TOPIC:SUPPLY CHAIN MANAGEMENT

ASSESSMENT:3

NAME:AVIRUP CHATTARAJ

(RA1711020010095)

SOMESH DAVE

(RA1711020010087)

DEPARTMENT:SOFTWARE ENGINEERING

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SUBMITTED TO:MR. C. ARUN

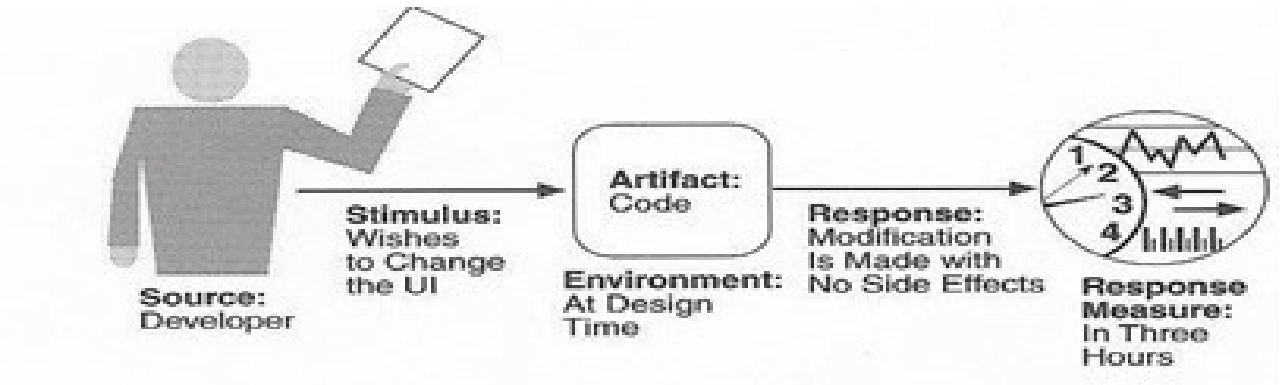
SECURITY

Security is a measure of the system's ability to restrict unauthorized usage while still providing service to its legitimate users. It can be characterized as a system providing confidentiality and assurance. For example if there is security issues in the Supply Chain Management software it can lead to compromise of internal confidential details of products,manufacturers and suppliers.

In order to promote the security of the whole software and apparatus the software is going to contain a number of security features such as:-

1. Cryptographic Hashing-Hashing codes is going to be provided for each and every product and with that code only the product is going to be referred and because of that reason the software would be secured as no outsider would be able to know the product of the system as its going to be completely be referred by these codes.
2. BlockChain- BlockChain is the newest disruptive technology in the market and we plan to integrate that technology with the software so that a trust can be established between each and every stakeholders so that if any modifications created is going to be alerted to each and every user.

Source	Individually connected identified, Internal/External ,authorized
Stimuli	Display data,change
Artifact	System Service
Environment	Online/Effective
Response	Grants/Withdraw permission to access data



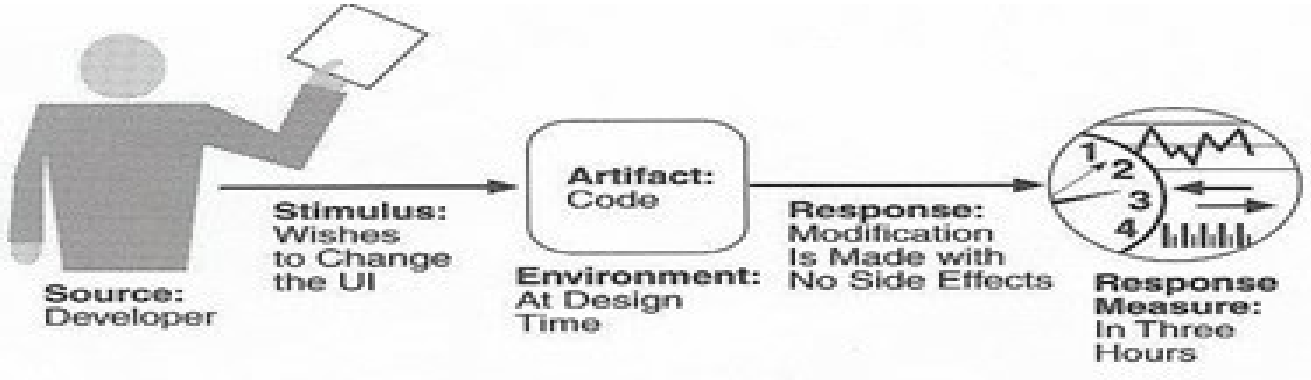
USABILITY

Usability refers to human-computer interaction and the ability of a software application to accomplish a user's goal. Some defining features are ease-of-use and a clear, logical process of evolution towards a goal. Usability is concerned with how it is for the user to accomplish a possible task and the kind of user support the system provides and is based on the following core ideas:-

