Entrepreneuring On The Internet: And Other Stories of Horror and Imagination

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Fortune Cookie: "Wisdom is Learning from the Mistakes of Others"

A Tale in the Spirit of the Book: ON NOT KNOWING HOW TO LIVE

History / Tools / Entrepreneurship
My Story with the Internet

Early Career:
- A Computer Designer: Worked at HP, National, 70's
- Xerox PARC, 80's (Mouse, Windows, Ethernet)
- Consulting, 90's+

A friend needed some disk drives, some funding and wanted a partner, for an Internet/Email startup --- Thus it was that I became an ISP in the early 90's, and my new strange adventure began …
An ISP in the Early 90's

- Server Support for Email and NNTP News.
- Implemented "NetMuse": Windows-based Email/Netnews & Mime (Borland C++)
- Integrated with UUCP delivery. (Pre PPP)
- Provided custom domains for clients (DNS)
- Pre-commercial Internet: Competition: NetCom (1991-2000)
- NCSA Released Mosaic in 1993 (early browser)
The Horror!, The Horror!

Kurtz Last Words in “Heart of Darkness”, by Joseph Conrad

Problems Came by the Hordes

- News kept increasing exponentially, disk drives kept filling
- Intermittent modems, worked for some not for others
- Email attacks causing huge problems
- Spam came from thousands of IP addresses
- Competition was big, revenues were small
- Commercial Internet was not legal early on
- Opportunities were palpable but you had to execute
- To be continued ...
Tools of the Trade: A Text Editor

- **VI(M)** -- most powerful command, :h is the help commands, teaches you the rest of the editing commands.
- **Strength of vi**: hardly ever need to use the mouse. (h, j, k, l) allow you to move around – with your strongest fingers.
- **Vim** is a very feature rich and **ECONOMICAL EDITOR**.
- **Includes syntax highlighting** even for Javascript, HTML, SQL and many other languages.

**QUOTES**

- I love and use VIM too, Larry Wall.
- Vim is like a Ferrari, if you're a beginner, it handles like a bitch, but once you get the hang of it, it's small, powerful and FAST! (Unknown)
Other Power Tools/Modules

- **READLINE**: create command line editing for any program: uses Vi or Emacs editing
- **ImageMagick**: very powerful multi-image file format image manipulator (combine with scripts)
- **MySQL, Postgress, SQLite** (no internal perm)
- **Postfix**: Email SMTPD server (and virtual domains)
- **BIND9, DIG, NSLOOKUP**: DNS Management
- **PING, TRACEROUTE**
- **WEBALIZER**: Log analysis Program e.g. http://www.postoffice.com/smy
- **YOUR TIME** (Manage it with care)
Webalizer: Analysis of Your Site

![Webalizer Chart]

### Summary by Month

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SECURITY TOOLS

- SSH, SCP: Securely encrypts entire communications including password.
- TRIPWIRE – How to know if you have been hacked
- ETHEREAL/WIRESHARK – See traffic
- BASTILLE – How secure is your server?
- APACHE – Configure for security
- RSYNC – Use for backups
- SNORT (sniff traffic)
- PREPARE RECOVERY FROM SCRATCH
- HTTPS - allows secure HTTP communication.
- IPTABLES – Firewall
PERL: Swiss Army Chainsaw of the Internet

- Customize Tools: Perl, PHP, Python, Ruby, Java, Lisp
- Perl is one of the earliest most powerful languages to power the Internet (can be embedded).
- RE, eval, lists, hashes (dict), etc. Can be used in combination with Vim and others (Readline, Searching, Scripting).
- Perl is a little harder to use than PHP, but more powerful.
- Give yourself the power of scriptability - in lieu of great memory.
- To learn Perl: start with: $(scalar/ptr), @(list), % (hash).
- Learn: scope rules and namespaces
- Can be Compiled or Interpreted, for small projects or big ...
- Regular Expressions (REs) are your best friend: PerlRE (is the most general). Very powerful, consistent, documentable, and much more.
CPAN & SWIG

- **CPAN**: Comprehensive Perl Archive Network: search.cpan.org

- Almost anything you can imagine. Really!

- LWP and other magical modules: e.g. lwp tools to download websites: lwp-download, lwp-mirror, lwp-request, lwp-rget

- **DBI** for: PostgresSQL, SQLITE, MYSQL, and others. Customizes SQL normalized to use Perl functions.

- Perl disadvantage: Not as many open source CMS's as PHP.

- **SWIG** -- allows easy integration of Perl, PHP, Ruby, Python with other programming languages through header files, e.g. C, and C++ using .h, .hxx files. See: www.swig.org
CREATION OF HTML5/CSS/JavaScript/DOM/AJAX
USE YOUR FAVORITE CMS OR ...

