





Transmediation of the Illustrated Children's Book «Goodnight Moon»: A Web-Based Traditional Animation

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Abstract. This paper presents a web application whose goal is to explore the existing narratives in the book “Goodnight Moon”, as well as other possible ones provided by the adopted technological support. The story, written by Margaret Wise Brown and first published in 1947 in the United States of America, aims to help children fall asleep. As such, the primary goal of the application is, through the transmediation of the book, to create a comfortable sound environment and to motivate children to go to sleep through audiovisual stimuli. Experiments and user tests have demonstrated the effectiveness of the application as a means of relaxation and preparation for falling asleep, while interacting with the story “Goodnight Moon”.

Keywords: Transmediation · Children's literature · Web application · Animation · Child-computer interaction

1 Introduction

This research focuses on the crossover of visual and sound languages, as well as on the exploration of different narratives present in the classic children's picture book “Goodnight Moon” written by Margaret Wise Brown and illustrated by Clement Hurd, first published in 1947 by Harper & Brothers, New York.

With the advance of mobile devices and the web there was an increase in the number of possible media to be adopted. Besides the already known and pivotal book format, the stories in it gained the possibility to fit several other formats. Given the amount of different sensorial experiences that new media provide, it is an asset to make the most of what the technology has to offer. It is unquestionable that the codice format of the book works very well, as is proven by the fact that, after five centuries, it is still in use today. However, although these characteristics have lasted throughout historical evolution, since they result in a stable artefact, its format has allowed some adaptations leading to explorations in the fields of narrative. Thus, it can be concluded that books like “Goodnight Moon” have been elaborated with great intelligence, being timeless due to its strong concept and the most careful detail. Having said this, it is an asset to

expand, through transmediation to new media, books like “Goodnight Moon” in which the format is only a way of communicating the message.

This project is based on a web application developed to open a path where it is possible to enjoy the “Goodnight Moon” story in a novel way. One central goal was to develop a cosy object conveying the necessary tranquillity to a child at bedtime. This application can be enjoyed in three ways: the first option tells the story using a narrator in voice-over; the second presents the text on the screen, so that the adult accompanying the child can read the story; and finally, there is a sound-only option enabling the child to interact with the images and sounds of the story, without any verbalization, helping the child to fall asleep in a cosy auditory environment.

This paper begins by introducing key concepts in the field of transmediation, followed by a general overview of the book and its particularities. Section 4 presents some applications directly related to the present research that have influenced and inspired this project, while Sect. 5 presents the audiovisual components included in the project. Section 6 details the application and its final results. Section 7 presents the evaluation process and the analysis of the results and Sect. 8 provides some conclusions.

2 Transmediation

The term transmediation was established by Charles Suhor [1] as the translation of the meaning of a sign system to another. This theory is based on semiotics, which is the expression used to represent the area of study related to the meanings of messages in all their forms and contexts. Messages are transmitted by means of signs, for instance, every form of writing is a linguistic sign. Siegel [2] draws on the work of Charles Peirce to explain the relationship of individuals with sign systems. For Peirce there is a three-term relationship between the object, meaning the sign, its representation and the individual’s interpretation of that representation. Thus, Peirce argues that the object does not only transmit the concept for which it was thought, but also the resulting tripartite relationship. This being so, we may conclude that transmediation works on the basis of the adaptation of something, since it depends on the experiences and culture of the individual. The initial sign will never correspond 100% to the sign created by the receiver, and the only thing in common will be the concept of both signs [1, 2].

However, for Elleström [3], the concept of transmedia should be simplified, since the difference between the definition presented and the simple mediation of all the information received creates a fine line. With this in mind, transmediation can be defined as the transformation of the media in order to mediate repeatedly the same object to another media, based on its adaptation. For example, when a children’s book narrates the same story through a computer game, based on adaptation [3]. It can then be considered that the developed web application fits into the concept of transmediation, since it is based on the original book, resulting in an adaptation.

3 “Goodnight Moon”: The Book

“Goodnight Moon” portrays the story of a little bunny that is in bed in its “great green room”, ready to start its bedtime routine. This book is considered a classic in children’s

literature, due to its concept and the strategies used to develop it, and since it is Wise Brown's most famous bedtime story, it has continued to be republished and translated into several languages to this day.

