A Multi-Architectural Approach to the Development of Embedded Hardware

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My project focuses on the application of object oriented design patterns at a low level in an attempt to make both hardware and software development more easily accessible to the general public. Creating interactive objects and environments is often time consuming and requires a substantial knowledge of programming. This is a direct result of the fact that the current method of programing an embedded system is viewed by the programming community as a fundamental component that needs little modification. By developing an operating system which incorporates object oriented design patterns at a low level, embedded hardware running said system can be controlled dynamically and in real time from a host device such as a PC. The faster and more fluid interaction with active programs as a result of such an implementation facilitates the ergonomic creation of the previously mentioned objects and environments. By enabling developers to interact with the hardware without compiling a single line of code, a suite of development tools can be used to achieve the same functionality as hardware running a compiled program with little or no previous programming experience.

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