

Amateur Computer Group of New Jersey NEWS

Volume 39, Number 05

May 2014

The *TRUE* “Father Of The Personal Computer Revolution”



Dr. Gary Arlen Kildall
(Photo by Tom G. O’Neal)

E-mail to the Editor

From: Rebecca Mercuri

Sent: Wed 4/09/14 1:34 PM

Subject: IEEE Milestone for Gary Kildall

An IEEE Milestone for Gary Kildall is being unveiled in California on April 25, 2014, in celebration of the 40th anniversary of CP/M. Further details are at:

<https://www.facebook.com/KildallLegacy>, and at:
<http://www.computerhistory.org/atchm/gary-kildall-40th-anniversary-of-the-birth-of-the-pc-operating-system/>

R. Mercuri

(Continued On Page 3)



<http://www.acgnj.org>

Founded 1975

This newsletter was made by 100% pure Linux!

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Board of Directors Meeting: Tues, June 3, 7 PM

Mike Redlich (president (at) acgnj.org)

Main Meeting: Friday, May 2. 8:00 PM

Mike Redlich (president (at) acgnj.org)

Lunics (Linux/UNIX): Monday, May 5, 8 PM

Andreas Meyer (lunics (at) acgnj.org)

Investing: Thursday, May 8, 8:00 PM

Jim Cooper (jim (at) thecoopers.org).

NJ Gamers: Friday, May 9, 6:00 PM

Gregg McCarthy (greggmajestic (at) gmail.com)

Layman’s Forum: Monday, May 12, 8:00 PM

Matt Skoda (som359 (at) gmail.com)

Java: Tuesday, May 13, 7:30 PM

Mike Redlich (mike (at) redlich.net)

Window Pains: Friday, May 16, 8:00 PM

John Raff (john (at) jraff.com)

Web Browser: Monday, May 19, 7:30 PM

David McRitchie (firefox (at) acgnj.org)

C/C++: Tuesday, May 20, 7:30 PM

Bruce Arnold (barnold (at) ieee.org)

Lunics (Linux/UNIX): Monday, June 2, 8 PM

Andreas Meyer (lunics (at) acgnj.org)

All meetings, unless otherwise noted, are at the Scotch

Plains Rescue Squad, 1916 Bartle Ave, Scotch Plains,

New Jersey. Directions and map on last page. ☺

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Web Browser	David McRitchie				
WebDev	Evan Williams	(908) 359-8070			
Window Pains	John Raff	(973) 533-0664			
Standing Committees					
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			Financial	Evan Williams	(908) 359-8070
			Historian	Lenny Thomas	
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			Publicity	Gregg McCarthy	
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			Vendor Liaison	Arnold Milstein	(908) 753-8036
			Webmaster	John Raff	(973) 533-0664

ACGNJ News

Editor

Robert D. Hawes
bob.hawes@acgnj.org

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Submissions: Articles, reviews, cartoons, illustrations. Most common formats are acceptable. Graphics embedded in the document must also be sent as separate files. E-mail submissions to newsletter@acgnj.org preferred. **Always confirm.** Date review and include name of word processor used, your name, address and phone and name, address and phone of manufacturer, if available.

Tips for reviewers: Why does anyone need it? Why did you like it or hate it? Ease (or difficulty) of installation, learning and use. Would you pay for it?

Editor Emeritus
(and Emergency Backup Publisher)
 Barbara DeGroot
 145 Gun Club Road
 Palmerton PA 18071
 Tel: (570) 606-3596
bdegroot@ptd.net

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Address Changes should be e-mailed to membership@acgnj.org or sent to ACGNJ at the address below.

Membership: Regular (now includes *all* family members who reside at the same address): 1 year \$25, 2 years \$40, 3 years \$55. Student: 1 year \$20. Senior Citizen (over 65): 1 year \$20, 3 years \$45. Send name, address and payment to ACGNJ, PO Box 135, Scotch Plains NJ 07076.

Typographic Note: This ACGNJ News was produced using Scribus 1.3.3.13. Font families used are Times New Roman (TT) for body text, Arial (TT) for headlines.

E-Mail Addresses

Here are the e-mail addresses of ACGNJ Officers, Directors and SIG Leaders (and the Newsletter Editor). This list is also at (<http://www.acgnj.org/officers.html>).

Bruce Arnold	barnold@ieee.org
Brenda Bell	mobdevsig@acgnj.org
Wendy Bell	ariellechaya@hotmail.com
Jim Cooper	jim@thecoopers.org
Barbara DeGroot	bdegroot@ptd.net
Mark Douches	pcproblems@pobox.com
David Eisen	ultradave@gmail.com
Manuel Goyenechea	Goya@acgnjdotnetsig.org
Bob Hawes	bob.hawes@acgnj.org
Sol Libes	sol@libes.com
Malthi Masurekar	masureka@umdnj.edu
Don McBride	don@mcbride.name
Gregg McCarthy	greggmc@optonline.net
David McRitchie	dmcritchie@hotmail.com
Andreas Meyer	lunics@acgnj.org
Arnold Milstein	mrflark@yahoo.com
John Raff	john@jraff.com
Mike Reagan	hardware@acgnj.org
Mike Redlich	mike@redlich.net
Matt Skoda	som359@aol.com
Paul Syers	paul.syers@acgnj.org
Lenny Thomas	lennythomas@technologist.com
Scott Vincent	scottvin@optonline.net
Frank Warren	kb4cyc@webwarren.com
Evan Williams	tech@evanwilliamsconsulting.com

IEEE Milestone For Gary Kildall, continued from page 1

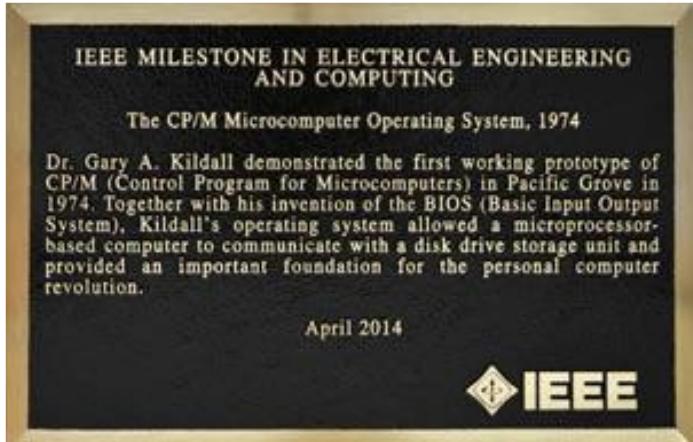


Photo of the plaque (from the Official Souvenir Program)
http://www.tomrolander.com/KildallLegacy/CPM_Program.pdf

Gary Kildall's Control Program for Microcomputers (CP/M), the first disk-based operating system for microcomputers, inaugurated the personal computer revolution in Pacific Grove, CA in the fall of 1974.

An instructor in computer science at the Naval Post-graduate School in Monterey and a consultant to Intel Corporation, Dr. Gary Arlen Kildall founded Digital Research Inc. (DRI) in Pacific Grove, CA to commercialize CP/M. Together with his Basic Input Output System (BIOS) concept, this ushered in the PC revolution. In 1982, DRI reported that "More than a

million people are now using CP/M controlled systems" and the company employed several hundred people in Pacific Grove. Sales continued to grow and expanded into other areas of computer software, including CD ROMs, educational tools, networking, and a video animation program that was purchased by a "little company called Pixar." Towards the end of the decade DRI faltered and in 1991 Novell Inc. purchased the assets. Gary Kildall died following an accident in 1994 but the legacy of his work lives on as the forerunner of the operating systems that continue to power the majority of the world's computers.

