Building up a Verified Page on Facebook Using Information Transparency Guidelines

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Abstract. Online credibility is a quality pursued by users, business and brands on Internet. Having a verified page on Facebook means improvement of the social web presence, reliability and reinforcement of security against impersonations of identity, unwanted fake pages and spams. Since the Facebook's page verification request has become more complex and the requirements to receive a verified page badge are uncertain, this paper describes the use of foundations of transparency on information systems to fulfill the data on the forms of the application for verification to improve the success in receiving the verified page status.

Keywords: Transparency · Facebook · Social networks · Verifiability · Pages

1 Introduction

The Online Social Networks (OSNs) expect transparency and integrity from users about their names, informations and the interweaving of personal, professional and social life. Although the OSNs looks forward for characteristics of data previously stated, the process of building an identity as a mechanism of individualization is under a subjective approach in this kind of system. This subjectivity is associated with the identity appropriation of a person, company or institution and it happens when people behind fake accounts take advantage of information verification weaknesses in systems with a huge amount of active users such as OSNs.

Among the actions of fake accounts users operators are: the audience manipulation, creation of biased information about an individual or organization, and duplication of identity for fraudulent intention. As an example of the number of people exploiting this information verification gap, we can cite the social network Facebook has approximately 83 million of fake profiles (disregarding users involved with tests and those who have more than one account for content segmentation purposes) [1]. The frenzied speed of information and misinformation spreaded in OSNs and it's tendency to generate mass behavior increase the focus on researches about users and pages information disclosure and the content that they publish. Under transparency foundations, the characteristic of Verifiability becomes essential for systems that are intended to be a reliable source of information for their users. Trying to minimize problems caused by

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fake accounts and consequently avoid the spread of misinformation by operators of those accounts, the developers of the most prominent social networks such as Facebook, implemented the verified pages and the verified user profiles.

Through a methodology based on design science research, this paper presents the use of characteristics included in a catalog of information auditability in social networks [2] in guidance to fulfill the necessary data to create a page on Facebook with more chances to receive the status of verified page. Strengthen the knowledge base about the process thats allow users, companies or institutions to have verified pages is important to make possible solutions in a scenario where obtaining a verified page is a way to be recognized in OSNs avoiding the creation of fake pages and identity theft.

2 Online Identities

In the past, people behind anonymous profiles on Internet used to spread unreliable content through forums, chats and other online communication tools. The online anonymity covered up malicious practices, but today with the predominance of OSNs, any published content on these systems is associated with a well-defined identity of a page or user profile [3]. Even with the premise of the personification of the offline identity (use of the real name of a person, company or institution) this aspect is not enough to determine the credibility of the content published by users or pages in the social networks. People with bad intentions have noticed the inability of some users to distinguish between real and fake profiles, especially pages of public figures and companies. In this scenario it's possible to manipulate users through attractive content share from a fake profile or page [4]. An example of this type of action are scams from fake Apple's pages on Facebook publishing advertisements of free iphones and ipads [5], these publications were clickbaits and directed the user to malicious external websites.

The option of page creation was available from the early years of Facebook and the purpose of pages is to create presence of business, organizations, public figures and brands on that social network [6], but in May 2013 the company launched verified pages to help people find the authentic accounts of public figures, celebrities, organizations, governments and highly sought users in areas like journalism, sports, music and others [7]. Twitter [8] and Google+ [9] had already such a practice by identifying the authenticity of well-know user accounts and organizations. From this perspective, when the operators of verified page publish information or interact in OSNs they will be heavily observed, leading the spreaded content for a central position of surveillance from other users.

2.1 Research About Fake Pages and Profiles in OSNs

Close to reach the mark of 2 billion active users monthly [10], problems with fake pages or profiles are recurring on Facebook. The researchers watchful about this scenario studies the increase of false accounts and the use of these accounts for scams, frauds and social engineering on social networks.

