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A SURVEY OF USABILITY FACTORS OF INFORMATION SYSTEMS

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Abstract

Now-a-days, the advancement of recent technology is creating the power of capability in Information Systems. In this paper, we explained the wide variety of desirable and likely features of Information Systems, where they have used effectively. This paper presents a systematic review of literature Information Systems (ISs) and it usages in various aspects respectively. We identified that the study various usability testing's done in hospitals is termed as Health Information Systems (HISs). The usability study of medicine developed mainly for defense force purpose using mobile devices is termed as Mobile Medical Information Systems (MMISs). In an organization, the view of academic details of students, teaching and non-teaching staff, courses taught, academic activities and curriculum information is termed as Academic Information Systems (AISs). The study of the services provided *y* the government to its people by using internet is termed as Human Resource Management Information Systems (HRMISs). This paper delineates the arena in terms of various ISs are found to be potential areas for research work.

1. Introduction

In our research work we have given a detailed taxonomy for ISs and classified various ISs w.r.t their characteristics. The taxonomy is as shown below:

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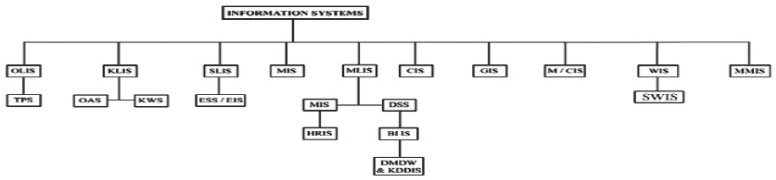
Now in this paper we include few more ISs and their usability's are discussed. Information Systems can be used in many ways. ISs can be broadly classified into many sections depending on the usage of it. The software which is used in an University for the academic purpose can be termed as Academic ISs (AISs). This ISs is owned by that University. It is classified into two modules. In the first module, AISs consists of Student Administration Module, in which it displays the details of College administration. This AISs also supports in helping various business processes from a variety of fields. AISs mainly have three metric measurements, viz internal, external and the use of quality metrics. Even it has Six Sub-characteristics like the functionality, Efficiency, Reliability, Usability, Portability and Maintenance.

ISs can be used even in e-Government whose practices are widely used around the world, named as Human Resource ISs (HRISs). It is an application of e-Government with purpose to serve efficiently, accountability and transparency services to the citizens at all times. HRISs links the government agencies electronically using a database. Interviews can be conducted using HRISs in various posts related to government.

Table 1. Taxonomy of Information Systems.



Using Information Technology in Hospital for providing with electronic health records, various picture capturing with communication systems, clinical decision support systems, providing entry through computers in an order, laboratory Information Systems and managing medication etc., can be termed as Health Information Systems (HISs). Using of HISs in various hospitals for the outcome measures for frequently measured to complete the clinical tasks within the reputed time. HISs provides with a high reliability of ISs which provides with high quality of information.

When ISs is used for driving purpose and provide the driver with necessary and convenient information to allow the driver to navigate more effectively, make more easy and safe in such a way as to optimize the driving

efficiency, is termed as Vehicle Navigation ISs (VNISs). It increases the drivers performance capabilities. Primary deficiency is this is not applicable while the vehicle in motion, and still in developing state.

Mobile Information Systems (MISs) are used in military in the field of medicine research for the benefit of military medicine called as Mobile Medical ISs (MMISs). Due to more availability and low costs of Mobile devices and their availability, MISs started to be used in Military also, which is more suitable of using Information Technology in Health. It is first implemented in smaller nations. (Ex: Finland).

The study of various locations and storing the data of networked systems and their queries to gain the results of many locations using WWW is termed as Distributed Geographical ISs(DGISs). It proposes various important requirements of users, concepts of design and various technologies used of real world. The approach used here is used when there is a large amount of data to be processed i.e., Satellite Images etc.

2. Literature Survey

Usability factors means "Easy to Use" or "Convenience to Use" of the Information Systems that people interact with. Usability defines the quality of experience of an user and must be a fit user to achieve their specific goal efficiently and effectively while promoting the feelings of Satisfaction.

AISs have mainly six characteristics. They are Functionality, Reliability, Usability, Efficiency, Maintenance and Portability. Each characteristic has its own impact on purposes of AISs. Each characteristics and their purposes are shown in the table below.

