Elicitation Report

General Process

Requirements elicitation is the process that comprises gathering and analyzing information as part of the generation of software requirements. During this process, major stakeholders, the goal and purpose of the software project, the scope of the software, and the requirements of the software are identified and gathered.

Requirements can be generated from many sources. This can include *goals*, *domain knowledge*, *stakeholders*, and *the operational environm*ent:

- *Goals* are concerned with the high-level objective of a product that is being created. It is important that stakeholders define a clear goal and refer back to said goal throughout the duration of the project.
- *Domain knowledge* specifies some of the terminology and environment that is needed to understand how the software should perform. This connects back to the elicitation method of conducting observations, as it will be easier to create a piece of software and research about a company given a mutual understanding of the domain in which the product is being used.
- *Stakeholders* are an important source for requirements. It is vital that a piece of software assesses the different viewpoints of a piece of software. There are many stakeholders that are typically part of the process, so it is important to analyze each and weigh which input is more important to create a successful product. All stakeholders are important to some extent, so it is important to create a piece of software with these many perspectives in mind.
- *The operational environment* is concerned with the environment in which the product is being used. This can define some of the constraints and the functionality of the product. For example, time may need to be taken into consideration in certain domains, like software for first responders versus software for cashiers. It is important to assess the ease of use and the efficiency of the product in the operational environment.

A number of methods can be used as elicitation techniques to gather information from different sources. This can include *interviews*, *scenarios*, *facilitated meetings*, and *observations*:

- *Interviews* are a "traditional" meeting where the stakeholder explains what they want in the product and the facilitator asks open-ended or clarifying questions. These are meant to be very interactive for the stakeholders where they are constantly being asked clarifying questions to clearly identify aspects of the product to be created.
- *Scenarios* are a description of how the product would work under certain circumstances. This can be described as a step-by-step progression of what happens in a specific "scenario" of the product. There are different types of scenarios, like the sunny day scenario, which is what should happen if the product is used in the main way it is supposed to be used. There are also alternative paths, which do not necessarily imply that the product is being used incorrectly, it just means that there are other ways to use the product.
- *Facilitated meetings* can be similar to focus groups where stakeholders can give their feedback on a product. This can give further direction to changes and improvements that should be made to the product. These can be difficult to facilitate as it matters which stakeholders take part in the meeting. These can be even more informational than traditional interviews since the stakeholders that take part in facilitated meetings are typically the primary users of the product.

- *Observations* can be conducted by software engineers observing the environment and practices of the intended users of the system. Given a specific product, it may be vital for software engineers to observe the environment of the intended users of the product to get a better idea of how the product is going to be used. It also allows engineers to be more familiar with the terminology that is used in the proposed system. It also may be beneficial since engineers will be more understanding of what the product is being used for, which will aid in the development of a more successful and specific product.

How the Process Supports the elicitation of Behavioral Requirements

Behavioral requirements can be defined as how the user will interact with the system. A large theme of the elicitation techniques that were described above was the users of the system. At the core of each technique is how the stakeholders of the software have a direct influence as to how the product is being designed and the requirements that are made for the product.

Challenges of Requirements Elicitation

One of the benefits of the requirements engineering process is that the stakeholders are the core of where requirements come from, but they are also its downfall. Relying on individuals to give their honest opinion about what the software needs is often difficult. Not to mention, there are situations where the Product Owner, or Client, is often difficult to work with and cannot express their ideas no matter the elicitation technique that is used. As another example, user feedback surveys can be difficult to get responses from. Most users of a software will ignore a survey, especially if they have no incentive to complete it. Working with each and every stakeholder can have its own issues as people are unpredictable and can have their own reasons as to why they aren't cooperative in the elicitation process.

Elicitation Process for the Current Project

As part of the elicitation process, I first identified the goals, stakeholders, and business rules that are relevant to the project. I then used the different elicitation techniques that are detailed below.

Goal

The system to be created is an e-commerce website that would aid in the automation of ordering and displaying the products of the business in an organized manner. A sufficient system would allow for better marketing and smoother business operations.

Stakeholders

Product Owner: The sole product/business owner is Ashley Denton, also known as Ashylynn. There are no employees of this company as Ashley is the sole individual who manages and works for the business. This stakeholder is responsible for providing the majority of the functionalities that should be implemented. She is the owner and only employee of the business so her input is increasingly important to take into consideration.

