

Original Article



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Analysis of the communicability of the whatsapp application in the light of Semiotics

*Análise da comunicabilidade do aplicativo whatsapp à luz da semiótica**Análisis de la comunicabilidad de la aplicación whatsapp a la luz de la Semiótica*

Eunice Ribeiro Moreira

Fábio Corrêa

Jurema Suely De Araújo Nery Ribeiro

Frederico Giffoni De Carvalho Dutra

Universidade FUMEC, Belo Horizonte, MG – Brazil.

Dárlinton Barbosa Feres Carvalho

Universidade Federal de São João Del-rei (UFSJ), São João Del-rei, MG – Brazil.

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Fábio Corrêa

fabiocontact@gmail.com

Abstract

This research is aimed at analyzing, in the light of Semiotics, the communicability of the Whatsapp application. It is a basic research, with a qualitative approach and experimental technique, which made use of the Semiotic Inspection Method to evaluate the transmission of the metalanguage of the Whatsapp interaction interfaces designer. The target audience is made up of elderly users between 65 and 85 years old. As a result, of the four activities in the scenario established for the application of the Semiotic Inspection Method, it is considered that three present possible breaking points in the communicability of Whatsapp with the elderly user, possibly because it does not allow for the assertive semiosis of the signs. This heralds the possibility of reflection by designers regarding the arrangement of signs in the application, as the elderly are massive in Brazilian society.

Keywords: Somunication, Whatsapp, Semiotics, Communicability, Semiotic Inspection Method.

Resumo

Esta pesquisa que é orientada ao objetivo de analisar, à luz da Semiótica, a comunicabilidade do aplicativo Whatsapp. É uma pesquisa básica, com abordagem qualitativa e técnica experimental, que fez uso do Método de Inspeção Semiótica para avaliar a transmissão da metalinguagem do *designer* das interfaces de interação do Whatsapp. O público-alvo é conformado por usuários idosos de 65 a 85 anos. Por resultado, das quatro atividades do cenário estabelecido para a aplicação do Método de Inspeção Semiótica, considera-se que três apresentam possíveis pontos de ruptura na comunicabilidade do Whatsapp com o usuário idoso, possivelmente por não permitir a semiose assertiva dos signos. Isso anuncia a possibilidade de reflexão de *designers* quanto a disposição dos signos no aplicativo, pois os idosos são massivos da sociedade brasileira.

Palavras-chave: Comunicação; Whatsapp; Semiótica; Comunicabilidade; Método de Inspeção Semiótica.



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Resumen

Esta investigación tiene como objetivo analizar, a la luz de la Semiótica, la comunicabilidad de la aplicación Whatsapp. Se trata de una investigación básica, con enfoque cualitativo y técnica experimental, que hizo uso del Método de Inspección Semiótica para evaluar la transmisión del metalenguaje del diseñador de interfaces de interacción Whatsapp. El público objetivo está formado por usuarios mayores de entre 65 y 85 años. Como resultado, de las cuatro actividades del escenario establecido para la aplicación del Método de Inspección Semiótica, se considera que tres presentan posibles puntos de ruptura en la comunicabilidad del Whatsapp con el usuario mayor, posiblemente porque no permite la semiosis asertiva, de los signos. Esto presagia la posibilidad de reflexión por parte de los diseñadores sobre la disposición de los letreros en la aplicación, ya que las personas mayores son una masa masiva en la sociedad brasileña.

Palabras clave: Comunicación, Whatsapp, Semiótica, Comunicabilidad, Método de Inspección Semiótica.

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Introduction

Communication is an intrinsic feature of both past and present societies, as it seeks to make a message common — once exchanged between sender and receiver, and now shared between interlocutors (SOUSA, 2006; GONÇALVES; CLAIR, 2012; RODRIGUES, 2016; MACHADO *et al.*, 2022) — thus fostering the dissemination of information. Over time, forms of communication have evolved, from gestures, writing, and speech to diverse media such as newspapers, the telegraph, television, and, more recently, the Internet. Nowadays, digital social networks, which exist within the Internet, have become a prominent environment for communication (GONÇALVES; CLAIR, 2012; VERMELHO *et al.*, 2014; RODRIGUES, 2016).

In Brazil, Internet usage reached 152 million people in 2020, with individuals over 60 years of age accounting for 50% of this total (ICT HOUSEHOLDS, 2021). This demographic growth may be related to Brazil's trajectory toward becoming the sixth oldest country in the world by 2025, as projected by the WHO (2005). Older adults remain active in social relationships, and according to Brazilian Law No. 10.741, Article 21, § 1, they are guaranteed access to training courses in technology use as a means of adapting to modern life (BRASIL, 2003).

Within this scenario, *WhatsApp* emerges as a widely adopted communication tool that enables interaction between interlocutors through the creation of social networks. The platform supports communication across multiple media — including text, images, videos, and documents (WHATSAPP LLC, 2023) — and its signs must be readily understandable for effective user engagement. In this respect, Semiotics, defined as the “[...] science of all languages” (SANTAELLA, 1983, n.p.), provides a framework for studying “[...] the dynamics between the sender and receiver and the interpretive paths the receiver must follow” (TEMER; NERY, 2004, p. 128).

