Homework 2

Architectural Design for Fullerton e-Shopping System

Team 05

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CPSC 545 - Advanced Software Design & Architecture

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Revision History

Date:	Performed by:	Actions:
03-16-2016	Holly Do	Vision page, Technical Environment
03-20-2016	Catherine Do	Domain Knowledge
03-24-2016	Catherine Do	Use Cases, use case diagram
03-26-2016	Holly Do	System Features, Functional requirements
03-28-2016	Noemi Quezada	System Context Diagram
03-28-2016	Noemi Quezada	Contribute to the Technical Environment
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4-03-2016	Noemi Quezada	Target User profiles, Software & Hardware Restrictions, Added additional use cases for the Vendor user
4-03-2016	Noemi Quezada	Textual Use Cases
4-04-2016	David Jew	Textual Use Cases

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1.0 Vision

For customers who enjoy conducting their shopping online, the Fullerton eShopping (FeS) is an electronic/shopping system that would cater to customers who prefer to purchase goods from any-where at any-time using mobile devices. Unlike Amazon.com, our company sells bulk items from vendor all around the world, our products are of the highest quality, and our customer service is exceptional.

1.1 Background

Convenience has been a driving force for growth and opportunities for businesses. Before technological advancement, customers did not have any options to shop online. Purchases occur only in-store and customers must drive or procure a way to the store in order to buy items that they need. The introduction of the internet changes the way people shops. Customers who enjoy shopping, but dislike crowds or lines flocks to the internet to purchase items online at their convenience. With a click of a button, customers have the convenience of staying at home and have an item shipped to their doorsteps. Our Fullerton eShopping system aims to cater to these potential customers and satisfy their onlineShopping needs. While there are many such e-commerce companies, we seek to stand above the rest by creating a user friendly UI that is innovative and easily accessible through the web and mobile. Our core value is to exceed customer satisfaction by providing superior product and customer service.

1.2 Business Opportunity

The success of Costco proves that customers are willing to buy items they need in bulk. However, Costco is primarily known as a brick-and-mortar store. Our system will eliminate the laborious step of customers having to shop in-store for bulk items and having to transport the heavy items home. Instead, the bulky items will be conveniently shipped to our customers home. In addition, Costco requires a membership for customers to shop from their store. The system that we will design will not require any membership and anyone can shop at our online store. Customers without the means of transportation or the funds for membership could utilize our service to make their life easier. Thus, there is an opportunity for our business to provide these customers with the option to buy items in bulk. We will aspire to build a stellar reputation as a predominantly online bulk seller.

1.3 Business Objective

The objective of this project is to create Fullerton eShopping system that would allow customers to use the web/mobile to purchase goods anytime and any-where. The main business concerns

for the Fullerton e-Shopping system is to generate profit for the company. The FeS system is an online shopping system that allows users to buy items in bulk anytime and anywhere. Therefore, the FeS system is available as a website and on mobile devices. To create a high quality system we will design it with several key quality attributes in mind. These quality attributes are: availability, security, interoperability, usability, performance, testability, modifiability, portability, monitorability.

Customers may use the website or as an app on their mobile device interchangeably. The UI and UX will be designed with the ease of use in mind so that our customers will feel familiar with switching between website and mobile.

Additionally, our business goal is to provide our customers with top quality items at their convenience. Unlike our competitors, customers can skip the long lines at Costco and the small quantities sold by Amazon by shopping in bulk at our online store. In addition, we shall provide exceptional customer service through our online customer service help center which is available 24/7 through live chat. We want to increase customer satisfaction by making it easy for our customers to get help anytime they need it.

Our mission is to provide a secured network for customers to feel at ease when they want to shop. We want to build our reputation as a reputable company by making our customers feel safe in using our services. Hence, we will make sure that security is of the utmost importance in the FeS system. We also want it to be testable because running tests on the security of our system is important. In keeping developmental costs down, our goal is to create a system that is modifiable.

1.4 Target User Profiles

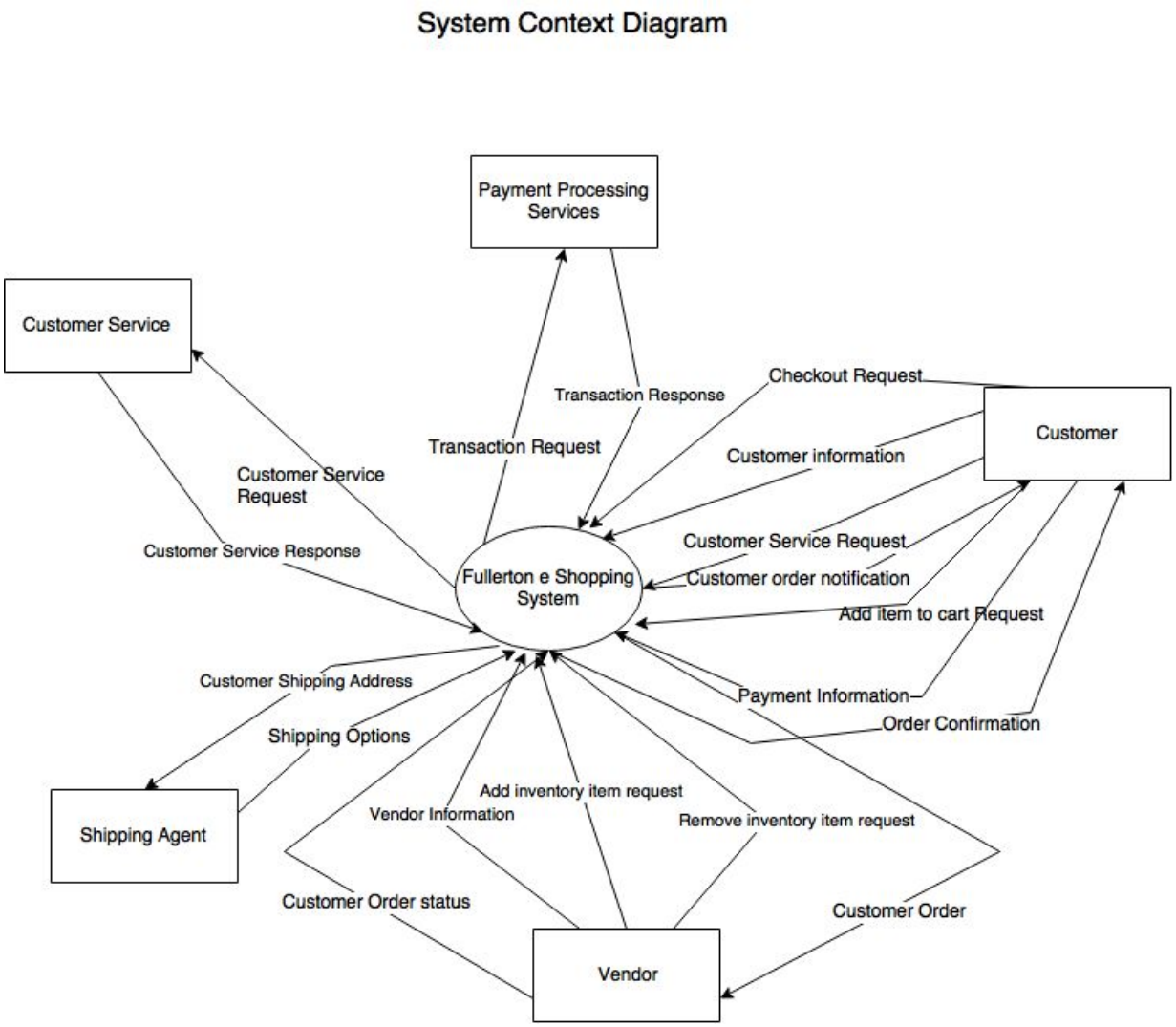
Stakeholder	Major Value	Attitudes	Major Interest	Constraints
Customer	Make a purchase	Individuals looking to a great shopping experience	Painless shopping experience and finding exactly what they need.	Payment restrictions
Vendor	Adds inventory items	Willing to spend time uploading items	Generate income by selling items	None

1.5 Hardware and Software Requirements

The Fullerton eShopping system should run on the latest version of Chrome, Firefox and Safari and Internet Explorer 8 or above on any machine running Windows XP or above or Snow Leopard or above on the Mac. Fullerton eShopping web experience should be mobile optimized. To target the greatest customer base the Fullerton eShopping system should run on Android devices that support Version 4.4 operating system Kitkat or above. The devices should have ability to receive wifi or other type of network connection. For iOS devices the Fullerton eShopping system should run on any iOS device running iOS 8 or above, this includes iPhone 4s and and above. For tablet-size devices can access the Fullerton eShopping system through the web experience.

