US005796948A

United States Patent [19]

Cohen

[11] **Patent Number: 5,796,948**

[45] **Date of Patent: Aug. 18, 1998**

[54] **OFFENSIVE MESSAGE INTERCEPTOR FOR COMPUTERS**

[76] Inventor: **Elliot D. Cohen**, 2601 SE. Solana La., Port St. Lucie, Fla. 34952

[21] Appl. No.: **745,650**

[22] Filed: **Nov. 12, 1996**

[51] **Int. Cl.^{6}** **G06F 13/00**

[52] **U.S. Cl.** **395/200.36**; 395/200.32; 395/200.55

[58] **Field of Search** 395/700.03, 187.01, 395/752, 759, 200.32, 200.23, 200.34, 200.35, 200.36, 200.37, 200.47, 200.53, 200.54, 200.55; 370/912

[56] **References Cited**

U.S. PATENT DOCUMENTS

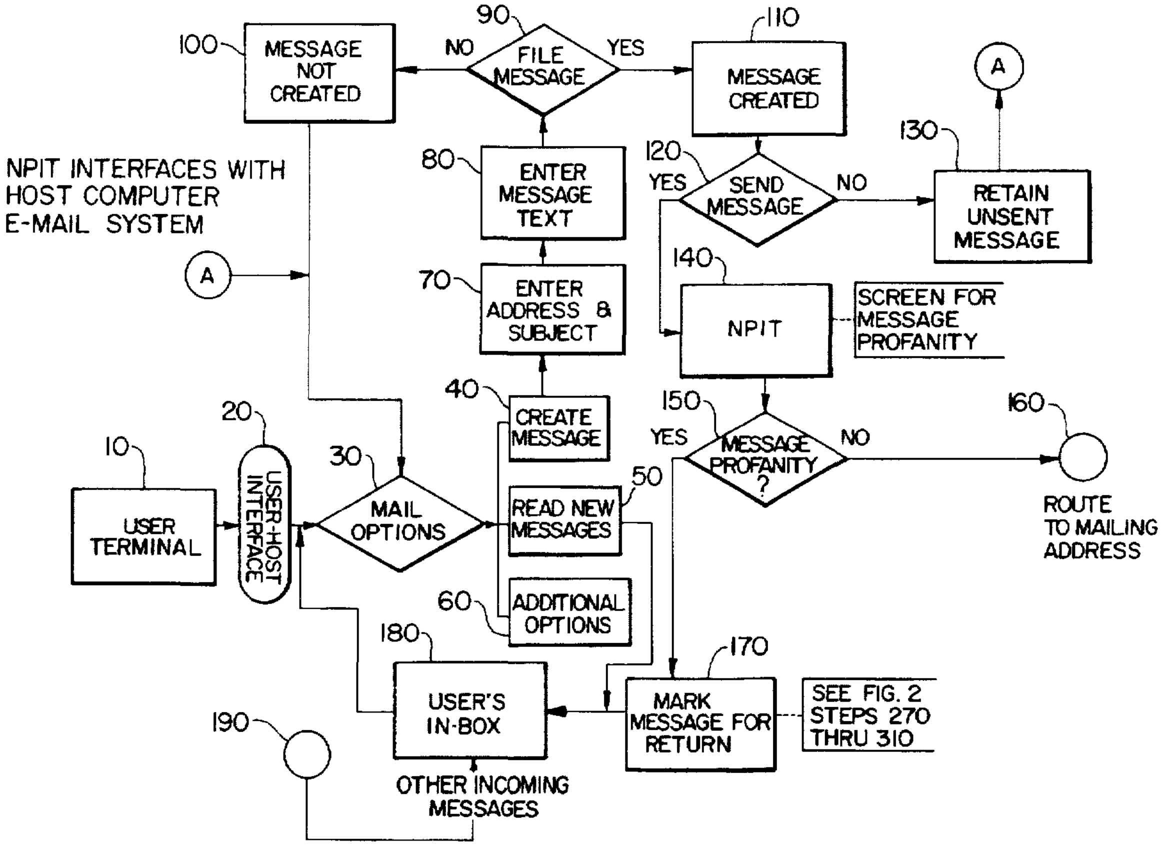
5,101,424	3/1992	Clayton et al.	379/10
5,369,440	11/1994	Sussman	348/462
5,394,540	2/1995	Barrington et al.	395/500
5,481,296	1/1996	Cragun et al.	348/13
5,503,561	4/1996	Cohen	434/236
5,550,575	8/1996	West et al.	348/5.5
5,606,668	2/1997	Shwed	395/187.01
5,619,648	4/1997	Canale et al.	395/200.36

Primary Examiner—Parshotam S. Lall
Assistant Examiner—Viet Vu
Attorney, Agent, or Firm—McHale & Slavin, P.A

[57] **ABSTRACT**

A network profanity interception that is installed on computer networks, such as a network mail system, for screening outgoing communication files for profane or offensive language according to a set of pre-defined criteria. Marking profane language for user identification, it places intercepted messages into users' inboxes along with explanation of undeliverable message status; flags return of intercepted messages; and provides for editing of profane language as identified so that intercepted messages can be re-sent.

