

Chapter 228

Board and card games project to raise awareness of school bullying

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Fabrício Coutinho de Araujo

Department of Computing and Electronics
Federal University of Espírito Santo, CEUNES- UFES
São Mateus, Brazil
E-mail: araujofc@hotmail.com

Fernando de Souza Teixeira

Department of Computing and Electronics
Federal University of Espírito Santo, CEUNES- UFES
São Mateus, Brazil
E-mail: ofernandos.teixeira@gmail.com

Julio Nico Dantas do Santos

Department of Computing and Electronics
Federal University of Espírito Santo, CEUNES- UFES
São Mateus, Brazil
E-mail: julionico_dantas@gmail.com

Ramon de Souza Barbosa

Department of Computing and Electronics
Federal University of Espírito Santo, CEUNES- UFES
São Mateus, Brazil
E-mail: ramon.souza-b@hotmail.com

Sandra Regina Rocha Silva

Department of Computing and Electronics
Federal University of Espírito Santo, CEUNES- UFES
São Mateus, Brazil
E-mail: profa.sandra@gmail.com

ABSTRACT

Systematic bullying is any act of physical or psychological, intentional and repetitive violence that

1 INTRODUCTION

Systemic intimidation, or bullying as it is better known, is a perverse form of interpersonal relationship that occurs within a group understood in its broad sense, through intentional aggressions and with some frequency against a target that is in a situation of physical or psychological disadvantage, the victim of bullying puts himself in a situation of disadvantage or fragility, even if unconsciously. The highest incidence of bullying is during adolescence, a phase in which peer status is of great importance [1].

occurs without evident motivation, practiced by an individual or group, against one or more people, to intimidate or assault them, causing pain and anguish to the victim, in a relationship of the power imbalance between the parties involved. The objective of this work is to an experience in teaching propose school games to raise awareness of school *bullying*. The games were designed in a multidisciplinary manner by undergraduate students who had no prior experience in building games. The theme *of bullying* was exposed in two projects funded by FAPES. Two games were designed: a board game and a card game. The *design* of the games was based on two methodologies from the area of Human Machine Interface, the user-centered design and the usability test. The pilot usability test was applied to the prototypes of the games created, which raised improvements that were later implemented in the projects. The students have also prepared all the necessary documentation for the ethics committee so that the game can be later refined in the last phase using a usability test with the children of a school.

Keywords: Bullying, Systematic intimidation, Board game, Card game, Games in education.

In 2015 in Brazil, Federal Law No. 13,185/15 [2] was published, which instituted the program to combat systematic intimidation (Bullying), with the main objectives of preventing and combating the practice of systematic intimidation throughout society, as well as avoiding, as much as possible, the punishment of aggressors, privileging alternative mechanisms and instruments that promote effective accountability and changing hostile behavior. Law No. 13,185/15 categorizes the following 8 types of bullying:

- Bullying verbal: insulting, cursing, and calling pejoratively;
- Bullying moral: defame, slander, disseminate rumors;
- Social bullying: ignoring, isolating, and excluding;
- Exual bullying: harassing, inducing, and/or abusing;
- Psychological bullying: stalking, frightening, terrorizing, intimidating, dominating, manipulating, blackmailing, and internalizing.
- Bullying físico: punching, kicking, hitting;
- Material Bullying: stealing, stealing, destroying another's belongings;
- Bullying virtual: disparage, send intrusive messages of intimacy, send or tamper with photos and personal data that result in suffering, or intending to create means of psychological and social embarrassment.

The cause of bullying is the failure to celebrate differences and seek the shared. Bullying represents the triumph of power and privilege, homogeneity, territoriality, and the fear that others, different, represent [3]. A bullying situation involves the action of different roles and those involved are in search of recognition of others as to their value, such as the role of the victim, the aggressor, the aggressor's helper, the aggressor's reinforcer, the passive spectator, and the victim's defenders [4]. The aggressors lack moral sensitivity. The consequences for the victims of bullying are the fear of being the victim of new attacks, reduced self-esteem, anxiety problems, depression, loneliness, the feeling of powerlessness and insecurity, low or no social confidence, post-traumatic stress, development of phobias such as school panic, damage to school performance, and in the worst case bullying it can lead a victim to suicide. Viewers also suffer from the fear of becoming the next target and may develop a feeling of powerlessness, anxiety, or guilt. Conciliation meetings are not indicated to solve bullying situations, since it is a complex phenomenon and is not a conflict, to be resolved as such [5].

