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(54) **PTP INTERACTION ASSOCIATION SYSTEM SUPPORTING CONNECTION BETWEEN PRINT MEDIA PRODUCT AND INTERNET**

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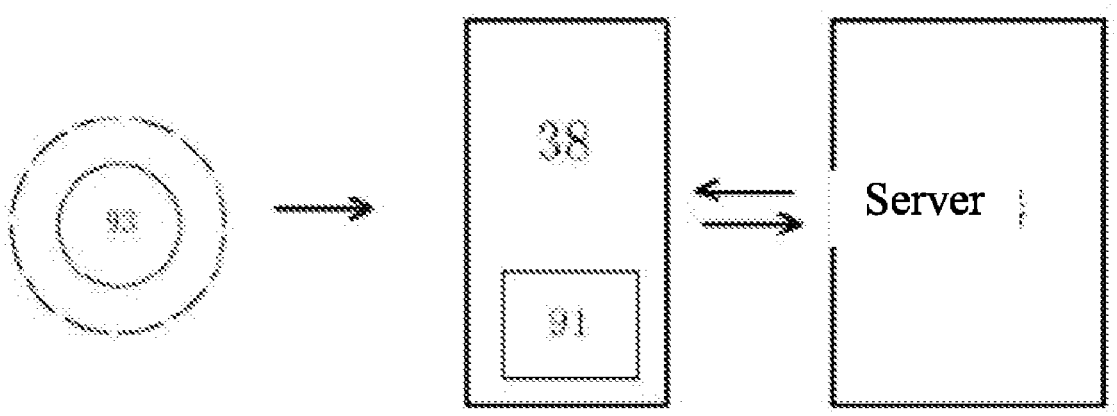
(57) **ABSTRACT**

The present invention relates to a kind of Internet of Things technology, and in particular to a PTP interactive interconnected system supporting a connection of a plane media product with the Internet. The system comprises a communication terminal product supporting the PTP interactive interconnected system, a URL electronic data device, a plane media product and a numeric mark, wherein the plane media product is attached with the numeric mark; the communication terminal product supports the input of a numeric character corresponding to the numeric mark; and an operating system of the communication terminal product receives an instruction from the numeric mark, calls out paired URL electronic data stored in the URL electronic data device, and sends a relevant request to a back-end server after processing the paired URL electronic data, and the back-end server returns an electronic file associated with the URL electronic data according to the relevant request.



