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# [USABILITY ASSESSMENT TASK]

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## **Executive summary:**

This paper aims at conducting a research in the field of user interface. With the world growing large and the use of internet growing this becomes a burning topic. The first part of the paper gives a brief introduction on what is being asked mainly about the knowledge one has in this area. Acting as a catalyst and having increased the accuracy of mankind this setup has been a boon to mankind especially in the present era where presentation is a very important tool to actually carry out one's business.

The second part of the paper focuses on the methodology which has been used in order to draw a proper statistical analysis. It is gathered that as this problem is supposed to change with every user his or her needs being given even despite of the fact that people even belonging to the same group are bound to have different needs and interested (Grint et al, 1997).

The final part of the paper is the discussion on the entire topic. With problems cropping up every day, what becomes important is the fact that these drawbacks can lead to having or becoming great deal of problems even for people who are not professionals and stay at home but being individuals of this century need it most of the times, be it in any field. This is specifically true because this is the group involved in both having studies and fun (Oudshoorn et al, 2003).

## **BACKGROUND:**

### **Introduction:**

The design of computers, appliances, software applications etc. in such a way that it is in the interest of the people especially focussed on experience and interaction of the regular users is known as the user interface design or user interface engineering. The goal of this whole setup is to provide a basic and organised or systematic setup to gain the attention of this class of people who have their interest in this field (Grint et al, 1997). The best characteristic of this setup is that despite being the key player in setting up a good user interface which catalyses in finishing the task at hand that too without being noticed by the people thus actually proving it to be a catalyst. The whole setup speaks out the trait of being balanced which is in terms of technology and visuals. This empowers the setup to not only be used as only an operational system but even changes with time and place thus proving to be adaptable. This

topic overall has a historical approach with standards having been developed as far back as in the decade of 1980s (Grint et al, 1997).

Some of the most common use interface components are messages, menus and dialogue boxes, icons and bitmaps, short cut keys and access and finally U I Control (Oudshoorn et al, 2003).

Messages: In order to have the text localised and even to be able to wrap up the next few lines, is what becomes a key criterion under this ambit. Generally shorter than text strings the language in itself that is English prevents problems which occur generally in the shorter things.

### **Menus and Dialog Boxes:**

The localization of the application, menus and dialog boxes can also grow. For instance, if someone were to develop an automated teller machine application that would work in English and in Spanish, in order to make the dialog box expand to extra space would be required. Thus, one must plan your interface to prevent the need for resizing controls or other elements after localization. In menus and dialog boxes, avoid crowding status bars. Characters like abbreviations can be longer or simply cease to exist in the other languages.

### **Icons and Bitmaps:**

Certain functionalities without using text like icons and bitmaps. One needs to do the following :

bitmaps that are not of an international standard cannot be used. For example, a bitmap that represents a rural-style mailbox in the United States has a different perception. this particular bitmap is considered similar as to a tunnel.

- Bitmaps that contain text should be avoided as they are time – consuming in the case of withdrawing, and text growth might become an obstacle. It is also important to ensure that bitmaps and icons are culturally sensitive. What may be acceptable in one culture/locale may be inappropriate or even offensive in another (Grint et al, 1997).

### **Access and Shortcut Keys**

Different cultures/locales have their own keyboard layouts and some characters do not exist on all keyboard layouts. When developing your application, make sure all access-key and shortcut-key combinations are available on international keyboards. One simple method to verify that your keyboard assignments work properly for the targeted cultures/locales is:

- Review the desired keyboard layout from Control Panel or the keyboard layout pictures, which some reference manuals contain
- Determine if the access-key and shortcut-key combinations exist

There are Certain access and shortcut-key of combinations are not available for certain cultures/locales or they are reserved for system use by some editions of Windows. These should be advertised in a proper way. Here are some examples of characters to avoid:

@ \$ { } [ ] \ ~ In order to combat this problem, one can use (F1, F2, and so on) instead of letters in shortcut-key combinations. These may be less intuitive but they do not require any localization because virtually all keyboard layouts include numbers and function keys.

Note Shortcut keys cannot consist of characters from the double-byte character set (DBCS).

### UI Controls

These are the building blocks of dialog boxes. Following are the examples:

- Never hide one control behind another. Due to language expansion issues, hiding a control behind another may not work as when you localize the application. For example, a button hidden behind another button in an English language application may extend beyond the covering button when you localize the application in German. For more information,
- UI controls should never be used as part of a sentence. This is because , the sentences like concatenated strings suffer the same problems

### **Research methodology:**

Whenever it comes to talking about a project especially of fixing it, through systematically organised steps like tables and charts being kept in place in order to first know the whole problem extensively and then find out as to how it needs to be resolved. Some amongst the many types of research work include- Field Research, qualitative and quantitative research, self-report study, survey, interview etc. In the research work being undergone of this case the best method which can be followed is that of interview. A conversation between two individuals to gather more information on the topic so being discussed on is supposed to be

very lucid but generally filled with emotions as in case of fighting a pro bono case (Robert et al, 1994).

