Multimedia Messages: Concept, Characteristics, Nature and Constituent Elements

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Abstract: *Multimedia messages are distinctly featured by particular characteristics and their nature. Approaching the theory of multimedia messages, this study addresses the constituent elements of multimedia messages, suggests applications in digital content creation, and contributes to the development of the current content industry.*

Keywords: *multimedia, multimedia message, multimedia storytelling, digital content, communications, storytelling, storytelling photography, interactive storytelling.*

1. Multimedia messages: concepts, characteristics and nature

"Message is the content of information exchanged from the source to the recipient, encoded in a certain system of symbols, mutually accepted and understood by the source and the recipient who have a similar ability to decode"[1]. On the basis of the symbol system used to encode messages, messages can be classified into written messages such as text messages and still images; audio messages, animation messages, radio messages, television messages, and multimedia messages. In communication programs and campaigns, it is necessary to design three types of messages: the target message, also known as the primary message – the only and overall message for the entire media program and campaign; the specific message, for specific recipient groups or specific communication stages; and document messages and communication products.

In order to build the concept and understand the characteristics and nature of multimedia messages, it is necessary to analyze the origin of the concept of multimedia communication, with two terms: "multimedia" – mostly approached by computer science; and "multimedia communications" – the concept widely used in the field of communication science, in which the use of multimedia is a featured method in all elements of the communication process, platforms, and ecosystems.

D. Marshall (2001) defines: "Multimedia is the field concerned with the computer controlled integration of text, graphics, drawings, still and moving images (video), animation, audio, and any other media where every type of information can be represented, stored, transmitted and processed digitally"[2]. The essential signs of multimedia include: 1) a computer-based technique in which various means of information transformation are simulated and used simultaneously; 2) a means of information transformation which includes text, images, sound, video, graphics,

animation, and any other media; and 3) all kinds of information in multimedia are represented, processed, stored, transmitted, produced and presented digitally and synchronously on digital platforms and ecosystems. Unlike other traditional forms of communication, "multimedia communications" are based on the combination of many media; data is represented, processed, and stored digitally, in various forms of information transformation; data is synchronized on the digital platform and ecosystem; and information technology and computer networks are used in the creation, design, production and transmission of messages. Multimedia products are produced, stored, transmitted, and distributed to viewers via computer networks, electronic media or smart devices.

Thus, a multimedia message is a type of communication message in which encryption and decryption are performed based on a combination of multiple media; the data that makes up the message is represented, processed and stored digitally, in various forms of information transformation; synchronized on the digital platform and ecosystem; and designed and delivered to recipients via computer networks, electronic media or smart devices. Understanding the nature of multimedia messages is the theoretical basis for the design, editing and production management of multimedia products. In addition to the general characteristics of a media message, a multimedia message has the following main characteristics.

First, *communication messages are multimedia based.* Both content and forms of messages are based on multimedia elements. Multimedia messages simulate and use multiple medias to transform information simultaneously.

Second, *multimedia messages are data based.* Information is digitized, analyzed, processed and stored into digital data, used through computer networks and a good transmission environment, a high-quality internet connection. This means multimedia messages always live in the digital media ecosystem. The input and output method of multimedia communication is digital. After being analyzed and processed, the output data is always synchronized.

Third, *multimedia message designs are based on interactive programs*. Interactive programs play an important role in creating interactions between media subjects and the media public, creating a mechanism for the media public to participate in the communication message design process. Interactive programs are a requirement for designing multimedia messages. Interactive programs allow for multi-dimensional and direct interaction such as livestreaming programs.

Multimedia messages are characterized by the following factors.

– *Real time:* Real-time "is a term that refers to the time-frame in which the system relays information to the user at near-instant speed or with an extremely short delay from when an event occurs"[3]. Through the platform in the internet environment, media subjects can at the same time create content, organize production, access and receive media messages, interact and respond. Live streaming and teleconferences are good examples of real-time multimedia

communication. Because of the real time, the multimedia public can receive and participate in the co-design of media messages, creating new messages from the general messages which were previously designed.

