Multi-Thread Queue

Generated by Doxygen 1.9.1

Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 2

File Index

2.1 File List

Here is a list of all documented files with brief descriptions:

Chapter 3

Class Documentation

3.1 Queue< T > Class Template Reference

Public Member Functions

- Queue (int size)

    Constructor of the queue class.
- int Count (void)

    Count the number of elements in the queue.
- int Size (void)

    Maximum size of the queue.
- void Push (T element)

    Push an element to the queue.
- T Pop (void)

    Pop an element from the queue.

3.1.1 Constructor & Destructor Documentation

3.1.1.1 Queue()

```
template<typename T >
Queue< T >::Queue (
              int size )  [inline]
```

Constructor of the queue class.

Constructor of the queue class with an user specified size.

Parameters

in	*size*	Integer value with the size of the queue.

Precondition

size must be > 0.

3.1.2 Member Function Documentation

3.1.2.1 Count()

```
template<typename T >
int Queue< T >::Count (
            void ) [inline]
```

Count the number of elements in the queue.

Function to return the number of elements in the queue.

Parameters

out	*Count*	Number of elements in the queue.

3.1.2.2 Pop()

```
template<typename T >
T Queue< T >::Pop (
            void ) [inline]
```

Pop an element from the queue.

If the queue is empty: wait for the writing thread. If the queue is not empty: remove the first element

Parameters

out	*Element*	Element removed from the queue.

3.1.2.3 Push()

```
template<typename T >
void Queue< T >::Push (
            T element ) [inline]
```

Push an element to the queue.

If the queue is full: wait for the reading thread. If the queue is not full: add element to the queue.

Parameters

in	*Element*	Element to be added to the queue.

3.1.2.4 Size()

```
template<typename T >
int Queue< T >::Size (
              void  )  [inline]
```

Maximum size of the queue.

Function to return the maximum size of the queue that was user specified.

Parameters

out	*Size*	Maximum number of elements of the queue.

The documentation for this class was generated from the following file:

- inc/Queue.h

Chapter 4

File Documentation

4.1 inc/Queue.h File Reference

Queue interface class.

```
#include <iostream>
#include <queue>
#include <mutex>
#include <cassert>
#include <condition_variable>
```

Include dependency graph for Queue.h:

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