Supposed to be one of the most effective ways to gather data of a research work, this method has a very wide ambit through which a lot of data can be derived from. However, what is important to notice here is that if the interviewer is completely new to the person he is interviewing then the latter will not be very open about his thoughts on the same (Grint et al, 1997) . This also tells that in case, both the people share an acquaintance then certainly a lot of information can be derived not only from what is being spoken but from even the facial expressions and the modulation in voice. Another factor which plays an importance here is the fact that where is the interview being conducted. If it is being held at a public platform then it will not be that personal an interview in comparison to that being conducted at the interviewees' home or zone of comfort.

### ***Method:***

In order to get a clear and statistically correct data what is needed is the fact that whatever information is being provided by the researcher it should be supported with some first hand data. First hand data is the data collected by the researcher himself in order to assess and justify the claims he puts up in his arguments. In order to collect the first hand data what is important is the fact that the questions which are important should be put up in a very clear way. However, as might the case be the person may not like to open up completely especially in front of an unknown person, and this can lead him to conceal facts regarding the questions being asked to him (Blomberg et al , 2003) . We used the Interview process to carry out the required research process

The best method through which statistical data can be conducted is taking an interview by circulating a questionnaire. While making this questionnaire three types of options are available:-

A. Yes- No type Questions

B. Multiple Choice questions

### C. Short answer questions.

The category of questions best liked by the sample on which the research is being conducted is that of the yes no type of questions. This is because, the person finds it the most easiest and fastest way to even fulfil the purpose of being interviewed and also because not much is being questioned regarding his personal life. As for the interviewee this model is the best for even if a personal relationship is not shared by him with then these set of questions can act as an ice- breaking session wherein the interviewer can get to know a bit more about the person he is interviewing and move on to be able to interview him easily. But on just evaluating the yes no questionnaire setup the fact remains that this settlement can never give a detailed report and is just a skeletal of the whole setup(Blomberg et al , 2003) .

The next category of questions is the multiple choice questions in which several options are provided for the interviewee to decide from. What is important here is the fact that there should always be a none of the above option in such a case because amongst the choices given regarding the topic can have options which might not go on with the mind- set of the person doing it and will have a very different option available (Robert et al, 1994) . Thus, this option gives at least the satisfaction that one's opinion is not just restricted to the options provided and can hence be able to express if not conspicuously then latently one's views about the particular topic concerned. However, this too has a draw- back of just talking about a very small ambit in which not much of a range can be given. Though the none of the above option counters all the other options given it cannot point what actually is the person's choice (Shneiderman, 2004).

Short answer questions is the best amongst all the options provided for it gives a better option to both the interviewer as well as the interviewee. The former can pose a question which can help him deduce more about the latter's position and thinking. On the other hand, the latter's choice can even be written down as no longer is his ambit restricted to the options provided. Having done this process in the best manner can help the interviewer to gain even personal information related to the topic even (Oudshoorn et al, 2003) .

### **Results:**

After taking interviews one came to the following two main conclusions:

a. mankind cannot do without the user interface setup,

b. problems are evident in every field.

However problems like unit positioning in which the suboptimal placement of the unit of the GPS takes place cannot be avoided for network in itself can never be a very stable issue just like the stock market. This however is the off beat problem which turns down the consumers. Next problem is that of the display problems which depends on many factors including network slag. It can even happen due to hardware drawback which though can be corrected is a very costly affair due to which people again need to keep on running to return it. The final most problem is air traffic which somehow is related to the signals being passed all over which can cause the speed to get slow town as several combinations and permutations of signals are being passed. A solution to these problems can only be a new scientific invention which is not going to happen without a proper layout and practical mind (Shneiderman, 2004).

### **Interview:**

Have you encountered problems in user interface services? What are they? How can they be solved?

**Respondent 1:** Yes. I have mainly face problems regarding the windows' user interfacing problems. Where in windows 7 the problem was related to the graphics getting stuck, now in Windows 8 is that it does not have a business front end. Being in an industry where I need perfection in the whole setup it becomes difficult to have to wait in cases where the system gets hanged in between an important development taking place.

**Respondent 2:** Yes. The problem is mainly of the web user interfacing category especially regarding the validation and troubleshooting in the server setup. Mainly caused by air trafficking this problem tends to slow down the speed of work. As my job is that of carrying out business in different countries this speed generally causes a lot of havoc in the entire setup.

**Respondent 3:** Yes. Graphical user interface problem which I have faced past a long time even despite so many new technological inventions taking place is one thing which brings down my quality of work. As needed to testify my products as I am in the business of graphical and technological industry , the delivery of the good is not up to the mark Every

time a new product is launched we expect a better result, but this is not the case however, as it tends to lag down in speed and adaptability when different combinations are interchanged.

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