US 20090065523A1

(19) **United States**

(12) **Patent Application Publication**

(10) **Pub. No.: US 2009/0065523 A1**

(43) **Pub. Date: Mar. 12, 2009**

Liao

(54) **BROADCASTING SYSTEM EXTRACTING CHARACTERS FROM IMAGES IN HOSPITAL AND A METHOD OF THE SAME**

(75) Inventor: **Shiun-Chih Liao**, Taichung (TW)

Correspondence Address:
BACON & THOMAS, PLLC
625 SLATERS LANE, FOURTH FLOOR
ALEXANDRIA, VA 22314-1176 (US)

(73) Assignee: **CHUNGHWA UNITED TELEVISION CO., LTD.**, Taichung (TW)

(21) Appl. No.: **11/896,798**

(22) Filed: **Sep. 6, 2007**

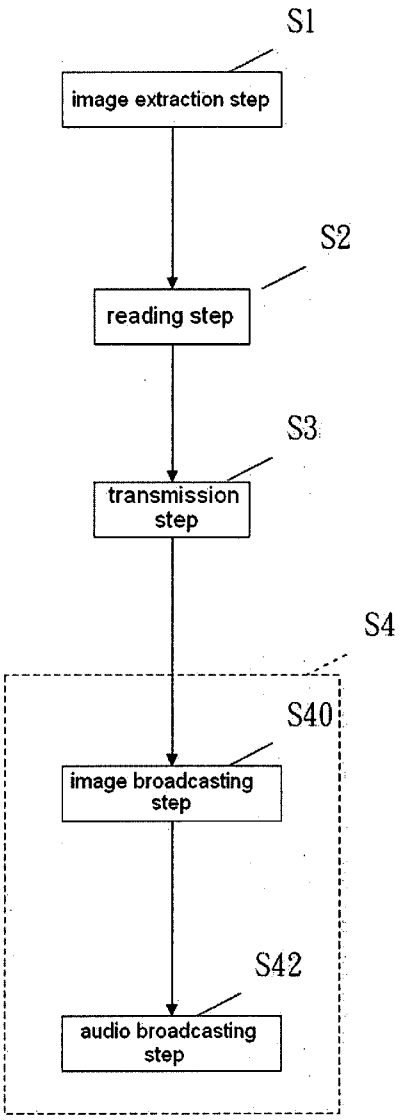
Publication Classification

(51) **Int. Cl.**
B65D 47/00 (2006.01)

(52) **U.S. Cl.** **221/8**

(57) **ABSTRACT**

The present invention provides a broadcasting system extracting characters from images in hospital and the method of the same. The said broadcasting system extracting characters from images in hospital is adapted to transmit the characters contained in the images of the display unit to a remote end to broadcast. It comprises of an image extracting unit acquiring the frames of the display unit and converting them into a digital image information; a reading unit acquiring the digital image information of the image extracting unit and reading a character information, a transmission unit acquiring and transmitting the character information of the reading unit, and an output unit collecting and broadcasting the transmitted character information of the transmission unit.



