



Help on utils.pthread.h

Alexandre David
1.2.05



Sections of the API

- Simple wrappers. Error handling, default parameters.
- Condition variables.
- Stop condition & stopping threads.
- Progress loop.
- Getting back the results.
- Detecting termination.
- Shared waiting queues.
- Local and shared dispatch queues.

13-02-2008 Alexandre David, MVP08 2



Sections of the API

- Simple wrappers.
- Condition variables.
- Stop condition & stop Gather lock+condition +predicate to implement condition variables. Registered condition variables used to prevent deadlock and detect termination.
- Progress loop.
- Getting back the results.
- Detecting termination.
- Shared waiting queues.
- Local and shared dispatch queues.

13-02-2008 Alexandre David, MVP08 3

Sections of the API

- Simple wrappers.
- Condition variables.
- Stop condition & stopping threads.
- Progress loop.
- Getting back the results. One terminating thread stops and unblocks the others.
- Detecting termination.
- Shared waiting queues.
- Local and shared dispatch queues.

13-02-2008 Alexandre David, MVP'08 4

Sections of the API

- Simple wrappers.
- Condition variables.
- Stop condition & stopping threads.
- Progress loop. What the main program does.
- Getting back the results.
- Detecting termination.
- Shared waiting queues.
- Local and shared dispatch queues.

13-02-2008 Alexandre David, MVP'08 5

Sections of the API

- Simple wrappers.
- Condition variables.
- Stop condition & stopping
- Progress loop.
- Getting back the results. One thread found something: Which one, which result?
- Detecting termination.
- Shared waiting queues.
- Local and shared dispatch queues.

13-02-2008 Alexandre David, MVP'08 6

Sections of the API

- Simple wrappers.
- Condition variables.
- Stop condition & stopping threads.
- Progress loop.
- Getting back the results.
- Detecting termination.
- Shared waiting queues.
- Local and shared dispatch queues.

Support with counters & checks of conditions. Exercise.

13-02-2008 Alexandre David, MVP08 7

Sections of the API

- Simple wrappers.
- Condition variables.
- Stop condition
- Progress loop.
- Getting back the results.
- Detecting termination.
- Shared waiting queues.
- Local and shared dispatch queues.

Queue type 'waiting_t' with the associated condition variable "is the queue non empty?"

13-02-2008 Alexandre David, MVP08 8

Sections of the API

- Simple wrappers.
- Condition variables.
- Stop condition
- Progress loop.
- Getting back the results.
- Detecting termination.
- Shared waiting queues.
- Local and shared dispatch queues.

Type 'local_queue_t' meant to be a local buffer for every thread (store states to be sent).
 Type 'shared_queue_t' is meant to be used as a shared queue for dispatching states.
 Support for non-blocking and blocking wait on the queue.

13-02-2008 Alexandre David, MVP08 9
