

The NHSMailer application

The NHSMailer application program is a simple utility designed to automate the sending of messages to NHS clients. The program can be used to:

- send SMS text messages to mobile phones, for example to remind patients about their appointments, or to support health promotion campaigns
- send short e-mail messages

The software reads a data file containing contact information, and generates a message for each line in the file. It is assumed that the file can be generated by using common query tools against a clinical database; this document describes its format but does not describe how it is produced.

You will need:

- A PC running Windows XP. NHSMailer may work with Vista, but has not been tested in that environment
- Two freeware applications, BLAT and STUNNEL. These should be downloaded from the internet and installed on your computer
- An NHSmail account. Any NHS employee can register for this at <https://www.nhs.net/>
- The NHSMailer software
- A means of producing CSV files containing contact data

Instructions for obtaining and installing the software appear later in this document.

CSV Files

Comma Separated Values files are a common method of exchanging data between programs. They can be manipulated using Microsoft Excel for example. A file of this format is illustrated below:

```
salutation,last_name,email,date,time  
Mr,Talbot,peter.talbot@hounslowpct.nhs.uk,01/01/2008,12:00
```

Each item between the commas is known as a data field. Where a data field itself contains commas, it should be surrounded by double-quote characters. Where a data field itself contains double-quotes, it should similarly be enclosed in double-quotes and additionally, each double-quote character within the field should be represented by two double-quote characters.

Care needs to be taken when manipulating numeric data in Excel, for example Excel may remove the leading zero from numbers when saving data in a file. The NHSmail software has a feature to overcome this issue - see below.

Variables

The NHSMailer software uses the first line of the CSV file as a header row. Each column header becomes a variable which can be used in the text of the messages sent by NHSMailer. In the above example, the first column is called 'salutation'. Using the name surrounded by percent signs will cause data to be substituted into the message. In the above example '%salutation%' will be translated to 'Mr'. This could be used in the text of a message for example:

```
Dear %salutation% %last_name%, have you had your free 'flu jab?
```

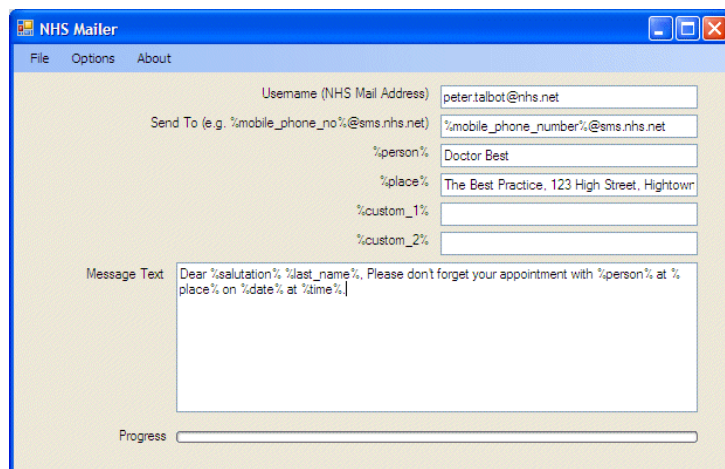
Other variables can be edited on the main screen of NHSMailer. These are 'person', 'place', 'custom_1', and 'custom_2'. This enables you to substitute the same text into all of the messages generated by NHSMailer, as opposed to substituting different text for each recipient. For example, if you were inviting a number of people all to attend the same clinic, then you could set the %place% variable on the main screen; if you were messaging people on behalf of a number of different clinics, then 'place' could be a column in the CSV file.

Where mobile phone numbers are being used, the column header must be set to 'mobile_phone_number'. Data in this column is treated differently by NHSMailer in that:

- Only numeric characters are used, for example '077 6255 1113' is converted to '07762551113'.
- Where the number is ten digits, a leading zero is added, for example '7762551113' is converted to '07762551113'. This overcomes the problem caused by Excel removing the leading zero.
- Where the number starts with '+44' this is converted to '0'.
- After applying the above rules, only 11-digit numbers beginning with '07' are accepted.

Using NHSMailer

The NHSMailer program can be invoked from the start menu, and presents the main screen illustrated below.



The first text entry box 'Username' must contain the e-mail address of the NHSMail account which you plan to use to send messages.

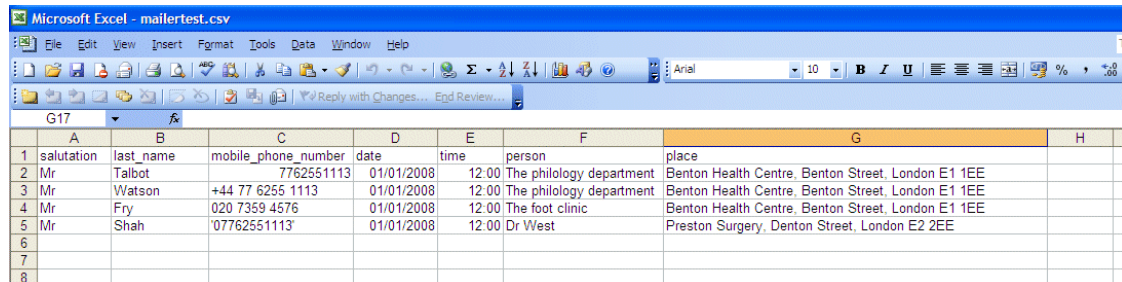
The second text entry box 'Send To' should contain the destination address. To send SMS text messages, this should be set to '%mobile_phone_number%@sms.nhs.net'. The CSV file should contain a column headed 'mobile_phone_number' as illustrated below.

