

# MutekH project home

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## What is MutekH

?MutekH is a portable operating system for embedded platforms originally developed at the [?SoC](#) department of the [?LIP6](#) Laboratory ([?Université Pierre et Marie Curie](#) in Paris).

MutekH is a set of libraries built on top of the Hexo exo-kernel. The exo-kernel can be seen as an Hardware Abstraction Layer (HAL) used to address platform and processors specific implementations. MutekH is fully configurable to match every application needs.

It currently support these platforms:

- [Soclib](#) based platforms with Arm, Mips and Ppc multiprocessor support
- [Pc platform](#) with x86 multiprocessor support
- [Unix processes](#) (kernel and application run as standalone unix process)
- [Simple platforms](#) bare CPU with hardware (i.e. microcontrollers)

A list of major contributors is available [here](#).

## Getting started

The following ressources are available to try MutekH easily:

- The [MutekH as Unix process quick start guide](#) is a step by step guide to run MutekH embedded in a GNU/Linux or MacOs user process.
- The [MutekH quick start guide for SoCLib platform](#) is a step by step guide to run MutekH on the Soclib multi-processor hardware simulator.
- The [?SoCLib livecd](#) provides some sample platforms and applications based on older MutekH revisions.

More advanced topics are available:

- Using MutekH on a AT91SAM7? Arm microcontroller based platform.

## Detailed features

Several modules are available:

- Native modules
  - ◆ Standard C library (libc)
  - ◆ Native Posix threads Support (libpthread)
  - ◆ TPC/IP stack networking library (libnetwork)
  - ◆ File system support library (libvfs) along with file system drivers (FAT, NFS)
  - ◆ ELF binary file format (libelf)
  - ◆ [?MutekS](#) (libsr1), static OS for [?DSX](#)
  - ◆ [Device drivers for various peripherals](#)
- The following libraries have been ported:
  - ◆ [?Lua](#) scripting library (liblua)
  - ◆ [?Fdlibm](#) standard math library

- ◆ [?LibTermUI](#) terminal driver and getline library
- The following modules are planed:
  - ◆ Unix kernel implementation library (libunix)

Some successfully ported applications:

- H264 video decoder (multi-processors)
- MJPEG and Theora multi-processor video decoder (multi-processors)
- [?Doom](#) video game with network multiplayer support
- Various application using the [?Lua](#) script engine

## Documentation

Quickstart and tutorial documents:

- [MutekH as Unix process quick start guide](#)
- [MutekH quick start guide for SoCLib platform](#)
- [Porting your application](#)
- Using MutekH on a AT91SAM7?

Developer documentation:

- [?MutekH API reference manual](#)
- Writing [header documentation](#) for the API reference manual.
- Using the [BuildSystem](#)
- [Adding a driver](#), or [adding a new driver class](#)
- Usage of [IntegerTypes](#) in MutekH

## Getting the source

MutekH is being actively developed, no tarball releases are available yet.

Last source code can be downloaded from the svn source tree:

```
svn co https://www-asim.lip6.fr/svn/mutekh/trunk/mutekh
```

## Contact

- A mailing list is available for questions, announcements... You may freely [?subscribe here](#).