HomeAut project

Description

Welcome in HomeAut project main page.

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HomeAut is a simple demo and "Hardware tester" software, which written in C by Vizi Gábor.

Requirements

Recommended IDE is the Atollic TrueSTUDIO 6.0, but you can use newer or an other IDE.

- Install Atollic TrueSTUDIO
- Install a terminal (serial port reader) software

How to use it?

- Download binaries to your Device
    - If you have source code (project) and an IDE, you can compile and Run/Debug your code on the device
- Start run / Reset device.
- Connect Device to UART-USB converter or other serial converter
    - Connect device UART pins to USB-UART converter (Do not forget the swap: TX-RX):
        - PC6 (TX)
        - PC7 (RX)
        - GND
    - Plug in the UART-USB converter
- Start serial terminal
    - For example:
        - HpyerTerminal
        - PuTTY
        - ZOC
        - FastenTerminal
- Connect Terminal to Serial COM port, with 9600 baudrate, and 8N1 configs
- Type "help" and press enter (send with '\r' or '\n' or together '\r\n')
    - Now, you set "help" command and available commands printed out on terminal
- Enjoy it

Common HW functions

First:

- If you need help, type on terminal:

```
help
```

- If you can't use a command, type this:

```
help <CommandName>
```

- Example:

```
help adcread
```

For common IO-s:

- Send IO pin initialization command:

```
ioinit <port><pin> <input/output>
```

  - Example:

```
ioinit a1 input
```

    or

```
ioinit b13 output
```

- Send read / write command:
  - Read pin:

```
ioin <port><pin>
```

    - Example:

```
ioin a1
```

  - Write pin:

```
ioout <port><pin> <set/reset>
```

    - Example:

```
ioout b13 set
```

For ADC-s (Analog-Digital Converter):

- Send command, and you received the last Analog states (voltages):

```
adc
```

- If you want periodical ADC reading:

```
adcread <milliSec> (pin)
```

  - milliSec: is the time of period (in millisecond)
  - pin: is the num of pin (1-2-3)
  - Example:

```
adcread 1000
```

    - Read adc values time of 1 second (1000 millisecond)

For DAC-s (Digital-Analog Converter):

- **Note**

  Not available in all STM32F4xx!

- Send:

```
dac <1/2> <voltage with decimal point>
```

  - Example:

```
dac 1 3.0
```

  - 1. = A4 pin
  - 2. = A5 pin

LED functions:

- Command:

  ```
  led <1/2/3> <on/off/toggle/status>
  ```

  - Example:

    ```
    led 1 on
    ```

    - 1. LED will set on
  - Example:

    ```
    led status
    ```

    - LED statuses will printed out on Terminal
  - Example:

    ```
    led green off
    ```

    - Green LED will turn off

How development?

- First, find Vizi Gábor
- Check C language(embedded) tutorials
- Read and check Atollic tutorials
- Download or request HomeAut embedded codes / project
- Develop it, write codes
- Compile
- Debug / Program your device
- Enjoy it

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