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Incorporation of GlobalIssue factors in SDLC by using Inverse Requirement

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Abstract: *Approval of the project depends on the user's fulfillment and that is just accomplished when the item satisfies client's necessities and requests. Accuracy of necessities assumes a critical part in software development. In the event that the prerequisites are not clear or not totally gathered then the actual product can't be accomplished. The research portrays that the vast majority of the engineers focus just to the organizational needs or to the functionalities of the requested product and less to the user's prerequisites or interface requirements with which user needs to connect. Software Engineering (SE) manages the "workable product", and the research shows that the primary center of Software Engineering (SE) manages the "Functional Requirements". As the world is turned into a worldwide town the end client is not breaking point to one nation's space but rather distinctive individuals of diverse nations with distinctive trusts, society and religions utilized the product, so the artifact ought to be approachable, reasonable and simple to use for everybody. Human intermingle with the framework and perceive data or information from distinctive ways. Research will show that a mostly end products are not very user friendly. It is reasoned that if end user does not feel comfortable with the designedproduct then it may get to be fiasco for the product. The researchexplores that how Global issues impacts the advancement and utilization of the product.To keep away from the lossglobal issues ought to be the portion of development life cycle. Exhibited work meld the global issue factors in SDLC by utilizing inverserequirement.*

Keywords: *Requirement Engineering (RE), Human Perception (HP), Inverse Requirement, Software Development Life Cycle (SDLC), Global Issues.*

I. Introduction

After deploying the system in its actual environment maintenance required time to time but if the system is not user friendly or having the usability issues then the maintenance cost will be large. Efficiency of the system based on two things its functionality and users interface interaction. If any one of it is lack the efficiency of the system it will be affected. Mostly problem occurs in usability or in interacting interface. There are clients from everywhere throughout the world with distinctive dialects, society, prerequisites and convictions. Client contribution is essential because of later convenience issues.At the point when end-client associates with the framework the primary issue happen in ease of use and thoughtful the interface which can be brought on by poor configuration or inadequate non-useful prerequisites expected by the framework originator. This disappointment could be happen because of absence of client's contribution in outlining [1,2,3].

Main purpose of technology is to make things automated and with the passage of time technology changes setting new trends. Requirements should be clear, unambiguous and sure to develop the successful automated product. Customer, end user, stakeholder and everyone that interact with the system should be the part of requirement elicitation phase. When different people of different believes, thoughts, culture and religion are under one roof to solve the problem it can be difficult to handle the requirements to get unambiguous or overlapped. It can be critical to generate perfect and fit solution to such problems, so we can say that the requirement gathering phase is the based phase of whole project if it goes wrong the whole project can be a disaster[4].

As the advancement in the technology other trends are also changed. Global environment brought other issues with it as well like language, gender, culture, lack of rules and political situations. Development trends are also change due to global trends. The main issue we are facing now days is usability due to different language, culture or norms. E-business is one of the primary cases of Information and Communication Technology and social boundaries. Diverse business sector have more and real difficulties to cover.Designed product should have to cover such issues to make product a success. Requirement gathering also affected by such issues so it is important to make user, client, and investor part of elicitation [5,6,7,8,9].

To develop a product there are different methods and techniquesbut each method comprise basic steps of traditional development model. Waterfall model consider as a traditional model in which each phase in a sequence and you cannot go back to previous stage once you pass to next.

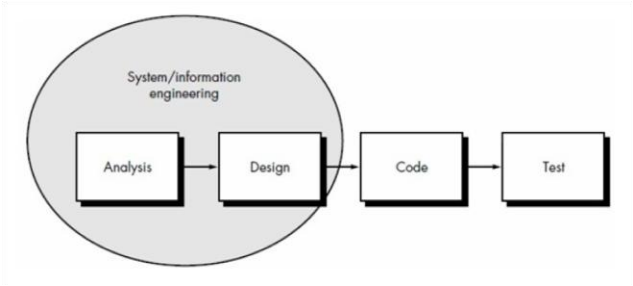

Fig1: Waterfall Model [9]

Analysisphase is the base phase because requirements are gathered and analyzed according to need and identifies the unclear and ambiguous requirements.Requirements are related to the functionality of the system and its interface layout.

