

Making A Movie

This week you will learn how to make a simple QuickTime movie using computer animation. You can use SilverHammer to make movies and model dynamic processes in electromagnetics.

1. Overview:

Hardware:

1. Making movies uses a lot of memory. A basic system will require about 5 MB minimum. 12 MB is better.
2. SilverHammer requires a Mac with a floating point processor.

Software: The required software tools are (these are already installed in the computers in 86 Hutchison:

1. QuickTime requires System 6 or System 7.
2. The QuickTime init installed in your extensions folder which is inside the system folder in System 7, or just place the init in the System Folder if you are running system 6.
3. The SilverHammer program to produce the frames.
4. The "Movie Converter" program to compile the frames into a movie.

Process Outline This is just an outline of major steps in the process. A detailed description is provided in the next section. :

1. Set up your computer.
2. Generate the frames using SilverHammer.
3. Copy frames in reverse order to the Scrapbook (start with the last frame first).
4. Compile your movie using "Movie Converter"
5. Copy your movie to your floppy disk.

2. Movie Making

1. Machine Setup: Make sure you have quit all other programs and desk accessories. You can check under System 7 by holding the mouse down when the cursor is over the rightmost icon in the Menubar. This will provide a list of running programs.

Open the System folder and drag the "Scrapbook File" to the trash. This will cause the Scrapbook desk accessory to start a clean fresh file for your pics.

2. Frame Generation: Enter charges in the Charges window. Assign each charge a velocity by clicking on the velocity tool and then dragging an arrow from the center of the charge to the length you wish. If you exceed the speed of light., the program will warn you.

Draw a smaller arrow. Put in two or three charges with velocity. After you have your charges entered, go to the Graphs window.

From the Fields menu choose "Use Magnetic Fields". Draw a graph using the color fill density plot.

When the graph has drawn, advance the time bar in the Charges window and draw another graph the same size as the first graph. To do this place the cursor on the top left corner of the previous graph and drag to the lower right corner. Continue this process of advancing the time in equal increments and drawing graphs until you have six graphs.

3. Copy Frames to Scrapbook in Inverse Order: Select the last graph drawn (largest time) and choose copy from the Edit menu or type Command-c. (To select a graph, click on it. The program will place small squares called "handles" on the outside of the object. The command key has the funny four-lobed symbol and is next to the spacebar.) Next go to the Apple Menu and choose "Scrapbook". When the Scrapbook opens, Choose "Paste" from the Edit menu or type Command-v. Click on a window from SilverHammer to return to SilverHammer. Move the frame you copied out of the way. Select the next graph and copy it to the scrapbook and continue the process until you have all the graphs copied. The last graph copied to the scrapbook should have the lowest time value. Close the scrapbook and quit from SilverHammer.

4. Compile the Movie. Start the "Movie Converter" program by double-clicking on it. Choose "Open" from the File menu. This will bring up a dialog box. Find the scrapbook file which will be in the system folder. (Hold down the mouse in the menu above the selection box and move to the root level. Double click on the System Folder. Select the Scrapbook File. Click the "Open" button once.

Once you have the scrapbook file open, choose "Convert..." from the Conversion menu. This will bring up a dialog box to save your movie. Note the folder name at the top of the selection box. Your file will be in that folder. Name your movie and then click the "Save" button once. When your movie is complete, it will be there for you to view. You can control the movie using the controls at the bottom of the movie.

5. Copy Your Movie Copy Procedure

a) Insert your disk into the horizontal slot on the front of the machine. The spindle drive is on the bottom side of the disk and should be down. The metal flap side should be inserted first. If you have a question, please ask the attendant for help.

b) If the disk has not been used before, you will be given a dialog box with the message, 'This disk is unreadable. Do you want to initialize it?' Click once in the Two-sided button. The Mac will then inform you that it is about to erase the disk, click Erase.

Next type a title for your disk and hit the OK button. When done successfully an icon for the disk will appear on the desktop. This will take a minute or two.

c) Drag a copy onto your diskette. Using the mouse, move the arrow cursor over the icon for your movie. Holding down the mouse button, move the mouse over the icon for your diskette until it turns black, and release the mouse button. This is called "dragging a copy onto your diskette". A dialog box will tell you how the process is proceeding. Double-click on your disk icon to view its contents. If successful you should see an icon for the icon on your disk. You now have a copy of the program.

d) Drag the icon of your disk to the trash (the can turns black when you've got it there) and let go. Your disk will not be erased! Instead it will be ejected from the Mac and your icon will vanish from the desktop. Take your disk with you and keep it in place that is free from dirt, heat, humidity and magnetic fields.