Given the growing presence of older adults in digital environments and their use of technologies such as *WhatsApp* as a means of adapting to contemporary life, this study assumes that the semiosis of the app's signs is accessible and interpretable by this group, thus enabling its effective use. Accordingly, the objective of this research is to analyze the communicability of the *WhatsApp* app through the lens of Semiotics.

The study is organized as follows: after this introduction, the next section outlines the theoretical foundations underpinning the investigation, followed by a description of methodological procedures. The subsequent section presents the analysis and results, which are then discussed in the concluding remarks.

Methodological procedures

Gil (2002) highlights the need to classify research according to its nature, approach, and research technique. Accordingly, this study is classified as basic research, as it aims to generate scientific knowledge (MENEZES, 2019). The approach is qualitative, given that it analyzes data in a contextual and descriptive manner (GONÇALVES; MEIRELLES, 2004). The research technique is experimental, as it examines, through the lens of Semiotics, the communicability of the *WhatsApp* app based on its empirical use.

To conduct the communicability analysis, the Semiotic Inspection Method (MIS) was employed, which evaluates the particularities of how the designer's metacommunication is transmitted through interaction interfaces. Specifically, “*the goal of semiotic inspection [MIS] is to assess the quality of the designer's metacommunication as encoded in the interface*” (BARBOSA *et al.*, 2021, p. 233). According to Barbosa *et al.* (2021), in MIS the evaluator assumes the role of the designer, without requiring user participation, and follows a series of defined stages (see Table 1).

In the “Preparation” stage, specifically in the task of identifying user profiles (Task 1), the target audience was defined as older adults aged 65 to 85 years. When identifying the objectives supported by *WhatsApp* (Task 2), the following were outlined: (1) sending a voice message; (2) sending photos from the gallery; (3) sending a photo taken directly within *WhatsApp*; and (4) converting a voice message to text. The parts of the interface to be evaluated (Task 3) are those that enable the achievement of the aforementioned objectives.

Based on the user profiles, the task of writing the interaction scenario (Task 4) was carried out considering the characteristics of the target group — older adults aged 65 to 85 years — and served to guide the inspection performed by the evaluator. The realism of the situation and the contextual details allowed the participants' navigation to be represented through the use of static, dynamic, and metalinguistic signs until the completion of the inspection. Accordingly, the scenario, presented in Table 2, was developed in direct alignment with the objectives supported by the system (Task 2).

Subsequently, the “Data Collection” stage (BARBOSA *et al.*, 2021) was initiated, aiming to analyze all interfaces involved in carrying out the scenario (Task 5 in Table 1) and to identify metalinguistic signs (Task 6 in Table 1), static signs (Task 7 in Table 1), and dynamic signs (Task 8 in Table 1). In parallel, the data collection



Table 1. Steps and tasks of the Semiotic Inspection Method (MIS)

| STEP | DESCRIPTION |
|---|---|
| Preparation | 1. Identify user profiles. |
| | 2. Identify the objectives supported by the system. |
| | 3. Define the parts of the interface to be evaluated. |
| | 4. Write an interaction scenario to guide the evaluation. |
| Data Collection | 5. Inspect the interface by simulating the interaction described in the scenario. |
| | 6. Analyze the metalinguistic signs and reconstruct the corresponding metamessage. |
| | 7. Analyze the static signs and reconstruct the corresponding metamessage. |
| Interpretation and Consolidation of Results | 8. Analyze the dynamic signs and reconstruct the corresponding metamessage. |
| | 9. Contrast and compare the reconstructed metamessages from each type of sign analysis. |
| Reporting of Results | 10. Assess the communicability problems identified. |
| | 11. Report the communicability of the human-computer interaction solution from the perspective of the metamessage sender. |

Source: Adapted from Barbosa et al. (2021)

Table 2 - Scenario for the Semiotic Inspection Method (MIS)

| DESCRIPTION |
|---|
| Your son went to spend his vacation at his mother-in-law's house in southern Minas. From there, he sends you a message to ask how things are going. |
| 1. You will need to send him a voice message in response. |
| 2. The conversation continues, and he asks you to send the last photo you received of your granddaughter, as he accidentally deleted it from his phone. You will need to locate and send the photo. |
| 3. He says he noticed something unusual in your tone of voice, thinks you might not be well, and asks you to take a photo and send it so he can be sure everything is fine. |
| 4. Tell me about your day. Use the keyboard's microphone to convert your voice into text and send it as a message, as he cannot listen to audio at the moment. |

Source: Research data

stage was conducted together with the subsequent stage of “Interpretation and Consolidation of Results” (BARBOSA et al., 2021), as the cognitive process allows the evaluator to simulate the scenario, capture the signs, and consolidate the results simultaneously.

