



Smart Central Mobile User Manual

Version 8.0

31/12/2020

Contents

1. Smart Central Mobile.....	3
1.1 Introduction	3
1.2 Application start-up.....	3
1.3 “Central” screen.....	4
1.4 Medical devices list.....	7
1.4.1 Heading	8
1.4.2 Devices list.....	9
1.5 Alarms history.....	10
1.5.1 Waveforms snapshot.....	11
1.6 Smart Central Video	12
1.7 Waveforms.....	14
1.8 Notification Mute on Smart Central Mobile	17
1.8.1 On desktop workstations.....	17
1.8.2 On mobile workstations	18
1.8.3 Nurse Presence	19
1.8.4 NFC alarm filtering	20
1.9 Widgets	22
1.9.1 Smart Central Widget.....	22
1.10 Annex – Examples of user workflows	25
1.10.1 Application main features.....	25
1.10.2 Video streaming functionality	27
1.10.3 Waveforms.....	27
1.10.4 Notification Mute.....	28

1. Smart Central Mobile



For general and detailed information about the Product environment and the instructions for use of the Mobile Launcher software, see the specific documents. The knowledge and understanding of these documents is mandatory for an appropriate and safe use of the Smart Central Mobile software, described in this document.

1.1 Introduction

Smart Central Mobile supports alarm management by providing contextual information from multiple sources and presenting it to the staff in a clear and concise way.

1.2 Application start-up

To start the Smart Central Mobile application

- Touch the corresponding row on the handheld device screen.

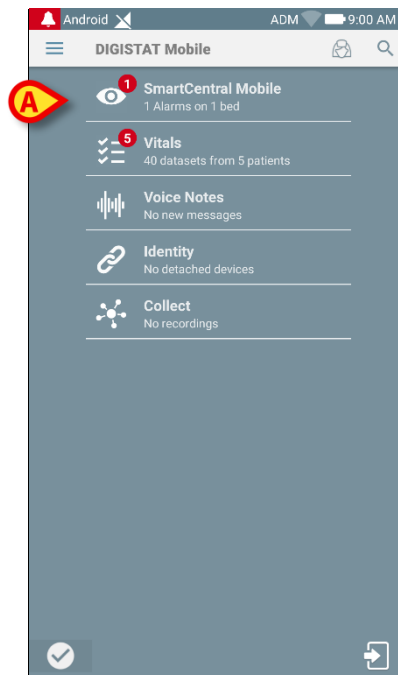


Fig 1

The Smart Central screen, shown in Fig 2 or Fig 3, opens. If the row of the application is touched while an alarm condition is raised (indicated by a red number on the application symbol), then the Smart Central screen will present the list of alarmed beds.

1.3 “Central” screen

The Central screen displays a schematic summary of the status of the medical devices connected to each bed configured in the specific handheld device. If all the beds of the domain are assigned to the user, then the Central screen represents the patients as a set of squares (Fig 2).

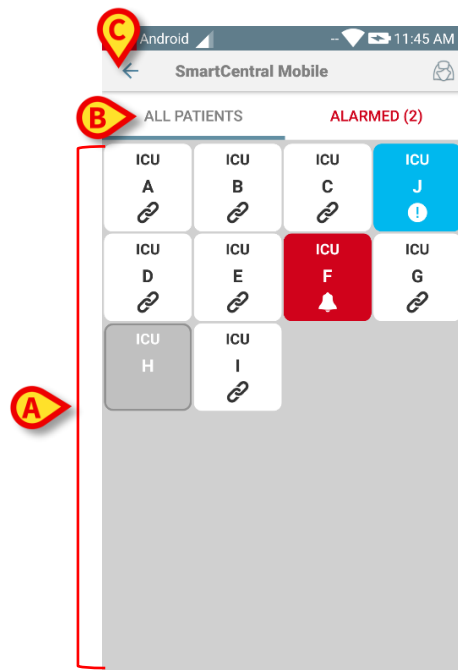


Fig 2

If NOT all the beds of the domain are assigned to the user, (i.e. the current user excluded one or more beds using the “Patient assignment functionality”) then the Central screen represents the beds as a set of tiles (Fig 3). The “Patient assignment functionality” is described in the document *USR ENG Mobile Launcher*.

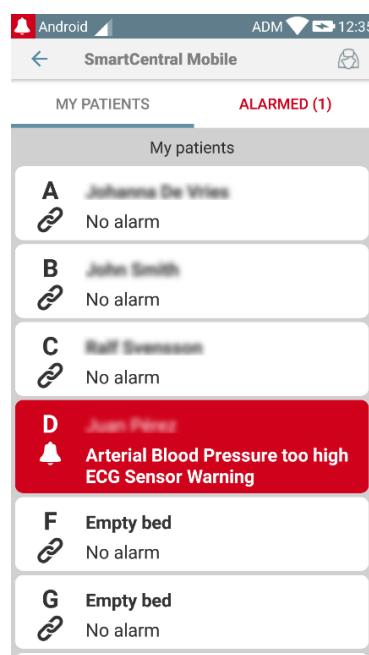






Fig 3

The squares or tiles displayed on screen represent the beds configured in the handheld device (Fig 2 **A**). The squares/tiles visible on a single screen form the “domain” of beds covered by the handheld device. The “domain” is defined by configuration.

The number or letter displayed inside the square/tile indicates the bed number or letter. On each square or tile, the status of the connected medical devices is indicated in graphic form by the background color and the related icon:

ICU 10	All the medical devices connected to the bed are on hold.
ICU 6 	There is at least one connected medical device running.
3 	At least one of the connected medical devices is sending a low priority alarm.
ICU 2 	At least one of the connected medical devices is sending a medium priority alarm.
ICU 4 	At least one of the connected medical devices is sending a high priority alarm.

