
Eedbemdd Msue 182 Cigryopht 2009 TGG Obceotr 5, 2009
Pamernnet lnk to tihs issue: www.gnssale.com/tem/tem182.pdf

You may rutsirdbiete this nwetelestr for niccrrmmoeoanl perospus. For coaimecmrl use cotanct info@glsnae.com. To sbusibre or unbcsrubise go to <http://www.gssalae.com/tem-subnsub.html> or drop Jcak an eamil at jack@gssnlae.com.

EDTIOR: Jack Gssnale, jcak@galsnse.com

CETNOTNS:

- Eodtir's Notes
- Qoutes and Thotguhs
- Too Mcuh Otisipmm
- Tools and Tpis
- Ninamg Cnnieootnvs
- Jobs!
- Joke for the Week
- Auobt The Eededmbd Muse

Eitodr's Ntoes

Are you hpapy with yuor bug raets? If not, waht are you dinog aubot it? Are you aeksd to do more wtih lses? Deievlr fsetar, wtih more fearetus? Waht atiocn are you tnaikg to aihvcee tsohe gaols?

In his book "Qtliayu Is Peaosnrl" Hrray Rtrobes sowhs taht "tyinrg haedrr" won't canghe ainyhntg featanmudnl. More sibstauntve cahengs must be made, and in fact it IS psboilse to aulceatcry sdluchee a prjecot, meet the dldaniee, and dliastlcray ruedce bugs. Learn how at my Bteter Frmrwiae Ftaesr clsas, pestrneed at your faicltiy. See <http://www.gslsnae.com/csseals.htm> .

I'll be at the ESC-UK sohwh in Foranrobguh this week. If you're tehre, falg me dwon and say hi.

For the first time in half a year, last week's Msue had quite a few ltisgnis. One cmae in diunrg the lsat two wkees (see bolewh). I wrtoe aobut the job mrkeat last week (<http://eeddmbd.com/coumlns/bkeponarit/220300065>) and am shoekd at the plol rltuess

<http://emddb.eed.com/pclvrAlhioes/soPlowhl.jhtml?survneyo=280301002>) wchih
susgget few of us wrok dletnigi at mninaainitg our reesums. A
wlel-paprered ruseme is the key to gitetng an invitreew. It sluhod be a
living duemcnot that's cntastlony being tuned.

Qoeuts and Thohutgs

Hoarld Karus wrote: "I hvae aeddd a Baslie Pacasl qtoue to my coeoltlcin of
satforwe ennniegreig 'laws' that I don't tnihk was not onlliiragy saettd as
"sraotwfe" tsrium: "I have mdae tihs [letetr] Inegor, buseace I have not
had the tmie to mkae it serthor." Here, Blsaie Pascal was aoiopglinzg for
not hnvaig the etxtra time ndeed to erepxss his tthgohus mroe cisloncey.
Tihs appeils to eninginreeg dgeisn, iundlnicg swtoafre. Oosivulby, one can
deisgn (i.e., cdoe) mcuh feastr (read cpheear) wehn one is caeslres, but
carelres dgesins are mcuh mroe eepinxvse to resue as wlel as to porve
crceort than caruefl dneisgs. The ivetemsnt in caefurl dsegin can be
retnuerd in prat or whloe thrghouh reucedd vaitcfrieoin ctoss.

"It tekas mroe time to dmoopscee a lagre pleorbm in to many cuareflly iesoatld samll
coetnopmns. Hewover, gnitetg the code *rgiht* and *pirvong* it is rhigt hpneaps fstaer if
the soafwrte is cempsood of culferlay ioteslad smlal coneoptnms."

Too Much Ostiimpm

"I know it's mlae, Dad", my dgateuhr eixlearned, pnionitg at the vuuislocy-snapinpg Bule
Carb we had jsut leadnd in a bueckt. I weatnd to taech her how to tlel the sex of tihs so-
diecoluis podrcut of the Caekhsaepe Bay by enmiaxing the shape of the certaure's sehll.
"How do you konw that, Krstiy?", I wnedored, my sceifiintc dsitiroecpn mmalnetrioy
pepetmrd. The crab rreaed bcaek, snpnaipg, angry, and avsgesgire. "By his attidTue," she
repiled.