The Milestone program of the Institute of Electrical and Electronic Engineering (IEEE), the New York-based "world's largest professional organization for the advancement of technology", honors important events in electrical engineering and computing. Achievements such Thomas Edison's electric light bulb, Marconi's wireless communications, and Bell Labs first transistor are recognized with a commemorative plaque in an appropriate location. To coincide with the 40th anniversary year of the CP/M prototype, the IEEE will install a bronze Milestone plaque outside the former DRI headquarters at 801 Lighthouse Avenue, Pacific Grove, CA. (Also see *The Gary Kildall Legacy* by our very own club founder, Sol Libes, at:

<http://www.kegel.com/remedy/archive/newsx011.html>). □

ACGNJ Announcements

Main Meeting

Friday, May 2, 2014, 8:00 PM to 10:00 PM

Scheduled Topic: The Exponential Growth of the Internet-of-Things (IoT).

Scheduled Speaker: Joe Jesson.

Joe Jesson will provide a provocative presentation on how mobile phones, satellite carriers, and the Internet are leading into a new business which is becoming known as the Internet-of-Things (IoT) which is heating-up with billions of assets communicating wirelessly. IoT is the new intersection of low-cost wireless networks, transceiver hardware, and embedded software. It involves machine-to-machine (M2M) communications using massive arrays of sensors to fuse data and assets. Today, we are seeing ocean-going ships (AIS), Airplanes (ACARS), Trains(RFID), Trailers, Autos, containers, insurance and security applications, and every type of asset (pill bottles, diamond tracking, expensive music instrument cases, lights, refrigerators, organ transplants, heart monitors, NMR Magnetic and Liquid Helium, etc.) communicating wirelessly to each other. Verizon and

AT&T envisions the IoT numbers will more than double the number of humans who own smartphones today! You will both learn this new technology and enjoy this presentation and demo of the IoT.

Joe currently owns an Internet-of-Things consulting company in NJ, is CTO of Assurenets, a Telematics company in NYC, and is also a Visiting Lecturer and Adjunct Electrical Engineering Professor at The College of New Jersey.

He was co-founder and CTO of a new GE business unit, Asset Intelligence, when he received the GE Edison Award at GE R&D in NY, and has held Technical Management positions at Xact Technology, Amoco Oil R&D, BP Corporate, CNA and Engineering Positions at Motorola and MTS at the University of Chicago Jones & Searle Research Labs. □

Window Pains Meeting

Friday, May 16, 2014, 8:00 PM to 10:00 PM

Scheduled Topic: Web Browsers Shootout (Multiple Speakers).

ACGNJ Mini-Reports

Main Meeting Report

Mike Redlich, ACGNJ

We had 9 attendees at our Main Meeting on April 4, 2014. Its topic was “GPS Navigation and Geocaching on Mobile Devices”. Don McBride & Frank Warren teamed up to demonstrate the various techniques in geocaching devices and apps on how to find them.

One of the more popular web sites and its corresponding app is:

<http://www.geocaching.com/> 

Window Pains Report

Mike Redlich, ACGNJ

We had a total of 7 attendees at our Window Pains Meeting on Friday, April 18, 2014. Mike Redlich presented “Getting Started with Meteor”, demonstrating how to create database-backend web apps with the open source Meteor platform. The demo included how to download Meteor, create a simple “hello, world!” app, review the generated code, and how to add code for the backend database, MongoDB. (<http://www.meteor.com/>) 

Java Users Group Report

Mike Redlich, ACGNJ

We had 8 attendees at our monthly Java Users Group meeting on **Tuesday, April 15**. Mike Redlich presented “A Technical Overview of Spring Data for MongoDB”. One of the main projects under the Spring Framework is Spring Data, a comprehensive

set of APIs for various databases. Mike demonstrated the use of the Spring Data for MongoDB, a very popular NoSQL database, reviewing Java code on how to connect to a MongoDB database and create queries. (<http://projects.spring.io/spring-data-mongodb/>).

CSIG of the ACGNJ

C, C++, & Windows Special Interest Group

B. Arnold Chairman

R. Winter V.C.

31-March-2014

Meetings: 3rd Tuesday of the Month

Attendance: 2-7 people each month.

Details: The easiest way to understand our meetings is to visit the CSig web site at

<http://www.acgnj.org/groups/cug.html> and

<http://acgnj.barnold.us/index.html>

Summary: After a discussion period about current programming events, an Application program is presented with code and executable that demonstrates a Windows program concept usually in Microsoft C++ or C-Sharp Visual Studio.

I've been discussing C# DotNet at the CSIG club recently. In fact, I wrote a program to convert source “C++DotNet” to “C#DotNet”. The languages are

virtually identical and both use the same code libraries. The motivation was that Microsoft's latest Visual Studio 2013 Express (free) has dropped the C++ "Windows Form Application" tools in favor of C#. That's unfortunate. I've tried a few command line C++ compilers in Linux (Ubuntu and Mint) but I am still looking for a good GUI system.

Problems: Club advertising in the local papers is needed to help us gain members. A simple and free message in the newspapers like the following would help:

“ACGNJ hosts Windows meeting Friday night, 8:00pm (Scotch Plains Rescue Squad)”

For comparison, here's a story about the Hunterdon Computer Club: http://www.nj.com/hunterdon-county-democrat/index.ssf?/2013/02/hunterdon_computer_club_always.html 

ACGNJ Investment Meeting SUMMARY (Apr 10th, 2014)

Philip Lees, ACGNJ

Recent market turmoil? Turmoil, schmurmoil! We had a nice April meeting on Thursday, 4/11/2014 and we had **11** attendees in total.

Jim Cooper opened with a very good presentation of a strategy termed "Lit-Fuse", which is a low-volatility strategy using Bollinger Bands, in anticipation of an explosive subsequent move (contraction, expansion, contraction, expansion, repeat). Those "home run" trades are very sweet when timed correctly. It is very simple to set up, too. It was a very interesting presentation and discussion.

There was a short break with pizza and trade talk.

Ernest Andalcio then did another presentation on the

dough.com platform from tastytrade.com. The "dough" platform provides a great visual aspect to options trades that simplifies options concepts and there were lots of questions about different options strategies, which Ernest demonstrated very well and answered "dough" questions. Try out the website at www.dough.com, it has a number of small training videos, too. And, it's FREE!

Thanks to everybody who attended.

Please attend the meetings, everybody learns from them. We hope to see you at May's meeting, **5/8/2014**. Thank you.

Philip Lees ☐

Distros Revisited (Part 2)

Bob Hawes, ACGNJ

First, some recap: A Distro is a Linux Distribution. Each Distro consists of the Linux kernel plus *all* of the operating system components produced by the GNU (**G**NU's **N**ot **U**NIX) project *except* for the GNU kernel (which is *still* "not ready for prime time"). Our previous article (*Distros Revisited (Part 1)*, in our April 2014 issue) was started in October of 2013 and finished in March of 2014; but most of its text was actually written in the first week of January, 2014. Because of that long time span, some of its information was, shall we say, "just a *little* bit out of date".

In October of 2013 I considered six distros, but I only downloaded ISO DVD images for *five* of them. (And I only installed *three* of those five). Now, as I write this, it's March 16, 2014. I just got back from the Trenton Computer Festival yesterday, and the April newsletter is still "under construction". Except, as I said above, I've *finally* finished my article for April, and I've started "working ahead" on this article for our May issue. Also, I just checked www.distrowatch.com, to see what's happened since last October. Debian has released "testing" and "unstable" versions, but no new "distribution release" since May of 2013. So, with nothing new to test, Debian's **FAILURE** rating from Part 1 still stands. Likewise, simplyMEPIS hasn't issued a new "distribution release" since July of 2013. So the

installation we made last time is still good, and we'll be talking about it further below.