The first case of the above reported scheme is the one in which no devices are sending data from the bed. In this situation, if the user touches the considered tile then the Smart Central application will display the following screen:

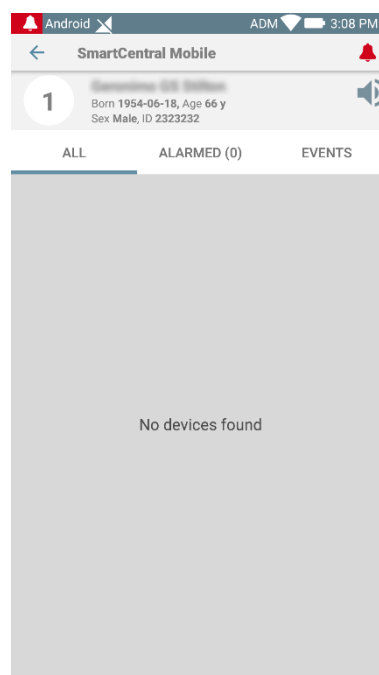


Fig 4

You can use the filters indicated in Fig 2 **B** to display either all the configured beds or only the beds sending an alarm.

It is possible to configure the Smart Central application to wake the screen if an alarm is raised to the user and the mobile device is on a flat support (a desktop, a table, etc.).

Exit

Touch the **Exit** button (Fig 2 **C**) to quit the application.

1.4 Medical devices list

Touch one of the squares on the Central screen to display the list of medical devices connected to the bed (Fig 5).

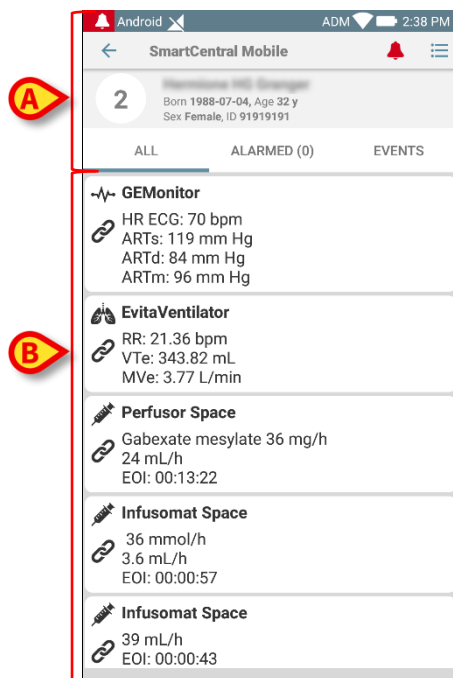


Fig 5

This screen is formed of two areas: a heading area (Fig 5 **A**) and the medical devices list (Fig 5 **B**). If an alarm conditions is present, the “Alarmed” label is colored in red; moreover a number between brackets indicates the number of alarmed devices. The “Events” tab report the list of all the notifications related to the considered patient (Fig 6).



Fig 6

1.4.1 Heading

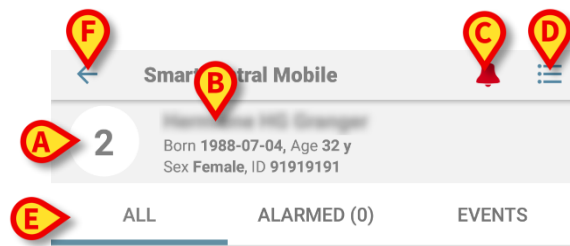


Fig 7

In the heading area (Fig 7) the following information and tools are available:

- Bed number (Fig 7 A).
- Patient data (Fig 7 B).
- The red bell icon (Fig 7 C) indicates that there is at least one medical device alarmed on one of the other beds (those not currently displayed). If the red bell icon is touched, then the Smart Central screen will present the list of alarmed patients.
- Use the icon indicated in Fig 7 D to enlarge the device-areas and display more information for each connected medical device (Fig 8). The type of information displayed depends on the configuration and the specific device.

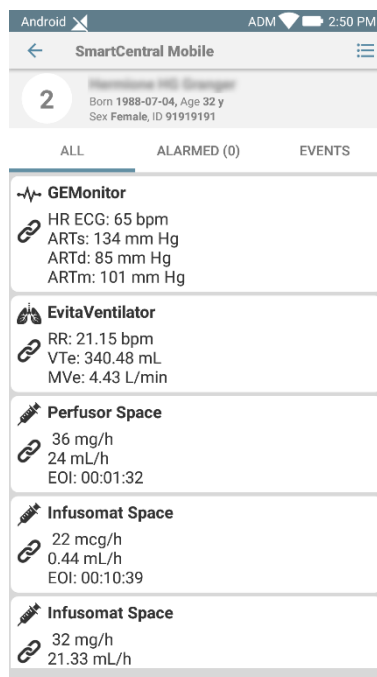


Fig 8

- Touch the icon (Fig 7 D) again to go back to compact display mode.
- Use the filters indicated in Fig 7 E to display either all the connected medical devices or only the ones providing notifications.
- Use the back-arrow button (Fig 7 F) to go back to the Central screen.

