

## Study and Design of Usability Standards for Tourism Website Interfaces

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### Abstract

Usability is a highly relevant element of any effective web application's quality. Recently, it has attained great attention, and it has been recognized as a fundamental feature for the success of widely-spread web applications. The research problem is represented in the definition of the role of the graphic designer, in the proper method to achieve usability in sites and applications. Moreover, it tackles the importance of graphic design in achieving usability on the websites. It sheds some light on the function of usable processors in designing websites for addressed messages. Moreover; research importance dedicates special importance to websites that are characterized by their usability in facilitating the user the way to use something functional.

In addition, the design of websites via the Internet is considered a special material within the graphic design materials that are established. One has to examine the capability to maintain technical and visual values in websites research objectives in order to allocate proper attention to the graphic designs, which in turn, facilitate the navigation process in the websites. This property confirms their importance and their potential function in the user's websites. On top of that, there is the issue of the study and design of the usability standards for tourism website interfaces.

One of the major and significantly prior results is the display of the importance of usability on the website as it helps the user to easily access what he wants and it recommends specific searches that are adopted by major scientific institutions through expanding their applications to school curricula and inviting researchers to continue to conduct experiments in the field.

### Keywords

User Experience, User Interface, Wireframe, Prototype, Usability, Responsive Design,

Homepage, User & Research.

## 1- Introduction

Cutting-edge web applications are very intricate and highly sophisticated software products, whose usability can extensively determine their potential success or failure. The World Wide Web has had a significant influence on their accessibility to the large quantity of information available through the Internet. Web-based applications have had their considerable impact on several domains, by providing access to information and services, to a variety of users with various characteristics and backgrounds.

Users visit web applications, and return to previously accessed applications, if they can easily find useful information, organized in a manner that facilitates access and navigation, and they are displayed according to a well-structured layout. In other words, the acceptability of web applications by users specifically relies on the applications' usability.

Usability is a major relevant element of a web application's expected quality. Recently, it has received extensive attention, and they have been recognized as a fundamental property for the success of the effective web applications. Consequently, a significant objective of web engineering research, nowadays, is formulating the defining methods for ensuring usability.

Furthermore, extensive attention is contemporarily paid to usability by the domain of this industry, which is recognizing the importance of adopting usability methods during the development process, in order to verify the usability of web applications before and after their deployment.

A second issue here is the question concerning the important aspects of any efficient home page. Among the numerous aspects, those which are essential for such a crucial zone of high

functionality, such as home page. Further, it is recommended that we define the following aspects as the ones which deserve attention: clear intuitive navigation and balanced visual hierarchy. On top of all that, the proper application of different menu types enables the users to avoid overloaded of page design. Attention is paid to the utility of the applied layout elements as well as the availability of a readable copy that is easy to scan. However, the length of the copy blocks correspond to the target users' needs and expectations, along with the usage of language (vocabulary, syntax, modality, keywords etc.) which is understandable and appealing to target audience.

As for the other issues, one should tackle the intensity of graphic visual content, short loading time of the webpage, thought-out and efficient search, responsiveness of the webpage when it is opened on different devices and screens with various resolutions, effective application of keywords, good balance of tradition and innovation, accessibility of the home page, from any point of the website, easy and clear recognition of the home page in comparison with the other pages of the website, consistency of visual design solutions, visible and informative call-to-actions defining most important content to render it supported and strengthened with visual design solutions (Jakob Nielsen and Marie Tahir, 2001).

## **2- Responsive Design**

The necessity of responsive design is based on the audience that are the target of the website. Any potential designer would like his or her users to use the site from any device and feel it is positive, useful and convenient. Certainly, every customer is aware of the growing popularity of mobile devices.

The main concept of responsive web design (RWD) is that the content and layout of that potential website should efficiently be adaptive according to the sizes and technical abilities of any device it is opened at. For most users, these changes are very subtle that it is easy to feel that

it is the same site on his or her smartphone through which they looked the day before on their desktop with similar experience.

Nothing special has changed in this case, and to a certain extent, these words can be the great praise of designer's work. This mostly entails that the designer manages to maintain all the meaningful elements and general layout of the desktop version efficiently and at the same time avoid making the page or layout elements extremely small, hardly seen or impossible to distinguish even on the much smaller screen of a mobile device.