On the other hand, Linux Mint has released version 16, so the version 15 that we installed last time now has to be replaced. Furthermore, Fedora has released version 20 and Mageia has released version 4. So both of those downloads from last time are now obsolete; but since we *hadn't* installed either of them yet, we didn't lose that much work. Finally, openSUSE (which we *didn't* download last time) has released its promised version 13.1. Thus, we've got four ISO DVD images to download now:

linuxmint-16-mate-dvd-32bit.iso (1.2 GB)

Fedora-20-i386-DVD.iso (4.4 GB)

Mageia-4-i586-DVD.iso (3.7 GB)

openSUSE-13.1-DVD-i586.iso (4.1 GB)

As before, I made these downloads overnight, while I slept. Last time, all five of our downloads were on the "small" side, in the 1 GB or so range. This time, I only downloaded a "small" version of Linux Mint, choosing the ISO image that most closely matched our previous Mint 15 selection. (Note: The "Mate" desktop is Mint's "continuation of GNOME 2"). For the other three, I decided to go "big", in the **4** GB or so range. As before, Mageia, Mint and openSUSE used good old MD5 checksums for verification, while Fedora used an SHA256 checksum. Now, as promised last time, I'm going to tell you why I think

Distros Revisited (Part 2), *continued*

that using SHA256 in this case was a particularly **BAD** idea.

Let's say that you somehow receive an evil download from a notoriously nefarious website such as Malevolent McBob's Miscellaneous Malicious Malware and Self-Improvement Center. Copyright 1975, 2014 by Extremely Illegal Enterprises, Internationally Organized. All rights (and wrongs) reserved. (Note from our Legal Department: This publication does **not** in any way condone, endorse or otherwise support the activities of MMMMMSIC, EIEIO, or any of their affiliates and/or subsidiaries). Furthermore, let's assume that your download was accompanied by both an MD5 checksum and an SHA-Umpty-Billion checksum. Now, which of those checksums would better guarantee that your download was **good?**

The answer is: ***neither of them***. While SHA-whatever is ***much*** better than MD5 for cryptographic operations, these verification checksums have absolutely ***NO*** cryptography value at all. Because they both came from the ***same*** source as the download file, all they can do is check if your newly

(Continued Above Right)

supported hash functions include MD5, MD6, SHA1, SHA256, SHA512, RIPEMD, TIGER and WHIRLPOOL". When launched, GtkHash displayed a small graphic window. I clicked the icon in the right hand corner of its "File:" box, and I selected my download from the "Recently Used" window that popped up. Then, I clicked on the "Hash" button, and the program started. When it finished, a newly calculated checksum appeared in the "SHA256:" box. I copied that figure, and then I had to manually compare it to the checksum supplied by Fedora. It matched, so my download was good. (Md5summer.exe does such comparisons automatically, not to mention extremely fast).

OK. So we've got our new downloads; and left over from last time we have three spare hard disks with three experimental operating systems installed: Debian 7, Linux Mint 15 and simplyMEPIS 11.9.92. The Mint installation is out of date; but as long as we went to the trouble of making it, I might as well compare it to its new version 16. The MEPIS installation is still good, and the Debian installation

downloaded local copy is identical to the original source file. In other words, they can ***only*** guarantee that no accidental data corruption occurred during your download. If that source file was evil, then either sum will verify that your copy was ***not*** damaged during transmission; but ***NEITHER*** can tell you that your file ***isn't*** evil. (Because it ***is*** evil).

Now, there is a marvelous program called MD5Summer (filename: md5summer.exe), written by Luke Pascoe of New Zealand. I run it on my Linux machines under Wine (the compatibility layer/emulator that allows Windows programs to run on Unix-like operating systems). It's capable of creating and/or comparing hundreds or even thousands of MD5 checksums in a single operation. It's fabulous, and I haven't seen anything that comes even close to it for SHA256 sums. Thanks to whatever transcendent genius at Fedora decided that SHA256 was somehow "better", here's what I had to do to verify my Fedora download:

I went to the Ubuntu Software Center and found the free program GtkHash, "a GTK+ utility for computing message digests or checksums. Currently

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is unusable. (See our previous article for details). So there's currently only one hard disk that can be immediately reused; but before I wipe out Debian and install Mint 16, there's one anomaly from last time that I want to investigate further.

In Part 1, my simplyMEPIS installation took roughly ***twice*** as long as the others. However, that particular hard disk was the ***oldest*** of the three. I want to see if that same installation will go faster on a newer disk. Last time (according to my wrist watch), it took 7 minutes for the "Live" desktop to appear. After that, it took **50** minutes from the time I double-clicked on the "MEPIS Install" icon until the fill-in screens for networking, time zones, user passwords, etc. popped up (at the ***end*** of the install routine). This time, it took 6 minutes and **48** minutes, respectively. Maybe a ***tiny*** bit faster, but in my opinion, close enough to be counted as the same. Especially when you consider the inaccuracies involved when timing from a wrist watch. My conclusion: It's the software, ***not*** the hardware. In other words, it's the setup routine on the DVD itself that's slow. For some

Distros Revisited (Part 2), *continued*

unknown and possibly sinister reason, simplyMEPIS took *a lot* longer to install than was really necessary. As before, creating the install DVD for Mint 16 (using K3b) took about five minutes; but this time, the other three (much larger) DVDs took about ten minutes each. (*Including* the optional but *essential* “Verify written data” step for all four). Installing Mint 16 took 27 minutes, versus 23 minutes for Mint 15; but maybe that 27 included extra time needed to wipe out that no-longer-necessary second MEPIS installation from my aforementioned “one hard disk that can be immediately reused”. GParted (the GNOME Partition Editor) reported that the install routine had created a 14.89 GB primary Ext4 partition containing 4.03 GB of files, and a 2.00 GB extended partition containing a 2.00 GB logical swap partition. However, as with Mint 15, I had to *install* GParted before I could use it. So, as before, that's *one demerit* for Mint 16.

At just about the same time as I became full time Editor of this newsletter (in January 2012), Cal Esneault (President of the Cajun Clickers Computer Club in Louisiana) was writing an article about

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media players), and the *Quod Libet* music player.

Well, that covers my hold-overs from the *Thirteen Things* list. Now we come to my own personal additions: *Okular* (my favorite PDF reader), *K3b* (my favorite CD/DVD burner), *Abiword* (my alternative word processor, which I mostly use as a file format changer), the *GIMP* (GNU Image Manipulation Program), *Wine* (the Windows emulator/compatibility layer), *Fony Python* (a font manager), *AcetoneISO* (which mounts various disk image formats as if they were drives), *Gnumeric* (a spreadsheet, added as a just-in-case alternative), *FileZilla* (a File Transfer Protocol program), *KompoZer* (a web page authoring system), *OggConvert* (which converts media files to the patent-free Ogg Vorbis/Ogg Theora formats), and *GtkHash* (our newest addition, from above).

