

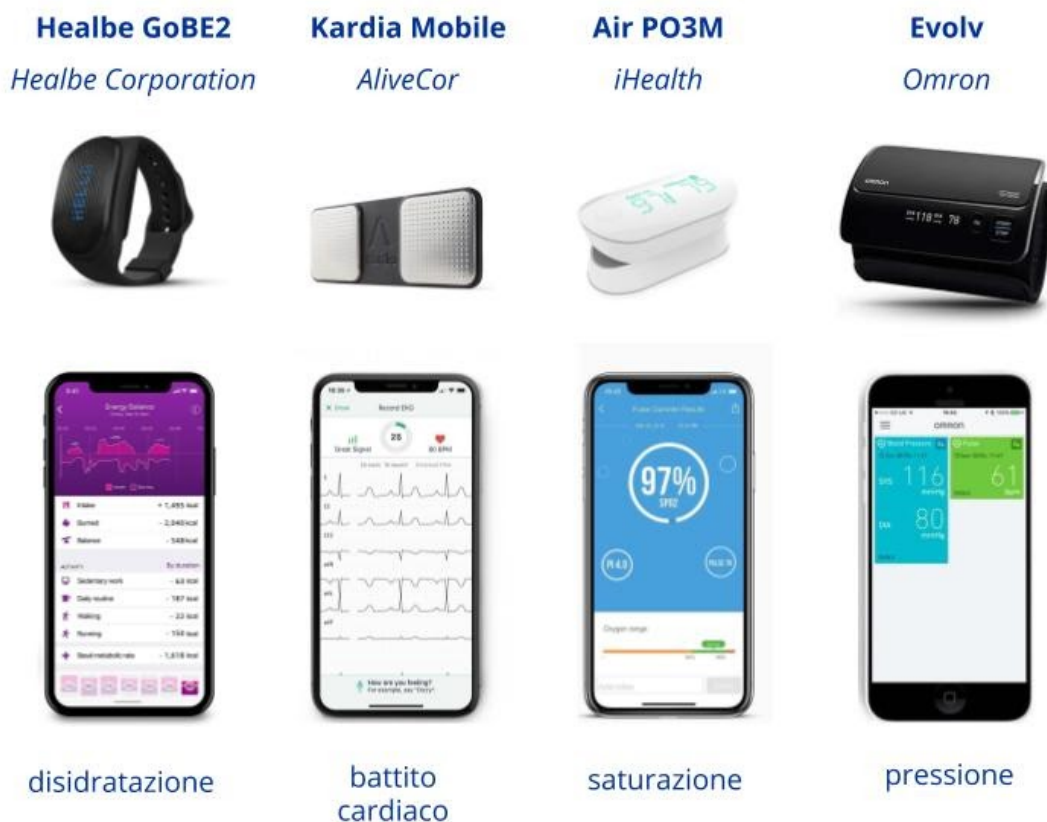
# Design Brief 3 of 3

## Smartphone application

Given the age of the final users and the need to simplify the interaction with the monitoring devices, we propose the introduction of a unique smartphone app to control the system.

The need of a single system to control the different devices is the conclusion reached after an analysis of the state of the art of commercial devices for health monitoring in domestic environments: each company produces the device and its specific application, thus if the user needs to use multiple devices to monitor different parameters it is compulsory to download and subscribe to multiple applications.

The multiplicity of systems and the quality of the Graphic User Interface (GUI) might create confusion and discourage the user from using the systems at their full potential.



*Visual representation of products and related applications*

To understand the content and the steps that the users need to do to interact with the app, we have drawn a flow chart (attached, Flowchart.pdf) based on two of the fourteen movements identified in the document “Joint Research Programme”.

The activities chosen for the draft are nordic walking (outdoor) and a classical training (indoor).

Despite the use of nordic walking would allow to place the sensors on the handles of the walking sticks, implementing the monitoring points would affect the quality of the interaction with a screen with instructions and support.

The risk of a false validation of the movement given by a wrong interaction drives the design to exclude the use of further devices, focusing mainly on the wearable components and the smartphone application.