Designis multi focusedphase contain information related to data structure, system architecture, procedural detail (algorithms)and interface representation.

Codephasetransformed the algorithms into high-level language to give the instruction to system for working.

Test conducted for inspection that system is providing the required functionality or not if it has errors debugging process will be executed.

II. Types of Requirements

Requirements are the key portion of everyday life event that if you have everything according to your desire or need you do not need to stress. In computer sciences the entire advancements, research and convenience taking into account the requirements. Once the prerequisite is accumulated the improvement will began and once the necessity is not clear, not right or finish the entire task will be a disappointment and the costumer will rejects to get the projectbecause it is not the desired one or asked one. For the most part client just distinguishes functional prerequisites and does not feel that the non-functionalrequirements are critical as well. Requisites changes time to time or may be insecure all through the improvement process. In non-useful necessities client needs to recognize every one of the worries he/she needs in asked for undertaking. There are various types on requirements [9].

Functional requirements identify thecapacities the framework ought to convey how the system responds to particular inputs and how the framework ought to perform in specific circumstances.

Non-Functional requirements show thesystem properties and limitations e.g. unwavering quality, response time, stockpiling requirements and other quality traits. Non-functional prerequisites may be more basic than functional needs. On the off chance that these are not met, the framework is pointless.

Domain requirementspoint out thenecessity that originate from the application area and reflect major attributes of that application domain. These can be both the functional or non-functional prerequisites.

Inverse requirements classify what the system should not do. These prerequisites demonstrate the undesirable needs of clients about specific parts of newsystem[10].

Reliability Requirementsdemonstratesthe requirements those which the product must meet to perform a particular task under certain expressed conditions, for a given timeframe.

Safety requirements areextent to human as well as hardware and information wellbeing.

III. Global Issues

As we discussed earlier the technology and development trends change due to global world. User based project or products based on end users satisfaction not only on an organization. As world become global mostly business is done online as the target market is large so we have to cover all the audience to satisfy them there are following issues that can cause failure of a product by living in a global scenario.

Culturevaries nation to nation, region to region and state to state. Language, norms and terminologies affects the usability mostly like English is a standard language for use and operating system is global product its language and terms are easily understandable to everyone if its language in another format that is not standard it will be difficult for user to use it system will become unfriendly.

Lawis a set pattern under which a country is governs.They varycounty to county; so while developing the product laws also required to be focused on that system should not affect its using or developingagreement.

Gender plays an important part in practical fields. It is a general view that females are not perfect for computer science or for technical fields as they are not that much efficient or intelligent. But it is not true for all areas or fields. Femalescould be the part of requirement gathering or a requirement engineer on both posts their point of view is important to achieve the success of a product. So we cannot negate the importance of female.

Religion is a delegate issue world wildly and personally. It has a great impact on our dailydealings it may also affectusability or developing the system.We cannot contradict any topic or point related to any religion that cause a system huge failure

IV. Developed Model

Developed model include inverse requirement in non-functional point of requirement gathering phase. As we discuss early inverses requirement indicates that what the system should not do? It makes easier for the user to describe what he not desired in the system as compare to define or explain what he required in the system. As world is a global village and each one perceives things in its own way so to avoid global issues we require to make global factor as thepart of requirement phase. In nonfunctional requirement global human perception will be used according to the given above factors i.e. Culture, Law, Gender and Religion. Inverse requirement helps in identifying the requirements related to those factors.

