each authorized user may insert credentials and authentication password to enter in the 4th section, which, after the authentication phase, opens up the back-end section with these visual characteristics:



Numero contat...	Letture del...	Volume (mc)	Pezzo
232332	1 giugno 2022	300	-- ABANO TER...
--	1 giugno 2022	342	-- ABANO TER...
--	28 giugno 2022	132	-- ABANO TER...
--	28 giugno 2022	120	-- ABANO TER...

In the list on the right side there are “HOTEL”, “VISITE HOTEL/SPA VISITS” and “POZZI/WELLS” sections in the main (1st) black column at the right side.

In the “HOTEL” section by clicking in, there is the possibility to insert new element specifying data owner, general information (location, characteristics of the SPA owner).



Codice Identifi...	Nome	Proprietario
1	Concessionario Prova	Antonio Grassi (zerograssi@gmail.com)

Proprietario*
 Antonio Grassi (zerograssi@gmail.com)

Informazioni Generali

Nome*
 Concessionario Prova

Codice Identificativo*
 1

Stelle*


Indirizzo E-Mail
 zerograssi@gmail.com


Telefono **Sito Web**


In the “VISITE/SPA VISITS” section by clicking in, there is the possibility to insert new element specifying data owner, dates, arrivals, departures, bed numbers. These elements are editable and can be cancelled depending on user hierarchy.


← Visite degli Hotel **Creazione Visita dell'Hotel**


Hotel*

Seleziona un elemento... + 

Visite del...* 

Nr. di Giornalieri 

Nr. di Arrivi 

Nr. di Partenze 

In the “POZZI/WELLS” section by clicking in, it is possible to see all thermal municipalities that can contribute to the data insertion (water quality, water temperature).

Contenuti **Pozzi** 

<input type="checkbox"/> Nome	Numero	Qualità Acqua	Temperatura A...
<input type="checkbox"/> ABANO TERME	1 - ABANO TERME	["CLORURATO SODI	["75°C - 87°C"]
<input type="checkbox"/> ARQUA' PETRAR...	2 - ARQUA' PETR...	["CLORURATO SODI	["50°C - 70°C"]
<input type="checkbox"/> BAONE	3 - BAONE	["CLORURATO SODI	["≥40°C"]
<input type="checkbox"/> BATTAGLIA TER...	4 - BATTAGLIA T...	["CLORURATO SODI	["≥70°C"]
<input type="checkbox"/> DUE CARRARE	5 - DUE CARRARE	["SALSO BROMO IO	["40°C - 56°C"]
<input type="checkbox"/> GALZIGNANO TE...	6 - GALZIGNANO...	["SALSO BROMO IO	["50°C - 70°C"]
<input type="checkbox"/> MONSELICE	7 - MONSELICE	["CLORURATO SODI	["40°C - 60°C"]
<input type="checkbox"/> MONTEGROTTO ...	8 - MONTEGROT...	["CLORURATO SODI	["70°C - 86°C"]
<input type="checkbox"/> TEOLO	9 - TEOLO	["SALSO BROMO IO	["62°C - 80°C"]
<input type="checkbox"/> TORREGLIA	10 - TORREGLIA	["SALSO BROMO IO	["≥42,5°C"]

Moreover, in the “POZZI/WELLS” section it is possible to create “well monitoring” by inserting dates, well types in specific location, thermal water consumption, monitoring system number (contatore), photo of the thermal water monitoring system and value/volumes by authorized users. These elements are not editable after the data insertion, please make sure that everything is inserted and complete.

← Letture dei Pozzi
Creazione Lettura del Pozzo

Lettura del...*

Pozzo*

Numero contatore

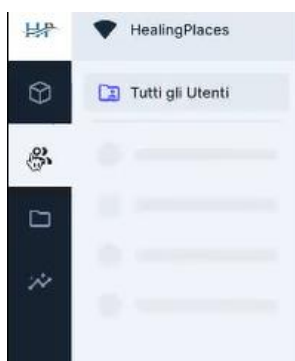
Volume (mc)

Foto del contatore per il volume (mc)

