

EclipseFP & Leksah

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EclipseFP

- plugin for eclipse IDE platform
- goal is to support all kinds of functional programming languages in Eclipse
- current subprojects
 - Haskell module
 - Common module
 - Cohatoc module
 - OCaml module (admittedly dead)



Downloading EclipseFP

- <http://eclipsefp.sourceforge.net/>
 - bit inactive, latest integration build 14 Sep 2008
 - see downloads section
 - natural choice: try the latest
 - current prerequisites
 - *JVM* ≥ 5.0
 - *eclipse* ≥ 3.2
 - *ghc* ?
 - I had 6.8.2



Installing EclipseFP

- downloaded the archive, followed the instructions
 - no dice, nothing new in Eclipse
- argh, trying with update site then
 - <http://eclipsefp.sf.net/updates>
 - older version only, *0.10.0*



Using EclipseFP

- Help → Contents → Functional Programming
- File → New Project → Haskell Project
 - ... and create new haskell module :)
- first things noticed
 - error reporting not exhaustive
 - autocompletion (code assist) dumb
 - run in GHCi /hugs does nothing
 - “navigate to” (ctrl + click) not present!?



Still Using EclipseFP

- Haddock documentation generation
 - File → Export → Other → Haddock documentation



Mysterious Cohatoe

- that bastard is not installed with EclipseFP :
 - ... and is not available from update site
 - version 0.12.0 distributed as *update site archive* at
 - <http://eclipsefp.sourceforge.net/cohatoe/index.html>
- contains runtime, SDK and examples
- “but what does it do, mummy?”
 - Help → Contents → Cohatoe ...
 - "Contributing Haskell (code) to Eclipse"



Catching of the Cohatoe

- *Cohatoe Examples* menu appeared...
- EclipseFP has broken link to *cohatoe-api*
 - google for *cohatoe-api_1.0.0.zip*
- Leif Frenzel has written Cohatoe quickstart
 - <http://cohatoe.blogspot.com/>



Taming of the Cohatoe

- `ps ax | grep haskell`
 - `haskellserver 57053 /usr/lib/ghc-6.8.2`
 - the beast is running :)



Basic Cohatoc

- Eclipse plugin extensions :)
- consider Haskell function
 - `doSmthWith :: String → String`
 - ... and calling it from Eclipse plugin code



Cohatoe: Extension Point

```
<extension point =  
    "de.leiffrenzel.cohatoe.server.core.haskellFunctions">  
  
<haskellFunction  
    interface = "smth.IStrTransformer"  
    implementation = "smth.IStrTransformerImpl"  
    objectFile = "$os$/obj/theHaskellImpl.o"  
    name = "Fancy string transformer in Haskell"  
/>  
</extension>
```



Cohatoc: Interface/Implementation

```
interface IStrTransformer {  
    String transform(String s);  
}
```

```
class IStrTransformerImpl implements IStrTransformer {  
    public String transform(String s) {  
        String result = "Haskell was quiet";  
        // marshall params  
        // send to Cohatoc server  
        return result;  
    }  
}
```



Leksah

- Haskell IDE in Haskell
 - <http://leksah.org>
 - based on Gtk+ and gtk2hs
 - version 0.4 labeled first *beta* release



Needy Leksah

- using Kubuntu 8.04, debian repositories
 - distro provides *ghc* 6.8.2
- dependencies of Leksah
 - *gtk2hs* $\geq 0.10.0$
 - *GHC* $\geq 6.10.1$
 - works with 6.10.2 & hopefully 6.10.3
 - but only if *gtk2hs* compiled from latest repository
 - cabal package file
 - Set Cabal version $\geq 1.6.0.1$ in the *leksah.cabal*
 - recommends building everything from source :/



Installing Leksah

- uninstalling distribution ghc packages
 - ghc6, ghc6-doc
 - libghc6-http-dev
 - libghc6-mtl-dev
 - libghc6-network-dev
 - libghc6-parsec-dev



Still Installing Leksah

- GHC 6.10.3 (released 9 May 2009)
 - `tar xvjf ghc-6.10.3-i386-unknown-linux-n.tar.bz2`
 - `cd ghc-6.10.3`
 - `./configure --prefix=/home/taimo/apps/ghc-6.10.3`
 - `make install`
 - `cd /home/taimo/apps/ghc-6.10.3`
 - `ln -s ghc-6.10.3 ghc`



Leksah. Not There Yet.

- added to ~/.bash_profile

```
if [ -d ~/apps/ghc ] ; then  
    PATH=~/apps/ghc/bin:"${PATH}"  
fi
```

- source ~/.bash_profile
- install gtk2hs
 - tar jxvf gtk2hs-0.10.1.tar.bz2
 - cd gtk2hs-0.10.1
 - ./configure
 - failed complaining about glib / gtk



Road to Leksah

- still at gtkhs :)
 - installed bunch of libs with Adept Manager
 - libgio-dev, libgtk-2.0-dev, *glib*
 - repeated ./configure (success)
 - make (make few coffees while waiting)
 - sudo make install



cabal install leksah

```
taimo@deficiency:~$ cabal install leksah
Resolving dependencies...
cabal: cannot configure leksah-0.4.4.1. It requires
gtksourceview2 >=0.10.0
There is no available version of gtksourceview2 that
satisfies >=0.10.0
```

At this point I find:

http://haskell.org/haskellwiki/Leksah#Installation_for_Ubuntu

```
aptitude install libgtksourceview2.0-dev
```

but still

```
cabal: cannot configure leksah-0.4.4.1. It requires
gtksourceview2 >=0.10.0
```



Attempted Leksah Install

- downloaded leksah-0.4.4.1.tar.gz

```
aptitude install libedit-dev  
tar zxvf leksah-0.4.4.1.tar.gz  
cd leksah-0.4.4.1  
mv leksah.cabal leksah.cabal.old  
sed -e 's/Cabal ==1.6.0.1/Cabal >=1.6.0.1/g'  
    leksah.cabal.old > leksah.cabal
```

but still

```
cannot configure leksah-0.4.4.1. It requires  
gtksourceview2 >=0.10.0
```



F* Leksah.

- What do I do?
- Try distribution upgrade?
 - it won't complete in time for presentation
- recompile gtkhs as it uses sourceview?
 - sure!
 - wtf? /usr/bin/ld: cannot find -lgmp
 - apparently some stuff has gone missing?

```
sudo aptitude install alex happy \  
libgmpxx4ldbl libgmp3-dev
```



Continuing Leksah Install

- From now on, last instructions from
 - http://haskell.org/haskellwiki/Leksah#Installation_for_Ubuntu

```
runhaskell Setup configure --user
```

```
runhaskell Setup build
```

```
src/IDE/Completion.hs:88:18:
```

```
    Not in scope:
```

```
    `sourceLanguageManagerGuessLanguage`
```

- libgtksourceview still wrong!



Leksah: acquire libgtksourceview

- downloaded gtksourceview2_2.6.1.orig.tar.gz
- removed *libgtksourceview* packages

```
./configure
```

```
sudo aptitude install intltool
```

```
./configure
```

```
make
```

```
sudo make install
```



Leksah Installation: Final Steps

- yet another uninstall / rebuild / reinstall of gtk2hs

```
runhaskell Setup configure --user
```

```
runhaskell Setup build
```

```
runhaskell Setup install
```

- it starts up !!



Using Leksah

- have no idea how to use it :)
- let's make a try with some project from
 - <http://code.haskell.org/gtk2hs/>
 - `darcs get --partial http://code.haskell.org/project`