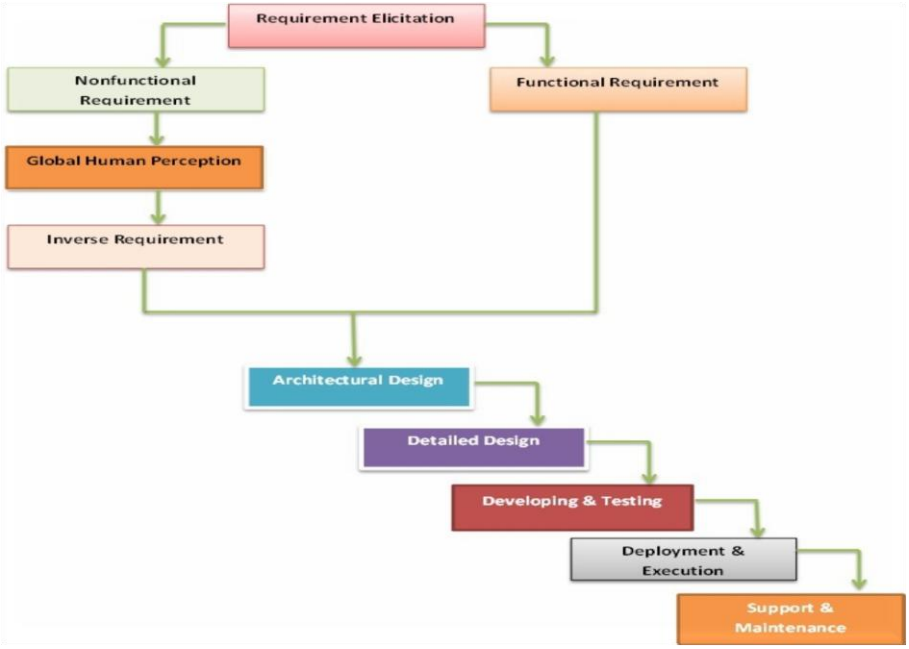

Fig.2: Global Human Perception Development Model (GHPDM)

V. Users' Review on Global Human Perception Development Model

A questionnaire was conducted to get users and experts review on Global Human Perception Development Model (GHPDM). Target audience was from field of final year project developers, Web developer, scholars and teachers. They recommend that we have a need of such model that could cover all issues related to user while using a global developed interface. No of respondents are 43.

Fig 3 illustrate that according to 31 respondents requirement gathering is the base phase of a development life cycle because if that phase goes wrong then the developed unable to achieve the users satisfaction. 7 respondentssaid design phase is the base phase that if layout of the system is not according to the need project could be a disaster. 2 were in the favor of coding, 1 in the favor of implementation and no one said testing is the base phase.

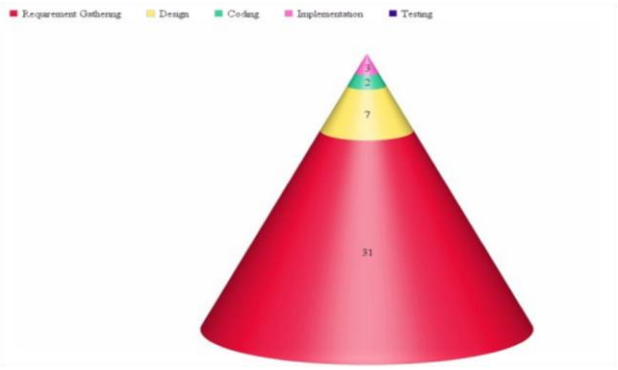

Fig.3: On which phase whole development base

Review of respondants on how much global users affect the development phsae shown in Fig 4.Gender affects at low rate where religion and law affects on medium rate but culture affects on medim rate which is high in all beause each one have its own norms and values.

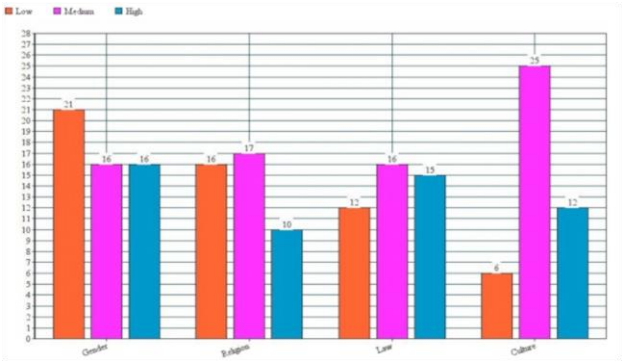

Fig.4: How much Global issues affect S/w development

Fig 5 represent that how much agree that human perception affects the usability. All the respondents agreed upon it. Each one perceive information according to its own way so users perception related to interface is important that everyone can operate system easily.

