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ABSTRACT

The transfer of information from a Web site to personal files or documents is surprisingly easy if the right techniques are used. The portability, utility, and clarity of this information, especially when the user intends to file it and use it in future applications, is assured only when the appropriate commands are followed. This paper describes whole document transfer, formatting and styles, the use of File Transfer Protocol. transfer of a statistical data set, and electronic data transfer. Directions and scripts are provided that will enable users to move information between applications, locations, and systems. The paper also focuses on enhancing the information's usefulness by electronic data transfer into several unique software programs and electronic mail. (SLD)

Tricks and Treats of Electronic Exchange of Data.

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Introduction.

Information in cyberspace is portable; that is it can be easily packed into a neat container and moved from almost any 'address' on the World Wide Web to any place that you might wish to store it for immediate or future use. The transfer of information from a web site to your personal files or documents is surprisingly easy if you use the right techniques. Likewise, the portability, utility, and clarity of this information (especially when you intend to file it and use it in other future applications) is assured *only* if you follow the appropriate commands. The intent of this presentation is to familiarize the participants with whole document transfer, formatting and styles, the use of File Transfer Protocol, transfer of a statistical data set, and electronic data transfer. At the completion of this educational endeavor, you should be able to follow the directions and the scripts that have been provided and successfully move information between applications, locations, and systems. The presentation will also focus on enhancing the information's utility by electronic data transfer into several unique software programs and electronic mail. Questions from participants are encouraged during the presentation, and time for dialogue on this topic will be provided at the conclusion of this session.

Tricks and Treats of Electronic Exchange of Data

Electronic Exchange of Data Between Applications

Simple Methods:

To transfer a whole document (file):

1. Assume you are using a particular application (program), e.g., WP, MSWord, or Notepad.
2. You want to transfer the full document to another application. [You have just created a document in MSWord or opened an already saved MSWord document. You want to transfer this document into an E-Mail message you are composing to send.]
3. In the Word document, → ***Edit*** → ***Select all*** [This will highlight the whole content.]
4. Again, → ***Edit*** → ***Copy*** [Now, it's ready to be copied to another application.]
5. In the E-Mail message you are composing [in the appropriate place where you want that Word file to be copied, press the mouse once], → ***Edit*** → ***Paste***
6. Your Word document will appear in your E-Mail message.
7. Similarly, you can transfer E-Mail message to an MSWord document. [Start with the E-Mail message and follow the same procedure.]

To transfer a part of a document (file):

1. Assume you are using a particular application (program), e.g., WP, MSWord, or Notepad.
2. You want to transfer a part of your document to another application. [You have just created a document in MSWord or opened an already saved MSWord document. You want to transfer a part of this document into an E-Mail message you are composing to send.]
3. In the Word document, highlight the part of the document you want to copy.
4. → ***Edit*** → ***Copy*** [Now, it's ready to be copied to another application.]
5. In the E-Mail message you are composing [in the appropriate place where you want that Word file to be copied, press the mouse once], → ***Edit*** → ***Paste***
6. The selected part of your Word document should appear in your E-Mail message.
7. Similarly, you can transfer a part of your E-Mail message to an MSWord document. [Start with the E-Mail message and follow the same procedure.]

Instead of using Copy-and-Paste procedure, you can achieve the same results by using Cut-and-Paste procedure. Is there a difference? If so, what are they?

Warning!

The Copy-and-Paste or Cut-and-Paste procedure has some drawbacks. When we use either of these procedures to transfer documents between applications, we lose formatting and styles. **Why?** When we use either of these procedures to transfer documents within the same application, we do not lose any formatting or styles. **Why?**

Formatting and styles.

On Formatting:

1. In the good olden days, a common format or application-independent format was called a disk operating system (DOS) format or an American Standards for Code Information Interchange (ASCII) format, or simply a text format.
2. Any document prepared and saved as a *text* formatted document (with a *.txt* extension) is retrievable onto any application software.
3. A simple way to prepare a text document: Assume you have a small data set; you want to create a text file; read this text file into an SAS (or SPSS) program file.
4. Open an MSWord new file (you can open a blank file in any word processor). If you want to see everything lined up, make sure you select equal-spaced font type, for example, ***Courier or Courier New***.
5. Enter the following data.
   Bill Monica 761
   Dan potato 99
   Newt F-value 789
   George lips 112
   Gary boat 564
   Falwell Tubby 342
   Robertson hatemonger 976
   ....
   ....
6. Once you finish entering data, → ***File*** → ***Save as*** → prompt a frame in which you have to select/type in the following information: 1) *Save in*, (in which directory you want to save this file—C:, A:, or any sub directory of your choice) 2) *File name* (a name for your document) and 3) *Save as Type*
7. File name and type are two important things. *Save As Type* will allow you to save your document according to any choice of formats given. Press the down arrow button of the small *Save As Type* frame to see the available formats under which to save your file. You can save your file according to any of the formats given. [What does this mean?]
8. Select *Text Only* to save your file as text only file.
9. In the file name frame, type a name, for example, *laugh*
10. MSWord will save your file, named *laugh*, as a text only file.
11. Now, open SAS and write the SAS programming syntax to read the *laugh* text data line:

```
data d1;
  filename funny 'a:\laugh.txt' ;
  infile funny ;
  input name $ vice $ num @@;
proc print data=d1;
run;
```

12. Now, let's go through these lines (file extension -txt- in particular).

How to Transform an MSWord Document into an HTML File.

This note attempts to answer a question like the following:
Question:

I have many word processed documents. How do I convert those files into a Web page(s)?

Answer:

1. Open your existing file in MSWord (→ you must have MSWord97 or above!).
2. Go to file
3. Select SAVE AS HTML
4. SAVE AS frame will appear
5. Check and make changes as needed under each of the following: SAVE IN, FILE NAME, and SAVE AS TYPE. The latter should indicates HTML document.
6. CLICK on *Save*.
7. You have now saved your Word document as an HTML document.

People use different word processors.

Q: Well, there are some problems (it doesn't look right, different font sizes, uneven spaces, etc.) with the file I saved as HTML type. How do I fix it? (In fact, the moment you save your Word file as an HTML file, what you see on the screen is your HTML file. This HTML file doesn't look right and you want to fix it!)

A:

1. CLICK on *View*.
2. SELECT HTML Source
3. A screen will appear which looks like Greek or Arabic or Chinese, ... to the laymen. (What you see is a series of HTML codes.)
4. This is where a little bit of understanding of HTML coding **is not** a **bad** thing.
5. Use HTML in Action or any other source to fix it. (demo ...)
6. SAVE your file after you make changes.
7. CLICK on Exit HTML Source. (You will see the disappearance of the ugly features you saw earlier.)

How to transfer a file from your PC to the COE server (How to use FTP).

(Before you use the FTP [File Transfer Protocol] program you must have created and saved a file(s) in one of your directories (MY DOCUMENTS, TEMP, or any other directory in your C drive. For example, Gunapala Edirisooriya may create a directory in his C drive for all his "Web-files" for his stat course and gives it a name like ELPA7810.)

1. Look for and open the Ws_ftp program in your PC
   a. Click on START button
   b. Select PROGRAMS
   c. Look for Ws_ftp icon
   d. Select Ws_ftp LE
   e. Will prompt the log-in frame

2. Log-in frame will appear (Check for USER_ ID and password.)
   a. If your name or a part of your name (as it appears in your E-Mail address) appears in USER_ID, then it's OK.
   b. To make sure, delete what appears in PASSWORD and type *yourpassword*
   c. Click OK.

3. A screen with two horizontally divided parts will appear.
   a. Upper part says, LOCAL SYSTEM
   b. Lower part says, REMOTE SYSTEM

4. In the LOCAL SYSTEM part, all your directories are listed.
   a. Look for your relevant Web-file sub-directory (ELPA7810 in my example).
   b. If it is not visible, double CLICK on the green upward turned arrow.
   c. All sub-directories will appear in the LOCAL SYSTEM part.
   d. Highlight the sub-directory you want
   e. Select the relevant sub-directory by Clicking the ChgDir button.
   f. All the files in the selected sub-directory will appear.
   g. Drag the mouse on all the files (together, a number of them, or one at a time) you want to transfer (FTP) to the COE server. The file(s) you want to transfer has/have to be highlighted.
   h. CLICK the Transfer button.
   i. The file(s) you wanted to transfer will appear in the REMOTE SYSTEM part.
   j. Below the REMOTE SYSTEM part, a message will tell you whether the transfer was successful or not.
   k. If the transfer is successful, congratulations! If it didn't work, (It's your fault, no I am just kidding!) it gives an error message (e.g., !RECEIVE ERROR: CONNECTION RESET ..... PORT CMD FAILED).
   l. Well, back to square one! CLICK on the Exit button and go through the same steps *one more time*.