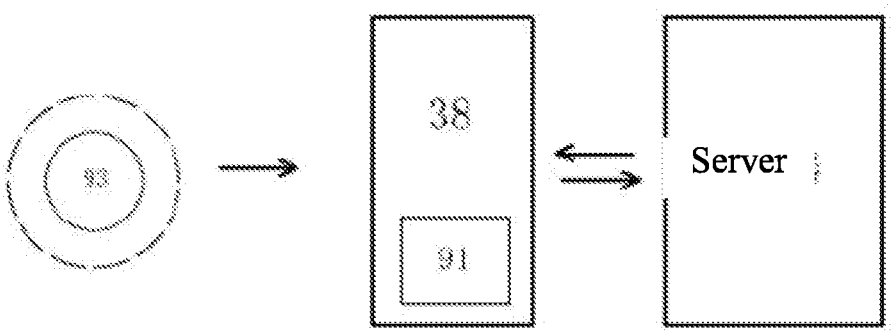


FIG. 1A

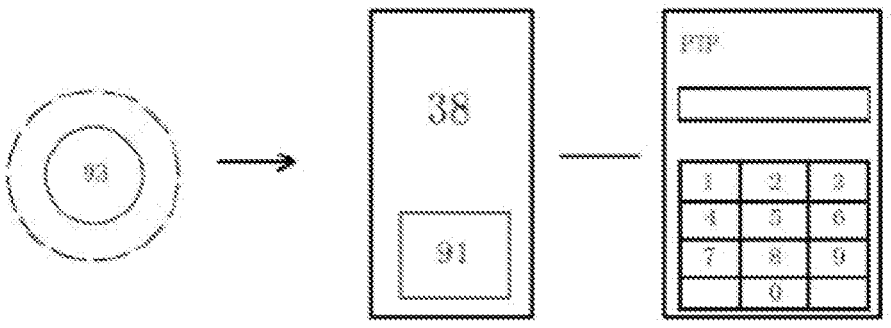


FIG. 1B

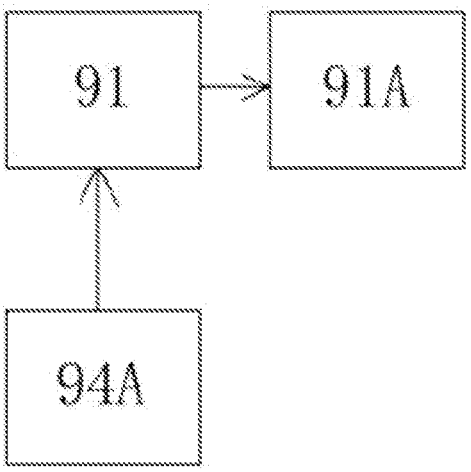


FIG. 2A

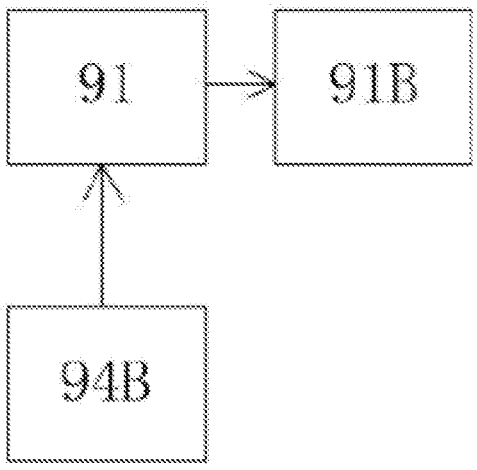


FIG. 2B

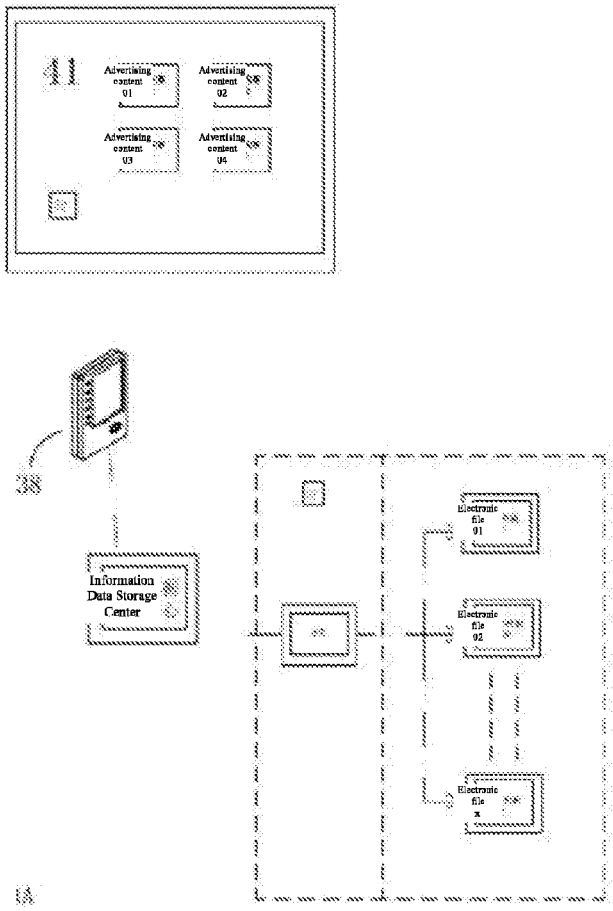

41
Advertising content 01
Advertising content 02
Advertising content 03
Advertising content 04
38
Information Data Storage Center
Electronic file 01
Electronic file 02
Electronic file n
1A

