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Effective User Assistant for Online Help System

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ABSTRACT

With the beginning of the internet's web services, user have facilitated for using help system and become more familiar to getting online information that has very useful when user cannot understand any process or any task that is major part that user can easily interact with computer and solved their problem, many specialists have found the lake of distinction between user and online help system due to the interface this study conducted to find the most effective and interactive online help system by the adopted user to use research selected online help system and take research survey for to identify the most interactive and feasible OHS (Online Help System), the aim of this study to highlight the features of an online help system for user interaction, that provide the online environment platform for user support via online help system technology, study have selected three different web pages and embrace the online help system into the web pages, these OHWS (Online Help Web Systems) are designed using front-end designing languages that focused on the user interface for user communication to find the user experience that is based on reliability, learnability and user satisfaction after practically user accessed different web page's OHS that have navigated with different type of features user have hand out the research questionnaire survey that questions are targeted to cover the user experience reliability, learnability and user satisfaction, after the evaluation of all results it has been found that "Online Help System Interface1" is the best user experience by 70% of reliability, 75% learnability and with the 85% user satisfaction with the interaction for the OHS.

Key Words: User Interaction, Online User Assistant, Virtual Assistant, Information System.

1. INTRODUCTION

OHS developed and also evolved over twenty years [1] to achieve the user needs, developer of interface designer must think about the navigation, format and access methods of OHS [2] from this side designer have also improved designing to implement the OHS and continues to change when web technologies was updated and that they support such type of user help technology [3]. With the beginning of the internet's web services, user have facilitated for using help system and become more familiar to getting online information that has very useful when user cannot understand any process or any task that is major part that user can easily interact with computer and solved their problem, many specialists have also found the lake of distinction between user and OHS due to the interface [4] that concept of hypertext system is based on Standard Generalized Mark-Up Language and its function that provide the text and graphical material on the behalf on hypertext system by using world wide web. From the web-based help system, many human-computer interaction experts have noticed such that the OHS and user interface design is not clear to the user, so it is only on the behalf of OHS interface the policy because it leads to the static user help system. After improving interactive information system features then also the lake of interaction has been seemed [5] many researchers have been conducted upon user exercise and usability of the OHS and also research have been conducted on user interface and also achieve targets that have found from the literature review when users face any difficulty users not get help from OHS so there is a lake of overseeing but help system is also major part for user interface, that helps to the user to clear about the issues [6].

The user experience is an HCI (Human Computer Interaction) attribute that analyse the usability of interface using usability well-known approaches the reliability, learnability and satisfaction due to these approaches to examine the usage of system, how much system carry high level performance and it usability according to user task and user reach/ complete a

particular operation [7]. From the literature review many studies have conducted on OHS and have reported from the literature review that the user has not emphasized the OHS due to user satisfaction or lack of interaction. The multiple studies founded several deficiencies in the online help chat system, from the HCI there is also negative impact that why user do not interact with OHS to solving such type of problems that has faced by user, so this research is based on how to improve and make interactive the OHS, the limitation of this study in only dependent upon three different types of OHS.

2. LITERATURE REVIEW

The study have examined that users have need for good on line help chat system for interact because users are confused about the interface and information material so that the multiple online help chat system designed with different feature is used in web system according to web nature like as navigation, format, content and access method to provide the information but results of user facilitation to access the information due to lack of interface [8]. Another study has to define online help chat system as "brief, task-oriented modules of information that support" the user in accomplishing their tasks, some researchers use a broader definition that includes "other forms of online documentation, such as quick tours, online manuals, tutorials, and other collections of information that help people use and understand products" [9].

The study was conducted in Vienna to adopt the user on getting an information system results of the research shown that the fault of an unattractive feature of an online help chat system, information architecture. The user cannot assess well-organized and valuable data, so the web designer and experts are organizing the workshop that is based on the "common human factor in computing system".

The Workshop was held in 2004, Vienna, Austria where several participants are participated and share quite a few reasons for user failure to use the help system, this workshop notices the integration points of the online help chat system in user collaboration with the help system from interaction and interface strategy [10]. As technology improving day-by-day many of the websites like as Educational, business, and E-commerce etc. web developers are focused to implement the online help chat for user issues that help the user as a user assistant on the web researcher also Garett says that according to user support the web designer are integrate the online help chat system for user in web system many reviewers are noticed that online help chat system interface not clear and not reliable to get help from online help chat system, it should be very important that study has used multiple methodologies to archive attribute, some implementation like as Manu bar, Alert box, popup box and help button on discussions box, to upgrade the user interface according to user reliability to access the valuable information and get back to task as much possible [11].

