Graphical User Interfaces for MT!-ITRON 3.0

U S Software's NetPeer™ and SuperPeg™

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EMBEDDED EXCELLENCE

U S Software and MT!-ITRON

- **MT!-ITRON 2.0 introduced in Fall 1996**
  - **Based on μITRON 2.01 specification**
  - **First U.S. company to support μITRON**
- **MT!-ITRON 3.0 introduced in Fall 1998**
  - **Based on μITRON 3.0 specification**
- **Based on U S Software's MultiTask!™ kernel**
  - **Stable kernel with 15 year history**
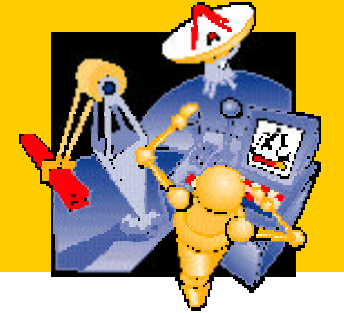- **MT!-ITRON 4.0 will be developed**

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Product Integration and Testing
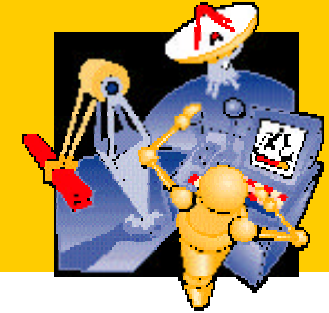
Processor	MT!-ITRON 2.0	MT!-ITRON 3.0	USNet®	USFiles®	NetPeer™
x86	Y	Y	Y	Y	Y
386PM	Y	U		Y	
SH	Y	Y	Y	Y	U
ColdFire	Y	Y			U
CR16	Y				
CR16B	Y	Y			
M*Core	Y	Y			
MIPS	Y	Y	Y	Y	U
PowerPC	Y	Y			
68K	Y	Y			
ARM	Y	Y	Y	Y	U

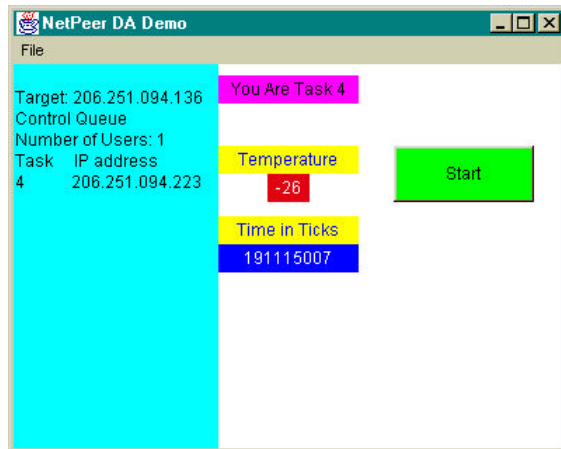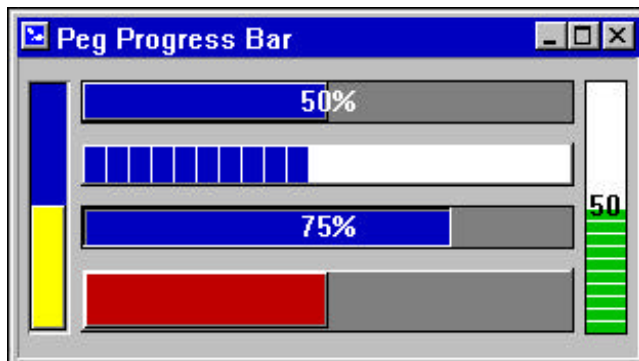Y = yes, product integrated

U = underway, integration in progress
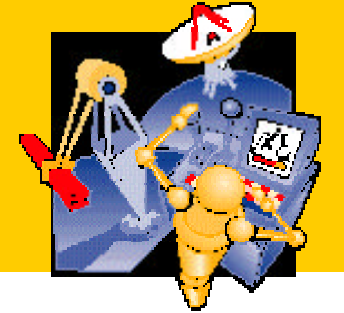
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GUIs for µITRON

Local: SuperPeg

Remote: NetPeer

- **Recently added a local GUI (SuperPeg)**
- **Complements our NetPeer product**
- **This combination allows GUI access at the target as well as from a remote workstation**

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NetPeer: Distributed Operating Environment