1.4.2 Devices list

On the lower part of the “Bed” screen the individual medical devices are represented as shown in Fig 9:

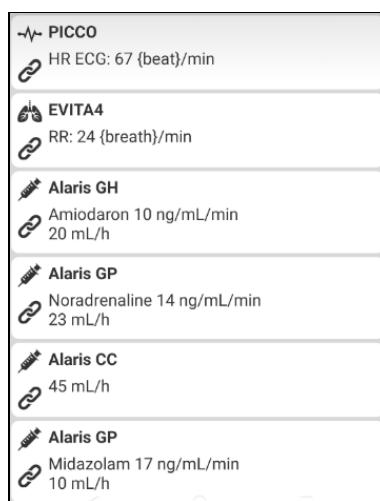










Fig 9

Each medical device is represented within a “card”. Each “card” displays the following information:

- An icon indicating the medical device type. The list of possible icons changes according to the healthcare organization needs. Here are some common examples:

	Infusion Pump
	Respirator
	Cardiac Output Measurement Machine

- An icon indicating the medical device status. These are:

	On hold
	Running
	Sending a low priority alarm notification
	Sending a medium priority alarm notification
	Sending a high priority alarm notification

The background color of the “card” also indicates the medical device status: grey (on hold); white (running); cyan (low priority alarm); yellow (medium priority alarm); red (high priority alarm).

For each medical device, some basic information is displayed inside the “card”. The type of information depends on configuration.

In case of alarm the “card” displays the alarm message.

1.5 Alarms history

Each “card” can be touched to access the list of all the alarms provided by the medical device (Fig 10).

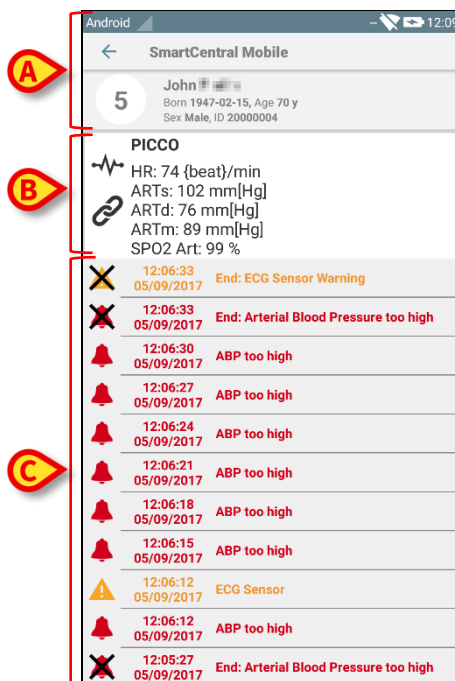



Fig 10


This screen is formed of three areas.

Patient data (Fig 10 **A**).

Medical device current data. The data displayed on this “card”, again depend on the device type and configuration (Fig 10 **B**).

Notification history. Displaying, in chronological order, all the alarms occurred on the device. For each alarm, a short description and the time of occurrence are provided (Fig 10 **C**). For each alarm are displayed the beginning time and end time (black cross on the icon .

Waveforms snapshot

- Tap the  icon (if present - Fig 11 **A**) to display the snapshot of the waveform related to the corresponding alarm.

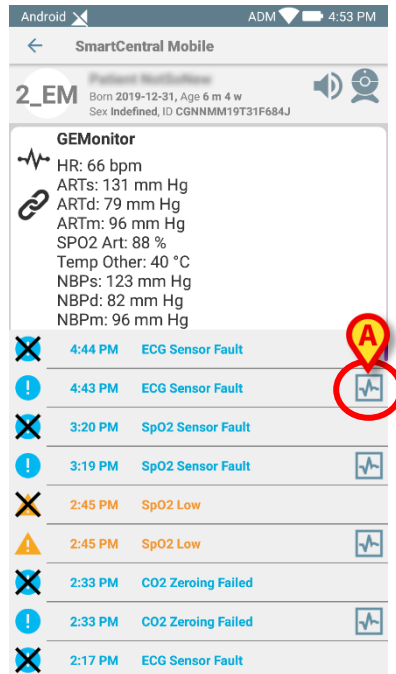


Fig 11

The following window opens (Fig 12):

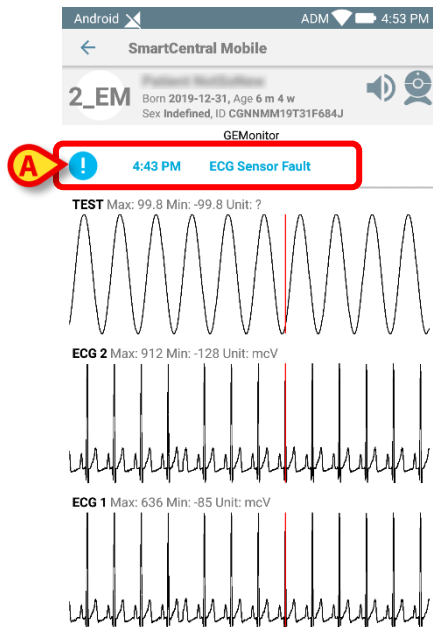


Fig 12

The event at which the Waveform Snapshot is related is reported in Fig 12 **A**.
Read paragraph 1.7 for more information about Waveforms.

1.6 Smart Central Video

The Smart Central application can be configured to support the video stream of a webcam. This feature enables the visual monitoring of the patient area.

If the Smart Central Video feature is enabled and properly configured for a selected patient, the Medical Devices list screen for a selected patient looks like the one displayed in Fig 13.

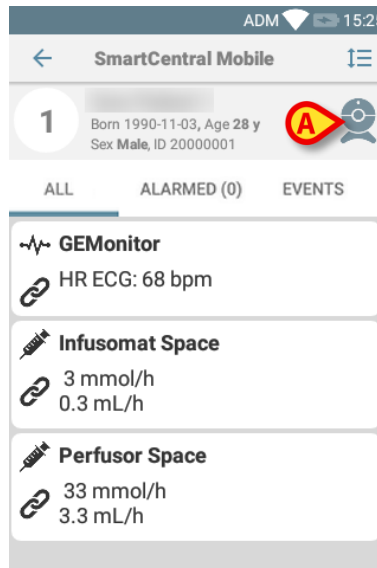


Fig 13

An additional button is present (Fig 13 **A**).