– *Interactivity:* Interactivity between subjects is considered a typical characteristic of multimedia communication. Multimedia products or applications allow direct interaction anytime, anywhere between two or more individuals, for example: interactive comments on Facebook or by livestream, online training, or chat-box. Multimedia communication has the highest level of interactivity and experience space. There are two types of multimedia subject interactions, including interaction with media content and interaction between media subjects. The multimedia public can interact with multimedia messages anytime, anywhere. They have the ultimate choice of content thanks to the support of platforms or applications. The interactivity of multimedia messages leads to a need for a combination of generalization and customization in each element as well as content creation, production organization, development and application of multimedia communication in all areas.

– *Synchronization of information and data:* Multimedia requires the synchronization of the relationships of content, space and time. Steinmetz and Nahrstedt (1995) state: "Synchronization in a multimedia system represents the temporal relationship between media objects in the multimedia system. In future multimedia systems, synchronization also represents spatial and content relationships between media objects"[4]. All content changes must be synchronized at the same time, when data changes in one frame, the data in other frames must also change. For example, in a spreadsheet using data and graphics, space and time factors must meet synchronization standards. Similarly, objects in a 3D virtual reality environment (VR3D) such as audio, graphics, video, etc. must be synchronized. The Cascading Style Sheets (CSS2) standard requires a uniformly formatted language to represent an HTML or XML document. A multimedia system is a system or application that supports the integrated processing of some kinds of media with at least one time-dependent medium[5].

– *Convergence:* In communications, the term "convergence" is used to "describe a wide range of different developments and transformations at the technological, industrial, cultural, social, spatial and political level"[6]. Multimedia messages are not a pure addition of media; the content and form of the message must "converge" on at least the following aspects: content – telling a story with specific content, with themes, topics, character plots and events, as well as details, and form and technology, including genre, layout and language.

2. Content elements of multimedia messages

Content elements of multimedia messages include three main groups: theme, topic and story strategy; events, issues, characters and plot strategies; and details and views of journalists and communicators.

– *Theme, topic and story strategy*

A "theme" is a slice of reality reflected in works and products. That is the event and issue that journalists and communicators aim for, perceive and reflect in their works and products. Themes are very diverse problems posed in life. The theme does not depend on the narrow or wide scope of the problem or event, but is often objective, exists in reality and does not depend on the journalist"[7]. That "slice of reality" is usually a large area in society for example economics, culture, foreign affairs, or the environment. Some examples of themes are economics, environment, children, science and technology. In order to identify themes, it is necessary to analyze objective issues and current events, to grasp social trends, relevance and the public's interest in those events or issues. Therefore, journalists and communicators need to learn and do actual research to have good data and choose an interesting theme. A "topic" is an issue that interests investigative journalists and communicators. It clearly defines the scope for implementation. Topics are always narrower in scope than themes. For example, if the theme is children, topics can be children with disabilities, life skills education for children, protection of children's rights, children with special circumstances, or protection of children during the Covid-19 pandemic.

– *Events, issues, characters and plot strategies*

Content of multimedia messages is incomplete without events, issues and characters. It is necessary to answer questions: what event is conveying this message? Why is it that event and not another; what issues are mentioned and who are the characters mentioned? Why is that character choosen and built? Event, problem and character must be a unified block, determined on the basis of careful consideration of the public portrait, aiming for a public approach and reception; aiming for the character of the story in which the character must be clearly defined.

– *Character creation strategy*

Before telling a story, the narrator must determine who the character is, what kind of person he is, what personality and attitude he has, whether it is positive or negative, and why this character is choosen. Certain genres of multimedia productions, such as short films, MVs, podcasts, or portrait megastories require a character creation strategy. For example, with the short film genre, we do not have enough time to fully exploit the factors surrounding the character such as relationships because the length of the short film is limited. It is difficult to solve complex problems. The complexity revolves around the relationships between the characters or the complexity comes from external factors. Therefore if it is a journalistic work, product or documentary, journalists and communicators must find a typical character in real life or if it is a good cartoon or short film with non-journalistic content they must create a main character with inherent complexities, which is appropriate to the genre and content of the story.