How to Use FTP, continued.

5. Please note that you can Bring-back whatever files you want from your directory in the remote system to your PC also. For this, you are in the REMOTE SYSTEM part; select the files you want and CLICK on the Transfer button in the REMOTE SYSTEM. (Under what circumstances you may want to do this!)

6. You can also DELETE (if you want) any file(s) in either LOCAL and/or REMOTE SYTEM by CLICKING the appropriate Delete button.

7. It is really important to remember the following: whenever you EDIT your file (e.g., ELPA7810) while are using FTP program, you **must** remember to update your file in the FTP LOCAL SYSTEM by Clicking on the Refresh button. [One way to check whether you have the most up-to-date version of the relevant file is to examine the date and time indicated for each file]. When you look at the date and time for the file you want to transfer and they indicate the date/time prior to your last update date/time ➔ they need to be Refreshed.

Electronic Data Transfer from the World Wide Web.

Generally, data can be transferred electronically among applications, provided you have the required software. Often we find data from Web based sources and we would like to retrieve such data easily for analysis. The following example provides a simple procedure.

1. Open the Web page and make sure you see the data you need on the screen.
2. To save this data:
   → ***Edit*** → ***Select All*** (This will highlight all the data you want to save.)
3. → ***File*** A frame will appear. Check for ***File Name***, ***Save As Type***, and ***Save In***. (*Save In* for in which directory you want to save; *File Name* for the name you want to give to the file to be saved; *Save As Type* for under which type of format you want to save the file.)
4. Make sure that HTML is the file type under *Save As Type* option.
5. **Click** *OK*. This will save in the directory, with the file name you specified a file with HTML type.
6. Go to MSExcel. → ***File*** → ***Open*** A frame will appear. Check ***Look In*** (and select the directory in which you saved the Web data file) and ***Files of Type*** (and select *All Files*.)
7. Now, you will see all the files in the selected directory listed there.
8. Select the Web data file you saved. (This file is easily recognizable.)
9. Peruse for unnecessary text and formatted text. (Delete unnecessary text and reformat variable definition.)
10. Just below the line of variable definition, insert a line. → ***Insert*** → ***Rows*** (This will insert a new row.)
11. In the new row type the variable definitions, from column to column, as you want them (limiting to eight characters, ...). Now, you want to delete the old variable definition lines.
12. Highlight the lines you want to delete. → ***Edit*** → ***Delete*** → ***Entire Rows*** (Those rows in the Web data set with Web defined variable names will disappear.)
13. Peruse through the file and look for unnecessary lines and delete them. . → ***Edit*** → ***Delete*** → ***Entire Rows*** (This will get rid of those unnecessary lines.)
14. Now, you have a clean data file with variable definition at the first row; you are ready to save this file as a ***text file***.

Although it is recommended to save your file as **a text file**, you do not have to do that. You can save your file as an **Excel** (*.xls). An Excel file can be imported to SAS. Saving **as a text**, allows you to retrieve into any other application also. The following steps on how to **Import** your saved Web file into SAS assumes you have saved your file as **a text file** in **Excel**. Nevertheless, steps explained here are the same *except,* you have to select *(*.xls)* format in step #20 instead of (*.*txt*). That is the only difference.

Electronic Data Transfer from the WWW, continued.

