

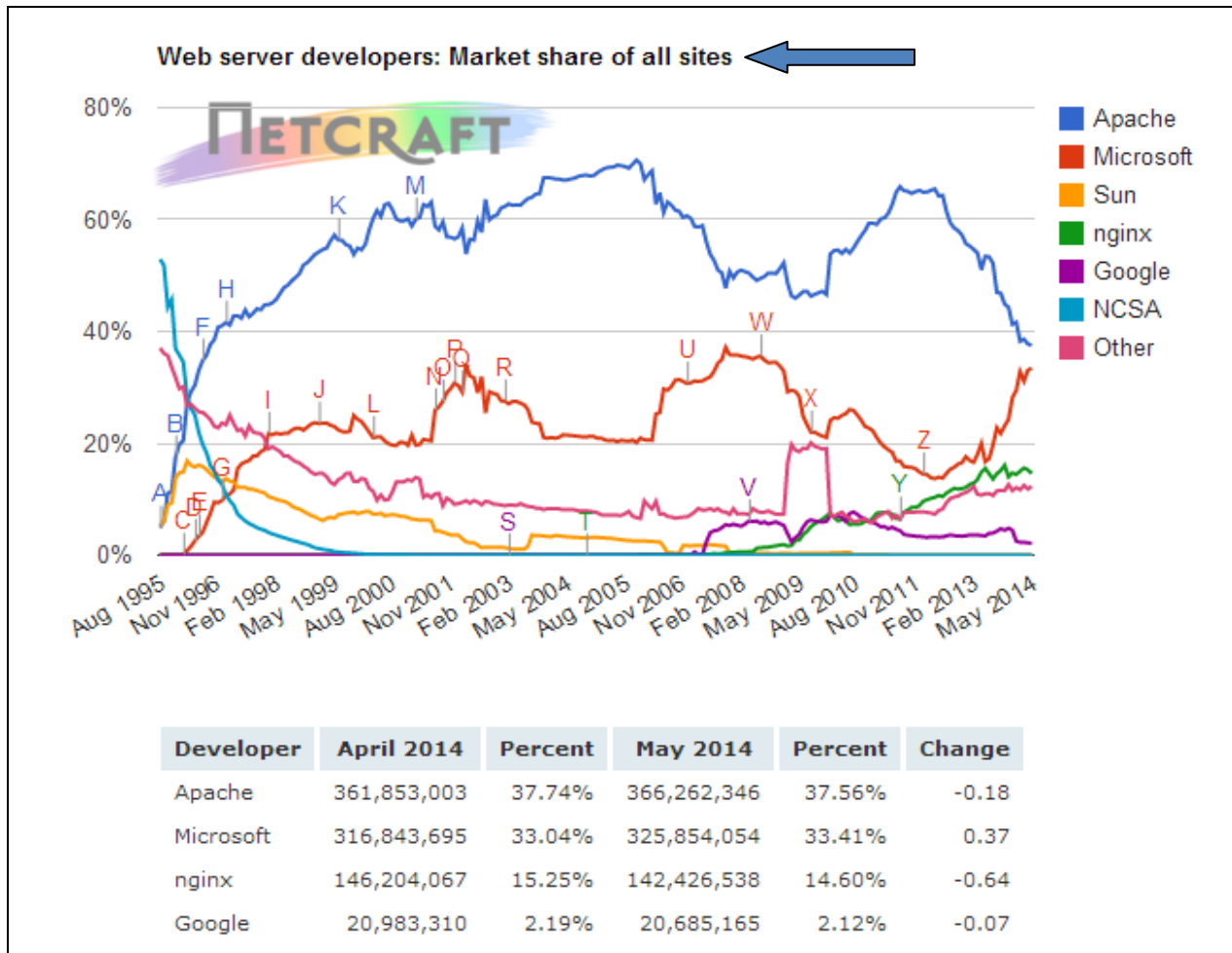
**CO2446: OPEN SOURCE BUSINESS SYSTEMS I: OPEN SOURCE: THE LITTLE KNOWN SUBJECT OF FREE SOFTWARE**