2.0 System Context Diagram

The Fullerton eShopping center is a new electronic/shopping system that would cater to customers who prefer to purchase goods from any-where at any-time using mobile devices. The context diagram below illustrates the external entities and other interfaces for release 1.0.



3.0 Technical Environment

The Federal Trade Commission (FTC) regulate some of the e-commerce activities that occur. All e-commerce companies are required to abide by the regulations and laws set forth by the FTC. There are many types of state and federal laws and standards that regulate the ecommerce industry. These laws must be followed by the system. Thus, it is necessary for the architect to understand and consider these standards and laws when designing the system. Some of these standards and laws are created to protect the clients so their information can be safeguarded when using the system. There are laws that governed electronic transaction, advertisements, children privacy acts, online business laws, and email marketing laws.

The Fullerton eShopping system is composed of a server for the client interface, client's web/mobile application, and the hardware for the server and the client's software to run on.

Client's Interface

The client's interface will be developed using html, css, and javascript to construct the website for the Fullerton eShopping system. All html code will conform to the html 5.0 standard.

Client's Software

The android version for the client's software shall be coded in Java. While the iOS will be coded in Objective-C. The Google's coding standard will be used for Java and Google's Objective-C style guide will be used for the iOS. These coding standards will help promote readability and make software maintenance easier. With multiple developers, the coding standards will make the code easier to read by providing a basis for uniformity. Code maintenance typically are not always maintained by the original coder; thus, it is convenient to agree upon a coding standard so other programmers can read the code faster and understand it. In addition, coding standards help programmers produce cleaner code that would support the maintenance of the product.

Hardware Server

The Fullerton eShopping system shall be hosted on Amazon Web Services (AWS). MongoDB or MySQL will be used as the database. The hardware server should be secure to protect the client's information. Transaction information such as client's name, date of birth, credit cards, and client's address should be securely stored within the database. According to the email marketing law, if a client requested that his email is to be removed from the emailing list, the system must be able to comply to the request. The client's email must be removed from the system's database if the client unsubscribed from the emailing list. The children's privacy law protect children's information from being stored. Therefore, if any children's information was found in the database, the system must be able to remove the information from the database.

4.0 Domain Knowledge

Domain knowledge refers to having expertise in a certain area. In software engineering, domain knowledge is about understanding the environment in which the target system operates in. Domain knowledge is gathered from the end users rather than software developers. In this case, domain knowledge would mean being very familiar with the business aspect of how an online shopping system operates. Domain knowledge is important in software architecture because it is important to understand the business aspect of the target system and not just the technical aspect of it. In understanding how an online business operates, we will also have a better understanding of how to construct our software architecture for the Fullerton e-shopping system. In addition, having an expert in the ecommerce domain will help in writing and executing test cases.

In order to successfully develop the Fullerton e-shopping system, we must collect domain knowledge about how an ecommerce website operates. We need to know how to create a homepage, search result, product detail, order form, confirmation, login and account pages. In addition, the system shall provide several main features that is required in an ecommerce website. We will have the following main features: shopping carts, search form page, create account page and login page, payment page, and post purchase for after an order had been placed. For example, we will need to have domain knowledge about the payment system (i.e. PayPal, Google checkout, credit cards, etc…).

To create the FeS system we must also have domain knowledge about various aspects of e-commerce. The e-commerce domain includes having expertise in knowing about state taxes, shipping, and accounting. We need to implement a way for the system to use the user's location to calculate the correct amount of taxes at the checkout page. In addition, we also need to know about shipping regulations so that we can ship out our products to the end users.

By collecting domain knowledge about how an ecommerce website operates, we could plan our software architecture accordingly. It will serve as a guideline for identifying potential risks and confirming that the user requirements are addressed in the architectural design. As a result, domain knowledge helps improve the marketability of our FeS system. Furthermore, in having proFeSsional experts with the domain knowledge of how an ecommerce website operates, we could improve on our software testing. Testing the business requirements from the end-user point of view is easier when we have knowledge of certain domains in the ecommerce environment. In understanding how e commerce domain operates, we can design quality test cases which can effectively replicate the end users actions. Consequently, a test engineer with the right domain knowledge would be able to write and execute test cases more effectively than

one without the domain knowledge of how an ecommerce system operates. Therefore, a domain expert in ecommerce shall verify the system before the final release.

5.0 System Features

The FeS system shall be broken down into various categories.

5.1 Account

- The system does account sign up
- The system does login authorization
- The system send email verification
- The system allow the user to edit and update his account

5.2 Transaction

- The system process credit card payments
- The system does billing verification

5.3 Interface

- The system will support various mobile platforms
- The system does support a desktop web interface

5.4 Browse

- The system queries database when user entered a search
- The system present the user with a list of relevant items that the user had searched for

5.5 Checkout

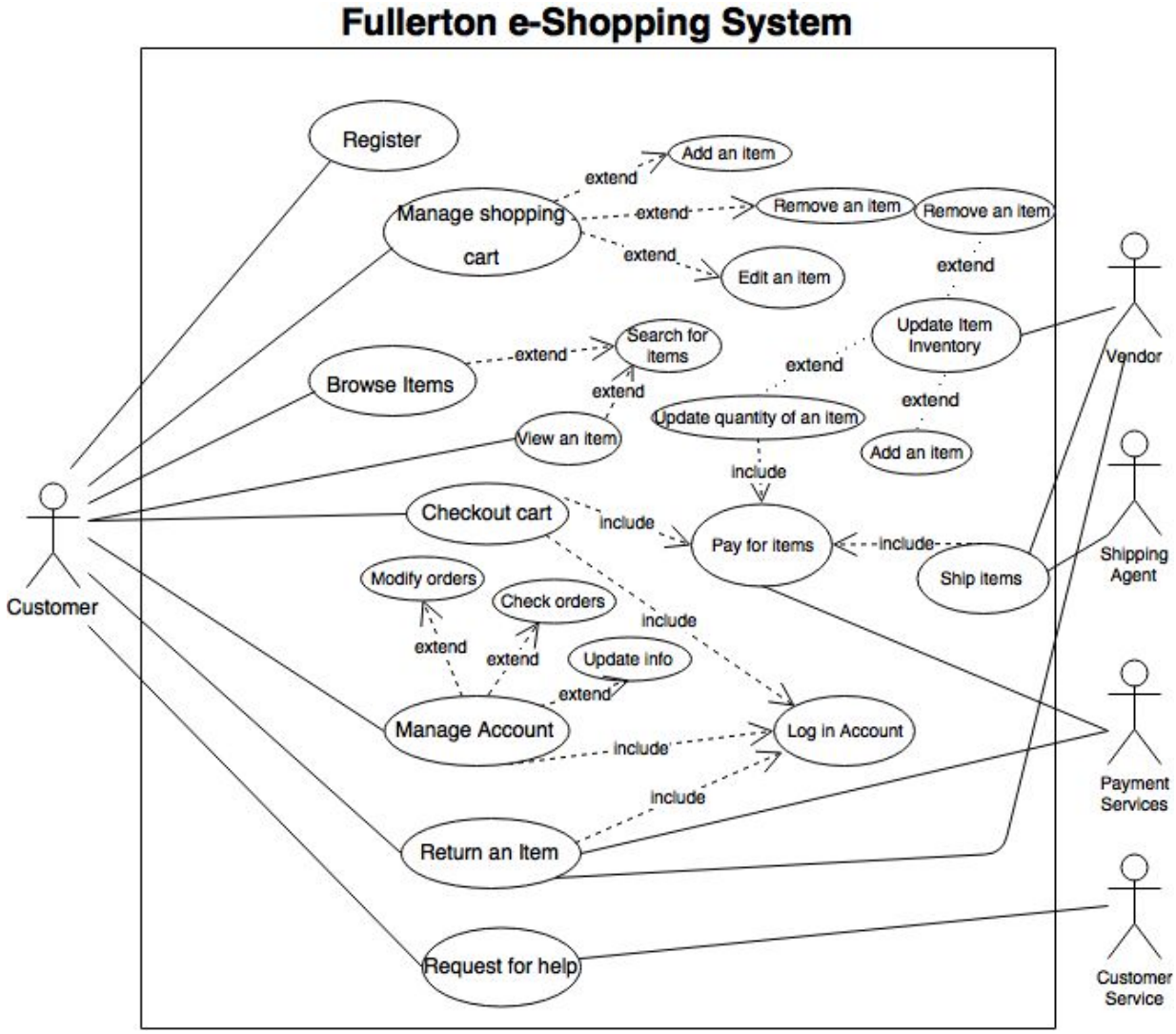
- The system display a list of items that the user had added to cart
- The system calculates shipping rate