The web information as a vital to success the web content according to web attribute this study have conducted on the usability of information that has large issues to achieve a task most of the user are not focus on such accurate information on mobile computing devices due to the reliable interface. In the 19th annual meeting of human influence in information design and "HCI", based designers are fallow multiple queries to generate a mobile computing reliable information interface for digital device users [12]. Another side research study, that have main focus on the designer that to provide such stuff including images, diagram, and video "we can say that multimedia stuff " to the user and make it portable for all digital device due to user needs and complete their task in an actual manner [13].

The non-expert user of web system is confused to interact the web content and clear about the stuff so as we know the previous first ten to fifteen years the HCI was focused on the interface mostly designing criteria for user for batter interaction called GUI (Graphical User Interface) using various technologies, like as Icons, navigation, descriptive message and also popup alert, to create more functional system for user to learn and understand the web content according to their task [14].

The system usability is a part of user experience that highlight the system usability or how system fully functional with user, the usability is based on three different attribute like efficiency, satisfaction and effectiveness that covers the user interface that allow to active a specific goal in a particular time [15].

3. INTERFACE DESIGN LAWS

When we think about the surface/interface design, the HCI is the field as the primary part of user interface design HCI provides us the interface designing laws to develop such an interactive system.

These are some important laws of interface design, the first one is "Law of clarity" it defines the several visitors avoid interface component without an obvious meaning, second is "Law of preferred action" it explain when visitor will feel more reliability, in case they recognize the desire action that have performed and the third is "Law of easing" this laws define once visitor will accomplish a complex action if it is broken down into multiple steps, so these are the mostly designing laws are used to develop an interactive system [16].

4. ONLINE HELP SYSTEM TYPES

Now-a-days there are multiple online help system are available that get from internet, that helps the designer to use these types of help system inside the web, Like as form-based, Email based, knowledge-based, agent-based, and virtual assistant and every OHS have done by with method of process that is show in Fig. 1 there is send request that have query by the user and this should be important that query should be stored in database and also administrator have responsibility to response such type of user query.

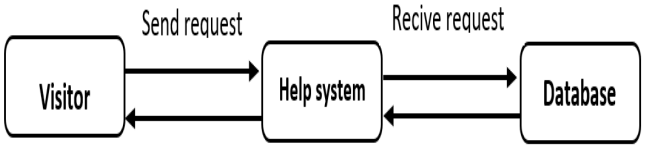

Figure 1: Online Help Access Process

There are many websites that provide service we call it online service to the end-users in terms of online tutorial, online shopping, and online software platforms, in case the user has some problems regarding their service so through the OHS easily solve their issue by using OHS [17].

5. METHOD

The research method shown in Fig. 2 that expresses the blueprint and delivers the flow diagram of this study shows that the study limitation is based upon three different interfaces that have online help system with different features and every user have request to access both interfaces and user have assign task to find some information that have hide from user for that purpose that user have bound to access the online help system to get help for getting information that is research target find the reliability, learnability and user satisfaction from OHS.

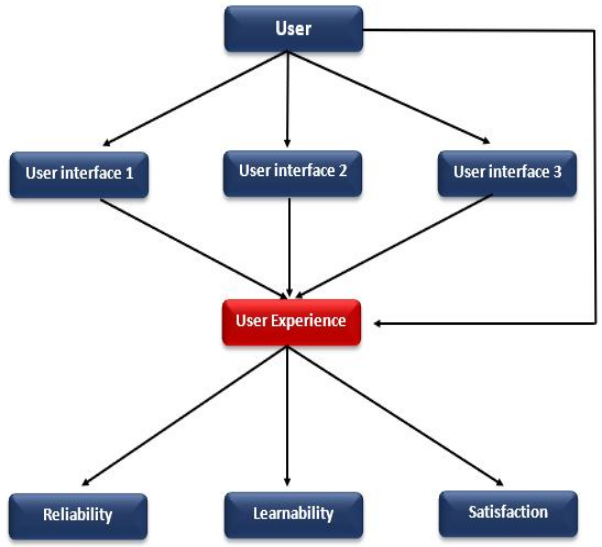

Figure 2: Research Method Design

After accessing the user these interfaces the results are also get by user to handout the research questionnaire survey that questions are targeted to identify which help system is best.