**LESSON OBJECTIVE (SLO#1): HOW TO EFFECTIVELY COMMUNICATE THE PURPOSE OF OPEN SOURCE AND ITS MANY FACETS WITHIN THE OVERALL DOMAIN OF INFORMATION TECHNOLOGY. [PREPARED FOR OPEN SOURCE BY DR. KEN SCOTT, SUMMER 2014] → LESSON PLAN: FRODO**



**I. → G-E-T-R-E-A-D-Y-T-O-R-U-M-B-L-E!!!! ←**

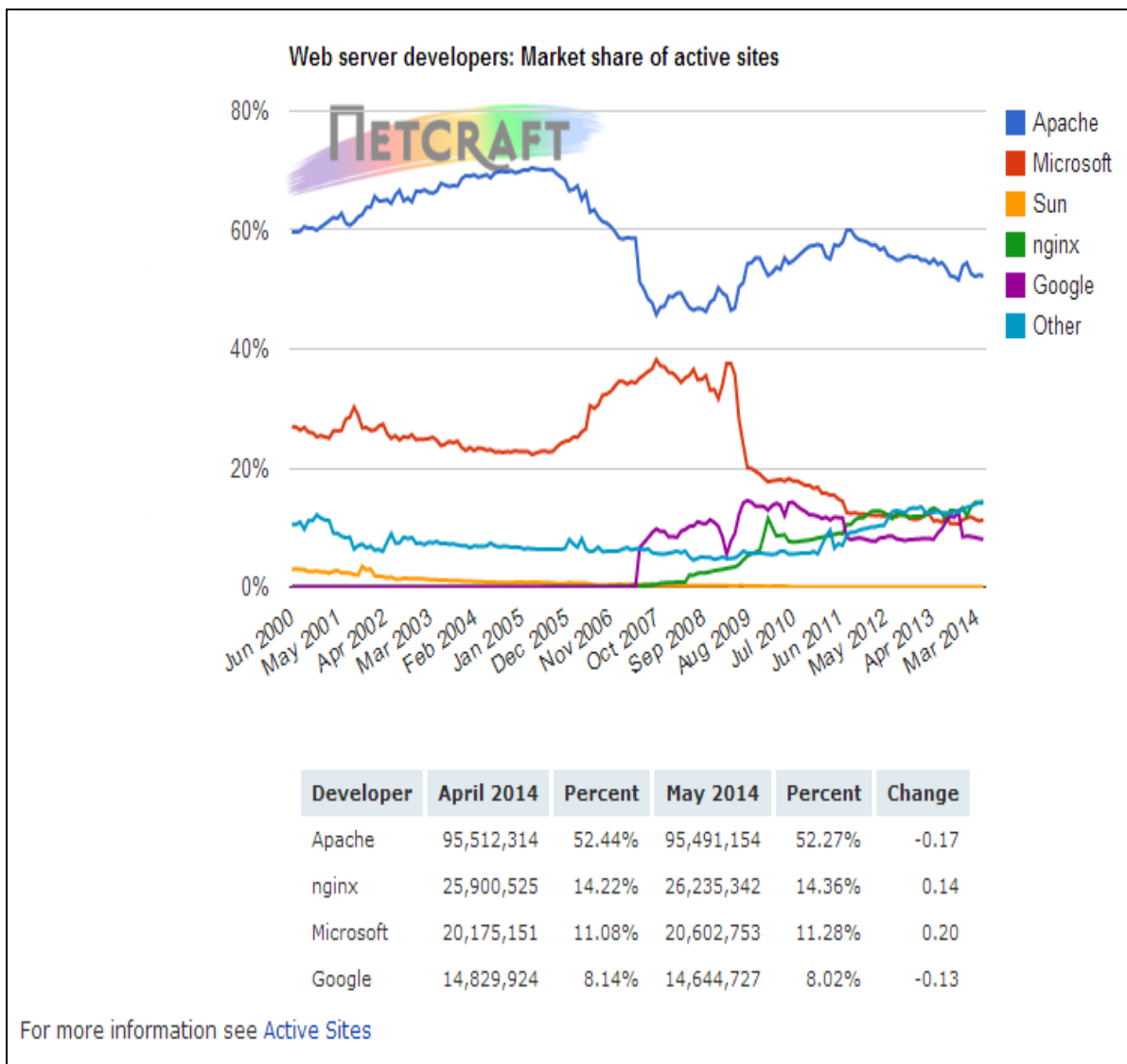
If someone asked you to explain to them “Open Source”, what would you tell them? Would you respond that it’s free, it can be modified as you like, it is easy to use, it’s a nightmare, or would you tell them, “I dunno.” Well, let’s hope it’s not the latter because Open Source is a World Wide Operating System and a great many series of applications. In fact, look at what the results of just the history of Apache Web Server has done in the past 18+ years (see Figure 1). There have been rises and falls and in 2014, Apache Web Server (Open Source) and Microsoft Web Server applications have been closer than at any time in those 18+ years. What does this mean? It could be a plethora of reasons that this is occurring at this time, and to say that Microsoft is gaining is one view; another view is to check back often to this web site, <http://news.netcraft.com/> to see just what is occurring in the next several months. Nevertheless, Apache Web Server is Open Source. But just what does Open Source mean? **G-E-T-R-E-A-D-Y-T-O-R-U-M-B-L-E!!!!**