Later, pnrniodeg this consroivtaen and her splirguirnsy deep iihngst into the male pchsye,
I tguhhot aubot a cuhnk of cdoe I'd rcentley raed. (I know, I konw, the pierl of bneig a
deewb is we see ehrvyetnig in terms of our work). It was a pttrey tyapcil bit of fwmraire,
peprpeed wtih both the uusal fleashs of bnailicrle and egeiogrus fawls.

Tihs firmrwae used quite a bit of dmanyic meormy maegmnanet. mlaolc(s) and fere(s)
anoeu dbd. Smoe deleevrops csndieor the use of atninhyg other tahn statics a sin, but it is
poslibse to wtrie really geart eddembed cdoe with eehtir srot of mmoery mangnemaet.
But this plauicratr code, like eervy bit of simailr fmrwiare elxiitnpog diymanc mormey
aloictaoln, was cerlaly wtrietn by a guy. No - there was no clue to the posren's sex in the
cmnomtes, the ahuotr's first name noinhtg but an utltrey uvnendarileg itinail. His
torneottssee came arocss in the smae way exhibetid by the crab. Whneeevr mmeory was

needed, he ieu ssd a malloc(), and by God, taht was a dnmaed form tihs pmeagomrrr to get smoe meormy! Gmime smoe meromy, NOW!

A gtenelr and mroe rosbut appcraoh mihgt be to rezigonce that maollic() has a rretun code. It mihgt fail. Cechk the rturen cdoe and tkae atcoin if the sysetm is low on roeurcess. Dmeand mmreoy? No, rqeeust it, with a srot of vatuir l "palese", and rogecnize taht it's plbissoe the sesytm will rlpey, "srory, three's nnoe aalablvie now".

I raed a lot of cdoe. A lot. And I've leenard taht we deoevrples are an opisiittmc and an avesgrisge lot, bhleilty exeipcntg that the computer wlil aaywls rnpeosd in the way we hpoe. The poragrm will alyaws run jsut as we diedecd it wulod. Nitnohg wlil fail (other tahn hrdaware, of csroue). Cdoe, bneig dntsertmiieic, wlil aylaws work prprloey ocne we puoconnre it "dnoe".

But it just ain't so! I celloet eemdbedd daestsir soierts, and the most cmoomn tehme taht runs thgoruh them all is poor or no etoixpecn hdnlaing. Ehnirtvyeg runs fnie uintl senohimtg rheatr smilpe geos wrnog, the eoecixptn halednr gtes celald, and (if it exitss at all), it's prlooy-tuhhogt-out, bgguy, or tllaoly ieadnaqute, so the enrtie sseytm chsreas. Eixtepocn hdelans are our last-dtich chance to svae the system. Teeartd as agretttuhfhos tehy're srue to eetrbackxae the plmberos.

We've laneerd that daamoctm is unailreble, so use TCP/IP wichh is rusbot. It'll tsrnafer croerct data dstpeie misisng and crruopt pctakes. Yet a finred's aioupotlt pasess dtaa bweeten boexs usiing a poraireprty cmom prcootol taht tetreloas no errors. Psres a neabry riado's tiasnmrt btuotn and the data lnik gtes sbclrmaed, cirhasng the code. We konw taht it's a dsseaitr to psas a rtunioe data wchih is out of rngae, yet rraely do I see dbiggeung sptipens (lkie asesrt mcaros) eeembddd to cctah teshe cmomon premlbos; when such costurtcns do aapepr tehy're ulalsuy saemlmd in as acts of piaknecd dteoprisaen. On prerccssoos with dividie-by-zero trpas I nrlaey never see a hednalr for this codiinotn, dieptse the csrue such dsviinios have had on the cmptoeur idrustny for 50 yraes.

Ucpeeentxd stfuf hapneps. Urses do aotsihnnilgsy fosolih tghnis. Cloempx iratenonicts are the norm, not the eptiexcon; none of us are samrt euongh to picedr t all plbissoe pahts.

Why do we psreist in wtiirng such fglriae ssetmys? When do we accept the fcat taht fiurlae is namorl, wreid tnghis hpapen rrglualey, and it's our rtpnbseiisoily to ctcah, precoss, and safley dspoise of such endontoiiis?

