

# CraftVerify

Business Requirements Document

Team Wanderer

<https://github.com/JPJ-5/Senior-Project>

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<b>Project Overview.....</b>	<b>3</b>
Purpose.....	3
Mission Overview.....	3
Target Audience.....	3
Product Wide Scope.....	3
Competition.....	3
Authorization.....	4
<b>Phase 1 Features:.....</b>	<b>6</b>
Analytics:.....	6
Logging.....	8
Authentication.....	9
Authorization.....	11
User Administration.....	12
Feature #1: Item listing/Creation and Offering System.....	16
Feature #2: Class Hosting and Joining:.....	18
Feature #3: Make to Order.....	21
Feature #4: Wishlist Functionality:.....	23
Feature #5: Shopping Cart.....	25
Feature #6: Price Range Sorting.....	26
Feature #7: Search Capability.....	28
Feature #8: Feedback, Scoring, & Review Mechanism.....	29
Feature #9: Product Bidding.....	30
Feature #10: Class Management.....	33
Feature #11: Timeline Management Calendar.....	37
Feature #12: Seller Dynamic Dashboard.....	40
Feature #13: Quiz creation.....	44
<b>Phase 2 Features:.....</b>	<b>45</b>
Feature #14: CraftGuilds.....	45
Feature #15: Supplies and Materials.....	49
Feature #16: Story Teller.....	52
Feature #17: Monthly Spotlight of Crafter.....	53

# Project Overview

## Purpose

The purpose of this Business Requirements Document (BRD) is to clearly outline the business objectives, scope, and specific requirements for CraftVerify. It serves as a foundational reference for our client, ensuring a shared understanding of the project's goals and functionalities. By documenting these key elements, the BRD will guide the development team, facilitate effective communication, and support successful project planning and execution.

## Mission Overview

CraftVerify transforms handcrafted products into e-commerce by promoting transparency and authenticity. We've created a solution in response to the difficulties artisans have on well-known websites like Amazon and eBay, where mass-produced goods might obscure the actual craftsmanship. We provide vendors with a personalized platform where they can genuinely convey their distinct crafting experience, addressing the handcrafted community's ingrained need for originality. In essence, CraftVerify serves as a link between discriminating buyers and real artists rather than merely being an e-commerce platform.

## Target Audience

Our target customers are individuals with an appreciation for unique artisanal creations. These customers value craftsmanship, creativity, sustainability, ethical consumption, and the individual beauty of handcrafted goods in a world awash in mass-produced items. This web application caters to a diverse audience from hobbyists to independent skilled artisans, or just anyone with an interest in buying or selling handcrafted goods.

## Product Wide Scope

CraftVerify is a single page web application that will support the Google Chrome web browser. CraftVerify aims to serve only the community of crafters and buyers within Long Beach and will only support the American English language. As Long Beach is in the United States, any measurements that the site used will support only the Imperial System of measurements.

## Competition

The goal of our app is to provide safe selling/buying of handcrafted goods free of mass-produced craft products. This would mean taking some components of our competitors into our web application. Our main competition consists of vendor apps and

social media platforms that currently allow users to sell their own crafted products. CraftVerify aims to provide all these features while providing a safe and enhanced experience specifically for handcrafted goods.

## Social Media Applications

Like Facebook, Instagram, and TikTok, we aim to allow our sellers to create a profile allowing them to share their stories and goods with the community. While Craftverify does not plan to be a social media web application, we do want to take note of community connection and allow our sellers to connect with buyers and enhance user experience.

## Vendor Sites

We want to provide a route for sellers to upload and list their items allowing our base of customers to set an offer for purchase. While most apps like Amazon and Craigslist dominate current vendor sites, the app is aimed specifically at the selling and buying of handcrafted goods. Our target audience is anyone looking to buy/sell non-mass-produced items ethically from their community.

