

Auto Re-Configurable User Interfaces, dashboards (Smart UI):

- 1) Flexible + customizable UI design for Human-X collaboration. Where X can be a *computer, machine, machine-tool/robot/cobots* in the factory, *medical device, eHealth, mHealth platform, wearable, building control interface, drone swarm control, mobility UI for transportation, Automotive-AV and Digital Twin* (e.g. **car dashboards for autonomous vehicles****), *energy system in the smart city...* just to mention a few.
- 2) **Advanced UI** for *Data Visualization+Interaction* to visualize/interact with complex Bioinformatic/genomic data, **Digital Twin**, Industrial processes, Mechatronics and sensors data fusion analytics & Financial data).
- 3) Supporting *different devices* (desktop, tablet, smartphones) in a human-centric approach.
- 4) Supporting *Multimodal Interaction* including click, gestures and voice.
- 5) Smart dashboard (UI) for Data-flow feedback visualization between the robot and the human in training processes, through AI/ML and Data Analytics.
- 6) Adaptive and Responsive UI to control/training machines, robots/cobots, buildings, energy systems, etc. using AI. Dynamic UI configuration based on the context and semantics processing.
- 7) Progressive Disclosure UI for *Data Visualization/Interaction*, based on user behaviour (AI-powered).
- 8) UI for XR (Virtual and Augmented Reality VR/AR) to train robots/cobots, for Advance Manufacturing, Industry 4.0/5.0 and human-machine_tool collaboration.
- 9) Smart UI are especially useful to accelerate Rapid Prototyping and Co-creation/Design Thinking in the following scenarios: Proof of Concept (POC), Living Labs, Lighthouse projects; in combination with our methodology of *Collaborative Prototyping*: <https://jimp.co/Methodology> (**no-code** approach)

** For example with the **Mercedes-Benz R&D Center North America** <http://mbrdna.com/>

Permalink: <https://jimp.co/ConfigUI>

<https://www.justinmind.com/>

Motivation for SmartUI

Currently, UI (User Interfaces) for any application, like Dashboard and Control panels or Data Visualization, Data Input or Interaction are very static with a fixed configuration. This means that the controls and Interactions are always the same.

For UI to manage complex processes, the SOTA's approach ends up with a very packed UI where a lot of controls need to be allocated in a limited space.

We are proposing a new approach to go beyond the State of the Art where the UI is automatically configured based on the user behaviour and the context. This approach can also be powered by AI/ML models that analyze user behaviour.

Our areas of expertise are:

- 1) HXI (Human-X Interaction) Where 'X' can be a Computer, a Machine, a Vehicle for mobility in the Smart City, Robot or a Building. High expertise in Human-X Interaction. 'X' can be a Computer, Machine for Factory 4.0 (Production Systems), a Robot/Cobot, a Building, Wearable, Digital Twin or other device like a medical device, an autonomous taxi or a taxi-drone in the Smart City.
- 2) Visualization of data on top of machines in the factory with AR/MR combined with AI using WebXR.
- 3) Working on Big Data, AI/ML and Data Analytics and Data Visualization since 2013
- 4) Software Application Simulation <https://jimp.co/SimulationTask> (almost any proposal involving software can benefit from this)
- 5) XR, Extended Reality. Augmented and Virtual Reality (AR, VR and WebXR). More info in: <https://www.justinmind.com/vr-ar>
- 6) Justinmind prototyping platform has +4 millions lines of code and used by +4 Million users so we have high expertise on Software Engineering.
- 7) More info about our competences in <https://jimp.co/Competencies>