Users's Manual for Device Interfaces

Brent Seidel
Phoenix, AZ

August 26, 2024

Note that this is a draft version and not the final version for publication.

Contents

Chapter 1

Introduction

1.1 About the Project

Place some introductory text here giving a brief description of the project.

1.2 License

Chapter 2

How to Obtain

This collection is currently available on GitHub at `https://github.com/BrentSeidel/BBS-BBB-Ada`. Parts are available through alire via "`alr get bbs_embed_common`" and "`alr get bbs_embed_linux`"

2.1 Dependencies

2.1.1 bbs_embed_common

Ada Libraries

The following Ada packages are used:

- `Ada.Integer_Text_IO`
- `Ada.Numerics.Generic_Elementary_Functions` (used only by lsm303dlhc)
- `Ada.Real_Time`
- `Ada.Text_IO`
- `Ada.Unchecked_Conversion`

Other Libraries

This library depends on the root package `BBS` available at `https://github.com/BrentSeidel/BBS-Ada` and through alire via "`alr get bbs`". Packages external to this library are marked with an asterisk.

- `BBS.embed.GPIO`
- `BBS.embed.i2c`
- `BBS.embed.log`
- `BBS.embed.SPI`
- `BBS.units`*

2.1.2 bbs_embed_linux

Ada Libraries

The following Ada packages are used:

- `Ada.Direct_IO`
- `Ada.IO_Exceptions`
- `Ada.Long_Integer_Text_IO`
- `Ada.Strings.Fixed`
- `Ada.Text_IO`
- `Interfaces.C`

Other Libraries

This library depends on the root package `BBS` available at `https://github.com/BrentSeidel/BBS-Ada` and through alire via "`alr get bbs`". Packages external to this library are marked with an asterisk.

- `BBS.embed`*
- `BBS.embed.BBB`*
- `BBS.embed.GPIO`*
- `BBS.embed.log`*
- `BBS.embed.SPI`*
- `BBS.units`*

2.1.3 bbs_embed_due

The Arduino Due requires an appropriate run-time system and cross-compiler.

Ada Libraries

The following Ada packages are used:

- `Ada.Interrupts`
- `Ada.Interrupts.Names`
- `Ada.Real_Time`
- `Ada.Synchronous_Task_Control`
- `Interfaces`
- `System`
- `System.Sam3x8`

SAM3x8e Stuff

The following SAM3x8e hardware definition packages are used:

- `SAM3x8e`
- `SAM3x8e.ADC`
- `SAM3x8e.PIO`
- `SAM3x8e.PMC`
- `SAM3x8e.TWI`
- `SAM3x8e.UART`

Other Libraries

This library depends on the root package `BBS` available at `https://github.com/BrentSeidel/BBS-Ada` and through alire via "`alr get bbs`". Packages external to this library are marked with an asterisk.

- `BBS`
- `BBS.embed`
- `BBS.embed.due.dev`
- `BBS.embed.due.serial.int`
- `BBS.embed.due.serial.polled`
- `BBS.embed.GPIO.Due`
- `BBS.embed.log`
- `BBS.embed.SPI`

Chapter 3

Usage Instructions

This chapter contains the high level usage instructions for the project. If it is a library, what needs to be done to use it from another project. If it is an application, how to build and run the application.

3.0.1 How to Include in Your Project

If this project is a library, this will probably be just editing your .gpr file to point to this project's .gpr file. Something is definitely needed if it is more complicated. If the project is not a library, then this section can be omitted.

Chapter 4

API Description

If the project does not have a public API, this chapter can be omitted. Otherwise include an API description here. This would include packages, data types, routines to call, how to instantiate generics, and anything else that would be valuable to someone using the project.

Chapter 5

User Interface

If there is no user interface, this chapter can be omitted. Otherwise, if the project has a user interface, put instructions in this chapter.

Chapter 6

Other Stuff

If there is anything else that should be added, additional chapters may be added as needed.

This section can be omitted, if you have no bibliography.