The final stage of MIS, known as “Reporting of Results” (BARBOSA et al., 2021), aims to describe the communicability from the perspective of the metamessage sender — in other words, through the evaluator's interpretation while assuming the role of the designer. Since, in this inspection method, the evaluator places themselves in the designer's position, they must be guided by questions that reveal what the designer considered when constructing the communication. For this purpose, the following logical model is applied:

This is my understanding, as the designer, of who you, the user, are; of what I have learned you want or need to do; of the ways you prefer to do it, and why. Therefore, this is the system I designed for you, and this is the way you can or should use it to achieve a range of objectives that fit this vision. (BARBOSA et al., 2001, p. 234)

Following this logic, the evaluator retraces the path envisioned by the WhatsApp designer, reconstructing its communicative design and identifying the static, dynamic, and metalinguistic signs created. In summary, MIS requires the researcher to place themselves in the user's position in order to infer what motivated the designer to create specific signs for that user, thereby enabling the identification of those signs and the metamessage, paraphrased through the aforementioned logical model, from the designer's point of view.

Analysis and results

The inspection carried out using the Semiotic Inspection Method (MIS) is grounded in the identification of three types of signs:

- a) *Static* (static image): fixed meanings, independent of time or causal factors in the interface;
- b) *Dynamic* (image in motion): representing the system's behavioral aspects, which change due to temporal or causal factors;
- c) *Metalinguistic* (image with text): signs that refer to other signs from a different interface, whether static or dynamic — such as help or error messages (CARVALHO et al., 2010).

Considering the MIS objectives and the types of signs mentioned above, the tasks from the **Preparation** stage (Table 1) were executed as follows:

1. Identify user profiles: older adults aged 60 to 85 years.
2. Identify the objectives supported by the system: aligned with the tasks presented in the scenario (Table 2), namely:
 - Scenario Task 1 – Sending a voice message.
 - Scenario Task 2 – Sending a photo from the gallery.
 - Scenario Task 3 – Sending a photo taken with the application.
 - Scenario Task 4 – Converting a voice message to text.
3. Define the parts of the interface to be evaluated: all interfaces involved in correctly completing each task (these interfaces are presented in this subsection).
4. Write an interaction scenario to guide the evaluation (see Table 2).

Following the completion of the Preparation stage and the establishment of the scenario (Table 2), the **Data Collection** stage was carried out by inspecting *WhatsApp's* interfaces according to the scenario and analyzing the metalinguistic, static, and dynamic signs (Tasks 5 to 8 in Table 1). This stage was conducted jointly with the **Interpretation** and **Consolidation of Results** stage, as the process involved navigating through the *WhatsApp* interfaces in line with the scenario, collecting, interpreting, and recording the data concurrently. Only signs directly related to the tasks defined in the scenario were documented, in order to maintain focus and objectivity in the analysis.

Accordingly, the actions pre-established in the scenario were performed by the evaluator, aiming to identify the signs present in *WhatsApp's* interfaces, taking into account the interaction between the father (older adult) and the son, as described in the scenario.

