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(54) Title: TELEPHONE WITH VOICE ANNOUNCEMENTS OF NAME/NUMBER OF CALLING PARTY

(57) Abstract: VoiceCLIP function pronounces using voice name or number of calling party. It is intended for all mobile and landline telephones and other communication devices that do offer calling line presentation (e.g. CLIP, CID, CLI). Telephone with this new function speaks name or number displayed on screen using existing voice dialing tags or voice synthesis. Similarly, names/numbers from lists of missed, dialed and received calls and names from regular telephone directory are pronounced. Invention is especially suitable for older people, for people with less than perfect eyesight, for blind people, for in-car usage and for usage with portable hands-free.

TELEPHONE WITH VOICE ANNOUNCEMENTS OF NAME/NUMBER OF CALLING PARTY

Description

Invention is related to all and any telephony devices and other communication devices, mobile or landline. Prerequisites are existence of Calling Line Identification Presentation (CLIP, CID, CLI) on connected telephone line and ability of telephone device to display that info. Then, based on displayed calling party name/number, telephone speaks name or number to active speaker.

Technical problem

During last years almost all mobile telephones and many landline phones are capable of displaying name and/or number of calling party. When telephone has directory in it, user can see corresponding name instead of calling number according to description he or she assigned to number in question. On some markets, switchboard sends name with number and on some markets only number is sent. Persons having less than perfect eyesight and who do need reading glasses in order to read, very often are not able to read small characters on telephone display in order to identify caller and decide on their response to the call. Whether it is caused by not having eyeglasses on at that moment or they have wrong kind of glasses on, problem is the same. This problem is especially important in blind people community who are not able to read calling party identification in any case, and who do have similar problem with other similar functions like missed, answered and dialed calls lists.

Safety of the traffic would also be improved with this invention since at this moment there is legal obligation in many countries for drivers not to drive and use mobile telephone in hand at the same time. Car kit for hands-free telephone conversation (fixed or mobile) solves only part of the problem since as soon as mobile phone rings, driver will still be looking at the screen of the phone trying to figure out who is calling. Doing that, he or she will endanger traffic during time spent trying to read small characters on the phone somewhere in the dashboard. Persons using portable hands-free also are not able to view name/number of person calling since their mobile phone is carried in e.g. carrying case or pocket. Simple solution for all aforementioned groups of users and for all other users is phone that speaks name or number of calling party using voice.

Same principle is applied for all other situations when device's display shows name or number as in lists of missed, dialed and answered calls or during dialing. If the telephone can recognize telephone number that was typed into it and if it can be associated with name in directory, such name will also be spoken.

Present technical situation

Telephone devices on the market today only display name and/or number on display. Some models, more and more of them, offer voice dialing but that does not solve problem of recognizing identity of caller without reading letters on the display. Momentarily processor power and memory capacity of the telephones can not support voice synthesis in order to read all names or numbers, but very soon, that option will be available, too.

Principle of invention

Invention is characterized by idea that telephone device uses voice to say name or number of calling party. Primary target is to enable user to recognize caller identity without need to look at the telephone display - VoiceCLIP. That is achieved in such a way that the telephone using active loudspeaker (e.g inside phone, portable hands-free, car-kit hands-free) pronounces name or number of calling party. Voice tag after pronunciation is finished with word "Calling". Basis of invention is modification of software in telephony device in such a way that calling line presentation is connected with ability to pronounce needed words using available technology and abilities of device.

Detailed description of at least one way for realization of this invention

Invention is realized by modification of software in telephony device by integrating it into existing software. Due to variety of operating systems, used technologies and applied software solutions it is not possible to give exact blueprint for software support of this invention, but only to describe principle.

Basic assumption is that telephony device in question offers ability to display name and/or number of calling party. Telephone then pronounces corresponding name or number. Basic form of "VoiceCLIP" function is when software in telephone uses voice dial tags when they already exist in telephone, providing that user has configured (saved) them. This principle is usable now in many existing mobile telephones requiring very small software change. Telephone speaks corresponding

voice tag in short intervals, repeating it intermittent with ringing, as long as user does not answer or reject call.

More advanced "VoiceCLIP" form is to use built in voice synthesis software that can, dependant on selected language, say name or number as it is sent or saved in telephone directory, regardless if there is voice tag for that name. Third possibility is to spell out incoming number in correct language.