Mawere and Mpofu [11] analyze attempts of scams made by people with malicious behavior that use fake pages to deceive users. The main method applied in these scams is to gain the trust of users who access a particular page, extracting as much information about these users. The users believe they are accessing official pages because the impostors copies real pages in all aspects such as images, published multimedia and general information. The fake pages related to business and organizations are also used for defraud users, collecting their information through scams and using it to spread spam and theft of financial data. Public figures, organizations and companies can protect their identities by requesting the verification of their accounts in OSNs. In the research cited above solutions are discussed such as report of fake pages through the Facebook Help Center.

According to De Cristofaro et al. [12] fake pages are built on Facebook primarily to attract attention and users 'likes'. After earning the expected audience, these pages can be used to influence more users and make money from advertising and promotions using their false reputation. The method of attracting user audience through attractive offers is known in social engineering as *honeypot*. In addition to promoting content that attracts users these fake pages increase their numbers of followers using underground Internet services like 'user farms'. Behind the user farms are companies that offer services of creation of fake user accounts to endorse pages, creating a false audience. Users usually trust in pages with a huge amount of followers and likes, but in the case of pages used as honeypots this number was manipulated through the services of user farms. As a suggestion to solve the problem the researchers demonstrate actions to perform the elimination of fake pages by analyzing the user profiles that support them. The fake users have a behavior of system usage that allows to differentiate them from the legitimate users and when these fake users are removed from Facebook the audience that they give for fake pages is also suppressed.

The research of Fire et al. [13] discuss the use of data from pages and profiles by Facebook Applications. Due to the inexperience of users with privacy settings setup, their sensitive information is accessed by applications and can be used to create fakes on Facebook or external websites. With access to sensitive information malicious users can create fake pages with real data, assuming the identity of people or companies to deceive others. The presence and reputation of a user or company on Facebook can be used to apply scams outside the context of the OSNs, since several websites accept logins through accounts of that social network. The work of Fire et al. describes the use of softwares of *Social Privacy Protection* (SPP) as a solution to keep safe important user data from being used for fraudulent purposes.

3 Information Transparency on Social Networks

The popularity of OSNs has boosted the distribution of information globally and for an individual or brand to stand out in this digital ecosystem it is necessary to be transparent and be prepared to explain their conduct [14]. Due the overwhelming amount of content published on Facebook, if a hoax is created and spreaded by a fake account impersonating people or companies, the owners of these real identities will have not the control without a strong presence in this social network. The lack of attention of some

individuals when dealing with uncertain sources of the information is worrying, especially in the moment that the malicious users of social networks started to create fake pages of celebrities and companies to attract and scam people.

To perform a transparent communication for users and strengthen the presence of a public figure, brand or institution, the social network should have auditability, in other words, the capability to examine the information carefully and accuracy with the intent of verification [15]. The OSNs with the ability to audit information and provide verification mechanisms allow the analysis of publications that can unmask fake pages and also protect the real pages already marked as verified. The auditability of information in social networks can be promoted by the use of guidelines that follows a catalog with the proposal of designing transparency of information in this kind of system [2]. This catalog of information auditability in social networks is a conceptual model generated from the elicitation of software's non-functional requirements related to aspects of information transparency [16].

The catalog was made by setting objectives that the software should meet (softgoal) until the operationalization and implementation of these objectives [17]. The representation of the objectives cited above is supported by Softgoal Interdependency Graphs (SIG) and the SIG of catalog of information transparency in social networks is shown in Fig. 1. Among the characteristics present in the catalog of auditability of information in social networks we have the following: Accountability, Adaptability, Clarity, Completeness, Composability, Correctness, Extensibility, Traceability, Uniformity, Validity and Verifiability. These characteristics have operationalizations that, when used, will contribute to system auditability either in the implementation of a feature by a developer or in a user action in a particular section in the OSNs. We detailed below only the characteristics contextualized to this article.

