Herramientas en GNU/Linux para estudiantes universitarios
Recursos de Programación en GNU/Linux

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Capítulo 1. Recursos de Programación en GNU/Linux

1.1. Licencias

- Copyleft: GPL
  - Origen del Proyecto GNU.
  - Concepto de "trabajo derivado".
  - Licencia dual.
  - Forma de financiación.

- no-Copyleft: BSD modificada, MIT X11
  - evitar las incompatibilidades

- otras licencias
  - LGPL
  - MPL

1.2. Dónde buscar programas

- Freshmeat (http://www.freshmeat.net)
- Sourceforge (http://www.sourceforge.net)
- Proyecto GNU (http://www.gnu.org)
- Savannah (http://savannah.gnu.org)
- Proyecto Debian (http://www.debian.org)
- GNOME (http://www.gnome.org)
- KDE (http://www.kde.org)

1.3. Consejos

- No reinventar la rueda.
- Colaborar.
Capítulo 1. Recursos de Programación en GNU/Linux

- Humildad y no desanimarse.

1.4. Sourceforge

- ¿Qué ofrece?
  - Web con PHP
  - Base de datos.
  - Listas de correo
  - FTP
  - SSH
  - Máquinas donde compilar.
  - CVS
  - Bugzilla.

- ¿Quién lo ofrece?
  - Savannah (http://savannah.gnu.org)
  - Sourceforge (http://www.sourceforge.net)
  - En consideración, Hispalinux (http://www.hispalinux.es)
  - Sourceforge, en senda propietaria.

  - Más de 38.000 proyectos alojados.
  - Más de 400.000 usuarios registrados.
  - Los servidores soportan 12 millones de visitas diarias de páginas PHP.
  - 1,3 Terabytes de capacidad
  - 47 GiB de RAM
  - 56 GHz procesadores
  - Todos los discos tienen RAID para proteger los datos.

1.5. Lenguajes de programación

- C/C++: gcc
- Interpretados: Perl, Python
1.6. Programación Web

- Apache: FastCGI, módulos
- PHP
- Perl
- Tomcat (http://jakarta.apache.org)

1.7. Bases de Datos

- MySQL (http://www.mysql.org)
- PostGreSQL (http://www.postgresql.org)
- InterBase
  - Firebird (http://firebird.sourceforge.net)

- SapDB (http://www.sapdb.org)

1.8. Programación de empresa

- J2EE
  - JBoss (http://www.jboss.org)

- GNUe (http://www.gnueenterprise.org)
- OSDL (http://www.osdl.org)
- En progreso:
  - MONO:
  - dotGNU

1.9. Programación multiplataforma

- Linux/Unix es multiplataforma:
• ejecutables transportables i386 ELF
• automake, configure
• ojo con los warnings
• X-Window: Motif, GTK+, QT

• Compatibilidad hacia MS Windows
  • Cygwin (http://www.cygwin.com)
  • X-Window (http://www.cygwin.com/xfree/)

• Migrar desde MS Windows
  • Wine/Winelib (http://www.winehq.org)

• Librerías multiplataforma
  • Hilos, red, E/S:
    • ACE (http://www.cs.wustl.edu/~schmidt/ACE.html)
    • NSPR (http://www.mozilla.org/projects/nspr/)
  • Gráficos y más cosas, C++: wxWindows (http://www.wxwindows.org)
  • Gráfico, C++: Fox Toolkit (http://www.fox-toolkit.org), FLTK (http://www.fltk.org)
  • Multimedia: SDL (http://www.libsdl.org)

• Más librerías multiplataforma
  • SSL
    • OpenSSL (http://www.openssl.org)
    • GnuTLS (http://www.gnu.org/software/gnutls/)
  • XML: libxml2 (http://xmlsoft.org/)
    • OpenH323 (http://www.openh323.org)

• Java
  • Java NO es libre
  • gcj (http://gcc.gnu.org/java/)
  • Eclipse (http://eclipse.org/)
  • SWT: forma parte de Eclipse
Capítulo 1. Recursos de Programación en GNU/Linux

- XWT (http://www.xwt.org/): requiere applets o activex

- .NET
  - Dot GNU (http://www.gnu.org/projects/dotgnu/)
    - Portable.Net

- MONO:: (http://www.go-mono.org)

- Pascal
  - Kylix: propietario
  - Lazarus (http://www.lazarus.freepascal.org)


1.10. Herramientas

- Entornos de desarrollo
  - KDE: Kdevelop (http://www.kdevelop.org)
  - GNOME: Anjuta (http://www.anjuta.org) + Glade (http://glade.gnome.org) (enlace de recursos en la web de Anjuta)
  - VDK Builder (http://vdkbuilder.sourceforge.net/)
  - Java: Eclipse
  - wxWindow: wxGlade (http://wxglade.sourceforge.net/)

- Depuradores de memoria C/C++
  - mpatrol (http://www.chmamiga.demon.co.uk/mpatrol)
  - dmalloc (http://dmalloc.com)
  - ElectricFence

- Gestión de proyectos: Mr Project (http://mrproject.codefactory.se)
• Ingeniería del software
  • argouml (http://argouml.tigris.org/)
    • derivado propietario: Poseidon (http://www.gentleware.com/)

• Umbrello UML Modeler (http://uml.sourceforge.net/)
• DIA (http://www.lysator.liu.se/~alla/dia/)
  • AutoDIA (http://droogs.org/autodia/)
  • dia2code (http://dia2code.sourceforge.net)

• Otros: (buscar UML en Freshmeat (http://www.freshmeat.net)
  • gaphor.sourceforge.net/
  • javare.sourceforge.net
  • freshmeat.net/redirect/klassmodeler/

• Proyecto gestión libre: en http://www.hispalinux.es

1.11. Documentación

• Páginas info (info libc)
• man, secciones 2 y 3
• Advanced Linux programming (http://www.advancedlinuxprogramming.com/)
• OpenBooks (http://openbooks.sourceforge.net/books/) (KDE, Gnome...)
• Programación segura (http://www.dwheeler.com/secure-programs/)
• DevHelp (http://devhelp.codefactory.se/)
• libros.es.gnome.org/
• es.gnome.org

1.12. Generar documentación

• DocBook (http://www.docbook.org)
• doxygen (http://www.doxygen.org) (tipo javadoc)
1.13. Otros sitios interesantes

- http://www.programacion.net
- http://www.apache.org XML, Jakarta
- http://www.linuxbase.org (estándares)
- http://www.freedesktop.org (estándares)
- http://www.salix.org/
- http://www.javahispano.org

1.14. Algunos detalles en las prácticas

- getopt
- setlocale
- seteuid
- aprender: ltrace

1.15. El lado oscuro

- Instaladores
  - Inno Setup (http://www.wintax.nl/isx/)
  - NSIS (http://nsis.sourceforge.net)
- Entornos, compiladores
- Cross compiling: http://www.fox-toolkit.org/faq.html#CROSSCOMPILING

1.16. Curiosos

- http://www.ignavus.net/software.html
- Tarjetas inteligentes (http://www.linuxnet.com/)
- Sistemas embotados (http://www.linuxdevices.com)
- Turbo Vision (http://tvision.sourceforge.net/) (consola)
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