"Goodnight Moon" is based on the act of the bunny individually saying goodnight to almost every familiar object present in the room. This story is recommended for parents, teachers and child therapists [4]. Although it seems a simple book, for Robertson [5] and Rivinus and Audet [4], it is much more important than it seems. In a subtle way, Wise Brown addresses and works on ideas that are fundamental to the proper development of mental health in children who are going through the process of growth and all its inherent phases. That said, the themes of separation anxiety, fear of abandonment and sleep denial are the focal points of the work on a conceptual level. The feelings mentioned tend to have various origins, including associations presented to the child at a young age, such as the association of the word "sleep" with "die", as well as the loss of control in the transition from the real world to the world of dreams, as it can be difficult for a child in the early years to fully distinguish what is real or fantasy [4, 5].

Young readers are led to create a trusting relationship with the world around them, through the enumeration of objects and the act of saying goodbye to them, as well as to experience loneliness and detachment in a simple and unhurried way, projecting themselves onto the main character. These events help the child to overcome the fear of the transition between these two worlds, as no detail is left undiscovered, giving them the necessary confidence and comfort, almost as if the objects represented the mother figure not present in the book [5].

There are two moments to be spotted in the book: the act of enumerating the objects in the room and, later, the farewell. These moments are the basis of a very rigid, but at heart simple and logical linguistic structure, which is separated by a triple rhyme. Since this is a children's book, the type of language used is quite clear, always associating the visual sign system with the linguistic one [5, 6]. The writing is characterised by the constant repetition of key words and patterns, for instance of the word "and" and "goodnight", these symbolising the constant and repeated search for comfort that is eventually achieved through the creation of trusting relationships. The child ends the story feeling ready for sleep, learning to be alone in a calm way, always in the company of a loved one, almost as if it were a dress rehearsal for the child to face reality [4, 5].

Robertson [5] analysed the work concluding that there is a regular phonetic rhythm that is almost reminiscent of, for instance, a rocking chair, represented through illustration. The very duration of the reading and the presence of rhythm make this book similar to a lullaby, since both tend to help the child relax and consequently fall asleep. These methods help the child to feel secure, due to the pleasure obtained from listening to cadences, the creation of stability and the sense of premeditation.

As for the illustration, it is characterised by a certain duality. With the exception of the first page, represented in Fig. 1, each double page alternates between a perspective of the room illustrated in colour and two black and white illustrations of objects or a set of isolated objects. In Robertson's view [5], this method portrays a child's gaze when observing the world, alternating between the dispersed gaze that sees many objects at the same time and the gaze focused on details. For Galbraith [6], this technique is used

as a means to draw the children’s attention away from the fact that they are alone and confined to the space of the bed.

Another noteworthy detail is the use of colour. According to Tatar [7], the colours used are more vibrant and saturated than what is expected in a bedtime story. The colours of the book get darker and darker, every two pages, giving the idea of progress when it comes to motivating children to close their eyes and move between the real world and the hallucinatory and fantastic world. The illustrations themselves foster this transition; there are elements in the room promoting this imagery through surreal concepts, such as cows jumping over the moon, bears sitting on chairs or the concept of “nobody” introduced as somebody [5, 7].

The illustrations made by Hurd bring an added value to the story, as it is possible to discover other narratives, such as the passing of time or the narrative created by the secondary characters, such as the mouse or the cats [6].



Fig. 1. First double page of the book *Goodnight Moon*.

4 Related Work

This section provides an overview of related work, namely digital transmediations of children’s literature and, in particular, previous transmediations of “Goodnight Moon”.

“Goodnight, Goodnight, Construction Site” is an application from Oceanhouse Media [5] based on the homonymous book by Sherri Duskey Rinker. This application is a transmediation of the aforementioned book and presents several options of interaction with the story, both the autonomous reading and the narrated reading. The sound component is explored so as to create a combination between calm and constant background music throughout the narrative and noisy sounds characteristic of construction machines, the main characters. This conjugation may lead to an excessive auditory stimulation that contradicts the central objective of the application to make children fall asleep.

