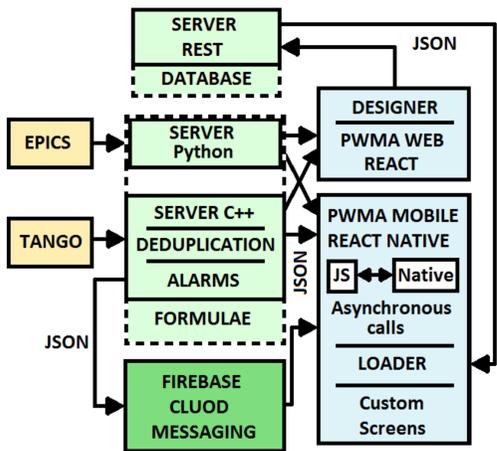




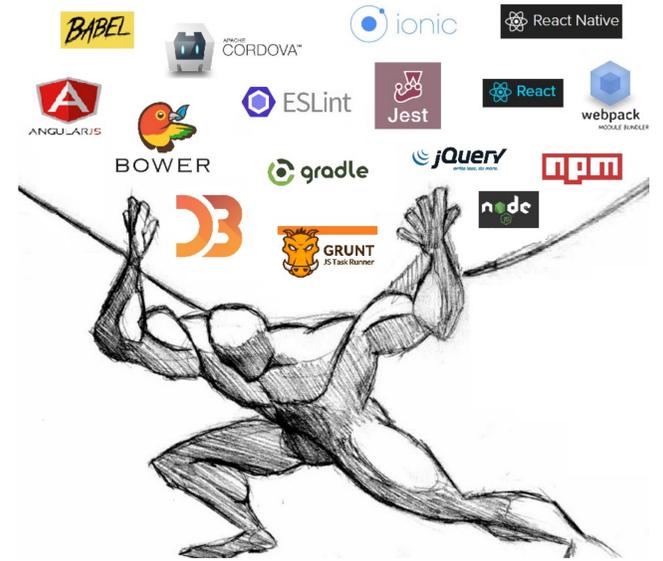
WEB AND MULTI-PLATFORM MOBILE APP AT ELETTRA



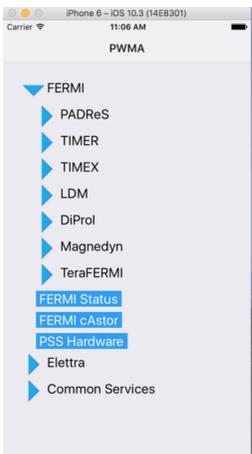
Multi Platform web and mobile app
Event driven WebSocket
Components React & React Native
All in one application

React is a JavaScript library created at Facebook. React implements components as a state machine with well defined state transitions. React is declarative and comes with a custom language JSX (JavaScript Syntax eXtension).

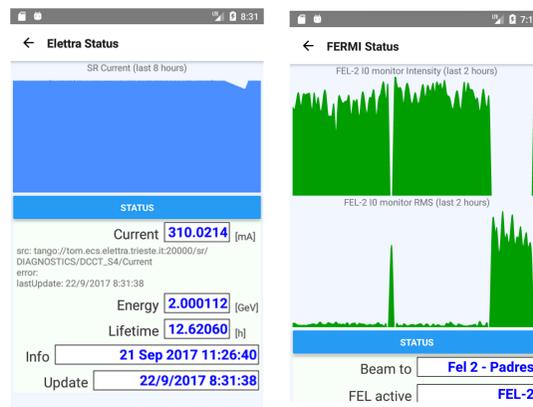
React Native shares the same architecture of React but creates native iOS and Android applications. In React Native JavaScript code runs in a separated thread and generates elements by calling asynchronously platform native procedures. React Native supports WebSockets and doesn't support SSE.



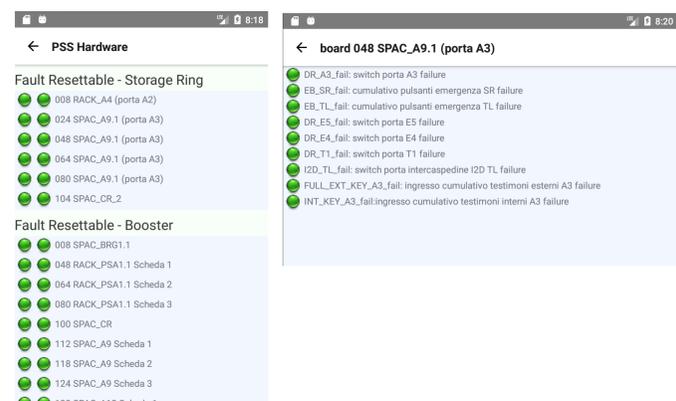
In the **JavaScript** world there are plenty of libraries, frameworks, loaders and utilities, most of them evolve constantly and quickly. The term **JavaScript fatigue** summarizes this situation.



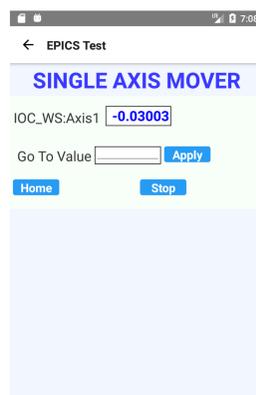
The number of screens till now is about one hundred, but in future it may be much larger. Our goal is to have the possibility to scale up to several thousands screens. We suppose that the only data structure fit to manage these numbers is a **tree-like structure**.



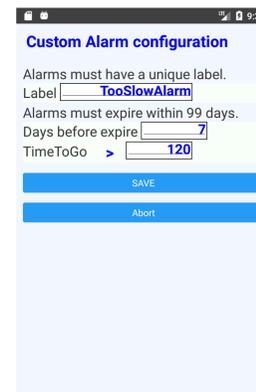
Machine status synoptics share a common pattern. Each is composed by one or two charts always on top because our users asked to put them in evidence. Below the charts there are a few boxes which are by default aligned vertically and closed. Each box contains a few data, each with its label.



The PSS Hardware task is composed by a custom screen and 86 **dynamically loaded** screens which display the state of hundreds of I/O channels of the PSS boards.



We tested the **EPICS connector** using a simple custom screen.



There is a limited implementation of **alarms**, only very easy formulas are evaluated and each generated alarm is delivered to the mobile device through FCM (Firebase Cloud Messaging).

cAstor is a modified version of TANGO Astor. We created a new view which allows to monitor only the stopped device servers. An other extension consisted in browsing up to the attribute level and installing an alarm when crossing a configurable threshold.