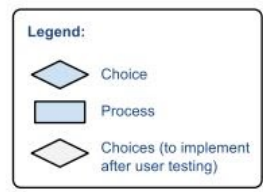
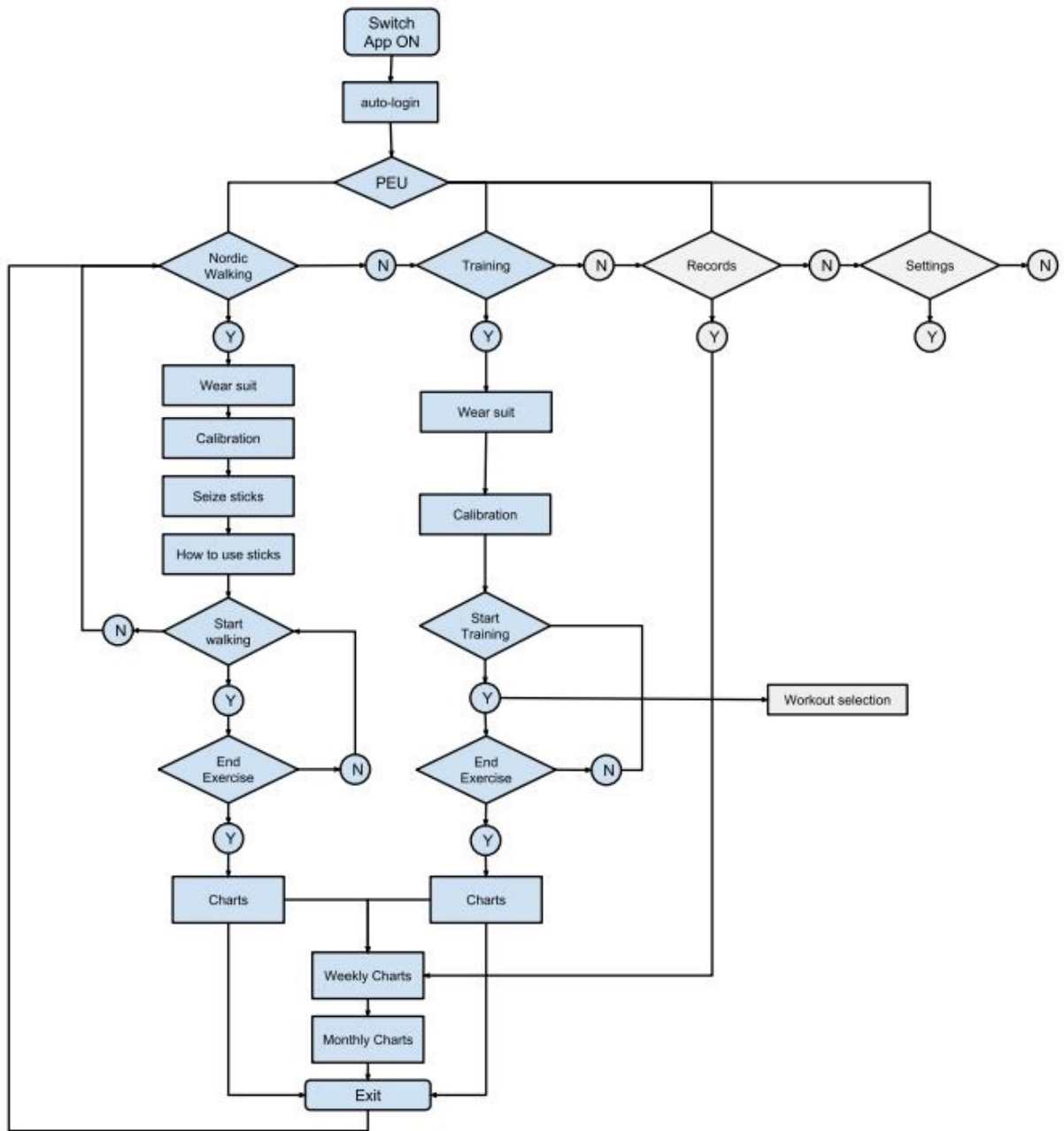
The trend to use smartphones during sport activity or the support of screens integrated on gym machines support the choice of a unique control system, for which the interface will be designed for a simpler and more effective interaction with the different devices.

Calibration of the sensors and data storage are minimum requirements to guarantee the customization of the devices and the elaboration of the exercises in visualizable data, collected into an history and charts to track the constance and progresses.

The customization should be extended also on the difficulty of the training, and the calibration is to be defined with the medical partners both in terms of fatigue and physical parameters. The quality of the data to visualize should be defined during the prototyping of the concepts and testing phase.

The features of the application should include simplicity of access and ease of use, considering legibility and accessibility of the data at a graphical level (font, dimensions, amount of written text and icons) and at a content level: the language used should be immediate and direct, simple in the instruction and provide alerts without generating alarm or anxious behaviour on the final user. The language and the sequence of steps for using the app should be tested in the further steps of the project.

Table 1 - Flowchart of the smartphone application - draft



### Preconditions and possible issues:

- The app is installed on the user's smartphone → *which operating system? how to access the app and connect with the devices?*
- The user has a registered profile → *who owns the data? where are they stored?*