That is the definition of the responsive web design in action. Nowadays, making the site non-mobile-friendly means that one could lose the portion of the audience which prefers surfing and using the variable internet sources "on the go". It is essential to consider that this part of the audience is mainly the most active part, non-afraid of technologies, fast in browsing necessary information and options, easy-going in making internet purchases and they are the ones who try out new products.

Such a feature is the reason why neglecting the notion of responsive web design can render severe loss to the product, which otherwise, could be highly efficient and bring high conversion rates. Creating responsive web design for a potential web product means making it pleasant-looking, clear and functional in different sizing with optimal navigation that provides the high level of usability.

This technique personifies an owner with an urgent necessity to develop several versions of the site - as it provides one site with fast adaptation to different technical conditions. Hence, a responsive web design is also generally more economical than creating several versions. Responsive web design makes the website flexible, easy to manage and nice to use. Moreover, a potential beneficiary does not need to publish his/ her content several times for different multiple versions and it saves much time and/ or human resources.

If these are the features a user wants his/ her product to obtain, then they should consider responsive web design for their product from the earliest stages of its design and development phases. In addition, one will get higher positions in Google search engine as it supports the idea of responsive web design. Subsequently, it is an important portion of general search optimization of any given product (Chris Ward, 2017).

### **3- 10 Usability Heuristics for User Interface Design**

#### **Jakob Nielsen's 10 General Principles for Interaction Design.**

They are customarily called “heuristics” because they are broad “rules-of-thumb” and they are not specific usability guidelines.

- 1- Visibility of system status: The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
- 2- Match between system and the real world: The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.
- 3- User control and freedom: Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.
- 4- Consistency and standards  
Users should not have to wonder whether different words, situations, or actions mean the same thing.
- 4- Error prevention: Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.
- 5- Recognition rather than recall: Minimize the user's memory load by making objects,

actions, and options visible.

- 6- The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.
- 7- Flexibility and efficiency of use Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.
- 8- Aesthetic and minimalist design: Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.
- 9- Help and documentation: Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation.
- 10- Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large. 10- Help users recognize, diagnose, and recover from errors Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution (Hoa Loranger and Jakob Nielsen, 2006).

#### **4- Home Page**

Home page is the most popular designation for the main page of the website. It is called home as it customarily provides a starting point with multiple further directions for the user, containing links to the most important areas of interaction with a website. In other words, it can be also named the initial page or index page. A home page is mostly the start of users' journey if they are directed to the site by search engines.

In addition to the essential links to different website parts, the home page often contains a search field, basic onboarding functionality for personalized sites, different areas of navigation - showing users diverse categories of data. It might also contain engaging welcome messages and

copy blocks featuring slogan and/or explaining the advantages of the website or the objects it presents.

More than a decade ago a well-known and a famous expert in usability, Jakob Nielsen, wrote his Top 10 Guidelines for Homepage Usability in which he said: “Homepages are the most valuable real estate in the world”. Each year, companies and individuals funnel millions of dollars through a space that is not even a square foot in size. A homepage’s impact on a company’s bottom line is extremely greater than merely the simple measures of e-commerce revenues: The homepage is the company’s face to the world.

Increasingly, potential customers will view any company’s online presence before doing business with this company, regardless of whether they plan to close the actual sale online or not. However, long time has passed since then, but an attractive, clear and user-friendly home page is still the issue of vital importance for an efficient website (Tubik Magazine, 2017).