- **Gives embedded target control of remote desktop**
  - Provides GUI, file I/O, notification, database, etc...
- **Library (< 16kb) linked in with application**
- **Communicates with a workstation application**
  - Workstation application written in Java
  - Down load free http://www.netpeer.com
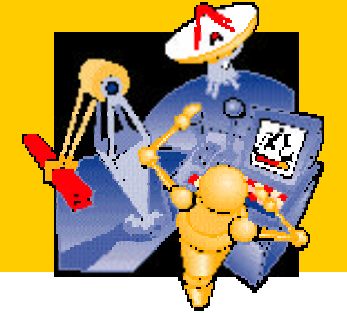- **µITRON 3.0 support available in source code**
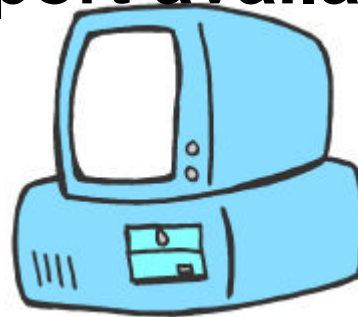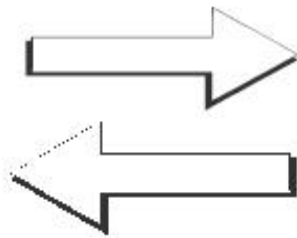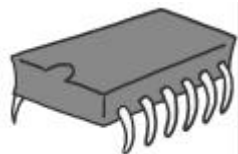
トランジスタ技術

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NetPeer Sample

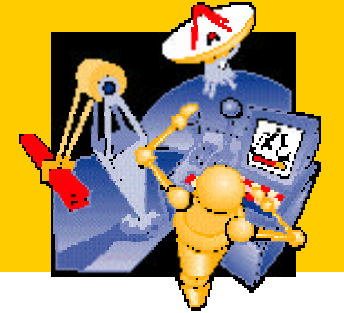- ■ **Simple interface example**

- ■ **Each task has own GUI**

- ■ **Each task has own TCP/IP socket**
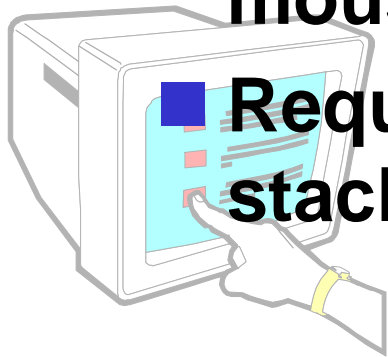
- ■ **Multi-user**

- ■ **Information returned from ref_tsk()**

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SuperPeg: Embedded GUI

- **SuperPeg adds a GUI directly on the target system**

- **Source code in C++, provided royalty free**

- **Presently x86 real mode and 386 protected mode supported for Microsoft tools**

- **Provides drivers for I/O devices such as a mouse or touch screen**

- **Requires approximately 100K code, 4K stack, and 8K RAM for full-featured GUI**

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SuperPeg Features

Some SuperPeg Controls

BUTTON

☐ Check Box

◯ Radio Button

| Text Entry |
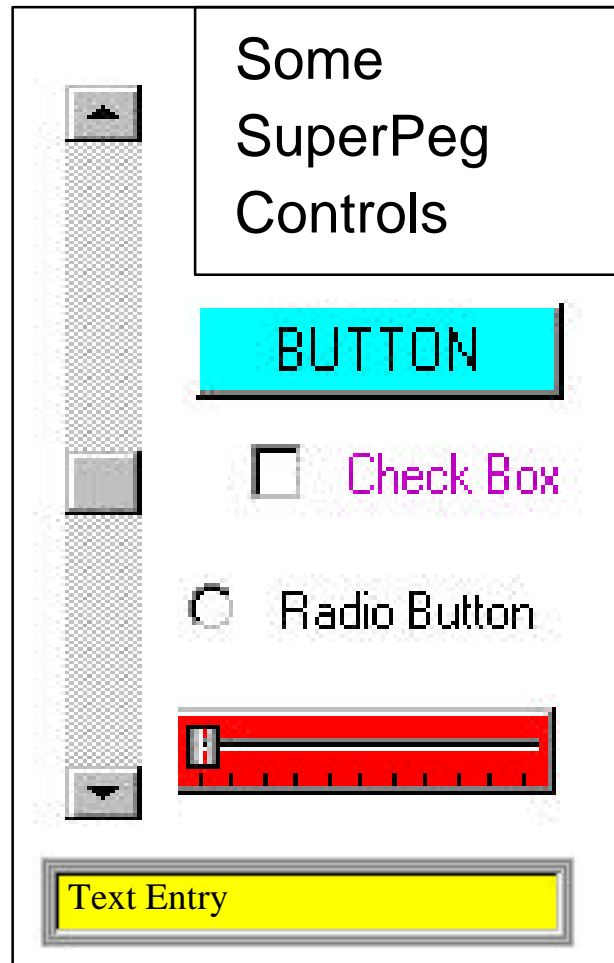
- ■ **Drawing Routines (circle, line, plot, etc.)**

