

Reading, wRiting and aRithmetic

EASY AS ABC

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**Computers may never replace pen and paper,
but they can certainly complement
traditional methods of learning the basics.**

The majority of children positively enjoy learning to read and write, but it's not just the slower or less interested ones who benefit from a little encouragement. Below we survey some of the large number of programs that benefit children in the learning of the three Rs. You will find most of the code on the cover CD.

The write thing

Typing tutors reinforce spelling as well as improving keyboard interaction. The classics are *Typist* and *Typespeed*, to which can be added Sam Hart's *Tux Type*. The excellent, Curses-based *Typist*, updated as a GNU package *gtypist*, is a little dull for younger children. For those with a strong desire to learn touch typing on a *qwerty* or *dvorak* keyboard, however, it is well worth a look.

Typespeed has more entertainment value as you are challenged to type a word as it whizzes across the screen. You can use the regular English dictionary or, if you are bringing your kids up as true geeks, UNIX command words. It is a great challenge for older children or adults and has the advantage of running on the command line and so needing very little in the way of resources.

The speed and vocabulary put it beyond most under 10s, although it's a simple matter to make a junior version. Alternatively give *xletters* a go.

Whilst not really a *touch-typing* tutor, *TuxTyping* is certainly great fun for the kids. An *SDL* game, it features funny sound effects and graphics (see figure 2) which keep the young amused as they send Tux chasing after his dinner by typing the characters or words written on fishes which fall from the sky. The graphics are appealingly cartoon-like and the game makes an interesting counterpoint to *GCompris* (see *Linux Magazine* 9).

In the same genre can be found *Linux Letters and Numbers*

(LLN). LLN is a fun game for aged two and up. Click on a letter and up pops a picture of something beginning with that letter (click on "Z" for example, and you may get *zebra.png*). You can add extra images of your own.



It's only words

Those who feel safest with a Graphic User Interface (GUI) may never have noticed the package *bsd games* on their distribution disk, a collection of old text-based games which run from the command line, or in an Xterm. As well as fun games like *robots* and *tetris* there are the word games *boggle* and *hangman*.

Nineword is a Gtk version of those boggle-type puzzles seen in newspapers, where words of four or more letters must be made from the nine available. There is always a nine letter word to find.

Still with traditional games a Gnome clone of *Scrabble* - *Gnerudite* has been developed. It only supports one player for now, but has many useful features including a cheat mode to swap some of your letters if you are stuck.

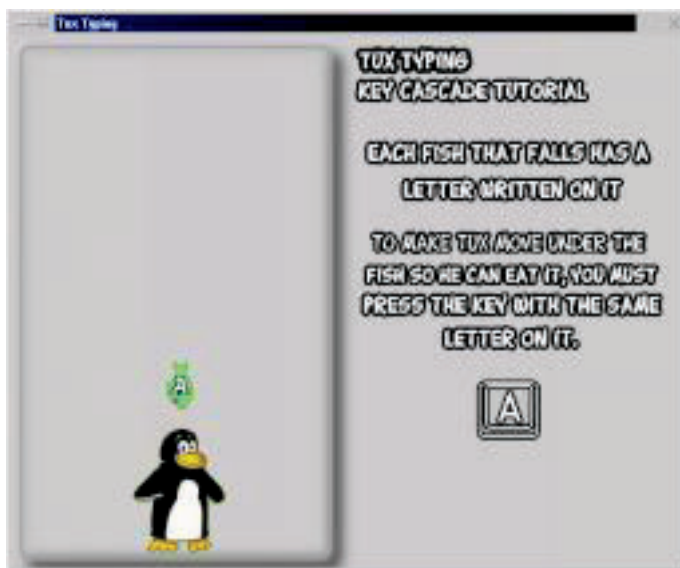
SDL

Simple DirectMedia Layer is a cross-platform library for games development, providing fast access to the audio device and video card frame buffer. It supports all the major desktop platforms and has bindings for most popular programming languages. *Civilization: Call To Power* and *Mind Rover* are among the better-known games dependent upon the library.