Plot strategy is the arrangement of a sequence of events that takes place around a character. In a story, the stronger the barriers that prevent the protagonist from achieving his goal, the more compelling the plot. The barrier for the character and the achievement of the character's goal is the "conflict." Characters, plot and conflicts are closely related to each other. Conflicts also show how much the character wants to achieve his or her goal, creating a proportionality in the principle of creating conflict. The greater the character's desire, the greater the conflict. The most basic method for creating a good plot is to add new elements to a situation that is already familiar to the reader or viewer, in order to both arouse empathy and create curiosity and to attract viewers to follow the development of the story.

– Details and viewpoints of journalists and communicators

The plot strategy is formed on two main factors: the surprise and the increasing level of action in the development of the story. The element of surprise is especially important in a story. A story without the element of surprise is unable to maintain the audience's attention to the end of the story. Boredom is likely to discourage the audience to follow and join the story with the narrator. The task of the narrator is to maintain the pace of the story, to create a coherence between details and episodes and to stimulate the viewer's curiosity.

The element of surprise can be found in an unexpected detail that comes from an external factor or a character's unexpected behavior. In either case, the reversal of the developments or the element of surprise upsets the predictions formed in the process of the audience following the story; the element of surprise or a reversal is maintained and built on the curiosity of the audience. Rising actions are featured by elements of surprise which are pushed to a climax and become more dramatic in the flow of the story. In other words, elements of surprise are the springboard to push the story to the climax. The climax is the brightest point of a story and often the most anticipated. The climax is the dramatic turning point of the script, the reason for the narrator to tell his story. Without rising actions, the climax would not be a climax but simply another event in the story. When the story reaches its climax after a series of rising actions take place, the ending will unfold, offering a solution that resolves all the conflict and problems posed in the flow of the story. This is also the final part of the plot.

There are many films that successfully use this method, such as "Be With You" (2018), based on the novel by Takuji Ichikawa. The work is about a family of three, the mother has died young, leaving the father and son in a small house in a peaceful countryside. On a rainy day, the father and son went to the place they had made an appointment with the mother when she was still alive, and the father and son meet the mother there again. This detail adds surprise and interest to the story. In this story, the new element here is the appearance of the mother despite having passed away. These new elements are critical factors, stimulating the viewers' curiosity, and making them want to know the upcoming events. The

detail of the mother reappearing is the moment when the narrator officially enters the story. A good storyteller finds the right moment to enter the story to create tension and draw the audience's attention to the story's progress. The views of journalists and communicators are expressed directly through spoken and written language, or through characters, or even through the expression of a song, a piece of music, or a verse.

3. Form factors of multimedia messages

The group of form factors of multimedia messages includes genre, language and layout.

– *Multimedia genre:* The elements that make up the multimedia genre include text, audio, video, graphics, and animation.

– *Text:* A newsletter is an electronic textual information product, a text-only format published to serve the masses. The information is received through the reading channel by information recipients in general. Currently, this is the most basic information channel for multimedia communication, an indispensable component of multimedia communication products. In general, in a page of a multimedia product, text still makes up the largest part. Text has the ability to fully and completely convey the message content. It is often used to show the main content, lead the article and is often combined with still images, graphics to increase the attractiveness and authenticity of the information. In addition, text is also used to annotate, provide, and clarify information for videos, images, and graphics. The style, size, and color of the font plays an important role in increasing or decreasing the attractiveness of the text. Therefore, their use is carefully calculated by the designers. The font used on an electronic newspaper is usually uniform, popular, and available on the computer when any operating system is installed. This ensures that readers on any computer can easily view the text. Some common fonts in communication messages are Time New Roman, Arial, and Verdana. The font size in the text is used in a variety of ways, both to attract the readers' attention and to distinguish elements in the content of works such as the title, headings and main text.