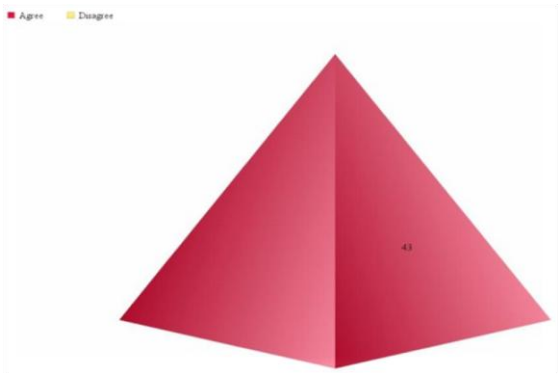

Fig.5: Perception affects usability

Fig 6 depicted that global issues affects the human perception. Gender affects low, religion affects the human perception on medium rate but high in all comparative issues. Law affect medium and culture affects high in perception.

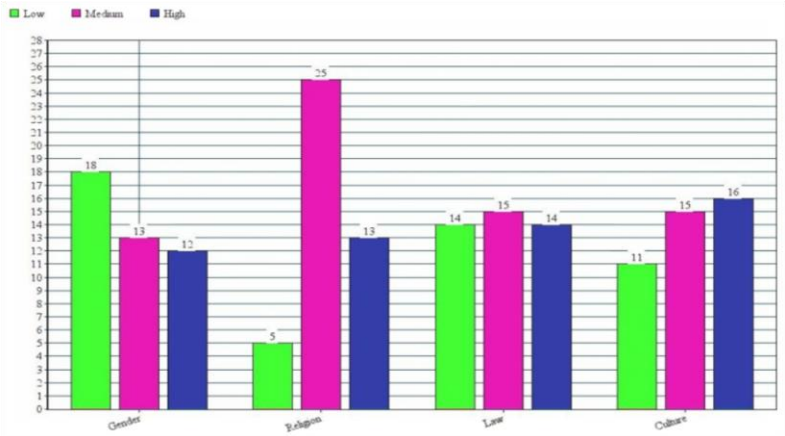

Fig.6: Global issues affect Human Perception

Fig 7 shows that how much users agree to the need of GHPD model. 37 respondents agree that we need such model to cover all global issues related to usability. Each end user from different regions should be the part of development model that could help getting perception of each region or culture.

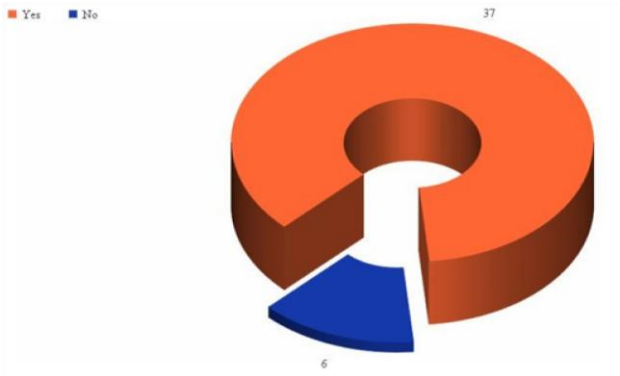

Fig.7: Need of GHPD Model

VI. Conclusion

Research concluded that developed model cover the issues that can cause new developed system a failure. The respective model can be used globally or locally for any organization because it covers everyone's perspective related to requested system. Users review shows that Global Human Perception Development Model (GHPDM) could help in developing a user friendly and global issues free interface that could be able to cover human perceptions of different regions, cultures and religions. By using the model system acceptance can be enhanced because it focused on ever individual. Maintenance cost could be reduced and enhance theefficiency of the system. Inverse requirement helps in gathering the requirementsrelated to global factors and user will not confuse about what he does not want in the system related to its need. Once the requirement phase is properly done whole project will be a success.Hence Global market flourishes by using it.

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