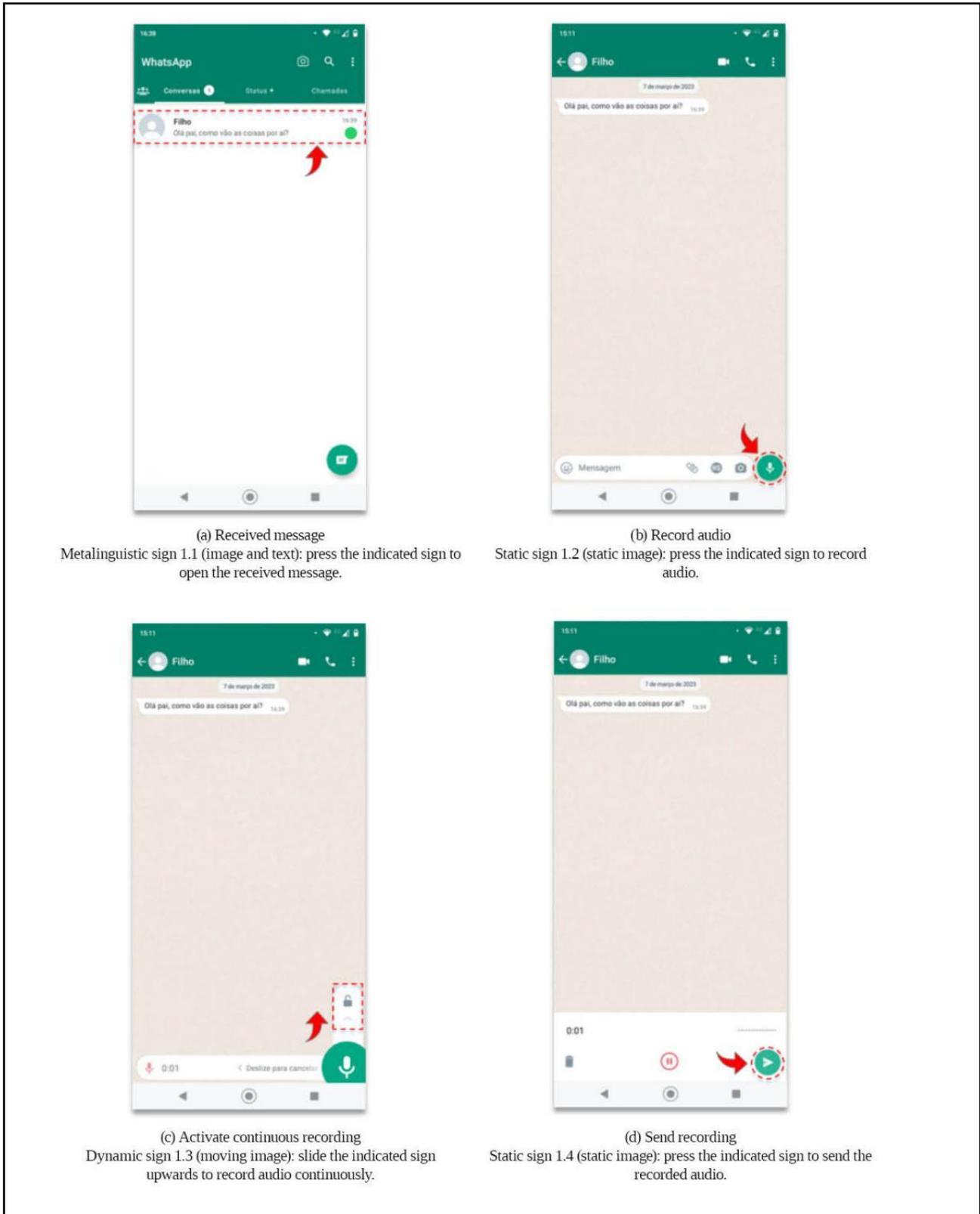
For **Task 1** (You [the older adult] will need to send a voice message in response), the signs identified are presented in **Figure 1**. To send a voice message in reply to the one received, the user must first access the message (Figure 1.a) by pressing the metalinguistic sign designed for this purpose. This sign directs the user to the message interface of the selected contact (Figure 1.b), where they must press the static sign designated for recording audio. The user may keep this sign pressed while recording, or swipe upwards (Figure 1.c) to continue recording without holding the button. Once the recording is complete, the user must send it by pressing the designated static sign (Figure 1.d).

In this task, the actions of pausing or deleting the recording were not considered; thus, these dynamic signs — activated through the behavioral act of recording — were excluded from the scope of the analysis. This same approach was adopted for all subsequent tasks in the scenario.

From the designer's perspective, based on the evaluator's interpretation of this task, the metamessage that underpinned the development of these interfaces can be expressed as follows:

I believe that when you wish to send an audio message to someone, you will find it easier to select that person from a conversation list. Thus, if you want to view the messages of a specific person, simply press on their name [Figure 1.a]. The interface that opens after this action will allow you to send the audio. An image of a microphone [Figure 1.b] has been provided, which must be pressed to record the desired audio. For greater convenience, an image of a padlock appears over the microphone image and, if you wish to record the audio without holding down the microphone, slide this padlock upward [Figure 1.c] to enable continuous recording. After finishing your audio, simply click on the button with an arrow [Figure 1.d] to send your message to your contact.

Figure 1 - Task 1 of the Semiotic Inspection Method (MIS) Scenario



Source: Research data

After performing the task in question, outlined in the scenario (Table 1) and pertaining to the Interpretation and Consolidation stage of MIS results, we proceed to the Results Reporting stage, which is done for each task in the scenario. According to Barbosa et al. (2021), this consolidation aims to contrast the signs, seeking to identify contradictions in communication.

Thus, for the task in question, the following results report is provided:

The presented metessages effectively prioritize sending audio messages, as the sign related to this functionality is highlighted compared to others on the interface. There are various signs for sending messages. For example, next to the record button are, respectively, emoji (sending images), message (sending text), clip (sending attachments), R\$ (sending financial transfers), and camera (photo). The microphone sign is highlighted and, therefore, for the purposes of this task, no communicability problem was identified; therefore: not applicable.

Next, the scenario outlined (Table 1) establishes the task: "2. The conversation evolves, and he [son] asks you to send the last photo you [elderly user] received of your granddaughter, as he accidentally deleted it from his phone. You will have to find the photo and send it." To this end, it is necessary to access the image gallery of the application, and the following signs were identified in **figure 2**. After analyzing the signs, the following metmessage is considered to have guided the designer in building the interfaces:

I believe that when you wish to send a photo received from someone to another person, you will understand that the "clip" symbol [Figure 2.a] has a clear association with this need, as the idea is to send an attachment. Thus, clicking this symbol will open several options, among which "Gallery" stands out [Figure 2.b]. By pressing this symbol, you will be taken to your smartphone's photo gallery, where you only need to select the desired photo(s) [Figure 2.c] and then press the "Send" button [Figure 2.d] to forward it/them to your contact.