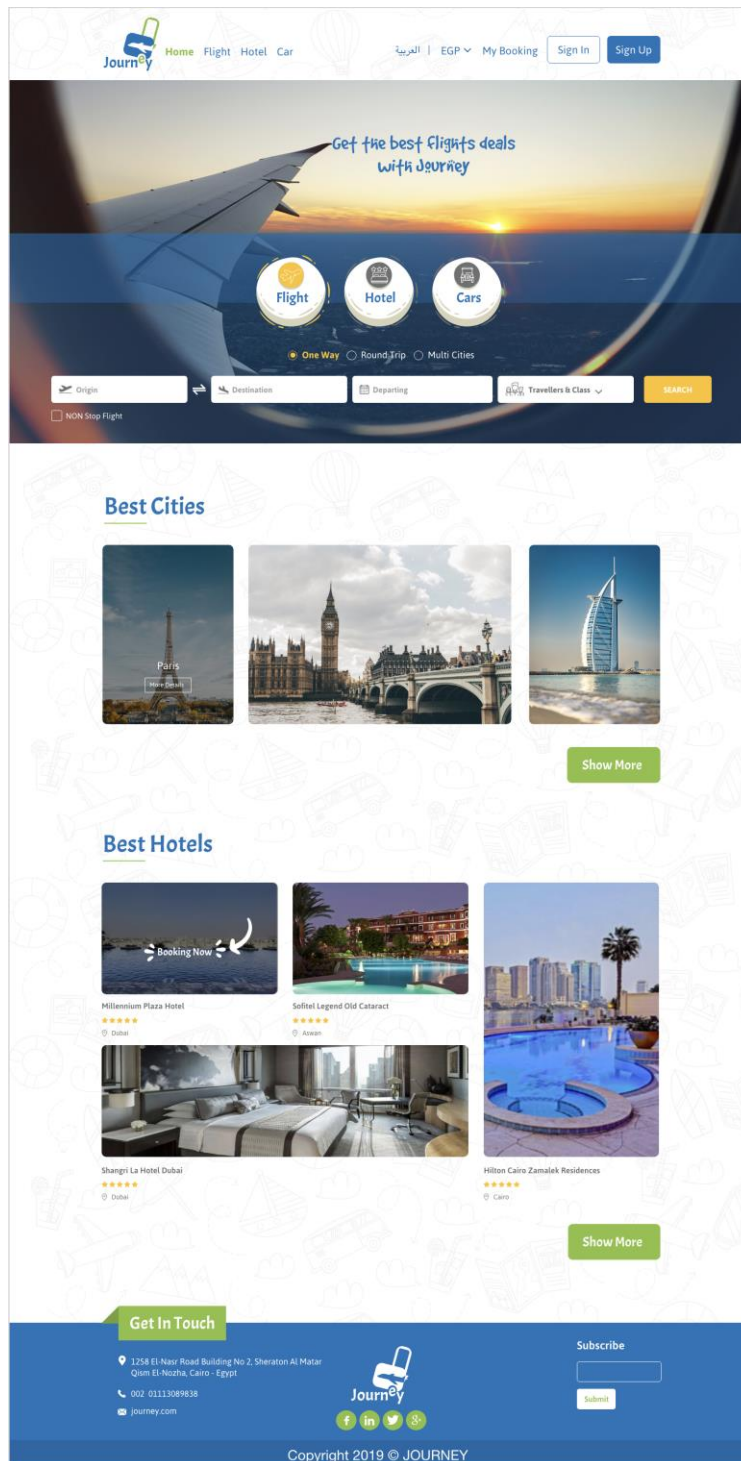


Fig. 1 - Homepage



Here you can see the example of the homepage for an Online Booking.

The interface, which has to present a myriad of items with variable visual performance and style, uses light background to consolidate the harmonic visual perception. The page, in fact, includes several theme blocks showing categories of items, best cities and hotels. Hence, the home page is a fundamental basis of good navigation which is usually the core of positive user experience.

Messy interface and vaguely designed layout can become the reason of user confusion and annoyance. Therefore, the structure and strategies of homepage design will be effectively tackled in the following section.



Fig. 2 - Header

## 5-Header

A header, in terms of web layout elements, is the upper (top) part of the web page. It is a significant and strategic part of any page. Customarily, people see it before scrolling the page in first seconds of introduction to any website. Therefore, the header should be informative and it should provide the most important information about the digital product so that users could scan it in split seconds. A header is also the area providing the broad field for creative design solutions which should be catchy, concise and useful.

Headers are often referred to as “Site Menus“. They are positioned as a key element of navigation in website layout. Moreover, headers can comprise: basic elements of brand identity: logo, brand name lettering, slogan or company statement, corporate mascot, photo presenting the company or its leader, corporate colors etc., as well as copy block setting the theme of the

product or service which present links to basic categories of website content, links to the most important social networks basic contact information (telephone number, e-mail etc.), switcher of the languages in case of multilingual interface search field subscription field in addition to links for the purpose of interaction with the product such as trial version, downloading from the AppStore, etc.

There is no doubt that the list above does not entail that all the above mentioned elements should be included in one webpage header. In this case, the header section would be overloaded with much information. On the basis of design tasks, designers, sometimes together with marketing specialists, determine the strategically important options and pick them up from the list or merge them with the others (Tubik Magazine, 2017).



