How to install or update the operating system of the Mobile Logger

Step 1: Get the upload tool

a) Get the Arduino Sketch Uploader from the webpage

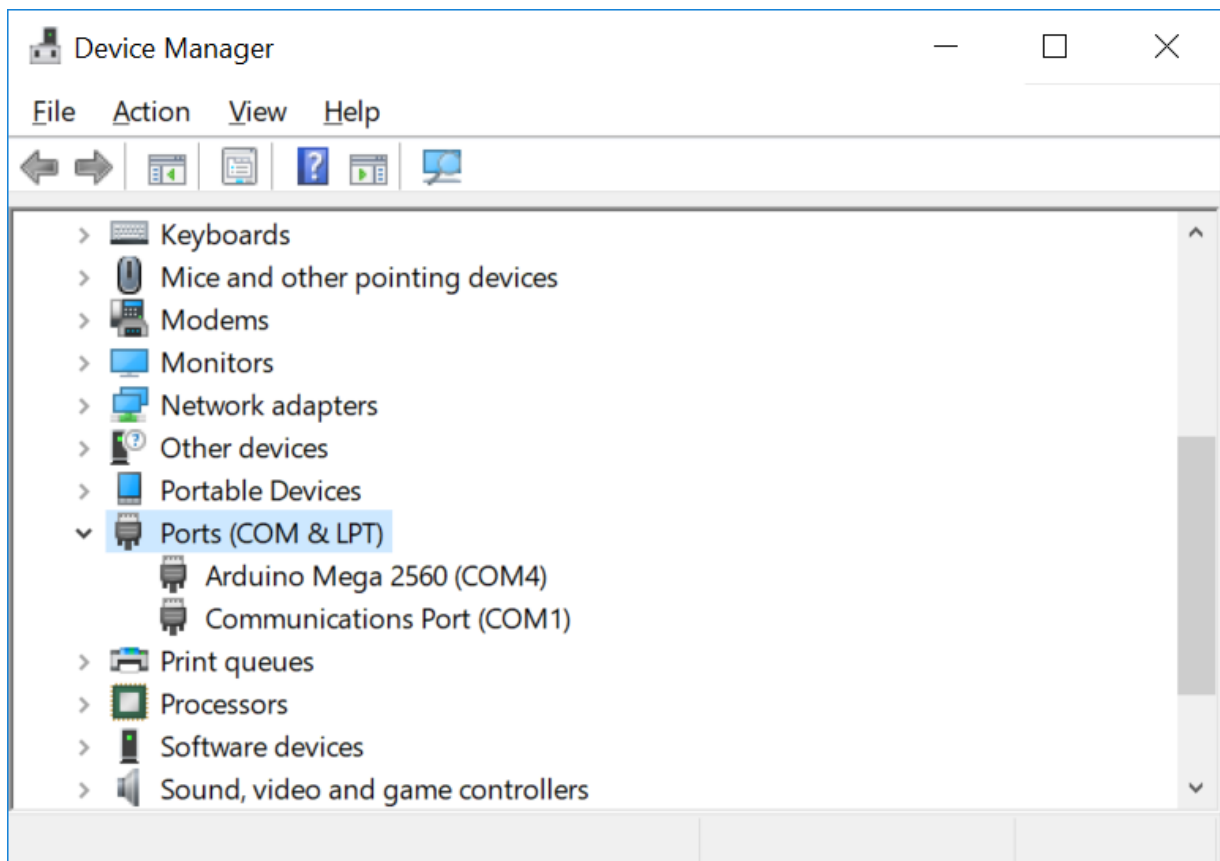https://github.com/christophediericx/ArduinoSketchUploader

or download its Windows executable file directly from

https://github.com/christophediericx/ArduinoSketchUploader/releases/download/v3.1.0/ArduinoSketchUploader-3.1.0.zip

b) Uncompress its ArduinoSketchUploader-3.1.0.zip file to a local user folder, e.g. d:\Arduino\ .