FIG. 3A

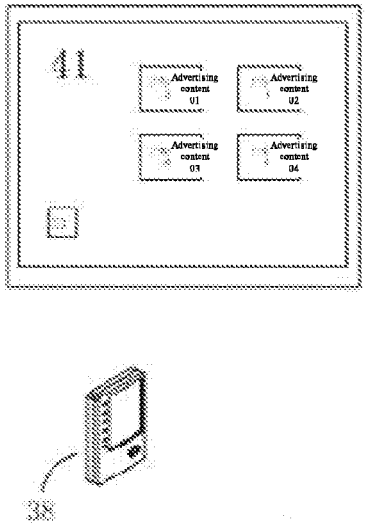

41
Advertising content 01
Advertising content 02
Advertising content 03
Advertising content 04
38

FIG. 3B

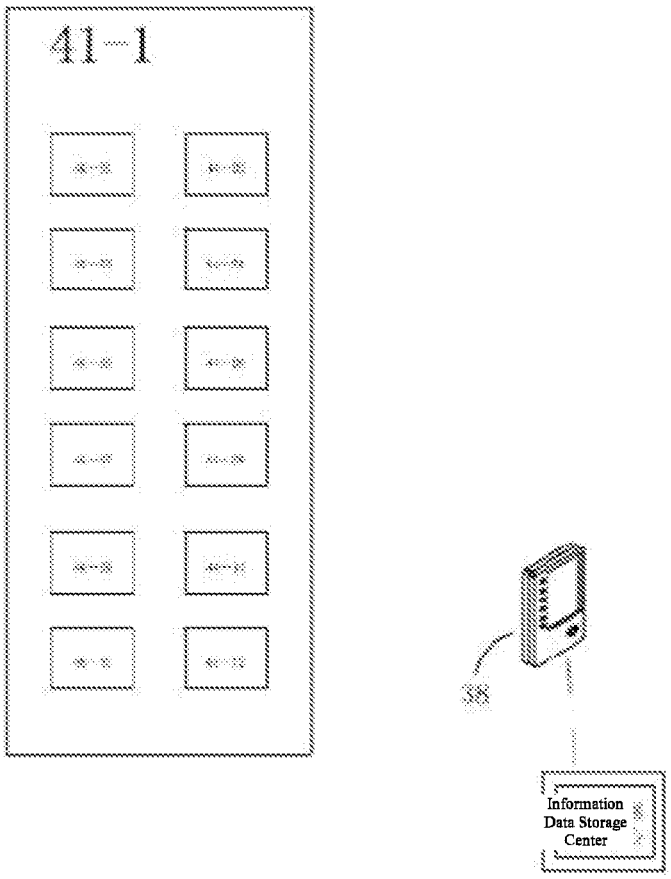


FIG. 3C

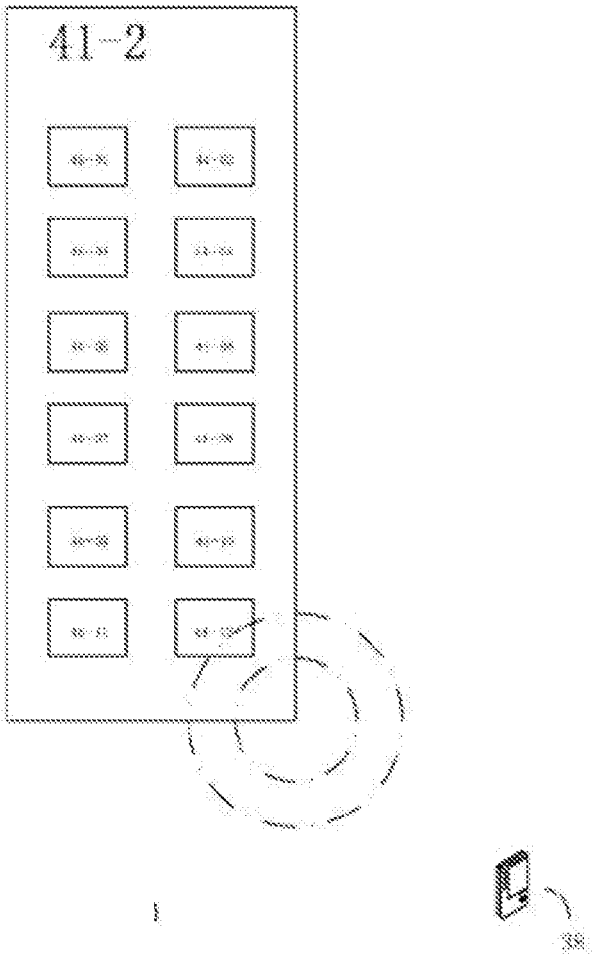


FIG. 3D

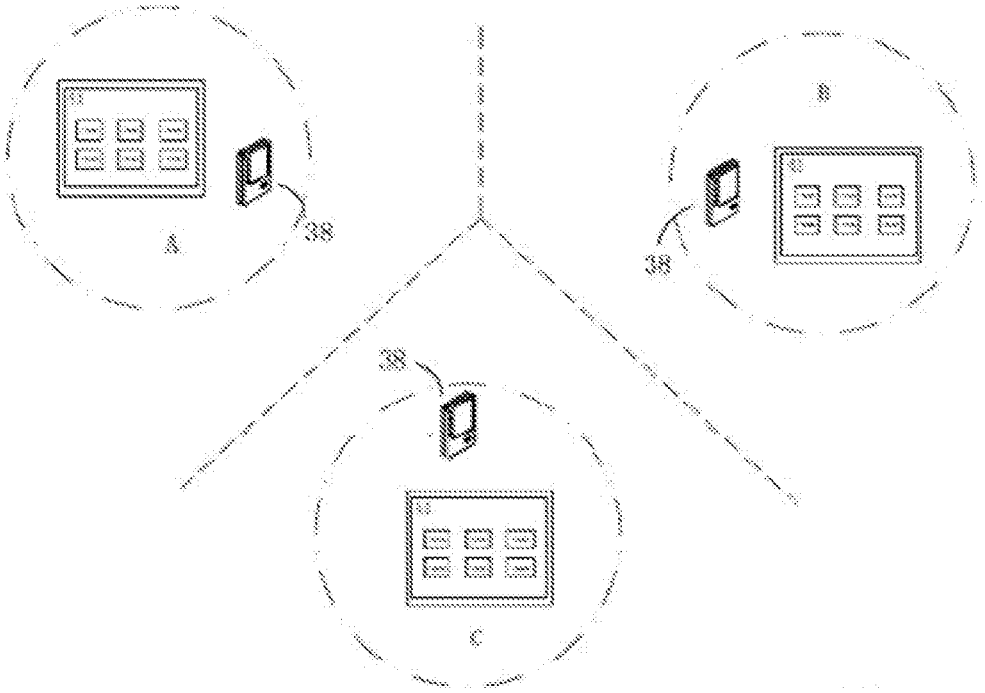

A
38
B
38
38
C

FIG. 4A

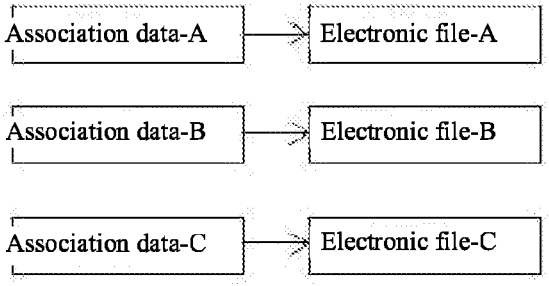

Association data-A
Electronic file-A
Association data-B
Electronic file-B
Association data-C
Electronic file-C

FIG. 4B

PTP INTERACTION ASSOCIATION SYSTEM SUPPORTING CONNECTION BETWEEN PRINT MEDIA PRODUCT AND INTERNET

BACKGROUND OF THE INVENTION

[0001] 1. Technical Field

[0002] The present invention relates to a kind of Internet of Things technology, and in particular to a PTP interactive interconnected system supporting a connection of a plane media product with the Internet to provide technical support enabling achieved Internet Plus for a traditional industry.

[0003] 2. Description of Related Art

[0004] An advertising product based on traditional media is significantly behind that of electronic media in transmission capability, nevertheless, it is absolutely not the fact that "an ultimate form of mass media may replace any one of media such as traditional print media, traditional broadcasting, traditional television and traditional Internet", as promoted by some people.

[0005] Information accessibility includes two major categories: one is network accessibility, and the construction of website accessibility falls under the category of network accessibility issues; and the other is electronics and information technology accessibility, which is to address seamless cross-media interconnection.

[0006] The Internet Society of China provides a definition as follows: information accessibility refers to any person (including the healthy, the disabled, the young and the old) under any circumstances being able to get access to and make use of information equally and conveniently without barriers.