5.1 User Interface

The user interface usually represents the visual design of the component that a user interacts with a system or any website. In this present time the HCI act as the key role in system or interface design, aim of interface designer to create such a system that is fully functional and compatible with the system environment, interface helps the user to easily communicate with system in a couple of mints to complete their task, in terms of interface we call it GUI [18].

5.2 User Experience

User experience that is not limited only on user's satisfaction but it is also responsible for perceptions and emotions of users during interaction with system, in other words user experience responsible all the psychologically, physically, behaviorally that occur during before and after interact with system. It is stated that the user experience is divide in series of phases that phases are very important to focus on positivity, there are six main factors in user experience that are accessibility, find ability, desirability, credibility, usability, and usefulness in turn each factor is divided into other sub-factors overall making thirty sub-factors each of factors that is part of user experience [19].

Challenges of user experience is an evaluation, single evaluation method may not be enough to completely evaluate it so it is suggestible that both examination methods and user tests to evaluate each user experience factor/aspect/attribute, both can be evaluated in heuristic evaluation method that can allow to specific set of heuristics evaluation of the user experience when using [20]. Heuristics are complete guidelines of usability or in other words "rules of thumb" that detecting usability problems, a heuristic evaluation allows evaluating positive attributes in an efficient way of the user experience (accessible, findable, desirable, credible, usable, and useful) [21].

6. DATA COLLECTION

The data collection method depend upon three steps that show in Figure 3 initial step is to develop three different type of online help system with different features, after development of different interfaces that OHS interfaces have accessed to end user when user access these interfaces then it is also part of study that user should take research questioner survey that is based upon user experience after getting the results of user experience then results are evaluate using statistical package for social science tool.

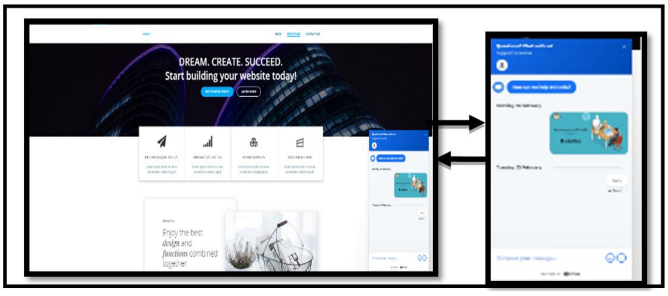

Figure 3: Online Help System Interface-1

7. ONLINE HELP SYSTEM DESIGN

The development of these interface using by tools that are HTML-5, CSS-3, JAVASCRIPT & PHP frame work all tool is selected for this study for appearing different features to interact with end user the interface is define as.

The OHS Interface-1 shows in Fig 3 contains reliable features for user facilitation like system compatibility, the interface of web content is simple and professional look for end user, main features of this online help system there is no need for signup use have capability to shows the agent is online or not, tick mark can gives the surety to end user that message have been passed to admin, end user can freely send any file like .docx,.ppt,.pdf, including snapshot of any content issue, the responding time of respond by admin is minimum 20 mints, this live Chat system is designed using by web development languages and the latest framework with icon libraries that moves with a scroll bar that interacts with the participant to use me as you need.

OHS Interface-2 shows in Fig. 4 it contains multiple features that are more helpful for end users, that main features is that it is knowledge base system that take a reason/purpose from user and use knowledge base to overcome user issue by AI (Artificial Intelligence) in case agent offline, the end user directly chat with admin according to user issue, this system contains more than one assistant that are completely response according to any specific filed, the responding time to user issue is more the 20 mints, this help system is developed using HTML5, CSS3 and JAVASCRIPT web languages.