6.0 Use Cases

UC 1: Customer registers for an account
UC 2: Customer logs into their account
UC 3: Customer views an item
UC 4: Customer searches for an item
UC 5: Customer adds an item to the cart
UC 6: Customer remove an item from the cart
UC 7: Customer checkouts their cart
UC 8: Customer updates their personal account information
UC 9: Customer places a return request
UC 10: Customer modifies orders in account
UC 11: Customer requests for help
UC 12: Vendor registers for an account

UC 13: Vendor logs into their account
UC 14: Vendor adds an item to their inventory.
UC 15: Vendor removes an item from their inventory
UC 16: Vendor views an order
UC 17: Vendor notifies customer when order has shipped.

6.1 Use Case Diagram



6.2 Textual Use Cases

ID and Name	**UC-1: Customer Registers for an Account**
Primary Actor: Customer	

Description:	As a Customer I want to register for an account so that I can start making purchases.
Normal Flow:	**1.0 Customer Registers for an Account** 1. The Customer enters the required User Account information values and requests the system to create a new account. 2. The FeS system validates the User Account information. 3. The FeS system saves the User Account information in the Customer's account. 4. The FeS system notifies the customer that their account has been created successfully

ID and Name	**UC-2: Customer Logins into their account**
Primary Actor: Customer	
Description:	As a Customer I want to login into my account so that I can start making purchases.
Normal Flow:	**2.0 Customer Logins into their Account** 1. The Customer enters their username and password and request the system to log them in. 2. The FeS system validates the username and password. 3. The FeS system starts the login session and notifies the customer that they are logged in .

ID and Name	**UC-3: Customer views an item**
Primary Actor: Customer	
Description:	As a Customer I want to view an item so that I can purchase it.
Normal Flow:	**3.0 Customer views an item** 1. The Customer specifies names, keywords, or vendor names and request the system to display relevant items. 2. The FeS system queries the system for items relevant to the keywords the Customer has entered. 3. The FeS system displays a list of relevant items. 4. The Customer selects an item from the list. 5. The FeS system displays item information.

ID and Name	**UC-4: Customer searches for an item**
Primary Actor: Customer	

Description:	As a Customer I want to search for an item so that I can purchase it.
Normal Flow:	**4.0 Customer searches for an item** 1. The Customer specifies names, keywords, or vendor names and request the system to display relevant items. 2. The FeS system queries the system for items relevant to the keywords the Customer has entered. 3. The FeS system displays a list of relevant items.

ID and Name	**UC-5: Customer adds an item to their cart**
Primary Actor: Customer	
Description:	As a Customer I want to add an item to my cart so that I can purchase it.
Normal Flow:	**5.0 Customer adds an item to their cart** *Extends UC-3.0 Customer views an item* 1. The Customer specifies how many of the item they want and sends a request to the system to add it to the cart. 2. The FeS system validates the quantity and updates the Customer's cart . 3. The FeS system notifies the Customer that there cart has been updated.

ID and Name	**UC-6: Customer removes an item from their cart**
Primary Actor: Customer	
Description:	As a Customer I want to remove an item from my cart so that I don't have to purchase it.
Normal Flow:	**6.0 Customer removes an item from their cart** 1. The Customer requests the FeS system to visit their cart. 2. The FeS system displays the Customer's cart. 3. The Customer removes an item from the cart and request the FeS system to update their cart. 3. The FeS system updates their cart and displays their updated cart.

ID and Name	**UC-7: Customer checkouts out their cart**
Primary Actor: Customer	
Description:	As a Customer I want to checkout my cart so that I can purchase the items.

Normal Flow:	**7.0 Customer checkouts out their cart.** 1. The Customer requests the FeS system to visit their cart. 2. The FeS system displays the Customer's cart. 3. The Customer request to checkout her cart. 3. The FeS system directs her to checkout process. 4. The Customer enters her shipping and billing information and select the desired shipping option and request the system to verify and save her information. 5. The FeS system verifies her information and directs her to the payment gateway. 6. The Customer enters her payment information and request the system to process her payment. 7. The FeS system processes her payment and notifies the Customer that the transaction was successful and displays an order confirmation.

ID and Name	**UC-8: Customer updates their personal account information - password**
Primary Actor: Customer	
Description:	As a Customer I want to update my account information - username and password so that I can create a secure account.
Normal Flow:	**8.0 Customer updates their personal account information** 1. The Customer visits their account. 2. The Customer chooses to edit their account credentials. 3. The FeS system asks to verify the Customer by asking for a username and password. 4. The Customer enters their username and password and request the system to validate the Customer. 5. The FeS system verifies the customer and allows the user to edit the username and password fields. 6. The Customer enters a new username and password and request the system to update. 7. The FeS system updates the username and password and notifies the Customer that their username and password have been updated. 8. The FeS system sends an email notification to the Customer about the change.

ID and Name	**UC-9: Customer places a return request**
Primary Actor: Customer	
Description:	As a Customer I want to return an item so that I can get my money back.
Normal Flow:	**9.0 Customer places a return request** 1. The Vendor receives a return request item.

	2. The Vendor processes the request. 3. The FeS system notifies the Customer that the request has been processed. 3. The FeS system updates the Vendor's inventory. 4. The FeS system processes the return payment to the Customer.

ID and Name	**UC-10: Customer modifies orders in account**
Primary Actor: Customer	
Description:	As a Customer I want to make changes to orders that I have made
Normal Flow:	**10.0 Customer modifies orders in account** 1. The Customer queries the FeS system for previous orders 2. The FeS system receives the order query 3. The FeS system processes the query request to the customer 4. The Customer receives the query output 5. The Customer makes the desired changes 6. The Customer submits the updated order information to the FeS system 7. The FeS system receives the updated information 8. The FeS system processes the order information 9. The FeS system updates the order information

ID and Name	**UC-11: Customer requests for help**
Primary Actor: Customer	
Description:	As a Customer, I would like to request help from the vendor regarding orders
Normal Flow:	**11.0 Customer places a request for help** 1. The Vendor receives the request for help 2. The Vendor processes the request 3. The Vendor submits comments and instructions to help the Customer 4. The Customer receives instructions from Vendor

ID and Name	**UC-12: Vendor registers for an account**
Primary Actor: Vendor	
Description:	As a Vendor, I want to register for an account so that I can make changes to the system

Normal Flow:	**12.0 Vendor registers for an account** 1. The Vendor enters the required User Account information values and requests that the system creates a new account 2. The FeS system validates the User Account information 3. The FeS system saves the User Account information in the Vendor's account 4. The FeS system notifies the Vendor that their account has been created successfully

ID and Name	**UC-13: Vendor logs into their account**
Primary Actor: Vendor	
Description:	As a Vendor, I want to log into my account so that I can administer the system
Normal Flow:	**13.0 Vendor logs into their Account** 1. The Vendor enters their username and password and request for the system to log them in 2. The FeS system validates the username and password 3. The FeS system starts the login session and notifies the customer that they are logged in

ID and Name	**UC-14: Vendor adds an item to their inventory**
Primary Actor: Vendor	
Description:	As a Vendor, I want to add items to the inventory
Normal Flow:	**14.0 Vendor adds an item to inventory list** 1. The Vendor selects the items to be added into the FeS inventory 2. The Vendor submits list to the FeS system 3. The FeS system receives list and validates item availability and quantity 4. The FeS system updates the inventory list 5. The FeS system notifies the Vendor that the inventory has been updated

