

Structuring and visualizing fictional and real life empirical concepts with emoji symbols: a case study of José Ángel Buesa's poetry and Borys Grinchenko's image

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Abstract

Emoji symbols are widely used in digital communication to express emotions, feelings, and moods. However, their potential for structuring and visualizing fictional and real life empirical concepts has not been fully explored. In this paper, we propose a novel technology of using emoji symbols to create and analyze digital representations of literary texts and cultural icons. We apply our technology to two case studies: the poetry of the twentieth century Cuban poet José Ángel Buesa and the image of Borys Grinchenko as a patron of the Borys Grinchenko Kyiv University. We use the Emoji Maker program to construct emoji signs that capture the essence and sensuality of the lyrical images and concepts. We also use the Voyant Tools web application to visualize the corpus data based on text mining and keyword analysis. We demonstrate that our technology enhances the understanding and appreciation of literary texts and cultural icons by activating students' thinking, developing creative attention, and fostering comprehensive digital literacy. Our technology offers a new model of digital presentation of fiction and culture that relies on the poly-functional emoji ousia and the polylaterral metalinguistic multimodality of the sign meaning. Our technology also poses some challenges, such as the technical limitations of the Emoji Maker platform, the subjective interpretation of emoji symbols, and the ethical issues of using emoji in academic contexts.

Keywords

emoji symbols, digital representation, fiction, culture, text mining, visualization

1. Introduction

Emoji signs, specific Unicode-based ideograms, have become a ubiquitous means of conveying emotions and impressions within written and read text. In our digital age, they serve as

3L-Person 2023: VIII International Workshop on Professional Retraining and Life-Long Learning using ICT: Person-oriented Approach, October 25, 2023, Kryvyi Rih (Virtual), Ukraine

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CEUR Workshop Proceedings (CEUR-WS.org)

punctiograms, pictograms, and ideograms that not only save space in our online communications but also express a wide range of emotions and moods based on what we see, hear, or read. In fact, emoji can be regarded as the hieroglyphs of the 21st century, encapsulating the nuances of our contemporary expressions [1].

As the realm of literary criticism undergoes a transformation, the intriguing potential of the Emoji Maker platform as a metalinguistic tool for analyzing literary works is gaining traction. This platform has the power to pique the interest of philology students in the study of fiction, fostering creative thinking [2]. Applying emoji to the analysis of fictional texts and broader concepts offers a condensed and synergistic approach to interpretation. This approach strips away unnecessary context and hones in on the core message. It enables the transmission of the content of major literary genres, such as stories, novels, and trilogies, through the modeling of one or more emoji. This not only sharpens the skill of creating visual texts but also prompts students to engage with the content on a deeper level, activating memory, critical thinking, and attention. Emoji can serve as a bridge to translate fiction, film, and other forms of media, as well as real-life experiences.

Furthermore, modernizing the structural and logical specifics of artistic image visualization through emoji can enhance the efficiency of conveying complex concepts. However, this endeavor is not without its challenges, as the use of emoji in visualizing text and images requires an understanding of the mental frames that represent individual and stereotypical aspects of human consciousness and memory, which can vary across ethnic, national, and cultural systems.

In this study, we aim to develop and test an information and communication technology (ICT) application that presents different genres of fiction and contextualized educational concepts using tools like Emojidom Smiley, Emoji Maker [3], and Voyant Tools (<https://voyant-tools.org/>). Our approach involves an algorithm for visualizing literary text images using abstract (non-artistic) representations, like the image of the patron of Borys Grinchenko Kyiv University. This approach fosters emotional intelligence among students, encouraging flexibility of thought and a creative approach to the visualization of ideas and images.

In the context of our study, ICT refers to the application of unified technologies, specifically software tools such as Emoji Maker and Voyant Tools. These tools enable students to create visual interpretations of poetic and artistic texts. With a limited set of tools, students draw upon their empirical experiences and sensory typology, including visual, auditory, and kinesthetic modes [4]. Moreover, students employ color schemes and general information about physiognomic characteristics [4] to model the facial features of lyrical characters in Emoji Maker based on contextual events, feelings, and phenomena.

This paper explores the intersection of technology and literature, presenting an innovative approach to literary analysis and emotional intelligence development. It showcases the potential of emoji and digital tools in the realm of literary studies and invites scholars and technologists to explore this exciting fusion of disciplines.

2. Literature review

According to Pidopryhora [2], "... the invasion of new technologies (computer, Internet) into the sphere of literature – changes the nature of authorship, the structure of text, the essence of reading and the form of interaction between the reader and the text, the level of communication interaction author – reader – text" [2]. Thus, emoji literature technology enhances the ability of philological students to convey the content of literature in the most appropriate characters or symbols.

Emoji researchers are convinced that these characters have great hypertext potential. For example, there have been attempts to translate the text of Herman Melville's novel "Moby Dick" via the appropriate emoji, called "Emoji Dick" [5].