OK. So now, after more than 1,500 words, it's *finally* time to actually *do* something. So I replaced my usual boot hard disk with my newly created Mint 16 hard disk, and I replaced my usual data hard disk with my “small”, specially prepared 2 GB data hard

Linux Mint 12, which he published in the February 2012 issue of Cajun Clickers Computer News. At that time, I wanted to reprint Cal's article in *our* newsletter; but unfortunately, I could never find a suitable spot. Now, at last, its time has come; and I've reprinted it directly after this article, under the title *Linux Mint*. Why? Because it covers all the new golly-gee, whiz-bang stuff that I just *don't* care about. (In fact, that I vehemently *resent* being forced to use). This way, Cal can showcase those features, and I won't have to.

Instead, I can concentrate on the things that interest *me*. Namely, finding out how I can continue to do what I've *been* doing with as little inconvenience as possible. To that end, I've assembled a “punch list” of the programs that I previously installed under Ubuntu: *gstreamer0.10-ffmpeg*, *gstreamer0.10-plugins-good*, *gstreamer0.10-plugins-bad*, *gstreamer0.10-plugins-ugly*, *mpg123*, *VLC Player*, *adobe-flashplugin*, *openjdk-6-jre* (the *OpenJDK* version of the *Java 6 Runtime Environment*), *Scribus* (my fun, fabulous and *free* desktop publisher), *Mplayer* (one of the most popular Linux

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disk. Then I turned on the computer. When the system booted, a DATA_2GB icon had been magically added to the Desktop. So Mint had detected my data disk and automatically mounted it, using its volume label as an identifier. (As I'd hoped it would). I double-clicked on that icon to display the contents of the disk, and then I immediately double-clicked on the filename DisRev2b.odt (my current work file). This launched LibreOffice 4.1.2.3, which allowed me to type in the text that you're reading right now. So far, so good.

Well, that was the easy part. Now we've got to run down my “punch list”, to see what's installed and what's not. So I clicked on Menu in the bottom left hand corner of the screen, and I got a menu. (Surprise!) When I then clicked on Package Manager, up popped good old Synaptic Package Manager. From the first “half” of my list above (leftovers from the *Thirteen Things* list), *gstreamer0.10-ffmpeg*, *gstreamer0.10-plugins-good*, *gstreamer0.10-plugins-bad*, *gstreamer0.10-plugins-ugly*, and *VLC Player* had already been

Distros Revisited (Part 2), *continued*

automatically installed. I manually installed *mpg123*, *openjdk-6-jre*, *Scribus*, *Mplayer*, and *Quod Libet*. When I selected *adobe-flashplugin*, I got a message saying that I could only install it if I marked *mint-flashplugin* for removal first. Since the whole purpose of this installation was to see how Mint would work, I decided **not** to do that.

From the second “half” of my “punch list” (my own personal preferences), the *GIMP* had already been automatically installed. I manually installed the others one-at-a-time, and had no problems except that I **couldn’t** find *KompoZer*. Thinking it might have changed its name, I started Firefox and found it on the web, with **no** change in spelling. (Later, when I booted from my usual Ubuntu 12.04 hard disk again, I ran its version of Synaptic Package Manager as a double-check; and *KompoZer* **was** there). This strange and curious omission will have to be investigated further, but **not** now. We’re at the 2,000 word mark, and we’ve still got two more installations to check out.

So I replaced my Mint 16 hard disk with my Mint **15** hard disk, and I tried to repeat my above actions. I

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over System, a further sub-menu appeared, containing Synaptic Package Manager. So I clicked it and launched it.

From the first “half” of my “punch list” (the leftovers from the *Thirteen Things* list), *gstreamer0.10-ffmpeg*, *gstreamer0.10-plugins-good*, *gstreamer0.10-plugins-bad*, *VLC Player* and *openjdk-6-jre* had already been automatically installed. I manually installed *gstreamer0.10-plugins-ugly*, *mpg123*, *Scribus*, *Mplayer*, and *Quod Libet*. When I tried to install *adobe-flashplugin*, I **couldn’t** find it; but I discovered that *flashplugin-nonfree* had already been automatically installed instead.

From the second “half” of my “punch list” (my own personal preferences), *Okular*, *K3b* and the *GIMP* had already been automatically installed. I manually installed the others one-at-a-time, and had no problems except that, as above, I **couldn’t** find *KompoZer*. I’d guess that the small differences in the installed and/or not installed programs for these two operating systems are based on their different design philosophies.

launched LibreOffice OK (4.0.2.2, an earlier version), and was able to type in the text that you’re reading here; but when I tried to use Synaptic Package Manager, that program froze after a few minutes, and I had to re-boot. Then I tried it again and it happened again. So I tried a third time: Same thing. Now, predictable repetition of the same problem is the sign of serious trouble, **not** a minor glitch. Since this was a superfluous installation, and out-of-date as well, I decided to just scrap it rather than try to fix it.

So now we’re down to one more installation. I replaced my Mint 15 hard disk with my simplyMEPIS 11.9.92 hard disk, and then tried to repeat my above actions yet again. This time, it **wasn’t** as easy to locate DATA_2GB; but once I found it, I double-clicked on *DisRev2b.odt* and launched LibreOffice 4.0.3.3 (yet another version). Then I typed in this latest text that you’re reading here and now. So far, **almost** as good. After that, I clicked on the **next** to leftmost icon at the bottom of the screen, and got the Application Launcher Menu. On that menu, when I hovered my mouse pointer

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Speaking of philosophy: In addition to the much longer time that it took to install simplyMEPIS, there was another thing about their install routine that bothered me. At one point, in order to continue, I had to agree to the terms of the MEPIS COLLECTIVE WORK LICENSE. Putting a custom license on an operating system that **should** be using a standard GPL license gave me a strong “Gates-like” vibe. There will have to be something **really** superior about simplyMEPIS to counteract that vibe. (So far, there **ISN'T**).

Anyway, we’ve still got three **more** operating systems to look at. I’m going to back up my Mint 16 and simplyMEPIS 11.9.92 installations using Clonezilla (in case I should ever need them again). Then, I plan to wipe out the contents of all three of my spare hard disks, so they’ll be available next time for Fedora, Mageia and openSUSE. Some **very** preliminary conclusions: Mint 16 got one demerit for an easily fixable omission; while simplyMEPIS gave me a strong “Gates-like” vibe. So far, Mint is in the lead.

(Continued On Next Page)

Distros Revisited (Part 2), *continued*

For copyright acknowledgement, and for people who might want to see the original list, I've included the following link to *13 Things to do immediately after installing Ubuntu* by Ambuj Varshney, the article

that started it all:

<http://linuxondesktop.blogspot.com/2007/02/13-things-to-do-immediately-after.html>

See you next month. ☺



Linux Mint

Cal Esneault, President, Cajun Clickers Computer Club, LA

(And leader of many Open Source Workshops & SIGs)

*Newsletter: Cajun Clickers Computer News (www.clickers.org) ccnewsletter (at) cox.net
(<http://cccclinuxsig.pbwiki.com>)*

Editor's Note: This article was originally published in February of 2012, describing Linux Mint 12; but it works equally as well for Linux Mint **16**, so we've re-edited it for here and now. (Except for this Note, the only difference from the original text is that we deleted four instances of the number "12").

Linux Mint, a community-based operating system (OS) for PC's, is among the four most popular OS types for average users (Windows, Mac OS, Ubuntu, Mint). Although Mint is a derivative of Ubuntu, it has recently passed its parent in popularity. Known for working "out of the box", it appeals to those who

(Continued Above Right)

future commercial development plans. To maintain its non-commercial focus and open software alignment, Linux Mint elected to go with GNOME 3 and GNOME 3 Shell.

