

It is a further object of the present invention to provide an e-mail message enhancement apparatus that allows for the transmission, reception and layout of interesting different types of content.

The above objects of the present invention, among others, are provided by the present invention through the e-mail message enhancement apparatus which is preferably implemented through a sequence of program instructions and achieved as attachments to e-mail message. On the sender side, creation software implements a data format that allows for differing types of digital content. Furthermore, in addition to such content in the e-mail message, there is included attachments, header information, including the e-mail address of the sender, and recipient executable embedded software that ensures the recipient will be able to view contents and perform the functional attributes that make up the e-mail message.

In a preferred embodiment of the invention, the executable software that is transmitted as part of the e-mail message is written using Java programming language and contains a self-opening message feature, such that the container automatically opens and is initially viewed with all of the desired content appearing. Thereafter, depending upon the content originally included by the sender, and the action taken on the part of the recipient, different portions of the content and functional attributes are highlighted. Such content and functional attributes will be viewable, regardless of the e-mail platform of the recipient, due to the inclusion of the executable software in the e-mail message itself that is transmitted.

Through the use of a data structure that allows for a plurality of component objects to be included in a single e-mail message, as well as a plurality of sub-component objects to be associated with each component object, an e-mail message having robust content and functional attributes can be achieved.

In a specific embodiment of the invention, the e-mail message that is transmitted has a plurality of component objects, with one of the component objects representing the front face of an envelope, and different other component objects including, but not limited to, recipient address, sender address, stamp, digital time stamp, and an envelope open attribute so that the e-mail message appears on the recipient's computer screen like an envelope. When the e-mail message is opened using the envelope open attribute, or subsequently closed, verification of message receipt is automatically forwarded back to the original sender. In a specific form of this embodiment, both sides of the envelope can be represented, with another component object representing the back side of the envelope and the envelope open attribute that allows for attachments or messages within the envelope to be viewed appearing on the back side of the envelope.

In another specific embodiment of the present invention, the e-mail message that is transmitted has a plurality of component objects, with one of the component objects representing