

printing data are all XHTML-Print data. It is understood that data described in a markup language other than the XHTML language can also be applied, instead of the XHTML-Print data, in the embodiments.

[0022] The XHTML-Print printing data setting unit 110, the XHTML-Print extension data generation unit 130, the XHTML-Print basic data storage unit 140, and the XHTML-Print printing data generation unit 150 are all included in a terminal, and an image forming apparatus is connected to the terminal by a wired or wireless connection. However, it is understood that, according to other aspects, the terminal may be connected to a data storage apparatus, such as a network sever, and/or may store the XHTML-Print data in a storage unit or a recordable medium, such as a CD, disk, DVD, flash memory, or SD card. The image forming apparatus can print printing data described in an XHTML-Print language, i.e., XHTML-Print printing data (XHTML-Print Contents). Examples of the terminal include a mobile phone, a digital camera, a computer, and a personal digital assistant (PDA). Also, examples of the image forming apparatus include a printer and a multi-function peripheral (MFP) having a printer function.

[0023] Data desired to be printed among data stored in the terminal may be data having standardized contents (standard data). The standard data is data whose contents are classified by standardized elements. Accordingly, standard data items of an identical type have common elements. That is, a standard data item, such as a specific text message, has the same elements as a same-type standard data item, such as another text message. Short message service (SMS) data, multimedia messaging service (MMS) data, and e-mail data are examples of the standard data types. For example, in the case of SMS data, standard data elements can include data corresponding to a caller (From), data corresponding to a callee (To), data corresponding to message contents (Message), data corresponding to a received time (Time), data corresponding to a degree of importance (Priority Level), data corresponding to a security requirement degree (Privacy Level), and/or data corresponding to accumulated response times (Number of Replies). According to an aspect of the present invention, From, To, Message, Time, Priority Level, Privacy Level, and Number of Replies are standardized elements of the SMS data.

[0024] The XHTML-Print printing data setting unit 110 sets printing-related options to determine contents to be printed from among contents of one or more standard data items desired to be printed. Examples of the printing-related options may be a size of a print medium the XHTML-Print printing data will be printed on, which standard data items will be printed, and data items of which element will be printed from among standard data items desired to be printed.

[0025] The XHTML-Print printing data setting unit 110 includes a print medium size information storage unit 112, a print medium size specifying unit 114, a user interface unit 116, a standard data storage unit 118, a standard data selection unit 120, an element extraction unit 122, and/or an element selection unit 124. However, it is understood that according to other aspects, the XHTML-Print printing data setting unit may include other units to store and/or select other types of printing-related options.

[0026] The print medium size information storage unit 112 stores print medium size information. Here, the paper size information is information about available sizes of print

media on which XHTML-Print printing data is to be printed. The print media may be paper, or any type of tangible medium on which content may be printed, such as a transparency.

[0027] The print medium size specifying unit 114 commands the user interface unit 116 to display the print medium size information stored in the print medium size information storage unit 112. In this case, the user interface unit 116 displays the stored print medium size information. By doing so, the user can recognize what sizes of print media on which XHTML-Print printing data may be printed are available.

[0028] Then, the user may specify a desired size through the user interface unit 116 or by manipulating keys disposed on the terminal. According to other aspects, the user may specify a desired size through other methods and/or devices, such as a touch screen and/or a scroll wheel. By doing so, the paper size specifying unit 114 specifies the size selected by the user from among the stored paper sizes. Also, the print medium size specifying unit 114 reads information on the specified size from the stored print medium size information, and outputs the read information on the specified size to the XHTML-Print extension data generation unit 130.

[0029] The standard data storage unit 118 stores one or more standard data items. The user interface unit 116 displays the stored standard data according to an instruction from the standard data selection unit 120. By doing so, the user can recognize which standard data items are stored in the terminal. Then, the user can select one or more standard data items desired to be printed through the user interface unit 116 or by manipulating keys disposed on the terminal, and/or by other methods, such as a touch screen and/or a scroll wheel. By doing so, the standard data selection unit 120 can select one or more standard data items desired to be printed from among the stored standard data items. Meanwhile, the standard data selection unit 120 outputs the selected standard data to the XHTML-Print extension data generation unit 130.

[0030] The element extraction unit 122 analyzes elements of each of the selected standard data items. By doing so, the element extraction unit 122 extracts one or more elements appearing in the selected standard data, and commands the user interface 116 to display the extracted elements. The user interface unit 116 then displays the extracted elements. Also, the element extraction unit 122 classifies the selected standard data items in relation to extracted elements, and matches the classified data items with the extracted elements.

[0031] The element selection unit 124 selects one or more elements desired to be printed by the user from among the displayed elements. For this, the element selection unit 124 displays, for example, a window to request selection of elements desired to be printed through the user interface unit 116. Then, the user may select elements desired to be printed through the user interface 116 or by manipulating keys, and/or other methods, such as a touch screen and/or a scroll wheel, disposed on the terminal. By doing so, the element selection unit 124 selects elements desired to be printed.

[0032] If elements are thus selected, the element selection unit 124 provides information on the classified data matched with the selected elements and the selected elements to the XHTML-Print extension data generation unit 130.

[0033] The XHTML-Print extension data generation unit 130 generates XHTML-Print extension data, by using the