The GNOME 3 Shell interface has caused a lot of resistance from long-time GNOME 2 users. Linux Mint has a hybrid desktop strategy by adding features similar to GNOME 2 while still using GNOME 3 Shell as the underlying desktop (see screenshot below).

Bottom-left you see the traditional start-button

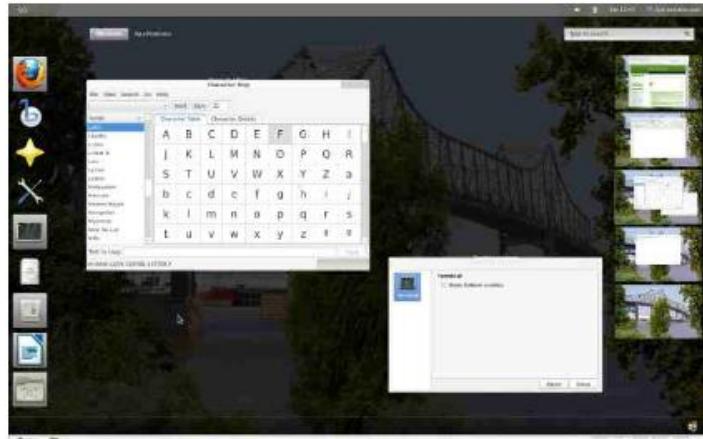
don't want to have to "tinker" with their installation. Using a customized software manager, over 30,000 Debian-based software programs are available at no cost.

Recently, the base GNOME development platform was upgraded to GNOME 3, and a new interface was launched that is more adaptable to touch screens and mobile devices (GNOME 3 Shell). Due to superior component and network integration, many distros have switched to GNOME 3. Canonical moved to GNOME 3 for Ubuntu, but it chose its own Unity desktop interface in order to support

(Continued Below Left)

"kicker" screen to launch applications and a bottom panel with buttons for switching virtual workspaces (these have been removed from Unity and standard GNOME 3 Shell). This gives comforting familiarity to existing users as they transition into the new desktop metaphor.

By moving the cursor into the top-left corner, you get the GNOME 3 Shell side-screen launcher panel with top buttons to activate the new software "lenses" for alternate selection of applications or files (see below).



Linux Mint, continued

With multiple windows open, you can switch applications by many methods: the launcher panel icons, right-side thumbnail icons, the Alt-Tab hot keys, the Superkey-W combo, or the virtual workspace icons on the bottom panel. Choose whichever you want as they are all available!

Linux Mint also has available a developmental windows manager called “MATE” which has a more GNOME 2 feel and which allows you to incrementally select which GNOME 3 shell features you want.

The main Linux Mint download is 1.0 GB in size, so you will have to use a DVD or USB for it. An optional CD version is available. My experience is

that you need at least 1 GB of memory for it to work. Also, you can choose a “classic” GNOME version at login for older PC’s graphic cards. Expect intense future development since many concepts for this version are quite new.

As Canonical directs desktop Ubuntu to more business users with switch to a 5-year long-term support version so as to focus on tablets and mobile devices in 2014, you may want to visit linuxmint.com to investigate this powerful and popular Linux distro for average users.

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Tiny Computers

Dick Maybach, Member, Brookdale Computer Users' Group, NJ

Newsletter: BUG Bytes (www.bcug.com) n2nd (at) att.net

Personal computers are vital appliances for most of us. We use them to balance our checkbooks, calculate our taxes, communicate with friends and

(Continued Above Right)

family, store our memories, and keep us informed. This is much different than when they were first introduced, when we felt free to perform

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experiments using them that today are unthinkable because of the risk of losing valuable data. As a result, we have the ironic situation that as our PCs become more and more complex, we know less and less about them. A solution is to acquire a smaller and simpler computer just to play with. Ideally, it won’t take up much space on our crowded computer desk and will be cheap to replace if something goes horribly (or wonderfully, if you’re adventuresome) wrong.

There are dozens of these tiny computers, but here I’ll talk about just two, the Arduino and the Raspberry Pi. Both are supported by active on-line communities, both are described in several books, both are open source, which means you are free to make any changes you like to their software, and both are cheap – less than \$50. (Although you will probably pay more for a complete starter or experimenter’s kit.) Both were developed by educators, the Arduino in Italy and the Raspberry Pi in the UK, for the purpose of helping people learn about computers and computing. However, the two

are quite different. The Arduino is really a controller, about as smart as your washing machine, and its inputs and outputs are Voltages on its pins. It runs only one program at a time, and once started, runs it forever. As you use an Arduino, you’ll be learning programming and electronics. The Raspberry Pi is a real computer that runs Linux and comes with a full complement of PC software, including a Web browser. Its inputs and outputs are a keyboard, mouse, graphical display, and Ethernet and USB ports. As you use the Raspberry Pi, you’ll learn programming, networking, and operating system operation and configuration.

The Arduino (<http://www.arduino.cc/>), like the Raspberry Pi, is about the size of a credit card. In the photo below, the Arduino is the blue card in the foreground. Normally, it’s programmed and powered through the USB connector at the rear of the left edge. Once, a program has been loaded, it can be powered via the black connector at the front of the left edge (for example by a 9-volt battery). This unit illustrated is mated to a solder less breadboard, on

Tiny Computers, *continued*

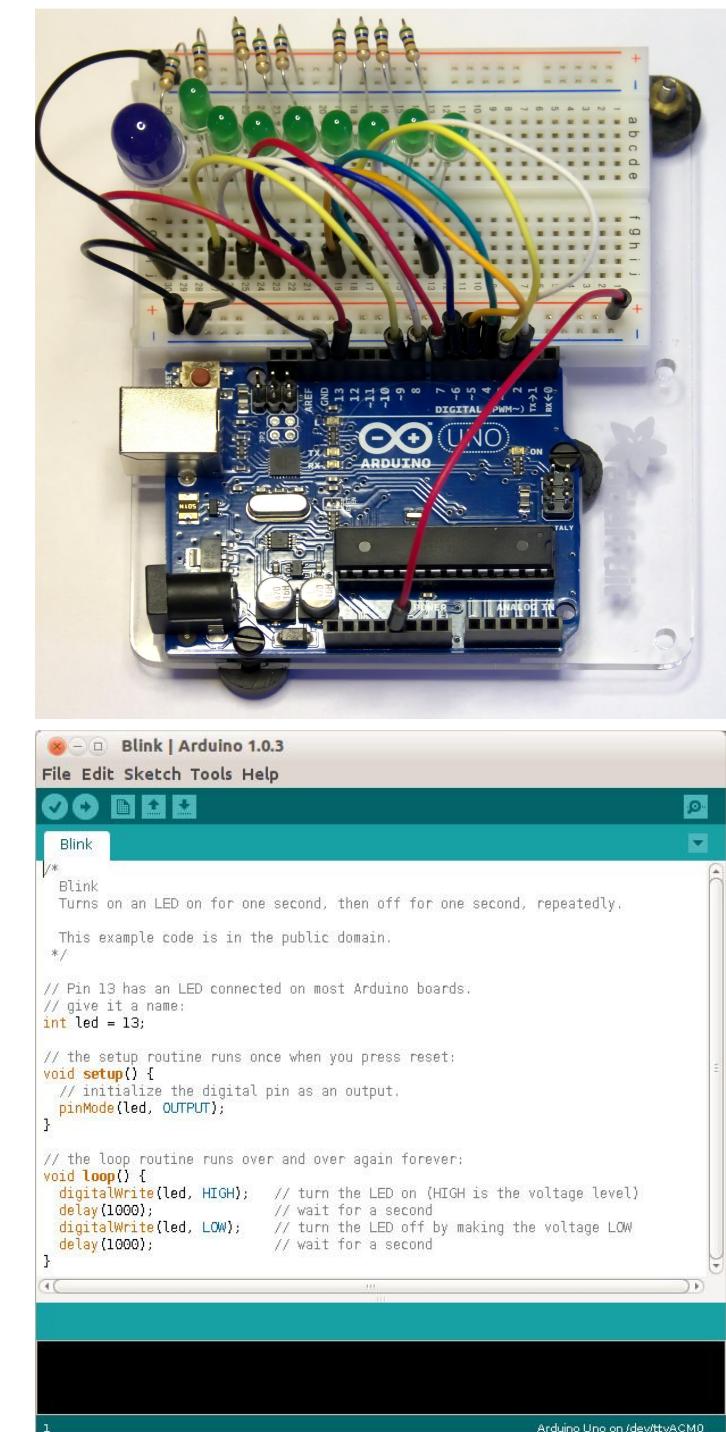
which you can build circuits just by pushing component leads into its holes. Jumpers connect the breadboard with the Arduino's input/output pins along its front and rear edges. The Arduino is almost always used as a circuit element, and many experimenter's kits are available to get you started. These usually include an Arduino, a breadboard, and a collection of jumpers and electronic parts, e.g., LEDs, switches, motors, and sensors. Make an Internet search, and you will certainly find many interesting products and projects. My favorite vendor is Adafruit, but it has many fine competitors.