12 Claims, 4 Drawing Sheets



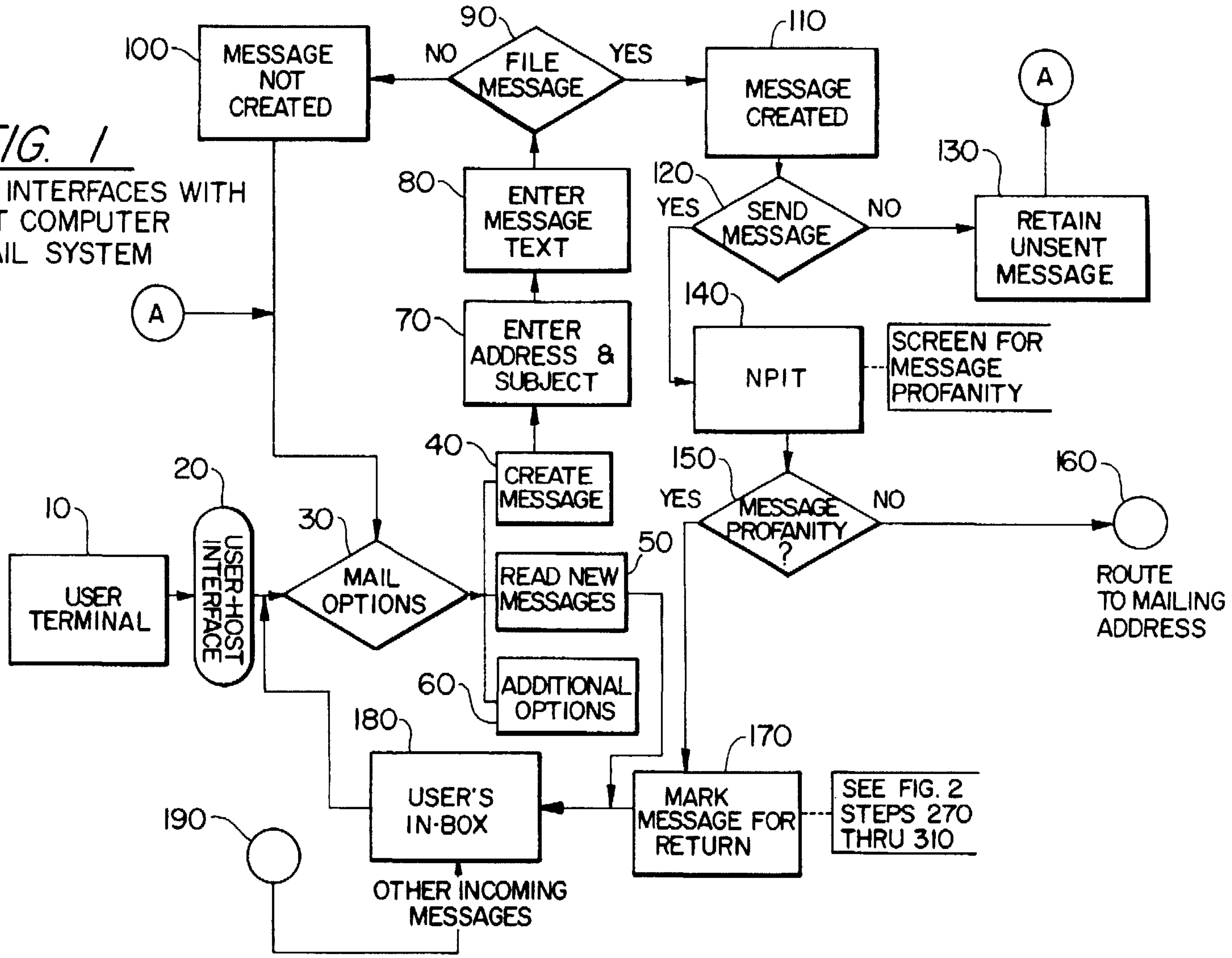


FIG. 1
NPIT INTERFACES WITH HOST COMPUTER E-MAIL SYSTEM

FIG. 2

NPIT PROFANITY INTERCEPTION PROCESS

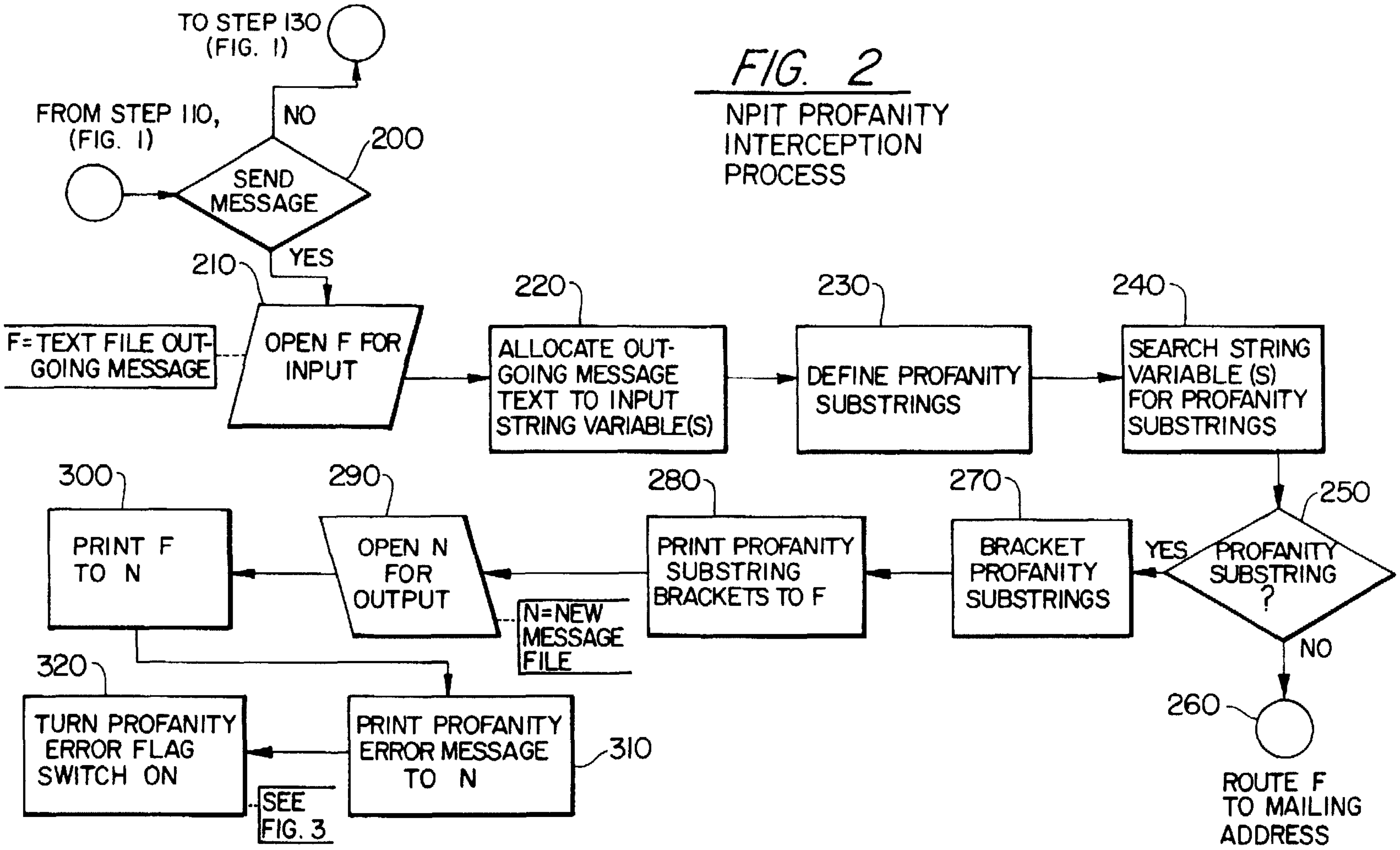

TO STEP 130 (FIG. 1)
FROM STEP 110, (FIG. 1)
NO
200
SEND MESSAGE
YES
210
F=TEXT FILE OUT-GOING MESSAGE
OPEN F FOR INPUT
220
ALLOCATE OUT-GOING MESSAGE TEXT TO INPUT STRING VARIABLE(S)
230
DEFINE PROFANITY SUBSTRINGS
240
SEARCH STRING VARIABLE (S) FOR PROFANITY SUBSTRINGS
250
PROFANITY SUBSTRING ?
YES
NO
260
ROUTE F TO MAILING ADDRESS
270
BRACKET PROFANITY SUBSTRINGS
280
PRINT PROFANITY SUBSTRING BRACKETS TO F
290
OPEN N FOR OUTPUT
N=NEW MESSAGE FILE
300
PRINT F TO N
310
PRINT PROFANITY ERROR MESSAGE TO N
320
TURN PROFANITY ERROR FLAG SWITCH ON
SEE FIG. 3