[0007] If a smart phone is used to log on to the Internet for the information related to a print media product and get access to richer relevant data through extension, an association technology is a necessary condition that cannot be crossed out.

[0008] At present, it is a mainstream concept to enable offline and online connection for a plane media product with the solution of two-dimensional barcode/quick response code patterns in the market. Even though a mature product and industry chain has formed regarding the two-dimensional barcode/quick response code patterns, there are many restrictions on the technical use conditions in actual operation, and this refer to the following restrictions:

[0009] 1. a smart phone can scan a two-dimensional barcode/quick response code pattern only after downloading an appropriate application;

[0010] 2. the clarity of the two-dimensional barcode/quick response code pattern;

[0011] 3. the light for scanning the two-dimensional barcode/quick response code pattern;

[0012] 4. the distance for scanning the two-dimensional barcode/quick response code pattern;

[0013] 5. the two-dimensional barcode/quick response code pattern is not uniform in size and its attachment may affect the aesthetic appearance of an advertising board;

[0014] 6. with each two-dimensional barcode/quick response code pattern corresponding to one URL electronic data, there are numerous two-dimensional barcode/quick response code patterns present so as to meet the market demand, which can be expected to lead to chaos; and

[0015] 7. the two-dimensional barcode/quick response code pattern is embedded into a screen picture of a video product or a webpage;

[0016] (1) during actual operation, the time for an electronic screen to display the two-dimensional barcode/quick response code pattern is very short, and it is difficult for a user to conduct the operation;

[0017] (2) in case of a non-high definition video image, the two-dimensional barcode/quick response code pattern is caused to distort and thus becomes unreadable; and

[0018] (3) in case of wobbling public transportation, the two-dimensional barcode/quick response code pattern is very difficult to read.

