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Introduction

"A journey of a thousand miles must begin with a single step." – Lau Tsu

Hey There! Not feeling the most confident about your computer skills? Do you hear lots of terms that make no sense to you or see other people manipulating applications on screen without even using the mouse and think it's some form of sorcery? Don't feel so bad, there are millions of people who are in the same boat as you and many of them are actually a lot closer to sinking than you. After all, you are seeking the help; most people just give up without trying to improve.

This book is not meant as an "end all" book about how to master your computer in 24 hours. It is not meant as an introduction on how to use a computer, either. It is meant for the many, MANY people who know how to turn their computer on, start up programs they need, and use them with a decent amount of comfort. The difference between you and the "gurus" is that you still ask the gurus for a lot of help whereas the gurus know how to look up the answers for themselves.

This book should give you the knowledge and tools that would allow you to not only become a more effective computer user, but also teach you how to solve the problems you don't have answers to without having to go ask that one person who is your "go-to computer nerd." You can be the nerd and help others for a change! Haha (no guilt intended).

So who am I? Well, I wouldn't call myself a guru, but I am that go-to guy for my wife, my parents, and many of my non-computer savvy friends. All of these people have experience with computers in varying levels, but that doesn't prevent them from coming to me for advice and assistance. I am definitely a Windows PC guy (sorry Mac fans and

<u>Security</u>

"First you must learn to control yourself. The rest follows." – Robert A. Heinlein
"Locks only keep honest people honest." - Anonymous

One of the greatest concerns involving computers today is computer security. The large majority of the population watches movies with "hackers" in it and assumes that cracking into a computer or network is easy. On the old show *MacGyver,* Richard Dean Anderson used to make bombs and things out of paper clips and rubber bands, but the audience knew it was unrealistic. In that same sense, movies and TV shows grossly exaggerate that breaking in to the FBI's network is a piece of cake. Don't get me wrong, I love those kinds of movies, but for their comedic value; not their realism.

The truth is there are some people out there who are extremely skilled and have powerful tools and resources at their disposal that would enable them to do some very intrusive and illegal things, but here are the problems with the movies:

1. Most of these cracking tools are freely available (though illegal sometimes) so defense mechanisms are rarely far behind offensive ones.
2. There are some forms of encryption available for free that are either extremely hard to crack or haven't been cracked yet. These include AES, Blowfish, RSA, IDEA, and others.
3. The resources needed to crack into a computer or network with even a small amount of security would take a lot longer than would be necessary to observe the failed attempts at breaking in initially

I just recently saw the latest movie in the *Die Hard* series and it involved Justin Long as a very skilled hacker able to instantly understand any computer system and connect to phone networks when all other people in the country (including the greatest minds in the CIA and NSA) had no such luck.

You should be happy to know that his character was a delightful stretch of the imagination and his accomplishments were next to impossible. Now, knowing that the likelihood of someone being able to crack into your machine or network is much less likely than Hollywood would have you believe, here is the sad part: most security breaches are due to negligence on the part of the victims and not the prowess of the predators.

The majority of successful hacks are due to a combination of the following reasons:

1. Many people don't employ basic security strategies
2. Many people are naïve and prone to Social Engineering or Phishing (where someone pretends to be a legitimate person or business in order to steal your personal information)
3. Many people are paranoid in some regards and careless in others

A good hacker, like a martial artist, knows how to take down an opponent most effectively. They don't waste their time beating away at the strongest parts of a defense; they identify the weak point(s) quickly and focus purely on those. Thus, why spend time and resources trying to crack a password for a bank account when you can send an email impersonating the bank and get the account owner to divulge the password out of cluelessness?

The Art of Google

"All learning begins with the simple phrase, "I don't know"." - Anonymous

Google is an amazingly powerful creation. It wasn't the first search engine deployed but it is clearly the most popular one today and arguably the best. In addition to search capabilities, Google now employs many other amazing applications that are extremely hard to compete with. Gmail, Adwords, Maps, Earth, etc. are just a few of the services offered (check out more at *http://www.google.com/intl/en/about.html*) and many of these services are free and interact with each other making their use easier. I hate to sound like a Google spokesman, but they are an amazing company doing amazing things on the web.

Chances are you have used Google, Yahoo, AskJeeves, or possibly other search engines at some point during your time spent using a computer (if you have no idea what I am talking about… I don't think I can help you). Sometimes your searches will take a while to turn up the results you actually want to find. You may have to spend a while guessing the words to enter in the search box or browsing the results for the ones that match your desired content. Google is extremely good at finding information for you and doing it fast, but it is not perfect and won't always give you the information you are really seeking after just one search.