Fig. 3-Footer

## 6 -Footer

According to everything mentioned above, it is more feasible to understand that the footer is the lower (bottom) part of the web page. Hence, the footer usually becomes a marker of the end of a webpage. Besides, being one additional zone of global website navigation, in most cases, the footer provides an extra field for useful links and data.

The footer of a website is as important as the header, if not more vital. The reason for such significance is the fact that the footer is the last portion of call for many visitors. The point at which they will sign up for service, want to read another article or simply require your contact

details. A designer should ask himself/ herself - what do I want the visitors to do when they reach the bottom of the page? The answer one comes up with will be a great starting point for designing an effective website footer.

A good footer can include: name and logo of the given company or product, links to user support sections; for example, FAQ page, About page, Privacy Policy, Terms and Conditions etc. credits to website creators, contact info and forms, links to company or product, accounts in social networks, testimonials and badges, certification sign, subscription field etc. Similar to the header, the footer is not the element found in 100% of web- sites.

For instance, with some tasks when designers apply infinite scrolling techniques, the traditional footer is not an effective navigation zone. Nevertheless, in the case of infinite scrolling, the idea of fixed footer can be also applicable where support navigation does not miss this area. It should be stated that, for most users, the footer is a common place of looking for contact information, credits and sitemaps. Hence, playing on this habit can be beneficial. A fixed footer can become a good way in case when the page has long scrolling area. The decision on using a good footer is always based on the idea of effective usability.

In most cases, if an effective footer is applied, it should get in harmonic combination with all the other design solutions of the website layout and support general stylistic concept. In the review of effective footer designs “Designing a great footer is not about finding the best way to provide a catchy layout, a lot of unrelated content, but the ability to prioritize and disregard unnecessary or superfluous information.

First of all, a footer should provide information support and in this way strengthen the chances of positive user experience. In this location, one can find the website online booking. The concept uses the footer seen after scrolling the page down. The footer area features contact data, links to social networks and where to subscribe. There are several tips. Thus, what could designers do

and what should they avoid in order to become successful. Most of them are reasoned and they are actually helpful, especially for beginners in the sphere (Tubik Magazine).



Fig. 4 - Navigation

## 7-Navigation

Because the primary purpose of a homepage is to facilitate the process of navigation elsewhere on the site, it is crucial that users are enabled to find the appropriate navigation area effortlessly. They should be able to differentiate between the choices, and have a good sense of what lies beneath the links. Users should not be forced to click on things just to find out what they are.

The navigation area should also reveal the most fundamental content of the website. Consequently, users should have a good sense of what is there by looking at the top-level categories. Therefore, a designer should allocate the primary navigation area in a highly noticeable place, preferably directly adjacent to the main body of the page. In addition, a good designer avoids putting any top horizontal navigation (primary or otherwise) above graphical treatments such as horizontal rules or banner areas — users often ignore anything within or above a rectangular shape at the top of the screen. This exact behavior is labeled "banner

blindness," and it is witnessed in numerous tests.

Furthermore, items should be grouped in the navigation area so that similar items are next to each other. However, grouping helps users differentiate, among similar or related categories, and see the breadth of products or content that is offered. For example, one should group product categories for prescription medications and over-the-counter medications. Similarly, on an e-commerce site, all items related to shopping, such as the shopping cart, account information, and customer service should be in the same area.

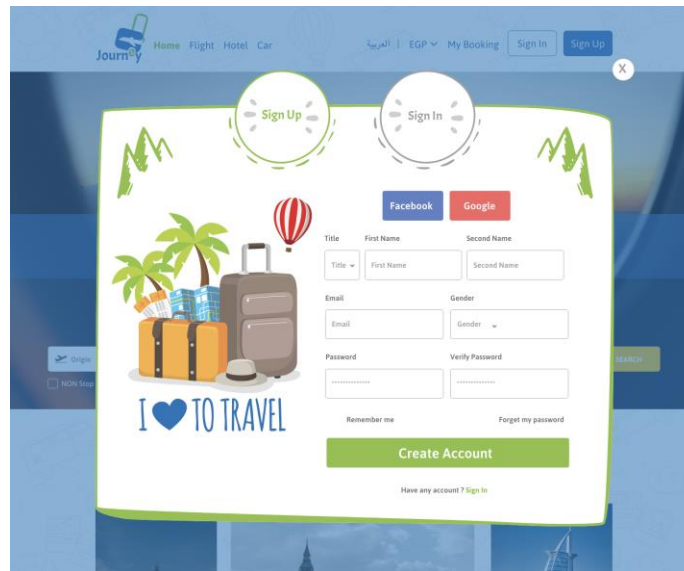
Besides, above, and beyond, one should not provide multiple navigation areas for the same type of links. Groups that are too similar can be fragmented and they complicate the interface; making the user work too hard to create order and meaning. What is more, one should not include an active link to the homepage on that homepage.

