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GELIN – GINZINGER EMBEDDED LINUX

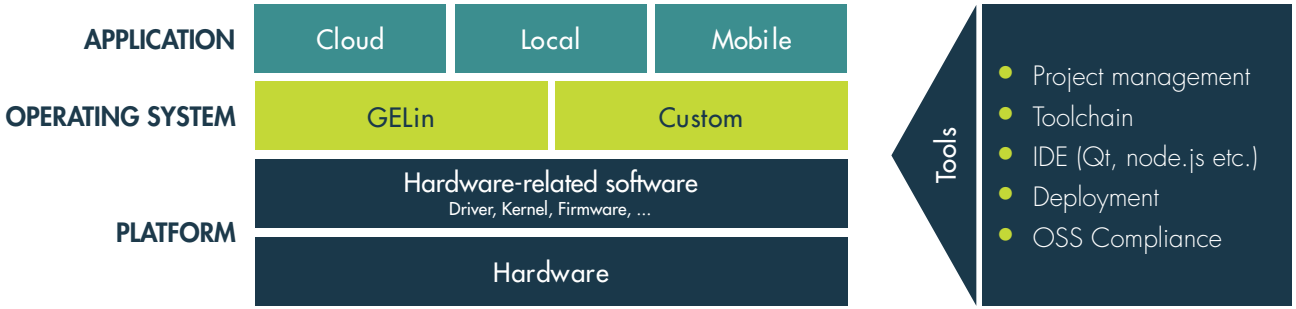
THE ROBUST AND RELIABLE PLATFORM
FOR YOUR DEVICE DEVELOPMENT

GINZINGER
electronic systems

01 ONE-STOP FOR ALL YOUR NEEDS

Complex devices consist of different components. Hardware, software and mechanics must work closely together to guarantee long-term stability of the system. The weakest link in the chain is responsible for the total quality.

We at Ginzinger electronic systems develop and produce tailor-made, fully integrated embedded complete solutions for you. With GELin, our embedded Linux distribution, the hardware and software platform for your solution is provided under one roof.



02 WHY GELIN?

Ginzinger Embedded Linux (GELin) ist a Software Development Kit (SDK) for the development of embedded systems. The well-coordinated software packages are enhanced by a modern development toolchain an extensive documentation.

For over ten years, state-of-the-art Linux components have formed the perfect basis for a stable open source platform. This is resource-saving and can be flexibly adapted - only necessary software components are used.

A swift start into the project and early results thanks to:

- Training Workshops
- Extensive documentation
- Support from our experts

Approved methods, professional development frameworks and verified interfaces enable efficient application development.

Collaborative web tools allow a close development cooperation and ease the seamless integration of your application and the plattform.

GELin provides you with a rich feature set [1] for your successful embedded development:

- Real-time Linux,
- Fail-safe update mechanisms,
- Data storage in case of power failure,
- extensive touch display support,
- modern frameworks like Qt, node.js and much more

Built for a connected world, GELin supports a variety of cable and wireless connectivity options. Regular updates and security patches keep you in a secure and maintained environment. Optimized to the customer-specific hardware, GELin enables minimum boot times and update duration.

Due to various tools for meeting open source compliance, you can also create proprietary applications - which you do not have to disclose - while complying with the obligations required in the licenses.

YOUR ADVANTAGES

- Easy application development
- Quick start with DevKits & development environment
- Hard- and software optimally adapable for your project
- Stable and tested platform
- One contact person and clear responsibility
- Ongoing development of the SDK
- Long-term availability and support

[1] All GELin features can be found on the last page.

03 IN THE FAST LANE TO YOUR SOLUTION

REQUIREMENTS ANALYSIS

Specification of necessary computing power, interfaces supply, form factor and many other topics.

OPTIMUM PRICE/ PERFORMANCE RATIO

Together we make the right decisions for the details of the implementation at an optimal price/performance ratio.

TAILOR-MADE SOLUTIONS

Ginzinger electronic systems creates the optimal platform of hardware and software components for you.

TRAINING

We train your developers and get them ready for application development.

PROGRAMMING APPLICATIONS IMMEDIATELY

You can get started immediately on a PC-based Linux system and a development kit with the selected target processor.

FASTER TO THE PROTOTYPE, FASTER TO THE PRODUCT

- Operating system and tools are ready to use = no compiling of kernel or tools necessary
- Quick start into the project with development kits, detailed tutorials and project templates
- Comprehensive documentation, workshops and development support
- Start with software development even before series hardware is available
- Use of proven open source software components

OPTIMUM PRICE/ PERFORMANCE RATION FOR EVERY APPLICATION

- Scalable computing power from basic controllers to multimedia applications
- Fully integrated and well-proven hardware and software components
- Frameworks for modern user interfaces and connectivity
- Mainline Linux with unified programming interfaces
- Only one partner for your hardware and software platform

LIFE CYCLE MANAGEMENT LONG-TERM SUPPORT

- Continual development and cyclic updates
- Security hot fixes for critical threats
- Professional and uncomplicated support
- Long-term support and easy migration to new hardware generation
- Up-to-date software components also for existing platforms
- Component life cycle monitoring and discontinuation support (PCN)

GELIN FEATURES - THE PLATFORM FOR YOUR IDEA

- **Customized Kernel Images**
  - > Based on long-term-support mainline Linux kernel
  - > Drivers for your tailor-made hardware
  - > Optimized for i.MX NXP ARM architecture
  - > Linux real-time preemt_rt kernel
- **2D/3D graphics and video acceleration**
- **Network and communication**
  - > CAN (FD), Ethernet, I2C, UART, SPI
  - > Bluetooth, WLAN, Zigbee
  - > HDMI, PCIe, USB
  - > Network stacks and frameworks
  - > Ready for Cloud Connectivity
- **Robust memory**
  - > Data storage in case of power failure (power cut tolerant)
  - > Tools for NAND flash lifetime estimation
  - > Extended Data Retention
- **Customer-specific adaptations**
  - > Individual interfaces
  - > Power Electronics and Power Distribution
  - > High-precision sensor technology
- **Distributed intelligence**
  - > Integration with µC for distributed I/O processing and demanding real-time requirements
- **Modern user interfaces**
  - > Robust and scalable MultiTouch displays
- **Easy start for development**
  - > Integrated development environment: QtCreator
  - > Supported frameworks: Qt, node.js etc.
  - > Development templates for quick project start
  - > Extensive Software Packages
- **Tools and test equipment suitable for industrial use**
  - > Unified test and diagnostic interfaces
- **Simple update**
  - > Fail-safe Over-the-Air (OTA) update system
  - > Can be used safely by end users as well
- **Long-term care**
  - > Even legacy products can still be supported with the current GELin version
- **Open source license management tools**
- **Consistent, comprehensible and documented architecture**
- **Embedded security**
  - > Scalable and sustainable security concepts

GINZINGER
PARTNER NETWORK

Ginzinger is a member of the Open Source Automation Development Lab (OSADL) and is actively involved in the ongoing development of Linux in industrial environments. This way we are always at the forefront and know in which direction the Open Source world will evolve.

For the ideal design of your whole device and the development of applications and implementation of new business models like IoT or Cloud based devices, we provide contact to an expert network and project coordination of selected partner companies with specialist know-how in the field of:

- User interface design
- Cloud und IoT
- Surfaces and material design
- Embedded and industrial security
- Mobile app and application development

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