The “Nighty Nighty Night” collection of apps by Fox & Sheep [9, 10] is a collection characterised by the inclusion of familiar and comforting sounds such as sighs and yawns

by the narrator's voice. The voice is also calm, paused and encourages the child to calm down.

"Goodnight Moon" is an application developed by Loud Crow Interactive Inc [11], which is a transmediation of the book "Goodnight Moon". This application is characterised by animations and sounds synchronised with reading, making the interaction mostly didactic; while the voice-over narrates the text, its colour changes synchronously with the reading in order to help children connect what they hear with what they see. The application also has the addition of touch interactions that can act as a stimuli. These aspects, no matter how much value they provide, may hinder the original purpose of the narrative—the child is distracted by the instructive interactions and ends up being stimulated even when they should be relaxing and dealing with their own feelings.

Apart from the transmediated version of "Goodnight Moon" in the form of an app, there is another relevant work in terms of animation and sound addition, the animated reading entitled "Goodnight Moon—Narrated by Susan Sarandon" [12]. Arguably, a main positive feature in this project is its almost cinema-like experience, giving the viewer the feeling of being integrated into the setting of the book.

5 Animation Requirements

One of the biggest challenges in the digital transmediation of books that aim to help children fall asleep is the blue light emitted from the electronic devices. Bearing this in mind, several studies [13–16] were analysed in order to understand how this aspect could hinder the design, the conclusion being that by using amber filters it is possible for this factor to be greatly mitigated. In this sense, a filter was applied to the entire application resulting in softer and even cosier colours. Thus, some pages of the book had to be reformulated for two reasons: (i) the amber filter significantly alters the perception of the background colour and (ii) the fact that the sudden change of colours, from coloured pages to pages with a white background, could awaken the child interacting with the artefact. As such, the white background colour changed to grey and the first page became framed with the others.

The aesthetic adopted is strongly inspired by the original book. To outline the illustrations, the brush chosen was taken into account to match the original illustrations, which were outlined by hand. The colour palette was also selected in the same way. On the other hand, because of the amber filter used throughout the application, all colours become less vibrant, which led to some adjustments so that the colours remain similar to the original ones, but not neglecting the purpose of the filter. It is also important to point out that the colours become darker as the story progresses. To make this effect possible, different shades of grey were applied, at each different moment of the story, by means of the multiplication effect.

Due to the general concept of the book, the audiovisual components were intended essentially to induce the child to fall asleep. With this in mind and specifying the sound, the animation includes reassuring sounds, both because they are familiar and because they represent a cosy situation. In addition to all the sounds, a constant background sound was added working as a white noise and never allowing the animation to be completely silent. Regarding the voice-over, the narration was read by an actor voice that combines

all the characteristics required for the voice of a narrator of a bedtime story: calm, paused and lulling.

The transitions between each page in the animation were also designed to create a rhythmic and cyclical path that motivates comfort. To achieve this, effects such as zoom out, zoom in and a blink effect have been included. These work in a cyclical way, creating the necessary dynamics for children to be relaxed, knowing what's coming next and not leaving space to possible anxieties.

The animation was developed using the traditional four frames per second technique. This choice was determined by the style of the illustrations in the book, since they are hand drawn and redrawn on every page, not following rigid rules of perspective. In addition, this technique stays true to the era in which the book was published, maintaining the very robustness of the book with bright and eye-catching colours.

Taking into account that the animation takes about two and a half minutes long, a total of 636 illustrations were needed in 30 shots. However, the complexity of each frame was greater than expected, since they have several characters integrated with very diverse movements. For a better understanding of the actual amount of individual movements to be developed, the frames were subdivided into characters and backgrounds, considering that each one needs to be painted and outlined, which resulted in a total of 4452 drawings.

6 “Goodnight Moon”: The Application

A web application was developed due to its easy access and versatility, as it can be accessed through an application on the device or through the browser. Since the application was developed based on the concept of cooperation between the tutor and the child, it has two main areas of interaction: the first corresponds to the initial menu where the interaction options are presented through icons and the respective captions; the second is a more informative area, directed to the child's guardians, where they can obtain several pieces of information.