For this task (**Figure 2**), the following results report is provided:

The association of the "clip" sign with sending a photo does not necessarily correspond to an immediate association, as the intent to send a photo may lead the user to press the "camera" sign, located next to the "R\$" sign. Thus, it is believed that there may be confusion in the association of the signs, as the camera corresponds more directly to the user's intent, whereas the "clip" sign requires a meta-association to later locate the intended functionality.

Subsequently, we have task "3. He [son] says he noticed something strange in your tone of voice, thinks you are not well, and asks you to take a photo and send it to reassure him that everything is fine." For this task, a total of five static signs were identified, distributed across four interfaces, allowing the user to send a photograph taken with the smartphone's front camera via WhatsApp. The semiotic inspection records for this task are presented in **Figure 3**. The designer's metmessage to the user is as follows:

I believe that when you wish to send a photo to another person, you will understand that the "camera" symbol [Figure 3.a] corresponds to this functionality. Thus, clicking on it will open your smartphone's camera, where you only need to select the "Photo" option and switch to the front camera if necessary [Figure 3.b]. Then, press the central button to take the picture [Figure 3.c] and, next, press the "send" button [Figure 3.d].

The following results report is presented for this task:

For the aforementioned task, the possible need to select the "Photo" mode (Figure 3.b) and to switch to the smartphone's front camera (Figure 3.c) is highlighted as necessary for the successful completion of the task. It is emphasized that by "possible" it is meant that these options may already be selected due to previous actions (photos taken earlier) and, therefore, may already be active when this task is performed. Moreover, the association of the "camera" sign for this message is direct, and the other screens are consistent with this intent. However, considering the experience of the previous task—sending a photo from the gallery via attachments (clip)—the user may become confused when sending a photo, leading them to press the "clip" sign.

Figure 2 - Task 2 of the Semiotic Inspection Method (MIS) Scenario



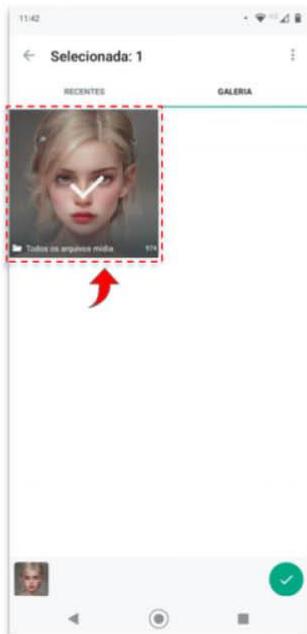
(a) Attach file

Static sign 2.1 (static image): press the indicated sign to select the attachment option.



(b) Attachment type

Metalinguistic sign 2.2 (image and text): press the “Gallery” sign to access WhatsApp’s gallery.



(c) Select image

Static sign 2.3 (static image): access the “Gallery” menu and press the image to select it.