[0019] It is particularly emphasized that the solution of two-dimensional barcode/quick response code patterns is less competent to address the connection involving an audio/video product (an audio information technology).

[0020] Today, science and technology have entered into the era of human-computer interaction. In the public places of major cities, with the convergence between mobile networks and fixed networks, information accessibility is a technical barrier that cannot be crossed out for accessing the Internet anytime anywhere through a smart phone and achieving the development goal of smart cities.

[0021] As an important part of the new generation of information technology, the Internet of Things has been widely applied to network convergence, and thus is also known as the third wave following computer and Internet, in the development of the information industry around the world.

[0022] First, the Internet of Things still takes Internet as its core and foundation, and it is a network extending and expanding based on the Internet; and second, the clients of the Internet of Things have extended and expanded among any items for information exchange and communication, that is, things are closely linked.

[0023] As the Internet of Things technology develops continuously, there is an inevitable development trend of deep convergence between traditional industries and Internet technologies.

[0024] Therefore, there is an urgent expectation from the market to meet the requirements anytime anywhere at will with an easier, faster and more efficient Internet of Things technology.

BRIEF SUMMARY OF THE INVENTION

[0025] To achieve the object above, the present invention provides a PTP interactive interconnected system supporting a connection of a plane media product with the Internet, comprising a communication terminal product supporting the PTP interactive interconnected system, a URL electronic data device, a plane media product and a numeric mark, wherein the communication terminal product supports a remote communication function; the communication terminal product supports a short distance communication function; and the URL electronic data device consists of a built-in URL electronic data device and a trigger URL electronic data device; the URL electronic data device stores a URL electronic data combination; the print media product is attached with a numeric mark; the communication terminal product supports the input of a numeric character corresponding to the numeric mark; and an operating system of the communication terminal product receives an instruction

from the numeric mark, calls out paired URL electronic data stored in the URL electronic data device, and sends a relevant request to a back-end server after processing the paired URL electronic data, and the back-end server returns an electronic file associated with the URL electronic data according to the relevant request.

[0026] The communication terminal product supports the remote communication function, and requests a relevant telecommunication network to return an electronic file associated with the URL electronic data.

[0027] The communication terminal product supports WIFI (Wireless Fidelity) technology, and requests a connected WIFI device to return an electronic file associated with the URL electronic data.

[0028] The short distance communication function of the communication terminal product supports Bluetooth technology.

[0029] The URL electronic data sending device sends the URL electronic data containing an identification code of the PTP interactive interconnected system by means of Bluetooth technology.

[0030] The URL electronic data contains geographical data.

[0031] The URL electronic data device consists of a built-in URL electronic data device **91** and a URL electronic data transmission device.

[0032] The built-in URL electronic data device is equipped in the communication terminal product, and the built-in URL electronic data device stores an raw URL electronic data combination.

[0033] The URL electronic data sending device is equipped in the plane media product and sends the URL electronic data to activate the raw URL electronic data combination stored in the built-in URL electronic data device of the communication terminal product, and transforms the raw URL electronic data combination into another new set of URL electronic data combination.

[0034] The URL electronic data transmission device **93** continuously sends single URL electronic data in a set time.

[0035] The numeric mark attached on the plane media product **41** is correspondingly paired with the URL electronic data combination stored in the URL electronic data device **90**.

[0036] The print media product **41** is provided with a light source function system, and the URL electronic data sent by the URL electronic data transmission device **93** is matched with a change in a light source function.

[0037] The technology of the present invention is a URL electronic data transmission device supporting a PTP (Point to Page of Internet) interactive interconnected system, and provides technical support enabling the deep convergence between traditional industries and Internet technologies, and achieved Internet Plus.

[0038] 1. The technology of the present invention employs the URL electronic data of the international standard technology as a media technology for the interactive interconnected system, and the communication terminal product supports the input of the corresponding numeric character according to the numeric mark, truly enabling barrier-free connection.

[0039] 2. With the simplest point to point connection technology, a new technical direction of solution is provided regarding the big data congestion problem confronted by the development of the Internet.

[0040] 3. The URL electronic data stored in the URL electronic data device designed by the present invention is an raw URL electronic data combination, which may change as required through the functional support of the URL electronic data device, either meeting numerous user requirements in the market or preventing the chaos caused by the overlapping of numeric marks.