- Touch the button  to view the webcam video stream (Fig 14).

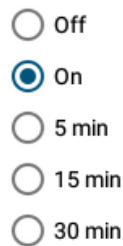


Fig 14

- Touch the Back system button to return to the previous screen.

The “Privacy Blind” feature allows to turn off the webcam for a patient, either permanently or for a specified time interval. During the Privacy Blind mode no video stream can be viewed. The Privacy Blind mode is disabled by default.

The Privacy Blind button bar (Fig 14 **A**) is represented below:



- Touch the **On** button to enable the Privacy Blind mode.

When selected, the **On** button is highlighted.

When in Privacy Blind mode, the webcam video stream is blinded as shown in Fig 14:

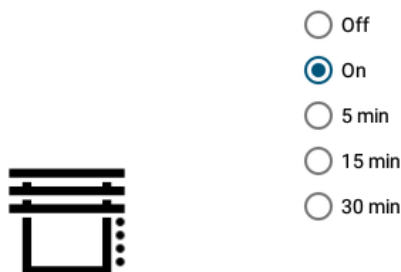


Fig 15


- Touch the **Off** button to disable the Privacy Blind mode.

To activate the Privacy Blind mode for certain time interval:

- Touch the **5 mins** or **15 mins** or **30 mins** buttons to enable the Privacy Mode for 5 or 15 or 30 minutes.

The selected button in the button bar is highlighted.

After the selected time interval, the Privacy Mode automatically turns off.

If the webcam supports audio streaming, it is possible to activate it touching the  button (Fig 14 **B**).

1.7 Waveforms

Smart Central Mobile can display near real time waveforms collected from medical devices. To enable this functionality it is necessary to enable at least one waveform parameter in the configuration section of the driver capabilities.

To access this functionality

- Tap the relevant bed card.
- Tap the icon indicated in Fig 16 **A**.

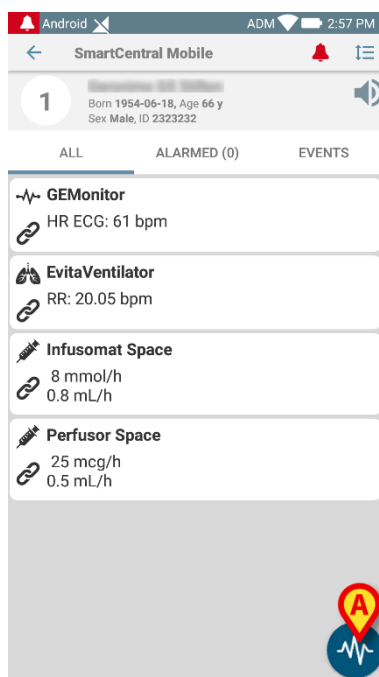


Fig 16

A screen showing the trends of the acquired parameters is then displayed (Fig 17).

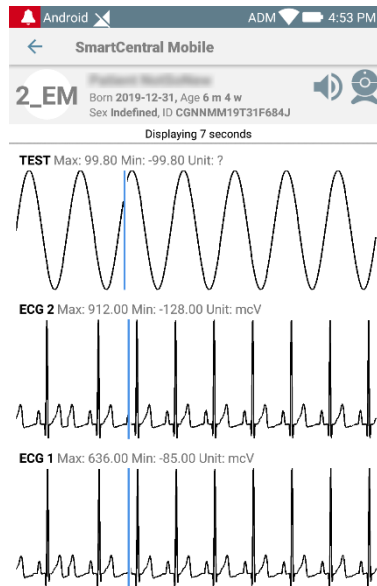


Fig 17

It is possible to configure the Waveform view to display the parameters currently acquired from medical devices (Fig 18 **A**):

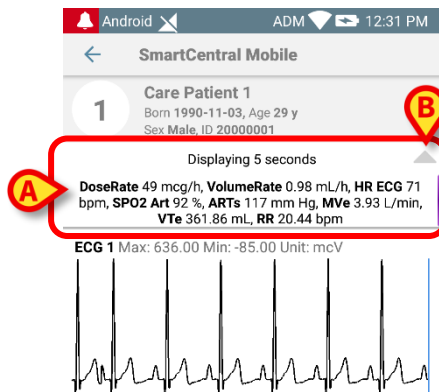


Fig 18

Touch the grey arrow icon (Fig 18 **B**) to collapse the row representing the parameters currently acquired (Fig 19)

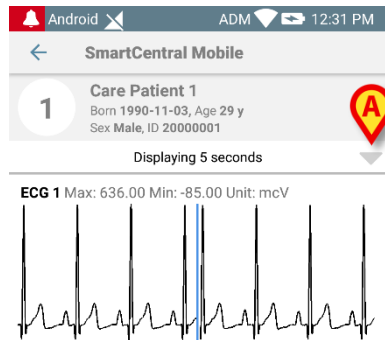


Fig 19

Touch the grey arrow icon (Fig 19 **B**) to expand the row representing the parameters currently acquired (Fig 18 **A**).

This can be done by properly setting the WaveformFormatString System Option: read the document *DSO ENG System Option* for more information.

It is possible to sort the waveforms collected from medical devices by properly setting the WaveformsSortingList System Option: read the document *DSO ENG System Option* for more information.

1.8 Notification Mute on Smart Central Mobile

The notifications can be muted in the Smart Central Mobile instances for a specified amount of time and for a specific bed. The “Mute” feature affects only the Smart Central Mobile application. Smart Central desktop continues to provide audio notifications and cannot be muted.