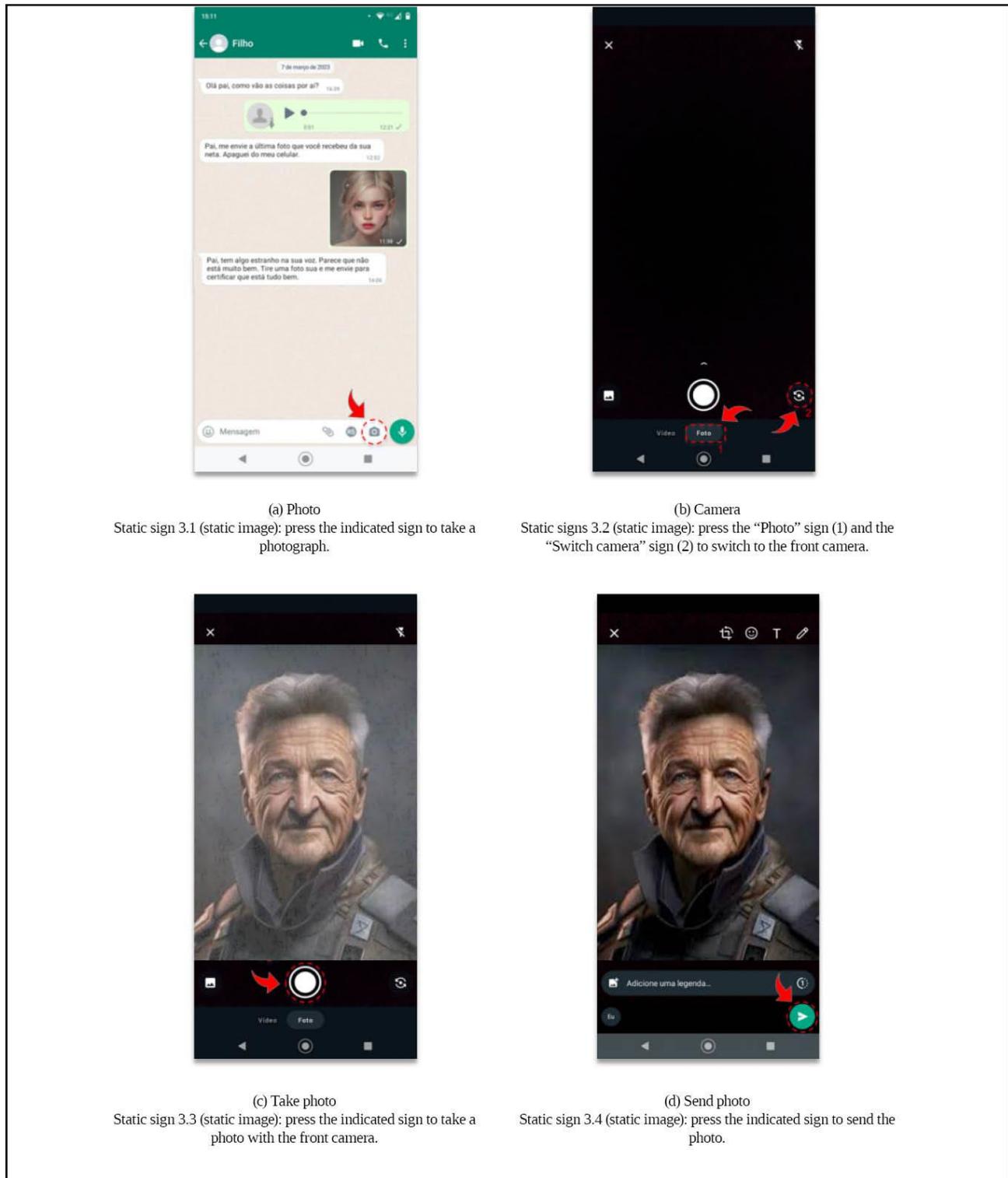
(d) Send image

Static sign 2.4 (static image): press the indicated sign to send the selected image.

Source: Research data

Task 4 — “To avoid showing any strangeness in your voice, you [elderly user] use the keyboard’s microphone to convert voice to text and send it as a reply” — requires user dexterity. This is because, after activating the virtual keyboard (**Figure 4**), the elderly user faces two similar static signs represented by the image of a “microphone”: one for sending audio (see Figures 2.b, c, d) and another for activating the voice-to-text converter (Figure 4.b).

Figure 3 - Task 3 of the Semiotic Inspection Method (MIS) Scenario



Source: Research data

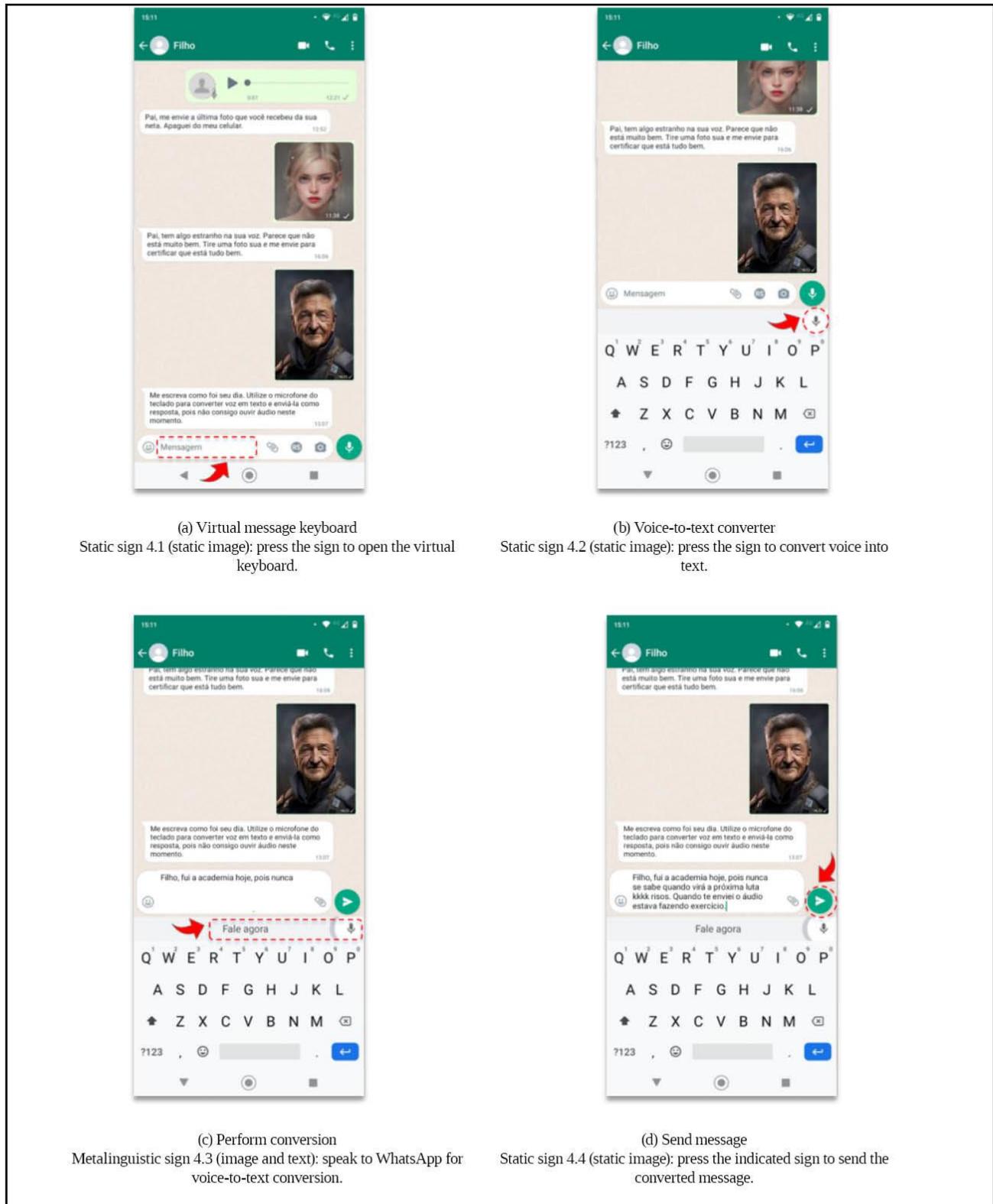
When the converter is activated, the microphone icon becomes metalinguistic (Figure 4.c), as it moves along with a message prompting the user to “Speak now.” As words are spoken, the application transcribes them into text, displaying the transcription in the message field (Figure 4.c). After completing the message fully, the user must send it by pressing the static “Send” symbol (Figure 4.d).