ID and Name	**UC-15: Vendor removes an item from their inventory**
Primary Actor: Vendor	
Description:	As a Vendor, I want to be able to remove items from inventory
Normal Flow:	**15.0 Vendor removes an item from inventory**

	1. Vendor submits request for item to be removed from FeS system 2. The FeS system receives removal request 3. The FeS system verifies item status/quantity and updates system with new total 4. The FeS system notifies the Vendor of updated inventory list

ID and Name	**UC-16: Vendor views an order**
Primary Actor: Vendor	
Description:	As a Vendor, I want to be able to view submitted orders
Normal Flow:	**16.0 Vendor views an order** 1. The Vendor selects from order list 2. The Vendor submits order information request 3. The FeS receives order queries for the system 4. The FeS system displays additional order information 5. The Vendor receives order information output

ID and Name	**UC-17: Vendor notifies customer when order has shipped**
Primary Actor: Vendor	
Description:	As a Vendor, I want to inform the customer when their orders are shipped
Normal Flow:	**17.0 Vendor notifies customer when order has shipped** 1. The Vendor creates a template message with variables for order status update messages to the customer 2. The Vendor requests that the FeS system tracks status of customer orders 3. The FeS system notices updated shipping status for the customer's order 4. The FeS system fills in update information into the Vendor's template message 5. The FeS system displays template and variable information to customer

7.0 Functional Requirements

FR 1: The FeS system shall allow the user to create an account
FR 2: The FeS system shall send an email verification to the user's email address
FR 3: The FeS system shall allow the user to modify and edit their account
FR 4: The FeS system shall provide the user with his account's information

FR 5: The FeS system shall be able to process credit card payments
FR 6: The FeS system shall calculate the shipping rate based on the shipping time that the user had selected
FR 7: The FeS system shall allow the user to add an item to his cart
FR 8: The FeS system shall allow the user to remove an item from his cart
FR 9: The FeS system shall allow the user to search the catalog for a specific item or category
FR 10: The FeS system shall allow a vendor to add items to the catalog
FR 11: The FeS system shall allow a vendor to remove items from the catalog
FR 12: The FeS system shall display the user's account information in the user's profile page
FR 13: The FeS system shall allow the user to delete his account
FR 14: The FeS system shall allow the user to change the quantities of the item to remove or purchase
FR 15: The FeS system shall display all the items in the user's shopping cart
FR 16: The FeS system shall notify the customer when an order has been shipped.

8.0 System Quality Attributes

The following 7 quality attributes, also known as non-function requirements are identified as important by the stakeholder representatives. These quality attributes describes how the system is built, designed, or implemented.

Non-Functional Requirements
NFR 1: Availability
NFR 2: Interoperability
NFR 3: Modifiability
NFR 4: Performance
NFR 5: Security
NFR 6: Testability
NFR 7: Usability

The two most important quality attribute in the Fullerton E-shopping system as considered by the stakeholder representatives are availability and security.

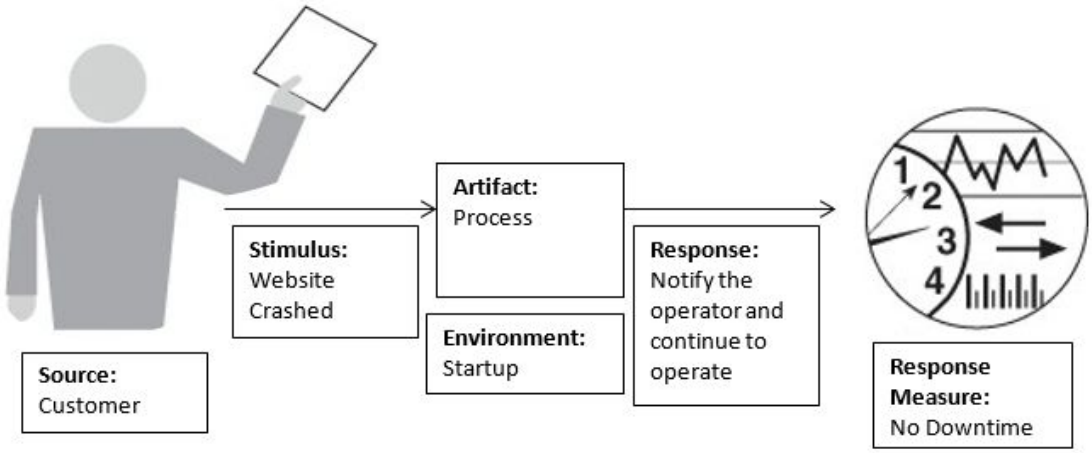
The first important quality attribute is availability. The FeS system shall be available to all users anytime and anywhere. The system should be available 24/7 at 99.99% of the time. Since we are an online retailer, it is very important that our service is available at all times and accessible anywhere. The purpose of this system is to provide the user with an easy way to shop in bulk at their convenience at anytime.

The second most important quality attribute is security. The FeS system must have security because users will store sensitive information and send payment within the FeS system for purchasing goods. In order to maintain customer's trust, we have to protect their confidentiality and personal information so that users will feel safe in shopping at our store. Nowaday there are various hackers that will try to steal credit card information and other sensitive information. This may result in lost of trust for our customers and legal issues. Therefore, in order to protect our business from fraud and hackers, we have prioritized security as a major concern. As a result, the FeS system shall only allow authorized users to make changes such as payment, update account information, and when returning items. For security purposes, the FeS system shall have the user log-in to their account with their username and password. Security is highly prioritized as an important quality attribute because we want to protect our reputation as a reputable merchant so that our customers will feel safe in using our service. In addition, we shall only store the minimal amount of information about our users to conduct chargebacks or refunds if necessary. During checkout, we shall use a strong encryption and secure SSL authentication during payment process. As an added security, we shall also employ the use of an address verification system (AVS) and a card verification value (CVV) to protect our customers from possible fraudulent charges.