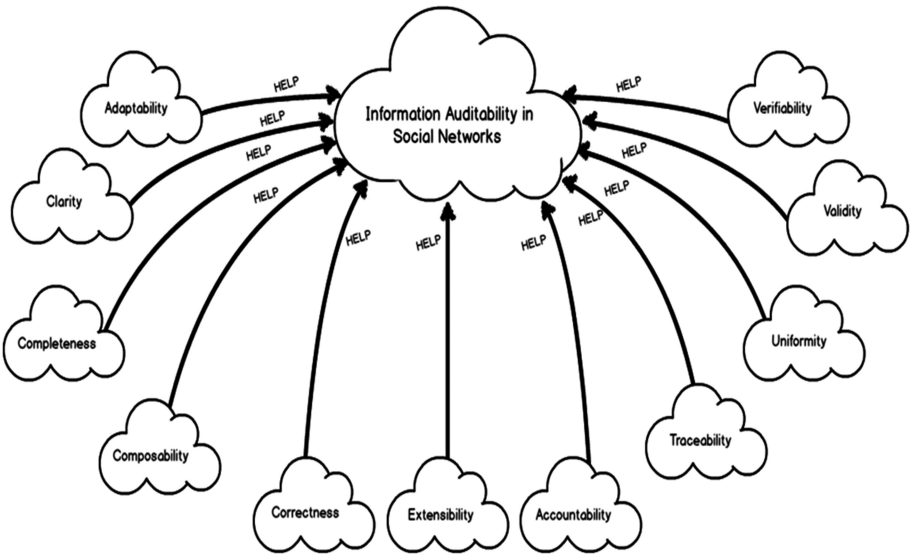

Fig. 1. Graphic notation of the catalog of information auditability in social networks.

The Facebook page verification mechanism is an example of Verifiability implementation because it helps the user to evaluate information and make decisions about content generated by a particular page. Users behavior is different when the information they access comes from a verified page. The users can identify verified pages because a visual element is displayed on the page and helping to understanding that it is authentic and passed through a previous check of the social network. This visual element that alerts users about the authenticity of a page should be present in the system as a whole. For example, if some user searches for a page on the social network the verified page one will be highlighted among the others. Due to these definitions the characteristic of verifiability is the one that best represents the objective of this work.

When a page is created some information is requested about the identity that this page will represent on the social network. For example, to built a business page on Facebook details such as business phones and opening hours can be informed. The availability of these data agrees with characteristic of Composability, which uses information from different sources to reinforce the content supply. A business page presents reliability when it shows a contact phone, so users can call and check the legitimacy of a business. Celebrities (public figures) can make available on their Facebook page a link to a website with information complementary to those one on social network or a bundle of multimedia items like videos and photos. Any initiative that stand up the use of trustful external information that helps to validate the information already present in OSNs will count as use of composability characteristic.

Along with the composability also applies to this research the characteristic of Traceability. In the evaluation process made by OSNs, the data entered or publish by the owner of candidate page for verification will be tracked. The page's owner needs to prove that the page represents a public figure or brand it claims to be, so the data is tracked and analyzed. The tracking to give a page the verified status can include in the process requests for real evidence of page ownership like presentation of ID card or other official documents to evaluation teams of the social networks.

3.1 The Power of a Verified Icon

To increase security and transparency, several systems uses visual aids to alert or inform their users about their actions or status. An example is the lock icon displayed by browsers when a page that handles security certificates is accessed. When the lock icon is displayed, users have greater perception of security in their online access [18]. Following the initiative to increase their safety, the OSNS adopted a verification icon as a way to identify verified pages and accounts. On Facebook, verified pages have an icon with a check mark (blue badge) along their names and this icon also appear in related search results, timelines and other sections in the system. For pages of business or organizations categories a gray badge is displayed. Twitter, Instagram, Google+, Sina Weiboand other social networks uses an icon to indicate the verified account, following a pattern using the mark sign or a letter V for verified. This visual feature reinforces for users the special condition of those accounts (Table 1).