[0041] The present invention is obviously superior to the solution of two-dimensional barcode/quick response code patterns in the market and the relevant solutions of connection technologies in terms of both operation and effect, thereby meeting the vision of obtaining information anytime anywhere at will in the era of mobile information.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0042] FIG. **1**A is a schematic diagram of a structure of a technology of the present invention;

[0043] FIG. **1**B is a schematic diagram of a structure used by the technology of the present invention;

[0044] FIG. **2**A is a schematic diagram **1** of a working principle of the URL electronic data device;

[0045] FIG. **2**B is a schematic diagram **2** of a working principle of the URL electronic data device;

[0046] FIG. **3**A is a schematic diagram of a plane media product employing a two-dimensional barcode/quick response code pattern;

[0047] FIG. **3**B is a schematic diagram of an effect of a plane media product employing the technology of the present invention;

[0048] FIG. **3**C is a schematic diagram **1** of an effect of a plane media product employing the technology of the present invention;

[0049] FIG. **3**D is a schematic diagram **2** of an effect of a plane media product employing the technology of the present invention;

[0050] FIG. **4**A is a schematic diagram **1** of a point to point application of the technology of the present invention; and

[0051] FIG. **4**B is a schematic diagram **2** of a point to point effect of the technology of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0052] The following embodiments are intended to further explain and illustrate the present invention, instead of setting any limit to the present invention.

[0053] The present invention provides a PTP interactive interconnected system supporting a connection of a plane media product with the Internet, comprising a communication terminal product **38** supporting the PTP interactive interconnected system, a URL electronic data device **90**, a plane media product **41** and a numeric mark, wherein the communication terminal product supports a remote communication function; the communication terminal product supports a short distance communication function; and the URL electronic data device **90** consists of a built-in URL electronic data device **91** and a trigger URL electronic data device **93**; the URL electronic data device **90** stores a URL electronic data combination; the plane media product **41** is attached with a numeric mark; the communication terminal product supports the input of a numeric character corresponding to the numeric mark; and an operating system of the communication terminal product receives an instruction

from the numeric mark, calls out paired URL electronic data stored in the URL electronic data device **90**, and sends a relevant request to a back-end server after processing the paired URL electronic data, and the back-end server returns an electronic file associated with the URL electronic data according to the relevant request.

[0054] The communication terminal product supports the remote communication function, and requests a relevant telecommunication network to return an electronic file associated with the URL electronic data.

[0055] The communication terminal product supports WIFI (Wireless Fidelity) technology, and requests a connected WIFI device to return an electronic file associated with the URL electronic data.

[0056] The short distance communication function of the communication terminal product supports Bluetooth technology, and obtains the URL electronic data from a relevant external product.

[0057] The URL electronic data transmission device sends the URL electronic data containing an identifier of the PTP interactive interconnected system by means of Bluetooth technology.

[0058] When the communication terminal product is within a transmission range of the URL electronic data, the communication terminal product supporting the PTP interactive interconnected system can display a PTP information sensing symbol.

[0059] The specific operation of the technology of the present invention is divided into two types of methods as follows.

[0060] The first method: a user presses a PTP functional key to immediately receive the electronic file associated with the URL electronic data sent by the URL electronic data transmission device.

[0061] As shown in FIG. **1**A, the returned electronic file is browsed through a display screen of the communication terminal product.

[0062] The second method: a user presses a PTP functional key so that a PTP operation interface appears on the display screen of the communication terminal product, and then selects a different numeric character as required to conduct an operation.

[0063] As shown in FIG. **1**B, the URL electronic data contains geographical data and provides a call service for a public taxi shelter, the back-end server returns an electronic file associated with the URL electronic data according to a relevant request, and meanwhile, a relevant service can be provided according to the geographical data.

[0064] The URL electronic data device **90** consists of a built-in URL electronic data device **91** and a URL electronic data sending device **93**.

[0065] The built-in URL electronic data device is equipped in the communication terminal product, the built-in URL electronic data device stores an raw URL electronic data combination.

[0066] As shown in FIG. **2**, the URL electronic data transmission device is equipped in the plane media product and sends the URL electronic data to activate the raw URL electronic data combination stored in the built-in URL electronic data device of the communication terminal product, and transforms the raw URL electronic data combination into another new set of URL electronic data combination.

[0067] Not only can numerous user requirements in the market be met, but also the chaos caused by the overlapping of numeric marks is prevented. The numeric character of the numeric mark is correspondingly paired with the URL electronic data stored in the URL electronic data device **90**.

[0068] As shown in FIG. **2**A, a design solution of the present embodiment is as follows: the raw URL electronic data combination of the built-in URL electronic data device **91** is a series of 0000+(0001~9999); the URL electronic data transmission device **93**A has the URL electronic data of "0001", activates the raw URL electronic data combination stored in the built-in URL electronic data device **91** of the communication terminal product and transforms the raw URL electronic data combination into another new set of URL electronic data combination; and the raw URL electronic data combination is transformed from the series of 0000+(0001~9999) into the series of 0001+(0001~9999).