Step 2: Find the port for connection

Use a USB cable to connect your Mobile Logger to your computer. Note the port for this new connection. If you cannot see it, open the Control Panel and select "Device Manger". Click Ports (COM & LPT) and note the com port number in Arduino Mega 2560. See the below example in which com4 is used as the com port.

Step 3: Burn the Mobile Logger's operating system

    a) You should check and download the latest version of the Mobile Logger's operating system from

a) Get a version of the binary file *.hex appropriate to your mobile logger:
- SESLoggerXXX_oldLCD.ino.mega.hex (for serial LCD)
- SESLoggerXXX_oldLCD.ino.with_bootloader.mega.hex (for serial LCD and the board lacks bootloader)
- SESLoggerXXX_newLCD.ino.mega.hex (for LCD with IIC chip)
- SESLoggerXXX_newLCD.ino.with_bootloader.mega.hex (for LCD with IIC chip and the board lacks bootloader)

b) Put the *.hex into your ArduinoSketchUploader folder, e.g. d:\Arduino\ArduinoSketchUploader-3.1.0

c) Run cmd to open a DOS command prompt and change directory to your ArduinoSketchUploader folder, e.g. (remember to hit the [Enter] button at the end of each line)
- D:
- cd d:\Arduino\ArduinoSketchUploader-3.1.0
- dir

d) Issue the following command with appropriate changes of the parameters (underlined):
- ArduinoSketchUploader.exe -f _SESLogger6c3_newLCD.ino.mega_.hex -p _com4_ -m mega2560