To develop the web application, the HTML markup language was used to create and define the structure of the web page. The CSS style sheet language was used to style the contents and their responsiveness. For the inclusion of text, the appearance of popups, the choice of the desired animation and most of the implemented interactions, the JavaScript language was used. For the installation it was necessary to integrate a JSON file and two JavaScript files.

6.1 Interface

The interface was designed having as a basic concept the restriction of interactions, since the target audience is children up to 6 years old. So that the experience can begin as soon as the user starts interacting with the application, there is a background video where the curtain is closed and moves as a distraction during the waiting time until the choice of interaction is made. The initial menu integrates the three options of interaction and as soon as the user chooses one, the background curtain opens, making the user realise that he was already inside the story scenario. This approach allows the presentation of the original cover of the book. If the user clicks on the side menu, the curtain opens on

the opposite side of the story, but this time just enough to show a different dimension created for the side menu. This dimension was created in order to provide the user with a more immersive and cohesive experience.

In terms of iconography, as the app was developed with adult-child cooperation in mind, two levels of icons were created. The first level, targeted for children, is directly related to the experience and has the main goal of drawing attention, hence the irregular yellow background with the icon drawn in green outline. This level is subdivided into two categories, the start menu icons and the game icons. This division is due to the inclusion of text in the menu icons for their better understanding. The remaining icons, integrated in the second level, are those aimed at the accompanying adult, being more discreet so that the child does not feel attracted to interact. These are used for the side menu, install button and on the confirmation screen to exit the experience. To develop this family of icons it was essential to create a relationship between them, so all the designs have the same dimensions, as can be seen in Fig. 2, and in the case of the buttons of the first level, a relationship between the shapes, having the smaller ones half the size of the larger ones.



Fig. 2. Icons used in the application and their relationship.

As for the design used in the informative pages, they maintain the relationship created in the book between irregular background and text. Figures 3, 4 and 5 show some of the final screens of the application which can be accessed at: <https://student.dei.uc.pt/~jmmartins/GoodnightMoon/index.html>.



Fig. 3. Screenshot of the application's initial menu.



Fig. 4. Screenshot of the application's side menu.



Fig. 5. Capture of a moment in the history of the written option.

7 Evaluation

In order to evaluate the results, an online survey was conducted to understand what the children's behaviour was when interacting with the application. The survey consisted of 26 questions, divided into two sets. In the first set, the questions were related to the children and their behaviour before, during and after the experiment. In the second set, the questions were addressed to the adults in order to understand if they were able to do the requested tasks without difficulty. The survey was answered by 27 times, with each test representing one adult and one child, which allowed some conclusions to be drawn.

During the tests the parents in the home/another context and the teachers in the school context were asked to perform the tasks referred to in the following subsection. At the end, as already mentioned, the level of difficulty each participant felt when performing each task was evaluated. After these tasks they were asked to place one of the

interaction options and observe the child's behaviour, for instance if they showed signs of sleep throughout the experience or reacted in any way to the sounds. In order to better understand the outcome of the tests, parents and teachers were also asked to indicate how sleepy the child was before starting the interaction, as well as whether the child was interacting with the app at the usual time and in a comfortable environment.

An early concern, later confirmed as a difficulty, was to find parents available to participate and children familiar with English, since the application is in that language. To overcome this problem, schools where bilingual education is predominant were contacted and by doing so it was possible to share the survey with the parents of several schools and their respective school educators. The remaining respondents were gathered from social networks or personal contacts. As part of the latter method of communication, the application was also shared with families of American and British origin in order to obtain more complete and enriching results. However, as the tests progressed, we noticed that the app is effective even when the children are not fluent in English, since the message gets across and the stimuli to motivate sleep still works.

7.1 Tasks

In order to understand if the interface would be suitable for both children and adults, since it is a cooperation application, thus maintaining the basic concept of the book, it was necessary to define a list of tasks addressed to the accompanying adult:

1. Select the sound option;
2. Put it on pause;
3. Return to the home menu;
4. Go to the contacts page;
5. Go back to the game menu and choose the written option.
6. Go back to the menu and choose the option you prefer.

