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Protection of Users: An Analysis from Product and Process Patents

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Keyword: Product patent; Process patent; Copywriting; User protection.

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Protection of Users: An Analysis from Product and Process Patents

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Abstract

This research seeks to describe the differences in patent filing of products and processes and the protection of the user. The research is characterized as descriptive exploratory of applied nature, with qualitative approach, having as method the technique of documentary research and documentary analysis. Normative Instructions 30 and 31 of the INPI and Law 9.279/96 were used. In the analysis it can be observed that process patents have a greater size than product patents, the state of the art is one of the main points of the writing of patents, drawings, flowcharts, organization charts and diagrams are present in process patents. It is concluded that the article raises a discussion about the importance of registration of patent processes, especially regarding the issues related to the user.

Keywords: Product patent; Process patent; Copywriting; User protection.

1. Introduction

According to Kotler and Armstrong^[1], product is something that can be offered to a consumer market, it can be for a mass market, segmented, niche or customized, in order to be acquired to satisfy the need or desire of a certain consumer individual or business. These products can be divided into basic ones that have simple functions and have a lower price, and higher products that are more sophisticated and more expensive^[2].

Prior to the fifteenth century the products were manufactured by artisans who were also holders of the production techniques, being passed on from generation to generation, having as main characteristic the personalization. Questions about commercial law and exploration of invention began to emerge with the development of the bourgeoisie, during that period, patent exploration issues became more evident and also Commercial Maritime Expansion, with the search for the opening of new markets^[3].

The process of developing a product is not a very easy task and requires a series of activities, such as: resource transformation and information management, so management is becoming increasingly complex for organizations, for factors such as globalization of markets, improvement of manufacturing Technologies^[4].

Product development is a major activity for any organization. Is considered one of the essential processes for the success, survival and renewal of the company, particularly for those of accelerated or competitive rhythms^[5]. In this way it understands that the success of the product in the market is related to the system of planning (internal), understanding of the market, development, implementation and support. Authors defend that product development is a step considered as spiral (cycles) where quality reveals the user's needs and are discovered through field research^[6].

Another ready to be discussed within this context is the 'process' related to product development, it comprises a set of activities in which the organization seeks to transform data on market opportunities in possibilities and techniques into goods and information for the manufacture of a product commercial. This process covers the sectors of organizations ranging from marketing, product engineering, production^[7].

“[...] The future will belong to companies that can exploit the potential of centralization in processes”^[8], in his article The New Challenges of the Company of the Future. What Gonçalves presents is that the process definition goes beyond the concept presented by engineering, that is, it goes beyond the concept of transforming inputs into output, it also describes endpoints, transformations, feedback and receptivity. The author also defines what process is interdisciplinary in the use of his word that in addition to administration we find other sciences such as sociology, psychology, biology, architecture, engineering and politics, all with similar use within different subjects^[9].

Understanding the importance of products and processes and a need for organizations, protecting these products and processes, makes them gain a competitive advantage. The field of science that has been developing to guarantee the right of inventors/organizations is Intellectual Property. The term "intellectual property" was first used in a judicial case in the United States in 1845, after which it was mainly used in that medium to contemplate copyrights, patents and trademarks^[10].

In general Intellectual Property is the right that an author/inventor has about his invention (patentes/processos) or work that can be expressed by any means: literary works, films, music, arrangements, scores, software, graphic models, drawings, recordings sound, photographs, paintings, etc. (Right of the Author)^[10], this right gives the applicant a protected term for his work.

According to the National Institute of Intellectual Property – INPI, here are two types of patents: Patents of Invention (PI) and Patents of Utility Models (PMU). PI's correspond to inventions of a technical nature and seek solutions to problems in the specific technological area, either product or process. As PMU visam melhorar o uso do objeto existente, diferenciar um do outro de uma maneira melhor, a funcionalidade das

IPs pode ser vista e a PMU como melhoria e não podem ser consideradas patentes de processos^[11].

This research seeks to describe the differences in the writing of patent offices of products and processes and highlights the points regarding the protection of the user. For analysis, the following information was considered: title, abstract, claims, descriptive report and drawings based on INPI Standards 30 and 31^[12] and Law No. 9,279 of May 14, 1996 - Industrial Property Law^[13].