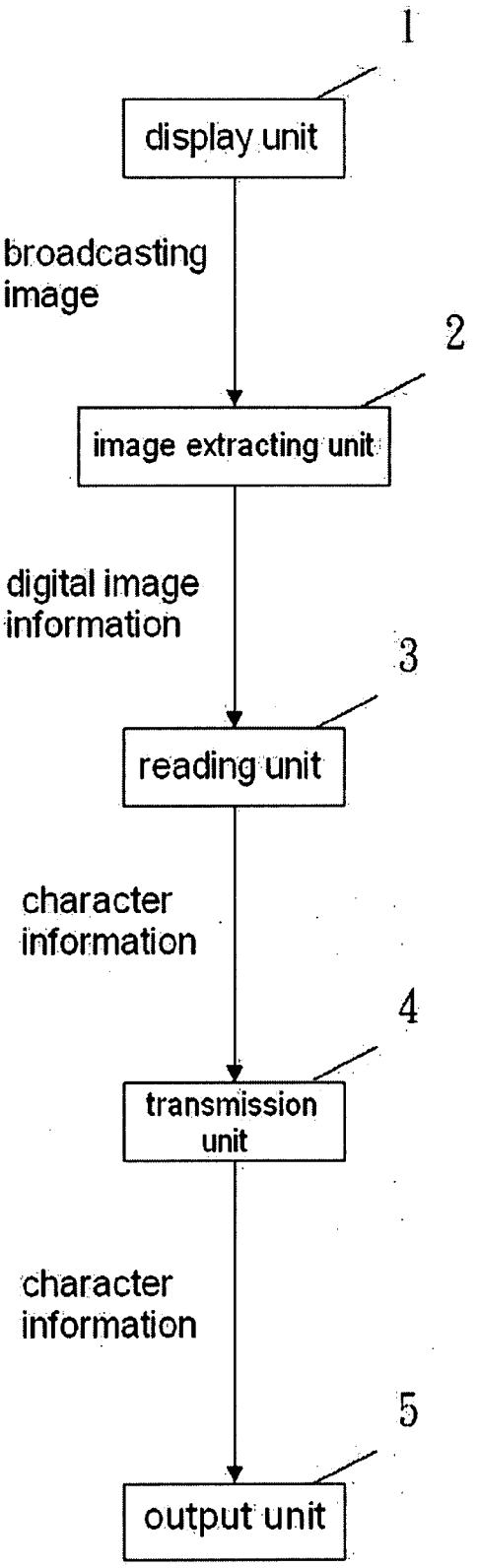

1
display unit
broadcasting image
2
image extracting unit
digital image information
3
reading unit
character information
4
transmission unit
character information
5
output unit

Fig. 1

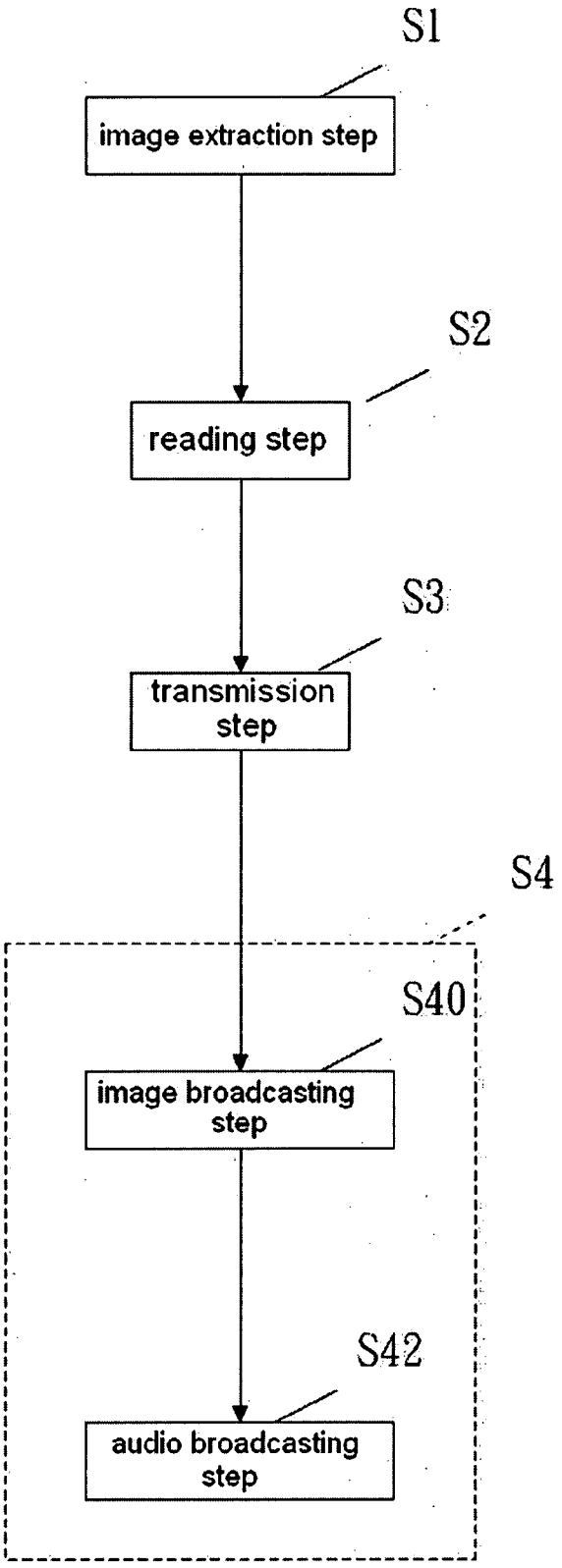

S1
image extraction step
S2
reading step
S3
transmission step
S4
S40
image broadcasting step
S42
audio broadcasting step