The struggle of OSNs administrators is to avoid scams and impersonations made by people using fake pages or profiles and these were some of the reasons that led to the

Table 1. List of icons displayed on verified accounts or pages in some OSNs

Icon	Online Social Network
	Facebook (For public figures, media companies and brands)
	Facebook (For business and organizations)
	Twitter
	Instagram
	Google+
	Sina Weibo (For people)
	Sina Weibo (For business)

creation of accounts verification mechanisms [19]. Even pages created by public figures fans can compromise the reputation of the original identities. An opinion issued by a public figure can influence people in different contexts [20] and held a verified status protects its owner against hoaxes or unwanted impersonations. Being verified also represents a way to reclaim lost impressions, disqualifying suspicious pages or profiles. For companies and brands the verified status the verification status represents to be highlighted in their segments, improve their credibility and social search presence in addition to increasing protection against spam involving their identities. Some OSNs give privileges to verified account holders such as: earlier access to new features, more elaborate statistical data and unique applications. These benefits emphasize the importance of verified accounts and increase the credibility of the information spreaded by them.

4 Projecting a Page with Transparent Information

To unfold the possibilities and features of a popular social network like the Facebook, it is necessary to detail the steps taken during development of the work, opening the research topic for discussions and verification. To reach the definition above, we use the methodology of *Design Science Research* (DSR) in this article considering the importance of delivering content that should be assimilated by both: academia and society [21]. The DSR approach laying at the need of general people understand a research topic is also related to the systems transparency foundations and the concernment of user understanding in issues about the features that an information system offers, the purpose of these features, how they work and how to use them [22].

To begin creating a page with the intention of submitting it to the verifications procedures and avoid the fake ones, some observations about the scenario of operation of this mechanism in other OSNs besides Facebook is important. The openness of application for users with less notoriety to the process of verifiability of their accounts in social networks made the rules less strict for an account be verified. Although the

rules to be followed from users to receive verified status on their accounts are not transparent, due to the fewer requirements for application, the number of verified accounts began to increase in some OSNs. The Facebook does not provide public data on the number of verified users but the trend of more users getting verified account status can be seen on Twitter in the account that groups only verified users [23]. At this point the goal of this article is analyzed, considering the possibility that a user with less notoriety but who has some influence in a particular area (public figure) can use transparency guidelines for social networks to increase their chances of having it's page approved in the application for verification on Facebook. With the "verified status" and establishment of the presence in the social network consequently the protection against fake pages and unallowed impersonations is reinforced.

4.1 Fill up the Forms to Build a Traceable Page

To create the page with information filled following the transparency guidelines for social networks, the first step was access the Facebook[1] and at the bottom of the website, to click on the link "Create a Page". After click the link, we went introduced to different categories of pages that can be created as shown in the Fig. 2. In this work we used as an example a page from the category *Public Figure*. The idea is to explain characteristics and operationalizations from a guideline of transparency in social networks used in the submission for verification of a page created to establish the social presence of a teacher in his area of research. Despite the existence of a subcategory called teacher we did not select it, since only profiles of the category public figure can be verified.

With the category filled in and a given name to set the identity (in this case the teacher name's) we clicked the button "Get Started" that bringed us to the page setup. At the setup the actions were the definition of the page identification image and the page background image. The display of these images is mandatory and the visual appeal is very important for the page exposure.

Afterwards, to ensure the traceability of the page, the system offered the creation of a unique friendly link for direct access to the page created. The URL is created from the username given to the page (not the page name) and can be used for quotes within Facebook when preceded by the @ symbol. Another relevant information that must be provided is the URL of a website outside the social network containing important data, complementing and ensuring the reliability of the information on the page. The availability of a contact email is also relevant in this context.

The exposure and the number of page followers can help in the verification process and the concept of a public figure concerns to be popular and to have followers in the social network. The Facebook provides a page promotion tool that enhances the display (like advertisements) of the page across the system and also on Instagram, but the tool is a paid feature. People and brands interested in reach a larger audience, as quickly as possible, use the promotion tool to boost the exposure of their pages. The page

[1] https://www.facebook.com.

