Guiliani – Product brief

guiliani.de

V0.3 Nov 16th 2016

Overview

Guiliani is a C++ software framework enabling the creation of visually appealing, hardware and OS platform independent GUIs for embedded systems.

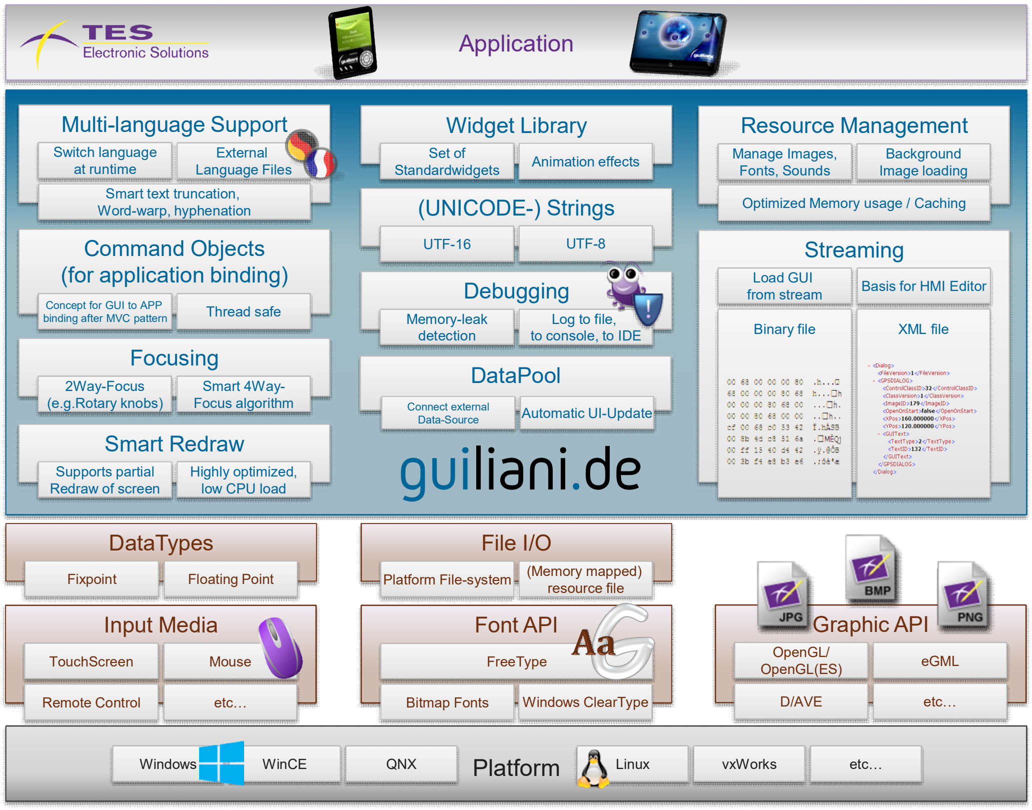
Guiliani adopts the philosophy of *write once, compile for & run on many different target hardware*. Once a Guiliani application has been developed, it can run natively on supported target platforms. When using Guiliani, the usual development workflow is to design the application on a PC and target a set of embedded operating systems for production release.

Minimum HW requirements

Criteria	Requirement
MCU	100MHz
ROM	~700kb for Guiliani without resources
RAM	~50kb for Guiliani without resources
Compiler	C++ Compiler with exception Support
Operating system	“bare-metal”, many OSs supported

Architecture overview

Guiliani is split into two layers, the Guiliani runtime-engine and a platform abstraction layer.



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Features

System, platform and peripherals

- Object-oriented GUI framework for embedded systems using C++
- **Optimized for embedded devices**
  - Low memory consumption
  - Minimized CPU usage
- **Operation system independent**
- **CPU independent**
  - Support for fixpoint / floating point CPUs
  - So far supported embedded platforms include: Renesas RZ/A, RZ/G, SH2, RX600, ST STM32F429, ALTERA NIOS II, Intel x86,…
- Independent of graphics/font engine
- Supports all types of input media
- **Support for subpixel-accurate rendering**
- Support for hardware-specific capabilities (e.g. hardware graphic layers)
- UNICODE support
- Prepared for thread-safe integration into existing applications

GUI features

- Large set of pre-defined widgets
- **Easy to customize existing widgets or to integrate new widgets**
- **Support for animations**
- **Multi-language support (dynamically switchable at runtime)**
- **Image-sets (skinning)**
- Automated layout of GUI elements
- Rich-text support
- **Smart redraw mechanism and resource-management**
- GUI can be devoloped independently from applications

Application development & support

- **Comprehensive and up-to-date documentation**
- **Customizable trainings regarding content, location and time**
- Tutorials available
- Integrated debugging mechanism
- GUI design and behaviour is stored in XML or binary description-files
- Easy communication with external applications

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