After using Google for a number of years I have started to develop a technique that seems to yield the results I want for any given search after just one or two tries. Just like most skills in life, practice and repetition yield better results, and Google search is no exception. The downside of practicing is that it takes more time than asking someone else who has already mastered the skills.

I am going to attempt to describe (for lack of a better approach) my thought process for a few search examples. For the most part, Google's intelligence is sufficient to give you the results you want with 95+% accuracy on the first try if your keywords are good, which covers most all searches you will make. It is the random, rare, arbitrary searches that pose the greatest challenge and require mastery of the art.

Researching Purchases on the Web

"A penny saved is a penny earned." – Benjamin Franklin

Now that you have learned some tricks for how to better scour the net for information, I am going to share some of my advice about one of the biggest uses for the internet today. No, I am not talking about pornography (get your mind out of the gutter). I am talking about online shopping. Purchasing goods and services online is prevalent in all parts of the web. Companies like Amazon are built on making virtually every product available to you with ease and getting it to you with free "Super Saver Shipping" to keep you coming back for more. You can't beat it!

Traditionally, when you needed items, you were limited to what was nearby and were forced to pay retail prices from that vendor. With the power of the web, hundreds of shopping sites are competing for your money and are doing so by constantly lowering prices closer and closer to wholesale rates. The premise is simple: if they lower the prices enough they will attract a lot more shoppers, which means they will generate profits from quantity of items sold.

The primary downsides of buying online (shipping costs, customer support, and security) are diminishing every second. Today, multiple shipping options are provided (including in-store pickup if part of a major chain) and many vendors will provide shipping for free. Customer service and warranties for goods are offset by phone numbers, guarantees, email addresses, web tracking of packages, free returns, and all sorts of other enticing features. It is still important to background check the sites you choose to shop from and ensure that customers are generally happy with their experiences of ordering from the company. Security is the focus of many websites, and as a result they have standardized encryption and provided various other mechanisms to help reduce fraud and identity theft

(make sure you read the Security chapter of this book to help reduce these occurrences further).

Let's create an example. Which of the following options would you choose?

1. TV X for $1000 at your local electronics store.
2. TV X for $900 at a much further bargain electronics store.
3. TV X for $800 + $50 3-5 day shipping and handling (or possible free in-store pickup at the same local electronics store because some deals are exclusive to online only) to your door.

Option 1 is convenient in that it's close by, but you still have to handle the transportation. They may provide delivery to your home at a charge or for free if you are lucky, but you are still paying $200 more than online. Option 2 will save you $100 but you have to drive a lot further (which means less likely that you will get it delivered from the store for free or at all). Option 3 will save you anywhere between $150 and $200, can be ordered from any computer, and will be brought right to your door step. If in-store pickup is an option, you don't have to pay shipping, but you might have gotten a better deal because you ordered online (though you still have to pick it up). The main gripe about option 3 is the delayed gratification. Sure it's cheaper and it's easier, but *I want it now!* Quit your whining. Chances are there is a same day or overnight shipping option for an extra $50 or so. In that case you get it in one day, still save $100, and don't have to even leave the couch until it arrives at your door. I choose option 3!

Hopefully now you realize the potential of shopping online if you didn't already. This chapter will help present some of the knowledge I have gained from researching purchases, reading reviews, finding great bargains, checking customer satisfaction, and finally, buying products online.

<u>Optimizing Your Machine</u>

"Perfection consists not in doing extraordinary things, but in doing ordinary things extraordinarily well." – Angelique Arnauld

Look at your computer. Isn't it pretty? Don't you love how the keys feel beneath your fingers? How the mouse fits so comfortably in your hand? How applications take forever to load!!!! You're darn right you don't, and I don't blame you either. When you have a computer and you want it to do something, you expect it to do it in a timely manner; otherwise you wouldn't have shelled out so much money for that extra RAM and that faster CPU. The question is: do you know what any of those things mean or what they do? Do you realize that it might not even be your hardware that is the source for the lag time? A fast sexy car is only good if it's tuned properly for performance. A computer is only good if you have it configured right for your needs.

Many people think the details of how a computer works are so complex that to hear them described would cause their heads to explode. I have tried explaining to my wife on several occasions why something is so slow or not working right. Usually, I am just met with a vacant stare or a "just fix it for me will you?" Well, the trick to making medicine easier to swallow is to add a little sugar to it. I am going to try to sugar coat what you should know about your computer and how it works so you can understand what to do if something is not running properly and how to tune it up for all it's worth. Just give me a little faith here.

