

**Elettra** Sincrotrone Trieste





Platform for Web and

**Mobile Applications** 



https://gitlab.com/PWMA

## 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.

○ ● ○ iPh	one 6 – iOS 10.3 (14E8301)				الند مما
Carrier 穼	11:06 AM I	- ine n	The number of screens t		ens till
	PWMA	now	is	about	one
			15	about	one
- FERMI		hundr	od h	ut in fut	uro it



PADReS				
TIMER				
LDM				
DiProl				
Magnedyn				
TeraFERMI				
FERMI Status				
FERMI cAstor				
PSS Hardware				
Elettra				
Common Service				

nunuleu, but in nutule it may be much larger. Our have the to goal is possibility to scale up to thousands several 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.

	🛿 🖉 8:18 📲 👼 🗳 🗳 🗳 🗳 🗳
← PSS Hardware	← board 048 SPAC_A9.1 (porta A3)
Fault Resettable - Storage Ring	DR_A3_fail: switch porta A3 failure
🔵 🥥 008 RACK_A4 (porta A2)	EB_SR_fail: cumulativo pulsanti emergenza SR failure
🔵 🥥 024 SPAC_A9.1 (porta A3)	DR_E5_fail: switch porta E5 failure
🔵 🥥 048 SPAC_A9.1 (porta A3)	DR_E4_fail: switch porta E4 failure
🔵 🥚 064 SPAC_A9.1 (porta A3)	DR_T1_fail: switch porta T1 failure
🔘 🔘 080 SPAC_A9.1 (porta A3)	I2D_TL_fail: switch porta intercaspedine I2D TL failure
	FULL_EXT_KEY_A3_fail: ingresso cumulativo testimoni esterni A3 failure

	7:08
← EPICS Test	
SINGLE AXIS MOVER	vve tested
IOC_WS:Axis1 -0.03003	the <b>EPICS</b>
Go To Value Apply	connector
Home Stop	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).

🔘 🥥 064 RACK\_PSA1.1 Scheda 2 🔵 🔘 080 RACK\_PSA1.1 Scheda 3 🌔 🔘 100 SPAC\_CR 🃄 🥘 112 SPAC\_A9 Scheda 1 🔵 🔘 118 SPAC\_A9 Scheda 2 🔵 🔘 124 SPAC\_A9 Scheda 3

## The PPS 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.

cAstor is a modified version ← FERMI cAstor of TANGO Astor. We created DI 🖌 a new view which allows to IUFEL MOD monitor only the stopped MPS device servers. An other **MSCR V**PIL consisted in extension ec-pil-plpsr-01 browsing up to the attribute ec-pil-plpsr-02 ec-pil-plr01-01 level and installing an alarm pcw-pil-plr01-01 when crossing a configurable pcw-pil-plr01-03 threshold. > PS 



L. Zambon\*, A. I. Bogani, S. Cleva, E. Coghetto, F. Lauro, Elettra-Sincrotrone Trieste S.C.p.A., Trieste, Italy M. De Bernardi, University of Trieste, Trieste, Italy

\* email address lucio.zambon@elettra.eu