PIXIL™

A complete, commercial-ready operating environment for smart flat-panel devices

Feature Set

Century Embedded Technologies' PIXIL™ operating environment is an embedded Linux® software solution designed specifically for today's emerging market of **smart flat-panel devices**, such as: PDAs, cellular phones, Internet appliances, vending machines, elevators, and gasoline pumps.

PIXIL includes a powerful and proven graphical API, user friendly system utilities, key applications such as a PIM, Internet connectivity, and multimedia applications. Combined with a fully supported SDK and engineering services for developing custom applications, it is clear PIXIL provides a **complete** solution for graphical embedded Linux.

PIXIL: Fully tested, supported and **commercial ready**—just add hardware.

Pixil Operating Environment
- Based on the leading 2.4 Linux distribution
- Support for Microwindows and X Window System
- RAM and flash file systems
- Touch-screen drivers
- Sound drivers
- Xlib-like API for graphics functions
- Screen drivers for 1–32 bits per pixel, grayscale and color
- Unicode-16 and Unicode-32
- UTF-8, TrueType, and Adobe Type 1 font support
- Chinese National Standard GB2313 and Big5 encoding
- Anti-aliasing and alpha blending
- GIF, JPEG, XPM, PNG, and BMP image format decoding, caching, and display
- PCMCIA and Compact Flash TCP/IP networking
- Serial and modem PPP networking
- Screentop application and window manager/launcher
- Screentop keyboard
- Handwriting recognition
- Touch-screen calibrator

Personal Information Management
- Address book
- ToDo list
- Scheduler
- Notes
- Calculator
- Desktop Synchronization

Applications
- ViewML Internet browser
- Email client
- Network configuration utility
- System configuration utility
- Terminal emulator
- Battery monitor
- Multimedia MP3 audio player
- MPEG 1 & 2 digital video player
- Voice recorder

Software Development Kit
- Source code
- Runtime binaries
- Complete tool chain
- All required libraries
- Desktop development for target platforms
- FLNX 2D, 3D widget set
- Email and telephone support
- Complete documentation

	ViewML	ViewML[ULTRA]
System		
Software Base	KDE, KFM 1.0	Mozilla 0.9.3
Graphical Environment Support[1]	Microwindows, X11	X11
Runtime Memory Footprint[2]	2.4 Mbytes	$\cong$ 32 Mbytes[3]
Disk Footprint[4]	900 Kbytes	$\cong$ 18 Mbytes (compressed)
Browser		
HTML	HTML 3.2, Frames, Forms	HTML 4.0
Cascading Style Sheets	no	CSS 1/2
Image Support	GIF/JPEG/PNG/BMP/XBM	GIF/JPEG/PNG
JavaScript	JavaScript 1.1 (limited)	JavaScript 1.4
Java Virtual Machine	no	Open JVM Integration (Mozilla OJI)
Secure Socket Layer	SSL Version 2/3	SSL Version 2/3
XML	no	XML 1.0
Plugin Support[5, 6]		
Netscape Plugin Support	no	most
RealPlayer	no	RealPlayer 7/8
Flash	no	yes
Acrobat Reader	no	Acrobat 4.0
Scalable Vector Graphics	no	W3C SVG
Integrated Applications		
Mail Client	no	POP, IMAP, SMTP, MIME, Attachments
News Client	no	NNTP
Chat Client	no	yes
FTP Client	no	yes
Gopher Client	no	yes
Instant Messaging	no	yes[7]

NOTES
1 — Graphical environments use additional memory at runtime and require additional system storage.
2 — Runtime memory usage measured with "top" immediately after application launch and successful loading of test web page.
3 — Not all application components are loaded into memory at one time.
4 — Disk storage measured with "du" from base application directory.
5 — The use of plugins require additional memory at runtime and additional system storage.
6 — Netscape plugin support is only available under X11 on x86-compatible hardware.
7 — Instant messaging compatibilities with existing Linux protocols.

Embedded Linux

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PIXIL Operating Environment

The PIXIL operating environment provides the foundation for all PIXIL applications. Unlike other embedded Linux offerings, PIXIL has been hand-tuned and optimized by Century specifically for embedded devices. The Microwindows graphical windowing system is at the core of the PIXIL solution for smart flat panels. Microwindows, unlike other windowing systems, was designed from the ground up specifically for embedded Linux. PIXIL features minimal disk and RAM requirements, is designed for portability, and can run on a wide variety of hardware platforms and processors. Key applications delivered with the PIXIL Operating Environment include:

- Screentop application launcher and file manager
- Handwriting recognition
- Pop-up keyboard
- System time and date including world clock
- Graphical network configuration utility
- Graphical system configuration utility
- Backlight control and power manager
- Screen calibrator

PIXIL Personal Information Manager

The true measure of any PDA is found in the strength of its Personal Information Manager (PIM). PIXIL PIM offers a collection of robust, ready-to-use software applications that includes an Address Book, Scheduler, Notes, ToDo, and calculator. PIXIL also includes a global search utility to quickly locate needed data. Plus, all PIXIL PIM applications can be easily synchronized with their desktop counterparts found in PIXIL Desktop.

PIXIL Desktop

The PIXIL Desktop boasts a complementary set of applications that share data with their PIM counterparts resident on the PDA or other flat-panel device. The PIXIL Desktop provides a comprehensive solution that will maintain addresses, scheduled appointments, a to-do list, and notes, synchronizing the user data between the PIM suite and desktop. The PIXIL Desktop also has a graphical update utility that allows the PDA system to load updated software and facilitates the addition or removal of programs with simplicity and ease.

PIXIL Internet Connectivity

The PIXIL Internet Connectivity software offers a set of robust applications designed for the Internet. Devices containing a modem, Ethernet or wireless networking hardware access the web using a software suite featuring:

- ViewML™ Internet Browser
- Mozilla Internet Browser
- Email client

PIXIL Applications

In addition to traditional PIM and Desktop collections, PIXIL also boasts expanded features that include a set of multimedia, and utility applications:

- MP3 player
- Voice recorder
- Terminal emulator
- MPEG 1/2 Multimedia Video Player

PIXIL Software Development Kit

The PIXIL Software Developer's Kit (SDK) allows easy modification and enhancements to existing PIXIL applications. You can change the look and feel of the screentop and create custom applications that seamlessly integrate into the PIXIL environment. PIXIL SDK also includes a desktop emulation of the target device that enables the developer to create, test, and execute applications on the desktop without having the actual target device, saving development time and dramatically decreasing time to market.

PIXIL Engineering Services

Century Embedded Technologies offers complete engineering solutions in graphical, embedded and Linux technologies. Professional consulting services that deliver custom applications tailored to your needs. Century's engineering team has a proven history of quickly enhancing and optimizing Linux applications and working in the Linux environment to develop state-of-the-art solutions for:

- Graphical windowing environments
- Custom application development
- Multimedia audio and video
- Customized Internet browsers
- Wireless networking and applications
- Feasibility research

Century is an Embedded Leader

Since 1985, Century has been developing leading-edge technologies. Our Embedded Technologies division creates technologies optimized for embedded Linux to minimize memory requirements, reduce costs, and decrease time to market. Century has demonstrated a commitment to the open-source community by creating and maintaining a number of open-source projects, including the Microwindows project and the ViewML Internet browser project, used by thousands of organizations and individuals.

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