Lebduska [6] concluded that emoji does not threaten the alphabetic literacy of the student, providing instead a means of creative graphic expression. This sentence is supported by the argument that in some cases emojis, on the contrary, help to explain the intentions or tone of the verbal text, but not without taking into account the cultural and contextual field. Therefore, the author of the article appeals to the conclusion of T. J. Mitchell: "In this replacing of text, emojis may be perceived as participating in the "protracted struggle" between the pictorial and the linguistic that T. J. Mitchell observed, "the relationship of subversion, in which language or imagery looks into its own heart and finds lurking there its opposite number" [6].

An emoji researcher Danesi [7] also takes up the dichotomous position. The author offers a number of interesting examples of the use of optical signs, emphasizing the increasing interest in the technological visualization of verbal texts using emoji. However, Danesi [7] questions the universality of the optical structure of emoji, which, in turn, also appeals to mental frames in sign generation.

Today, emoji is not only a linguistic tool, but also a psycho-physicalist one. By modeling this or that facial expression of an emoji, the author gives it the emotional touch that corresponds to the level of sensuality. The emoji face performs an informative function, that is, communicates to the interlocutor the emoji author's response to a text, which greatly diversifies written communication.

Consequently, by making sense of poetry with the help of a self-designed emoji corps in Emoji Maker platform, philological students have the opportunity to expand the range of emotions, moods and experiences that arise in the process of reading poetry and especially its interpretation. Emoji face expression is a student's creative approach to understanding the essence of prose and poetry. After all, all human feelings are expressed not so much in words as in facial expressions. So, we offer emoji modeling technique that reproduces the artistic meaning of poetry.

3. Research methodology

The following methods were used to solve the established problems: empirical – in the course of conducting an experimental study of emoji modeling in class with students; applying a systematic approach to consider an object as a system model; functional approach – to determine the functions performed by the model; pedagogical modeling [8] – for the study of pedagogical

objects (phenomena) by means of modeling of conceptual, procedural, structural-content and conceptual characteristics and individual “sides” of the educational process within the defined socio-cultural space at the general educational level; aspect analysis of the artistic text – for the separation of stanzas and content clusters; deductive – for sign assembly.

4. Research results

Natural language in its ousia is that macrocosm that is reproduced in the continuum of the world of things (Plato [9]). As we know, the efficacy of this subordination to a pragmatic world gives natural language the evolutionary status – capable of expansion, and most importantly capable of simplification. The latter, in turn, has an ontogenetic function of preserving and extending the human race: “We must simplify grammar until grammar has simplified us” [10]. It concerns the codification of human consciousness through language, and more precisely, through its unilateral structure (*US*) and polylateral ousia (*PO*). We emphasize the term ousia, since the term has passed the stage of modification and in the Greek language the denotation of this concept is absent. In modern Greek, the term is interpreted to mean the essence and nature of a thing. However, the “Dictionary of Untranslatables: A Philosophical Lexicon” [11] presents differences in understanding of concepts by different scholars and in different epochs. The dictionary emphasizes that the meaning of the word has undergone a radical transformation between Plato and Aristotle, since the former understood everything in the modern sense of “property” and in the philosophical sense of the essence of things, while the latter added other meanings, identifying ousia with *ὑποκείμενον*/theme (causes it to label *εἶδος* through ousia sometimes, a type or feature, sometimes the unity of matter and *εἶδος*, and sometimes matter itself). Through the subsequent history of philosophy, the situation was increasingly complicated, since the Stoics regarded everything as an indeterminate substrate, thinkers of middle Platonism and Neo-Platonism returned to the meaning of “essence”, and Christian Christology approximated *υπόστασις* with ousia giving the latter more enriched meanings, nonexistent in modern Greek [11]. It is because of differences in translations and interpretations that all modern Greek translators have decided to leave the word untranslatable, taking into account the entire range of interpretations available. The latter gives us the possibility to use the term “ousia” in the study.

It is worth noting that the unilateralism of the structure is not universal to all speakers, but is identical to the distinctive thinking (*DT*) of a person, which, in turn, is an explanatory factor for the evolution of language. Let us describe this process with the following formula:

$$\frac{US + DT}{PO},$$

where *PO* is a substantiated exponent, in fact, the material expression of a linguistic sign.

In the context of language simplification, the work of Wittgenstein [12] “Tractatus Logico-Philosophicus” plays a key role. According to the concept of the scholar, called “language game”, which correlates, and at the same time contradicts, the role of natural language in the reflection of the world, it is believed that natural language is most capable of world reproduction, but the peculiarity of language games is that there are specific rules that each player can understand

differently. However, this is precisely the reason for the multilateral character of the ousia of a sign. After all, we are already dealing with the arbitrariness of his understanding (Wundt [13]).

The only field, where a sign synthesizes all its meanings, is exclusively a metalinguistic environment – one where any linguistic unit is reproduced as a linguistic-communicative (Bally [14], von Humboldt [15], de Saussure [16]), and logical and philosophical essence (Frege [17], Peirce [18], Wittgenstein [12]). Such a field is computer being (CB) – a complex, multidimensional sphere of synthesis of reality, human experience and activity, mediated by digital and information technologies [19]. The linguistic aspect of CB research is determined by objective historical and geopolitical prerequisites: cybernetization, globalization, informatization of world society [6, p. 1]. It is in the continuum of CB, where the language game is the symbolic and semiotic foundation of Web 2.0 platform testing, that game rules acquire metal-linguistic characteristics and require special content analysis.

