mobile haskell user guide Documentation

Release latest

Jan 10, 2018

Contents

Table of Contents

CHAPTER 1

Introduction

This is the accompanying User Guide for building mobile and embedded Haskell application using the The Glorious Glasgow Haskell Compilation System as a cross compiler.

1.1 Installation

Pre-built binary distributions that target iOS (arm64, x86_64), Android (armv7, arm64, x86_64) as well as Raspberry Pi (armv6) for macOS Sierra and linux (deb8) can be dowloaded from http://hackage.mobilehaskell.org. Other architectures may be added at a later date but will for now be built from source. Using hadrian as the build system is highly recommended.

TODO: Document building from source.

The cross compiler use the LLVM code generator. As such an LLVM installation is required and needs to be in `PATH`. The LLVM toolchain provided by Xcode is insufficient as it does not provide the `opt` tool.

LLVM can be downloaded from http://releases.llvm.org/download.html#5.0.0. Extracting and adding the `bin` folder to `PATH` should be sufficient:

```
$ export PATH=/path/to/llvm/bin:$PATH
```

The pre built GHCs are relocatable, as such it is enough to simply extract them and add them to the `PATH`:

```
$ export PATH=/path/to/ghc-x86_64-apple-ios/bin:$PATH
```

To provide a unified interface over the cross compilers the general scheme of the tool chain is `$target-tool`, e.g. for `ghc` targeting `aarch64-apple-ios`, the tools are:

This unified interface is provided via the toolchain-wrappers for the pre-built cross compilers. After downloading the toolchain-wrappers, running the `bootstrap.sh` script and adjusting the `linux-android-toolchain.config` and `raspberrypi-toolchain.config` files to match the local Android NDK and Raspberry Pi SDK (TODO: building a raspberry pi SDK), the toolchain should be usable:

```
$ git clone https://github.com/zw3rk/toolchain-wrapper.git
$ (cd toolchain-wrapper && ./bootstrap)
$ export PATH=/path/to/toolchain-wrapper:$PATH
```