**Figure 1: Web server developers: Market share of ALL SITES. (Source: <http://news.netcraft.com/>)**

“In the **May 2014** survey we received responses from **975,262,468** sites — 16 million more than last month. Microsoft threatening Apache's market lead Microsoft gained nine million additional sites this month, increasing its market share by a further 0.37 percentage points. Meanwhile, despite gaining 4.3 million sites, Apache's market share fell by 0.18 points. Although Apache still leads with 37.6% of **All Sites**, Microsoft is now just 4.1 percentage points behind. Apache has been the most commonly used web server for more than 18 years, but this is the closest Microsoft has ever been to threatening this position. Apache's position is much stronger when considering only **Active Sites** — it retains an absolute majority of 52.3%, and second place is held by nginx (14.4%), rather than Microsoft (11.3%) (see Figure 1). By excluding much of the automatically-generated content present on the internet, the **Active Sites** metric better reflects web server market share amongst human-maintained web sites” (see Figure 2).

Source: <http://news.netcraft.com/archives/2014/05/07/may-2014-web-server-survey.html#more-15555>. (This content is subject to change.)



**Figure 2: Web server developers: Market share of **ACTIVE SITES**.** (Source: <http://news.netcraft.com/>)

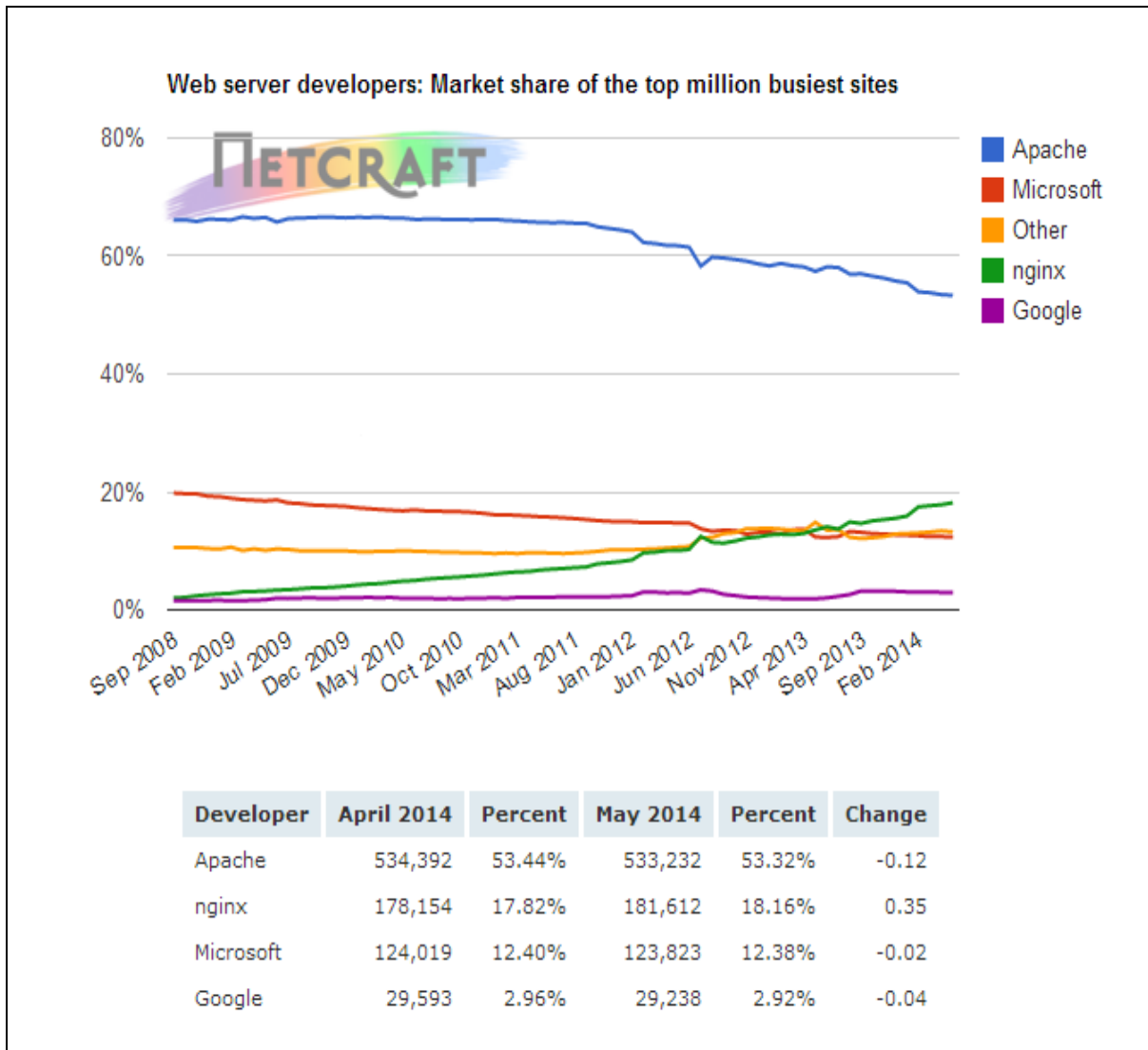


Figure 3: Web server developers: Market share of **BUSIEST SITES**. (Source: <http://news.netcraft.com/>)