Customers: This group of individuals is the people who interact with the system and order products from the company. These individuals are who the site is being built for. It is important to always keep this type of stakeholder in mind as they are responsible for generating revenue for the business. Their needs are a high priority in the elicitation and development process.

Users: Users are defined as individuals who interact with the site but have not or do not order anything from the business. These stakeholders can be used to improve the site. The developers can analyze why these individuals are not customers. They provide some of the data for the improvement of the site.

Vendors: This group of individuals is comprised of other businesses that provide the base products for some custom items. For example, tumblers are bought from a vendor before customization. It is important to keep these individuals in mind when creating the site as they provide products to the business. If a vendor does not carry some of the products that are needed to create the custom products then, the custom products should be removed from the site. Vendors are vital to the business processes so they should also be vital to the site.

Regulators: Individuals who are responsible for ensuring that all business transactions are documented and all policies are followed. These individuals ensure that requirements and the system are built with regulations in mind. They also ensure that business processes are running properly in combination with the proposed product.

Software Developer: The individuals who are responsible for creating the product. They can provide input as to what is in the realm of the functionalities that can be implemented on the site.

Business Rules

- Both the payment and design for a custom product, that is described by the customer, must be submitted before the product is created.
- Custom products, that are related to consumption (tumblers and their variations), must be created in a clean environment or cleaned before shipping/delivering to the customer.
- Shipping fees vary and are applied to orders during payment processing.
- The business has the right to ask for permission to change or alter the design given the supplies available or the capability of the employee creating the design on the product.
- Due to the customized nature of the products, all sales are final, meaning no returns or exchanges.

Elicitation Techniques utilized

Surveys

Surveys were sent to the product owner to get a detailed description of the most important aspects of the site. The questions that were asked to the product owner and their responses are listed below:

What problems do you expect the site to solve?

Offer e-commerce site to purchase products as well as offer marketing services/support/information.

What words would you use to describe the site?

Creative, fun, attractive, welcoming

What aspect of the site excites you?

Having a functioning site that pulls together my brand.

What aspects are most/least valuable to the users?

Most valuable - ease of use, flow. Least valuable - creative design elements.

What qualities (e.g., efficiency, security, reliability, etc.) are critical for the specific parts of the site?
Security and load speed of the site.

What events must the site respond to?
Checkout and purchase of product.

What is most important to you about the site?
Ease of use for the consumer, able to find what they're looking for with ease. Streamlining the process.

What would you consider to be a successful site.
Easy to find in search, low bounce rate.

Use Cases and Use Case Diagrams are detailed on the next pages.

001: Customer or User browsing website for products.

Primary Actors:

Customer, User

Secondary Actors:

Product Database

Description:

Customers or Users (see definition in BRS) should be able to browse the site to get information about the products that the company sells. They will have a better idea of what they would like to order. The software should present this information in a clear manner.

Goals:

The main goal of this use case is to increase readability and usability of the site. It serves to present the company's information in a clear manner, making it easier for customers and users to browse the site, ultimately increasing revenue and the number of returning customers.

Preconditions:

Customers or Users must have navigated to the site using external links or from an advertised web address. The webpage could have been found from advertisements, a web search, or social media pages.

Basic Flow:

1. Customers or Users will select from the options of the navigation bar, or the options displayed on the home page:
    - Gallery
    - Tumblers
    - Earrings
    - Pens
    - Specialty Products
2. If the Gallery is selected, the site will load image links of all the products that the company has created and can create at that time. These products can be customized. The images will be sorted in order by most recently created.
    - The images are links that will redirect the user to a detailed description of the item as well as the option to order. See 002.
3. If the Tumblers, Earrings, Pens, or Specialty Products are selected, the site will load all products of that specific type that the company has available for immediate sale. These products cannot be customized. The images will be sorted in order by most recently created.
    - The images are links that will redirect the user to a detailed description of the item as well as the option to order. See 002.
4. If the user selects Wishlist, Cart, Log In/Account they will be redirected to create or login to their account. See 004.
5. If the customer selects Wishlist, Cart, Log In/Account they will be redirected to the listed page if they are logged into their account. See 006.

6. The customer or user can select any of the options on the navigation bar or the logo (to return to the main page) to browse the page more.

Alternative Path:

1. There is a connection error between the site in the user or customer.
    - User or Customer will be asked refresh the page or to try to access the page later.