Getting started with the Arduino is quite easy. Go to their home page, <http://www.arduino.cc/>, and download the Integrated Development Environment (IDE), which is available for Linux, Mac OS X, and Windows. (Linux users can also find it in their repositories.) Connect an Arduino board to a USB port and start the IDE. As you may be able to tell from the screenshot, the Arduino uses a variant of the C programming language. The example here is the program blink, which just cycles an LED on and off. This is the equivalent of the classic "Hello World" program that is almost every C programmer's first effort.

The Arduino's capabilities are quite modest – typically the processor runs at 16 MHz, has about 20 I/O pins (some analog, some digital), and is equipped with 32 kbytes of EEPROM (for programs) and 2 kbytes of RAM (for data). Normally, you would use the Arduino just to control the hardware and send any data it collects to a PC for analysis. To make this easier, consider using the Processing language on your computer, available at <http://processing.org/>. It's very close to what the Arduino uses and has an almost identical IDE.

You should be able to get started using only information available from the Internet, but if you prefer a book, look at *Getting Started with Arduino* by Massimo Banzi. Many others are available, some for the beginner and others describing advanced projects.

While the Arduino is a simple controller, the Raspberry Pi, <http://www.raspberrypi.org/>, is a real computer that uses the Linux operating system. The kit I purchased (from Adafruit) included a clear plastic case and a solder less breadboard, but many



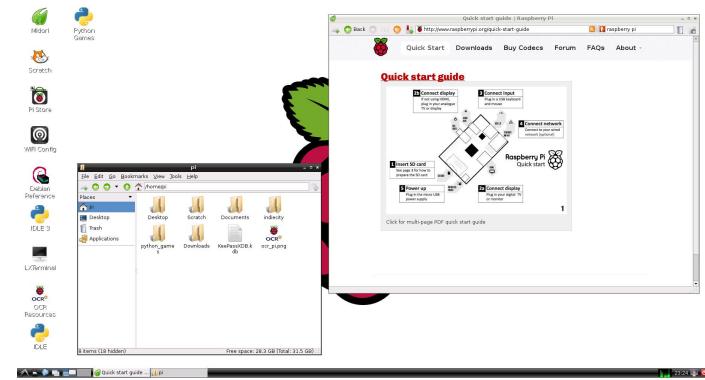
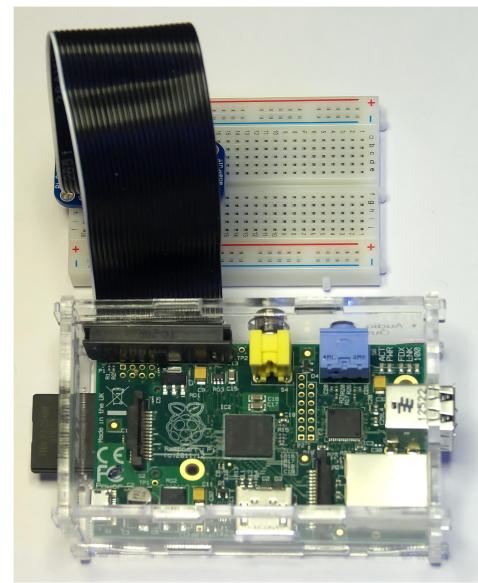
projects won't need the latter. The Pi has two USB ports (silver connectors on the center right), an Ethernet port (silver connector on the front right), a HDMI port for the display (silver connector on the center front), a power connector (micro USB connector on the front left), a SD connector for storage (a SD card protrudes from the case on the left), a collection of ports (connected to the breadboard by a black ribbon cable at the left rear), an analog video port (yellow connector at the rear),

Tiny Computers, continued

and a stereo audio jack (blue connector at the rear). The Raspberry Pi is more powerful than the Arduino, with a 700-MHz ARM CPU and 512 Mbytes of RAM. (These specs are for the model B. The model A is much less capable and costs only a few Dollars less.) The processor is not Intel compatible; however, its overall performance is similar to a 300MHz Pentium 2, but with much better graphics. Clearly, it isn't an acceptable replacement for any modern home computer. However, it does act like a (slow) PC, as you can see from the screen-shot below, which shows the desktop with windows open for the Internet browser and file manager.

Getting a Raspberry Pi running is more involved than with the Arduino. Although it's powered through a USB port, PC USB ports can't supply enough current; you will need either a cell phone recharger or a powered USB hub. Be careful of cell phone rechargers though; many cheap units can't supply the current they claim. The safe approach is to purchase one from the vendor from whom you buy your Pi. You will need a USB keyboard and mouse; if you don't have an extra set, they are quite cheap. Hopefully, you have a HDMI display, either for your PC or a flat-screen TV; if not, you could try an old analog TV set, but its resolution will be poor. Finally, connect any USB peripherals through a powered hub, rather than ask the Pi to power them. I bought a no-name 10-port hub that had good user reports on Amazon, and it can also power the Pi. Finally, unlike the Arduino, which comes with its control software installed, you must supply the SD card for the Raspberry Pi and install Linux and its applications on it. This requires a SD card burner, and unfortunately many on the market aren't up to the job. Again, purchasing one from your Pi supplier is the safe approach.

As with the Arduino, you can probably get started with the Pi using only what you learn on the Internet, but there are also numerous books. The project has published *Raspberry Pi User Guide* by Eben Upton. There are numerous others, as well as magazine and Internet articles. I've seen descriptions of a media center, an Internet radio, a time-lapse camera control, a network file server, a firewall, and a wireless access point. (Many of these don't require a keyboard, mouse, or display once they are running,



so you could disconnect these for use elsewhere once the project is on line.) You could even connect an Arduino to a Raspberry to obtain a portable sophisticated hardware control and data processing system.

Both these devices are ideal for experimenting. No matter how badly you screw up the software, you can just download a new program to your Arduino or reburn the SD card on your Raspberry Pi. Even if you manage to fry the electronics, you can replace either card for less than \$50. Both are wonderful platforms for introducing electronics and computers to young people. There are many Arduino projects that can be completed in less than an hour, including building the circuit and writing the program. The Raspberry Pi software includes Scratch, a programming language for children that builds animated graphics with sound, and Python, a more sophisticated language for older kids and adults.