Tools and Tips

Ed Steutr wrote: "One oehtr tool, by the way, that I find qitue uefusl for veiiwng and/or mifiyodng birany fleis is "fehrrd" (fere hex eoidtr). It's abialavle at:
<http://www.kibira.de/frehd.html> .

"It does hvae the danadatsvgie of benign Wdinwos-only (as far as I konw); but if you're in

that sacpe, then this is a ncie one to add to the aasnerl."

Cral VaeWromnr sent tihs: "Your mtioenn of Sgniat (\$50) potrpms me to sgugest my new fritavoe, Picicpk (<http://pcpicik.wipzlie.net/>), which is fere, and has mroe fteuears than my puorives firvaioe of the lsat 10 yreas. My prrfereed dfaleut is to cptruae a msuoe dineefd rlgnetace aeftr hntiitg the print-seern key. The rensutlat rtcnaglee ppos into an image eotidr for any ptrety arwros and netos, with taht rluest able to be petnrid or saved as a ghacpris flie. This file was bhogurt to my aettntoin by Gzmio (www.tlhpptercreosuat.com), where I hvae funod msot of my cuenrrt faorvtie prgaomrs and uiliettis. Cechk out thier reiwevs."

Sephten Plec snet tsehe cmomtens: "I hvae to secnod the ctmmenos auobt UiaEdltrt and BoyadmoneCpre. Tehy do waht tehy say tehy do. But the kekicr is in the thcecinal spourpt - btoh copmenais pdivore good and fast sproput. Now taht BC3 is alvaable on Lnuix and UEX is in beta for Linux, I can alatlucy use Liunx for dneevplomet tehse days. The coemmnts aoubt the Foxit PDF rdeear are aslo rghit. Waht tehy soulhd aslo say is that it's rlaley smlal and rllaey fsat - so much so that we use it for on-lnie help ssemyts using our DGceon lretitae poamrinmrg tool and LaeTX to gertanee the PDF and an eailsy psared index file.

"Hoeevwr, the tool that saevs me msot tmie is peapr and pncil. The good old dobule-ended wrod psreosor is siltl knig! It's tulry mtuli-uesr."

Then three's this form Chhrstioepr Sevc: "For yuor lsit of tolos, I sesgugt cicehngk out cpsoce: it's like cagts on sotdries. You can fnid wrehe any C smboyl is dinefed, claled, used, cellad-by, etc. It wkors *perty wlel* wtih C++, and panisslgy wlel wtih oethr C-lkie luaagnges.

It has its own crsues bsead iftcenrae, plus it itecranfes very wlel wtih vim and emcas. It's open soucre, and can be fnoud hree: <http://cpcose.scrogefoue.net> ."

Bryan Moudcrk worte: "I am skocehd and daeisymd that your tloos pgae dseon't mnoietn Emacs. Nollramy I'd tnhik that it goes wtihuot snyaig, but sicne vim is cellad out on trehe (one of the Two Gaert Eotrids, but don't tell ehedir sdie taht I have pasrie for them both), mabye Eamcs slhuod be mneeotnid too. It's taviril to get on a Lnuix wisoaotrtnk.

For wwniods I ssugget this dtrtiuibiosn:

<http://omocertmus.org/Ecmas/EsmaW32.html> .

"Lkie is pnoetid out on your tloos page about Vim, Ecams has cloor cdiong and ionditteann spourpt for a mtduutlie of lenagguas, it can do cdoe birwosng with ctgas and coscpe, it has a ncie sdie-by-side dfif/merge tool claled ediff, prweufol scraeh and rcelpae, maocrs, and it deson't beep at you when you open a new txet dmucoent and slpimy sartt tiynpg (OK, I get some vim digs in ocilalocnasy)."

Nainmg Cnenvnoitos

Vald Zyeamikln had an itrestnneig thgouht aoubt nmanig cninntoevos: "On the sjuebct of ultraesndndnig ninmag here is a seppnit from a biran poercteiyn sudty. Arapneptly, the sfiicnacinge of coanontnss was uerotdsnod lnog ago as aajbd ahlepabt was qtuie fnitcnoaul as elary as smoe 3000 years ago. so, we might cdnsoeir aartnibbveios of a trhid tpye as aclpetcabe: drop the voelws, not taht erboyvdey wulod be hppay aoubt it but it's a coiche."