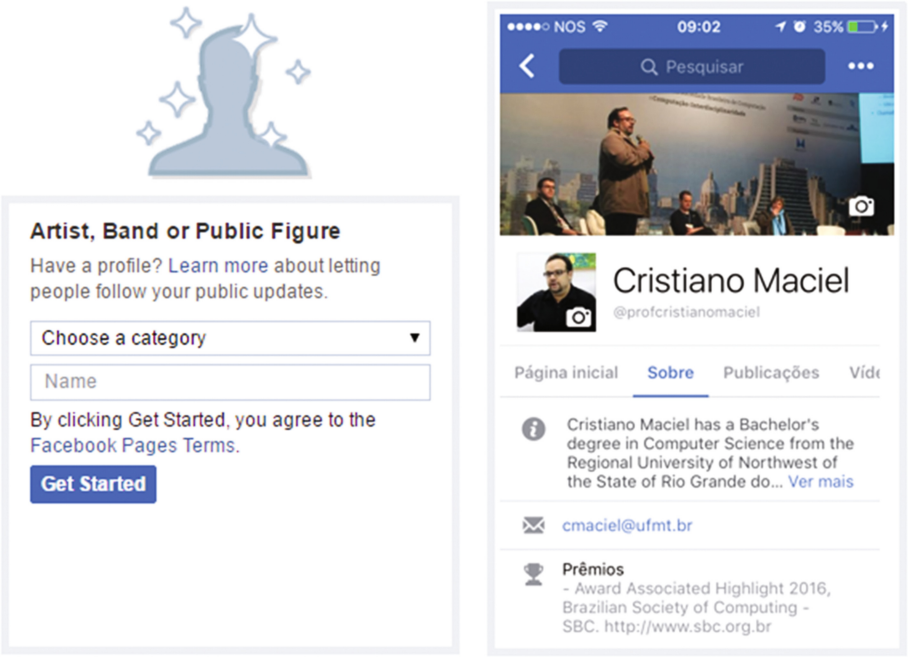

Fig. 2. Selection of the page category and example of the page displayed on a mobile device.

promotion option ends up reinforcing the credibility and traceability, since the financial data of people that use the tool will be informed to the social network.

4.2 Using the Composability Characteristic in the Biography

The data informed about a person's identity can be analyzed in their source, some of these sources are external to the Facebook and the need to take advantage of information from external sources to reinforce the credibility of the content is related to the composability characteristic in the transparency guidelines for social networks. Any knowledge that adds value to information about a person can help in a assessment for verified status even this data is stored or supplied by other systems [2].

Following the composability feature explained above, we filled some fields on the form option "About" located at the page setup as shown in Fig. 3. Formerly, in the Story field, a long biographical description with relevant information about the candidate page for verification was provided. This information describes the qualities, lifestyle and works that promote the identity of a page as a public figure category. Following the category of a public figure used at our example page, relevant biographical data are: important publications, general projects in progress, promotions and recognition of the community. The field story should contain links to news, events and publications highlighting the person's notoriety as a public figure to reinforce the success in the application for page verification.

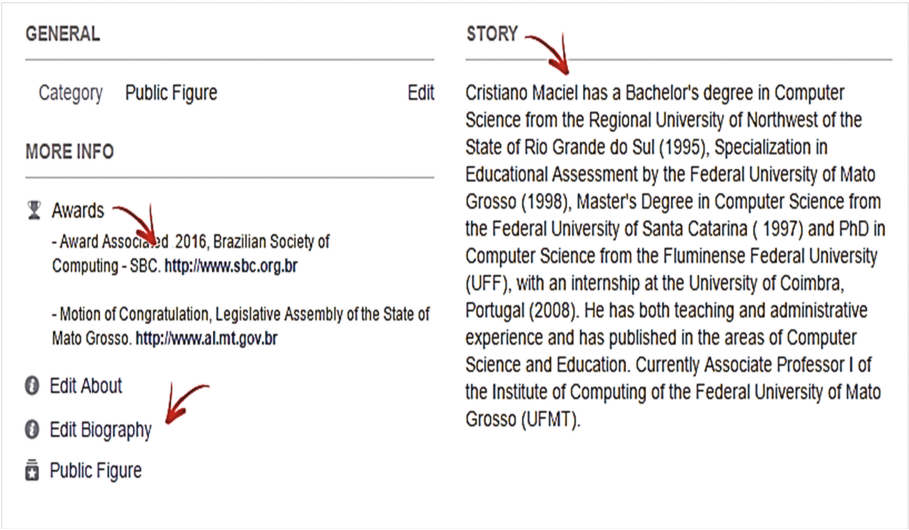

Fig. 3. Example of information filled in the form option "About" at page setup menu.

