DragonMinded / **libdragon** Public

Code Issues 16 Pull requests 6 Actions Projects Wiki Security In

Comparing changes

Choose two branches to see what's changed or to start a new pull request. If you need to, you can also compare across forks.

base repository: DragonMinded/libdragon base: trunk ...

head repository: fraser125/libdragon compare: master

✕ **Can't automatically merge.** Don't worry, you can still create the pull request.

Discuss and review the changes in this comparison with others. Learn about pull requests Create pull request

5 commits 3 files changed 1 contributor

Commits on Aug 16, 2016

Added Comments to be verified
fraser125 committed on Aug 16, 2016

Added comments and TODO: for verification.
fraser125 committed on Aug 16, 2016

Commits on Sep 17, 2016

Update controller.c ...
fraser125 committed on Sep 17, 2016

Commits on Sep 20, 2016

Found a possible bug that needs to be proven
fraser125 committed on Sep 20, 2016

Commits on Jun 14, 2017

Update some timing notes.
fraser125 committed on Jun 14, 2017

Showing **3 changed files** with **36 additions** and **1 deletion**. Split Unified

4 include/controller.h

```
41  41    /** @brief VRU present */
42  42    #define ACCESSORY_VRU           3
43  43    /** @} */
44      -
    44  + /* TODO: #define Gameboy Accessory */
45  45    /**
46  46     * @name SI Error Values
47  47     * @{
53  53    /** @brief Controller not present */
54  54    #define ERROR_NOT_PRESENT   0x2
55  55    /** @} */
    56  + /* TODO: Other Errors?*/
56  57
57  58    /** @brief SI Controller Data */
58  59    typedef struct SI_condat
90  91                /** @brief State of the right button */
91  92                unsigned right : 1;
92  93                /** @brief Unused padding bits */
    94  +             /* TODO: Verify if L+R+Z sends one of these bits*/
93  95                unsigned : 2;
94  96                /** @brief State of the L button */
95  97                unsigned L : 1;
```

32 src/controller.c

```
7   7     #include "libdragon.h"
8   8     #include "regsinternal.h"
9   9
    10  + /* TODO: Many more controller and accessories can be supported by this API */
    11  + /* TODO: VRU can be identified, but cannot be used, by this API. */
    12  + /* TODO: See n64ops/controll.txt for additional information to verify */
    13  +
10  14    /**
11  15     * @defgroup controller Controller Subsystem
12  16     * @ingroup libdragon
86  90     */
87  91    static void __SI_DMA_wait(void)
88  92    {
    93  +         // Estimate this line to spin for a minimum 18,750 CPU Instructions or 1/5,000 of
    a frame (1 byte TX/ 4 byte RX)
    94  +         // This is based on pure Joybus TX/RX time.
89  95        while (SI_regs->status & (SI_STATUS_DMA_BUSY | SI_STATUS_IO_BUSY)) ;
90  96    }
91  97
97  103    * @param[out] outblock
98  104    *             The buffer to place the output from the PIF
99  105    */
```

```
                106 +  /* TODO: Perf Test this block
                107 +   * While still "fast enough" it seems with interrupts disabled and the DMA wait it may still "stall" the system.*/
                108 +         // The overhead in CPU -> RDP -> PIF and CPU <- RDP <- PIF.
                109 +         // Some documentation mentions 2 ms to get the data back from all 4 controllers or as little as 1.1 ms for a single controller.
                110 +         // This is certainly in reference to the DMA and other code overhead to setup and make the SI requests.
                111 +         // Note: @ 60 Frame/second = 6.6% to 12% of Frame time "spinning"
                112 +         //       @ 30 Frame/second = 3.3% to 6%
100             113   static void __controller_exec_PIF( void *inblock, void *outblock )
101             114   {
102             115       volatile uint64_t inblock_temp[8];
240             253   {
241             254       static unsigned long long SI_read_con_block[8] =
242             255       {
                256 +         /* TODO: Verify the following
                257 +          *
                258 +          * */
243             259           0xff010401ffffffff,
244             260           0xff010401ffffffff,
245             261           0xff010401ffffffff,
470             486       struct controller_data output;
471             487       static unsigned long long SI_read_controllers_block[8] =
472             488       {
                489 +         /* TODO: This data isn't clear it's "Magic Bytes"
                490 +          * In order it is the following
                491 +          * 0xFF UNKNOWN
                492 +          * 0x01 is the size of the command being sent
                493 +          * 0x04 is the size of the result expected.
                494 +          * 0x01 is a command to retrieve controller button + Joystick status
                495 +          * 0xFFFFFFFF's is the result of the command
                496 +          * 0xFE is the end of packet or similar
                497 +          * the 1 is a send now toggle. So this can be set as a seperate step, don't know why but you could.
                498 +          *      Maybe set the data at the end of a frame and toggle the send bit at the start of the next?
                499 +          * Other Common Command bytes
                500 +          * 0xFF0103FF Reset
                501 +          * 0xFF010300 Inquiry (Controller Types)
                502 +          * */
473             503           0xff010401ffffffff,
474             504           0xff010401ffffffff,
475             505           0xff010401ffffffff,
817             847       {
818             848           switch( ( output.c[controller].data >> 8 ) & 0xFFFF )
819             849           {
                850 +                 /* TODO: How to Identify the Transfer PAK? */
820             851               case 0x0001: /* Mempak/rumblepak/transferpak */
821             852               {
822             853                   /* Init string one */
863             894    */
```

```
864  895    void rumble_start( int controller )
865  896    {
     897  +         /* TODO: 32 Bytes seems like overkill, I think it only takes 1, but verify*/
866  898        uint8_t data[32];
867  899
868  900        /* Unsure of why we have to do this multiple times */
```

1 ■■■■■ src/rdp.c

```
805  805        /* sort vertices by Y ascending to find the major, mid and low edges */
806  806        if( y1 > y2 ) { temp_x = x2, temp_y = y2; y2 = y1; y1 = temp_y; x2 = x1; x1 = temp_x;
                }
807  807        if( y2 > y3 ) { temp_x = x3, temp_y = y3; y3 = y2; y2 = temp_y; x3 = x2; x2 = temp_x;
                }
     808  +     // The line below appears to be a copy & paste error of the line 2 above.
808  809        if( y1 > y2 ) { temp_x = x2, temp_y = y2; y2 = y1; y1 = temp_y; x2 = x1; x1 = temp_x;
                }
809  810
810  811        /* calculate Y edge coefficients in 11.2 fixed format */
```