Making Your Computer "Yours"

"The Computer is Personal Again" – Hewlett Packard campaign slogan

One of the things I love doing with my computer is customizing it to make it mine. I don't like putting stickers all over it, decorating it with a skin, or other external visual customizations. I like making it behave in the fashion that best suits my style; using the proper tools, applications, and shortcuts to make everything I frequently use always at my fingertips. If you find that you are often inconvenienced when doing your everyday computing, there are probably things you could do to easily speed up your efficiency and your machine's ease of use.

The three most frequently used shortcut options to start and access programs are the Desktop, Toolbars, and the System Tray. Let's go ahead and discuss what the purpose of each of these is and how to make the most out of them.

Power Management
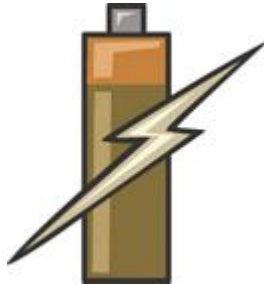
"It is an established fact. Without energy, there can be no action. So gather steam and get rolling on your mission. And do remember to conserve energy for the bad times."

Back in the day, energy wasn't a really big issue. You could leave electronics on all the time and they could consume power like it was water. Things have changed a lot since those days. Now, water and power are both harder to come by so you have to conserve not only for the bettering of the planet (fine, you can call me a tree hugging hippie if you want to), but also the easing of your pocket book (if I'm a hippie then you're a cheapskate). It's not just the electric bill that is at risk here, but also the frequency at which you need to replace computers and their hardware components that are at stake.

One of the greatest initiatives from companies like Intel, Seagate, Western Digital, and even computer manufacturers is to create more energy efficient computers that will have better battery lives (if laptops) and will use less electricity from your socket (if desktops). This is a great endeavor, but doesn't solve all of your energy needs and desires. If your computer is still on, its battery will still be drained or your electric bill will go up. Thus, the question is asked: What sort of power management settings can I use to help save my battery, reduce my bill, and still preserve the lifespan of my computer?

If you are curious about how the lifespan of your machine and its components might be affected by power saving practices, let me try to shed a little light on that issue. In the past, computers didn't have the design for resilience against wear and tear that they do today. Turning a computer on and off daily was enough to damage its components and cause it to have a shorter life.

Proper System Maintenance

"It is impossible to maintain your balance while standing still." - George Bernard Shaw

Of all of the applications that you can customize for your personal use, the ones provided by your operating system for functions like hard drive scanning, defragmentation, and backing up your data are probably the most important and should be used regularly (just like scanning for viruses and updating your security software). One of the biggest issues I have with all of these programs (like many other ones that do need to be run regularly) is remembering to run them. I don't like having to save space in my cramped brain for scheduling of application execution every week. I shouldn't have to and neither should you.

Fortunately, we don't have to! Well, we may have to somewhat, but not as much as we would have to without the Task Scheduler tool. The Task Scheduler tool allows you to execute any program according to whatever schedule you configure it to run on. You can find it by opening the Start Menu and choosing All Programs, then going to Accessories, followed by System Tools, and finally Scheduled Tasks. You can also go to the Control Panel and select Scheduled Tasks as well.

The first thing you will see is an icon that says Add Scheduled Task, so give it a double click. What you should see next is a Scheduled Task Wizard window that pops up. If you click next you should see this:

<u>Other Helpful How-To Information</u>

"You cannot teach a man anything; you can only help him find it within himself."
- Galileo Galilei

I hope the information I have provided has been helpful so far. In this chapter, I am going to tackle some common tasks that you might have come across before and needed further guidance with. Most of these answers are available on the internet through a search, but I am going to provide you with some how-to information about these in the simplest way that I can based on my personal experience of helping others with these tasks. The topics include: setting up a wireless home network, the differences in types of home internet connections available, setting up of a mail client (like Outlook Express), enabling remote access to your machine, using Bit Torrent, and an explanation about what Java is and how it differs from JavaScript.

Wireless Home Networks

My friend Mike Schwaab used to say "If I had a nickel" all of the time. Most often it was just for comedic purposes, but the value of that line rings true with the number of times I have helped someone with a network setup issue. It's not that I mind trying to help setup or fix a wireless network, but it is really hard to do over the phone ("Click on the little symbol in the bottom right that looks like a computer with radio waves coming out of it"). All wireless networks are the same in many regards, so finding helpful information on the web for setup is usually really easy. The challenge is that you must have a working internet connection to find those answers. Thus, I get a lot of phone calls.