Essential-empirical analysis of computer being as a linguistic universal continuum uninstalls the following ethno-barriers: folk-mythological arsenal, cultural paradigms, socio-political discourses, etc. The key to this uninstallation is the phenomenon of “emoji” – “ideograms or emoticons used in emails and web pages” [20]. The digital emoji corps is a technogenetic mimesis of pictographic writing. The function of emoji, as pictography, is to identify the meaning, the content of which a priori eliminates its own invariance, transgressively appealing to the logical-eidological plane (Reformatskii [21]). Emoji in CB is a universe, its visualization is exploited by the macrostructure of technogenesis, which is indicated by the internal unity of its components at the micro- and macro-levels and in the plane of the sign substrate (formal and semantic elements and structures) and the synthesis of features of ontological, cognitive and anthropological substance [6, p. 2].

Thus, the importance of implementing CB emoji in the study and interpretation of literature is absolutely natural: emoji, phenomenologically, logically and eidologically installed in the digital continuum, is separated from the natural language predicated by (ethno)logy, and implicitly embedded in (cosmo)logy. Understanding emoji is not subordinated to the nationality of the speakers. Another interpretation is that each speaker interprets the linguistic field in terms of its empirically-essential foundation, but this premise does not preclude the understanding of emoji.

Emphasizing the iconicity of the emoji corps, we appeal to the concept of modality and multimodality. Bally [14] noted that modality is the soul of the proposal; like thought, it is formed predominantly as a result of the active operation of the speaker who speaks. The scholar distinguished the main content (dictum) and its modal part (modus), which formulates emotions and intellect of reasoning regarding dictum. And therefore, modality is expressed in two types: objective and subjective. (Inter)synthesis of these types also involves multimodality as a way of constructing and reconstructing concepts and meanings with their integration into a metalinguistic semantic field, in which, in fact, the hypertext semiotic code is established. Thus, with emoji we get to a multilevel structure of language – from the phonetic level to the textual level.

Before proceeding to the empirical analysis of poetry modelling, let's define the algorithm by which, with the application of the Emoji Maker program, emoji is constructed taking into account formal and informative factors of a fictional text.

1. At the first stage, students are offered poetry for analysis. Emphasizing that poetry is imagery, and therefore its analysis must be accompanied by imaginative and critical thinking.
2. At the second stage, we propose to analyze the text using the Emoji Maker digital program, having outlined the purpose and tasks before. The program provides students with a limited list of options for creating emoji, and thus the students' creative and creative skills, as well as the essential empirical experience that will allow them to explain and substantiate the color choices of the emoji and its components, play a special role in the task.
3. At the third stage, we must emphasize to the students: emoji models should correlate with the content of the poetry, as well as formally reflect the mood and feelings of both the lyrical hero and the reader.

We shall proceed with the example of the poetry of a twentieth century Cuban poet José Ángel Buesa. The selection of poetry in this case is to appeal to the most important function of emoji – the expression of feelings. In his lifetime, Jose Buesa acquired the status of “enamored poet”, that is, a poet whose poetry is distinguished by sensuality in his own metaphor. Therefore, we believe that it is appropriate to reconstruct this sensibility with the help of the aforementioned metalinguistic digital continuum. We apply the Emoji Maker digital platform [3]. The program has technical limitations, which, however, seal the phenomenology of the presentation. These limitations are specifically available repertoire of tools that cannot be traversed during image rendering. Emoji Maker contains the following skins: face shape, more shape, eye, eye brow, mouth, hair, sunglasses, hands, hats, others, background.

We shall further disclose the completion of the sample study task: to recreate the meaning of the following poem by Ángel Buesa [22] using self-designed emoji in Emoji Maker tool (table 4).

The reconstruction of the poem should begin with its division. The poem contains of 20 lines, divided into 5 quatrains. We take each quatrain individually, so as a result we have to create 5 emoji characters. We reduce the compilation of the sign to deduction, that is, for each quatrain we define the universal qualities of emotion (UQE).

I. When shadows of oblivion advance,
expunging feeling from my very soul,
for God's sake don't erase the case
where dwell the thoughts
to you I owe.

Lyrical Hero = Love + Memory. So, we create the image of a character – a lyrical hero who pleads to be remembered by his love. UQE: anxiety, sadness, fear, hope. The main feature (hereinafter referred to as the “MF”) is the PRAYER.

1. We take the yellow circle as the basis. Yellow in this case – as a symbol of hope, but at the same time – the sadness of separation (figure 1).
2. The choice of eyes is justified by the pleading expressed by the lyric hero. The main feature – mirrored dilated pupils, reminiscent of tears (figure 2).