FIG. 3

NPIT PROFANITY FLAGGING PROCESS

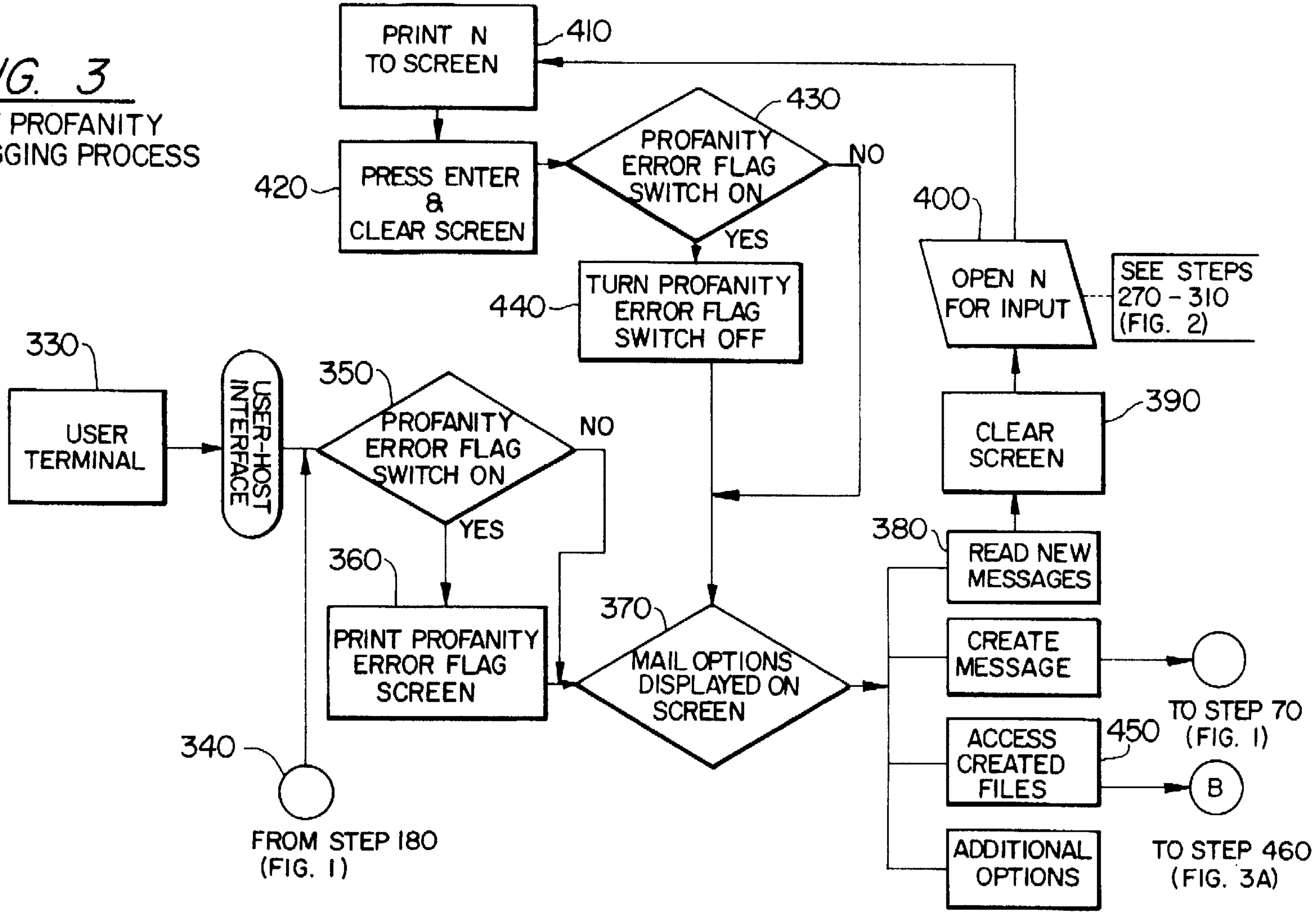