Wireless networks are great and I recommend that every home have one for convenience of sharing a connection and being able to mobilize with a laptop or a house

guest. The only major differences between home network setups are the brand of wireless router, the type of connection going into the router, and the various devices you want to network besides computers. Otherwise, all wireless networks have the same purpose, configuration options, and structure. Let's take a look at the general idea behind a wireless network just to make sure that we are all on the same page before beginning.

Power User Tips and Tricks

"Time is equal to life; therefore, waste your time and waste of your life, or master your time and master your life." – Alan Lakein

By this point in the book you have probably learned at least a few, if not several, new tricks. The things that have been described so far are all very important practices that you should adopt and incorporate into your everyday computing to really reap the benefits they offer.

We have touched on security and safe computing, searching for answers and how to better shop online, optimizing your machine with software and hardware, and many customizations you can do to increase efficiency. What follows in this chapter are a series of concepts that are more advanced than what has been discussed so far. They are on the optional side as far as skills go, but if you choose to learn about them and apply them to your computing you will get some tremendous power from the knowledge.

<u>My PCs and What I Like</u>

"One-half of life is luck; the other half is discipline - and that's the important half, for without discipline you wouldn't know what to do with luck." – Carl Zuckmeyer

I want you to understand that despite there being some definite bias present in the text of this book, I did my best to try to keep things objective. I am a passionate guy with regards to the things I enjoy, learn, and value, and that passion has a tendency of making itself known to others through my words and actions. Putting aside whatever subjective viewpoints I have consciously or subconsciously placed in the various topics that have been discussed, my hope has ultimately been to teach you what I have learned from my studies, my practices, my mistakes, and my observations of those who are more knowledgeable than I.

Computers are amazing devices capable of doing amazing things. However, like the old adage goes, "With great power comes great responsibility." In the digital age, if you are too careless (even just once) you can have your identity stolen, and proving your innocence can be rather arduous. It is better to err on the side of caution and accept inconvenient, but safe, practices.

Additionally, one should never use a computer for any length of time without making it easy to use. Efficiency is what computing is all about. To forget this is a major mistake that defeats the purpose of why computers were invented in the first place.

In this chapter, I am pushing objectivity out the window and telling you about my personal setup and what I like. I feel it's only fair to reveal where I am coming from with my opinions and lessons so that you can better decide whether or not you want to follow my advice. Regardless of whether or not you do, I really hope that I have opened your eyes to new things that will help make you a better computer user and provide you some benefits

over time. Your education will allow others to learn in the same way and we can become a more competent computer-using community together.

My Server

The first machine I will talk to you about is my server. I have been running a server since grad school about 3 years ago. On this server I host websites as well as backup content and some personal services. I initially set up the server because I wanted to a host a personal website again like I had in high school but without the restrictions placed by free web host services. The drumline I was teaching at the time needed a website to give them a profile on the web as well as provide means to share sheet music and information.

In addition, I decided to host a server to be able to access files remotely, to backup important documents, and to open up a huge door of learning. I am the kind of guy who will take on a project not only because of the outcome of the project but also the knowledge that will be achieved along the way. As a result, I learned how to set up an Apache server, an SSH server, and RDC server, an FTP server, an email server, CGI, PHP, MySQL, and a whole bunch of other skills I consider really cool.

The server, itself, has been a few different machines over time. It was always assembled by spare parts my Dad had laying around since he enjoys building computers. Currently, it is using a Pentium IV processor, 1 GB of RAM, and three hard drives. Two of the hard drives are identical. I used Norton Ghost to make a mirror image of the primary drive on the second one in case the primary failed. The third drive is just a big drive that holds backup data from the primary drive and my laptop.

I use FolderShare and the backup batch script to do regular data copies of all of my server configuration files as well as important data content. System Restore is set to run once a week as well as updates for Spyware Blaster. I use Spybot, Avast Home Antivirus, Ad Aware SE, and periodically will do a disk check and defrag.

My intent for this machine is to host a variety of services and a few websites so uptime is critical. The machine is always on and I have it plugged in to an uninterruptible power supply that it is plugged into that will provide temporary power if there is a short outage or surge. Other than that, this computer is really only special in regards to the software that is run on it and the configuration that is used to host the various services I employ.