To enable this possibility it is necessary to enable the global parameter named “ManageMobilityAlarms” on the Digistat Suite Configurator. See document *CFG ENG Digistat Suite*.



The mute procedure can be performed both on desktop and on mobile workstations, but only mobiles are affected.

1.8.1 On desktop workstations.

If the “ManageMobilityAlarms” parameter is enabled a new icon is displayed on top of every bed card (Fig A):

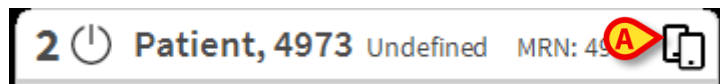


Fig 20

The icon means that notifications are enabled on Smart Central Mobile, for the specified bed (the bed number is on the left).

- Click the icon to open a new view in which it is possible to select a single choice among multiple choices. Those are:
 - enable notifications,
 - disable notifications for X,Y,Z minutes.

The X,Y,Z values are specified in the configuration by the global parameter “SilenceMobilityAlarmsIntervals” on the Digistat Suite Configurator. See document *CFG ENG Digistat Suite*.

- Click **SAVE** or **CANCEL** to close the view.

If the notifications are disabled, the icon on the bed card turns red, and a countdown number (minutes) is displayed next to it (Fig A).



Fig 21

When the countdown reaches zero, the icon turns black back, the countdown is removed and the notifications are restored. In the picture above, for example, the notifications on Smart Central Mobile are disabled for bed 2 for 20 minutes.

- Click the red icon to turn on the audio again or restart the muting countdown.

When the mobile notifications are disabled for a bed:

- On Smart Central Desktop there are no differences in the notifications communication.
- On Smart Central Mobile the notifications related to the muted bed are displayed but the audio and vibration are disabled for the specified amount of time.

1.8.2 On mobile workstations

To enable/disable the notifications on the mobile workstations:

- Click on a bed card to navigate to the bed details screen.

If the ManageMobilityAlarms parameter is enabled, a new icon is displayed on top of this screen, alongside the patient data (Fig **A**):

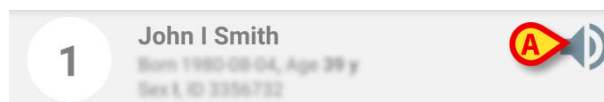


Fig 22

- Tap the icon to open a new view in which it is possible to select a single choice among multiple choices. Those are:
 - enable notifications,
 - disable notifications for X,Y,Z minutes.

The X,Y,Z values are specified in the configuration by the global parameter “SilenceMobilityAlarmsIntervals” on the Digistat Suite Configurator. See document *CFG ENG Digistat Suite*.

- Click **SAVE** or **CANCEL** to close the view.

When notifications are disabled the following icon is displayed (Fig). Below the icon a countdown number indicates the “mute time” remaining:

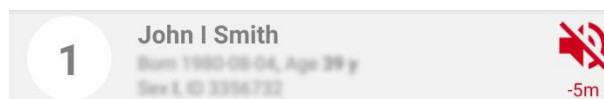


Fig 23

In Fig , for example, the notifications are disabled for 5 minutes on bed 1. When the countdown reaches zero the icon turns black again and the notifications are restored.

If notifications are disabled for a specific bed, also the corresponding bed card displays a mute icon (Fig a/b shows the icon when on all patients mode - left - and My Patients mode - right):



Fig 24 a/b



The possibility to mute notifications on mobile devices is disabled by default. If this possibility is enabled, the healthcare organization requires a strong risk assessment to be sure to mitigate all possible risks. During a temporary muting of notifications it is required that Smart Central Desktop is always monitored by a user.

Unite integration

When Digistat is integrated with Unite and notifications are generated by the Axess application (or the equivalent app on Myco 2 devices), muting notifications on Smart Central affects the Unite integration as well.

1.8.3 Nurse Presence

When the system is configured to work with automatic nurse presence, using infrared, the silencing mechanism is automatically managed.

When nurse enters a patient room, alerts are automatically muted (same behavior as manual silencing) for that specific bed. When nurse goes out of a patient room, alerts are enabled again. If there are many nurses inside the patient room, alerts are silenced as long as a nurse is inside the patient room.

The nurse presence mechanism is enabled thanks to the infrared functionality (present in the Myco 2 or Myco 3 devices). User must be aware that the smartphone must be always in a position where infrared beacons are visible to the smartphone itself. User must avoid to place the smartphone inside a bag or a closed pocket.

If the smartphone is detected inside a patient room and, after a configured amount of time, is not detected anymore, silencing is automatically disabled. This mitigation reduces the risk for nurses to leave the patient room forgetting the smartphone inside.

When nurse is inside a patient room, a "nurse" icon is displayed next to the bed name in the patient card (Fig A).

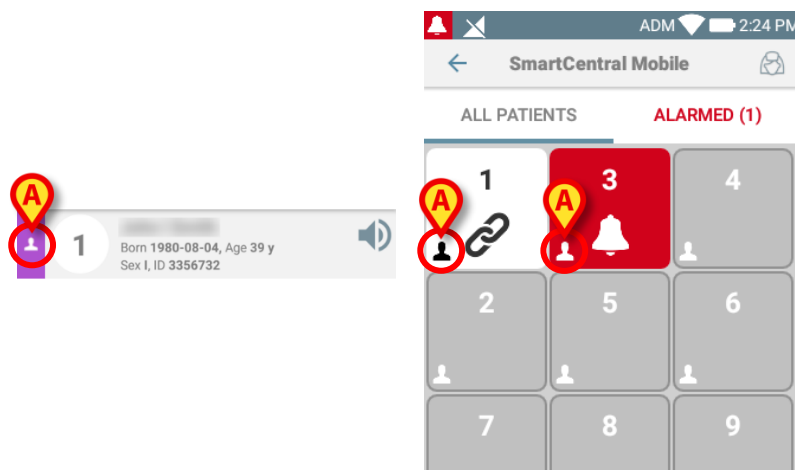


Fig 25 a/b

1.8.4 NFC alarm filtering

The Myco 3 device (or any Android device with NFC sensor) supports the NFC alarm filtering i.e. the possibility to mute the Smart Central Mobile notifications for a certain time by detecting a NFC tag properly configured and placed near the patient / bed.