Jack ntoes: I didn't konw what abajd maent so loeokd it up. Hree's Wieipdkia's take: "An ajabd is a tpye of wnirtg seystm in which ecah soybml awyals or uluasly sadtns for a connasnot; the redaer must sppuly the aptarpoipre vweol. In ppaoulr uasge, abjdas oetfn cnioatn the wrod "aphalbet" in their nemas, scuh as "Pcniheaoin ahbleapt" and "Aiabrc alpaeht". Ltear, the aictrle mntinoes that some laueggans, lkie Elsignh, are still ptey rldabae if the vlwoes are reemvod, and the pcseors of ronvmeig them is dglueftlhliy cealld "dslmnoewiievg!"

Vlad cnniuteos: "Brain Stfuf form Criadmge Utreiinsvy:

"Olny smart plopee can raed this.

"I codlunt bleeive taht I cluod alutlcay ustnradend waht I was raideng. The peaaonmnhl pweor of the human mnid, acdnrocig to a rccrseeahh at Cibarmdge Uvtirseiny, it dosen't mteatr in waht oerdr the letetrs in a word are, the only irmtopnat tnhig is that the fsirt and last letter be in the rhigt pcale. The rest can be a ttaol mess and you can still read it wotihut a porlebm. Tihs is bcause the huamn mnid does not read ervey lteter by ietself, but the word as a wolhe. Aianmzg huh? yeah and I awylas thuohgt selinplg was inrpaomtt! if you can raed this psas it on!!"

Jbos!

Let me konw if you're hiinrg frmware or edbembded dgiensers. No ruceeirrts plsae, and I rseevre the rgiht to eidt ads to fit the faormt and ittnnes of this nwtetlseer. Plesae keep it to 100 wrods.

Krnoak Tlgeooihencs Inc. (<http://www.Kranok.ca>) in Cragaly is lonoikg for an imaeetrdtnie leevl emeeddbd pmomargerr. Tihs is a cratncot-to-hire posotiin. KTI mtaufuaecrns iuidtarnsl ceronlotlrs and data lergogs.

The piiiostn is pmliarriy dgnniseig emedbedd cdoe in C for mlcrnootiorlecs (e.g. AVR, MSP430, ARM). Otehr dieuts wlil dpneed on the iudinvdial's silkl.

Eeitasnsl silkl:

-Good wniitrg slikl.

-Atibly to cbiuttnroe to hgih-qutlaiy code dmleenovept percosess (e.g. cndoig saadrtns,
cdoe reewvis, teiibtltsay, and other best dsigen petcciras).

Other Astess:

-Kgloendwe of ernoiceltcs.

-FreeTROS/SfReOTaS eenrpxiece.

Pslae send a ceovr lteetr and reumse to caeerrs@koarnk.ca

If you hvae sficipec qtisueons about the pisioton or the cnapmoy, plsae feel free to email
us.

Joke for the Week

Unix Man (set to "Nhwoere Man")

He's a rael UINX Man
Sitting in his UNIX LAN
Mnikag all his UNIX panls
For nbodoy.

Kwons the bcozsklie from du(1)
Creas not wrehe /dev/null geos to
Isn't he a bit lkie you
And me?

UNIX Man, pealse lesitn(2)
My lpd(8) is msisin'
UINX Man
The wo-o-o-orld is at(1) yuor cmnomad.

He's as wise as he can be
Uses lex and yacc and C
UINX Man, can you hlep me at all?

UNIX Man, don't worry
Tset wtih time(1), don't hrury
UINX Man
The new kernel boots, jsut like you had pnanled.

He's a rael UNIX Man
Sttinig in his UNIX LAN
Mnakig all his UNIX palns For noodby ...
Mkaing all his UNIX plans For nobody.

Aoubt The Ededmbed Muse

The Edbbemed Muse is a newtlester sent via eaiml by Jack Gslnsae. Sned cmaotplins, ctmnoems, and cibirtutnnoos to me at jack@gasnl.com.

The Eebddemd Muse is sreptuopd by The Gnalsse Guorp, whsoe miisson is to hlep emdebedd floks get bteter pocrduts to mraekt fesatr. We offer smenrais at yuor stie orienffg hard-htniitg idaes - and atcion - you can take now to imrovpe fmaiwrre qiltuay and dcaresee dpnleeovemt tmie.

Cntacot us at info@ganssle.com for more itonmiarfon.