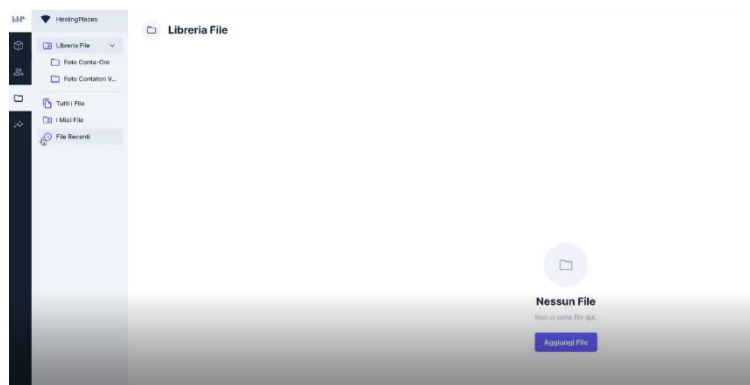
Trascina e rilascia il file qui
Clicca per Sfogliare

Furthermore, the black column at the right side of this below visual, as already mentioned above the first row is about hotels, spa visits and wells, whilst the other ones are about USERS, LIBRARY (this archives all the files uploaded) and FURTHER INSIGHTS.

USERS INFO- 2nd row in black column



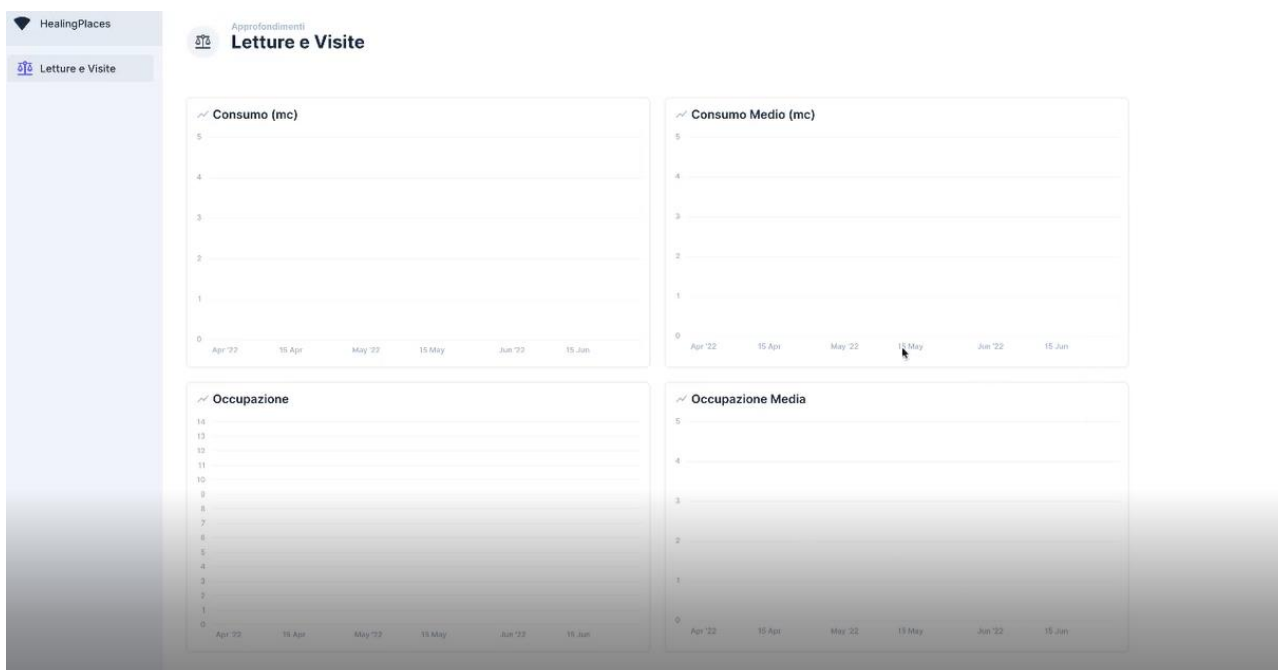
LIBRARY - 3rd row in black column



FURTHER INSIGHTS - 4TH row in black column



This part is extremely important for gathering and elaborating data on water consumption, water average consumption, occupation and visits, occupation and visits in average as graphics, relating to the inserted data.



For disconnecting from these sections, right at the bottom of the black column is possible to log out by clicking to the user that opens up a “door” for logging out from the system.

At the disposal of the users, a video tutorial is attached to this manual:

https://www.youtube.com/watch?v=GztOffuOmNM&list=PLJ9xn0eU5enVvx9kTURowfGYZ-YxateF1&index=2&ab_channel=PoloTecnologicoAltoAdriatico