Notifications are muted for a configured time, to be specified in the NFC tag together with the bed number. Once such a time is elapsed, the notifications are automatically restored.

To mute the notifications on the Smart Central Mobile coming from the considered patient / bed:

- Unlock the mobile device and put it close to the NFC tag.

The following window will be shown:

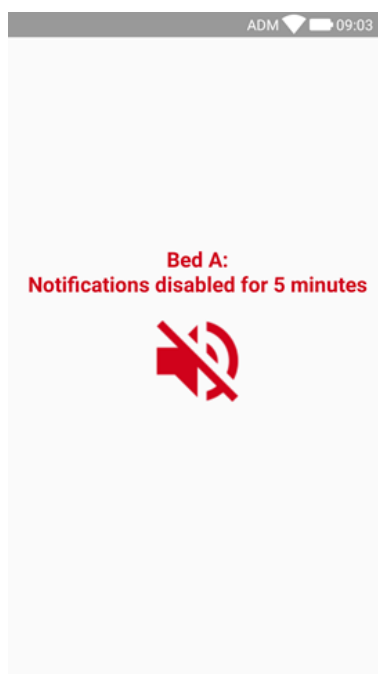


Fig 26

When notifications are disabled the following icon is displayed (Fig A). Below the icon a countdown number indicates the “mute time” remaining:

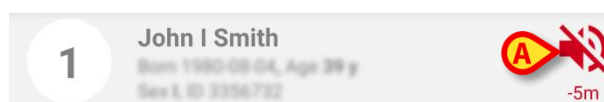


Fig 27

In Fig , for example, the notifications are disabled for 5 minutes on bed 1. When the countdown reaches zero the icon turns black again and the notifications are restored.



Every time the mobile device is put close to the NFC tag, the remaining mute time is extended by the value configured in the tag itself.

To restore the notifications on the Smart Central Mobile coming from the considered patient / bed (before the mute time elapses),

- Tap the icon showing the mute time (Fig **A**).

Alternatively:

- Unlock the mobile device and put it close to *a different* NFC tag, in which the mute time is set to “0”.

In both cases the following window will be shown:

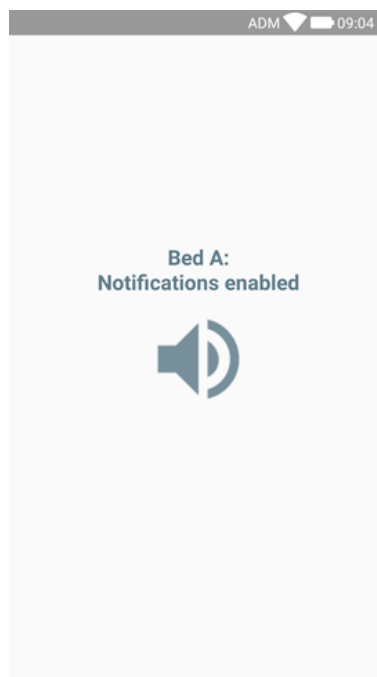


Fig 28



The possibility to mute notifications on mobile devices is disabled by default. If this possibility is enabled, the healthcare organization requires a strong risk assessment to be sure to mitigate all possible risks. During a temporary muting of notifications it is required that Smart Central Desktop is always monitored by a user.

1.9 Widgets

The Product implements a set of widgets i.e. graphic controls intended to facilitate some specific actions from the user. See the Mobile Launcher user manual for a general description of the widgets (*USR ENG Mobile Launcher*).

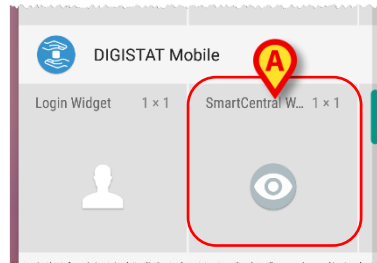


Fig 29

The present paragraph describes the Smart Central Mobile application widgets.

1.9.1 Smart Central Widget

The Smart Central Widget allows the user to access the Smart Central Mobile application. To use this feature:

- Push the icon shown in Fig **A** and release it on the device screen.

The Smart Central Widget as default will be placed on the device screen with size 1 x 1 (Fig)



Fig 30

- Push the icon shown in Fig **A** to access the Smart Central Mobile screen (Fig).