2. Material and Method

Based on the established objective, the research had as a starting point the identification of the patent banks to carry out the search for deposited orders. The bases of CANADA, ESPACENET, USPTO and INPI were chosen for this purpose, according to Table 1, the criterion for choosing these patent banks was to have a sample of two types of documents, with access by electronic means.

Frame 1. Patent Banks.

COUNTRY	ADDRESS OF ACCESS TO PATENT BANKS
CANADA	http://www.ic.gc.ca/eic/site/icgc.nsf/eng/home
ESPACENET	https://www.epo.org/index.html
USPTO	https://www.uspto.gov/
INPI	http://www.inpi.gov.br/

Frame of patent application databases.

The research can be characterized as descriptive exploratory research of an applied nature, with qualitative approach, having as method the documentary research and documentary analysis^[14;15;16].

As the work is part of a qualitative approach, it was decided to analyze 6 (six) patents of computer gaming products and 6 (six) gamification pantalonos (process) of each patent bank. For the searches used the keywords: computer games and gamification, was considered the option of presence of these words in the title and in the abstract, the Bolivian operator "*" was used to expand the patent searches, the research was carried out in the period of December 2017.

The criteria for including sample patents was to select the patents closest to the objectives of this research proposal, the standard recommendations recommended by the World Intellectual Property Organization - WIPO: Cover Sheet, Descriptive Report, Complaints; Designs and summary of patent and normative instructions 30 and 31 of INPI^[12] and Law 9,279 of May 14, 1996 - Industrial Property Law^[13].

3. Results and Discussions

The search in the patent banks that presented a more relevant number of registrations was ESPACENET, followed by USPTO and third of INPI and later of CANADA, according to table 1. At the base of ESPACENET was found the largest number of possible deposits using the keywords in the title 381, also using the keywords in the summary were found 4,250 possibilities. We use the idea of "possible", since the keywords "Computer games *" are quite common in describing many technology-based applications involving games.

Table 2. Computer Games

PATENT BASE	QUANTITY OF ORDERS	
	Title	Abstract
USPTO	71	651
ESPACENET	381	4.250
CANADA	3	22
INPI	21	76

Table of the amount of patents found by keywords computer games.

The descriptors or keywords are important so that other researchers can use in case of future technological prospection and research for State of the Art for new applications. The two words used for research are quite common and can be used in various contexts, both for games and components linked to the development of games.

In addition to requests placed on games, the results obtained with the keywords "computer games" on all platforms correspond to devices, equipment, physical elements such as memory cards, consoles, boards designed to be docked in existing products.

The second part of the researched research was the search for patents and processes of the type "gamified", that word can be a popular neologism to highlight proposals that use the concepts of gamification, as described in the methodology researched through the word "Gamification *", both in the title as the summary, I make the data in table 2.

Table 2. Gamification

PATENT BASE	QUANTITY OF ORDERS	
	Title	Abstract
ESPACENET	105	185
USPTO	16	18
CANADA	4	3
INPI	-	-

Table of the amount of patents found by keywords gamification.

The result is quite different in relation to the first search of the research because the gamification is a process still under construction and its actions are being cataloged and mapped, it is interpreted by some authors as the use of elements of game of user engagement^[17]. Thus, gamification does not mean the creation or development of games, but rather the thinking of game mechanics in non-game context^[18]. The study of gamification has been growing every year and becoming popular in the academic environment^[19]. Gamification can be considered as an emergent phenomenon, derived from the popularization of games, mainly the intrinsic capacity to motivate action, solve problems, enhance learning or other actions involving individuals^[20].

3.1 General Analysis of Selected Gaming Patents (Product)

We analyzed the applications found and selected in accordance with the research the patents in the database of Canada and INPI. No order deposits were found in the ESPACENET and USPTO banks, it is worth remembering that the games were ordered as a product and not as components and elements of technicians such as: boards, consoles, adapters, memory cards, among others, all of these were found in all the patent bases.

Frame 2. Product Patent Summary

PATENT: COMPUTER GAME	
CLASSIFICATION	A63F 3/02
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	The invention relates to a type of board game connected to the computer. Can be player for up to 4 players actions are triggered by a touch-sensitive screen The application has a design in the form of a floor plan.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	The game can be characterized as a digitized board game that can which presents as differential an interaction by means of a touch screen.
PATENTE: GAME OF SKILL OR CHANCE PLAYABLE BY SEVERAL PARTICIPANTES REMOTE FROM EACH OTHER IN CONJUNCTION WITH A COMMON EVENT	
CLASSIFICATION	G06F 15/44
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	The request describes with a playable skills (odds) game among various participants, the game events can be a computer game. This patent differs from others that do not require a game cartridge, or the diskette displays a type of frequency-type telephone connection to each player's personal computer. According to the description, the game may resemble a casino game played by several participants at different points.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	The fact is the 90's, considered similar to a series of digital games that can be played as the online games are very common today.

