

Tutorial II. VIM editor

1. Historical retrospectives
2. Basics
3. Architecture and Code base
4. How does VIM talk to NetBeans?

Historical perspectives

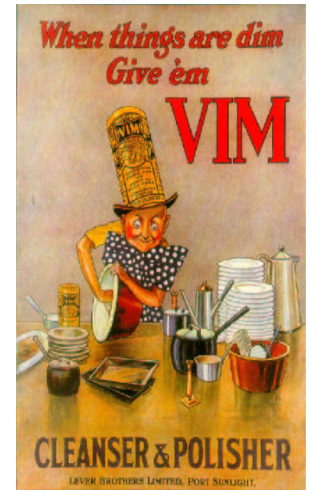
- Vi(ew) is a popular programmer's text editor in Unix, with many clones
- <http://www.vim.org>: Vi Improved, an open-source project started by Bram Moolenaar. **Now VIM is the de facto Vi !**
- Current release: 6.3
- It has been ported to dozens platforms
- You have it in CDF: `/usr/bin/vim 6.3.13`
- The source code is at `~yijun/src/vim63/src`

Basics

- At command line, start by `vim<ENTER>`
- Type `:help<ENTER>` to get an online hypertext help, which has all explanations
- Type `:help tutor<ENTER>` to get a quick tutor session
- Surf <http://www.vim.org/6kbyte.php> to find a brief introduction in your native language
- Surf <http://www.vim.org/tips/index.php> to find more tips on the VIM usage

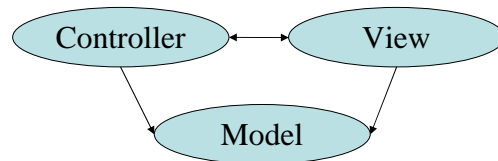
Features

- `:help feature`
- Most notable features:
 - Syntax highlighting
 - Multiple buffers, views, and folding
 - Searching with regular expressions
 - Auto-indenting
 - Clipboard and registers
 - Macros and scripts
- Try GVIM if you want to use more GUI features



Architecture of VIM

- See references at end of slides....
- We consider MVC architecture
- VIM is not quite MVC... but close



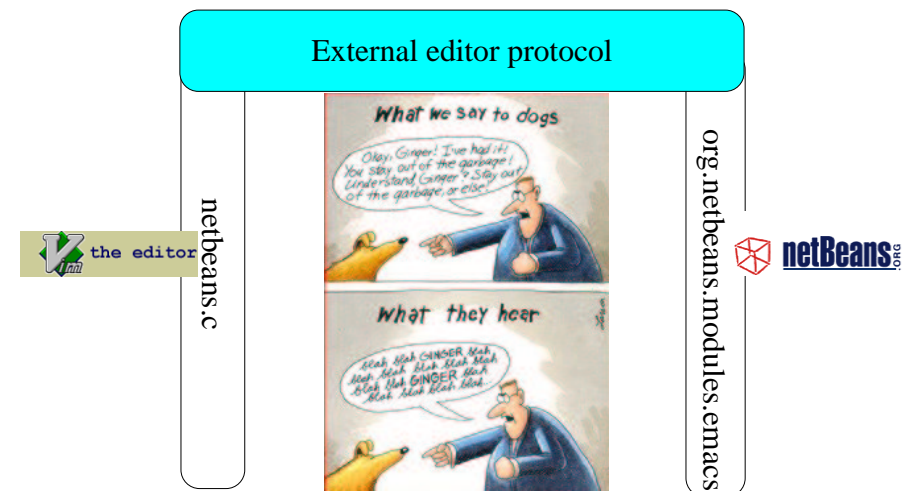
Understanding VIM code base

- Is `vim63/src/*.h` `vim63/src/*.c`
- What are the basic files? `vim src/README.txt`
- What is the design? `:help development`
- How does VIM talk to other tools?
 - Environment: scripting and shell
 - Files: fileio
 - Other IDE
- Can you relate these files to the MVC components?

How does VIM talk to NetBeans?

- `netbeans.c`
- The editor integration protocol (based on socket programming): `org.netbeans.modules.emacs`
- How does this protocol work?
- How to replace it with web services programming?

VIM and NetBeans IDE



A look at netbeans

- We can get Beans IDE to use VIM
 - The external editor module should set it for you
 - `~yijun/software/NetBeans3.6/bin/runide.sh`
- Unfortunately, not easy to twist Beans IDE for webservice
- VIM support for netbeans is incomplete

A closer look at netbeans

- The protocol is text-based!
<http://externaleditor.netbeans.org/ExtEdProtocol.html>
- And VIM documents what is/isn't done!
<http://www.vim.org/html/doc/netbeans.html>



A hacky demo

- We can write a simple server to listen...
- We can make vim hook to any port...

```
gvim -nb:<host>:<port>
```

- Try to issue commands!

```
1:editFile!1 "simplsrv.c"
1:getText/2
1:getCursor/3
1:startDocumentListen!4
1:stopDocumentListen!5
```



So what?

- Current netbeans.c isn't enough
- But can be a great starting point
- Any other examples?



How does VIM talk to other environments

- Sun Workshop: [integration.c](#), [workshop.c](#)
- TCL: [if_tcl.c](#)
- TCL/TK + X Windows command server:
[if_xcmdsrv.c](#)
- Windows: [os_win32.c](#), [term.c](#)
- Visual Studio: [VisVim](#) plugin, Tip# 580
- Eclipse: viPlugin:
<http://satokar.com/viplugin/index.php>
- *Can we have better solution?*

References

- J. B. Tran, M. W. Godfrey, E. H. S. Lee, and R. C. Holt. "*Architecture analysis and repair of open source software*". In Proc. of 2000 Intl. Workshop on Program Comprehension (IWPC'00), Limerick, Ireland, June 2000
- <http://plg.uwaterloo.ca/~migod/papers/iwpc00.pdf>

References

- "*Secrets from the Monster: Extracting Mozilla's Software Architecture*", by Michael W. Godfrey and Eric H. S. Lee, Proc. of the Second Intl. Symposium on Constructing Software Engineering Tools (CoSET-00)
- <http://plg.uwaterloo.ca/~migod/papers/coset00.pdf>