

# Special Extra Edition

Understanding computers  
(the way to understand digital)

# Computers -- Basics

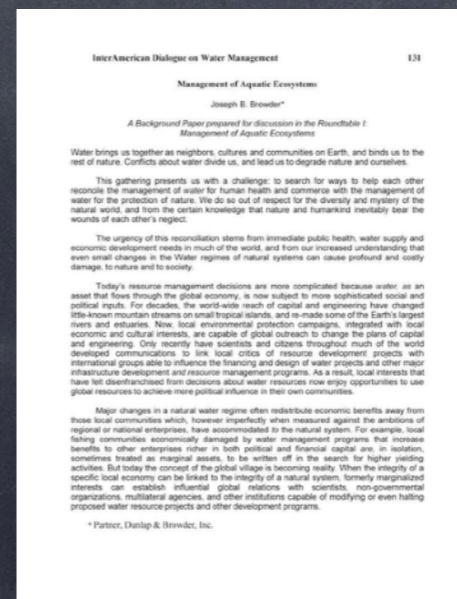
- Basic photography can no longer be understood unless a person is conversant with the nomenclature of computers . . . as it is now based in the world of electronics and not the world of chemicals.
- Definition of a computer:
  - A computer is a programmable machine that receives input, stores and manipulates data, and provides output in a useful format.
  - It consists of a motherboard, a CPU, memory (RAM), hard drive, video card, input and output devices. It uses a monitor and a keyboard along with possibly other devices.

# Computers -- Basics

- A computer is a programmable machine that receives input, stores and manipulates data, and provides output in a useful format.
  - So it takes in information that is all in the form of numbers. It does not matter if you are looking at a document made up of words or a document that is an image. It's all the same to the computer. Computers are actually pretty stupid. You have to tell it what it is looking at.
  - It has to set up files to store things and it uses names to track all these things.
  - It can take those numbers and manipulate them (we're talking some heavy-duty and serious mathematical calculations) and turn them into different things. You can create different types of files, change how they work and many, many more things.

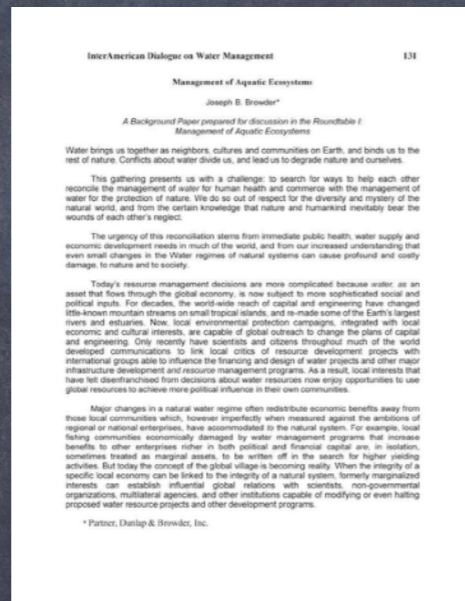
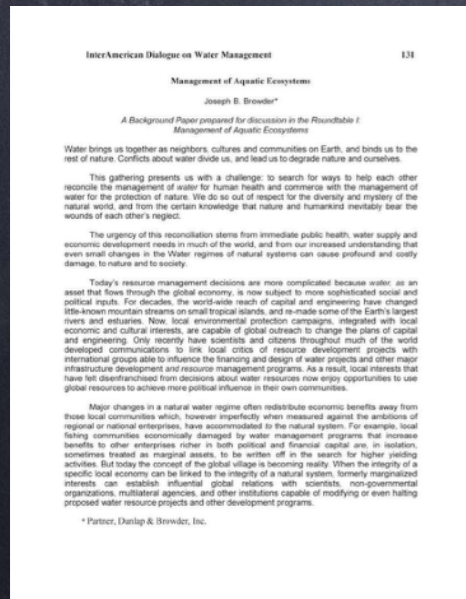
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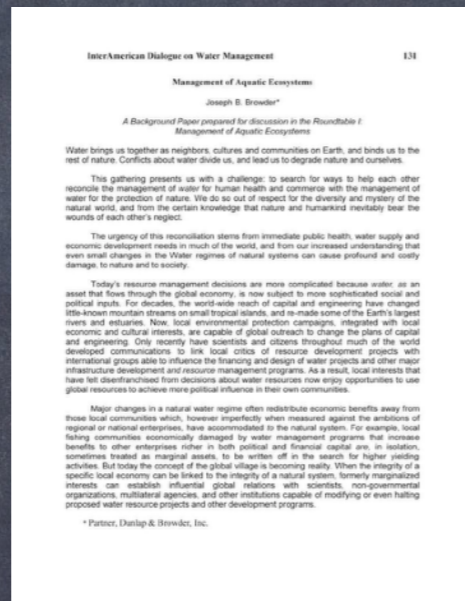
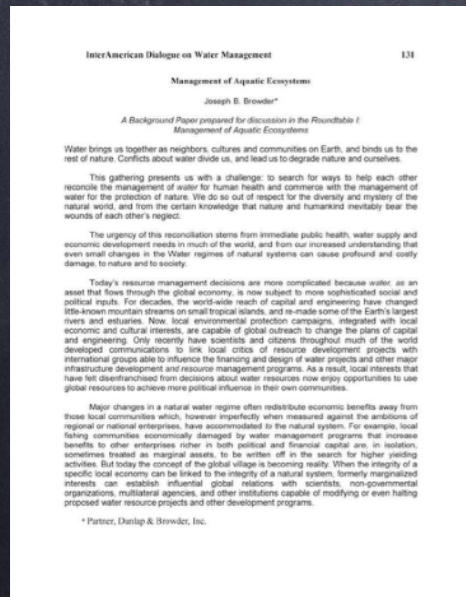
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# Computers -- Basics