Textually (with PERL or others):

- Interpolating with Here-Docs is usually enough.
- Can also do PERL HereDocs in combo with substitute eval eliminating HTML templates - morphs Perl into inline PHP:

  form: \texttt{s/PATTERN/REPLACEMENT/egimosx}

Options are:

\begin{itemize}
  \item \texttt{e} = Eval right side as expr;
  \item \texttt{g} = Replace globally
  \item \texttt{i} = case-insensitive;
  \item \texttt{m} = Treat string as multiple lines.
  \item \texttt{o} = compile pattern once;
  \item \texttt{s} = treat string as single line.
  \item \texttt{x} = extended regular expressions (allows comments).
\end{itemize}
BASIC STEPS FOR STATIC PAGES
OR CGI PAGE GENERATION

Create build functions with parameters and here-doc.
for all static pages or for CGI page {
    Call functions to generate parameterized pieces:
    Common Parameterized Menus
    Common Parameterized Headers
    Common Parameterized Footers
    Main page
    Concatenate parameterized HTML pieces
    Print out page;
}
#!/usr/bin/perl
my $img_smy_html = "<img src='dog.png'><br/>
";
sub fun { my $v=shift; return(eval($v)) ; }
sub dig2 { return(sprintf("%.2f", shift)); ; }
sub gen_html { my ($c_per_len)= @_; 
    my $comm;
    my %r = (w=>10, h=>15, artpiece=>'The Owl');
    my $calc_html="""__EOS__"";
    Print size W: $r{w} in, # dig2($r{w} / 12) # ft.<br />
    Print size H: $r{h} in, # dig2($r{h} / 12) # ft.<br />
    Artists.com commission: \$\# \$comm=$r{w}+$r{h} * $c_per_len # <br />
    Artists_com commission: \$\# \$comm #<br />
    Artpiece: $r{artpiece}<br />
    $img_smy_html
__EOS__
$calc_html =~ s/##([^##]+)#/fun($1)/msge;
    print($calc_html);
}
gen_html(50.0);
How PERL has saved my ASS (again and again and again):

As an ISP, AOL had queued millions of bounced emails for my server (bomb).
My Mail anti-spam eliminators would read email, process them to eliminate the spam.
BUT mail was arriving faster than my software could eliminate it, filling disk.
Calling the FBI doesn't help - they won't come.
My mail SMTPD server was too complex to rewrite quickly in C.
MAIL COULD NOT FLOW - there was no end in sight.
I could end up with lots of angry customers, or worse, no customers at all.
Like Kurtz said: THE HORROR! THE HORROR!
PERL to the rescue - I compiled Perl jointly with the SMTPD server
Perl RE's parsed the email for spam - and eliminated them right at the gate (no storage overhead)
Millions of email were processed really quickly until the bomb was disarmed.
One all-night of programming – and - Email was flowing again :)
SO YOU WANT TO BE AN ENTREPRENEUR

In 2006 figures taken by the US Small Business Administration indicate: There were 671,800 new businesses opened but 544,800 business closures.

"you can increase the chances of success by choosing a business that is relevant to society and in demand. Completing a lot of research is therefore important before beginning your business, so take every advantage you can to ensure that your business succeeds."

(blog.globalbx.com/2008/10/06/small-business-statistics-and-failure-rates)
ENTREPRENEURAL THINGS TO LEARN

- CAPITALIZATION AND LAWSUITS
- MANAGING LAWYERS (Otherwise they will manage all of your money - guaranteed).
- RECRUITING STAFF - figure out proper compensation.
- CORPORATIONS & BYLAWS & CORPORATE PRACTICE
- PARTNERS (Danger Ahead! Big Boulders Ahead!)
- HR & LAWS
- ACCOUNTING: Very, very important (keep score)
- BUSINESS PLAN: Biz Plan Competition, a good start
- FIND A PLACE FOR INCUBATION: A UNIVERSITY? e.g. SUN => Sun, Google, Yahoo?, Consulting?
LOOK FOR THE ROAD LESS TRAVELED
YOU ARE MORE LIKELY TO FIND A GEM

• What is known gets discounted (e.g. the stock market)
  But not always. witness:
    GOOGLE – Trumped earlier dominant Yahoo
    FACEBOOK – Trumped dominant MySpace
• “Ideas Are A Dime a Dozen”
  This was a favorite sayings of a good friend of mine, VP of
  several large silicon valley firms.
  But not so, might say: Andrew Viterbi, Ray Dolby, Ray Kurzweil,
  Nolan Bushnell, some of the inventive heroes of our time.
• Whenever possible use: OPM
• Internet Equalizes Giant Companies, and Small ones: Almost,
e.g. ART.COM has a big well funded budget.
The year was 1994, while I struggled with EMAIL, NEWS, and SOFTWARE, and provided Custom Domains (DNS Service)

A friend at the time started developing domains & got the domain "shoppingmall.com" it game an idea.

As an email provider I took advantage of an idea to develop custom Email addresses (like custom “Checks”) with several domains in the .COM space. Good names were disappearing fast, real fast.

So one very hot afternoon I acquired these domains:
ROMANCE.COM, ARTISTS.COM, POSTOFFICE.COM, EE.COM, HOUSES.COM, BENCHMARKS.COM, TRADECENTER.COM, LOANS.COM
My Story: Update

- I sold some domains, and am currently developing some:
- Artists.com => Print shop: BWP (site: under development)
- Creation of Catalog of Local Artists, Giclee Prints
  Postoffice.com => Was sued by U.S. Postal Service, but won.
  => Currently a simple portal for International Posts (Adsense)
- Romance.com, Benchmarks.com => Parked,
- Houses.com => Much Longer Story.
- EE.COM => Consulting
- Acquisition of these domains turned out to be one the most significant business decisions I made.
- Domains have become a thriving industry in an of themselves through auctions, tradeshows, parking sites, TLDs and more.
In Summary

LIFE IS WHAT HAPPENS TO YOU WHEN YOUR BUSY MAKING OTHER PLANS.

John Lennon.

Email address: siero[at]ideassiero.com and the story continues ...