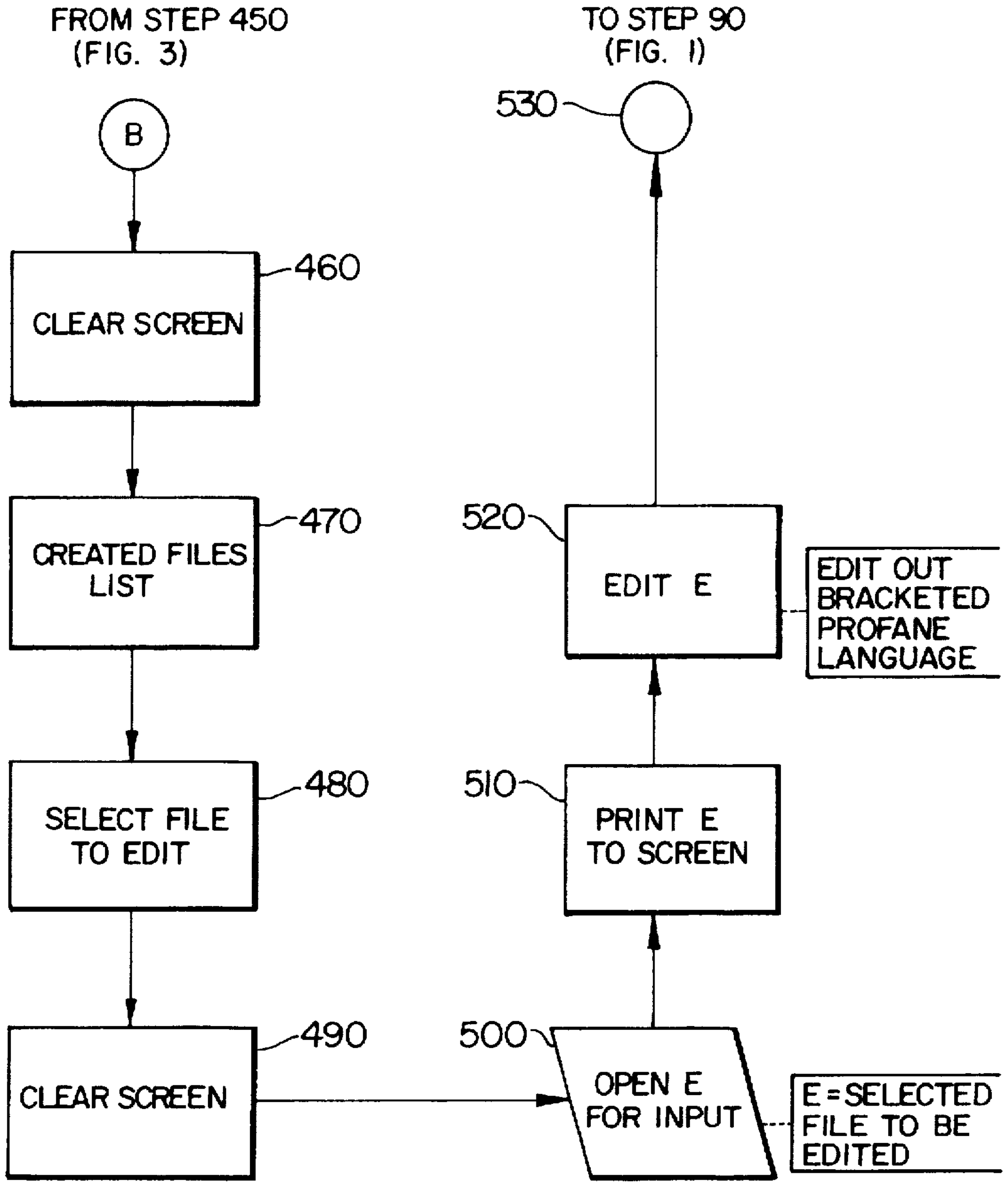