This article presents a teaching experience based on game design to raise awareness of school bullying. The games were designed in a multidisciplinary way by students of the undergraduate courses in Computer Engineering and Computer Science in the disciplines of Human-Computer Interface (HCI) and Special Topics in Informatics in Education for the 2019/1 semester, the students had no previous experience in game design. The theme of bullying was explored from two FAPES research projects in progress at the time, one linked to the construction of a web platform to raise awareness of school bullying and another that addressed awareness of school bullying through an educational approach Direct action with students

of a municipal school in a region of high social vulnerability aiming to meet around 500 children. Two games were designed: a board game and a card game.

2 THEORETICAL FOUNDATION

Dias, Farbiarz, Vasconcellos, and Carvalho [6] raise the practices of game creation in educational environments in Brazil that articulate approaches to Education and Design and how this articulation occurs, presenting an analysis of the articles published in the last six years in the annals of SBGAMES (2010-2015). Regarding the specific construction of board games, Gomes, Maciel, Araújo and Martins [7] present a teaching experience based on game design practice, design practices, and game design principles for the development of board games.

Within the specific theme of school bullying, Frick [8] categorized in detail the anti-bullying actions into information, awareness, and awareness actions; identification actions; actions that focus on interpersonal relationships; actions that affect the emotional development and self-esteem of students; actions related to conflict resolution; actions that emphasize the use of dialogue; actions to promote sociomoral values; actions related to behavior change through contingency control; actions that focus on the rules; actions that involve changing the functional or physical structure of the school; professional training actions; referral actions to other institutions; reporting actions.

Considering this categorization, the use of games can be understood as an objective action within the strategy related to information, awareness, sensitization, and the improvement in the quality of interpersonal relationships. Some authors address the use of cooperative games in physical education classes or other spaces and at interval times to combat school bullying [9]. Rede Tosco is a virtual platform with games and activities focused on the debate related to violence and, in particular, bullying.

Tognetta [10] addresses the topic of bullying through games that encourage participants to talk about what they feel. These games can be adapted to different age groups, being games of rules, situations of written representation or by drawings, symbolic games, use of literature, and the discussion of moral dilemmas. The discussion of moral dilemmas is free of moral lessons or the imposition of interpositions on the part of adults and generates an opportunity for children and adolescents to put themselves in the shoes of the characters and think of different possibilities of resolution to the problems presented, being attentive to their moods.

The literature also presents works that use the moment of the interaction of the school playground as a space to combat school bullying [11]. Góes [11] proposes the acquisition of board games and other materials that favor cooperative activities among students to combat bullying.

We proposed to create games for children to be possibly used in the school break and that in addition to promoting interaction, also were directed directly to work with the theme of school bullying aiming at their awareness.

3 METHODOLOGY

The construction of the games was based on two methodologies the area of Interface Ha Computador, the user-centered design, and the usability test.

Design can be understood as a process of controlled creativity directed to the process that aims to transform a request into a solution or a finished product, serving both creative and economic objectives. The design processes in HCI are composed of the cyclical phases of analysis of the current situation, synthesis of the intervention, and evaluation of the intervention.

The main philosophy of human-centered design is to put the human in the spotlight for design, and encompasses techniques, processes, and procedures for the design of interfaces, aiming at usability. According to the definition ABNT/ISO 9126-210 the human-centered project aims to build interactive systems more usable by focusing on the use of the system and the application of knowledge and techniques in human knowledge of ergonomics and usability. This same standard identifies 6 main characteristics for this methodology: 1) the project should be based on the explicit understanding of users, tasks, and environment; 2) the process should only be iterative; 3) users must be involved in the entire design and development, 4) the project must address the entirety of the user experience; 5) the project team should include multidisciplinary skills and perspectives; 6) and the project should be driven and refined by user-centered experience.