“Apache also fares well amongst the million **Busiest Sites**, where there is intrinsically very little interference from domain holding pages, link farms and other web spam (see Figure 3). Here Apache takes a 53% share of the market, while nginx has 18% and Microsoft has 12%. Although only 3% of the top million sites use Google web server software, Google's dominance amongst the very **Busiest Sites** give it a presence on 8 of the [top 10](#) sites.” Source, subject to change in content: <http://news.netcraft.com/archives/category/web-server-survey/>.

**Initial Summary:** Apache Web Server is an open source application. To determine this one feature of Open Source, you would have to do more research on this topic. For example, if you were to use the tool as noted in Figure 4, you could—by applying Public Domain Rights—access web services from any location in the world to

determine what resources it is using. Take a look at Figure 4 and the output from a basic search from a well-known university in Alabama. **WARNING: NOTE: It is NOT recommended that you try this with the FBI, CIA, or other agencies that are geared to national security, in the US or other nations. That would NOT NOT NOT be a good idea. DO NOT TRY THAT AT HOME!!! WARNING: THESE AGENCIES ARE NOT PUBLIC DOMAIN SITES and unfriendly foreign nations should NEVER be included in this type of exercise. If you have questions on why, let me know...**



Figure 4: Searching Public Domain sites to review what Open Source is Active. (Source: <http://news.netcraft.com/>)

This example used, <http://www.auburn.edu>  
 Note: Ubuntu is an Open Source Operating System with a vast array of Operating System tools and applications.