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Fred's Essays



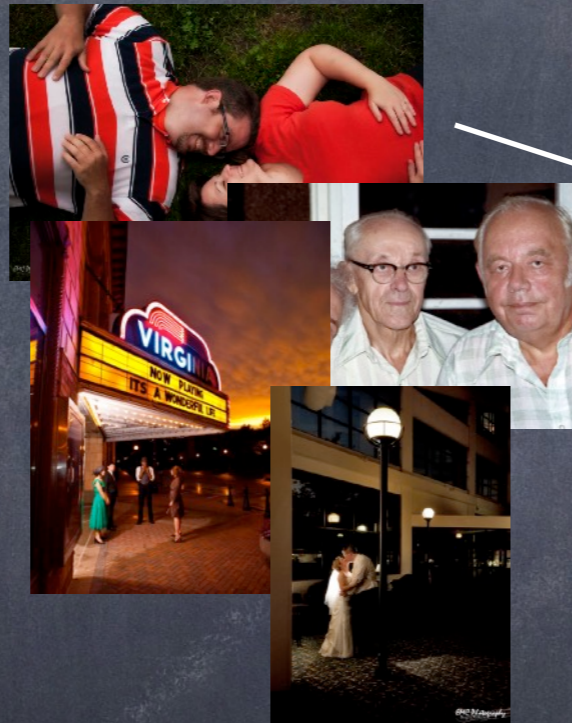
Fred's Essays

Fred's Essays

Fred's 1st Essay

# Computers -- Basics

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Fred's Pictures



Fred's Pictures



Fred's Pictures



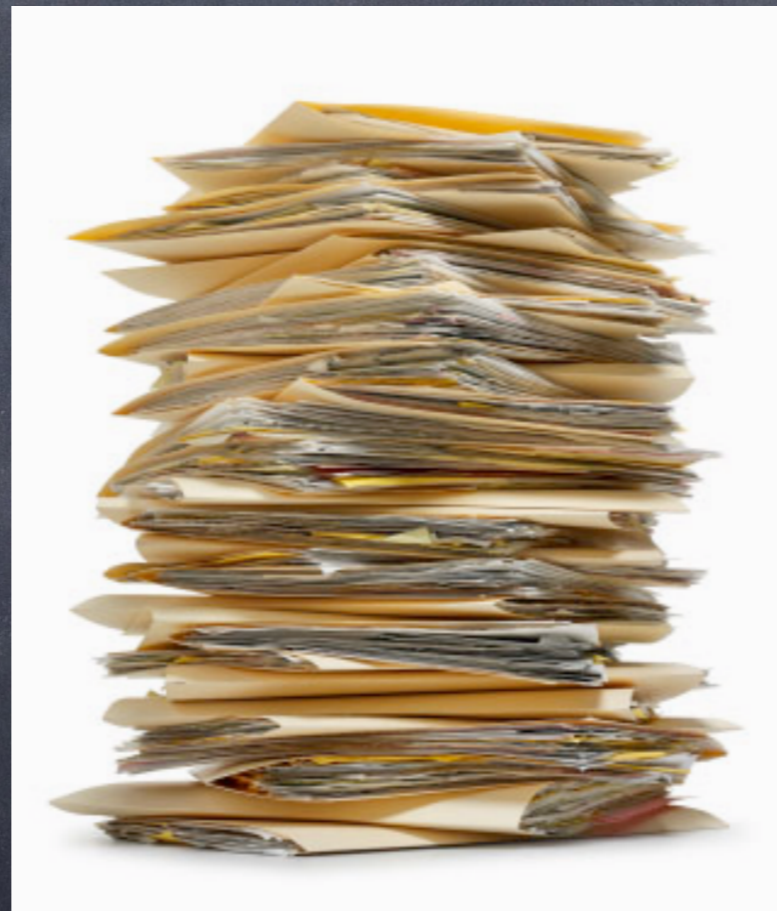
Fred's 1st Picture

# Computers -- Basics

- It has to set up files to store things and it uses names to track all these things. In fact, this is exactly the same way we used files and file cabinets for years.



Fred's Files

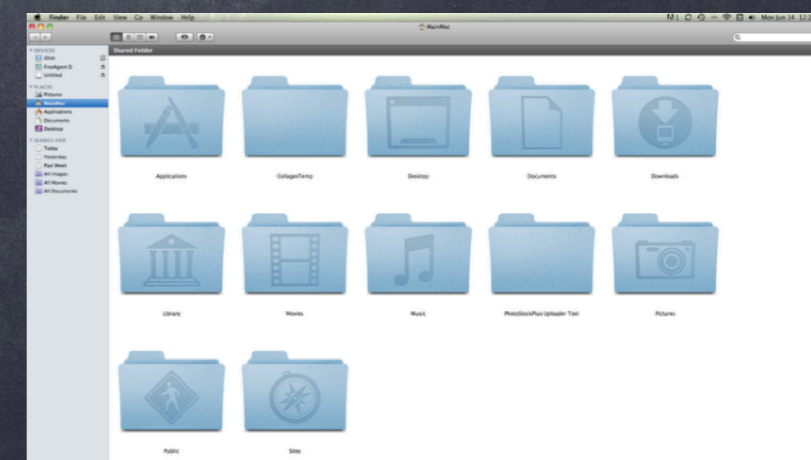
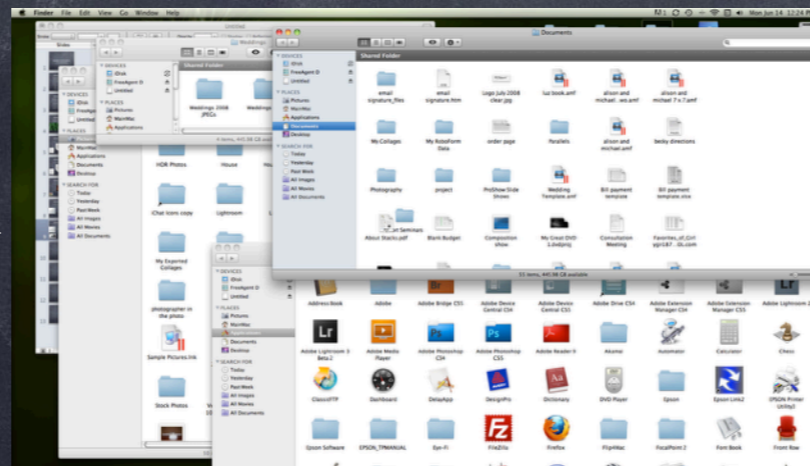
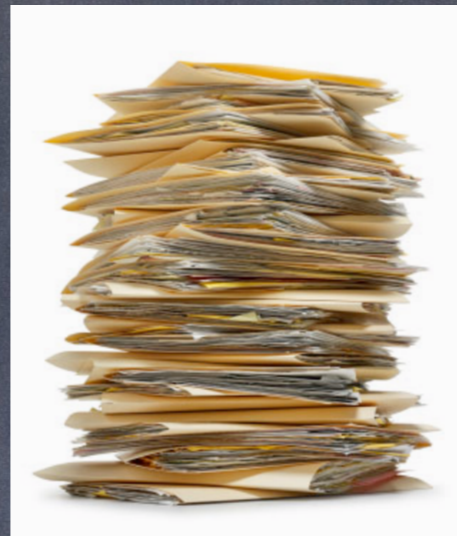


Fred's Files



# Computers -- Basics

## Fred's Files



- Comparison -- Contrast between cabinet files and computer files.
  - Both systems allow you to reorganize if you want.
  - Both systems allow you to make multiple copies of something and put it in multiple places
    - Bit tougher with the old files since you first had to find a copier, make a copy, etc.
    - But, what if you changed the document? You would then have to remember that you had another copy, make it again, refile, ad infinitum. Same problem with computers.
  - Both systems allow you to search for the document you need
    - Neither system works perfectly
    - It all depends on how you filed in the first place
  - Can be expanded to fit what is needed.

