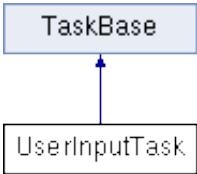# UserInputTask Class Reference

Implements a task to determine the set-point of the ball on the beam. More...

```
#include <UserInputTask.h>
```

Inheritance diagram for UserInputTask:

Public Member Functions

	UserInputTask (const char *a_name, unsigned portBASE_TYPE a_priority, size_t a_stack_size, **emstream** *p_ser_dev) Construct a UserInput task. More...
void	**run** (void) The run method of the UserInput task that is repeatedly called by the RTOS scheduler. More...

▶ **Public Member Functions inherited from TaskBase**

Additional Inherited Members

▶ **Static Public Member Functions inherited from TaskBase**

▶ **Protected Member Functions inherited from TaskBase**

▶ **Protected Attributes inherited from TaskBase**

Detailed Description

Implements a task to determine the set-point of the ball on the beam.

This class is an extension of **TaskBase**. The purpose of the class is to allow the user to interactively define the set-point of the ball by touching a linear resistive strip.

Constructor & Destructor Documentation

◆ UserInputTask()

```
UserInputTask::UserInputTask ( const char *           a_name,
                                unsigned portBASE_TYPE  a_priority,
                                size_t                  a_stack_size,
                                emstream *              p_ser_dev
                              )
```

Construct a UserInput task.

Constructor which creates and initializes a UserInterface task object.

This constructor sets up the task name, priority, stack size, and serial stream.

Parameters

a_name	A character string which will be the name of this task
a_priority	The priority at which this task will initially run (default: 0)
a_stack_size	The size of this task's stack in bytes (default: `configMINIMAL_STACK_SIZE`)
p_ser_dev	Pointer to a serial device (port, radio, SD card, etc.) which can be used by this task to communicate (default: NULL)

This constructor creates a FreeRTOS task with the given task run function, name, priority, and stack size. Its purpose is to determine the ball position setpoint based on the UserInput sensor measurement.

Parameters

a_name	A character string which will be the name of this task
a_priority	The priority at which this task will initially run (default: 0)
a_stack_size	The size of this task's stack in bytes (default: `configMINIMAL_STACK_SIZE`)
p_ser_dev	Pointer to a serial device (port, radio, SD card, etc.) which can be used by this task to communicate (default: NULL)

Member Function Documentation

◆ run()

void UserInputTask::run (void   ) `virtual`

The run method of the UserInput task that is repeatedly called by the RTOS scheduler.

The **run()** function for the UserInterface task.

This method is called by the RTOS scheduler. The function converts the linear potentiometer measurements to user position in m and user velocity in m/s. Shared variables are updated after the calculations are performed.

Implements **TaskBase**.

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

- DoxygenFiles/**UserInputTask.h**
- DoxygenFiles/UserInputTask.cpp