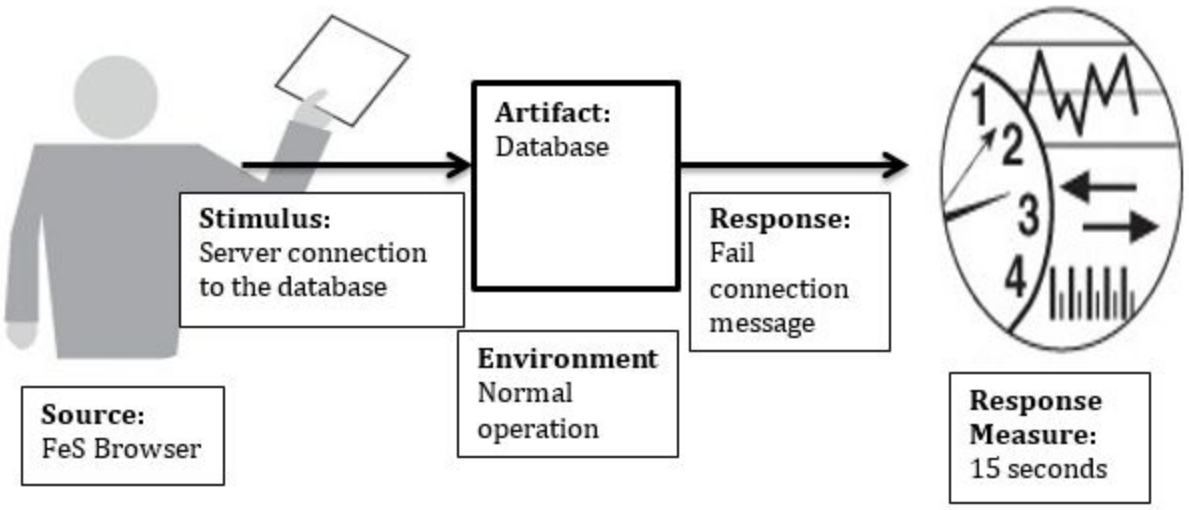
Quality Attribute Scenarios

QA 1: Availability

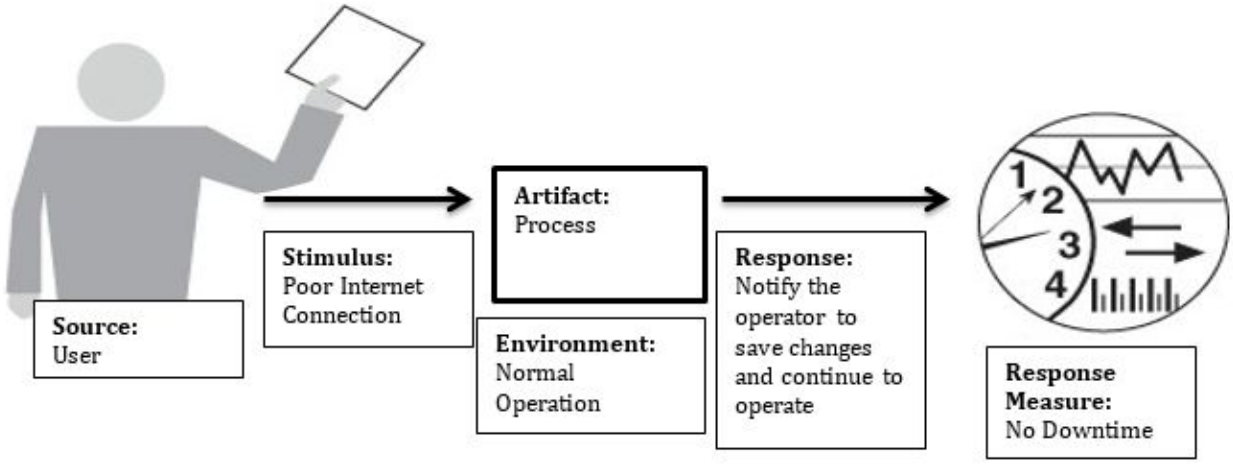
1. A customer reported that the FeS website/app crashed during startup. The system informs the operator and continues to operate with no downtime.



2. The FeS browser from the client side tried to connect the server during normal operation to receive the user's account information. The server connection to the database crashed and the browser receives the fail connection message after 15 seconds.

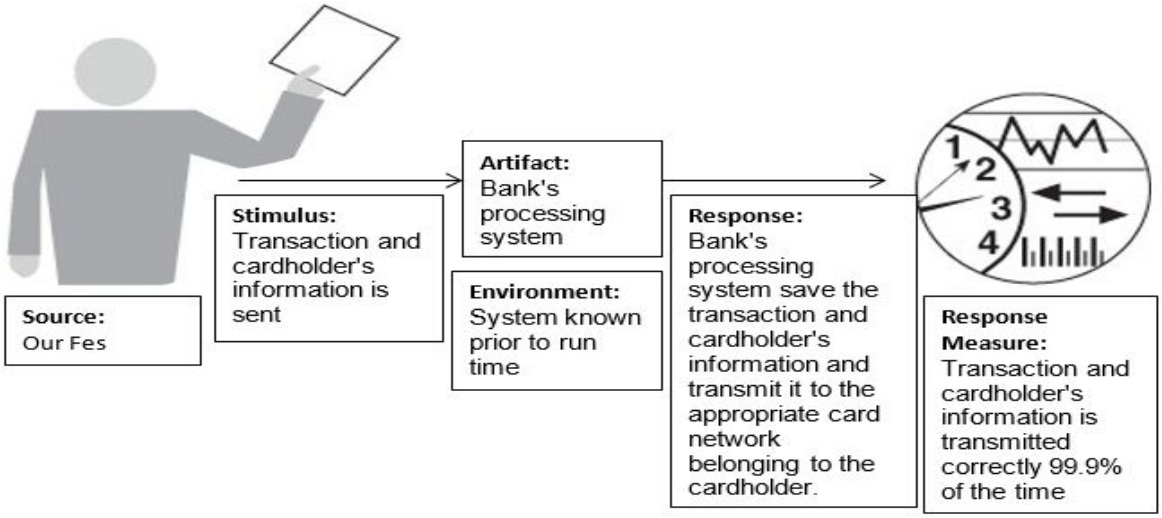


3. A user reported that there was poor Internet connection while accessing the FeS website during normal operation. The system notified the operator to save updates and continued to operate with no downtime.

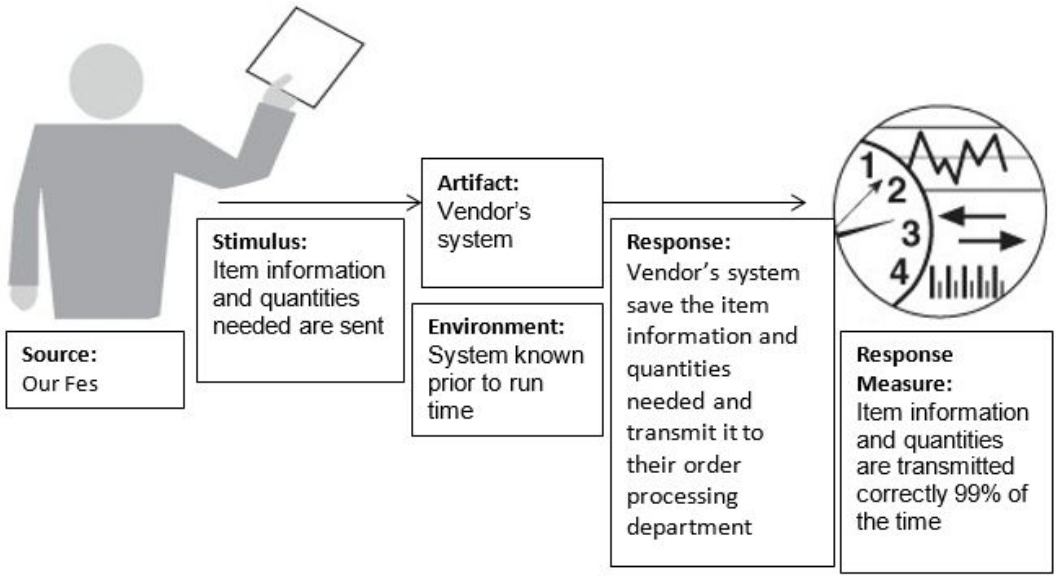


QA 2: Interoperability

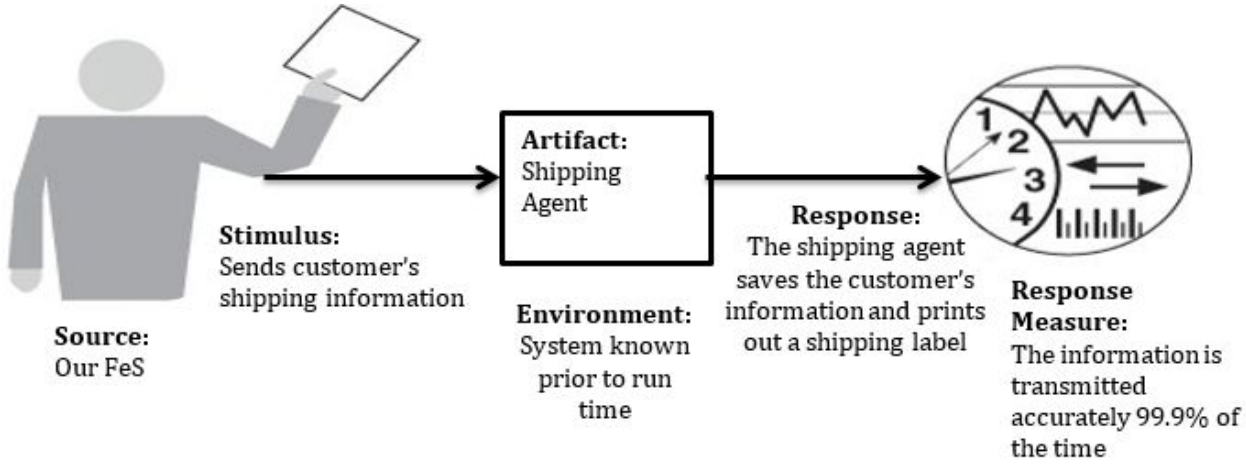
1. Our FeS sends the transaction information and cardholder's information to the bank's processing system. The bank's processing system save the transaction and cardholder's information and transmit it to the appropriate card network that belonged to the cardholder. The transaction and card holder's information is correctly transmitted with a probability of 99.9%.