# Manipulating numbers



# Manipulating numbers



# Breaking it down further

- A computer has a monitor to allow you to see the images
- It has a keyboard that allows you to enter in information
- It has a mouse to allow you to move things around
  - The mouse can usually do a right click that allows you to have several more functions handy (copy, paste, rename to name a few)
  - The mouse, more importantly, allows you to select things that you will be working on.
- It has a "brain" that does the figuring for you (playing with all those numbers) which is called the CPU or processor which sits on something called a motherboard.

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# Breaking it down further

- It has memory (kinda like someone's mind) called RAM (random access memory) Bigger means it can handle more and more information very rapidly.
- Hard-drive: storage device to hold more memory (sorta like carrying a notebook to keep notes in)
- External hard drives (where you put all the filled notebooks -- hey! A file system!)
- Input-Output Devices that allow things to be plugged in so you can move information around.



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# Your camera is a also computer, but more specialized

- It also has a processor
- It also has memory
- It also has a motherboard
- It also has an internal hard drive
- It also has an external storage device
- It also has input/output devices



# Your camera is a computer

- It has a processor



- It has memory

- It has a motherboard



- It has an internal hard drive (sometimes)

- It has an external storage device

- It has input/output devices



# Your camera is a computer

- It has a processor



- It has memory



- It has a motherboard



- It has an internal hard drive (sometimes)

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# Your camera is a computer

- It has a processor



- It has memory



- It has a motherboard



- It has an internal hard drive (sometimes)

- It has an external storage device

- It has input/output devices

**Memory Cards**  
at lowest Price

# Your camera is a computer

- It has a processor
- It has memory
- It has a motherboard
- It has an internal hard drive (some)
- It has an external storage device
- It has input/output devices



# Your camera is a computer

- It has a processor



- It has memory



- It has a motherboard



- It has an internal hard drive (sometimes)

- It has an external storage device

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# Moving Photos around

- I'm going to go over the easiest, most universal method.
- It uses the operating system of your computer.
- It's not particularly better, just easier and more universal.
- It holds true whether you are using PCs (Dells, HPs, Compaq, Acer, etc.) or Apple computers.

# Plug the camera into the computer

- Use the cord the manufacturer provided and attach the camera directly to the computer
- Use a card reader that plugs into the computer and requires you to take the memory card out of the camera.
- Card readers can be purchased at Walmart, Amazon, Best Buy, Staples and more



# What should happen. . .

- On Apples, a new folder appears on the desktop when it is plugged in.
- On PCs with Windows a dialog box appears asking what you want to do
- In all cases, actually open up the files

# What should happen. . .

- Open the file folder, you may have to go through several folders but sooner or later you encounter one that says something like DCIM (Digital Camera IMages)
- Open another browser window and look for your picture folder. Open that up.
- Now, you will do a copy-and-paste. Realize, even though you are looking at the files on your computer, they are still on your camera card. We need to move them to the computer. Select the file and drag the entire thing over to the Picture (Photo) folder.
- You-tube video showing how it works:
  - <https://youtu.be/Cdp27UIcf1I>

# What should happen. . .

- It will probably take several moments for it to copy over.
- When its done, look at the new folder and rename it as something. (date, subject, etc.) Open this copied file and make sure there are images there!!!
- Try to keep all your photos and images within this category as you start.
- When this is done, remove the card from the computer.
- Recheck that your images are still there.

# What should happen next

- Unfortunately, this becomes a huge, it depends.
- It depends what kind of software you have
  - Photoshop Elements, ACDSee Photo Manager, Picassa and so forth.
- What do you want to do with the photos?

# You want to email one to me?

- Open up whatever program you might use for emailing (gmail, yahoo, zimbra, aol, hotmail, Microsoft Outlook 2003, 2007, 2010, Microsoft Outlook Express, Thunderbird, Apple I-Mail, and more than I can list)
- But -- all will have one thing in common -- somewhere on the mail form it will either have the word Attach, Attachment or a paper clip.
- Click on that and it will come up asking what you want to attach. You'll need to find the photo (having written down the number earlier or something)
- Attach it, send it to me at [students@edandkrystal.com](mailto:students@edandkrystal.com)
- Get a cup of coffee and wait. Visit the restroom, wait some more. Oh, heck, take your kids to Disneyland. By the time you return it should be done.

# More?

- Lots and lots more, recommendation . . . visit YouTube to find videos that describe how to do certain things.
- Hope this helps!