The HCI area uses two main modalities of tests for evaluation: evaluation by inspection, such as cognitive pathway; observational evaluation, such as paper prototyping, and usability testing.

Inspection evaluation allows the evaluator to examine an HCI solution to try to anticipate the possible consequences of certain design decisions, not directly involving users, but potential user experiences. The evaluator should put himself in the shoes of a user with a certain profile, with a certain knowledge and experience in some activities, and then try to identify problems that users may have when interacting with the system, and what forms of support the system offers to help them get around these problems.

The methods by observation allow the evaluator to collect data on situations in which the participants perform their activities, with or without the support of computer technology. The recording and analysis of this data allow us to identify real problems that the participants faced, and not only potential problems predicted by the evaluator as in an evaluation by inspection.

Because it is a didactic classroom experience and the methodology has a focus on the user, I opt for the method of evaluation by observation usability test. The usability test aims to evaluate the usability of an interactive system from the experiences of the use of its target users.

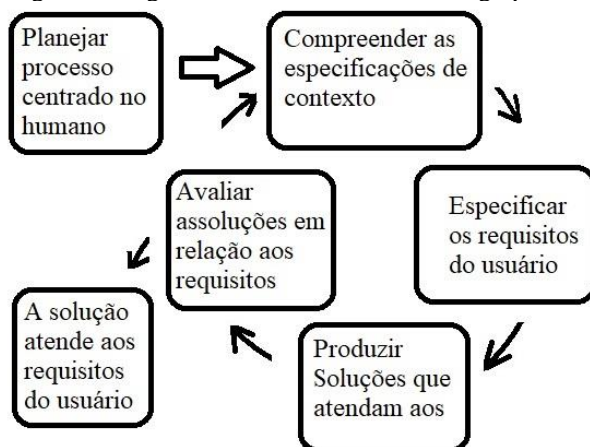
4 PRESENTATION OF RESULTS

The 12 students of the IHC discipline were divided into two groups, each group was responsible for the proposition of a different game on a freeway. Three students of the discipline of Special Topics in Informatics for Education were assigned to monitor this whole process, and one of them was also a student of IHC and participated directly in one of the groups. 2 games were designed, a board game of the race type and a card game with two possible modalities of use: game of mico and game of memory.

Figure 1 illustrates the tapas of the human-centered design process. The stage of understanding and specifying the context includes: identifying the human involved in the problem; characterizing users and groups of users; identifying tasks, and needs; re know the characteristics and limitations of the existing solutions; identify competing solutions. The stage of specifying user requirements includes: d esc review the user population; and intend the intended socio-technical context; defining requirements from opportunities for improvement; and specify usability and user experience goals; resolver conflicts of requirements. The stage of producing design solutions comprises low and high-fidelity prototyping; the application of standard principles and heuristics of design; participatory design; implementation.

The central idea of the proposal was to create simple and easy-to-learn games, preferably based on pre-existing game models, already known to children, at low cost so that it would later be easy to include them in a web platform so that they were downloaded and printed to be played in the context of the school break. The games should promote awareness of the modality of verbal, moral, social, sexual, psychological, physical, material, and virtual bullying.

Figure 1. Stages of the human-centered design process.



To know the existing solutions and their limitations, a survey of the literature was made based mainly on two FAPESP projects already approved and referenced within the theme. The students also read in class an article that addressed an analysis of the articles published in the last six years in the annals of SBGAMES (2010-2015) that deal with experiences of game construction in educational environments [6].

The board game was implemented as a racing game, initially, the board had a very simple and straight appearance as Figure 2, was made designed of this board with a curved path and illustrated with

figures related to scenes of bullying. Initially, this tablet was printed on an A4 sheet and the last prototype was printed in high resolution on coated paper, glossy, of high weight, this material made it possible to roll the board, which facilitated the storage and transport of the game, in addition to giving the board greater durability. Figure 3 shows the current version of the board game, the board houses feature colors, and each color corresponds to a set of cards, as the game progresses the cards get more complex. To address the theme of bullying created modalities of cards, with reward and punishment: challenge cards, if you fulfill wins reward if you do not fulfill t in a punishment; cards of type faça a compliment to another player; cards of type confess a situation in which you practiced bullying; c Identify the type of bullying in a situation described; cards of the type and express your feelings, where you learn that it is important to express yourself to relieve your emotional load and get support.