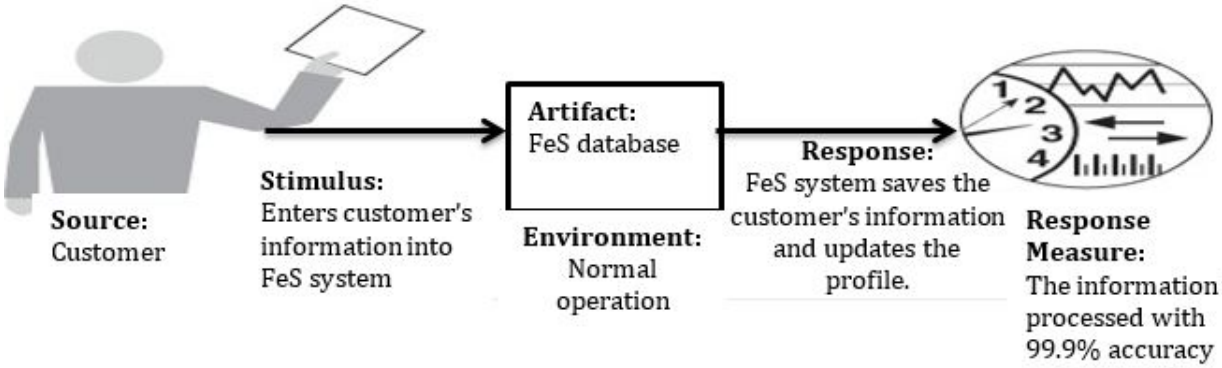
2. Our FeS sends the item information and quantities needed to the vendor's system. The vendor's system save the item information and quantities needed and transmit it to their order processing department. The item information and quantities are correctly transmitted with a probability of 99.9%.



3. Our FeS sends customer's shipping information to the shipping agent. The shipping agent saves the customer's shipping information and prints out a shipping label. The customer's shipping information is transmitted with a 99% accuracy.

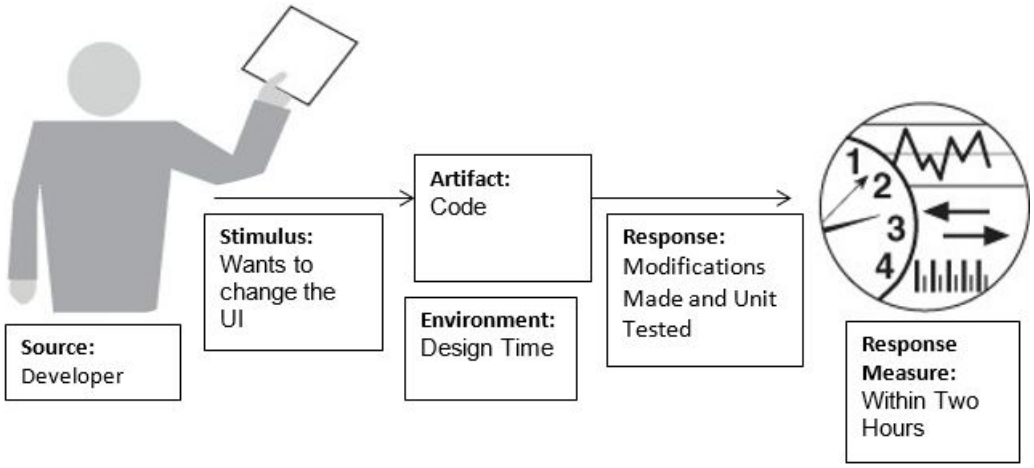


4. A customer enters his information into the FeS system during normal operation. The FeS system saves the customer's information and updates the customer's profile in the FeS database. The information is process with an accuracy of 99.9%.

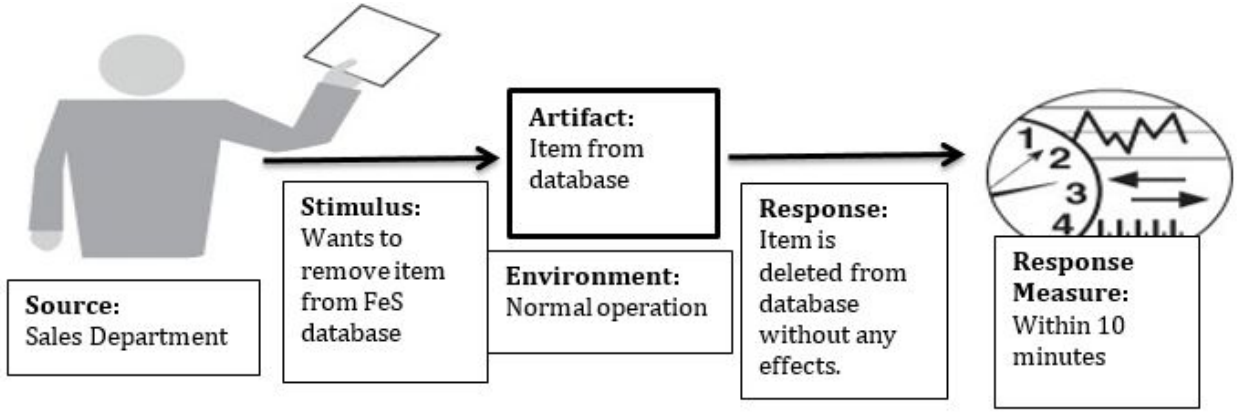


QA 3: Modifiability

1. The developer wants to change the user interface by modifying the code at design time. The changes are made with no side effects within 2 hours.

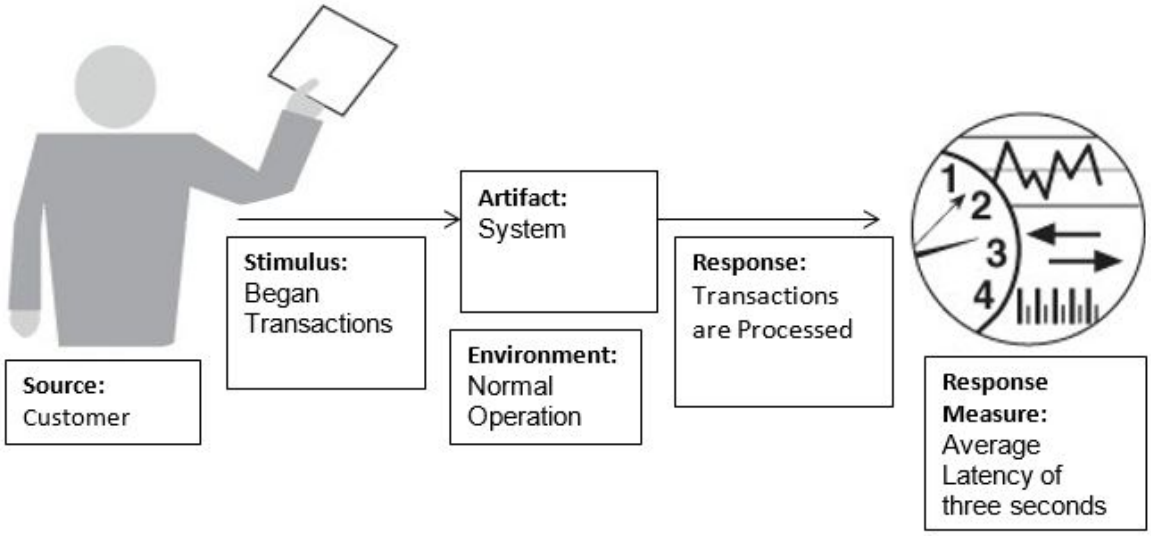


2. The Sales Department wants to remove an item from the FeS by deleting the item from the database during normal operation. The change is made with no side effects within 10 minutes.