7.2 Behaviour and Observations

The usability tests were developed focusing on both target audiences, children and adults. Children were surveyed at the ages of 1–2 years (37%), 3–4 years (44.4%) and 5–6 years (18.5%). Of these 27 children, 12 (44.4%) used the mobile/tablet frequently, 11 (40.7%) used it occasionally and 4 (14.8%) did not use it at all. As there is the possibility of the application being tested in at least two different contexts, 6 (22.2%) of the respondents tested it at school, four of them in a group and the other ones individually. As for the remaining tests, of the 27 children, 17 (63%) participated from home and 4 (14.8%) in other contexts. Regarding the device used, although the most appropriate is the tablet, only 1 (3.7%) respondent used this device, 20 (74.1%) used a mobile phone and 6 (22.2%) a projector. Regarding the interaction choices, 13 (48.1%) children experienced the narrated option, 7 (25.9%) the written option and 7 (25.9%) the sound option.

Analysing the overview of the results we can conclude that they were successful, since the objectives initially set were met. These were evaluated through the following parameters: Sleepiness before the interaction: to understand if the child was not very sleepy (level 1) or very sleepy (level 5); Enthusiasm during interaction: measured from

1 to 5, level 1 being “not at all” and 5 being “very much”, the lower this value, the better; Comfort during interaction: if the child snuggled during the experience, level 1 is “not at all” and 5 is “a lot”; Sleepiness during interaction: level 1 is “not at all” and 5 is “very much”; Time to fall asleep—whether the child fell asleep faster than normal (level 1) or slower (level 5).

It was essential to know the level of sleepiness of the child before starting the experiment, not exactly as a way to analyse the effectiveness of the application, but to better understand the results and thus the remaining points served to analyse whether the objectives were met. Having said this, it would be necessary for the level of comfort acquired during the experience, as well as the level of drowsy reactions to be high, in contrast to the level of enthusiasm and awakening which should be low.

In general, the feedback was very positive, with some adults describing that the children loved the animals and the sounds in the animation, as well as the voice-over narration of the interaction. Some adults who followed the experience also emphasised that their children fell asleep much faster than usual, with some falling asleep during the experience. According to the testimonies, there were children who asked to repeat the story, but after the second interaction they fell asleep. It was also reported that the application worked both before the child’s sleep in the afternoon and at night.

Specifying the four tests prepared in a group, these were performed in a music conservatory. Although organised by the paper author, they were guided by the teachers, with the use of a projector and a speaker. The children observed the animation while in their beds in a comfortable environment to sleep and the selected option was the narrated one. The educators described that three children fell asleep faster than usual and the fourth fell asleep within the normal time, which in itself was fast. They also described that the respondents did not always fall asleep and when viewing the animation they were very attentive. Only one of the children verbalised a sound during the whole experiment, however this was sleepy and slurred. In addition, the children in this case slept in a different bed arrangement, since this one tended to make them more awake.

As well as the children, 27 adults were surveyed, of which 10 (37%) were between 18–30 years old, 9 (33.3%) were between 30–45 years old and the remaining 8 (29.6%) were between 45–60 years old. In order to analyse the ease of the requested tasks, six parameters were established: Difficulty in choosing the desired option: measured from 1 to 5, where 1 is “none” and 5 is “a lot”; Easiness in putting the animation on pause: score 1 is “it was easy” and 5 is “it was difficult”; Doubts when returning to the initial menu: level 1 corresponds to “none” and 5 is “many”; Easiness in accessing contacts: also measured from 1 to 5, taking into account that 1 is “easily” and 5 is “hardly”; Doubts when returning to the home menu: level 1 is “was easy” and 5 is “was difficult”; Global doubts of interaction: level 1 is “none” and level 5 “many”; Understanding of the icons: level 1 means “did not understand” and level 5 “understood”.

In the first 5 parameters, the goal is to achieve the lowest possible score, while in parameter 6, the higher the score, the better. In order to understand the parent’s opinion regarding the experience’s effectiveness, a seventh parameter was created to evaluate whether the interaction was enjoyable and met the proposed objective of helping the child fall asleep. This evaluation was made from 1 to 5, where 1 corresponds to “not at

all” and 5 to “very much”. Taking this into account, the higher the average score, the better.