Solution depends on state of technology, abilities of telephony device and desired device positioning on the market (cheaper model uses only voice tags, more expensive model offer voice synthesis and top models offer number spelling in correct language).

For name/number pronunciation active loudspeaker (e.g inside phone, portable hands-free, car-kit hands-free) is used. For list of availabe names (directory) any available memory is used, either inside telephone or in external device such as car-kit hands free. If external equipment is connected, e.g. car-kit hands free, and it offers voice dialing separately from voice dialing list in the telephone unit itself, advantage should be given to bigger memory, usually from external equipment.

Application of invention

Application of this invention is very inexpensive for the first level of VoiceCLIP function, where voice dial tags are used for name pronunciation. It needs only a few new lines of programming code. Advanced solutions should be available as soon as voice synthesis for name and/or number pronunciation becomes feasible and available in phones.

Claims

1. VoiceCLIP function inside telephone and other communication devices enables to that device to pronounce name or number of calling party using voice for all devices that can receive and display calling line identification data. For that an active loudspeaker (e.g inside phone, portable hands-free, car-kit hands-free) is used. This is achieved by software changes in telephone device. Pronunciation of name or number is continued until call is answered or rejected or dedicated key is depressed.
2. In lists of missed, received and dialed calls, VoiceCLIP function pronounces name/number as long as it is displayed on device's screen. Pronunciation of name or number is repeated until number is dialed or some key is depressed.
3. In phone directory built into telephony device, VoiceCLIP function pronounces name/number as long as it is displayed on device's screen. Pronunciation of name or number is repeated until number is dialed or some key is depressed.
4. During fast dialing (Fast Dial, One Touch Dialing,. Turbo Dial) from device's memory, when chosen name/number is displayed on screen, VoiceCLIP function pronounces it.
5. During manual typing of number into phone, when this number already exist in phone directory (regardless of directory location) and telephone can associate entered number with its directory, VoiceCLIP function pronounces it.

AMENDED CLAIMS

[received by the International Bureau on 10 December 2001 (10.12.01);
Claims 1-5 are replaced by amended claims 1-9 (1 page)]

title:

Telephone With Voice Announcements of Name/Number of Calling Party

1. Using existing Voice Dialing Tags inside mobile phone, during incoming call, Voice Tag corresponding to identity of calling party will be pronounced on any active loudspeaker connected to such a phone.

2. Method as in Claim 1 is achieved by software changes in telephone device coupling existing Voice Dialing Tags in phone equipped with Voice Dialing function and calling party caller ID..

3. A device according to claim 1 would keep repeating pronunciation of the name until call is answered or rejected or dedicated key is depressed.

4. In mobile phone's lists of missed, received and dialed calls, using existing Voice Dialing Tags inside mobile phone, voice tag corresponding to displayed number is pronounced to any active loudspeaker for as long as name is displayed on device's screen.

5. During display of entry in phone directory built into telephony device, corresponding existing Voice Dialing Tag is pronounced to any active loudspeaker as long as name is displayed on device's screen.

6. Device according to claim 4. and 5. keeps repeating pronunciation of Voice Dialing Tag corresponding to displayed name until number is dialed or some other key is depressed or incoming call received.

7. During fast methods of dialing for recalling numbers from device's phonebook, when chosen name/number is displayed on screen, corresponding existing Voice Dial Tag is pronounced to any active loudspeaker until that call is answered or discontinued.

8. During manual typing of phone number into phone, when this number already exist in phone directory (regardless of directory location) and telephone can associate entered number with corresponding Voice Dial Tag it will be pronounced to any active loudspeaker until that call is answered or discontinued.

9. When Menu entries of device (names of devices menus) have corresponding existing Voice Tags, name of corresponding Voice Tag will be pronounced on active loudspeaker connected to device for as long as this menu is displayed on device's screen, until some key is depressed or menu exited.

INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04M1/57 H04M1/56 H04M1/247

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X	US 6 072 859 A (KONG) 6 June 2000 (2000-06-06) abstract column 2, line 27 - line 56 column 3, line 22 - line 58 column 4, line 17 - line 32 figures 1,2 ---	1
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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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Date of the actual completion of the international search	Date of mailing of the international search report
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Name and mailing address of the ISA	Authorized officer
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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INTERNATIONAL SEARCH REPORT

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