FIG. 3A

NPIT PROFANITY EDITING PROCESS



OFFENSIVE MESSAGE INTERCEPTOR FOR COMPUTERS

FIELD OF INVENTION

This invention relates to computer software and in particular to a software program that is incorporated into a computer system for intercepting offensive messages delivered through the computer system.

BACKGROUND OF THE PRESENT INVENTION

Private companies, state agencies, and schools providing electronic communication or mail services usually make clear in their user contracts that use of profane or offensive language is prohibited. However, enforcement of such "netiquette" is through human inspection of senders' messages upon complaint by a recipient of the offensive message. As a result, enforcement of these contracts is inconsistent and requires interference with senders' privacy inasmuch as senders have their private thoughts read by other persons. The 1996 Telecommunications Reform Act makes it a federal offense to annoy others by sending lewd or obscene messages across a computer network. Insofar as the aim of said legislation is preventing network users from sending such messages, a method thereof is needed that serves the law without inconsistent legal enforcement and without increasing the burden on an already overcrowded justice system.

Prior art in the field of network technology includes U.S. Pat. No. 5,023,911 which discloses a method for word recognition in a speech recognition system without predetermining endpoints. This program would compliment a software program in providing the endpoint definition which analyzes the length of a sentence so as to determine an endpoint through mathematical calculation. U.S. Pat. No. 5,101,424 discloses a program capable of monitoring text streams, in particular monitoring of telephone switches which are created by the AWK programs. This device is directed to field telephone installers who must do remote programming of the computer wherein speech recognition is possible for creation of code, particularly to a situation. U.S. Pat. No. 5,524,127 discloses a word detector which is programming as directed to software programs in a cordless telephone. U.S. Pat. No. 5,247,517 discloses a method and apparatus specific to analyzing token ring networks such as monitoring token ring delay, token rotation and bandwidth utilization in order to locate network problems, plan expansion and troubleshoot. U.S. Pat. No. 5,503,561 discloses a detection and diagnostic system for diagnosing and detecting reasoning errors known as fallacies in cognitive therapy, education, and employee training and management programs.

Thus, what is lacking in the art is a method for intercepting network profanity or offensive language without human intervention.

SUMMARY OF THE PRESENT INVENTION

Accordingly, it is an object of the present invention to provide a method for network intercepting electronic communications or mail containing profane or offensive words, word fragments, phrases, sentences, paragraphs, or any other unit of language as may be formulated in any natural language including but not limited to English, French, German, Spanish, Italian, Portuguese, Russian, Chinese, Japanese, Hebrew; and as may be formulated in any artificial

language. Network profanity prevented and screened by said method includes but is not limited to vulgar language; hateful, threatening and defamatory speech; derogatory labels and terms of race, religion, gender, sexual orientation; and sexually degrading, obscene, lewd, or pornographic language.

It is a further object of the present invention to provide a method of profanity interception and return that is fully automated and therefore does not involve human intervention in screening for offensive messages. Advantages of such automation are several. First, senders' privacy is not violated. Second, providers' contracts are efficiently fulfilled without requiring use of message recipients turned informants. Third, profane or "x rated" communications considered unacceptable for audiences such as children are automatically intercepted and returned before reaching these audiences. Fourth, senders are not confronted with the possibility of sanctions such as cancellation of network privileges, imprisonment, payment of fines, and humiliation. Network customers who wish to use a network guarded by network profanity interception technology simply agree to accept the parameters for use of the network as they did prior to the advent and application of this technology; however, privacy rights are better protected and state and private contracts as well as federal law prohibiting network communication impropriety are efficiently satisfied.

It is a yet another object of the present invention to provide a method of computerized network profanity interception and return which installs onto diverse network kinds including, but not limited to, local area networks, wide area networks, and internetworks. Furthermore, whereas the present embodiment of the extant invention displays interfaces with a network's front end, host computer's mail software program therein serving to intercept outgoing messages containing profanity, the junctures at which network profanity interception technology may be positioned in a network system are various. For instance, further locations include remote, back-end computers or routing computers within the Internet.

Still another object of the present invention is to provide a method whereby network users whose outgoing messages are intercepted and returned for profane language are afforded explanation for a message's undeliverable status including a method for users' reliable profanity identification and editing, and subsequent re-sending of said message.

In meeting the aforementioned objectives, the present invention, in its present embodiment, installs onto a host computer in a network system, reads text from outgoing communication files, and screens for profane or offensive language according to a set of preprogrammed definitions. If no instance of said definitions is satisfied by said text, the file is sent. If at least one said definition is satisfied by said text, the program places brackets around each profane word or phrase that satisfies a definition, and places the file in the user's inbox. A general error message flag prompts the user to check said inbox regarding undeliverable mail. Upon opening new messages, the user receives explanation for a message's undeliverable status followed by the undeliverable message with each instance of profane language marked by brackets. Editing facility is provided and the user is allowed to "edit out" said bracketed language and to re-send said message.

Other objects and advantages of this invention will become apparent from the following descriptions taken in conjunction with the accompanying drawings wherein set forth, by way of illustration and example, certain embodiments of this invention. The drawings constitute a part of this specification and include exemplary embodiments of the instant invention and illustrate various objects and features thereof.