In view of the results obtained and taking into account this set of parameters, the results were very positive in general terms, since the averages for each parameter corresponded to the stipulated targets. In most cases, the adult participants in the survey were of the opinion that the application met the objective for which it was proposed, in addition to not raising usability concerns which are critical to its use.

7.3 Analysis and Reflection of Results

By analysing Fig. 6 it is possible to see the global average of all the answers. For the first two criteria (“Comfort during interaction” and “Sleepiness during interaction”), results were quite positive. As for the third criterion (“Enthusiasm during interaction”) the value was lower, which represents a favourable result. Regarding the last criterion (“Time to fall asleep”), we can conclude that in general the children fell asleep faster than usual—a score of 3 means, in this last parameter, a neutral answer which may indicate the usual state of the child.

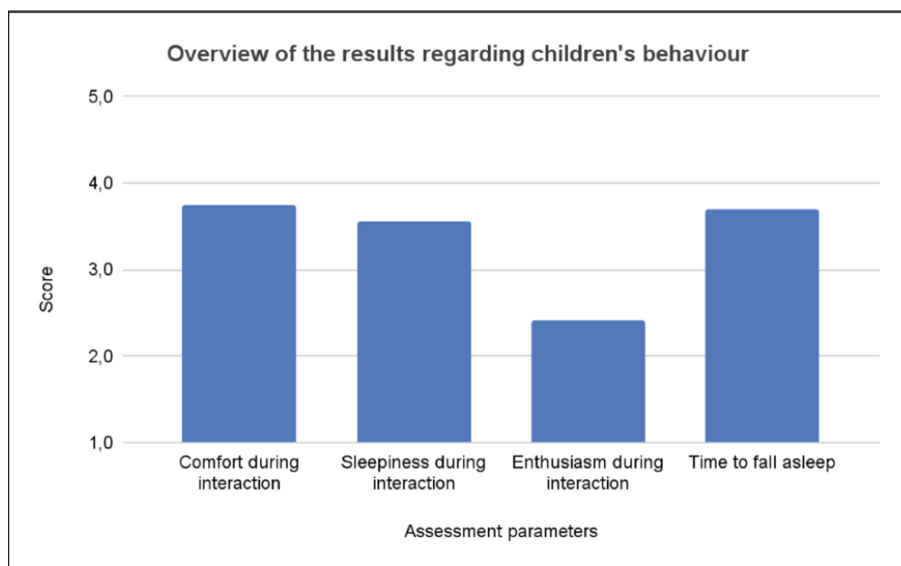


Fig. 6. Results regarding children's behaviour (average).

With this data, we can conclude that the application met the goals it was developed for, namely to motivate and prepare children to go to sleep, thus keeping the main concepts of the original book, as well as explore secondary narratives in the story. Analysing the data individually, we can see that the comfort level was mostly high, given that 17 children were between level 4 and 5, 7 in level 3, 2 in level 2 and 1 in level 1. Concerning the parameter of whether the child reacted sleepily to the audiovisual stimuli, 18 children

were in levels 4 and 5, 4 in level 3, 4 in level 2 and 1 in level 1. The fact that most of the children were in the higher half of the levels in both parameters presented is a good indicator. Regarding the level of enthusiasm and awakening of the child, this was the parameter where the values were more dispersed, however they remained positive at the level of the objectives. In this parameter 13 children were in levels 1 and 2, 8 in level 3 and 6 in level 4. Although most of them are not in the first half of the favourable values, their average is, which shows a positive result. It is important to note that taking into account the general panorama of existing applications, it is natural that children associate any application with activity stimulation, hence the test results may be a little higher. With regard to the last parameter, 17 of the children settled between levels 4 and 5, 7 in level 3, 2 in the second level and 1 in the first. Here we can conclude that more than half of the children fell asleep faster than usual, which is an optimal indicator.

As already mentioned, the results of the tasks aimed at adults were also positive (see Fig. 7). The average responses demonstrate satisfaction with the application.