## Authorization

	Root Admin	Delegate Admin	Registered User	Public User
User Creation:	Pre-configured in the system	Created by the owner of the system	Created by anyone on the site	The default user type if no other type is logged in
Monitor all platform operations:	X	X		
Delete/Modify Item Listing:	X	X		
Address user complaints or difficulties:	X	X		
Control and monitor seller listings:	X	X		
Check reported photographs, videos and	X	X		

listings				
Answer registered user questions and reports	X	X		
Upload pictures and videos			X	
Manage and list their items			X	
Message consumers through the message platform	X (For addressing user's problem)	X (For addressing user's problem)	X	
Buying items sold by sellers			X	
View items being sold by sellers	X	X	X	X
Class Hosting and Joining System			X	
Make to Order			X	
Wishlist Functionality			X	
Shopping Cart			X	
Price Range Sorting			X	X
Search Engine			X	X
Report, Rating & Review System			X	
Item Auction			X	
Class Management			X	
Timeline Management			X	

Calendar				
Seller Dynamic Dashboard			X	
Quiz creation			X	
CraftGuilds			X	
Supplies and Materials			X	
Story Teller			X	
Monthly Spotlight of Crafter	X (For determining the submission for the Spotlight)	X (For determining the submission for the Spotlight)	X	

### Root Admin:

The main admin which oversees all operations on the CraftVerify system.

### Delegate Admin:

The Delegate Admin is an account created by the system owner and has the same power as the Root Admin.

### Registered User:

Any registered user that is not an admin. They are the buyers and sellers on the website and are created through the Account Creation feature. They will also be referred to as an authenticated non-admin user if the user needs to be logged in as a registered user to use a feature.

### Public User:

This is any user who is not logged in as an admin or a registered user. They have limited functionality to encourage users to sign up as a registered user.

## Phase 1 Features:

### Analytics:

- Description: This feature is for the Development team to provide insightful analytics and give insight into future work development in CraftVerify. The summary includes various metrics related to the usage of the app providing insight on the strengths and weaknesses of our application.

- Preconditions:
  - Users must have an active authenticated session.
  - Users must be delegated or root admins to see the analytics
  - Users must be on the Analytics Dashboard view.
- Successful Postcondition
  - The charts load within 15 seconds.
  - All metrics automatically refresh every minute.
  - *Logins Per Day* (1 week, 1 month, 3 months) successfully log and update
  - *Registrations Per Day* (1 week, 1 month, 3 months) successfully log and update
  - *DAU (Daily Active Users)* (1 week, 1 month, 3 months) successfully log and update
  - *Error Rate* (1 week, 1 month, 3 months) successfully log and update
  - *Customer service ratings* (1 week, 1 month, 3 months) successfully log and update
  - *User ratings from reviews* (1 week, 1 month, 3 months) successfully log and update
  - The dashboard reloads aggregated data every 60 seconds and updates all charts.
- Failure Scenarios
  - New analytics don't appear within 3 seconds
    - Error handling: notify user there was a problem updating analytics and told to exit or refresh page.
  - *Logins Per Day data* won't load
    - Error handling: pulls up notification alerting user there was an error in loading up the analytics for Registrations.
  - *Registrations Per Day data* won't populate
    - Error handling: pulls up notification alerting user there was an error in loading up the analytics for Registrations.
  - *DAU (Daily Active Users) data* won't populate
    - Error handling: pulls up notification alerting user there was an error in loading up the analytics for Registrations.
  - *Error Rate data* won't populate
    - Error handling: pulls up notification alerting user there was an error in loading up the analytics for Registrations.
  - *Customer service ratings data* won't populate
    - Error handling: pulls up notification alerting user there was an error in loading up the analytics for Registrations.
  - *User ratings from reviews data* won't populate

- Error handling: pulls up notification alerting user there was an error in loading up the analytics for Registrations.
- Dashboard metrics don't load within 3 seconds of clicking in.
  - Error handling: user is told there was a timeout in loading in dashboard and told to retry loading page
- Dashboard not accessible to users with delegate or admin permissions.
  - Error handling: User told he does not have permissions to access page

## Logging

- Scope: N/A
- User story: An event recording mechanism used to keep track of system status, item status, class status, user ip address, result count, searching sorting status, and user actions by any type of users on persistent storage.
- Effort Points: 100
- Data Source:
  - Origin: Internal.
  - Type: Data Stored.
- App Permission:
  - System/User data input.
- Target Audience:
  - All system events and user events change.
- Pre-condition:
  - System is up and running.
  - Persistent storage access.
  - System read and write permission.
  - Log entries must be saved to a persistent data store LBDMS
  - Log entries can be archived out of data store.
  - The log records cannot be changed.
  - Log entries are available for user data privacy report.
- Successful:
  - Log entries must have a UTC timestamp, levels such as debug, info, notice, warning, error, critical, alert and emergency.
  - Log entries must have system event or user event messages.
  - Log entries should be in JSON or text file format.
  - The log system is active.
  - The log mechanism successfully records system events and user events with the correct log level in under 3s.



