InfinityLabs R&D
a matrix company

Open R&D Lab

Fundamentals

- Data Strucutures Theory and Real-World Implementations
- Algorithms Theory and Real-World Implementations
- Operating Systems Theory System Programming
- Network Software Development & Distributed Systems
- Real-World Software Engineering Practices

Best Practices

- NASA Coding Standard
- Reading Code & How to Review Code
- Interface Design
- Shared Objects/DLLs
- Build-Process Internals
- Multi-Platform Development
- Debug & Release Mode Development
- Agile Software Development
- Continuous Integration
- Spiral Development
- Done means Done
- Accurate Time Estimation
- Industry Quality Deliverables

Languages

- Multi-Language Development
- bash
- C
- C++
- Java – *optional*
- C# – *optional*
- Python – *optional*

Development Paradigms

- Procedural Programming
- Functional Decomposition
- Dynamic Programming
- Object Oriented Programming (OOP)
- Generic Programming
- Rule-Based Programming
- Event-Driven Systems
- Unit Testing
- Plug & Play Frameworks
- Multi-Platform Development
- Cross-Platform Development
- Multi-Platform Development
- Framework Development
- Project Lifecycles
- Design Patterns
- Multi-Paradigm Development

Embedded/RT

- Linux System Programming
- Linux Drivers & Kernel Intro
- Embedded Targets
- Cross-Compilers
- Remote Debugging
- Crash Dump Analysis

Environments

- Linux
- Windows – *optional*
- Android – *optional*
- iOS – *optional*
- .Net – *optional*
- VxWorks – *optional*

Tools

- Eclipse
- Wireshark
- Makefiles
- Revision Control
- Optimizers / Profilers
- Debuggers
- Code Blocks – *optional*
- VStudio – *optional*
- emacs - voluntary

Architectures

- Event Loops
- MVC / MVVM
- Multi-Process Systems
- Multi-Threaded Systems
- Distributed Systems
- Client /Server
- Multi-Platform Systems

Miscellaneous

- Linux Admin for Developers
- SQL
- STL/boost
- C++ internals
- GPIO
- UML – *optional*