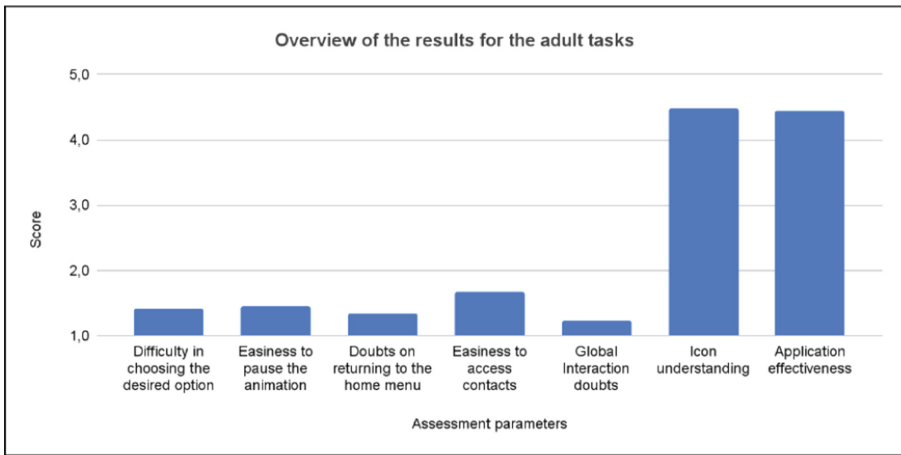


Fig. 7. Results regarding adult tasks (average).

With regard to the more individual analysis of each criterion, it should be noted that there was, in all of them, a clear majority choosing the maximum favourable levels. For instance, in the cases where level 1 is the preferable level, regarding the difficulty of starting the story and the ease of pausing it, 21 chose that level; in the global interaction doubts, 22 of the respondents also chose level 1; in the case of doubts when returning to the start menu, 22 chose that level; lastly, in the ease of accessing contacts, the number of respondents choosing that level was 18. As for the questions where level 5 was the best, regarding the understanding of icons, 21 of the respondents chose this option and when asked about the effectiveness of the application 16 chose higher. For a better experience the respondents were advised to install the application in their device, so 20 of the 27 respondents did so, of which 85.7% had no doubts in the process.

8 Conclusion

The work presented establishes a connection between digital transmediation and children's bedtime literature, seeking to explore little tested areas, as well as to solve and answer questions raised that tend to be obstacles. In addition, it was also necessary to demystify the intrinsic stigma in society that alienates digital devices from works similar to "Goodnight Moon". Despite being a somewhat complex and, above all, ambitious project, this study proved to be fundamental given the technological reality in which society is inserted, opening paths to new contexts of use of mobile devices. Having said this, the creation of a web application was proposed, with the main objectives to create a means to enjoy the "Goodnight Moon" story in a completely novel way, where the sensorial components are explored. Another central objective is to develop a cosy object conveying calmness to children at bedtime, helping them fall asleep with a better experience.

It can be concluded, through the observation of the usability test results, that the stipulated objectives were met. It is possible to verify adherence from the target audience with most of the surveyed people behaving within the goal, as well as maintaining interest throughout the experience. As for the exploration of the narratives of the work at the audiovisual level, these were also appreciated, and there was even a need for the accompanying adults to emphasise this. The implementation of this project produced an application which can be enjoyed in three ways: the first option tells the story with the use of a narrator in voice-over, the second presents the text on the screen so that the accompanying adult can read the story and, finally, there is a sound option which allows the child to interact only with the sounds of the story, allowing them to fall asleep with a cosy auditory environment.

The theoretical research process associated with the development of this project was essential for the definition of the contents and foundations of the project, as well as for the favourable evolution of the practical project. This research, accompanied by studies regarding the development of web applications as well as relaxation through technology and respective solutions and techniques, helped conclude that this would be valid research with room to grow in the area of transmediation from physical books to digital/multimedia experience.

Through the web application, we intended to cross visual and sound languages, in order to provide the target audience with a different experience from that of reading a classic children's book in physical format. This application can arouse interest in the editorial market, since it establishes a positive relationship between literature classics, such as "Goodnight Moon", and digital devices in continuous growth, increasingly used by children. In addition, it can also become interesting for people in the area of relaxation through technology, since it intends to provide a moment where the child uses an application as a way to motivate their rest.

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