Fig. 4. Exploring the multimedia capability of the page with videos and notes.

Unlike the story field, in the Biography field the description should be shorter without including the links. The data in this field is usually displayed in smaller panels to follow some visual design patterns in the social network. The About field, that has a 255 characters limit, should receive objective description as a brief summary of the page, it is not biographical and should not have links.

There is an exclusive field to inform the awards received by the individual represented on the page. Usually award winning ceremonies have records that can be referenced in this field, links with news and multimedia of these awards are important to be informed.

Multimedia content is not only important on the page setup, but also in the updates of the page and in the menu options videos or notes. As shown in the Fig. 4, we take advantage of all the tools to include information that proves the notoriety of the identity portrayed on the page such as videos imported from Youtube and notes from blogs or websites.

4.3 Public Figure Page Verification

Until the launch of the Facebook Mentions mobile application in 2014 July [24], Facebook maintained a form page where users could submit their pages for verification. The application form has been discontinued and only submissions for verification of business and organizations pages are directly available from Facebook nowadays. Since then, Facebook Mentions has become the application where the page verification request can be made besides having exclusive. The Facebook claims that the Mentions application is a better way to for verified pages owners to interact with their followers [25]. The application allows live broadcasting, simultaneous sharing of updates to various social networks, improvements in communication with followers, summary of trending stories and other features.

To submit our example page for verification we downloaded the Facebook Mentions on a mobile device and after starting the application we clicked on the "Get started" button. After the start, we entered our page name at login but the application only allows the login of pages already verified, so we used the option "My page or verified profile isn't here…". When choosed, the option for unverified pages redirects to a form containing a list of pages candidates for verification that were created by the user logged in as show in Fig. 5.

We selected the page used as an example for verification and after submitting the form the system directed us to a Facebook support page with the notice that the request will be evaluated by the responsible team of the social network. At this point the requester need to wait the response to get the page verified.

The step of page evaluation to earn the verified status is not transparent, just as the process for requesting the verification that became more complicated after the closure of the form allowing this action to be made directly by Facebook without relying on the Mentions application. Since this process is not clearly explained in the user support pages of Facebook, the guidelines in this article can help those who wish to verify their pages and have characteristics that distinguish their identity as a public figure.

Fig. 5. The Facebook mentions application and form to request page verification.

5 Discussions and Future Works

The proliferation of fake pages and attempts of impersonation in social networks became a problem since many users do not realize that these pages do not produce reliable content and are source of misinformation. Some OSNs like Facebook have created mechanisms that help legitimize pages of businesses and public figures. This mechanism highlights the pages that have passed through the analysis of a team of social network experts to check the veracity of the information about the ownership. After it is analyzed successfully a visual element identifies the verified pages.

Seeing the page verification as a guarantee of greater protection against fake pages, public figures and brands have started to request the verified status to the social networks administration teams also as a way of reinforce their presence. The verification application process is not transparent and Facebook changed making this request more difficult by public figures interested in verify their pages.

After exposed the problem, we showed a way to create a Facebook page on guidance of characteristics of audibility of information in social networks so that people recognized as public figures can have their chances improved. The explanation was made using DSR methodology. As opportunities to future works about the subject we can highlight the submission to verification of Facebook pages following the guidance of this article to analyze success in achieving verified page status. Another research extension of this article addresses issues related to the power of verified profile

when spreading information compared with fake pages and the exploration of features and statistics provided by Facebook Mentions that only those who own verified page have access.

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