

CROSS PLATFORM GAME DEVELOPMENT: USING SDL TO MAKE TINY MEN APPEAR TO RUN AROUND

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SDL, or “Simple DirectMedia Layer,” is an open-source game-development library written in C for use with both C and C++ which is both highly flexible and comprehensible, despite, or perhaps even because of its low-level nature. There are several alternative libraries available, many of which make heavier usage of included libraries for functions such as rotation or surface blitting. While such systems allow for more immediate results, SDL instead has created an elegant and simple low-level system that allows programmers to learn about how these underlying functions actually work, and enable them to potentially modify such functions a great deal for their own specific game, depending on their requirements.

I will briefly explore the use of surface pointers and the Uint32 data type as examples of SDL's means of ensuring compatibility across platforms, and explain the basic types of objects in SDL and a breakdown of its sub-libraries. Then, I will illustrate with code examples how SDL uses a clear and trim structural layout to maximize code re-use and increase code readability. I will move on to cover cross-compilation and cross-platform distribution using the GNU C Compiler, and, to compile from Linux for a Windows machine, MinGW, a Windows build tool.

I will also cover the advantages and potential trade-offs with object-oriented design in regard to games, and compare versions of code written using different programming philosophies but which produced rather different code, as well as discuss some problems common to independent developers developing in very small teams.

By using SDL for developing my own games, I have found it to be an intuitive and simple library to use, and ideal for programmers new to game development who are interested in learning about how the innards of common functions and classes operate. There are a great deal of resources available for learning how to initially create some common game objects such as timers and projectiles. Overall, I have found SDL to be an excellent library for my purposes.

SDL is a very flexible and powerful game development library which runs quickly, has a clear, small set of extensible data types and rules for their use. It enables both cross-platform distribution with little effort, and allows end users to simply double click an executable and run the game, with no further setup required.