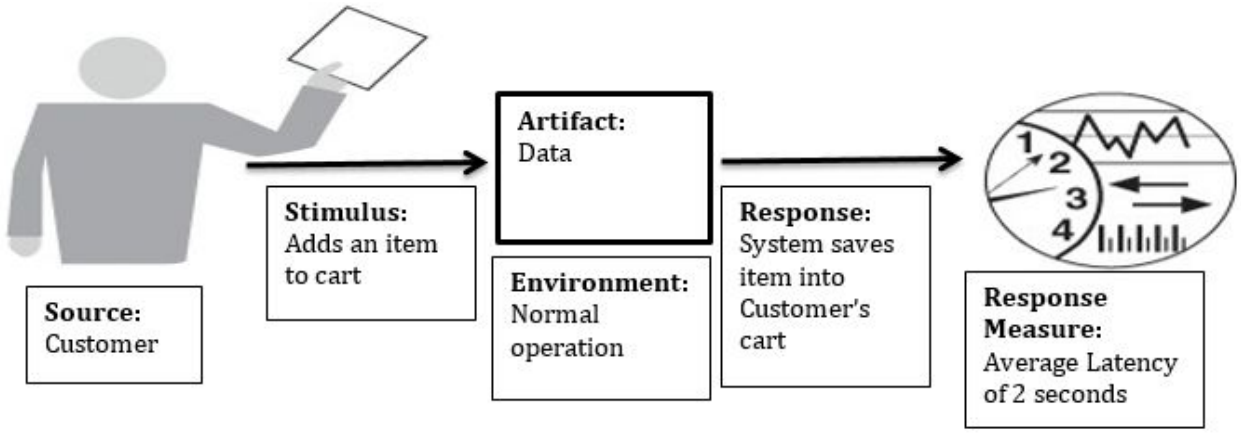


QA 4: Performance

1. Customer began transactions under normal operations. The system processes the transactions with an average latency of three seconds.

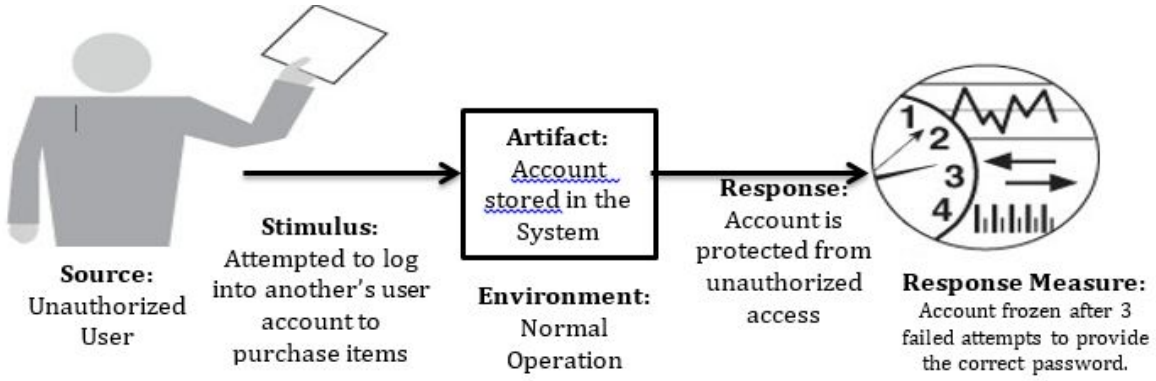


2. Customer adds an item to his cart during normal operation. The system saves the item to the customer's cart with an average latency of 2 seconds.

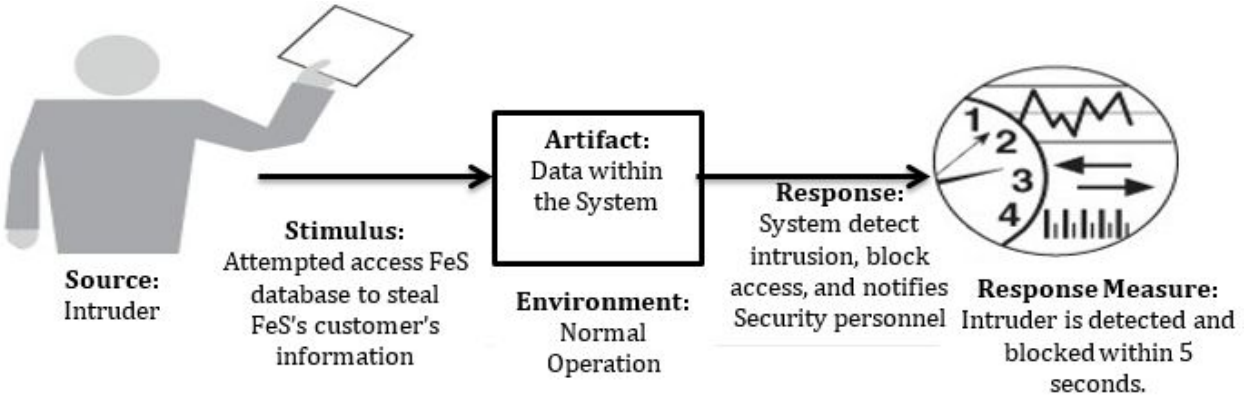


QA 5: Security

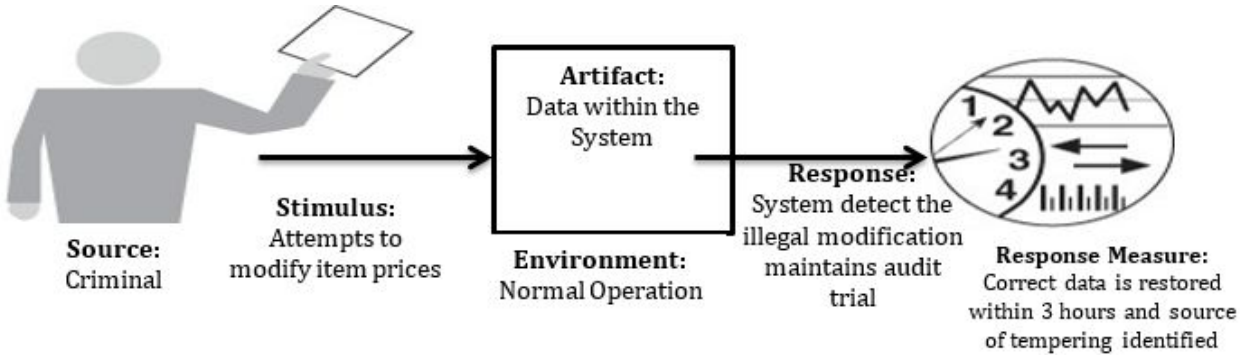
1. An unauthorized user attempted to log into another user's account to purchase items during normal operations. The system is protected from unauthorized access and froze the account after 3 failed attempts to provide the correct password and security questions at the login page.



2. An intruder attempted to access FeS database to steal FeS's customer's information during normal operation. The FeS system detect the intrusion, block the intruder's access, and notify Security personnel within 5 seconds.

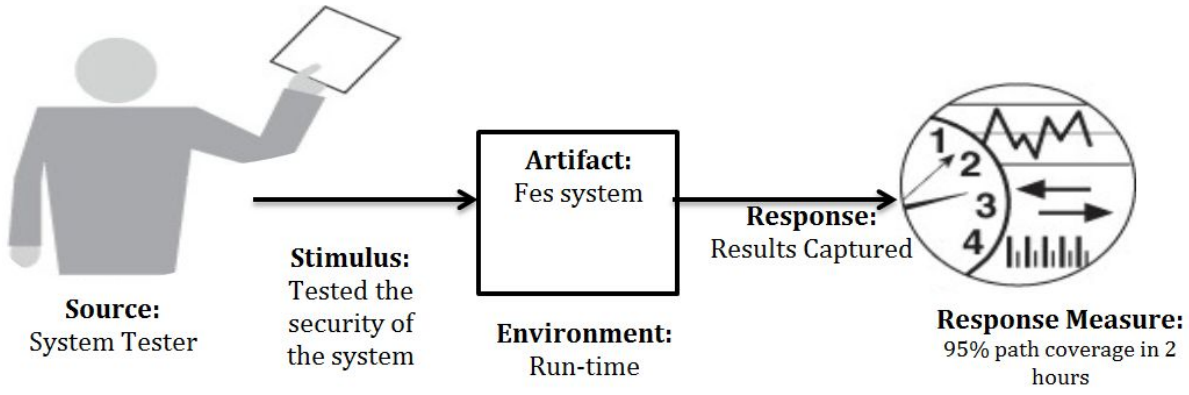


3. A criminal attempt to modify the prices of all the items within the FeS system during normal operations. The FeS system detected the illegal pricing and maintain an audit trial. The correct pricing is restored within 3 hours and the source of tampering is identified.