1. Learning System Features
2. Using a system efficiently
3. Minimizing the impact of errors
4. Adopting the system to user needs
5. Increasing confidence and satisfaction for the user

In order to promote the usability of our software for the various users a number of architectural steps have been taken for the construction of software such as inclusion of a Graphical User Interface for the software. For the graphical user interface various amount of widgets would be added so that the user need not in any way have to get involved with the core logic of the software and can easily carry out the tasks with the assembled widgets which in turn is going to increase confidence and satisfaction on the user's part.

Source	User
Stimuli	Minimizing Impact of Error
Artifact	System Service
Environment	All Runtime with UI
Response	Cancel current operation. Takes less than one second for cancellation

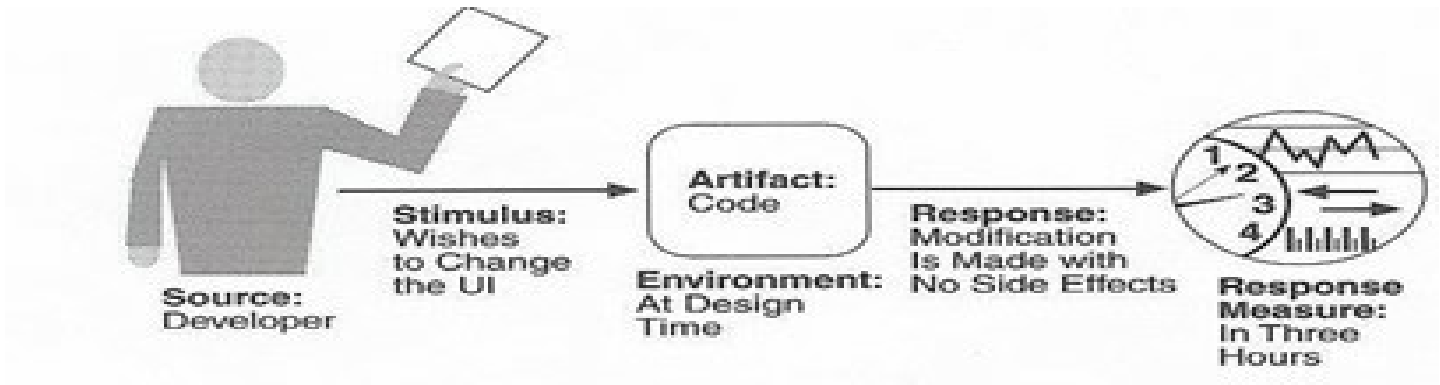


FAULT TOLERANCE

Fault tolerance is a property that enables a system to continue operating properly in the event of a failure of some of its components. It enables a system to continue with its operation even when there is some failure of one part of the system. The tactics that are used are ping, heartbeat,system monitor,removal from service,transactions,process monitor,exception prevention.

In order to ensure fault tolerance for our project we are going to have a backup system which is going to be connected with each and every item such as FrontEnd,Inbuilt Program Logic, Cryptographic Hashing, Cloud Hosted Database in order to ensure smooth working of our software in case of failure of any of the component.

Source	External to System
Stimuli	Minimizing Impact of Error
Artifact	Process
Environment	Normal Operation
Response	Perform an operation and continue to operate.



TESTABILITY

Software testability refers to the ease with which software can be made to demonstrate its faults through testing. It also refers to the probability that it will work on the next execution. For the system to be properly testable it must be possible to control each and every component,internal state and inputs and then the output needs to be observed.

The response measure for testability deal with how effective the tests are in discovering faults and how long it takes to perform the tests.

In order for our software to have proper testability the software has incorporated features such as the software is made up of a number of components. So in order to encourage testability unit test cases can be run for each and every component and the performance can be mapped for each and every component as a whole. This would also lead to discover of any fault which can typically occur in the future.

Source	Unit Tester
Stimuli	Perform Unit Testing
Artifact	Component of the system
Environment	At the completion of the component
Response	Component has interface for controlling behaviour and the output of the component is observable. Path covered of 85% is achieved.