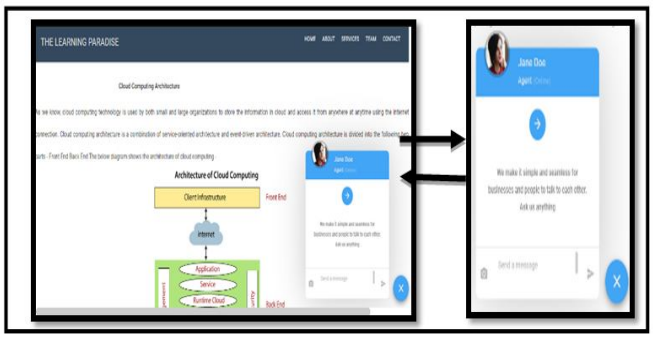

Figure 4: Online Help System Interface-2

The last one interface is very simple that is OHS Interface-3 show in Fig. 5 that contains the basic designing feature and traditional functionality on the user help system, like E-mail, description of user issue and attachment of raw file that online help chat system commonly implements many websites that seen simple.

Figure 5: Online Help System Interface-3

The last one interface is very simple that is OHS Interface-3 show in Fig. 5 that contains the basic designing feature and traditional functionality on the user help system, like E-mail, description of user issue and attachment of raw file that online help chat system commonly implements many websites that seen simple. The Table 1 shows the features that have implemented in three web interfaces that have accessed by the users.

Table 1: Features of Three Interfaces

Interface-1	Interface-2	Interface-3
No to sign-in.	Knowledge-based system.	Email based system.
Feature of online and offline.	Feature of agent is online or offline.	Short description about issue.
Feature of message receipt.	More than one agent	Traditional system.
Uploading raw data.	Only upload the snapshot of any stuff	Respond within1 day
Short respond time		

8. FACTOR AFFECTING USABLITY OF INTERFACE

The website is not only the collection of page, content but it also art that for interaction, that create a visual image for end user globally, so it is necessary for the organization they analysis what is the need of user, in current situation the aim of website to provide a user support platform/web based user assistant, where user easily clear there doubts and easily complete their work [22].

8.1 User Satisfaction

The user satisfaction generally examines, how much the end user is satisfied such product and that is dependent upon the features that is available on product and how much the system works in efficient way, every product have nothing any meaning without user satisfaction when the developer improve the product that is demanded by user this is the positive way to improve the user satisfaction.

8.2 Accessibility

The accessibility is a key part by the user that can friendly access such product it is very important that when the user access any product there should not be any redundancy within

the particular operation that is performed by the end user when user can't access a product with friendly this can be a peer results of accessibility.

8.3 Simplicity

Simplicity act as a primary roll with system usability because the development of interface should be simple for the end user and not use the large procedure to face by end user there is much important that any procedure that is dependent upon limited process the developer have think about that find the possibility of reduced the procedure and make simple.

9. RESULTS

The user experience results that indicate the feature of interaction on Reliability, Learnability, Satisfaction shows in Fig. 6 that measured the system compatibility with web system, the results of reliability percentage of each OHS Interface of website which help system is additional reliable to the end user, as per feature and properties of OHS Interface-1 contain 70% reliable to the user can easily complete their task, the OHS Interface-2 embrace 55% as per some basic feature inside the OHS and the last OHS Interface Design-3 covers the 35% due to traditional functionality are used inside the help system, so the user cannot reach into their task goal. Another property Learnability explore to develop a such interface that use self-learn with system end user can easily learn with system and use with no confusion to achieve their task in less amount of time, OHS Interface Design-1 contain 75% owed to it interface design that is fully compatible with new user of web and OHS Interface-2 covers the 48% because it is excluding for new visitor on web due to task migratability last one OHS Interface-3 restrain 28% in view of fact that help system is form base not completely interact with novel user of the web. The satisfaction property measured the user task how much user is satisfy with system, OHS Interface Design-1 contain 85%, OHS Interface Design-2 covers 65% and last one interface contain 34% user satisfaction level.

