EVOLVING ICONS: THE PERCEIVED AFFORDANCE OF DIGITAL ICONS

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Abstract: Icons have become an indispensable part of our daily lives, from physical wayfinding systems to digital interface navigation. We rely on them to guide us and make our lives easier. However, as the world and technology continue to evolve, it is essential to question the utility of old icons and explore the need for new ones. Additionally, the way icons are perceived and interpreted by users may also have evolved over time, requiring a deeper understanding of the functional and aesthetic values that need to be considered while designing new age icons. Overall, icons remain a crucial part of our intuitive navigation systems, and their continued evolution and relevance are essential to our daily lives.

This paper aims to explore the evolution of icons in the age of technology and the arguments surrounding their need for contemporary relevance. The first argument we will examine is whether icons that do not evolve with changing physical objects and places should be updated to remain relevant. The second argument is the considerations that need to be made when changing icons to maintain their effectiveness. Designers must ensure that new icons accurately represent the objects and places they signify while being easily recognizable and understandable by users. It is crucial to communicate any changes to users effectively and provide clear instructions on how to interpret and use the new icons to avoid confusion or misunderstanding. By understanding the evolving nature of icons, we can ensure that they continue to play an essential role in guiding us in the right direction on our devices.

Index Terms - **Iconography, Symbolism, Technology, Signifiers and Signified, Hieroglyphics, Function and Form, Digital Communications**

INTRODUCTION

In today's age of technology, the use of icons has become an essential part of our daily lives. These icons are used on a variety of devices, and they play a critical role in guiding us in the right direction. As John Berger stated, our perception of things is heavily influenced by what we already know. Therefore, our understanding and interpretation of icons are also determined by our knowledge and experience.

Icons are designed to resemble objects and places that were popular and relevant at the time they were created. The validity of these icons depends on how closely they resemble the physical form of the object they represent while still conveying the association they denote through their appearance. However, physical objects are constantly evolving, and this raises questions about the continued relevance and accuracy of the icons that represent them. How do icons continue to be perceived accurately by their constant signified form when the objects they represent are constantly changing?

The evolution of physical objects and places has a direct impact on the continued validity of icons. As objects and places change, the icons that represent them must also evolve to remain relevant and accurate. This means that designers must be aware of the changing nature of physical objects and places to ensure that the icons they create remain relevant and effective. Additionally, users must also be willing to adapt to changes in the appearance of icons and be open to learning new meanings and associations as physical objects and places continue to evolve.

RESEARCH METHODOLOGY

To comprehensively explore the evolution of icons and their contemporary relevance, a mixed-methods approach was used. The study began with a literature review to gather information on the history and evolution of icons, their functional and aesthetic values, and how they are perceived and interpreted by users. This review also examined how icons have evolved over time and how they have been used in different contexts, such as physical wayfinding systems or digital interface navigation.

In addition to the literature analysis, case studies were carried out to evaluate the performance of the current icons in various settings. In order to determine how effectively the icons are comprehended and used, case studies involved observing user behavior and gaining feedback. This made it possible for the study to pinpoint the areas that needed development and comprehend the elements that contribute to an icon's success.

Surveys were carried out to collect quantitative information on user views and preferences of icons. The surveys sought to learn about consumers' abilities to distinguish and understand various icons, their preferences for various icon design features, and their thoughts on the need for new icons. In order to find any patterns or trends in user preferences for icon design, the survey data was evaluated.

To gain further insights into the considerations and challenges involved in designing new icons or updating existing ones, interviews were conducted with icon designers and experts. The interviews aimed to understand the design process involved in creating effective icons and the different factors that need to be considered, such as the context in which the icon will be used, its intended audience, and the design elements that make an icon successful.

REVIEW OF LITERATURE

To understand our perceptions of pictorial signifiers, it is important to know the terminology of signs and the distinction between icon and symbols. Icons and symbols are a part of our daily life, it is difficult to go a day without involuntarily coming across icons. According to Ferdinand de Saussure, a Swiss linguist, signs can be interpreted in two ways, signified and signifiers. Signifiers are the basic form and our literal perception of that object. Signified refers to the interpretation that our mind creates as a result of perceiving an object. Signs are made up of signifiers and the signified. (Hasa, 2017) It becomes simpler to identify the differences between the terminology once we are aware of this concept.

An icon is the exact resemblance of an object. It could be a simplified version of that object as well but the main objective is to have a direct relationship between the signifier seen in the icon and what is signified. Icons are not necessarily pre learned but instead made for a general audience to clearly understand what is being signified. On the other hand, Symbols are a pre learned concept. (Velarde, 2019) There is no relation between the signifier and the signified, rather the arbitrary relationship is learned overtime. A symbol only carries the meaning that a culture has shared to its members. For eg; the letter A has no meaning unless it has been studied by languages using the latin script. Similarly the question mark (?) does not evoke doubt unless we understand through learning that this is a symbol for a question.

