SE3860/CS5860
Laboratory Assignment 01 (S16)

Feb 5, 2016

Objectives

- ✓ Prepare for Course Project
    - ❖ Learn how to use the FHX2 software module "FENTER3.exe" on windows 7.
        - o Learn how input data using "FENTER3.exe".
        - o Learn how to import/export FHX2 data file using it.
        - o Learn how to verify FHX2 data file using "fhgraphics-alpha_01.jar".

Instructions

>>>Step 01 out of THREE: Execute "FENTER3.exe" (Learn how to execute it in DOSBox)

- ❖ **Download** "Supplemental Materials.zip" from the course website into your desktop and unzip it.
- ❖ **Cut** the "fhaesa01", "FHX2" and "Sample FHX2 Data File" folders into your "C:\temp" folder. (If you do not have the rights to use the C drive in the lab, find another place to use, for example, your network storage disk, and then use this place to replace "C:\temp" in this lab accordingly.)
- ❖ **Cut** the "uslcf001.fhx" file in the "Sample FHX2 Data File" folder into the "FHX2" folder.
- ❖ **Locate** the DOSBox0.74 program from the Program Start Menu.
- ❖ **Click to Run** DOSBox0.74 program.
- ❖ You will be **prompted** with a command line window for DOSBox0.74
    - o **Type** "Mount C: C:\temp" and **Click Enter Key** to mount the "C:\temp" folder into the DOSBox environment.
    - o **Type** "C:" and **Click Enter Key** to enter the virtual C drive in the DOSBox environment.
    - o **Type** "cd fhx2" to enter the "FHX2" folder.
    - o **Type** "fenter3.exe" to run "FENTER3" program. You will be prompted with the software's welcome screen.

>>>Step 02 out of THREE: Input/Import/Export Data using "FENTER3.exe". (Learn how to manipulate data using it)

- ❖ **Hit** any key to continue.
    - o Then you arrive at the main menu.
- ❖ **Hit** "1" and "S" consecutively to create new data file.
- ❖ **Follow** the on screen instructions (for the Keys) to enter the following information

- o Beginning Year: 1200
- o End Year: 1218
- o Number of Samples: 2
- o Sample ID Length: 3
- o Hit "Esc" twice to return to the main menu.
- ❖ **Hit** key "2" to provide file name for your FHX2 data file.
  - o Name the file in the following way: "SE3586-S13L01-P"+<your project group id>+"-"+<your first name>+"-"+<your last name>+".fhx2".
    - ▪ For example, your name is Teddy Bear, and you are in project group 3. Then you name your file "SE3586-S16L01-P3-Teddy-Bear.fhx2".
  - o **Hit** "Enter" after it's done, you arrive back at the main menu.
- ❖ Now you should have a clear idea about how the program works (just by hitting keys to navigate around). Do the following tasks:
  - o **Enter** the data for the two samples as given in the Samples section.
    - ▪ **Enter** sample id first (clicking 3 at the main menu).
      - • First Sample ID is "S01"
    - ▪ **Enter** the data for "S01" (clicking 5 at the main menu).
      - • **Enter** the Tree Rings Marks as given in Picture 1.

```
DOSBox 0.74, Cpu speed:   3000 cycles, Frameskip 0, Program: FENTER3
FHX2: FIRE HISTORY ANALYSIS                          DATA ENTRY MODULE
                         Data being entered for S01
      Year   Old   New   [ : Pith year    ] : Bark Year
                         { : Inner ring   } : Outer Ring
      1200    .     .    D : Dormant season scar
      1201    .     .    E : Early earlywood scar
      1202    .     .    M : Middle earlywood scar
      1203    .     .    L : Late earlywood scar
      1204    .     .    A : Latewood scar
      1205    .     .    U : Undetermined season scar
      1206    .     .    d : Dormant season injury
      1207    .     .    e : Early earlywood injury
      1208    .     .    m : Middle earlywood injury
      1209    .     .    l : Late earlywood injury
      1210    [     [    a : Latewood injury
      1211    .     .    u : Undetermined season injury
      1212    .     .    . : Null year
      1213    .     .    ¦ : Recorder year
      1214    e     e    +,↓ : Advance one year
      1215    ¦     ¦    -,↑ : Back up one year
      1216    ¦     ¦    F : Fill next 50 years
      1217    M     M
      1218    ¦     ¦    Q : Quit                    ESC

Highlight = Activate    ESC = Quit
```

Figure 1: Sample Data for Series "S01"

- ▪ **Enter** sample id first (clicking 3 at the main menu).
  - • Second Sample ID is "S02"

- **Enter** data for "S02" (clicking 5 at the main menu). (Note: make sure you enter all the data for all the series of samples)
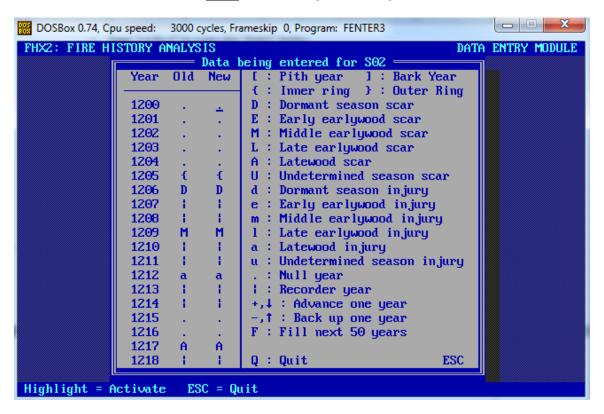 - **Enter** the Tree Rings Marks as given in Picture 2.

Figure 2: Sample Data for Series "S02"

- ❖ When you finish it, return to the main menu and **Hit** "7" to save your file.
- ❖ **Cut** your data file into the Desktop.
- ❖ Use the import/export functions of the program to **import** the sample data file "uslcf001.fhx"
  - ○ **Rename** the file by **hitting** "2" into "test.fhx2".
  - ○ **Save** the file by **hitting** "7".
  - ○ **Cut** "test.fhx2" into the desktop.

>>>Step 03 out of THREE: Verify Data File using "fhgraphics-alpha_01.jar" (Learn how to verify the data file using the software)

- ❖ **Do not close** DOSBox, yet. We will use it later.
- ❖ **Navigate** in Windows to "C:\temp\ fhaesa01" folder.
- ❖ **Click open** "fhgraphics-alpha_01.jar"
  - ○ **Click** "File" on the menu bar and then **Click** the "Create Fire History Graph".
  - ○ **Select** your data file in the desktop.
    - See the generated graph. If the graph is successfully created, your file is fine.

- - **Select** "test.fhx2" in the desktop.
    - See the generated graph. If the graph is successfully created, your file is fine.
- ❖ This is how your project group will verify the data file produced from your reengineered programs for "FENTER3.exe" in the future.
- ❖ Now use "FENTER3.exe" to generate a new data file and override your old data file ("SE3586-S16L01-P"+<your project group id>+"-"+<your first name>+"-"+<your last name>+".fhx2") with the new one.
    - The new data file should have at least 10 samples for at least 20 years of tree ring recordings. (e.g., 10 samples for years 1901 to 1920).

Deliverables and Submission Requirements

- Show me your data file ("SE3586-S16L01-P"+<your project group id>+"-"+<your first name>+"-"+<your last name>+".fhx2".)

Points total: 10.

- ❖ You must be present in lab1 in order to receive points.