Fig. 2

BROADCASTING SYSTEM EXTRACTING CHARACTERS FROM IMAGES IN HOSPITAL AND A METHOD OF THE SAME

FIELD OF THE INVENTION

[0001] The present invention relates to a transmission broadcasting system and the method of the same, particularly to a system extracting characters from images to broadcast at a remote end.

BACKGROUND OF THE INVENTION

[0002] In the conventional prescription collecting process of the hospital a display screen broadcasts the prescription collecting information which contains the prescription collecting window and the prescription collecting numbers after the pharmacist dispenses the prescription to inform patients to go to prescription collecting window orderly to collect their prescription. However, since there are a lot of patients in medium or large scale hospital they have to wait at the display screen and watch screen closely for a long time until their prescription collecting number are broadcasted to go to the prescription collecting window to collect their prescription. Consequently it does not only cause inconvenience for patients to wait at the place where the display screen is broadcasted but also a crowd gathers around. Therefore the hospital installs a broadcasting system to broadcast the prescription collecting information on the display screen in hospital and each merchandising store in the hospital or its neighborhood to disperse the crowd waiting for collecting their prescription.

[0003] However, the said broadcasting system is generally installed by a contractor in the form of outsourcing contract. In order to protect his advantage the broadcasting system vendors generally adds a decoding/encoding device to encode the prescription collecting information before they are transmitted to each merchandising store. Each merchandising store decodes the transmitted information and broadcasts accordingly. If the encoding/decoding device is damaged or the broadcasting system is out of order, since the encoding/decoding technology is a proprietary technology of the broadcasting system vendor the service for solution will be provided in high price. It causes an increase in cost for hospital. Alternatively, the same service may be provided by means of deciphering by other vendors. However, it takes time and waste cost to overcome the limits imposed by the encoding/decoding technology of the original broadcasting system vendor. It is still not the best solution.

SUMMARY OF THE INVENTION

[0004] The main objective of the present invention is to transmit and broadcast the prescription collecting information directly to each merchandising store in hospital or its neighborhood without deciphering the encoding/decoding technology of the original broadcasting system vendor.

[0005] To achieve the above mentioned objective, the present invention provides a broadcasting system extracting characters from images in hospital. It is adapted to transmit the characters contained in the images of a display unit to a remote end to broadcast. It comprises of an image extracting unit acquiring the frames of the display unit and converting them into a digital image information; a reading unit acquiring the digital image information of the image extracting unit and reading a character information; a transmission unit acquiring and transmitting the character information of the reading unit; and an output unit receiving and broadcasting the transmitted character information of the transmission unit.

BRIEF DESCRIPTION OF DRAWINGS

[0006] FIG. **1** is a schematic system structure representation of an embodiment of the present invention.

[0007] FIG. **2** is a schematic flowchart of another embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0008] The other advantage, objective, technical feature and effectiveness of the present invention will be better understood by the detail description of preferred embodiment in conjunction with the following figures.

[0009] Referring to FIG. **1**, the present invention provides a broadcasting system extracting characters from images in hospital. It is adapted to transmit the contained characters (i.e. information about prescription collecting window/information about prescription collecting location and information about prescription collecting number) of the broadcasted images of the main display unit **1** in hospital to remote merchandising stores and broadcast it comprises of an image extracting unit **2** acquiring the frames of the display unit **1** and converting them into a digital image information wherein the image extracting unit **2** is a CCD (charge coupled device) camera or a CMOS (complementary metal-oxide semiconductor) camera; a reading unit **3** acquiring the digital image information of the image extracting unit **2** and reading a character information from the digital image information; a transmission unit **4** acquiring and transmitting the character information of the reading unit **3**; and an output unit **5** acquiring and broadcasting the transmitted character information of the transmission unit **4** wherein the output unit **5** is a display (not shown in the figure) and broadcasts the character information at one of a plural display blocks or a audio broadcaster (not shown in the figure) which applies a text-to-speech (TTS) converter to broadcast the character information.