The second game proposed was the game of Mico and Memory, with the indication for teachers to encourage a discussion after the game to encourage children who have suffered bullying or saw attitudes illustrated on the cards to speak, to try to help them. The students set up a little box of paper to store the letters, and the letters were printed on thick paper. Figure 5 illustrates cards from the current version of the card game.

Figure 2. An early version of the board game.

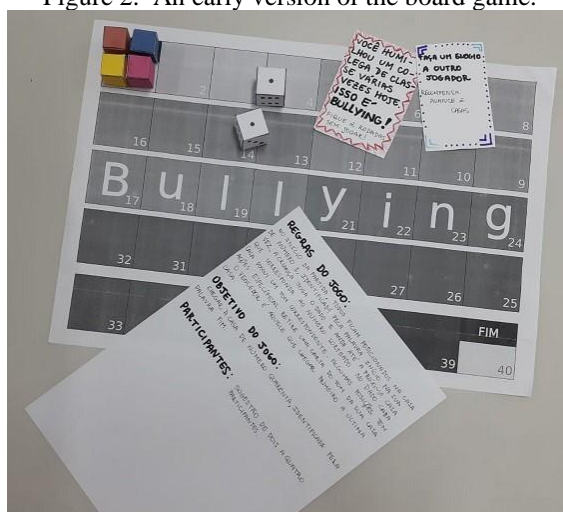
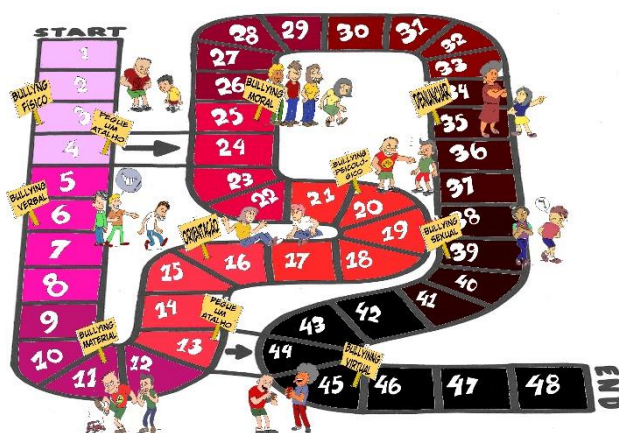


Figure 3. The current version of the board game.



The pilot usability test for the two games was applied to the students in the class who had not developed the game being tested. After observing the process of playing, each participant answered a satisfaction questionnaire, which initially raised the user's profile, and then asked questions to raise satisfaction with the game using a smile scale, as shown in Figure 4, since in the final version the game will be evaluated by songs. The purpose of this form was to raise problems and suggest improvements in the games.

Figure 4. Smile Scale.



With the results of the pilot usability test both games were improved, raised the following points:

- For the board game: one of the cards didn't make sense to the participants because they couldn't understand the command of the card; as there were questions in the letters, the participants complained that there was no template of right answers.
- For the card game: there was a complaint due to the similarity of the images, which generated confusion; surgeries the possibility of the cards being colored; a complaint about the quality of the material of the cards, because against the light it was possible to see the outline of the cards.

Figure 5. Cards from the Memory Game/Mico version.



5 CONCLUSION AND FUTURE WORK

The completion of the physical prototype of the games through the refinement to be done through the final usability test to be applied to the students of a public school in a region of high social vulnerability. This test is in the approval phase by the ethics committee, because it is a child user, and all the documentation for appreciation by the ethics committee related to the test has already been prepared by the students during the construction of the games.

One of the projects that supported this experience proposes the construction of a platform to combat school bullying. After refinement of the design, the games proposed here will be included in this platform so that they can be printed and used by children.

Creation of the digital version of the proposed games. The students outlined the interface design for the digital games, based on usability concepts, and some of them intend to continue working on the projects.

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