The designer’s metamessage to the user regarding this task is described as follows:

I believe that when you wish to send a message, you will understand that you just need to click on the “Message” field [Figure 4.a] I created for you. To make this easier, there is a

voice message translation feature, which you activate by holding down the “Microphone” symbol [Figure 4.b]. When the message “Speak now” appears [Figure 4.c], speak, and your speech will be transcribed into the message field. You will see the transcription, and when you want to send the text, simply press the “Send” button [Figure 4.d].

Figure 4 - Task 4 of the Semiotic Inspection Method (MIS) Scenario



(a) Virtual message keyboard

Static sign 4.1 (static image): press the sign to open the virtual keyboard.

(b) Voice-to-text converter

Static sign 4.2 (static image): press the sign to convert voice into text.

(c) Perform conversion

Metalinguistic sign 4.3 (image and text): speak to WhatsApp for voice-to-text conversion.

(d) Send message

Static sign 4.4 (static image): press the indicated sign to send the converted message.

Source: Research data

Based on this, the following results report is provided:

For this task, the user tends to: Not notice the “microphone” sign for speech transcription, as it is subtly positioned below the other microphone sign used for sending audio; Not understand the existence of two identical signs on the screen and, therefore, not know the role of each; and, Confuse the signs, potentially sending audio when intending to transcribe speech. Using two identical signs for distinct tasks creates the possibility that the task will not be successfully completed.

The final stage of MIS, conducted throughout this evaluation, consists of presenting the **Reporting of Results**, which aims to synthesize “the goal of semiotic inspection [as] assessing the quality of the designer’s metacommunication encoded in the interface” (BARBOSA et al., 2021, p. 233). Thus, Table 3 summarizes the path taken during the MIS application.

Table 3 - Record of Signs and Communicability Reports from the Semiotic Inspection Method (MIS)

| TASK / INTERFACE | SIGNO | METAMESSAGE | COMMUNICABILITY ISSUES |
|------------------|----------------|---|---|
| 1 – 1.1 | Metalinguistic | Metalinguistic I believe that when you want to send an audio message to someone, you will find it easier to select that person from a list of conversations. Thus, if you want to view the messages from a particular person, just press on their name [Figure 1.a]. The interface that opens after this action will allow you to send audio. A microphone icon is provided [Figure 1.b], which must be pressed to record the desired audio. For convenience, a padlock icon appears over the microphone image; if you want to record audio without holding down the microphone icon, slide this padlock upwards [Figure 1.c] to enable continuous recording. After finishing your audio, just click on the button with an arrow [Figure 1.d] to send your message to your contact. | The metamessages effectively prioritize audio sending because the sign related to this function stands out compared to the others on the interface. There are several message sending icons: for example, next to the record button are, respectively, emoji (send images), message (send text), clip (send attachments), R\$ (send money), and camera (photo). The microphone icon is highlighted and, therefore, no communicability problem was identified for this task; thus: not applicable. |
| 1 – 1.2 | Static | | |
| 1 – 1.3 | Dynamic | | |
| 1 – 1.4 | Static | | |
| 2 – 2.1 | Static | I believe that when you want to send a photo received from someone to another person, you will understand that the “clip” icon [Figure 2.a] has a clear association with this need, since the idea is to send an attachment. Thus, clicking this icon will open several options, among which “Gallery” stands out [Figure 2.b]. Pressing this icon will take you to your smartphone’s photo gallery, where you can select the desired photo(s) [Figure 2.c] and then press the “Send” button [Figure 2.d] to forward them to your contact. | The association of the “clip” icon with sending a photo does not necessarily correspond to an immediate association, as the intent to send a photo may lead the user to press the “camera” icon next to the “R\$” sign. Therefore, it is believed there may be confusion in the association of the icons, since the camera directly corresponds to the user’s need, while the “clip” requires a meta-association to later locate the desired functionality. |
| 2 – 2.2 | Metalinguistic | | |
| 2 – 2.3 | Static | | |
| 2 – 2.4 | Static | | |