– *Still image:* A still image consists of photographs and graphics. This is also the factor that accounts for the high percentage of its use in multimedia products. Each photo used tells a story. It acts as a witness recorded directly at the scene, increasing the authenticity of the work. It plays an important role in creating the success of multimedia products. The use of full-color digital images of multimedia products is also an advantage of its kind. In addition to authenticity, images also help to show life, making events lively and vivid in front of readers. A photograph taken at the right moment associated with an event will highlight emotions and emphasize important information that is worth many times more than words. Still images in multimedia products can stand alone, can be combined with text or used as links to other pieces of content. It is not only a factor that helps to increase the

accuracy of media information but also a tool to rest readers' eyes when reading long articles. The arrangement of pictures interspersed logically between blocks of text and paragraphs will relieve readers' boredom when receiving information. The number, size, and arrangement of photos depend on the media product. In addition to being illustrative, still images capture moments that are relevant to the event, highlight the event and create emotions, emphasize an important point in an article, or represent images combined and linked to other information via links. The number and size affect the weight of the multimedia data files. It takes up access time and reduces the download speed on personal computers. The larger the image, the longer the wait time. It is generally not advisable to use too many images, especially large images in a multimedia work or product. Before releasing, it is necessary to check the image size so that the image quality is not affected at the fastest speed.

– *Animation:* Animation in multimedia products is usually presented in two forms: slideshow and animation. A slideshow is a form of photo presentation consisting of many different images arranged according to a certain intent. The images will automatically display and follow each other on the interface screen to express certain information content of the article. Depending on the design of each multimedia product, the slides have different image transfer speeds, presentation interfaces, etc. There is often a caption accompanying each image in the slide to further clarify the content or to create a connection in the presented photos. In the slideshow, there is an audio slideshow which is a photo slideshow with audio. This is a form in which audio is used in a slideshow to integrate elements such as images, sounds and text of which images and sounds are the two main elements.

An audio slideshow brings information to the public in the most realistic and vivid way and creates emotions through photos that are paused for a while, enabling the public to follow that moment longer, more closely, deeper, thereby having a greater impact on public perception and emotions. Animation is a moving image based on the performance of still images according to the principle of animation. Unlike a slideshow, animation is the combination of nearly identical still images to create soft movement of the object in the image. Animation designers are the creators of the animations which are found in feature films, commercials, video games, websites and other media. Animation products can be recorded for both slide shows and animations. Analog media consists of products such as flip books – picture books that create a sense of motion when turning pages rapidly; film; video and digital media. Some products are GIF animation, flash animation or online cartoons – animations designed for the internet or digital video.

– *Graphics:* Graphics are images drawn and designed by computer programs and graphics application software to describe and illustrate certain details and ideas. The combination of shapes and colors in graphics creates images and spaces

with depth. Graphic information is essentially a form of expressing information by means of graphs, charts, tables, maps, diagrams, etc. Thanks to its distinct visual language, graphic information also has the ability to express details with a harmonious arrangement and intentional content and form. Graphic information helps people to receive information quickly, is easily understood, remembered and creates an impression. The graph is one of the forms of non-text information used quite a lot in multimedia products. Especially useful in the field of economics, graphs bring about high impact, objective and clear information. Charts are used more and more in multimedia productions, making it easier for readers to see the correlation between numbers. They do not have to write numbers and lengthy interpretations. There are a number of chart types such as the "column chart" consisting of horizontal and vertical columns, and the "pie chart." Charts allow readers to reflect on the magnitude of the problem. A "table" is data or information which is arranged, clearly divided by columns, rows and still presented in text. It is especially suitable for statistics. There is no need to express much, just with a statistical table, the numbers will appear before the readers' eyes in details and also help them compare the figures over many different periods.