	A	B	C	D	E	F	G
1	salutation	last_name	mobile_phone_number	date	time		
2	Mr	Talbot	7762551113	01/01/2008	12:00		
3	Mr	Watson	+44 77 6255 1113	01/01/2008	12:00		
4	Mr	Fry	020 7359 4576	01/01/2008	12:00		
5	Mr	Shah	'07762551113'	01/01/2008	12:00		
6							
7							
8							
9							

To send e-mail messages, set 'Send To' to the variable corresponding to the column in the CSV file containing the recipient's e-mail address, for example '%email%' to work with the file illustrated below:

	A	B	C	D	E	F
1	salutation	last_name	email	date	time	
2	Mr	Talbot	peter.talbot@hounslowpct.nhs.uk	01/01/2008	12:00	
3						
4						
5						

The four variable fields 'person', 'place', 'custom_1' and 'custom_2' can be set as desired. Alternatively they may be ignored if the CSV file contains information about the location and health care professionals or service, as shown below.



	A	B	C	D	E	F	G	H
1	salutation	last_name	mobile_phone_number	date	time	person	place	
2	Mr	Talbot	7762551113	01/01/2008	12:00	The philology department	Benton Health Centre, Benton Street, London E1 1EE	
3	Mr	Watson	+44 77 6255 1113	01/01/2008	12:00	The philology department	Benton Health Centre, Benton Street, London E1 1EE	
4	Mr	Fry	020 7359 4576	01/01/2008	12:00	The foot clinic	Benton Health Centre, Benton Street, London E1 1EE	
5	Mr	Shah	07762551113	01/01/2008	12:00	Dr West	Preston Surgery, Denton Street, London E2 2EE	
6								
7								
8								

The last text entry box is the text of the message you wish to send. Having edited all of these items, you may save them permanently by choosing from the main menu 'Options' followed by 'Save'.

To select a CSV file, from the menu choose 'File' followed by 'Open', then select the file containing the contact information which you wish to use.

Choose main menu option 'File' followed by 'Preview' to make a 'dry run' without sending any messages. The computer will display the first few dozen messages which would be sent, and you can check these for errors or omissions. The computer will also report any mobile phone numbers which are incorrect.

Once you are satisfied that your data is correct, choose 'File' followed by 'Send'. You will be prompted to enter the password for your NHSMail account.

Obtaining and Installing the Software

The BLAT software is available at '<http://www.blat.net>'. Download the current version (2.6.2 at the time of writing) and unzip the archive. Create a folder C:\BLAT and copy the files blat.exe blat.dll and blat.lib to folder C:\BLAT. (Note it is possible to place these files elsewhere. If you set an environment variable 'nhsmailerblat' to the pathname of a different folder, then NHSMailer will look in that folder for the blat.exe program.)

The STUNNEL software is available from '<http://www.stunnel.org>'. Download the windows binaries (version 4.26 at the time of writing, files stunnel-4.26-installer.exe.asc and stunnel-4.26-installer.exe). Run the installer program and accept the defaults.

From the Windows start programs menu, choose 'edit stunnel.conf' and make the following changes to the stunnel configuration file:

- Change 'client = no' to 'client = yes'
- comment out the sections for pop3s, imaps etc and instead add in a section as shown below:

```
[nhssmtp]
accept = 5002
connect = send.nhs.net:587
protocol = smtp
```

Save the stunnel configuration file. Then from the same menu choose 'service install' and 'service start'.

The stunnel software should now be running on your PC as a service. A TCP/IP connection made to your computer on port 5002 should be encrypted and redirected to the NHSMail server. You can test this by opening a command window and typing "telnet localhost 5002" followed by <return> - you should be able to establish a connection with the NHSNet server but will not see much response. If this doesn't work you may have to change the firewall settings on your computer or network, or you may not be connected to NHS Net.

The NHSMailer software is available as a zipped install package. Unzip the archive and run 'setup.exe'.

Additional Information

NHSMailer is written in Visual Basic and the source code is available. Visit www.petertalbot.net to contact the author. The program is distributed 'as is' with absolutely no warranties nor any guarantee of fitness for purpose. The software may be freely distributed under the usual terms of freeware, i.e. may not be sold nor incorporated in any product for the purpose of commercial gain without the prior written consent of the author.

The Options file, and temporary files containing messages, are kept in "C:\Documents and Settings\\Local Settings\Application Data\NHSMailer". If you delete the '.ini' file in this location, the program will restore its 'factory settings'.

NHSMail will send you an acknowledgment email for every SMS message you send. You must periodically log in to your NHSMail account and delete these emails.