Criteria for analysis of product patents.

The patent Computer game draws attention because it is a patent request for gaming in the year 1996, when personal computers began to become popular with their connections in networks, that is, people began to deal with various types of machines which contained some kind of computer in the form of microprocessors including electronic games^[21].

With the development of information and communication technologies, the processes of human-machine interaction began to become the object of study of many scientists. With the evolution of technological resources the 'tactility' as presented by^[22] "has become an essential element for communication in applications installed on these mobile devices, which use the touchscreen or touchscreen feature".

The haptic interfaces correspond to a search for interactive technological devices that allow a process of interaction with virtual systems in a sensorial way and similar to the interactions present in the physical world, to the ideas of these studies can be evidenced from the creation of the mouse to the joystick as human interaction objects -machine. The patent application becomes innovative for its proposal of interaction with sensitive screen for the requested period, later technologies like Wii (Wii-remote) in game only to be released in 2006 by Nintendo, revolutionizing at the time the market of games as well as play^[23]. Today's online games are played by hundreds of thousands of people around the world. The patent application under analysis corresponds to the type of games that can be multiplayer players at the same time, this type of game is known as MMOGs (Massively Multiplayer Online Games), a type of game that connects several players in a digital world to solve the many types of challenges, in many cases players develop their own character^[24].

What makes the difference in this type of game is what they seem to consider, the shared experience, the collaborative nature of the activities (for the most part), and which the authors consider more important, is that the reward system is socialized among the community of players and acquiring a reputation among them^[25].

Frame 3. Product Patent Summary

PATENT: VIDEO GAMES INTERATIVOS	
CLASSIFICATION	A63F 13/40
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	Request is an interactive game that can be played on a mobile device. The game deals with a half-screen calibration interaction, where a character can perform various actions by moving the mouth. The game is designed to work in conjunction with marketing actions. On request it has a basic game design, also has game image besides the code used for the development of the attached game.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	The game becomes interesting because of the synchronization of the player with the interactor to perform the actions.
PATENT: JOGOS INTERATIVOS PARA INTERNET, VÍDEO GAMES E COMPUTADORES COM UTILIZAÇÃO DE IMAGEM DE PESSOAS FAMOSAS.	
CLASSIFICATION	A63F 13/00
CRITERIA ANALYZED	COMMENTS

BRIEF DESCRIPTION	This request presents a proposal of game with famous people (artistic and communication as: musicians, actors and actresses, other professionals tooth), but does not make clear what kind of game, can be played internet platform, video games and computers. The idea is to be marketed, but it has a social character where parts of the profit will be donated to social projects.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	The description and the reports are very simple, leaving little understanding with the request, not being made the cartoon.

Criteria for analysis of product patents.

While the request does not make it clear, by the means of the patent claims, he can be classified in a game category known as 'advergaming', games of this type are developed especially for brand promotion, the idea is not written solely by the fact brand in a game and yes the game developed especially for this purpose, mostly online games where brand or product is the center of advertising^[26;27].

3.2 General Analysis of Patents of The Gamification Type Selected (Processes)

The process patents were analyzed, in the same way as those of products, considering their abstract, their description and claims, this information was organized in a Quarto abstract, patent title, classification and nature, an opinion was also organized as an overview. are shown in Tables 4, 5 and 6.

Frame 4. Process Patent Summary

PATENTE: GAMIFICATION OF ACTIONS IN PHYSICAL SPACE	
CLASSIFICATION	A63F 13/428
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	The patent request corresponds to the gamified system of a physical space. The idea is to provide a systems and methodologies that progress the actions taken within the physical space to allow a person's physical activity to be organized in an experience where with the help of technology the steps have meaning based on stories, rewards, statistics or feedback .
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	The request is well written, the claims are well detailed, it presents as support a software coupled to the room promoting interaction, besides having processes of organization of charts, maps and schemes.