Sample input and output in the DOS prompt is shown below:

```
Microsoft Windows [Version 10.0.16299.192]
(c) 2017 Microsoft Corporation. All rights reserved.
d:\Arduino>cd ArduinoSketchUploader-3.1.0
d:\Arduino\ArduinoSketchUploader-3.1.0>dir
 Volume in drive D is Working
 Volume Serial Number is 62BF-5209

 Directory of d:\Arduino\ArduinoSketchUploader-3.1.0

13/01/2018  06:18 PM    <DIR>          .
13/01/2018  06:18 PM    <DIR>          ..
10/01/2018  10:06 PM             8,704 ArduinoSketchUploader.exe
17/11/2017  03:21 AM               181 ArduinoSketchUploader.exe.config
13/01/2018  06:18 PM            46,116 ArduinoSketchUploader.txt
10/01/2018  10:06 PM            52,224 ArduinoUploader.dll
13/01/2018  04:53 PM             4,186 Blink.ino.mega.hex
13/01/2018  04:53 PM            24,628 Blink.ino.with_bootloader.mega.hex
02/10/2016  08:28 PM            58,368 CommandLine.dll
02/10/2016  08:28 PM            79,234 CommandLine.xml
14/06/2017  09:54 PM            14,336 IntelHexFormatReader.dll
10/01/2018  09:38 PM               508 NLog.config
13/06/2017  10:56 PM           612,352 NLog.dll
13/06/2017  10:56 PM         1,388,977 NLog.xml
13/06/2017  10:56 PM           233,472 RJCP.SerialPortStream.dll
13/06/2017  10:56 PM           873,264 RJCP.SerialPortStream.xml
13/01/2018  05:50 PM           161,584 SESLogger6c3_newLCD.ino.mega.hex
13/01/2018  05:50 PM           178,528 SESLogger6c3_newLCD.ino.with_bootloader.mega.hex
13/01/2018  05:15 PM           160,349 SESLogger6c3_oldLCD.ino.mega.hex
13/01/2018  05:15 PM           177,320 SESLogger6c3_oldLCD.ino.with_bootloader.mega.hex
              18 File(s)      4,074,331 bytes
```

```
       2 Dir(s)  980,924,977,152 bytes free

d:\Arduino\ArduinoSketchUploader-3.1.0>
d:\Arduino\ArduinoSketchUploader-3.1.0>ArduinoSketchUploader.exe -f
SESLogger6c3_newLCD.ino.mega.hex -p com4 -m mega2560
2018-01-13 18:18:07.5069|INFO|ArduinoSketchUploader|Starting ArduinoSketchUploader...
2018-01-13 18:18:07.5255|INFO|ArduinoSketchUploader|Starting upload process for file
'SESLogger6c3_newLCD.ino.mega.hex'.
2018-01-13 18:18:07.5711|INFO|ArduinoSketchUploader|Opening serial port com4 - baudrate 115200
2018-01-13 18:18:07.5856|INFO|ArduinoSketchUploader|Executing Post Open behavior
(ArduinoUploader.BootloaderProgrammers.ResetBehavior.ResetThroughTogglingDtrRtsBehavior)...
2018-01-13 18:18:08.1452|INFO|ArduinoSketchUploader|Establishing sync...
2018-01-13 18:18:08.1717|INFO|ArduinoSketchUploader|Sync established.
2018-01-13 18:18:08.1773|INFO|ArduinoSketchUploader|Checking device signature...
2018-01-13 18:18:08.1773|DEBUG|ArduinoSketchUploader|Expecting to find 'AVRISP_2'...
2018-01-13 18:18:08.1773|INFO|ArduinoSketchUploader|Device signature checked.
2018-01-13 18:18:08.1913|INFO|ArduinoSketchUploader|Initializing device...
2018-01-13 18:18:08.2374|INFO|ArduinoSketchUploader|Retrieved software version: 15 (hardware) - 2.10
(software).
2018-01-13 18:18:08.2404|INFO|ArduinoSketchUploader|Device initialized.
2018-01-13 18:18:08.2404|INFO|ArduinoSketchUploader|Enabling programming mode on the device...
2018-01-13 18:18:08.2660|INFO|ArduinoSketchUploader|Programming mode enabled.
2018-01-13 18:18:08.2710|INFO|ArduinoSketchUploader|Programming device...
2018-01-13 18:18:08.3151|INFO|ArduinoSketchUploader|Preparing to write 57444 bytes...
2018-01-13 18:18:08.3226|INFO|ArduinoSketchUploader|Flash page size: 256.
2018-01-13 18:18:08.3226|DEBUG|ArduinoSketchUploader|Executing paged write @ address 0 (page size
256)...
2018-01-13 18:18:08.3226|INFO|ArduinoSketchUploader|Programming progress: 0.0% ...
2018-01-13 18:18:08.5078|DEBUG|ArduinoSketchUploader|Executing paged write @ address 256 (page size
256)...
2018-01-13 18:18:08.5078|INFO|ArduinoSketchUploader|Programming progress: 0.4% ...
2018-01-13 18:18:08.6843|DEBUG|ArduinoSketchUploader|Executing paged write @ address 512 (page size
256)...
.
.
.
2018-01-13 18:18:48.3906|INFO|ArduinoSketchUploader|Programming progress: 99.4% ...
2018-01-13 18:18:48.5703|DEBUG|ArduinoSketchUploader|Executing paged write @ address 57344 (page size
256)...
2018-01-13 18:18:48.5703|INFO|ArduinoSketchUploader|Programming progress: 99.8% ...
2018-01-13 18:18:48.7513|INFO|ArduinoSketchUploader|57444 bytes written to flash memory!
2018-01-13 18:18:48.7558|INFO|ArduinoSketchUploader|Device programmed.
2018-01-13 18:18:48.7558|INFO|ArduinoSketchUploader|Leaving programming mode...
2018-01-13 18:18:48.7829|INFO|ArduinoSketchUploader|Left programming mode!
2018-01-13 18:18:48.7894|INFO|ArduinoSketchUploader|Resetting...
2018-01-13 18:18:49.1013|INFO|ArduinoSketchUploader|Closing serial port...
2018-01-13 18:18:49.1013|INFO|ArduinoSketchUploader|All done, shutting down!
```

If successful, the Mobile Logger will reboot by itself within a few seconds and it will show "Welcome to EdUHK"…

To control the Mobile Logger with an Android smart phone or tablet, you should also install the seslogger.apk app as available in the website: http://has.eduhk.hk/has/upload/seslogger/