ACUÉRDATE DE MÍ	REMEMBER ME	НЕ ЗАБУВАЙ
<p>I. Cuando vengan las sombras del olvido a borrar de mi alma el sentimiento, no dejes, por Dios, borrar el nido donde siempre durmió mi pensamiento.</p> <p>II. Si sabes que mi amor jamás olvida que no puedo vivir lejos de ti dime que en el sendero de la vida alguna vez te acordarás de mí.</p>	<p>I. When shadows of oblivion advance expunging feeling from my very soul, for God's sake don't erase the case where dwell the thoughts to you I owe.</p> <p>II. Should you so know my love fails not, that I can't live afar from thee, Do tell me, on thy earthly trot you will remember me.</p>	<p>I. Коли прибудуть тіні забуття, Щоб почуттів в душі спинити існування, Благаю Богом, збережи буття, В котрім завжди жило моє кохання.</p> <p>II. Як знаєш, що любов моя нетлінна, Що жить без тебе – за бік узбереж, Скажи, що на путі життєво цінній Одного разу мене ти впом'янеш.</p>
<p>III. Cuando al pasar inclines la cabeza y yo no pueda recoger tu llanto, en esa soledad de la tristeza te acordarás de aquel que te amó tanto.</p>	<p>III. When you bow your head passing by, me unable to dampen your tears, in that loneliness gone awry You'll remember my love perseveres.</p>	<p>III. Коли в путі чоло огорне сум, І я не зможу сліз твоїх спинити, В цій самотності печальних дум Упом'янеш того, хто вмів любити.</p>
<p>IV. No podrás olvidar que te he adorado con ciego y delirante frenesí y en las confusas sombras del pasado, luz de mis ojos, te acordarás de mí.</p>	<p>IV. You cannot forget. I've adored thee with blind and delirious frenzy In the shadows of past gone hazy, delight of my eyes, you'll recall me.</p>	<p>IV. Ти не забудеш мого боготворіння, Безумного й сліпого до безтями В прожитому, що заплелось тінню, Мене згадаєш за очей свічами</p>
<p>V. El tiempo corre con denso vuelo ya se va adelantando entre los dos no me olvides jamás. ¡Dame un recuerdo! y no me digas para siempre adiós. (José Ángel Buesa)</p>	<p>V. Time flies with thick might, Far ahead separating us two, Don't forget me. Deliver a token! and don't fare me well anigh.</p> <p>(Translation by Rusudan K. Makhachashvili)</p>	<p>V. Час тяжко простягається по колу І вже випурхує між нас у це буття. Не забувай! Не забувай мене ніколи. Не говори мені «Прощай без вороття!»</p> <p>(Translation by Anna O. Bakhtina)</p>

3. The main expression of emotions rests in the eyebrows, because the quatrain expresses a plea. Therefore, the eyebrows rise to the central frontal part of the eye (figure 3).
4. The corners of his lips are slightly down, which also testifies to the sadness of the lyrical

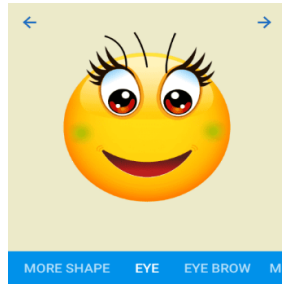


Figure 1: Creation of the emoji sign #1.

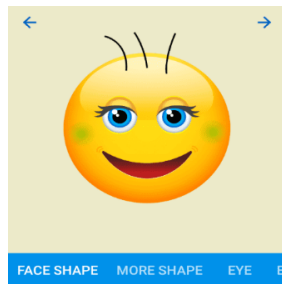


Figure 2: Creation of the emoji sign #1.1.

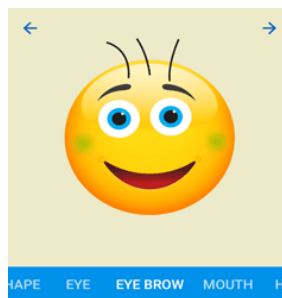


Figure 3: Creation of the emoji sign #1.2.

hero (figure 4).

5. The choice of the lyrical hero's hairstyle correlates with his essence – romantic nature. Therefore, the hair is blond, not too short, disinfected (figure 5).
6. In this quatrain supplications can also be defined by gesture: palms are opened, the geometry of which involves the coverage of the object of love (figure 6).
7. In addition, pleading can be emphasized with conditional tears, which gives the lyrical character the desired effect.

II. Should you so know my love fails not,
that I can't live afar from thee,
Do tell me, on thy earthly trot

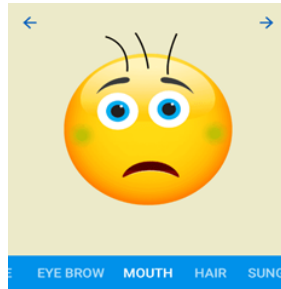


Figure 4: Creation of the emoji sign #1.3.

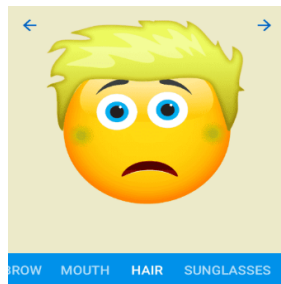


Figure 5: Creation of the emoji sign #1.4.