BRIEF DESCRIPTIONS OF THE DRAWINGS

FIG. **1** is a flowchart showing how the present embodiment of network profanity interception technology (NPIT) integrates with an electronic mail software system of a host computer.

FIG. **2** is a flowchart of the computerized process by which the present NPIT embodiment intercepts an outgoing electronic mail message.

FIG. **3** is a flowchart of the basic process by which NPIT flags returned messages containing profanity.

FIG. **3A** is a flowchart of the process by which NPIT provides for editing and re-sending of returned messages containing profanity.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

The detailed embodiments of the present invention which follow merely exemplify the invention which may be exemplified in many other forms. Therefore, all specified details of structure and function herein exemplified are not to be construed as delimiting the scope of the invention but merely as supportive of the claims herein made and as an example for instructing those skilled in the art to use the present invention in its various forms in a variety of detailed environments.

FIG. **1** illustrates one manner in which NPIT may be placed within a network in order to intercept and return electronic mail messages containing profane language. From the user terminal **10** the user connects to a host computer **20**, for instance, by cable or modem. Once connection is made with said host's mail system, the user is prompted to select a mail option **30**. The user can opt to create a message **40**, read new messages **50**, or choose among additional options **60** such as editing existing messages, checking for spelling errors, and exiting the mail system. To create a message, the user at step **70** indicates where the message is to be sent by entering an e-mail address and a subject name under which said message is to be stored. At step **80**, the user then enters text from the user terminal **10**, for example, by means of a keyboard or other input device. When the user has completed text entry, then, if the user intends to send the message **120**, then the user must first file the message **90**, that is, store the message in a retrievable data file by entering the appropriate system command from the user terminal **10**. If the user does not file the message, no message is created **100** in which case the system returns the user back to the mail options **30**. If the user selects to file the message then a message is created **110**. At step **120**, the user may still select not to send said created message **110** in which case the message file created **110** is retained for possible future use **130**. If the user selects to send the created message **110** at said step **120**, then the host mailing system interfaces with NPIT **140** and NPIT screens for message profanity before permitting at step **160** said created message **110** to be routed to the designated mailing address **70**. At step **150**, if no message profanity is discovered by the NPIT screening process **140**, then the outgoing created message **110** is routed through network channels as the case may be to the designated mailing address **70**. If message profanity is discovered by the NPIT screening process **140**, then the outgoing created message **110** is intercepted at step **150**. In case of interception at step **150**, the previously outgoing created message **110** is marked **170** for return with an error message and profanity brackets (see FIG. **2**, steps **270** through **310**). At step **180** the message file **170** is deposited in the user's inbox along with any other incoming messages **190** the user might have received. The system then returns the user to mail options, which now also includes a profanity error flag alerting the user that a message the user has attempted to send has been returned (see FIG. **3**, steps **320** and **330**). At step **50**, the user can opt to read new messages, which, in turn, will display the messages in user's inbox **180** including the created message **110** with the attached profanity error message **170**.

FIG. **2** reveals basic architecture of the NPIT profanity interception process. When the user attempts to send a created message **200**, the system opens a text file F containing the outgoing created message **210** (see also step **110**, FIG. **1**). The program then "imports" the text of said message **210** by allocating it to at least one input string variable **220**. At step **230**, the program then defines profanity substrings by assigning profane language text to specific instring functions. At step **240**, the program then searches the string variable allocated at step **220** for said defined profanity substrings **230**. At step **240**, if not one of said substrings **230** is found in said string variable **220**, then at step **250** outgoing message **210** file F is routed **260** to its designated mailing address (see step **70**, FIG. **1**). At step **240**, if at least one of said defined substrings **230** is found in said string variable **220**, then outgoing message **210** file F is intercepted at step **250** and is not permitted to be routed **260** to its mailing address. Instead, each profanity substring found **240** is enclosed in brackets **270** and said changes **270** are printed **280** to F. At step **290**, a new message file N is opened for output. At step **300**, message text **280** printed to F is now also printed to **290** new message file N. At step **310**, a profanity error message is also printed to **290** new message file N. For example, said profanity error message **290** may state "Following message intercepted for profane language and currently undeliverable. Objectionable language enclosed in brackets." At step **320**, a profanity error flag switch is turned on in order to control subsequent error messaging (see FIG. **3**).