Hosting History				
Netblock owner	IP address	OS	Web server	Last seen <a href="#">Refresh</a>
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	Apache/2.2.14 Ubuntu	12-Dec-2013
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	AU Server 1.0	21-Oct-2012
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	Apache/2.2.14 Ubuntu	19-Oct-2012
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	AU Server 1.0	17-Oct-2012
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	Apache/2.2.14 Ubuntu	16-Oct-2012
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	AU Server 1.0	14-Oct-2012
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	Apache/2.2.14 Ubuntu	12-Oct-2012
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	AU Server 1.0	8-Oct-2012
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	Apache/2.2.14 Ubuntu	6-Oct-2012
<a href="#">Auburn University Office of Information Technology 300 Lem Morrison Drive Auburn University AL US 36849-5423</a>	131.204.138.170	F5 BIG-IP	AU Server 1.0	19-Sep-2012

**BEFORE WE CONTINUE**, let's define 'open source' according to a Standard on the topic. 1) That standard is the GNU Licensing practice. Review the following web site to better understand what is 'Free Software' and its use: <https://www.gnu.org/philosophy/open-source-misses-the-point.html>; The following excerpt is provided, although I don't think I would have used the comparison they used in 'free beer.' So, read this with user-warning: "Free software" means software that respects users' freedom and community. Roughly, it means that **the users have the freedom to run, copy, distribute, study, change and improve the software**. Thus, "free software" is a matter of liberty, not price. To understand the concept, you should think of "free" as in "free speech," not as in "free beer". 2) **EFFECTIVELY COMMUNICATE THE PURPOSE OF OPEN SOURCE AND ITS MANY FACETS WITHIN THE OVERALL DOMAIN OF INFORMATION TECHNOLOGY.** The purpose in Open Source is for the purpose of giving people a choice between paid services or free services. What is free can be discerned by reviewing the following site: <http://opensource.org/faq#free-software>. You might think that the purpose is some esoteric, Heavenly purpose, but it is simply to provide choice to people everywhere. A good example would be: should I use Microsoft Windows 8 or Red Hat Enterprise Desktop? Choice, plain and simple. Now, what facets are there? Open Source has 99.9% of the applications that you find in purchased applications; however, for organizations that have used Microsoft, changing to Open Source requires a new mindset, and a new learning curve. Once you master the Open Source as you have done with Windows, Oracle, etc., the advantages and/or disadvantages become something that you would have to learn with use and experience. To reiterate: **PURPOSE = CHOICE.** Freedom to choose and use as you desire.

**II.** **LESSON OBJECTIVE(S) (SLO#1):** HOW DO YOU OBTAIN OPEN SOURCE SOFTWARE AND WHAT DO YOU DO WITH IT? FOR THIS EXAMPLE, I WILL USE THE FEDORA CORE WEB SITE.

**A.** THE FEDORA CORE LINUX WEB SITE IS: <HTTP://FEDORAPROJECT.ORG/>. This site is the development and download site for anyone wanting to install Fedora Core Linux r.20. If you will notice, there is a very important note:

**A Red Hat-Sponsored Community Project**



This notice indicates the Parent Company, which is Red Hat. Also, if you were to use the User Guide for this Fedora Linux r.20 (Release 20 or 'distro'), you would find the link here very useful: <http://docs.fedoraproject.org/en-US/index.html>. However, we are not at any point of discussion about installs; if that is something you are interested in doing, that process will not occur in earnest until at least Week 4. Thus, the main item is to understand the .iso process.

**B.** The .iso process is quite simple, and is now being used to download from Cloud Services—even Microsoft. These .iso files, or images, are exact images of the application or operating system. You download the .iso to your computer, and then you create bootable DVD's or other devices by 'double-clicking' on the .iso file. It will cause a startup program to activate and seek your 'DVD Burn/Creation Application.' In my case, I use Nero 7 Essentials; when I activate the .iso image, it calls Nero 7 Essentials and creates for me a "store bought" DVD that is then precisely ready for installation. Again, Microsoft is doing this now also. Thus, you might want to read up on what the .iso process is about. **DO NOT INSTALL**, as that is NOT required. The .iso is located at: **READ IT, BUT PLEASE DO NOT DO WHAT IT SAYS...** [http://docs.fedoraproject.org/en-US/Fedora/20/html/Burning\\_ISO\\_images\\_to\\_disc/index.html](http://docs.fedoraproject.org/en-US/Fedora/20/html/Burning_ISO_images_to_disc/index.html).