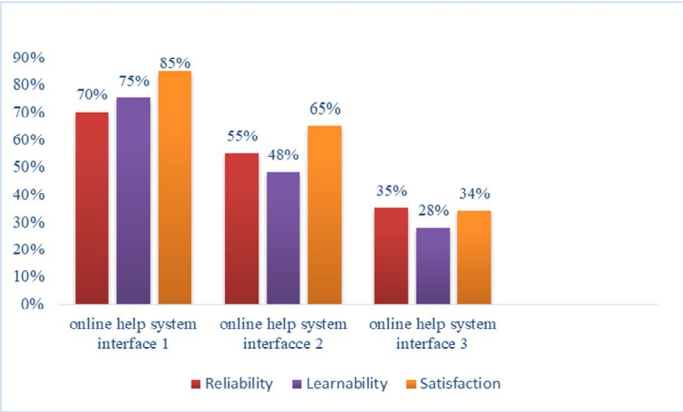

Figure 6: User Experience Usability

The results of the user interface collected by 122 undergraduate students that show in Table 2 the precise results of the comparison between three OHS, over all the best result are obtained using multiple approaches (Frequency = 122, Percentage = 100, Valid Percentage = 100.0 and Cumulative Parentage =100.0), the values of frequency of user interface table specifies the number of end user accessed these online help system interfaces, the next percentage column specifies the percentage of observations that group out of all opinion of the end user, the following valid percentage column shows the percentage of estimation of total non-missing responses and the last cumulative percentage column shows the total percentage of the observation.

Table 2. Comparative Results of User Interface.

		Frequency	Percent	Valid (%)	Cumulative (%)
Valid	OHS Interface-1	79	64.8	64.8	64.8
	OHS Interface-2	30	24.6	24.6	89.3
	OHS Interface-3	13	10.7	10.7	100.0
	Total	122	100.0	100.0	

The cumulative percentage is counted the sum of valid percentage. The Amount of central tendency (Mean = 1.4590, Median =1.0000 and Mode =1.00) though assessing of frequency, percent, valid percent and Cumulative Percent of total participant. The user satisfaction results of OHS diagram shows in Fig. 7. Defined as the user interface which one of them OHS is most reliable according to usage of help system, the usage of three web pages to adopted using OHS, when the study have analyse the results it is found that 65% participant suggested that OHS Interface-1 feel more satisfy able due to the system interface functionality and quick response to the user, and it contain animated icon to use help system that interact the user to use OHS, another help system contain 25% the participant recommend the OHS Interface-2 due to it functionality it provides the deep understanding the task-oriented issue during task and the10% participant recommended the OHS Interface-3 because it contains simple interface also the participate face some issue during interaction and it contains the ancient feature like "Email and contact us" feature that why the less number of participant use this type of system. According to users' opinions, the OHS Interface-1 web system is effectiveness, learnability, efficiency, memorability, and satisfaction that save the user time to complete their task and provide a quick response.

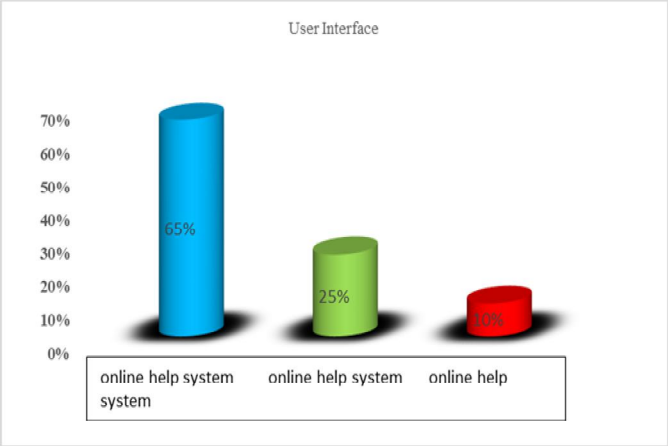

Figure 7: User Satisfaction Interface of Online Help System

10. CONCLUSION

In the field of system development and there interface design HCI act as primary role to interact the user and overcome their difficulties regarding the interface, from the whole research it has found that from the three different type of interfaces after over all evaluation of this study have been founded that that Interface Design-1 is an attractive, effective, and very usable and have most positive results for the reason of that it contain multiple feature provide one of them is that user can see help system is active/online or not that results as reliability with 70%, learnability 75% and user satisfaction with 85% because of additional comfortable and easy to use due to its functionality, and other OHS Interface Design-1 and Interface Design-2 are low reliability, learnability and user satisfaction, the study has concluded that such system that developer or designer should have implemented good OHS in all web pages that should be helpful according to user psychology that system is fully attractive to attract the end user and provide such type of user facilitation and they have also felt that Interface Design-1 is attractive and divert user's mind to using such type of OHS.

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