When messages are returned for profane language, the user must be informed. As shown in FIG. **3**, when a user logs onto the network from the user terminal **330**, or when the user is already on-line when a message is returned **340**, the system checks to see if the profanity error flag switch **350** is turned on (see FIG. **2**, step **320**). If said switch **350** is off, then the system goes directly to mail options **370** without printing a profanity error flag **360** to the screen. If said switch **350** is on, then a profanity error flag **360** is printed to the screen. This flag **360** need only contain general information sufficient to alert the user that an attempt to send a message has failed, for example, "New message from host re: undeliverable mail." From the user terminal **330**, the user can then select the read new messages **380** option to receive further information. If said option **380** is selected then the screen is cleared **390** and the file N containing the undeliverable message with profanity error message and brackets (see FIG. **2**, steps **270** through **310**) is opened for input **400** and printed to the screen **410**. When the user has reviewed the on-screen information, the user then presses enter to clear screen **420**. If the profanity error flag switch **430** is off, the system returns directly to mail options **370**, but if said switch **430** is on, the switch is turned off **440** before returning to mail options **370**.

The user may elect to edit the undeliverable message before attempting to re-send it, in which case, from the user terminal **330**, the user will select the access created files **450** option. As FIG. 3A illustrates, when the user selects said access created files **450** option, the screen will be cleared **460**, and a created files list **470** printed to the screen. At step **480**, a file E containing the undeliverable message as previously named and filed (see steps **70**, **80**, and **90**, FIG. **1**) may be selected for editing from said list **470**. The screen is then cleared **490**, and the file E is opened **500** for input and printed to the screen **510**. At step **520**, the user edits said selected file **480**, therein "editing out" profane language that is captured in brackets (see steps **270** and **280**, FIG. **2**). Said brackets thereby serve the user in locating and eliminating the profane language that had previously prevented the message from being sent. At step **530**, the edited message may be filed (step **90**, FIG. **1**) and the user given the option to re-send said message (step **120**, FIG. **1**).

As will be apparent to those skilled in the art, various changes may be made to what has herein been specified without departing from the scope of the present invention. Therefore, the detailed description herein disclosed is to be understood as merely illustrative and the present invention is not to be understood as limited to the specific forms or arrangements of components shown in the drawings and described in the specifications.

What is claimed is:

1. An automated network offensive message interception method comprising the steps of:

(a) incorporating a network profanity interception technology "NPIT" software means onto an existing network computer system said NPIT software means having preprogrammed definitions and being operative to recognize forms of profanity included by any message creator, said profanity being network defined and within accepted parameters of said network use and selected from the group consisting of vulgar language, hateful, threatening and defamatory speech, derogatory labels and terms of race, religion, gender, sexual orientation and sexually degrading, obscene, lewd or pornographic messages in all natural and artificial languages;

(b) screening electronic messages transported through said network computer system for offensive messages for one of said forms of profanity;

(c) activating a flagging means for marking offensive messages screened by said NPIT software means; and

(d) preventing the transmission of said offensive messages by returning said messages to the creator via a method that is fully automated and therefore does not involve human intervention.

2. The method according to claim **1** wherein said step of incorporating includes positioning said NIPT software means onto front-end or back-end or routing computers in combination with said network system.

3. The method according to claim **1** wherein said network system includes local area networks, wide area networks, and internetworks.

4. The method according to claim **1** wherein step (b) includes identifying said offensive language.

5. The method according to claim **4** wherein said identifying includes bracketing, highlighting, or listing.

6. The method according to claim **1** wherein said flagging means of step (c) includes a means for explaining undeliverable status of said offensive message.

7. The method according to claim **1** including a means for editing said offensive message.

8. The method according to claim **1** including a means for re-sending a message.

9. An automated network offensive message interception method comprising the steps of:

(a) incorporating a network profanity interception technology "NPIT" software means onto an existing network computer system said NPIT software means having preprogrammed definitions and being operative to recognize forms of profanity included by any message creator, said profanity being network defined and within accepted parameters of said network use and selected from the group consisting of vulgar language, hateful, threatening and defamatory speech, derogatory labels and terms of race, religion, gender, sexual orientation and sexually degrading, obscene, lewd or pornographic messages in all natural and artificial languages:

(b) screening electronic messages for one of the said forms of profanity transported through said network computer system for offensive messages;

(c) identifying screened offensive messages;

(d) activating a flagging means for marking screened offensive messages; and

(e) preventing the transmission of said offensive messages by returning said messages to the creator via a method that is fully automated and therefore does not involve human intervention.

10. The method according to claim **9** wherein said step of incorporating includes installing said NIPT software means onto front-end or back-end or routing computers in combination with said network system.

11. The method according to claim **9** wherein said step (c) includes a step for bracketing, highlighting, or listing identified screened offensive messages.

12. The method according to claim **9** wherein said step (d) includes a step for explaining undeliverable status of a screened offensive message.

* * * * *