PATENT: INTENERT GAME APPLICATION OF A MARKETING AND LIFESTYLE ENHACEMENT PROCESS WITH A PROFESSIONAL AN NON PROFESSIONAL SERVICE PROVIDER IN SALES INSDUSTRY	
CLASSIFICATION	G06Q 30/02
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	The patent is a request for the development of a decision-making system that can be applied to an organization or team distributed in a city, state or country.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	An idea is very simple and without many changes in relation to the content development process. The drawing is not just an organized scheme like steps it details well all the processes.

Criteria for analysis of process patents.

The two analyzed applications of CANADA bank and patents, presented in Table 1, are different requests regarding the processes, making it evident how much gamification can be applied in various contexts. While the first application as a physical space to allow physical activity, the second seeks to engage person for decision-making with integration with teams.

Argue that gamification has gained popularity as a technique capable of increasing user involvement, but the authors make it clear who has few studies as to their impact on the life of an individual or society that may involve different side effects and in some way unexpected^[28].

Such consequences are rarely taken into account in the current gamification debate, which gives for granted a number of assumptions related to games, enjoyment, and behavior change, that actually should be discussed in deep^[28].

It is interesting that the authors raise this discussion. There are implicit objectives in the patent applications of analyzed processes, one of the main objectives that involve gamification is the change of behavior, in this way the user can be directed to other objectives than the ones intended by the user.

When we analyze a patente Intenert Game Application of a Marketing and Lifestyle Enhacement Process With a Professional an non Professional Service Provider in Sales Insdustry, gamification We understand that it is a process considered a trend in service marketing, this type of strategy is one of the main areas where the concept is present, and can be defined as “[...] a process of providing affordances for gameful experiences which support the customers’ overall value creation [...]”^[29].

The author further argues that the simple inclusion of elements of the game into activities (processes) may not necessarily guarantee a successful gamification, this is a popularized view that adding the mechanics of games in services, for example, can make it more attractive and retaining the customer needs to be well organized and planned.

Frame 5. Process Patent Summary

PATENT: SYSTEMS AND METHODS FOR GAMIFICATION A PROBLEM	
CLASSIFICATION	A63F 9/18
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	The invention presents a proposed method of gamification to solve scientific problems by means of information exchange between users (players), to support a computer system so that more than one user can exchange information.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	The patent is well written, having as complement of information, scheme, organization chart, process flow diagram.
PATENT: TOLL IMAGE REVIEW GAMIFICATION	
CLASSIFICATION	A63F 13/46 - A63F 13/798 - A63F 13/50 - A63F 13/80 G0K 9/32 - G0Q 50/30 - G08G 1/017
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	The patent corresponds to a method of expediting a toll tracking process with vehicle license plate images which identifies a certain region of interest of the image which represents an identifier of the vehicle, ie after the generation of the first image a series of other images are generated. It is not a game, but a computer implemented method to gamify an image review process.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	This request consists of evaluating that gamification can be used in any type of process to improve its performance. As it is a job that requires the monitoring of a very repetitive user and must be thinking of motivating the visualization of the images of the boards and optimize the time of the operator. The patent has a scheme for the process in images of screens of the system where the place happens the activities.

Criteria for analysis of process patents

The patents selected in the ESPACENT database also have two different proposals, the first has contributions to problem solving and the second to the system of improvement of repetitive processes of an activity of a function.

Gamification studies are new and used to improve services through motivational resources that invoke game experiences, there still exist in the view of the authors a space for a wide variety of studies that could be framed as gamification, currently the most implementations are being in the context of education and

learning. Within this perspective, in the teaching and learning process, studies show an increase in motivation and engagement in learning tasks, as well as pleasure in tasks^[19].

After some successes of services on digital platforms of games, social media and geolocation services, some companies have applied gamification in various activities (processes) and mainly in non-game contexts, gamification is applied in several areas, promotion, loyalty, health in other actions^[29;30].