| | | | |
|---------|--------|--|---|
| 3 – 3.1 | Static | I believe that when you want to send a photo to another person, you will understand that the “camera” icon [Figure 3.a] corresponds to this function. Thus, clicking it will open your smartphone’s camera, where you only need to select the “Photo” option and switch the camera if necessary [Figure 3.b]. Then, press the central button to take the picture [Figure 3.c] and, afterwards, press the “Send” button [Figure 3.d]. | For this task, the possible need to select “Photo” mode (Figure 3.b) and to switch to the front camera (Figure 3.c) stands out as necessary to successfully complete the task. “Possible” means these options may already be selected due to previous use (photos taken earlier) and thus may already be active when performing this task. Moreover, the “camera” icon association is direct, and the other screens align with this intent. However, considering the previous task—sending a photo from the gallery via attachments (“clip”)—the user may confuse and press the “clip” icon when intending to send a photo. |
| 3 – 3.2 | Static | | |
| 3 – 3.3 | Static | | |
| 3 – 3.4 | Static | | |
| 4 – 4.1 | Static | I believe that when you want to send a message, you will understand that you just need to click on the “Message” field [Figure 4.a] I created for you. To facilitate, there is a voice message translation feature, activated by holding down the “Microphone” symbol [Figure 4.b]. When the message “Speak now” appears [Figure 4.c], speak, and your speech will be transcribed into the message field. You will see the transcription, and when you want to send the text, simply press the “Send” button [Figure 4.d]. | For this task, the user tends to: 1) not notice the “microphone” icon for speech transcription, as it is subtly positioned below the other microphone icon used for sending audio; 2) not understand that there are two identical icons on the screen and, therefore, not know their different roles; and 3) confuse the icons, possibly sending audio when intending to transcribe speech. Using two identical icons for distinct tasks may prevent task completion. |
| 4 – 4.2 | Static | | |
| 4 – 4.3 | Static | | |
| 4 – 4.4 | Static | | |

Source: Research data

Table 3 presents the tasks from the scenario and the interfaces involved in each task, along with the signs identified for each interface, the associated metamessages, and reports on communicability issues. It is noteworthy that the interfaces and signs shaded in gray in Table 3 showed indications of communicability failure.

Final considerations

This research was guided by the objective of analyzing, through the lens of Semiotics, the communicability of the *WhatsApp* app. For this purpose, the Semiotic Inspection Method (MIS) was employed as a method to promote the analysis of this application from the designer’s perspective. A scenario was established in which the elderly user was required to: 1) send a voice message; 2) send a photo from the gallery; 3) send a photo taken by the application; and 4) convert a voice message to text.

As a result, the static “clip” sign provided in *WhatsApp* for sending a photo (the second activity in the scenario) does not necessarily correspond to an assertive association by the user, since the intention to send a photo may lead the user to press the “camera” sign next to the “R\$” sign on the application screen. Moreover, when sending a photo taken by the application (the third activity in the scenario), the user may mistakenly press the “clip” sign, given that the previous activity also involved the concept of a photo.

Nonetheless, the activity of converting voice message to text (the fourth in the scenario) is more intricate, as the user encounters two microphone icons on the same screen positioned close to each other. Thus, considering the four activities of the scenario, it is considered that three of them represent potential points of rupture in the communicability of *WhatsApp* with the user — in this case, outlined by the elderly audience — possibly due to not allowing assertive semiosis of its signs.

In this context, this research contributes by expressing, through the lens of Semiotics, how the syntactic, dynamic, and metalinguistic signs used in *WhatsApp* tend to be interpreted by the elderly public. This raises the possibility of reflection by designers regarding the study of the arrangement of signs in order to better support this audience, which represents a relevant portion of Brazilian society.

This research is limited by not empirically evaluating the use of WhatsApp's interfaces by the elderly public, since such evaluation would likely allow affirmation of whether the identified points of communicability rupture actually occur. Therefore, as a suggestion for future research, it is recommended to empirically evaluate the usage of the scenario established in this study and apply the Semiotic Communicability Evaluation Method in order to address the limitation expressed here.

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