For example, if you include a "Home" link as part of a regular navigation bar, it should not be clickable on the homepage. If the designer uses components, a special component that is used only on the homepage can be created with an inactive Home link. If it is clickable, some users will inevitably click it and wonder if the page has indeed changed.

Similarly, if a designer links his/ her suggested logo to the homepage from other pages on the site, the logo should not be clickable from the homepage. All other pages on the site do need a link to the homepage. Furthermore, a designer should not use made-up words for category navigation choices. Categories need to be immediately differentiable from each other — if users do not understand the made-up terminology, it will be impossible for them to differentiate categories.

Furthermore, icons should not be used in navigation - unless they help users to recognize a class of items immediately, such as new items, sale items, or video content. However, icons are only

used when simple text links are clearly differentiable from each other, such as in category names. If it is found that a designer needs to ponder to come up with an icon for navigation, chances will be that it is not going to be easily recognizable or intuitive for users. For example, the icons for "Links" and "Forum" on Asia Cuisine do not help to further explain these categories or make them more immediately recognizable; they just clutter the page. (Jakob Nielsen and Marie Tahir, 2001)



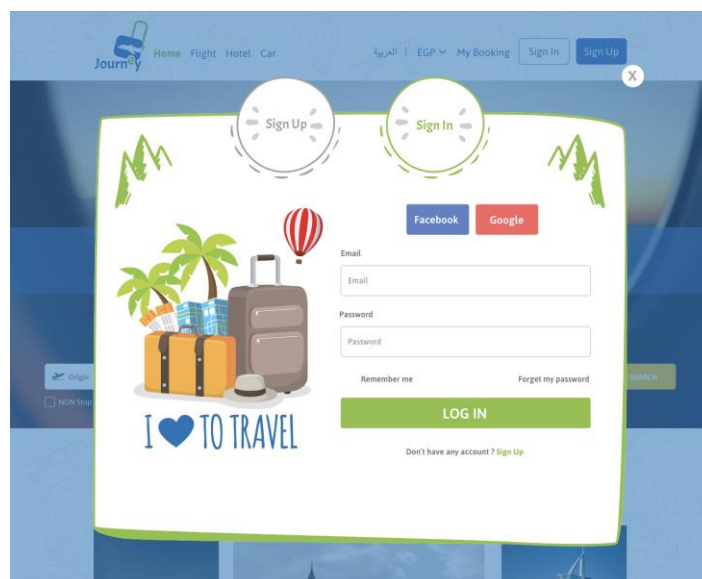
## 8-Sign Up and Sign In

Sign up forms are not the most likable web pages. When a signup form is made, we need to consider what would be the best experience for the users, what will make them want to finish the form and sign up.

Fig. 5 - Sign Up Page

Fig. 6 - Sign In  
How Many Fields

It is certainly true that each designer has heard that the better, and indeed confirms this in research. They sign up forms with the most sign ups.



Page  
are Needed?

that each designer fewer fields the Imagescape.com their 2008 have shown that 4 fields or less had

It has been approximately a decade since the issuing of that research, and today we know that it is not concerned with the amount of fields but it is about the significance of those fields. We should ask ourselves “how many fields do we actually need?”. Thus, if one needs to ask his/ her user something, they should have a field for it. If a field asks something that anyone can live without, it should be taken out of the form. Moreover, questions that have a concrete reason to ask should be kept and maintained.

In case a designer is faced by a great number of fields, one should divide them to separate pages. Nevertheless, in some cases, the signup process will require a long form (let’s say 8 fields or more), which the users might find intimidating. In such cases, having a multipage form can be a good option. However, field names go above the field. Hence, placing each field’s name inside the field makes it more difficult for the user to track his progress, and it slows down the form filling time. Placing the field name above the field makes it easier to read, and promotes faster filling time.