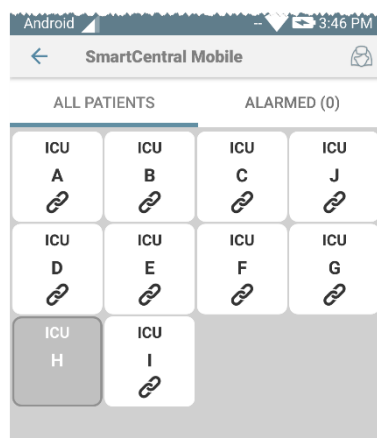


Fig 31

If the size is 1 x 1, the number of alarmed beds displayed in the Smart Central widget is represented as small red number (Fig):

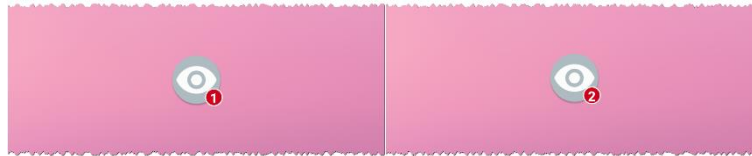


Fig 32

- In these case, touch the Smart Central widget to access the screen relating to the alarmed beds, if more than one bed is alarmed (Fig), or to the single alarmed bed, if only one bed is alarmed (Fig):

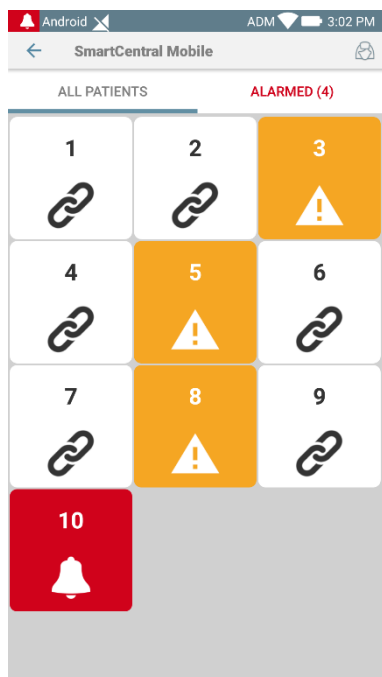


Fig 33

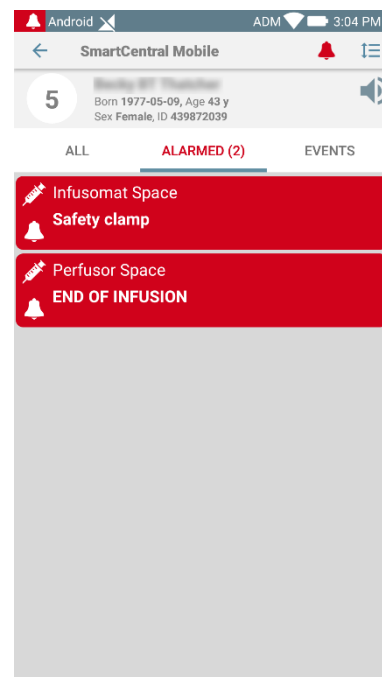


Fig 34

- Long press the icon shown in Fig and then release it to display grab points for widget resize (Fig – left if no beds are alarmed, right if some beds are alarmed):



Fig 35

- Touch and move one of the two grab points and then push the desktop background to resize the widget to the size 2 x 1.

In this case a short description of the alarm cause can be displayed on the Smart Central Widget, as shown below:



Fig 36
No alarmed beds



Fig 37
One alarmed bed



Fig 38
More than one alarmed beds

To better display the alarm descriptions the widget can be further enlarged to 3 x 1, 4 x 1 and 5 x 1 sizes:

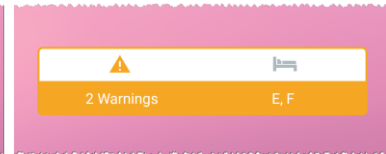


Fig 39

1.10 Annex – Examples of user workflows

1.10.1 Application main features

To select the **Smart Central** application, after login:






- Tap the corresponding row on the Mobile Launcher screen (Fig 40 **A**).

The Central screen opens. The Central screen displays a schematic summary of the status of the medical devices connected to the beds configured in the specific handheld device.

If all the patients of the domain are assigned to the user, then the Central screen represents the beds as a set of squares (Fig 41).

If the current user excluded one or more beds, then the Central screen represents the beds as a set of tiles (Fig 42).

The number or letter displayed inside the square/tile indicates the bed number or letter. On each square or tile, the status of the connected medical devices is indicated in graphic form by the background color and the related icon:

	All the medical devices connected to the bed are on hold.
	There is at least one connected medical device running.
	At least one of the connected medical devices is sending a low priority alarm.
	At least one of the connected medical devices is sending a medium priority alarm.
	At least one of the connected medical devices is sending a high priority alarm.

- Tap one of the squares on the Central screen to display the list of medical devices connected to the bed (Fig 43).
- Tap one of the Device - tiles to access the list of all the alarms provided by the medical device (Fig 44).