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SIG News

LUNICS (Linux/Unix)

Andreas Meyer (lunics@acgnj.org)

<http://www.acgnj.org/groups/lunics.html>

LUNICS is a group for those who share an interest in Unix and similar operating systems. While we do quite a bit with Linux, we've also been known to discuss Solaris and BSD as well. Recent meetings have followed a Random Access format. See our web page for further information. (We meet on the first Monday of each month, at 8:00 PM). ☐

Main Meeting

Evan Williams (president@acgnj.org)

<http://www.acgnj.org/groups/mainmeet.html>

We meet on the first Friday of the month, at 8:00 PM. Each December, this meeting includes our Annual Business Meeting and Officer Elections. **No** meetings in July or August. ☐

Layman's Forum

Matt Skoda (som359@gmail.com)

<http://www.acgnj.org/groups/laymans.html>

This SIG discusses issues of interest to novice users or those planning to get started in computing. Watch our Web page for updates and announcements. We meet at the same time as the Hardware Workshop. (On the second Monday of the month, at 8:00 PM). **No** meetings in July and August. ☐

Hardware Workshop

Mike Reagan (hardware@acgnj.org)

This group is dedicated to repairing, refurbishing and/or recycling older computers. Ten people attended the first meeting, so there is still a market for this type of event. Although we looked at some of the older equipment stored in the back room, most of our time was spent in talking about ast experiences and planning for the future. Hopefully, we can establish a viable long-term schedule of projects, and keep the interest of those who attended this inaugural meeting. If you have a hardware problem, bring it in and we can all help fix or demolish it. (No guarantees either way.) We meet at the same time as the Layman's Forum. (On the second Monday of each month, at 8:00 PM). ☐

Java

Mike Redlich (mike@redlich.net)

<http://www.redlich.net/javasig/javasig.html>

This SIG covers beginner, intermediate, and advanced level Java programming. Primary focus is on developing useful/practical applets and applications. (We meet on the second Tuesday of each month, at 7:30 PM). ☐

Mobile Devices

Brenda Bell (mobdevsig@acgnj.org)

The Mobile Devices SIG focuses largely on current-generation cellphones and smart phones (such as Blackberry, Android, iPhone) which bridge the gap between basic cell phones and traditional computers, and how they can help you manage and organize your life. Our membership ranges from those who have recently acquired their first, basic cellphone to those who develop applications for today's modern smart phones, iPods, and ultra-portable computers. While we expect to spend much of our time investigating the built-in features and specialized applications available to modern smart phones, if you bring your basic (or multimedia) cell phone, iPod, or other mobile device with questions on how to use it, where to find applications, or what features they have, we are always happy to help! Meet and greet and plan where this event goes. Bring all your ideas, PDAs, fancy phones, etc. (We meet on the second Wednesday of alternate months (we get the even ones), at 7:30PM). ☐

WebDev

Evan Williams (webdev@acgnj.org)

This SIG is an open forum for all Website Development techniques and technologies, to encourage study and development of web sites of all kinds. All languages will be considered and examined. The current project is a CMS for the club. Anyone interested in starting a new project, come to the meeting and announce/explain. Provide as much detail as possible. WebDev should be an all-encompassing development and examination forum for all issues, applications, OS, languages and systems one can use to build Websites. We currently

SIG News, continued

have two web development language SIGs: .NET and Java; but other languages and OS need to be investigated, examined and tested; Windows, Linux, UNIX, DEC, Vax, HP etc. Intel-PC, Motorola - MAC etc. (We meet on the second Wednesday of alternate months (we get the odd ones), at 7:30 PM). ☐

Investment Software

Jim Cooper (jim@thecoopers.org)

http://www.acgnj.org/groups/sig_investment.html

The Investment SIG continues with presentations on how to use analysis programs TC2000 and TCNet. Large charts are presented on our pull down screen and illustrate the application of computer scans and formulas to find stocks for profitable investments. Technical analysis determines buy points, sell points and projected moves. Technical analysis can also be used on fundamentals such as earnings, sales growth, etc. We're no longer focusing on just Telechart. If you are using (or interested in) Tradestation, eSignal, VectorVest, or just in learning how to select and use charting and technical analysis, come join us!! (We meet on the second Thursday of the month, at 8 PM). ☐

NJ Gamers

Gregg McCarthy (greggmajestic@gmail.com)

<http://www.NJGamers.com>

www.lanparty.com

The Friday Night Frag starts at 6:00 PM on the second Friday of each month, and keeps going until 12 Noon on Saturday - 18 hours for 5 bucks!

BYOC - Bring your own computer.

BYOF - Bring your own food.

And if you don't like sitting on metal folding chairs...

BYO chair! ☐

Web Browser (Formerly Firefox)

David McRitchie (firefox@acgnj.org).

This SIG is an open forum for all Firefox and Mozilla techniques and technologies, to encourage study and development of web sites of all kinds. All browsers will be considered and examined. All members and guests are invited to check out the design concepts and voice their opinion. (We meet on the third Monday of each month, at 7:30 PM). ☐

C/C++ Programming

Bruce Arnold (barnold@ieee.org)

<http://acgnj.barnold.us/index.html>

This is a forum for discussion of programming in general, beginning and intermediate level C, C++, C-Win programming, hardware, algorithms, and operating systems. We demonstrate real programming in a non-intimidating way, presenting complete code for working programs in 3-5 sheets of paper. (We meet on the third Tuesday of each month, at 7:30 PM). **No** meetings in July or August. ☐

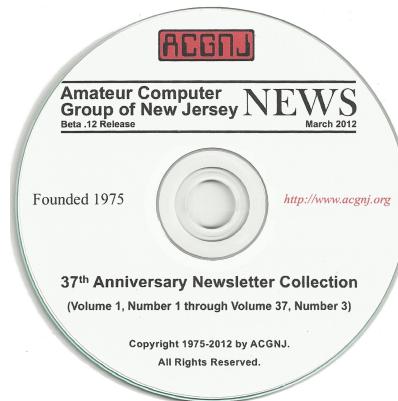
Window Pains

John Raff (jraff@comcast.net)

<http://www.acgnj.org/groups/winpains.html>

Intended to provide members with Windows oriented discussions, Microsoft and Linux style. Directed to more technological level of attendee, but newbies are welcomed. (We meet on the third Friday of the month at 8:00 PM). **No** meetings in July or August. ☐

37th Anniversary Newsletter CD Now On Sale



Beta .12 Release.

\$8.00, including postage.

(\$7.00 if you pick up a copy at a meeting).

Get yours today!

Back Issues Still Needed

Our collection remains incomplete. Below is a list of missing newsletters. Anyone who lends us one of these (or supplies a good clear copy) will receive the next CD as our thanks.

1975: #2 and #3 (dates uncertain).

1976: January.

1984: August.

1985: June, July, August, September. ☐

Guru Corner

If you need help with any of the technologies listed below, you can call on the person listed. Please be considerate and call before 10 PM.

Software

HTML	Mike Redlich	908-246-0410
	Jo-Anne Head	908-769-7385
ColdFusion	Jo-Anne Head	908-769-7385
CSS	Frank Warren	908-756-1681
	Jo-Anne Head	908-769-7385
Java	Mike Redlich	908-246-0410
C++	Bruce Arnold	908-735-7898
	Mike Redlich	908-246-0410
ASP	Mike Redlich	908-246-0410
Perl	John Raff	973-560-9070
	Frank Warren	908-756-1681
XML	Mike Redlich	908-246-0410
Genealogy	Frank Warren	908-756-1681
Home Automation	Frank Warren	908-756-1681
Operating Systems		
Windows 3.1	Ted Martin	732-636-1942

ACGNJ T-Shirts For Sale



(Front)



(Back)

L, XL: \$15.00
M: 2 for \$15.00
bob.hawes (at) acgnj.org

ACGNJ MEMBERSHIP APPLICATION

Sign up online at www.acgnj.org/membershipApplication.html and pay dues with PayPal.