Figure 6: Creation of the emoji sign #1.5.

you will remember me

Lyrical Hero = love + memory + incorruption. MF – ETERNITY. For the sake of this quatrain, in order to avoid repetition of images, one can portray a potential fiancée of a lyrical hero who mentions love. UQE: thoughtfulness, memories.

1. Let us pay attention to the lips of the alleged girl: it ought to be a red, full mouth, closed, which will indicate the reflections of the heroine, her memories. The pupils of the eyes will look sideways and downwards, which will again indicate the girl's reflections (figure 7).
2. Hairstyle is also important because the length of hair, color, style correlates with the character of the woman. So, based on the limited selection offered by Emoji Maker, we

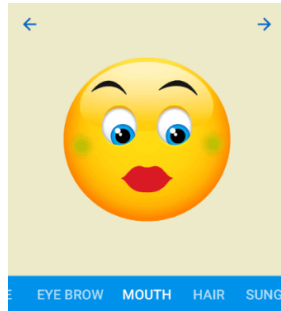


Figure 7: Creation of the emoji sign #2.

choose medium length, black hair. With this choice, we visualize a girl as a young person, ages 23–25 (figure 8).

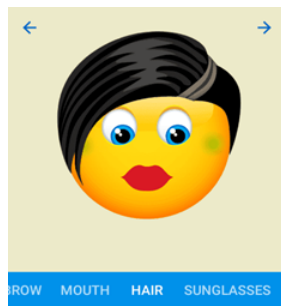


Figure 8: Creation of the emoji sign #2.1.

3. In digital age, communication cannot be imagined without gadgets. With that in mind, let's portray a girl with a mobile phone: so we can be interpretatively assumed that the girl's memories are symbolically stored on the device (photos, videos, etc.) – which is easier for students to relate to (figure 9).

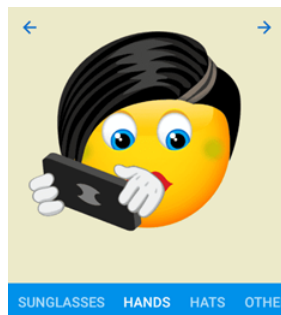


Figure 9: Creation of the emoji sign #2.2.

4. We can complete the image with a universal denotation of love – a heart (figure 10).

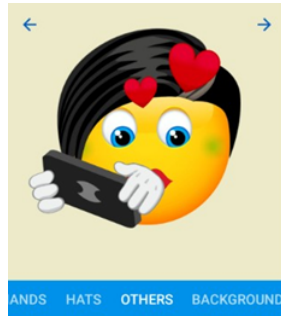


Figure 10: Creation of the emoji sign #2.3.

III. When you bow your head passing by,
 me unable to dampen your tears, in that loneliness
 gone awry
 You'll remember my love perseveres.

Lyrical Hero = Love + Sadness + Memory + Thoughts. MF is loneliness. UQE: sadness, memories, longing, despair.

1. It is worth noting that in Spanish speaking cultures, green is the color of hope in love [23, p. 15], and therefore, an emoji experiment with a green smiley is advisable. Because the hope of memories rests on the subject addressed in the poem by the lyrical hero, so here we portray the girl (figure 11).

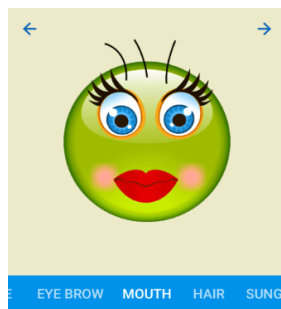


Figure 11: Creation of the emoji sign #3.

2. We leave the physiognomic characteristics the same as those in the second quatrain. And to visualize of the UQE we add the denotation of sorrow – tears (figure 12).

IV. You cannot forget. I've adored thee
 with blind and delirious frenzy
 In the shadows of past gone hazy,
 delight of my eyes, you'll recall me.

Lyrical Hero = Love + Memory + Time. OR is a passion. UQE: madness, passion.

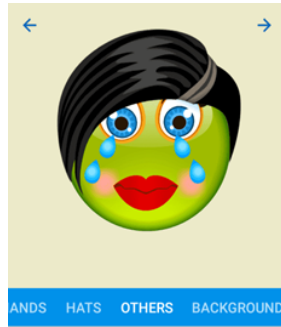


Figure 12: Creation of the emoji sign #3.1.

1. Universal characteristic of red color – love, passion; anger. Given the context of the quatrains, we construct a smiley face of red color, which will symbolize the love of the lyrical hero, his passionate feelings (figure 13).

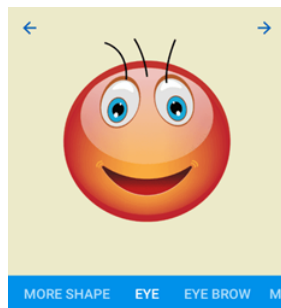


Figure 13: Creation of the emoji sign #4.