Table 2. Characteristics of Academic ISs.

S. No.	Characteristics of AISs	Purposes of Characteristics
1.	Functionality	Suitability
		Accuracy
		Interoperability
		Security

		Compliance
2.	Reliability	Maturity
		Fault Tolerance
		Recoverability
		Compliance
3.	Usability	Understandability
		Learn ability
		Operability
		Attractiveness
		Compliance
4.	Efficiency	Time Behaviour
		Resource Utilization
		Compliance
5.	Maintainability	Analyzability
		Changeability
		Stability
		Testability
		Compliance
6.	Portability	Adaptability
		Instability
		Co-existence
		Replace ability
		Compliance

In Health ISs the test usability have done a task completion time is used more commonly to indicate the efficiency work in Hospitals: to show the

relationship between how efficiently the resources are required to complete a certain task. For Ex: if a certain person performs a formal usability test to compare a certain task completions times and if he finds any errors in the system while using a critical care information systems when compared to the original data. The results of the tests are used as an sample to redesign the system. Another similar ex: that they will conduct an iterative usability tests on this HISs including a comparison of how much time is taken to complete at each iteration. And even the HISs usability review the changes to a clinical remainder system and results in significant improvements in early completion of time. Many usability tests are performed on two different interfaces of EHRs and got to found that the tasks were completed significantly faster using the better usability tests. Other studies on HISs subjective considers certain measures of users efficiency. By conducting frequent reviews to examine the relationships between testing and task completion in HISs is implemented to provide a certain evidence to determine how usability testing is used of ISs in hospital setting is associated to improve on task efficiency.

3. Usability of Various Methodologies in ISs

The software used in the above various ISs is of great importance. ISs have used these software's in many areas such as Transportation, Health, Economic Exchange etc. As these software's are of good quality hence guaranteed the various activities of ISs. For example: AIS is the software mainly used for Academic area, i.e., this software supports the process of business in Academics. It provides the learning activities, details of the courses taken by the students, by storing students details and so on.

The various methodologies used in HRMISs is the study of adapting various tests during the experience of testing phases. Here we can give FIVE different phases involved in this HRMISs methodology as: 1. Preliminary Study Phase. 2. Pre-test Phase. 3. Test Phase. 4. Post – Test Phase. 5. Documentation Phase.

Preliminary Study Phase contains mainly five aspects for understanding the information carried about of the study, i.e. The Problem Statement, Research Questions, Objectives, Scope and Significance of the study.

Research Questions and Objectives are mainly dependent on problem statement generated.

In Pre-test phase tests are conducted, by a well planned needs. This phase also specifies development in test plan, recruitment of participants for the test. This phase must prepare a separate test documentation of providing a task case document, interview scripts, Questionnaire, Checklists, etc.

The test phase includes the introduction of procedures of testing and the tasks to be performed to the participants. The participants must complete the questionnaire, and they will be bringing to the test rooms to complete a certain task.

The Post – Test Phase gather all the log files, feedbacks etc., of the participants and are given few rankings. The last phase is the Documentation phase in which they get to a decision regarding the feedback collected, and they document all these details for the future purpose for other researchers.

The HISs consists of mainly three categories to handle various tasks in healthcare environment by computerizing the management system. They are:

- Nice support must be given for clinical and medical patient treatment activities in the hospital.
- Be in touch with the various hospitals daily business transactions.
- Be in touch with the various performances in hospitals like costs and project them for long – term beneficiary.

The HISs contains a mainframe computer and software to maintain all the details of the hospital.

4. Conclusion

In this paper we described about various ISs which are used in various visualization applications, intended to web users and managers to get some understanding about the usage of these various ISs. At this stage we have given a structured method of usability of various ISs to elicit new ideas and information of various ISs. We have observed that there are so many various ISs which are usability of certain users and to perform various tasks.

Usability in ISs remains a great factor in usage of various successful software's for the better usage of users. It is important to user empirical evidence to establish various relationships between usability testing and indicators of ISs success. For example in this paper we have discussed About AISs software, which is used to operate on various operations like evaluation of feature, interface, message, input and regulation. For further development AISs student administrative module requires an evolution on AISs in order to the get good results. Future research should continue to explain about the various ISs usability for high quality evidence and associated output for users

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