Post Condition:

The user will be able to have an idea of the products that the business has to offer. They will also have an idea as to what they would like to purchase or add to their cart.

Summary:

Browsing the site is an essential component to the success of the system. Being able to easily browse the site will increase the usability and readability of the site which in turn will increase the rate of customer retention and overall revenue for the business. To ensure that the site is usable, we must ensure that all products and images are easy to find and organized in a clear manner. Any customer or user should be able to browse the site for products and have a direct path to the items that they are interested in viewing, and potentially order. This use case focuses on the interaction between the customers, or users, with the browsing functionality of the site. This includes but is not limited to the navigation bar, the home button, and the gallery button.

Any customer or user who has arrived at the main site using advertisements, web searches, social media, etc., will have access to browse the site to view the products that the business is selling. After the customer or user has navigated to the page they will then be able to browse different pages of the site. This includes:

- Home
- Gallery
- Tumblers
- Earrings
- Pens
- Specialty Products
- Wishlist
- Cart
- Account

To be clear, this use case focuses on navigating the site to view and explore products. However, browsing the site specifically for customers may involve browsing their Wishlist or previous orders. Thus I have included these options in the summary, but generally the pages of main priority are listed in the Basic Flow section.

Each page will contain an update stream of linked images that customers and users can click on for a more detailed view of the product. The site will include navigation tools such as different filter options to search through the products easily. The site shall ensure that all products and information are laid out in a clear and organized manner so that users and customers will have a good idea of products that they may want to order.

002: Customer adding a Ready-to-Ship product to their cart.

Primary Actors:

User, Customer

Secondary Actors:

Product Database

Description:

Customers are able to add Ready-to-Ship products to their cart. These products can be viewed from the navigation bar under its specific label. These products cannot be customized as they have already been created.

Pre-Conditions:

Customers or Users (see definition in BRS) must have navigated to the site using external links or from an advertised web address. The webpage could have been found from advertisements, a web search, or social media pages. Users must register with the site to login. See 003. Customers must login to the site before ordering.

Basic Flow:

1. The Customer will navigate to the image of the product on the site. See 001.
2. The Customer will click on the image of the product that they would like to add to their cart. They will be redirected to a detailed listing of the product that includes title, price, description, etc.
3. The Customer will click on the button in the detailed listing the product that reads "Add to Cart".
4. The product will be added to the cart and is now ready to be ordered. See 010.

Alternate Paths:

1. User has not registered for an account on the site, the link to register will be displayed to the user.
    - No items can be added to the cart until the user has an account and is logged in.
2. Customer has added a product to their cart that is no longer available.
    - The unavailable item will be automatically removed from the cart after the user is notified that the item is unavailable.

Post-Conditions:

The user should now have a cart full of items they would like to purchase. They will then be able to order as long as the items remain available.

Summary:

Being able to order products is an essential function and goal of the site. To facilitate the process of ordering products, customers are able to add ready-to-ship products to their cart for purchase. This process defines an organized way for customers to purchase products from the site. Prior to adding items to the cart Customers or Users must have navigated to the site using external links or from an advertised web address. The webpage could have been found from advertisements, a web search, or social media pages. Users must register with the site to login. See 003. Customers must login to the site before ordering. This use case focuses on the interaction between the customers and part of the ordering functionalities of the site. This use case is specifically focused on building a cart for the user.

Any customer who has logged into the site and browsed through the Ready-to-Ship product (See 001) can add items to their cart. After the customer has navigated to and logged into the site, they will be able to:

1. Navigate to the image of the product on the site.
2. Click on the image of the product that they would like to add to their cart. They will be redirected to a detailed listing of the product that includes title, price, description, etc.
3. Click on the button in the detailed listing the product that reads “Add to Cart”.
4. The product will be added to the cart and is now ready to be ordered.

The customer will be able to repeat this process for any Ready-to-Ship products that they would like to add to their cart. After they have completed this process, their cart will be full of items that they will be able to purchase. The rest of the ordering process will be detailed later. It is important to note that items in the cart can become invalid as time goes on. If the product becomes unavailable, the cart should reflect this change in availability. The site should periodically check item availability and ensuring that only available products can be ordered and viewed.

USE CASE DIAGRAM ON LAST PAGE

Software Utilized: Draw.io

002: Customer adding a Ready-to-Ship product to their cart.