2. The hairstyle of the lyrical hero remains unchanged, as in the previous image, symbolizing the romantic nature. Lips play a key role in this image. Let us portray them as half-open, which shows the interest of the lyric hero, his admiration for the woman (figure 14).

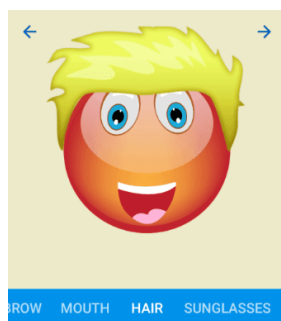


Figure 14: Creation of the emoji sign #4.1.

3. However, the most fundamental function of the UQE described in this quatrain is the attribute of love and romance. So let's depict the lyrical hero in heart-shaped glasses, a rose, and a brush that characterizes the hero as a dreamer, an artist who, in his own reminiscence, abstractly depicts the image of a beloved woman (figure 15).

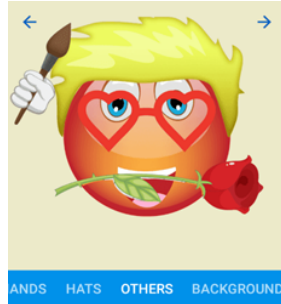


Figure 15: Creation of the emoji sign #4.2.

V. Time flies with thick might,
 Far ahead separating us two,
 Don't forget me.
 Deliver a token!
 and don't fare me well
 anigh.

Lyrical Hero = Love + Time + Inevitability + Farewell + Memory. MF – timelessness. UQE: hope, memories, supplications, hopelessness.

1. The last quatrain demonstrates in the most detail the purpose of the lyrical hero as a kind of prayer to a woman: the feeling of not returning, the inevitability of time makes the hero appreciate his feelings. He also brings this up with a woman, pleading with her to remember his feelings as well. The poetic motif is that love will persevere as long as it is remembered. Let's finish the visualization of poetry in the blue color of the emoticon, where blue is the universal symbol of hope, the fulfillment of a memory dream in time (figure 16).
2. A plea not to say "Farewell!" we can depict through another universal sign – muted lips (figure 17).
3. We complete the digital reconstruction with symbolic attributes: the pager (obsolete technology) reproduces the semantic nature of the image of time, the equivalents of which are being-timelessness-eternity-Cosmos-Eidos (figure 18).

So, with the help of the Emoji Maker computer program, we introduce a visual reconstruction of J. A. Buesa's poem "Remember Me". This approach simplifies the isolation of the fundamental factors underlying poetry. First, considering the person's physiology, we tried to single out meanings that suggest the presence of the following feelings: love, anxiety, sadness, fear, hope,

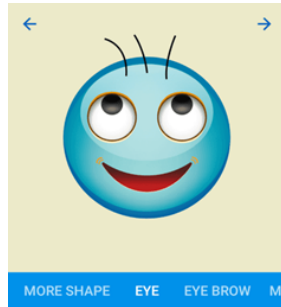


Figure 16: Creation of the emoji sign #5.

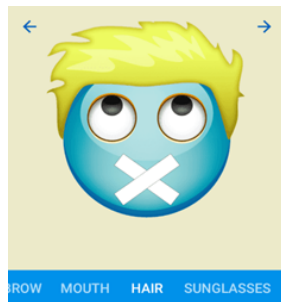


Figure 17: Creation of the emoji sign #5.1.

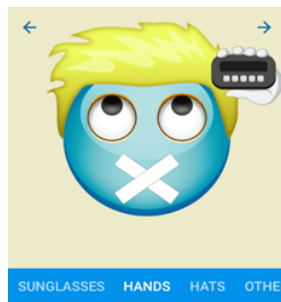


Figure 18: Creation of the emoji sign #5.2

memories, supplication, hopelessness. Visual affirmation of the senses contributes to a profound awareness of the fundamental concept of the poem – time, which can be correlated by the micro- and macro-cosmic elements of being (and in our case, computer being): being-timelessness-eternity-Cosmos-Eidos.

By recreating poetry through an ICT semiotic tool, students can potentially reproduce the meaning, imagery and content of the text only through the chain of emoji created (figure 19).

Applying the Emoji Maker multimedia program when analyzing a work of art (poetry) in the classroom, one should adhere to the following guidelines:

1. Before moving on to modeling emoji, it is necessary to outline the main idea of the text,

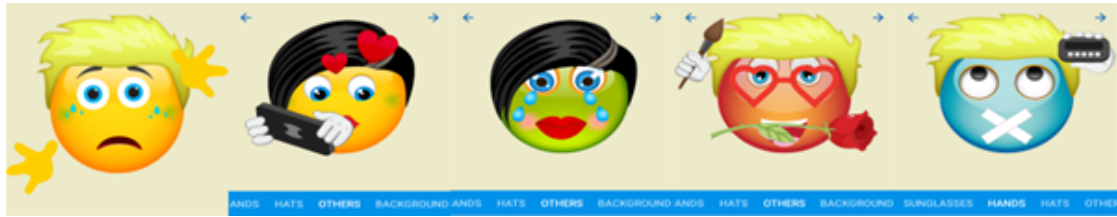


Figure 19: Projected emoji-visualization of J. A. Buesa's poem "Remember me".