- Failure outcomes:
  - The logging take longer than 3s to record and save an event to RDBMS.
    - Error handling: log will be recorded with emergency level and send message to user, admin user.
  - Log entries are not in the correct level, format, information.
    - Error handling: log will be recorded with warning level and send message to user, admin user.
  - Log entries are modifiable.
    - Error handling: log will be recorded with emergency level and send message to user, admin user.
  - The user cannot continue to use the service when the logging fails.
    - Error handling: log will be recorded with emergency level and send message to user, admin user.
  - Log entries cannot be archived out of storage
    - Error handling: log will be recorded with emergency level and send message to user, admin user.

## Authentication

1. Login
  - User Story: In the vast digital world, ensuring that only genuine users can access a system is paramount. Authentication acts as the first line of defense, a digital handshake if you will, confirming the identity of those knocking on the system's door. It's like a trusted doorman checking IDs before letting anyone into an exclusive club.
  - Scope: N/A
  - Effort Points: 100
  - Data Source:
    - Origin: Internal.
    - Type: Data Stored.
  - App Permission:
    - System/User data input.
  - Target Audience:
    - Any registered users.
  - Pre-condition:
    - The user must be a registered user
    - The user is on the CraftVerify page.
    - All collected PII data is kept inside of our data store following CPRA rules for data requests and deletions.

- Successful:
  - Registered users is able to login/authenticated into their account within 3 seconds.
    - Required User Input:
      - The registered provides the email as username they used to register for their account.
      - The email need to
      - The registered provides the password they used to register for their account.
- Failure outcomes:
  - The registered user is not able to login/authenticated within 3 seconds.
    - Error Handling: Our system will ask the user to re-enter their authentication information. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The registered user provide incorrect username
    - Error Handling: Our system will ask the user to re-enter their username. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The registered user provide incorrect password
    - Error Handling: Our system will ask the user to re-enter their password. We will log this error into our data store and archive it from the data store. Level logging is Error.

## 2. Logout

- User Story: In the vast digital world, ensuring that only genuine users can access a system is paramount. Authentication acts as the first line of defense, a digital handshake if you will, confirming the identity of those knocking on the system's door. It's like a trusted doorman checking IDs before letting anyone into an exclusive club.
- Scope: N/A
- Effort Points: 100
- Data Source:
  - Origin: Internal.
  - Type: Data Stored.
- App Permission:
  - System/User data input.
- Target Audience:
  - Any authenticated users.
- Pre-condition:
  - The user must be an authenticated user

- The user is on the CraftVerify page.
- All collected PII data is kept inside of our data store following CPRA rules for data requests and deletions.
- Successful:
  - Authenticated users is able to logout from their account within 3 seconds.
    - Required User Input:
      - The authenticated users choose the logout option on the CraftVerify page.
- Failure outcomes:
  - The authenticated user is not able to logout within 3 seconds.
    - Error Handling: Our system will ask the user to re-enter their authentication information. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The authenticated user is not able to select logout.
    - Error Handling: Our system will ask the user to re-select the logout option. We will log this error into our data store and archive it from the data store. Level logging is Error.

## Authorization

1. Grant Permission
  - User Story: Once inside, it's essential to ensure that users don't wander into restricted areas. Authorization is the system's way of setting boundaries, ensuring users only roam where they're allowed. Think of it as guided pathways in a museum, ensuring visitors only access the exhibits they've paid for.an exclusive club.
  - Scope: N/A
  - Effort Points: 150
  - Data Source:
    - Origin: Internal.
    - Type: Data Stored.
  - App Permission:
    - System/User data input.
  - Target Audience:
    - Any authenticated users.
  - Pre-condition:
    - The user must be a authenticated user
    - The user is on the CraftVerify page.
  - Successful:
    - Authenticated users are granted permission to access the necessary tools and features within 3 seconds.

- Failure outcomes:
  - The authenticated user is not granted permission within 3 seconds.
    - Error Handling: Our system will ask the user to exit the app and login again. We will log this error into our data store and archive it from the data store. Level logging is Critical.