[0010] Referring to FIG. **2**, furthermore the present invention provides a broadcasting method extracting characters from images in hospital. It is adapted to transmit the characters contained in the broadcasted images of the main display unit **1** (i.e. information about prescription collecting window/information about prescription collecting location and information about prescription collecting number) in hospital to remote merchandising stores and broadcast. It comprises of an image extraction step S**1** acquiring frames of the display unit **1** and converting them into a digital image information; a reading step S**2** acquiring the digital image information and reading a character information; a transmission step S**3** acquiring and transmitting the character information; and an output step S**4** acquiring and broadcasting the character information wherein it includes an image broadcasting step S**40** and a audio broadcasting step S**42** which the image broadcasting step broadcasts the character information in image format and the audio broadcasting step broadcasts the character information in audio format.

[0011] To sum up, since the present invention of a broadcasting system extracting characters from images in hospital and the method of the same merely apply the image extraction unit **2** and reading step **3** to acquire the prescription collecting information broadcasted by the display unit **1** and transmit to each merchandising store in hospital or its neighborhood to

broadcast, it can overcome the limits imposed by the encoding/decoding technology of the original broadcasting system vendor without deciphering. It saves time and cost required in deciphering the codes in conventional technology.

[0012] While the invention has been described by way of example and in terms of a preferred embodiment, it is to be understood that the invention is not limited thereto. On the contrary, it is intended to cover various modifications and similar arrangements and procedures, and the scope of the appended claims therefore should be accorded the broadest interpretation so as to encompass all such modifications and similar arrangements and procedures.

What is claimed is:

1. A broadcasting system extracting characters from images in hospital, adapted to transmit the characters contained in the images of a display unit to a remote end to broadcast, comprising of:

an image extracting unit acquiring the frames of the display unit and converting them into a digital image information;

a reading unit acquiring the digital image information of the image extracting unit and reading a character information;

a transmission unit acquiring and transmitting the character information of the reading unit; and an output unit collecting and broadcasting the transmitted character information of the transmission unit.

2. A broadcasting system extracting characters from images in hospital according to claim **1**, wherein the characters displayed in the display unit is prescription collecting information.

3. A broadcasting system extracting characters from images in hospital according to claim **2**, wherein the prescription collecting information contains information about prescription collecting location and information about prescription collecting number.

4. A broadcasting system extracting characters from images in hospital according to claim **1**, wherein the image extraction unit is a charge coupled device (CCD) camera.

5. A broadcasting system extracting characters from images in hospital according to claim **1**, wherein the image extraction unit is a complementary metal-oxide (CMOS) semiconductor camera.

6. A broadcasting system extracting characters from images in hospital according to claim **1**, wherein the output unit is a display and broadcasts the character information at one of a plurality of display blocks equipped in the display.

7. A broadcasting system extracting characters from images in hospital according to claim **1**, wherein the output unit is an audio broadcaster which applies a text-to-speech (TTS) converter to broadcast the character information in audio format.

8. A broadcasting method extracting characters from images in hospital, adapted to transmit the characters contained in the broadcasting image of the display unit to a remote end and broadcast, comprising of:

an image extraction step acquiring the frames of a display unit and converting them into a digital image information;

a reading step acquiring the digital image information and reading a character information from it;

a transmission step acquiring and transmitting the character information; and

an output step collecting and broadcasting the character information.

9. A broadcasting method extracting characters from images in hospital according to claim **8**, wherein the characters displayed in the display unit is prescription collecting information.

10. A broadcasting method extracting characters from images in hospital according to claim **9**, wherein the prescription collecting information contains information about prescription collecting location and information about prescription collecting number.

11. A broadcasting method extracting characters from images in hospital according to claim **8**, wherein the output step includes an image broadcasting step which broadcasts the character information in image format.

12. A broadcasting method extracting characters from images in hospital according to claim **8**, wherein the output step includes an audio broadcasting step which broadcasts the character information in audio format.

* * * * *