**Dashboard Features.mp4**

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We will assume that you have been through the Getting Started video. We will further assume that you are familiar with standard ventilator terminology and have been through the Inspire 100 operating manual. The most important app in the Inspire 100 collection of apps is the web dashboard. The local clinician operating the physical Inspire 100 system has the front panel of the system to monitor the various parameters. A remote observer, on the other hand, uses the web dashboard for the same purpose and more. The front panel provides a series of snapshots of the entire state of the system. A new snapshot is presented after each delivered breath. The dashboard is much more sophisticated.

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It provides many more views of the system, along with tools to manipulate and analyze those views. The user interface for the dashboard is simple and intuitive. Of course, the local attendant too can use the web dashboard on site. Without further ado, let's fire up our favorite browser and navigate to the URL on your screen. We will use the Inspire 100 system named Bangalore in this demo. Simply select the Bangalore system from the drop down menu and click on Launch Dashboard. The dashboard is launched in a new tab on your browser. As an aside, you can launch multiple dashboards at the same time, each connecting to a different system. Each dashboard will appear in a different tab of the browser. For now, let's get back to the Bangalore Systems dashboard.

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The Bangalore system has been actively delivering breaths for some time, and we will be connecting with it midway. Though it is preferable to launch the dashboard at the time of starting the physical system, it is not a requirement to do so. To begin with, let's set the audible alarms to what we want. Unlike on the physical system, the audio alarms are muted by default. On the web dashboard. We will unmute both the warning and the error alarms. You can use the slider to set the volume of each alarm individually. The dashboard is organized into three sections. On the left is the sidebar. In the middle is the snapshots view. The last section is a live replica of the front panel of the physical system.

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It mimics the display that the local attendant is seeing. The top of the sidebar is a summary of the session so far, like the current breath number, the session start time, etcetera. Next is a summary of the environmental conditions at the Inspire 100 system deployment site. The system temperature, the altitude, ambient oxygen content, etcetera. Next on the sidebar are menu items to select the view you wish to display. By default, the dashboard displays the snapshot view upon startup. At the bottom of the sidebar are miscellaneous controls such as audio, alarms, start slash, stop recording, etcetera. The top left panel in the main body displays all the messages that the physical system displays on its front panel.

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The next section in the main body shows the current state of the system, whether it is on standby, in active, or error state. The top right section in the main body displays patient details that were entered into the physical system at the deployment site. The circled section on the right of the main body shows all the input parameter settings that the system has been programmed to. These include ventilation mode, respiration rate, tidal volume, etcetera. The circled section on the left of the main body shows all the measured parameters. These include the peak, plateau and peak pressures, minute volumes, breaths per minute, etcetera. The circled section at the bottom left of the main body shows the current state of the various dashboard controls. These are controls like audio, alarms, recording display, pause, etcetera.

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Clicking on any of these brings up a menu to modify them if so desired. The circled section in the middle of the main body shows all the relevant F IO2 settings currently programmed into the physical system at the deployment site. Finally, the circled section at the bottom center shows the measured instantaneous lung compliance. This is essentially delta V divided by delta P for the previous breath. The dashboard update can be paused at any time using the Pause Dashboard button. While the dashboard is paused, the status light and the top left section of the sidebar blinks orange. Though the dashboard display is paused, data is still being collected and will be displayed after the dashboard is resumed. While the dashboard is running, you can start recording at any time.

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Starting a recording requires a click on the Start Recording button followed by entering a name for the recording in the pop up form. The recording status light turns on. You can view the recording data by clicking on the View recording button. The Jason objects displayed in the text window are only for use by the development team. The recording can be stopped by clicking on this button again. All the parameter displays are captioned and are self-explanatory. In addition, the units for each are clearly displayed as well. The snapshots view also lets you know if the local attendant is changing the settings on the physical system. At the deployment site, the parameters that are being changed start blinking and the warning logo comes on. The blinking continues till the local attendant commits the new set of parameters.

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Now, to demonstrate how alerts work, we will deliberately introduce a leak in the breathing system that connects to the patient hooked on to the ventilator. The alerts continue till the situation is rectified. We will now navigate away from the snapshots view and explore other views. Clicking on the View Charts button brings up a charts view of ongoing ventilator session. The charts view shows the values of the selected parameters over time. The charts are displayed in the chart box as shown on your screen. You can add as many chart boxes as you wish. Clicking on the Edit button on the chart box banner brings up a menu of parameters to select from. The selected parameters are displayed in the chart box.

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The flashing orange banner on the chart box shows which box the menu belongs to. Let's choose Peak pressure and Peak pressure to be displayed in this chart box. You can also add a title to the chart box if you wish. You can now see the two pressures over time displayed within the chart box. Both the X axis and Y axis are clearly labeled with the appropriate units. So is the legend at the bottom and the title on the top. Now let's add another chart box. Again, you can choose the parameters to display in this box. Note the charts shifting by one breath to the left as each breath is delivered by the ventilator. This is called the play mode of display. The most recent breath is at the right.

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Most some number of breaths are displayed before the most recent breath to provide context and comparison. By default, the X axis is the breath number that can be changed to breath time for a particular chart box. The time displayed is in terms of seconds since the start of the current dashboard session. Clicking on the Delete button on the chart banner deletes that particular chart box. Now let's explore another view for the ongoing ventilator session. This time it is the Waveforms view which is displayed on clicking the View Waveforms button. Just like the Charts view which displays the charts in the chart box, this view displays the waveforms in the Wave box as shown on your screen.

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Again, a menu of possible choices is presented on clicking the Edit button on the Wave box banner. This time, let's choose all. Unlike the Charts view, which provides information across breaths, the Waveforms view dives into each breath. It displays the pressure and flow waveforms for each breath. The breaths are color-coded according to the legend on the top, just like with the charts. The default display is in play mode. The waveform shift left by 1 waveform after each new breath delivered by the ventilator. We will now navigate away from the waveforms view and explore another view. This view is called the Statistics View. Click on the button shown on your screen to bring up this view. As the name implies, this view presents relevant statistics over a range of breaths.

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The statistics are organized into five different sections. The first section, as shown on your screen, displays the minimum, maximum, and average values of various parameters that were measured. These parameters include peak pressure, breaths per minute, minute volume, and a host of others. The next section, as shown on your screen, displays static information such as patient details and environmental conditions at the deployment site. The next section shows the different values of input parameter settings that were deployed during the current ventilation session. Sometimes individual input settings are not as relevant as the combination of settings used. The next section shows all the combinations of settings that were used. It also shows the breath range over which a particular settings combination was deployed.

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The last section shows miscellaneous information collected over the range of breaths. This information covers items such as number of errors, number of warnings, number of patient initiated breaths, etcetera. Just like with other views, the default display mode is Play mode where each new breath is taken into account as it is delivered by the ventilator. We will now navigate away from the Statistics view and move to the Alerts view. To demonstrate the features of the Alerts view, we will deliberately introduce problems in the physical breathing circuit connecting the patient to the ventilator. The alerts are classified into three classes with a separate window dedicated to each the errors, the warnings, and the notifications.

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Now we will disturb the physical breathing system. Let's wait for alerts to be recognized.

As you can see, for each alert, the corresponding breath number and the wall time is shown in the alert windows. The alert messages are accompanied by a brief description of the alert encountered. You would have noticed that we did not discuss the range selector slider at the very top of every view. You would also have noticed that we did not explore the search view.

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The reason is that these two features are two very powerful features in our web applications that need a separate video dedicated to them. That video is next in the series. This concludes our video on the Inspire 100 web dashboard.

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