**Inviolable - Definition**

**in·vi·o·la·ble**  
/inˈvīələbəl/

adjective
adjective: inviolable

never to be broken, infringed, or dishonored.

"an inviolable rule of chastity"

synonyms: inalienable, absolute, untouchable, unalterable, unchallengeable, unbreakable, impregnable; sacrosanct, sacred, holy, hallowed;  
* rare intemerate

"the inviolable right to life"

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*These are properties of NuttX that can be certain of for all time*
The Inviolables

**Strict POSIX compliance**

- Strict conformance to the portable standard OS interface as defined at OpenGroup.org.
- A deeply embedded system requires some special support.
- Special support must be minimized and the portable interface must never be compromised only for the sake of *expediency*.
- *Expediency* or even improved performance are not justifications for violation of the strict POSIX interface

**Modular Architecture**

- The internal modular architecture of the OS must maintained.
- This means formalizing and documenting all internal interfaces (in the porting guide), minimal use of global variables at the interface, and only well defined functional interfaces.

**Clear, Consistent, Standardized Coding Style**

- Strict conformance to the NuttX coding style. No "revolutionary" changes to the coding standard (but perhaps some "evolutionary" changes).
- Personal or organizational *preference* is not a justification for a coding style change.
- Nothing can come into NuttX that does not follow the coding standard.
- *Expediency* is not a justification for violating the coding standard.
Open and Unencumbered License

- Currently BSD 3-clause or compatible: BSD 3-clause with constraints, BSD 3 and 4 clause, MIT, public domain
- Other unencumbered licenses such as Apache may be considered
- NuttX will never be licensed under a restrictive, "Copyleft" license.

All Users Matter

- All support must apply equally to all supported platforms. At present this includes Linux, Windows MSYS, Windows Cygwin, Windows Unbuntu, Windows native, macOS, Solaris, and FreeBSD. No tool/environment solutions will be considered that limit the usage of NuttX on any of the supported platforms.
- Hobbyists are valued users of the OS including retro computing hobbyists and DIY “Maker” hobbyists.
- Supported toolchains: GCC, Clang, SDCC, ZiLOG ZDS-II (c89), IAR. Others?
- No changes to build system should limit use of NuttX by any user.
- Simplifying things for one user does not justify excluding another user.
- We should seek to expand the the NuttX user base, not to limit it for reasons of preference or priority.
- We must resist the pull to make NuttX into a Linux-only, GCC-only, and ARM-only solution.
NuttX Branding

- The official name of authentic Nuttx will always be "NuttX"
- This name is trademarked and may not be used by other OSs or forks of Nuttx
The Enemies

No Short Cuts

• Doing things the easy way instead of the correct way.
• Reducing effort at the expense of Quality, Portability, or Consistency
• Focus on the values of the organization, not the values of the Open Source project. Need to support both.
• It takes work to support the Inviolables. There are no shortcuts.

Sometimes Code Duplication is OK

• Sometimes is better to duplicate some logic than to introduce coupling

Keep the Big Picture

• Too much focus on solving the problem in hand, loss of the Big Picture
• Insufficient understanding of the architectural principles.

Conform to Standards

• Changing things only to suite a personal or organizational preference
• Inflexibility, Inability to adapt
• Not Invented Here (NIH) syndrome