Using clear text in your form will help ensure the user does not feel lost or confused. The form header is a chance to remind the user why she/ he is filling this form, and what she/ he is about to gain. If any header does not appear clear, it might create confusion and increase drop off rates. One must use a short, concise sentence that highlights the benefits of signing up.

Using a clear text on the “signup” button can have a significant impact on the number of users who click on it. Clicking on the “signup” button is an act of commitment, especially when the user shares information she/ he considers private or sensitive. If the potential user does not have a clear understanding of what is going to happen when she/ he clicks that button, she/ he might just let it go (Jakob Nielsen and Marie Tahir, 2001).

## 9-Search



Search is regarded as one of the most important elements of the homepage. Hence, it is absolutely essential that users are able to find it easily and use it effortlessly. The best recommendations for the homepage treatment of search are fairly straightforward: it should be made visible, make it wide, and keep it simple.

Certainly, the true power of the search process is all in the implementation. One should give the users an input box on the homepage to enter search queries, instead of just giving them a link to a search page. Users now expect and look for an input box with a button next to it — if they do not see it, they often assume the site does not have a search feature.

Input boxes should be wide enough for users to see and edit standard queries on the site. However, enough space should be allowed for at least 30 characters in the font size used by most of the users. Hence, the designer should never label the search area with a heading; instead a "Search" button is used in order to appear on the right of the box. This design is preferable because it is the simplest.

"Go" is also acceptable as the action button for search, but requires that the area is labelled "Search." Thus, "search" should be placed at the top of the main body of the page, but below any banner area. This gives people the greatest chance of finding search when they need it. Even if one follows the other guidelines for search, it does not help if it is placed in a low-priority position on the page.

Unless advanced searches are the norm on your site, one should provide a simple search mechanism on the homepage, with a link to advanced search or search tips; if one could provide them. If someone needs an advanced search, but it is used infrequently, one should not include a link to it on the homepage. Instead, users should be offered the option to conduct an advanced search when the search results are presented. However, any search on the homepage should be a search throughout the entire site by default.

It is not preferable to hide search scope from users if the search gets narrowed down in any way. Users nearly always assume that they have searched the entire site, unless they are told otherwise, and assume the site does not have what they are looking for if they do not find it with search. In addition, it is not preferable to offer a feature to "Search the Web" from the site's search function.

Users will exploit their favorite search engine(s) so as to perform that task, and this option makes the search process more complex and error prone (Nielsen Norman Group, 2001).

## 10 Definition of Usability

Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process. Furthermore, usability is defined through the following 5 quality components Nevertheless, there are many other vital and fundamental quality attributes.

1. Learnability: which refers to how easy is it for users to accomplish basic tasks the first time they encounter the design?
2. Efficiency: which refers to how quickly can the users perform tasks once they have learned the design features?
3. Memorability: which refers to the time frame within which users return to the design after a period of not using it, how easily can they reestablish proficiency?
4. Errors: which refers to how many errors do users make, how severe are these errors, and how easily can they recover from the errors?
5. Satisfaction: which refers to how pleasant is it to use the design?

A key one is utility, which refers to the design's functionality. In other words, does it do what users need? Usability and utility are equally important and both of them determine whether something is useful. Further, it does not essentially matter if something is easy when it is not what one wants. It would also be lacking in benefit if the system can hypothetically do what one wants, but she/ he cannot make it happen because the user interface is too difficult.

However, in order to study a design's utility, one can use the same user research methods that improve usability (Patrick w. Jordan, 2002)

Definition of Utility = whether it provides the features one needs.

Definition of Usability = how easy & pleasant these features are to use.

Definition of Useful = usability + utility.

## 11-Why Usability Is Important on the Web

Usability is a necessary condition for survival. If a website is difficult to use, people could leave. If the homepage “as explained in detail on page 11” fails to clearly state what a company offers and what users can perform on the site, people could also leave. If users get lost on a website, they leave. If a website's information is hard to read or does not fully answer the users' key questions, they simply leave.

There is a pattern that we could notice here. It seldom happens that a user would be reading a website manual or, otherwise, spending much time trying to figure out an interface. There is a plethora of other various websites available. Thus, leaving the website is the first line of defense when users encounter a difficulty. The first law of E-commerce is that if users cannot find the product, they cannot buy it. For intranets, usability is simply a matter of employee productivity.