US/CANADA		Dues	STUDENT	SENIOR CITIZEN (Over 65)
1 Year	\$25		\$20	\$20
2 Years	\$40			
3 Years	\$55			\$45

Mail this application and your check to:

AMATEUR COMPUTER GROUP OF NEW JERSEY, INC., P.O. BOX 135, SCOTCH PLAINS, NJ 07076

New Member Renewal Address Change

First Name _____ Last Name _____ Phone _____

Mailing Address _____ E-Mail _____

City _____ State _____ Zip _____ URL _____

What topics would you like to see covered at club meetings? _____

Other Local Computer Groups		
Princeton Macintosh User Group: 7:15 pm 2nd Tuesday, Jadwin Hall, A-10, Washington Rd, Princeton, (609) 252-1163, www.pmug-nj.org	Linux Users Group in Princeton: 7 pm, 2nd Wednesday, Lawrence Branch Mercer Library, Rt#1 & Darrah Lane, Lawrence NJ http://www.lugip.org	New York PC: 3rd Thurs, 7 pm, PS 41, 116 W 11th St. For info call hotline, (212) 533-NYPC, http://www.nypc.org
Computer Education Society of Philadelphia: Meetings & Workshops at Jcm Electronics, 6622 Castor Ave, Philadelphia PA. www.cesop.org/	Brookdale Computer Users Group: 7 pm, 3rd Friday, Brookdale Community College, Bldg MAS Rm 100, Lincroft NJ. (732)-739-9633. www.bcuug.com	NJ Macintosh User Group: 8 pm, 3rd Tuesday, Allwood Branch Library, Lyall Rd, Clifton NJ. (201) 893-5274 http://www.njmug.org .
PC User Group of So. Jersey: 2nd Mon., 7 pm, Trinity Presb. Church, 499 Rt 70 E, Cherry Hill, NJ. L. Horn, (856) 983-5360 http://www.morrismicro.com	Hunterdon Computer Club: 8:30 am, 3rd Sat, Hunterdon Medical Center, Rt 31, Flemington NJ. www.hunterdoncomputerclub.org , (908) 995-4042.	NY Amateur Computer Group: 2nd Thurs, 7 pm, Rm 806 Silver Bldg, NYU, 32 Waverly Pl, NYC. http://www.nyacc.org
Morris Micro Computer Club: 7 pm 2nd Thurs., Morris County Library, Hanover Ave, Morristown NJ, (973) 267-0871. http://www.morrismicro.com	Central Jersey Computer Club: 8 pm, 4th Friday, Rm 74, Armstrong Hall, College of NJ. Rich Williams, (609) 466-0909.	NJ PC User Group: 2nd Thurs, Monroe Rm at Wyckoff Public Library, 7 pm. Maureen Shannon, (201) 853-7432, www.njpcug.org
Philadelphia Area Computer Society: 3rd Sat, 12 noon Main Meeting, groups 8 am-3 pm. Upper Moreland Middle School, Hatboro PA. (215) 764-6338. www.pacsnet.org	NJ Computer Club: 6:15 pm, 2nd Wednesday except Jul & Aug, North Branch Reformed Church, 203 Rt 28, Bridgewater NJ. http://www.njcc.org	Princeton PC Users Group: 2nd Monday, Lawrenceville Library, Alt Rt 1 & Darrah Lane, Lawrenceville, Paul Kurivchack (908) 218-0778, http://www.ppcug-nj.org

Classified

FREE TO MEMBERS. Use our classified ads to sell off your surplus computer stuff. Send copy to Classified, ACGNJ NEWS, P.O. Box 135, Scotch Plains NJ 07076 or e-mail to the editor, bdegroef@ptd.net. Classified ads are free to members, one per issue. Non-members pay \$10. Send check payable to ACGNJ Inc. with copy. Reasonable length, please.



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<http://www.apcug.net>

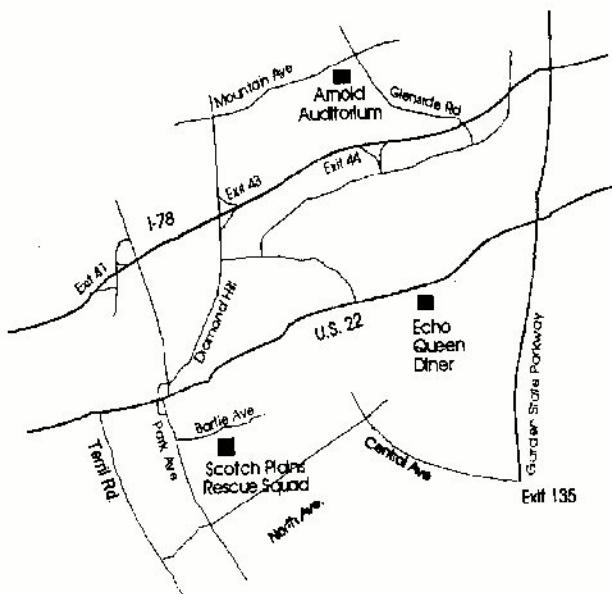
Radio and TV Programs

Computer Radio Show, WBAI 99.5 FM, NY, Wed. 8-9 p.m.

Software Review, The Learning Channel, Saturday 10-10:30 p.m.

On Computers, WCTC 1450 AM, New Brunswick, Sunday 1-4 p.m. To ask questions call (800) 677-0874.

PC Talk, Sunday from 8 p.m. to 10 p.m., 1210 AM Philadelphia. 1-800-876-WPEN



Directions to Meetings at Scotch Plains Rescue Squad, 1916 Bartle Ave., Scotch Plains NJ

From New York City or Northern New Jersey

Take Route 1&9 or the Garden State Parkway to US 22 Westbound.

From Southern New Jersey

Take Parkway north to Exit 135 (Clark). Stay on left of ramp, follow circle under Parkway. Bear right to Central Avenue; follow to Westfield and under RR overpass. Left at light to North Avenue; follow to light in Fanwood. Right on Martine (which becomes Park Ave). Right on Bartle Ave in middle of shopping district. Scotch Plains Rescue Squad (2-story brick) is located on the right. Do not park in the row next to the building — you'll be towed.

From I-78 (either direction)

Take exit 41 (Scotch Plains); follow signs to US 22. Turn right at light at bottom of hill and use overpass to cross Rt. 22. Follow US 22 Westbound directions.

From US 22 Westbound

Exit at Park Avenue, Scotch Plains after McDonalds on the right, diagonally opposite Scotchwood Diner on the left, immediately before the overpass. After exiting, turn left at the light and use overpass to cross US 22. Bear right at bottom of ramp to continue south on Park Avenue. Turn left at the second light (a staggered intersection). Scotch Plains Rescue Squad (2-story brick) is on the right. Do not park in the row next to the building — you'll be towed. We meet on the second floor, entering by the door at the right front of the building.

From Western New Jersey

Take US 22 Eastbound to the Park Avenue exit. The exit is about a mile past Terrill Road and immediately past the overpass. Exit onto Park Avenue South and follow the directions above to the Rescue Squad building. ☺