The *libsdl* homepage contains a collection of bad jokes that your co-workers do not want to hear, so do not click on the link in this box.

SOFTWARE

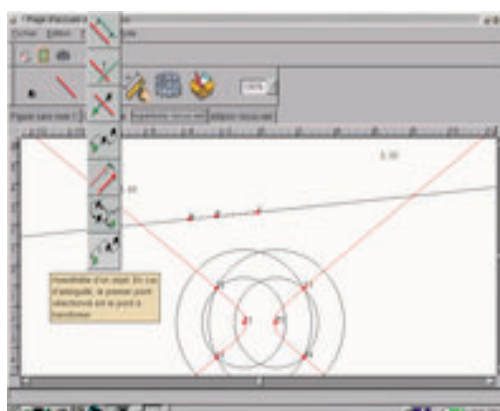
KIDS FOR LINUX



[above left]
Figure 1:
Easy as ABC...

[above right]
Figure 2:
catch a falling word

[right]
Figure 3:
A genius at vector
drawing



takes six random digits and asks you to combine them with the four basic arithmetical operators to produce a three figure target number. The program will also present you with the best solution.

Of course there is a lot more to getting children interested in mathematics than putting them through their paces with arithmetical quizzes. Xaos will introduce them to the beauty of fractals whilst *snowflake* allows the creation of a graphical cryptographic key, in the form of a snowflake pattern, from any series of characters – such as a child's name.

Returning to the beauty of a challenge, *Groundhog* involves rotating tiles to align pipes, allowing little coloured balls to return along the pipes to the correct coloured cups. Not a strictly mathematical puzzle, perhaps, however *gtans*, a Gtk version of Tangram, certainly is as some geometry rubs off on players along with creative puzzle-solving. Both games are suitable for quite young children. For a stronger geometry "fix", try the GNU program *Dr Genius*. The name is one of those self-recursive acronyms beloved of geeks, standing for **Dr Genius Refers to Geometric Exploration and Numeric Intuitive User System** (ouch). It combines vector drawing with a strong interactive element which many children will find involving. Now dive in and try some of these programs, but don't forget to let the kids have a go, too.

Gutenberg

Once your children are happily reading and writing it is time to switch off the computer (unless you are always on) and head off down the library. Do not forget the library on the Net, though: Project Gutenberg. Worthy of an article on its own account, if you have yet to discover this monumental venture then point your browser to it.

Starting with *Alice Through The Looking Glass* and *Peter Pan*, your children can work their way through every out of copyright text listed until they have finished the complete works of Shakespeare and Milton.

On the cover CD we have *Project Gutenbook*, a GPL'd Perl-Gtk browser for Project Gutenberg, which allows you to browse the archive, select and download a book, then read it. Those inspired to help out with the code may (or may not) be pleased to know that the next release will be in Python.

Sum thing for everyone

We reviewed the flashcard arithmetic game, *MathWar*, a couple of months ago. Variations on this theme are provided by *Addpsx*, *first_math* and *Math Literature*. Viewers of Channel 4's *Countdown* program may like to practice with *Anton*, which

Info

*SEUL*edu: <http://www.seul.org/edu/linuxforkids> website (no connection with this column)

<http://www.linuxforkids.org/linuxforkids> cdrom available from <http://www.linuxemporium.co.uk>

Debian junior: <http://www.debian.org/devell/debian-jr/>

Project Gutenberg: <http://promo.net/pg>

Project Gutenbook (also on the CD): <http://www.gutenbook.org>

Resources

Many of the applications reviewed here can be found collected together on the *Linux for Kids* Web site, along with arcade and strategy games and art applications. Software is reviewed and rated, and an ISO image of all the freely-distributable code is available. This CD may also be purchased cheaply in the UK. Debian users (including Progeny and Stormix) can find many of these applications packaged up by the Debian junior project, which we will be examining in depth in a future issue.