There are symbols that are used on our mobile phones everyday and we still do not stop to question the meaning behind the origin of its form, yet we understand its function. For eg; The bluetooth icon, used to connect two devices, has a unique history behind its origin. People claim it has been inspired by a 10th Century Danish King known as King Harold Blatand (Bluetooth). He had an enthusiasm for blueberries which led his tooth to always turn blue. King Harold was also involved in uniting a whole lot of Scandinavia and thus known for its connectivity, bluetooth was coined as a term denoting connection. Even the icon is a combination of his initials, H (ᚼ) and B (ᛒ) in the old rune. (placeit, 2020)

1.0 History of Iconography

As we are all aware, humans first chose the medium of pictorial communication in order to express their ideas. The concept of pictorial language began with Ancient Egyptian Hieroglyphs. It is the only form of language that breaks the communication barrier. Even in this modern world, where over 7000 languages exist, the one easiest to understand is the language of imagery. (Davis, 2014) The father of egyptology, Jean-François Champollion defined hieroglyphics into 3 main categories, Linear, Pure and Profile. Linear being extremely simplified forms, Pure having color and detail representation and Profile being similar to Linear except simplified in a way that it's easier to carve and be retained on stone. (Burmistrov, n.d.)

Figure 1.0 Comparison between hieroglyphics and modern day ios icons.

Fast forward to modern iconography, we still see and use icons in our everyday life except these aren't made to communicate by themselves but rather act as indicators that are usually accompanied by textual matter. These digital communication icons can be categorized into 4 main icons types, Favicon, Application, Feature Icons and Interface. Favicons are shortcut icons seen on websites, web pages etc, Application icons refer to icons used for digital apps, Feature Icons are incorporated within an infographic or an illustrated design and lastly, UI icons or Interface icons are those that navigate and guide you to a specified destination and can even be used to highlight functions. (Davis, 2014)

2.0 Importance of Icons in the modern world

Though we do not use icons to communicate every single idea and thought, they surely are a crucial part of our digital lives. Icons not only make things easier to understand, they also save space and communicate to audiences all over the world. Although, Icons have a much different purpose in today's fast, digital world. With speedy internet connections and quick modes of communication, icons and emojis play such a vital role in simplifying our interactions. We yearn for simplification in the complex media and are constantly looking to uncomplicate our livelihood. Through the changing media, icons too have evolved to fit current trends, knowledge and perceptions of people.

When we compare the ancient hieroglyphics to today's icons, we see a number of differences. The only thing that remains intact is how we as a generation associate those pictorial references in a way that adds meaning. With that realization, it is understood that the form of icons are only made taking into consideration the recognizability and association those icons make to the audience. There are some icons that should be termed as outdated, yet they seem to have withstood through generations.

3.0 Methods and Data

A survey was conducted to understand the perceptions of icons among a group of school-going youngsters between the age of 6 to 10 years old.

They were asked to identify pictures of various icons that resemble vintage devices, in order to understand how many are actually aware of and use these digital icons.
Their prompt, intellectual answers were quite helpful in reflecting on the future of icons.
It was interesting to realize how they have been introduced to vintage devices and their thought process behind identifying these objects.

Here are some of the findings from the survey.
Youngsters do not instantly recognize the envelope icon, for its prime usage which is to send physical mails, but rather referenced it as a symbol for depicting emails.
Compared to this, when they were asked about the receiver icon for making calls, they were able to connect it to receivers they have seen in real life in places such as hotels, government offices, stores and old establishments. The two scenarios mentioned above help us conclude that it is important to have the physical object available and in usage in order for us to associate it with its iconography. The old establishments have older wired phones only because they have the infrastructure available for it. However, in the case of modern architecture, people wouldn't consider putting in wired phone line connections. The same happened with CAT 5 and CAT 6 cables which got replaced by wi-fi routers. Hence, it is very clear that if an icon sustains its value beyond the physical associations, it has all the potential to develop symbolic attributes.

4.0 Discussion

We have reached the assumption that icons are a physical resemblance of the object it denotes. With time objects become obsolete, newer generations will find it hard to associate the old icons in modern settings because they haven't been exposed to these objects. How is it now, that the form of icons seem to have frozen in time?
Let us look at 4 out of the many icons that seem to have persisted, despite innovations in their physical models.

Figure 2.0 Set of four icon which are still used in modern digital devices

We shall break down the Call icon. Up until the early 2000s, telephones were still being used as a basic home necessity. There were very few people who had a mobile phone, even though it was invented in the early 1990s; more than 10 years ago. Only after a few more years, around 2010, was when mobile phones and touch screen phones became a basic necessity. Now, around 15 years later, telephones are completely outdated and smartphones are the new necessity. Yet, the universal icon for phone calls is still represented as a handset of a telephone. Next is the video call icon. Even with changes in models of cameras, channels of video cameras and the advances in phone cameras, Whatsapp video calls, Zoom Calls, Google Meet and every single platform still uses an icon resembling a vintage camera from the 90s. On the surface, these icons just seem completely unmoved by technological advances. Similarly with the next two icons, the Speakers/Sound/Mute icon is still represented by the vintage microphones and Email/Messaging icons are still represented by letters.