15. → ***File*** A frame will appear. Check for ***File Name***, ***Save As Type***, and ***Save In***. (Give a filename and select where you want to save the new file. Most importantly check ***Save As Type*** and select ***text (tab delimited).*** (How do you know tab delimited is the text format?)
16. Click ***Save***. (You have saved a text-tab delimited file in the directory you want with a file name you want.
17. You want to leave MSExcel. → ***File*** → ***Close*** A box will appear. It says **your filename.txt is not in MSExcel format. Do you want to save your changes?** Select **No.** (What will happen if you select **Yes**?--discuss) Now, leave MSExcel and go to SAS.
18. → ***Globals*** → ***Manage*** → ***Open Table*** (This will open spread sheet like table.)
19. → ***File*** → ***Import*** A frame will appear with ***Standard File Format*** button depressed. **Press** the down arrow parallel to the rectangular line with **dBase File (*.dbf)**
20. Select **Tab Delimited File (*.txt)**
21. → ***Next*** → ***(will ask, "Where is the file located?").*** Either type the location or press **Browse** and find the location. (The location will appear.)
22. → **Next** → (Will appear a box with **Choose the SAS Destination.) Library** is given by default but you can give a **Member** name of your choice (eight characters).
23. → ***Finish*** (This will bring your data file onto your spread sheet like a table in SAS.) If you want, you can save this file as a SAS data table. This is not needed as you can create a SAS program file to read all your data with no hassle at all. We can do this by **Exporting** the SAS data table.
24. → ***File*** → ***Export*** (This will open a frame with the SAS **Library** and **Member** names, which were given when you imported the data.) Press **Next**.
25. A frame will appear with the question: **What type of file format do you want to export?**
26. Press down arrow key under **Standard File Format** and select **Tab Delimited File (*.txt)** and **Press** ***Next.***
27. A frame will appear with the question: **Where do you want to save the file?** Either use **Browse** and select or type the directory and a file name to save the file. Then, **Press** ***Finish.*** Momentarily, you will see a small frame with the title: ***Submit Block.*** After a couple of seconds, that frame will disappear and you are back onto the SAS data table.
28. Now, you must be wondering, "What is next?" (I wish the SAS programmers would have given some thoughts on this (e.g., a frame showing, "Do this now" or something to that effect). Well, I will tell you what to do next.

---

29. → ***Globals*** → ***Program Editor*** → (This will bring a blank page with the title***: SAS – [Program Editor – (Untitled)]***
30. → ***Locals*** → ***Recall Text*** (WOW! You have a SAS program already written for you to read all the data in the data set you exported.)
31. At this point, there is something you **must** do. The ***data*** step shows that the data set to be created is a *_Null_* data set. (What does this mean?) You **must** change the word *Null* into a data step name up to eight characters.
32. At the end of the program file SAS created for you, you can start manipulating the data set and submit any procedures you want to run.
33. Now, you **must** remember one more thing. When you **Exit** the SAS session what will happen to the exported SAS data set you imported from the **Work Library**. It will

Electronic Data Transfer from the WWW, continued.

disappear (files in **Work Library** are temporary and they disappear as you terminate a SAS session). This means the next time you want to work on this data set, either you have to read the **Imported** or **Exported** text file **again**. This is a pain-in-the-neck! In SAS, there is a solution for every problem. Before you exit your SAS session, save the data set in your **Program File** as a SAS data set, which is explained in the next set of notes.

To Save a SAS Data Set:

Sometimes, you may be dealing with a large data set. For example, in a SAS (or SPSS) program you have a huge raw data file that has been read and you performed many data manipulations in a sequential number of data steps. As you continue to work on the SAS program and conduct many procedures, SAS has to read a) the complete data file 2) do every preliminary data manipulation steps and procedures and 3) then to perform the last data manipulation and/or procedure you need. Instead, once you perform all the preliminary data manipulations and procedures, you can save (final form of) the data set. Then, you can simply retrieve the saved SAS data set for your analyses/further analyses.

First, you have to create a sub-directory named, year99 in the A (or C) drive in which to save your file. Then do the following:

Assume you are working on a SAS program file, named *fall99*. At the point just below the line where you have your final form of the data (e.g., data set named d1; we will suppose that this is a data set you will need to use again and again), write the following lines to save a data set named *sum99,* in the sub-directory *year99* in the A (or C:) drive.

```
libname dir "a:\year99";
data dir.spr99;
  set d1;
```

Now, you have saved a data set named, *spr99* in the sub-directory of *year99* in your a disk. You want to use this data set for your analyses. Using the following lines, retrieve your data set into another program file, named *fallfinl*).

```
libname dir "a:\year99";
data d2;
  set dir.spr99;
```

```
proc print data=d1;
   var dept courseid instruct credit enrl avail title;
   by dept;
run;
```

How to send a SAS (SPSS) file (Program or Output or Graph) electronically.

1. Make sure that the active screen shows what you want to send (Program or Output or Graph).
2. ➔ ***File*** ➔ ***Send*** (Will open an E-Mail message composing frame. Now type the address and so on and **Press *Send*.**)
3. Follow the same procedure to send a Program or Output or Graph file.