- ■ **FontCapture supports Unicode fonts**

- ■ **Image Convert compresses .bmp, .gif, and .jpg images**

- ■ **Window Builder creates skeleton code for a user created window**

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SuperPeg Sample
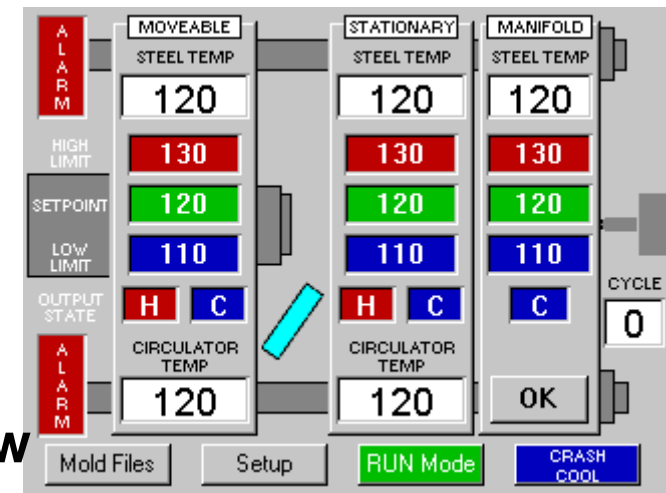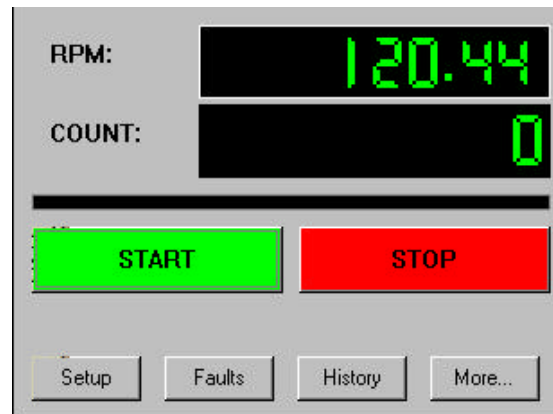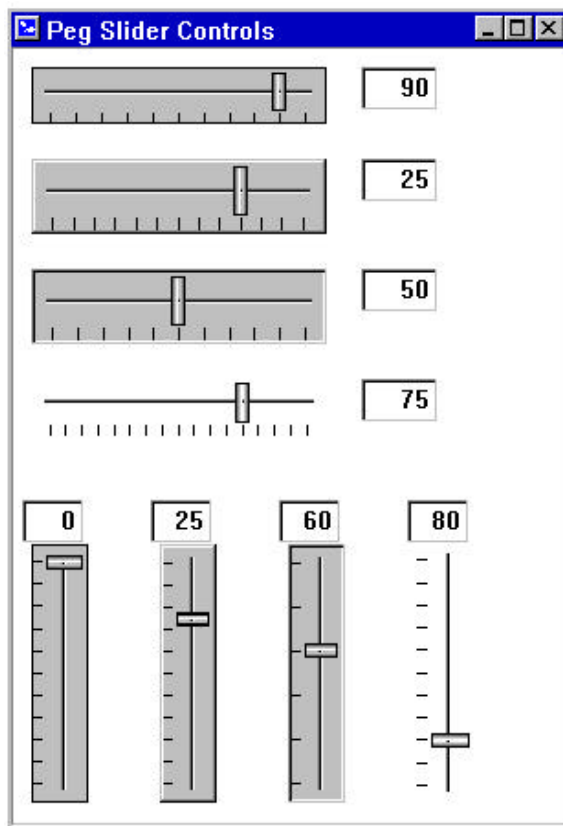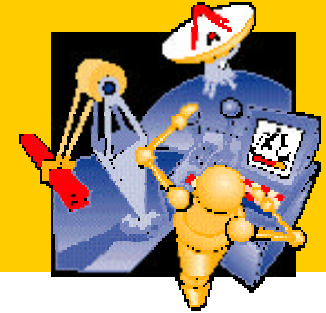
■ **The default window styles can be customized**

■ **Controls (buttons, sliders, etc.) can send messages between tasks**

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Conclusion

- **U S Software provides a variety of products that integrate with µITRON RTOSes**
- **In the future, we will:**
  - Continue development and support of MT!-ITRON 3.0
  - Port MT!-ITRON 3.0 to new processors and compilers
  - Develop MT!-ITRON 4.0 to comply with µITRON 4.0
- **We provide a local embedded GUI (SuperPeg) and a distributed operating environment (NetPeer), which add great flexibility to an application using a µITRON RTOS**

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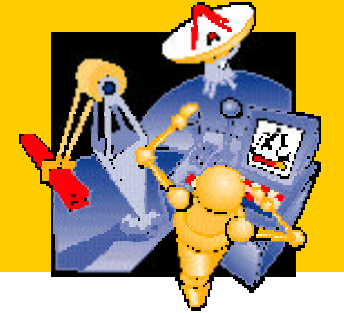
U S Software Booth Presentation
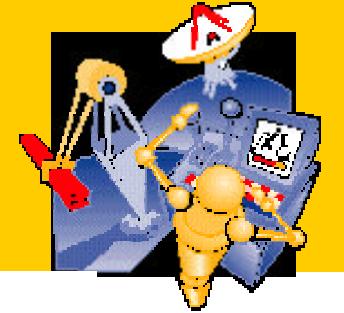
ＵＳ Softwareが提案する インターネットソリューション
― インターネット家電編 ―

本日午後4時30分より
ＵＳ Software社ブース(#544)にて

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