Title: Basic Scheduler Manual

History				
Issue status (Index)	**Maturity/Date** (draft/invalid/valid) (dd-mmm-yyyy)	**Author** Department	**Check/Release** Department	**Description**
1.0	Draft 13-11-15	Edgar Escayola	Edgar Escayola	Creation of the document
1.1	Draft 15-11-15	Adrián Zacarías	Adrián Zacarías	General description.
1.2	Draft 17-11-15	Edgar Escayola	Edgar Escayola	Format

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Section 1. Purpose

This document was designed to aid the developer on the implementation of the basic scheduler.

Section 2. Definitions and abbreviations

Abbreviations

ms - milisecond (1E-3 seconds)

Section 3. General information

Tick period = 1 ms

Files	Description	Modifiable
Kernel.h and Kernel.c	Kernel of scheduler	No
Init_Tasks.h and Init_Tasks.c	Definition of tasks	Yes
Tasks.h and Tasks.c	Implementation of tasks	Yes
HAL.h and HAL.c	Hardware Application Layer	Yes

Section 4. Add a new task

1. **Modify Init_Tasks.h**
   - The enumeration E_TASKS must be updated using the following format: E_TSK_TASKn where “n” is the number of the new TASK.

```
51  typedef enum{
52      E_TSK_TASK0,
53      E_TSK_TASK1,
54      E_TSK_TASK2,
55      E_TSK_TASK3,
56
57      /*Write here your new tasks*/
58
59      E_TSK_N_OF
60
61  }E_TASKS;
```

- The array cas_STAT must be updated. The set should contain the name of the function pointer, the period and the offset. The function pointer should use the following format: Task_n where "n" is the number of the task added. The period and the offset is in ms according to the Tick rate.

  Note: It shouldn't be forgotten to add the comma before the last task.

```
56  const S_STAT cas_STAT[E_TSK_N_OF] = {/* Function Pointer    -   Period  -     Offset    */
57
58          {       Task_0,     101,        0       },
59          {       Task_1,     211,        1       },
60          {       Task_2,     409,        2       },
61          {       Task_3,     797,        3       }
62
63          /*  Add here your new task and a comma before the last one  */
64          /*  {   Function Pointer    ,   Period  ,       Offset  }   */
65
66  };
```

2. **Modify Tasks.h**
   - The prototype of the new task must be added using the following format: *void Task_n (void)* where n is the where "n" is the number of the new TASK.

```
52  void Task_0(void);
53  void Task_1(void);
54  void Task_2(void);
55  void Task_3(void);
56  /*Add here the prototype of your new task*/
```

3. **Modify Tasks.c**
   - The implementation of the new task must be added at the end of this document following the next example:

```
67  void Task_4(void){
68
69      SIU.GPDO[71].B.PDO = !SIU.GPDO[71].B.PDO;
70
71  }
72
73  /*
74  void Task_n(void){
75
76      Write the code of the task number "n" here.
77
78  }
79  */
```