C. Dual-Boot, VMWare, and VirtualBox: These items are to be discussed, but are not in our present day operations. These will be discussed and any interested persons (that's youse out there), may want to do this—BUT that is NOT required. \* Dual-Boot = 2 partitions and Windows 7 in one partition and Fedora Linux in the other partition; \* VMWare is how to install operating systems and other items on a computer as if these items are running in real-time on actual disk space—but, VMWare creates the virtual operation for this process...to be discussed more as we progress; \* VirtualBox – a product from Oracle which is a free open source application that does a pretty good job to emulate VMWare, but by no means has the power, scalability, and adaptability of VMWare. More to follow on these.

D. How do you get a copy of Fedora Linux Core r. 20? See images below:

fedoraproject.org/en/get-fedora#formats

come to...

FREEDOM. FRIENDS.

Home   Features & Screenshots

## Get Fedora

Fedora is 100% free for you to enjoy

Main   Desktops   **Formats**   Spins

**WHAT WILL I NEED?**

- ✓ A blank CD or DVD **or** a blank 1GB+ USB stick.
- ✓ 64-bit Intel-compatible PC
- ✓ 1GB memory (RAM)
- ✓ At least 10 GB hard drive space (only required for installation)

**WHAT DO I DO?**

- ✓ First, **download a Fedora ISO image.**
- ✓ To install Fedora using a USB stick, **follow these instructions.**
- ✓ To install Fedora using a blank CD or DVD, **follow these instructions.**

**HANDY RESOURCES**

- [Installation Guide](#)
- [Release Notes](#)
- [Common Bugs](#)
- [Upgrading Fedora](#)
- [Help & Support](#)
- [Verify Download](#)

**OTHER WAYS TO GET FEDORA**

We offer several alternative Fedora download methods, including torrents:

- [All download methods](#)

This is the .iso image for the Operating System, we call, Fedora Core r.20, developed by worldwide software engineers, sponsored by Red Hat, and is free as in 'Freedom' to use, download, install, and so forth. ➔ **DO NOT INSTALL THIS !!!**

- E. Now, what is the Business Application side of this thing we call “Open Source.” Well, do I have a Surprise for You!!! The title of this Surprise is , “Shazam! Surprise, Surprise, Surprise!” OOPS...wrong line!!! Check out the following web site, Titled:

## 50 Places Linux is Running That You Might Not Expect

<http://www.comparebusinessproducts.com/fyi/50-places-linux-running-you-might-not-expect>.

After you review these items, you will now have a pretty good set of start-up skills to **EFFECTIVELY COMMUNICATE THE PURPOSE OF OPEN SOURCE AND ITS MANY FACETS WITHIN THE OVERALL DOMAIN OF INFORMATION TECHNOLOGY.**

IN TERMS OF THE APPLICATIONS THAT MAKE UP THE MANY FACETS OF OPEN SOURCE, TRY THE LINK BELOW AS IT IDENTIFIES THE BEST APPS FOR 2013. THESE APPS DO 99.9% OF WHAT THE WORLD OFFERS, AS THESE ARE ONLY 10. THERE ARE MANY MORE ACROSS THE INTERNET FOR FREE DOWNLOAD:

<HTTP://WWW.OMGUBUNTU.CO.UK/2013/12/TOP-10-LINUX-APPS-OF-2013>

- F. THE GOAL OF THIS COURSE IS BUSINESS APPLICATIONS FOR OPEN SOURCE. Therefore, how do we find these applications; where do we look; and how do we sift and synthesize our research paper. As of this Lesson Plan for Student Learning Outcome #1, it’s objective is to enable you to first understand the open source domain; then to understand how vast it actually is; and, finally to understand its application for businesses across the globe. As you can see from the link about *50 Places Linux is Running That You Might Not Expect*, these 50 examples give you some guidance for your research paper. I hope...

If you have questions about this information, please contact me. If it has helped you, then it was worth the several hours to put it to paper.

**REMEMBER, DO NOT ATTEMPT TO INSTALL ANY APPLICATION OR OPERATING SYSTEM FOR THIS COURSE. THAT WILL BE DISCUSSED SHORTLY AND OPTIONS WILL BE PROVIDED FOR YOU TO LEARN, IF THAT IS WHAT YOU WANT TO DO. BUT YOU ARE NOT REQUIRED TO INSTALL ANY SOFTWARE, APPLICATION OR OPERATING SYSTEM. NONE!!!**

CYALATERBYEFORNOW.

DrK