Multimedia Embedded - summary

- **Embedded Systems**

- **Microsoft embedded & multimedia tecnologies**
  - MS Windows XP MediaCenter (OEM ed.)

- **Open Source alternative**
  - MythTV based on Linux
Embedded Systems

• Device hardware highly integrated:
  - Reduced weight
  - Reduced I block
  - Low power consumption

• Operating System:
  - Compact
  - Light
  - Efficient
  - Portable
  - Interactive
Embedded Systems

- Integration/Interaction with external world:
  - BlueTooth
  - WI-FI
  - GSM/GPRS/UMTS Support
  - IPv6
XP = eXPerience

• The Ideal platform for application development:
  • Rapid development
  • Multiplatform
  • Flexible
  • Scalable

• The starting point for developing .NET:
  • A framework for Windows systems and others (*nix: Mono, Dotgnu)
  • A compact framework for embedded devices
Why .NET?

- Scalable: key requirement for developing SW
- .NET makes this transparent to the developer
- Idea introduced by SUN with Java2 EE
- Big advantage: Tested implies “Stable”
Why .NET?

An Example

Parking Management
MS Windows XP MediaCenter

• SetTopBox
• Windows XP without a standard graphic interface
• Integration with multiple media
• Manageable by remote control

• Features:
  • TV receiving (WebTV)
  • Multimedia contents (interactive TV)
  • TV events recording on DVD
  • Internet Surfing and mail checking
  • Centralized control of HI-FI, VCR, DVD Player, etc. systems
MythTV

- OpenSource alternative
- GNU/Linux based
- No dedicated hardware is necessary
- An XP-MC clone with more features
Linux Kernel 2.6

- Ready for embedded
- Preemptive (by Robert Love)
- Scheduler $O(1)$ (by Ingo Molnar)
- Real Time Customizable
Conclusions

- World is moving towards embedded
- MS and GNU are ready for this revolution
- Multimedia and Usability will be key points
- Market evolution obviously hard to foresee
References

- http://research.microsoft.com
- http://www.microsoft.com/windowsxp/mediacenter
- http://www.mythtv.org
- http://www.kernel.org
Multimedia Embedded

Question & Answer
Multimedia Embedded

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