[0069] As shown in FIG. **2**B, a design solution of the present embodiment is as follows: the raw URL electronic data combination of the built-in URL electronic data device **91** is a series of 0000+(0001~9999); the URL electronic data transmission device **93**B has the URL electronic data of "0033", activates the raw URL electronic data combination stored in the built-in URL electronic data device **91** of the communication terminal product and transforms the raw URL electronic data combination into another new set of URL electronic data combination; and the raw URL electronic data combination is transformed from the series of 0000+(0001~9999) into the series of 0033+(0001~9999).

[0070] The URL electronic data transmission device **93** continuously sends single URL electronic data in a set time.

[0071] If necessary, the URL electronic data transmission device can be set to continuously send a plurality of URL electronic data in a set time.

[0072] The numeric mark attached on the plane media product **41** is correspondingly paired with the URL electronic data combination stored in the URL electronic data device **90**.

[0073] The plane media product **41** is provided with a light source function system, and the URL electronic data sent by the URL electronic data transmission device **93** is matched with a change in a light source function.

[0074] A user operates through a smart phone under the guidance of the change in the light source function of the plane media product, thereby achieving a point to point effect.

[0075] It is particularly emphasized that this mode may provide more convenience for the visually disabled people and the aurally disabled people to use the public facilities of the society.

[0076] The plane media product includes public media advertising boards, traffic boards on public roads, publication and guide boards for public tourism, guide boards for emergency services, public bus shelters, taxi call service shelters, banking service points and the like.

[0077] Sources linked to the URL electronic data are from various aspects, including memory, cloud storage, webpages based on login settings and the like, and the relevant technologies will not be explained in detail any more since they are extremely conventional and common in the market.

[0078] To improve the efficiency of a traditional product, there have been different technical solutions in the market, including the solution of two-dimensional barcode/quick response code patterns, the solution of NFC technology and

the solution of RFID technology and the like. Relevant technical solutions and the application of the technology of the present invention are compared as follows.

[0079] The information contents of the plane media products (such as advertising boards for public promotion and public traffic symbols) are based on plane information technology, and a user needs to enter a website to conduct a connection operation if he/she wants to obtain the further information content of the plane media products, which is quite troublesome.

[0080] As shown in FIG. **3**A, the plane media product is embedded with a two-dimensional barcode/quick response code pattern **52** (a plane information technology) to enable a visitor to log on to a website of the relevant electronic address data and follow the relevant advertising content, with the steps as follows:

[0081] 1. scanning a two-dimensional barcode/quick response code pattern and processing and transforming the same into URL electronic data, through a smart phone;

[0082] 2. logging on to the website of the relevant URL electronic data; and

[0083] 3. conducting a traditional webpage search operation.

[0084] The following provides relevant embodiments of the technology of the present invention.

[0085] As shown in FIG. **3**B, the traditional plane media product is simultaneously embedded with an NFC module **53** (an electronic information technology) to enable a visitor to quickly log on to a website of the relevant electronic address data and follow the relevant advertising content, with the steps as follows:

[0086] 1. approaching the NFC module through a smart phone to obtain the URL electronic data;

[0087] 2. logging on to the website of the relevant URL electronic data, and

[0088] 3. conducting a traditional webpage search operation.

[0089] A very short distance is supported only based on the NFC technology, and when a visitor conducts an operation, other visitors may be obstructed from conducting the operation (including a visit sight).

[0090] The following provides the relevant embodiments of the technology of the present invention.

[0091] As shown in FIG. **3**C, in Embodiment 1, after a plane media product employs the technology of the present invention, a corresponding numeric character **03** is entered into the communication terminal product **38** (a smart phone) according to a numeric mark (a guide) of the plane media product; an operating system of the communication terminal product receives an instruction from the numeric mark, calls out URL electronic data paired with **03** and stored in the URL electronic data device **90**, and sends a relevant request to a back-end server after processing the paired URL electronic data, the back-end server returns an electronic file associated with the URL electronic data of **03** according to the relevant request, and the electronic file is browsed through a display screen of the communication terminal product.

[0092] As shown in FIG. **3**D, in Embodiment 2, after a plane media product employs the technology of the present invention, a corresponding numeric character **03** is entered into the communication terminal product **38** (a smart phone) according to a numeric mark (a guide) of the plane media product; and an operating system of the communication terminal product receives an instruction from the numeric mark, calls out URL electronic data paired with **03** and stored in the URL electronic data device **90**, and sends a relevant request to a back-end server after processing the paired URL electronic data, the back-end server returns an electronic file associated with the URL electronic data of **03** according to the relevant request, and the electronic file is browsed through a display screen of the communication terminal product.