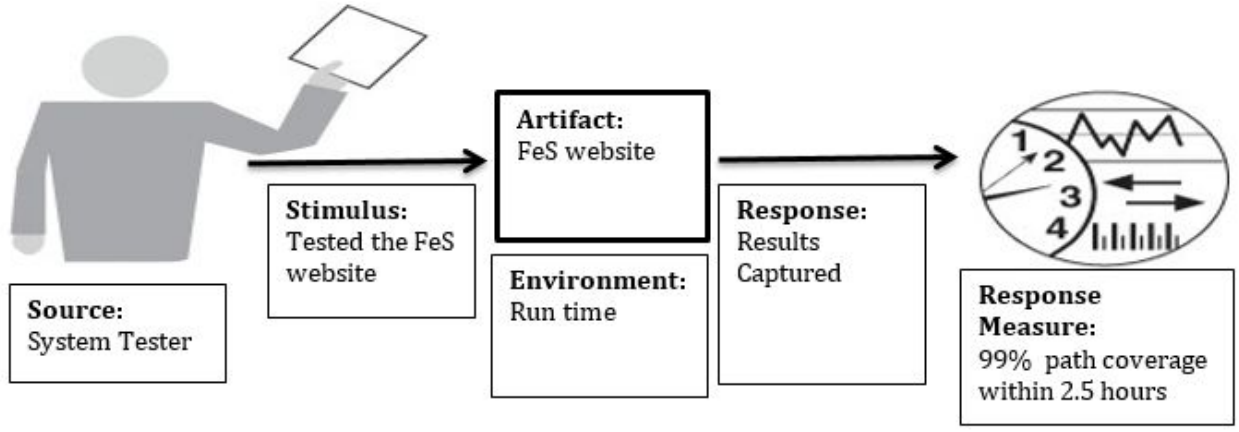


QA 6: Testability

1. The system tester tested the security of the FeS system by running a penetration test during run time. The results were captured and give 95 percent path coverage within 2 hours of testing.

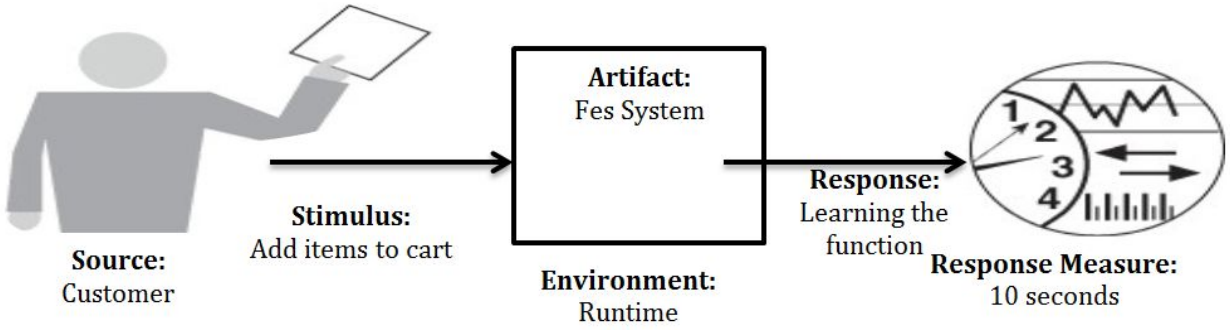


2. The System Tester tested the UI of the FeS website by browsing around the website during run time. The results were captured and 99% of the path was covered within 2.5 hours.



QA 7: Usability

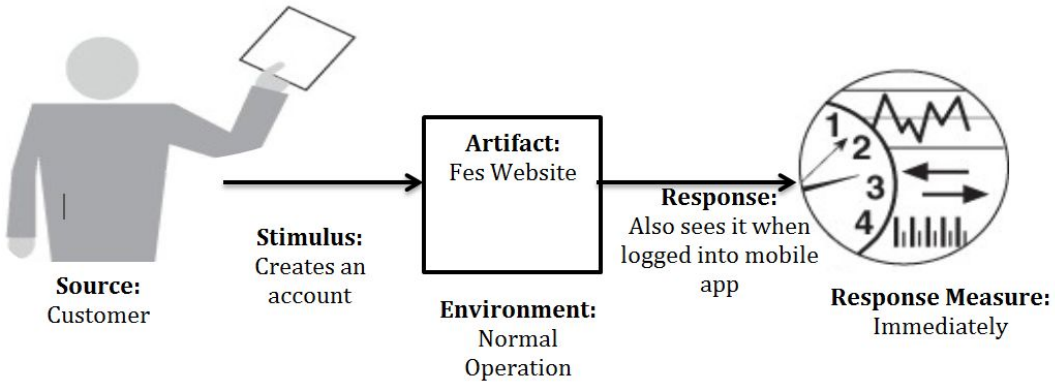
1. The customer wishes to add items to cart for the first time. After spending 10 seconds navigating the website, he found out how to add an item to cart.



Other Quality Attributes

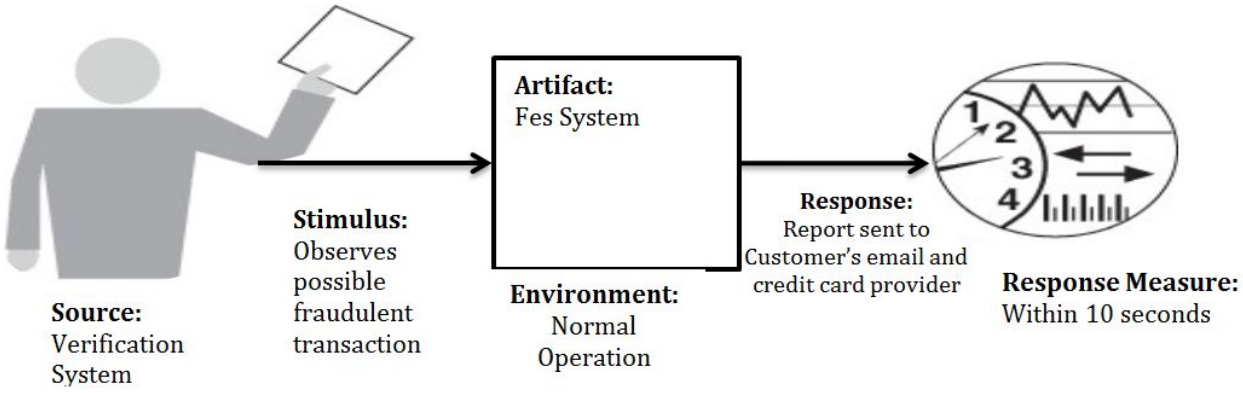
QA 8: Portability

1. The customer creates an account on his computer via the FeS website. He logs into the account on the FeS mobile app and sees his account immediately.

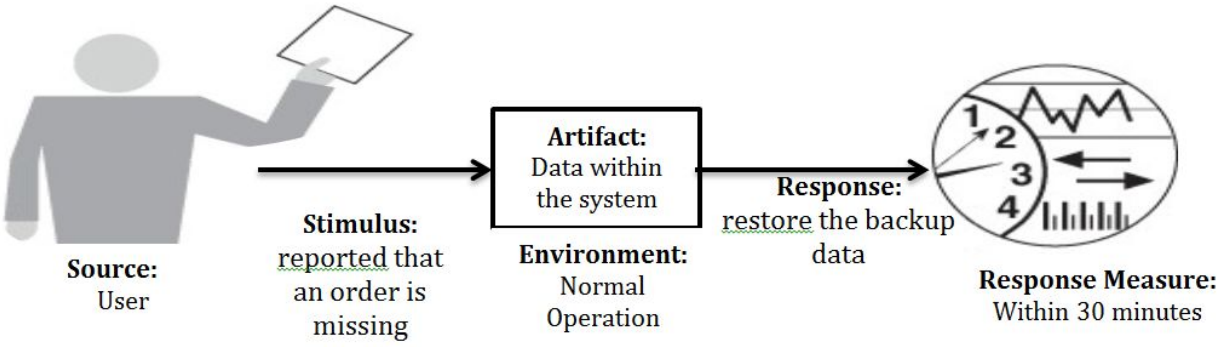


QA 9: Monitorability

1. The verification system observes a possible fraudulent transaction by mismatch of CVV and credit card. A report is sent to the customer's email and to the credit card provider within 10 seconds.



2. The user reported that an order is missing from their order history during normal operation. The operator restore the backup data of the order history within 30 minutes.


Source:
User
Stimulus:
reported that
an order is
missing
Artifact:
Data within
the system
Environment:
Normal
Operation
Response:
restore the backup
data
1
2
3
4
Response Measure:
Within 30 minutes