Until now, most of us have seen these objects in use and actually grown up with them. But would the next generation still understand these icons without interacting with their physical forms on a daily basis?

4.1 Do these icons need changing or saving:

4.1.1 Change the icons

The form of an icon is developed in a way that makes it easy for its users to recognize and relate to the function signified. If the sole purpose of recognizability is not accomplished, there would arise a need for a modification in the icons. It would seem pointless to continue with the creation of icons that lack understandability in its users. Design is about simplification and clarity. The icons would continue to be arbitrary to its future users if the physicality of the objects are not signified while interacting with these icons.

4.1.2 Save the Icons

The sign of the video call, phone call, mail and volume are transitioning into symbols. If icons become classic, then they turn into symbols. To understand this, we have to revisit the definitions of icons and symbols. While symbols get their meaning from the culture which recognizes it, icons derive its value from the resemblance with the physical references it was drawn from.

They are slowly becoming arbitrary to their growing users. Turning these icons into symbols is one way of retaining these signs. This may not be a conscious transition but as the users keep changing, these signs may develop symbolic attributes.

4.1.3 Future Generations; Perception of Icons based on their association with vintage objects

Another interesting way icons could be preserved is with the help of Media and Pop culture. Even in the latest teen shows, chick flicks and music videos, the media is booming with imagery of the 90s devices. From aesthetically pleasing letters in "To all the boys I've loved before" to vintage telephones and video camera props in wedding photography. The very nature of the media is to preserve and portray these artifacts in a way that celebrates its existence. This has led to Gen Z being obsessed with the 90s and 00s culture, not only in the sense of vintage looking devices but even the fashion industry of the 90s as a whole has been an inspiring approach to the everyday styling senses of this generation. (Trotman, 2019)

Figure 3.0 Portrayal of vintage objects by pop culture

This enthusiasm towards vintage objects could be one of the ways in which the knowledge about certain devices has also been passed down to the existing generation. Seeing these devices/objects in use in the media so often, makes way for an understanding of the forms of icons represented once again.

4.1.4 Understanding why these icons are still formed in the same way

Through extensive insights and understanding, the purpose for the retention of the forms have become slightly clearer. There is an assumption that could prove the reason these forms have defied technological advances.

The first handheld cell phone created by Nokia-Mobira was the Mobira Cityman 900 which was released in 1987. We can clearly see a button on the mobile phone composed of a handset icon along with the color green in order to denote the function of making/answering calls.

The main function of the app denoting the call icon is to receive and transfer calls. The Phone app does nothing more than merely call someone. Similar to this concept, the last device that was merely meant to call, was a telephone. The last model before the invention of handheld cell phones, were landline corded phones. The phone app logo represents a telephone handset, a perfect representation of an icon that has just one function which is to make a phone call.

Figure 4.0 Mobira Cityman 900

After the invention of SmartPhones, with multiple features, the icons on the app still portrayed a telephone handset. This states that no matter the technological advances in their physical forms, the historical accuracy of the icon will always be subjected to the telephone handset.

Similarly with the other 3 icons (video call, mute, email) in discussion, their forms too have been frozen in time considering the representation of objects with a sole function. It is now understood that their forms have been extracted from the simplest version of their references with singular functions.

4.1.5 The Journey from Icons to Symbols

When icons turn into symbols, it is as good as a letter of a script. The letters can be expressed in different visual forms as long as it is recognizable and doesn't lose its meaning because of those changes. Similar would be the case with icons that then turn into symbols. We may experiment with its visual expression by changing its shape, color, style, etc, but it should retain its recognizability value. In a way the affordance could also be an involuntary notion of connecting the form and function, but by comprehending this concept of recognition, we can assume that the affordance of these icons are conveyed by the portrayal their physical devices have received in and around the lives of this current generation.

CONCLUSION

Iconography plays such a vital role in our lives today. We inattentively perceive and understand our devices because of the signified forms we are exposed to. To designers, it is crucial that we as a technologically driven generation, stop to question the simplest forms that we see on our everyday devices. It can impact our behavior and our perceptions of the choices we make. By constant questioning and inculcating curiosity in our minds, we will understand the profound reasoning and history behind these crucial aspects of our technological lives. Through inquisitiveness, we can then go on to speculate the advances of the future. To conclude, this paper started out as a reasoning behind forms, but ended up being an eye opener into how crucial the history of technology is, even in times of extreme advances in the era. We can only respect that even the simplest facets of technology can have such great impacts decades later.

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