[0093] It is particularly indicated that the raw URL electronic data combination of the built-in URL electronic data device **91** of the communication terminal product has been activated and transformed into another new set of URL electronic data combination, and thus, the electronic file here may be a different file compared with the electronic file associated with the URL electronic data of **03** and returned in Embodiment 1.

[0094] As shown in FIG. **4**A, in Embodiment 3, in the event that a large company holds a city-wide marketing and promotion activity which employs a uniform design for print advertising content, consumers from different locations of promotion regions may obtain specific activity data regarding branches from different regions.

[0095] As shown in FIG. **4**B, in region A, a consumer obtains URL electronic data A corresponding to a numeric mark through a smart phone, where the URL electronic data A corresponds to the relevant electronic information provided by a branch from region A.

[0096] But in region B, a consumer obtains URL electronic data B corresponding to a numeric mark through a smart phone, where the URL electronic data B corresponds to the relevant electronic information provided by a branch from region B.

[0097] However, in region C, a consumer obtains URL electronic data C corresponding to a numeric mark through a smart phone, where the URL electronic data C corresponds to the relevant electronic information provided by a branch from region C.

[0098] The technology of the present invention provides a technical solution having a category different from that of the solution of two-dimensional barcode/quick response code patterns, and thus has distinct effects as follows:

[0099] 1. basically no limit from distance;

[0100] 2. basically no impact from light conditions;

[0101] 3. accuracy superior to that of the solution of two-dimensional barcode/quick response code patterns; and

[0102] 4. fewer impacts to the aesthetic appearance of an advertising board due to substitution of the two-dimensional barcode/quick response code pattern with the numeric character.

[0103] With reference to the effects of the relevant embodiments above, the technology of the present invention is obviously superior in terms of operation, fabrication cost and transmission effect compared with relevant technical solutions and product solutions in the market, and the technology of the present invention will be further developed to affect all the links of a commercial chain and create a brand-new form of commercial mode and value chain.

[0104] Though the technology of the present invention is disclosed with the embodiments above, the scope of the technology of the present invention is not limited thereto, and all the components above may be substituted with other

similar or equivalent elements known to those skilled in the art without departing from the conception of the technology of the present invention.

1. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet, comprising a communication terminal product supporting the PTP interactive interconnected system, a URL electronic data device, a plane media product and a numeric mark, wherein

the communication terminal product supports a remote communication function;

the communication terminal product supports a short distance communication function;

the URL electronic data device consists of a built-in URL electronic data device and a trigger URL electronic data device;

the URL electronic data device stores an URL electronic data combination;

the plane media product is attached with a numeric mark;

the communication terminal product supports the input of a numeric character corresponding to the numeric mark; and

an operating system of the communication terminal product receives an instruction from the numeric mark, calls out paired URL electronic data stored in the URL electronic data device **90**, and sends a relevant request to a back-end server after processing the paired URL electronic data, and the back-end server returns an electronic file associated with the URL electronic data according to the relevant request.

2. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **1**, wherein the communication terminal product supports the remote communication function, and requests a connected telecommunication network to return an electronic file associated with the URL electronic data.

3. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **1**, wherein the communication terminal product supports WIFI (Wireless Fidelity) technology, and requests a connected WIFI device to return an electronic file associated with the URL electronic data.

4. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **1**, wherein the short distance communication function of the communication terminal product supports Bluetooth technology.

5. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **1**, wherein the URL electronic data transmission device sends the URL electronic data containing an identifier of the PTP interactive interconnected system by means of Bluetooth technology.

6. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **5**, wherein the URL electronic data contains geographical data.

7. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **1**, wherein the URL electronic data device consists of a built-in URL electronic data device and a URL electronic data transmission device.

8. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **7**, wherein the built-in URL electronic data device is equipped in the communication terminal product, and the built-in URL electronic data device stores an raw URL electronic data combination.

9. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **7**, wherein the URL electronic data transmission device is equipped in the pint media product and sends the URL electronic data to activate the raw URL electronic data combination stored in the built-in URL electronic data device of the communication terminal product, and transforms the raw URL electronic data combination into another new set of URL electronic data combination.

10. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **1**, wherein the URL electronic data transmission device continuously sends single URL electronic data in a set time.

11. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **1**, wherein the numeric mark attached on the print media product is correspondingly paired with the URL electronic data combination stored in the URL electronic data device.

12. A PTP interactive interconnected system supporting a connection of a plane media product with the Internet of claim **1**, wherein the plane media product is provided with a light source function system, and the URL electronic data sent by the URL electronic data transmission device is matched with a change in a light source function.

* * * * *