

# Renesas Ready Ecosystem Partner Solution LVGL Embedded UI Library



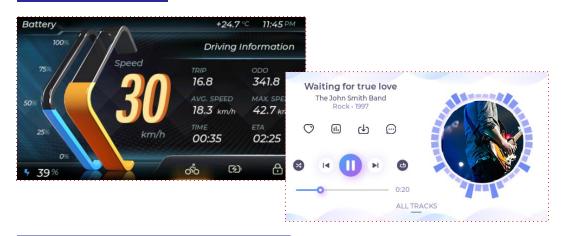
### **Solution Summary**

Light and Versatile Graphics Library (LVGL) is the most popular free and open-source embedded graphics library to create beautiful User Interfaces (UIs) for any MCU, MPU and display type. It makes UI development easier with 30+ built-in widgets, anti-aliasing, animations, multi-language, including Arabic and Persian text, encoder, and keypad usage and more. LVGL provides built-in support for Renesas graphics accelerator and drawing engines, offloading the MCU/MPU during rendering. Support is available for the RA8P1, RA8D1, RA8D2, RA6M3, RX72N MCUs and the RZ/G2L, RZ/G2UL, RZ/A3M MPU evaluation kits and expanding to suitable RA, RX MCU Families and RZ MPU Family.

#### Features/Benefits

- Full featured 30+ built-in widgets, powerful style and layout system, typography support for many languages
- Free and Popular Distributed under MIT license and free for commercial projects, is downloaded every minute from GitHub
- Any device, OS, display For any microcontroller, processor and (RT)OS to drive OLED, ePaper, and TFT displays or monitors
- Services Worry-free UI development via consulting, design and implementation services

# Diagrams/Graphics



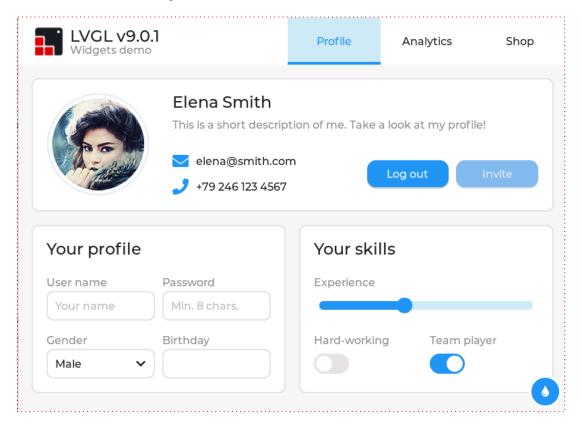
#### **Target Markets and Applications**

- Internet of Things (IoT) devices
- Wearable technology
- · Home automation and smart devices
- Medical and healthcare applications
- · Industrial control systems
- Consumer electronics
- Point-of-sale (POS) terminals
- Kiosks

www.lvgl.io/boards



- Many Widgets LVGL comes with 30+ built in widgets, such as Arc, Bar, Calendar, Chart, Checkbox, Drop-down list, Keyboard, Meter, Message box, Switch, Table, Tabview, Text area.
- Rendering features: LVGL comes with powerful software render engine which can
  draw anti-aliased widgets, and vector graphics using minimal resources. The GPUs
  can work together effectively with software rendering.
- **Powerful styles**: Choose from 100+ CSS inspired style properties to style the widgets run-time, change theme, or animate the style properties.
- **Responsive layouts**: Use web inspired Flexbox and Grid layout engines to position the widgets automatically in a responsive way.
- **Fonts and texts:** By supporting UTF-8 encoding, Right-to-Left writing systems, and translations, localizing the UI is not an issue.



## **Minimal requirements**

- Clock speed: > 64MHz
- RAM: 4kB + 150byte / widget (~48kB for a UI with a few screens)
- Flash: ~100kB for LVGL (depends on the enabled features)
- Draw buffer: > 1/10 screen size buffer for rendering
- Frame buffer: at least 1 frame buffer in a display controller, internal- or external RAM
- **Compiler**: C99 or higher
- Build system: LVGL has no external dependencies. Just copy it into your project and compile it with the other files of your project