- because it depends on the further characteristics of poetry and its visualization.
2. Describe the lyrical hero, outline his role and function in the text. Describe his mood, feelings, emotions.
 3. It is worth remembering that the reception of the reader can be validated only by the feeling and emotions of the lyrical hero, but not by the content of poetry.
 4. Visualize the appearance of the lyrical hero without departing from the context of poetry. Imagine the emotions of the hero, hypothetically outlining the physiognomistic characteristics relevant to the mood and feelings of the lyrical hero. You can now move to image modeling in Emoji Maker.
 5. It should be noted that the choice of options in the program is limited, and therefore, their use should be qualitative and contextual.
 6. Each option used must be defensible – only under this condition the correlation of ICT tools potential with the content of poetry can be traced.

Creating a multimodal picture of the world with emoji is possible not only in the context of fiction. The conceptual field of an optical sign, which transgresses its plane of content from a symbol to a full-fledged text, which the reader-interpreter immanently "adds" depending on the contextual boundaries, allows the emoji sign to be tested as a phenomenon. That is, one that is able to replace the letter with the image of the letter – with its opticality – while preserving the full meaning of what is said.

In order to confirm the above, the authorial team, together with students, conducted an experiment to design emoji. Students of Borys Grinchenko Kyiv University at a workshop "MODERN DIGITAL TECHNOLOGIES OF LINGUISTIC DATA PROCESSING" (coaches – R. Makhachashvili and A. Bakhtina), which was conducted as part of the Grinchenko Decade, joined the design experiment (utilizing the Emoji Maker tool) to construct the image of the patron of the university – Borys Grinchenko.

As in the case of fiction, the physiognomic and conceptual features of the creation of the sign were taken into account. Physiognomic features include facial features and recognizable highlights of the face, while conceptual features include the color turquoise (sea green), which is the customized corporate color of Borys Grinchenko Kyiv University (figure 20).

As can be seen, the use of physiognomic and conceptual characteristics (key features) allows to most accurately reproduce the image using the digital platform Emoji Maker, thus appealing to the digital optimization of the linguistic picture of the world. The rotation of the transgression of the linguistic picture of the world into the linguistic structure of computer existence modifies



Figure 20: Visual interpretation of the image of BGKU patron – Borys D. Grinchenko.

the traditional (non-technological) structures of time and space, which include all factors of the existential modes of mankind, including language. The latter acts as the subject of the mentioned transgression, undergoing restructuring at the abstract level of its own ontology. The digital model of the new linguistic picture of the world, in turn, is characterized by absolute nonlinearity of cases with their corresponding defragmentation under the condition of semantization of each of them. The extralinguistic sign is subject to such semantization as an adept of a new abstract in time and space meaning in the linguistic structure of Computer Being (CB). The new sign in the CB is a cyber-concept isolated from the traditional meanings fixed in the appropriate time and space, namely – at Borys Grinchenko Kyiv University with the appropriate corporate standard (turquoise custom colors). Thus, the generated sign (image) is fractalized and concludes three fractal bases – [language] – [emotion] – [feeling].

We conclude that on the one hand, the digitalization of the subject is a timeless and extraspatial phenomenon that narrows the levels of language to an optical sign, without losing meaning, on the other hand – it provides a locational representation of the sign, which can only be understood by the representatives of this location. However, let us also argue the latter in favor of artificial intelligence. After all, it is obvious that the concept of location is also used in artificial intelligence algorithms, for example, to find a way. This primarily applies to the programming of computer games [24, 25, 26], but in the case of generating emoji codifiers projection of the illusion of the whole world (image) and physiognomic and conceptual features, which we rely on in creating emoji for fiction, and a specific image (image of Boris Grinchenko).

Despite the fact that such a digital model is nonlinear, we still single out the anthropic nucleus – [emotion] – among the fractals as a substrate of psychophysiological causal transition and mimesis from language to sensation in the mentioned location. The latter, in turn, synthesizing all the above categories, crystallizes another anthropic nucleus – [space]. The specified kernel on the one hand, frees the subject from existential restrictions, granting the right to any semanticization of a sign, on the other hand – it encodes the subject in digital reality of Computer Being, adiaphorizing both internally – structural levels of language, and externally – the value in social environment. That is why any emoji as a CB object is a signified and a signifier at the same time, which is not observed in its non-digital reproduction and meaning. However, the keyword body (figure 21) that provides the generated image has been modified

using the Voyant Tools content analysis and text mining engine, an open source web application that provides corpus analysis of text data. It supports the scientific reading and interpretation of texts or corpus. Therefore, digital text analysis is a significant linguistic addition to the generated sign.



Figure 21: Linguistic mapping of Borys Grinchenko as a corporate concept of the university.