Time users could waste when they get lost on your intranet or when they are thinking about any

difficult instructions is money that is wasted by paying them to be at work without getting work done. Current best practices demand that approximately 10% of a design project's budget is spent on usability. On average, this will be more than double of a website's desired quality metrics (yielding an improvement score of 2.6) and it is slightly less than double an intranet's quality metrics.

For software and physical products, the improvements are typically smaller but they are still substantial when a designer emphasizes usability in the design process. For internal design projects, one should think of doubling usability as cutting training budgets in half and doubling the number of transactions employees could perform per hour. For external designs, think of doubling sales, doubling the number of registered users or customer leads, or doubling whatever other KPI (key performance indicator) could motivate your design project (Matt Lacey, 2018 & Youtube).

## 12- How to Improve Usability

There are several methods for studying usability, but the most basic and the most useful is user testing, which has 3 components: (1) getting hold of some representative users, such as customers for an e-commerce site or employees for an intranet (in the latter case, they should work outside your department); (2) asking the users to perform representative tasks with the design; and (3) observing what the users do, where they succeed, and where they have difficulties with the user interface.

A talented designer should not speak and she/ he should let the users do the talking. It is essential to test the users individually and let them solve any problems on their own. If they receive help or if their attention is directed to any particular part of the screen, the test results would be contaminated. To identify a design's most important usability problems, testing 5 users is typically sufficient.

Rather than merely running a big, expensive study, it is a better employment of resources to run many small tests and revise the design between each; hence, one can fix the usability flaws as they are identified. Iterative design is the best way to increase the quality of user experience. The more versions and interface ideas one gets to test with users, the better. User testing is different from focus groups, which are a poor way of evaluating design usability.

Focus groups have an important place in the market research, but in order to evaluate interaction design, one must closely observe individual users as they perform tasks with the user interface. Listening, merely, to what people say is misleading: one has to watch what the users actually do (Carol M. Barnum, 2011).

### **13- When to Work on Usability**

Usability plays a fundamental role in each stage of the design process. Moreover, the resulting need for multiple studies is one reason it is recommended to make individual studies fast and more economically. However, the main steps for such a process include the following:

Before starting the new design, the old design should be tested in order to identify the good parts that you should keep or emphasize, and the bad parts that give users trouble.

Unless the designer is working on an intranet, one should test the competitors' designs to get cheap data on a range of alternative interfaces that are characterized by similar features to his/her own. One must conduct a field study to see how users behave in their natural habitat. Make paper prototypes of one or more new design ideas and test them. The less time one could invest in these design ideas, the better. The reason for that is that one will need to change them all in proportionate relation to the test results.

It is preferable to refine the design ideas that test favors through multiple iterations, gradually moving from low-fidelity prototyping to high-fidelity representations that run on the computer.

One should test each iteration. Later, inspection of the design is conducted, relative to the established usability guidelines, whether from one's own earlier studies or published research. Once a decision is made properly, it is time to implement the final design, and test it again. It is worth mentioning that subtle usability problems always creep in during the implementation phase.

It is not advisable to defer user testing until the user has fully implemented his or her design. If she or he does that, it will be impossible to fix the vast majority of the critical usability problems that their test attempt to uncovers. Many of these eminent problems are likely to be structural, and fixing them would require major re-architecting.

The only feasible strategy to attain a high-quality user experience is to commence the user testing stage in an early phase of the design process and to keep testing every step of the way (Carol M. Barnum, 2011).

## Results and Discussion

There is a notable significance for the usability of the website as it should assist the user to easily access what she or he wants. The formulation of a 10 important point scale to achieve usability heuristic in designing the user interface could be easily perceived. Furthermore, there is a major importance for the employment of guidelines in the ease of use of the home page of any website, their ease of navigation through the pages, and their function to help the user find what she or he wants and needs. Last but not least, there is the objective of presenting new features in a cutting-edge manner that attracts the user's attention in the event of a website redesign.

## Conclusion

There is a difference between usability in B2B and B2C. There is also a notable importance of user research; conducted before commencing the design, as it makes it more feasible for the designer to display the contents in a user friendly manner. In addition to their adoption by

scientific institutions through expanding their application to school curricula, there is an urgency to inviting researchers to continue to conduct experiments in this field in order to maximize benefit from this fruitful field.

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