

[0028] , where it is first checked whether the device supports audio-files. If the device is a printer that does not support audio, the element is changed into a picture of bird.

[0029] Continuous or streamed media (e.g. animation or video) can be converted to non-continuous media when applicable, or removed. The conversion can be made for example by choosing one (first, last or one between) video frame and converting it to still image of same size.

[0030] When the presentation is “cleaned”, temporal aspects of the presentation are studied by means of a time axis. One example of the time axis is shown in FIG. 3. Here the time-axis represents events of the message in time t. At the beginning (t=1) only the first image IM1 is displayed in the message. Next (t=2), the second image IM2 is displayed in the same region as the first image and the first image IM1 is not shown. After this (t=3), the third image IM3 is displayed with the second image IM2 and then (t=4) the fourth image IM4 is displayed with the third IM3 and the second image IM2, because they all IM3, IM4, IM2 use different regions. FIGS. 4a-4d represent the phases of the displays. Each of the FIG. 4a-4d show on the left side from the viewer a figurative display and on the right side from the viewer a display in principle. A first image IM1 is displayed in region R1 (3a), a second image IM2 is displayed also in region R1 (3b) and the first image is not shown anymore. A third image IM3 is displayed in region R2 (3c) and a fourth image IM4 is displayed in region R3 (3d). Each temporal event (appearance of an object) on time axis creates a new printable output. In other words each formed printable output consists of one temporal event.

[0031] When the time axis analysis is done, the resulting events are studied. All events without spatial overlap (e.g. overlap of two images) can be combined into same output. In the situation of FIGS. 3 and 4, this means that the first and second events IM1, IM2 cannot be combined, since they use the same region R1. They need to be printed separately. The third and the fourth events IM3, IM4 are combined into same output, since they have images in different regions R2, R3. The second and the combined last events are combined, since they use different regions for the images. The reason why the first event is not combined with the last events is because it is temporally further to them than the second one. However it is obvious that the combination not necessarily need temporally closer events. Depending on the situation, the combined event can be chosen.

[0032] The resulting one or many printable outputs (combined/separated) are then printed. Printing is done, depending on a print device and a use, as multiple printouts or as a single printout. The multiple outputs can be scaled to fit adjacent slots in the printout, single output can be scaled to fill the printout or outputs can be printed as they are. It is obvious that the invention discussed here is not limited to printing, the outputs can be printed in any possible way.

[0033] The above-discussed method according to the invention can be applied also to lower versions of SMIL. As an example of such version is MMS SMIL or other relevant Open Mobile Alliance (OMA) standard messages or other corresponding multimedia messages, which are comprised of “slides”. At first the MMS message to be printed is analyzed and the irrelevant elements for printing (sometimes e.g. AMR- or MIDI-sound; MMS streaming elements) can be removed. The video objects can be converted to image

objects (e.g. GIF, JPEG) of the same frame size. The selection of which frame is converted varies depending on the situation. The first or the last frame can be converted, but also any frame, or any set/combination of frames between them can be converted. Also it is possible to convert frames for example in every minute or in any other time interval. The originator of the message may define the frames that are preferably used for converting. The converted video images are from then on processed as images. Each slide of MMS SMIL presentation can be considered to be one event as in the 3GPP SMIL, and each results in new printable output. Since MMS SMIL defines only one image and text region, all images and texts are fully spatially overlapping. Thus the page combination may not be done. Due to this, the slides of MMS SMIL presentation will be printed either into/to multiple printouts or as adjacent slots in a single printout, depending on the use and the print device.

[0034] The basic idea behind the use of the invention is that the recipient of the multimedia message prints the message out or that the creator of the electronic presentation prints the presentation out. One example is that the recipient is a service provider, e.g. a postal service provider, whereupon a user (referred here by “sender”) of a mobile terminal, when wanting to send a postcard to someone, sends a multimedia message to the service provider. At first the sender composes a multimedia message with, for example, desired image and text, and sends the message to the service provider who prints the message out according to the invention and delivers the printout, such as a postcard shown in FIG. 6, to the recipient. In this situation the sender can define e.g. which frames are converted into images and printed or how a sound-file is replaced. A background B of the postcard can comprise of an text field T, an address field A for the address of the recipient. The foreground F of the postcard can comprise the multimedia message IM sent.

[0035] Another example would be that the recipient is just a normal user, who receives a multimedia message that he/she wants to print out. In this situation the recipient him-/herself can define the print options, such as frames to be converted and printed or how a sound-file is replaced. Also, the creator of an electronic presentation can print the presentation out. In both cases the printing can be done by means of a printing service, a personal printing device, a personal computer, etc.

[0036] The steps of a method is illustrated in a very principled manner in FIGS. 5a and 5b. The main difference between FIGS. 5a and 5b is an order of a performance. In the method of FIG. 5a only one object is processed in time, after which the others are processed. In the method of FIG. 5b all the objects are processed and after that they are all combined or separated. These figures are just examples of how the method according to the invention can be carried out. These examples should indicate, that different orders for performance can exist and that the invention is not limited to them.

[0037] The method according to the invention is carried out by a computer program in an electronic device. The electronic device is, for example, a mobile device with communication capabilities. An example of such a device is shown in FIG. 6. The device can be a mobile phone, communicator, PDA (portable digital assistant) or similar comprising also means, e.g. a display D, for reading/viewing