Paying attention to the linguistic complement of the sign, let us return to the poetry of Jose Angel Buesa and try to recreate a similar conceptual construct via the use of digital Voyant Tools:

- 1) calibrated Word Cirrus for the identification of foregrounded concepts in the corpus (figure 22);



Figure 22: Digital corpus identification of key concepts of J. A. Buesa's "Remember me".

- 2) foregrounded concepts trending tool (relative frequency identification of foregrounded concepts in the horizontally segmented corpus) (figure 23).



Figure 23: Relative frequency of poetic concepts identification in a horizontally segmented corpus.

Therefore, the transformative dynamics of emoji at the stage of the conceptual denotation of the corresponding set of signs is realized due to following consecutive developments of the sign meaning construction:

- 1) the direct vertical expansion to the surface layers of the signs content plane of the core representative substantive elements (|TYPE OF SUBSTANCE: COMPUTER BEING|, |SUBSTANTIVE DISCRETION: SPACE|) [27],
- 2) the phenomenological implementation of the former by means of different substrate significant elements of the internal form, in particular:
 - direct nomination – “FACE / EMOJI / SIGN”;
 - secondary, metaphorical and/or metonymic, nomination as a mechanism of "computer" semanticization – the content of poetry / physiognomy / mentality / conceptuality; the image of Borys Hrinchenko.

5. Conclusions and prospects of further research

In this research, we have demonstrated the potential of a multidisciplinary approach that integrates various disciplines such as linguistics, literary studies, philosophy of language, psychophysionics, eye-tracking, and text-mining technologies. This synthesis, when coupled with the computational capabilities of an emoji-based platform like Emoji Maker, allows for the creation of a digital semiotic representation of fiction. Through the use of specific technological tools, particularly visual iconic signs like smileys and emojis, readers and interpreters can reproduce the multifaceted metalinguistic functionality of the meaning inherent in artistic language. This approach significantly broadens the scope of study and can be effectively employed in linguistic and literary disciplines, as well as in classes focused on critical and analytical reading. As our world becomes increasingly hyper-cybernetic, research in this domain will only become more pertinent and influential.

Our study has illuminated the multifunctionality of emoji in the realm of digital communication based on fiction. The Emoji Maker platform has been instrumental in constructing images of lyrical heroes. These created images, reminiscent of the hieroglyphs of the 21st century, encapsulate the multimodal concept within the metalinguistic field. The emoji sign serves as both an icon, a symbol, and a text. On the verbal language level, emojis convey the meaning (dictum) of the signified, while on the non-verbal level, they convey the meaning (modus) of the signified. Objectivity and subjectivity merge within a single sign, and the resulting image is viewed through the psycho-physiological lens, which in turn facilitates the pedagogical aspect of graphic mimesis.

The technical limitations of the Emoji Maker web platform have led to the phenomenologization of one's own essential-empirical reconstruction of the image of a lyrical hero. This process allows for cognitive modeling of content and the development of skills in poetry. The foundation of this modeling is the theory of similarity, where absolute similarity can only be achieved by replacing one object with another identical in form and content. However, since poetry relies heavily on the recipient's essential empirical experience and sensory typology, exact replication of results is impossible. Individual interpretation is crucial when it comes to visualized analysis of poetry, as it allows for the comprehensive reflection of all aspects of the studied object using simulated emoji signs.

During the visualization of verbal information, it is essential to consider the mental frames embedded in the minds of each individual, which serve as specific biological identifiers and are influenced by mental, ethnic, national, and cultural factors. Nevertheless, the universality of the emoji language arises from its structural elements, such as the circular shape and a limited set of tools, which unify the visual range of any sign. Individual features, influenced by mental or contextual factors, are relevant and can be explained through a verbal interpretation of the choice of a visualization tool. In the case of literary text, this explanation is often simplified due to the presence of explicative elements within the text and the author's identity. In contrast, abstract images require more contextual attention.

Furthermore, an individualized approach to the visualization of corpus data is also facilitated using the web application Voyant Tools, which employs open source technology for text mining analysis. This addition to our research provides a significant linguistic dimension to the generated signs and allows for optical complements based on specific texts (such as poetry by Jose Angel Buesa) or keywords/concepts (such as the image of Borys Grinchenko in the context of a particular location, such as Borys Grinchenko Kyiv University).

In conclusion, our research offers a novel perspective on the intersection of technology, linguistics, and literary analysis, and it lays the foundation for further exploration in this exciting field. The integration of emoji and digital tools in the realm of literary studies not only enhances our understanding of literature but also offers innovative ways to foster critical thinking and creativity among students.

Acknowledgments

This study was conducted within the framework of the project "European Languages and Literatures Development in the Framework of Intercultural Communication", registered under

code 0116U00660 at the Department of Romance Languages and Typology at Borys Grinchenko Kyiv University, Kyiv. Additionally, it was supported by the project “Poetics of the Fictional Text” at the Department of Ukrainian and World Literature at Kryvyi Rih State Pedagogical University, Kryvyi Rih.

We extend our gratitude to the institutions and individuals who contributed to the successful execution of this research. Their support and collaboration were invaluable to the accomplishment of our objectives.

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