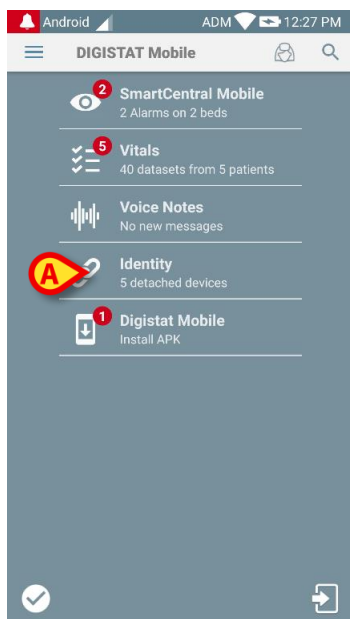


Fig 40

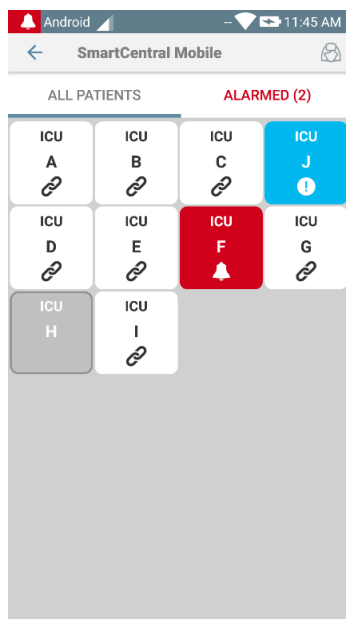


Fig 41

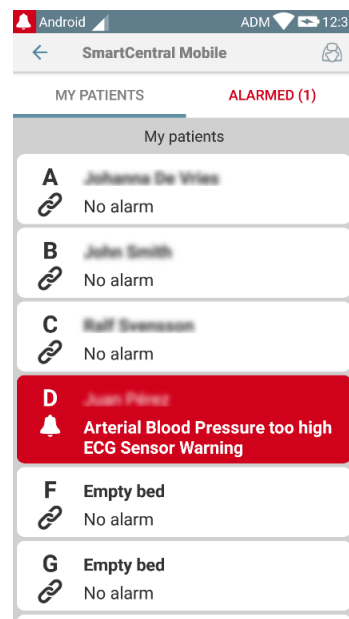


Fig 42

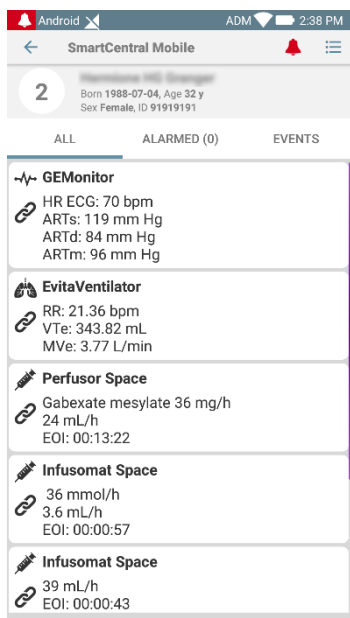


Fig 43

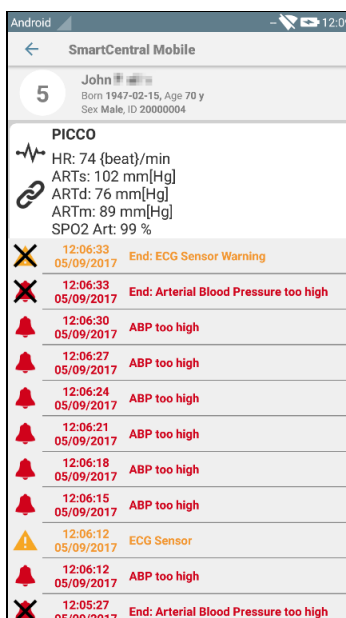



Fig 44

1.10.2 Video streaming functionality

The Smart Central application can be configured to support the video stream of a webcam. This feature enables the visual monitoring of the patient area. If the Smart Central Video feature is enabled, on the Medical Devices list screen an additional button is present (Fig 45).

- Tap the button  to view the webcam video stream (Fig 45 **A**).

1.10.3 Waveforms

Smart Central Mobile can display near real time waveforms collected from medical devices. To enable this functionality it is necessary to enable at least one waveform parameter in the configuration section of the driver capabilities. To access this functionality

- Tap the relevant bed-tile.
- Tap the icon indicated in Fig 46 **A**.

A screen showing the trends of the acquired parameters is then displayed.

1.10.4 Notification Mute

The notifications can be muted in the Smart Central Mobile instances for a specified amount of time and for a specific bed. This possibility is enabled during configuration. To enable/disable the notifications on the mobile workstations:

- Click on a bed-tile to access the bed details screen.

If the “Notification Mute” possibility is enabled, an icon is displayed on top of this screen, alongside the patient data (Fig 47 **A**):

- Tap the icon to open a new view in which it is possible to select the notification mute duration.
- Select the duration and tap **Save**.

When notifications are disabled the icon indicated in Fig 48 **B** is displayed. Below the icon a countdown number indicates the “mute time” remaining.

In the figure, for example, the notifications are disabled for 5 minutes on bed 1. When the countdown reaches zero the icon turns black again and the notifications are restored.

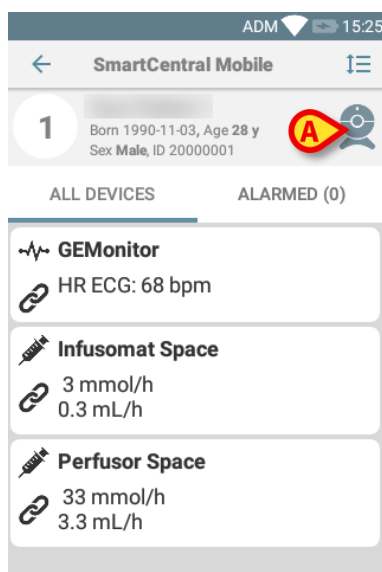


Fig 45

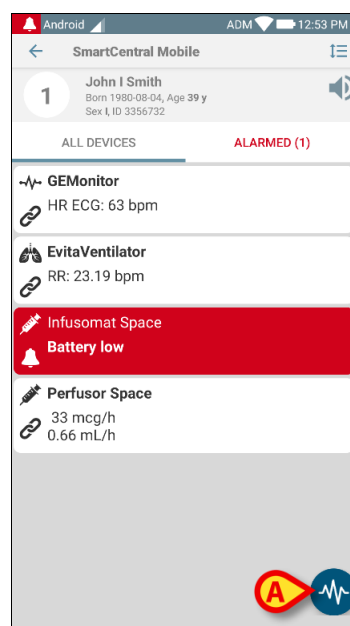


Fig 46

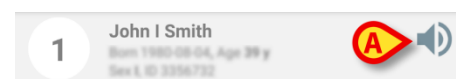


Fig 47

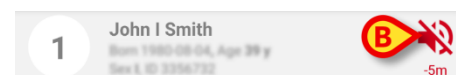


Fig 48