Electronic Data Transfer

Transferring data electronically is the easiest way to access data. Nevertheless, the required steps to follow in electronic data transfers may vary among the applications and among various formats. Therefore, please remember that the following steps are specific to the applications and their versions and formats we are dealing with. So, these steps may not be universally applicable to other applications, versions, and formats.

1. Go to the Web page by clicking on the marked space in Assignment #4.
2. You will see a data set on your screen.
3. Save this data set in DRIVE A as PLAIN TEXT file with the Extension csv (or Comma Separated Version). To save go to FILE ===> SAVE FRAME AS ===> Give a file name and the extension csv.
4. Go to SAS.
5. Click and select on GLOBALS ===> MANAGE ===> OPEN TABLE.
6. A spreadsheet-like Table will appear.
7. Click on FILE ===> IMPORT.
8. A dialogue Box will appear.
9. Press on the Blue colored Down Arrow Key in the middle of the box.
10. A number of OPTIONS will appear.
11. Select Comma Separated Values option (second from the bottom).

[Now, think why we selected that one. Also as you go through try to learn what you are doing and the meaning of those steps.]

12. Press the Next Button.
13. A prompt will ask, "Where is the file located?"
14. If you remember the PATH, type it on the line to the left of "BROWSE". If you cannot remember it, find it by pressing BROWSE. [Now, file name should appear on that line.]
15. Press NEXT.
16. Then you will see a Box with TWO lines to show SAS file destination. On the LHS one (LIBRARY=directory), you notice the word, WORK. Then, you see an empty RHS line empty with MEMBER (=File name). Type a file name of eight characters or less.
17. Press FINISH.
18. Your data file will appear in COLUMN format.
19. Now, you want to save this as a SAS data file.
20. Click on FILE ===> EXPORT.
21. A box will prompt and will ask you to "Choose the source SAS data set."
22. It will show you LIBRARY (WORK) and MEMBER (the file name you gave). If the file name is INCORRECT, please make it correct.
23. Press NEXT
24. A box will prompt and will ask you, "What type of the format do you want to export?:
25. There are TWO format option buttons:
    1. Standard file format,
    2. User-defined file format.

Electronic Data Transfer, continued.

26. Press the User-defined file format button.
27. Press NEXT.
28. A box will prompt, "Where do you want to save the file?"
29. Press BROWSE and give a name to save the file as a SAS file.
    (SAS extension should appear as FORMAT.)
30. Press NEXT
31. A box will appear and say, "Press FINISH to start EFI."
    (EFI=External File Interface)
32. You will see a screen with three different boxes. 1. [FROM] the
    data in column format as they are in your WORK LIBRARY, 2. [TO] the
    data as they will appear when you EXPORT them, and 3. On the
    RHS panel, keep clicking on the variable names. As you do that check
    how the bottom panel keeps changing. When you click on a variable, see
    whether NUMERIC is highlighted in variable type options. For each
    variable, click on UPDATE on the bottom panel so that all the variables
    are EXPORTED as numeric variables.
33. Now, press the RUNNING MAN button.
34. You may hear a beep. Don't worry.
35. You will see a BLANK screen with SAS Program Editor (Untitled).
    (You will say, "Oh my gosh, what happened!")
36. (If you get a blank screen, it's your fault. ... No, I am just KIDDING! Nothing to
    worry about.)
37. Click and select on LOCALS ===> RECALL TEXT.
38. You will see a SAS PROGRAM file automatically written by SAS for you.
    (Isn't that wonderful!)
39. In that file after the COMMENTS you will see DATA _NULL_; You
    have to change the data set name from _null_ to something you like.
    [call it D1. I assume you know how to do that?????]
40. At the bottom of this file you will see the RUN command. Just before
    that line hit a couple of ENTERs and create blank lines to do whatever
    you have to do for your statistical analyses.

[Please make sure NOT to mess with anything written in that program, EXCEPT to change the name of the data set. Again, as you go through these steps, try to understand what you are doing and why you are doing it.]

Summary.

In this session we discovered that information is not only portable, but that we are able to transmit it electrically between applications, locations, and systems. The information in this presentation is up-to-date and correct as of today's date; however, the rapidity of change in information technology may render it 'outdated' in very short order. I recommend that you practice using the skills you have learned today, because those skills will facilitate your being able to learn the new modalities demanded by the creations of software engineers. I sincerely hope that this session will enhance your use of information in future professional endeavors. Thank you for your kind attention during this session.

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