Frame 6. Process Patent Summary

PATENT: SYSTEM AND METHOD FOR HANDLING GAMIFICATION FRAUD	
CLASSIFICATION	G06Q 30/00 - G06Q 30/02 - G06Q 30/0225
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	The patent corresponds to the system method for dealing with fraud, corresponding to a data processing technique that seeks to detect fraudulent activities by users. Detecting scam fraud, at the initial time is included some kind of time delay before a user is allowed, the time delay allows review of the stock history if there is evidence of fraud between a first user and a second user.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	The request corresponds to an unclear and very sophisticated invention for the processing of scandals. Made to run on various types of platform. The request has a drawing, a schematic, a flowchart that details the entire process of the patent.
PATENT: GAMIFIED EXERCISE APPARATUS SYSTEM AND METHOD	
CLASSIFICATION	A63B 24/00 - G03G 15/00
CRITERIA ANALYZED	COMMENTS
BRIEF DESCRIPTION	The patent is an individual physical management system that can be monitored by platforms in the form of subsystems. Basically, the exercise system is similar to a set of activities, used by an individual to perform repetitions of one or more limbs, which allow the user to perform low level exercises. You can download online.
WHAT IS THE NATURE OF THE INVENTION?	() MU- Utility Model (x) PI - Invention Patent
OPINION	The patent application is well written, the concept of gamification is used for user interaction, having only as a complement a scheme as a drawing.

Criteria for analysis of process patents.

In the previous patent banks, the requests selected at the USPO also present very different proposals, one involving an activity very similar to ESPACENET Toll Image Review Gamification and another with a

process related to physical exercises such as CANADA Gamification of Actions in Physical Space, this reforms the idea of the possibilities of application of the concept of gamification for process improvement. To a certain extent there are many works and research carried out with gamification highlighting their positive points regarding motivation and employee involvement, however^[30], raises that the negative questions regarding the use of gamification is neglected, for the authors when it is badly applied it can be detrimental to social and mental well-being in the workplace.

3.2 Overview of the Education of Product and Process Patents

The following is an overview of patent offices in accordance with INPI's normative Instructions 30 and 31^[12] and Law No. 9,279 of May 14, 1996 - Industrial Property Law^[13].

The patent titles of both products and processes are written in a clear and objective manner, with an average of nine words in each request. The abstracts were analyzed according to art. 7 IN 30 and art. 22 IN 31 INPI, presented the invention and the sector to which they are inserted, being possible to understand the request during the reading, for the process requests (gamification) the summaries presented more information than the product requests mainly in the descriptions of the involved methods.

As for the description report was analyzed according to art. 2 of INPI's Normative Instruction 30, all presented only the description of the invention, the paragraphs were numbered, they presented the state of the art, at that point their presentation for the process patents was important to understand the application of the process that was being patented. They also presented the problem, solution and objectives of the invention, the drawings were duly identified and numbered.

The Claims were based on art. 3 and 4 IN 30 INPI, all were numbered, based on the descriptive report, when the application with drawings mainly in the cases of patents of processes, the technical characteristics, were identified in numerical order in parentheses, making reference to the indications with drawings. For the drawings, they were considered art. 8 ° IN 30 INPI and art. 18 IN 31 INPI, the numbered pages, easy-to-read legible designs, process diagrams, block diagrams, flowcharts and graphs were presented, these elements were more present than in the patents of products, their most readable with reference and guidelines.

Given the importance of the description and the information presented in the patent sessions, none was presented to the session on user protection, especially in process patents presented by the authors, which show that gamification can change positive/negative behavior change^[29;30].

4. Final Considerations

Product development is fundamental for companies to remain competitive in the market. In the same way, its processes have been gaining prominence in the context of innovation and technology, within this scenario, the writing of patent applications becomes a challenge for organizations and inventors who wish to write their claims for protection of their inventions (products/processes), they must observe the rules and laws for this writing to be in accordance with established standards for the granting of patents.

In the course of the analysis, the main aspects related to the patent applications of products in relation to the processes is that the latter has a rigor of details in the writing of its description and claims, a point of similarity between the two projects in question is the state of art, considered important for product patents, at process patents can be detached: Drawings, diagrams and flowcharts are components of process patents. Another point that became evident is that both the writing of a product patent document and the process by means of a title and summary keywords are crucial for patent seeking in both national and international patent banks.

Finally, it should be pointed out that the article may raise a discussion about the importance of patent filing of proceedings, especially with regard to user issues, since none of the requests raised concerns about this point. What should be evaluated with discretion is that when granted a certificate of an application for it to be marketed in the market, individuals and society need to be aware of the positives and negatives only what are highlighted in the patent reaction are strengths. It is necessary that inventors and companies, can observe the crucial points of their products and processes and their relation with the protection to the users. In view of these considerations, it is concluded that user protection in the design of request should be in line with ethical principles, especially safety, as such principle, when described in the writing of the patent application, may have an ineligible contribution for user protection, allowing the user to consciously enjoy products and services.

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