– *2D and 3D images:* a 2D image is simply an image taken by reporters during the production of a work or may be reproduced by graphic software in a simple way. A 3D image is an image that is shown by graphic software in a more elaborate and in-depth way, the visualization is more clearly expressed. Normally, the graphics will be shown in a short video to represent or imagine a certain process or event, which is not recorded in time or has not happened yet.

– *Infographic:* a type of graphic design that mainly relies on visual images to simulate information data. With this type of design, users can easily collect data in the fastest way thanks to the inclusion of icons. The information on the infographic is presented very concisely so that users can read and understand it quickly. Recently infographics have become popular for complex information formerly presented on hundreds of pages. Infographics save time for readers, but creation of an infographic takes a long time.

In addition to the above forms, graphics are also represented as data boxes. That is, there are compact, detailed texts, but only about one or two objects are mentioned.

– *Audio:* Audio in multimedia products acts as a medium, conveying information to the public through its support in combination with other multimedia elements such as text and images. Audio is one of the multimedia elements in multimedia products that brings intimacy to the information recipient with the presence of a voice in the communication product. Audio files also increase the persuasiveness and accuracy of electronic journalistic products, especially in the case of interviews or witnesses recordings. That one is able to choose to receive information through attached audio files, helps save hours of reading lengthy text. The public will learn

how to properly present foreign works through the voice of native speakers, in addition to the pronunciation and stress in each specific work.

– *Video:* Video is a technology for capturing, processing, recording, transmitting and building moving images. Compared to moving images, video requires a greater sequence of images and it records sound directly from the scene. The size of the video is the largest among the six basic media types, so it takes a lot of storage space. The integration of video on multimedia products makes it a superior form compared to other forms of media. It is considered an important storytelling tool of multimedia products and helps readers tell life stories in an authentic, objective and vivid way.

The video itself has a lot of multimedia elements in it including images, text, and video. Video can contain dialogues, sound effects, multiple moving images in the same video and has no length limit. Text is presented with the recorded video to provide information to the reader in the fastest way. The video is also somewhat shorter in time, and only focuses on vivid details. These videos do not usually use commentary like on television, but texts that accompany the video and sound effects on the scene provide full information to the public. The interactive effects of these types of videos are often higher than the conventional representation of classic videos.

– *Mega-story (digital masterpiece):* is a genre of multimedia production based on big data using storytelling techniques with comprehensive and in-depth information about an issue with a specific and definite theme and topic, presented as a journalistic work or a communication product of great length on a multimedia platform. Data packages and journalism data are now implementing the production of journalistic products through a combination of traditional information gathering and the ability to tell a compelling story with richly digitized information programs to automate the process of gathering information from a variety of sources, or the use of software to find connections between different documents.

4. Layout, language and scripting in multimedia

The layout of a multimedia product is the story script and the method of expressing this story in a multimedia product. In other words, the script is a general guide for the production team to plan the content, which clearly provides the requirements for the content and structure of the product as well as the way to design that work. In a multimedia product, it is necessary to clearly define in what language the content will be presented – text, sound or visual. More specifically, to tell a multimedia story with multi-language codes, it is necessary to define the means and sequence and the coordination of language codes. Therefore, it can be said that the script is the result of a unified design between content, layout and multimedia language. There are many types of scripts: literary and journalistic scripts, film scripts, and multimedia production scripts among others. There are

sketch scripts and detailed scripts. In order to have a good draft script, the following questions need to be answered. What does the author want to say in this multimedia product? Why does the author want to convey this message? Who is the audience of this product? What does the author want to change through this product? A detailed script is a detailed plan for a multimedia story within a specified time frame or given length. It should be noted that each form of multimedia language presents its own narrative mode, leading to unlimited creative possibilities in multimedia storytelling. Finding the best mix of layout and multimedia language is key to building effective multimedia scripts./.

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