## User Administration

Description: This is a feature to allow for users to create an account, delete their own account, recover their account if they forget their password or to update and add information about their account.

### Account Creation:

- User Story:
  - As a public user, I can create a registered user account for the ability to sell and buy hand-crafted goods.
- Target Audience:
  - Any non-registered user
- Pre-conditions:
  1. User is currently not logged into any account
  2. User is on the user registration screen
- Success Outcomes:
  - The registered user account is successfully created and is saved to our relational database with a unique user ID.
    - (Required Input) An account must have a username that is at least 6 characters long and at max 30 characters long and cannot contain spaces.
    - (Required Input) An account must have an email address that is valid by checking if there's an @ symbol in their input.
    - (Required Input) An account must have a password that is at least 6 characters long and at max 30 characters long and must include at least one number or one symbol.
- Failure Outcomes:
  - The registered user account fails to be created as the Username is less than 6 characters long or is more than 30 characters long.
    - The user will be informed that the username does not meet the length requirement for the username.
  - The registered user account fails to be created as the Username contains a space or contains symbols
    - The user will be informed that the username can only contain letters and numbers as their current username input has either a space or has a symbol in it.

- The registered user account fails to be created as the Username already exist on a different account
  - The user will be informed that an account with that username already exists.
- The registered user account fails to be created as password contains less than 6 characters or is more than 30 characters
  - The user will be informed that their password does not meet the length requirement for the password.
- The registered user account fails to be created as password does not contain a number or symbol
  - The user will be informed that there needs to be a number or symbol in their password.
- The email given for the account is not a valid email address.
  - The user will be informed that the email address is not valid and will need to re-input it.

#### User Account Deletion:

- User Story:
  - As an authenticated user, I can go into settings to delete my account for the purpose of deleting all of my data within the system.
- Target Audience:
  - Any registered user that wishes to delete their account.
- Pre-conditions:
  1. The user is currently logged on the account they wish to delete
  2. They are on the settings page which has the option to delete their account
- Success Outcomes:
  - The account is successfully deleted within 3 seconds along with all data containing the user information from that account.
- Failure Outcomes:
  - The deletion process for the account is canceled
    - The user will be informed that their account was not successfully deleted and they will have to try again if they wish to delete their account.
  - The information of the account fails to be deleted.
    - The user will be informed that their account was not successfully deleted and they will have to try again if they wish to delete their account.

#### User Account Recovery:

- User Story:

- As a registered user, I can recover my account through an email given by an admin.
- Target Audience:
  - Any registered user who forgot their password.
- Precondition:
  1. The user currently on the account recovery page
- Success Outcomes:
  - The user successfully resets their password using the email sent to their inbox.
    - (Required Input) email address that is associated with the user account being recovered.
    - (Required Input) a new password once they are on the account recovery page given through the email.
- Failure Outcomes:
  - The email fails to appear in the user's inbox a minute after being initiated.
    - The user will have to either try going through the process again or will email one of the admin accounts that they wish to initiate account recovery.
  - The email given is not an email attached to any existing user.
    - The user will be informed by the system that there is no user attached to that email address.

#### User Profile Update:

- User Story:
  - As a registered user, I can update any information that is currently incorrect or if I wish to add additional information.
- Target Audience:
  - Any registered user which needs to add/change information
- Preconditions:
  1. The user is currently logged in as a registered user
  2. They are currently on their user profile page.
- Success Outcomes:
  - The user successfully changed their username.
    - (Required input) the new username
  - The user successfully changed their password.
    - (Required Input) the new password
  - The user successfully changed their email address.
    - (Required Input) the new email address
  - The user successfully adds or changes their profile picture.

- (Required Input) the file for the profile picture in the JPEG, PNG, non-animated GIF, or TIFF format with a max file size of 7 MB.
  - The user successfully adds or changes their video.
    - (Required Input) the file for the video in the MP4 or MOV format with a max file size of 500 MB.
  - The user successfully adds or changes their personal description.
    - (Required Input) the written description about their account that is within 5000 characters.
- Failure Outcomes:
  - The user exits the form early while editing information without saving.
    - The information that was being changed will stay as their original values.
  - The form to edit information fails to appear.
    - The user will be informed that the operation failed and will be asked to either try again or to try to contact an admin.
  - The username fails to change as it already exists as a different user.
    - The user will be informed that an account with that username already exists.
  - The username fails to change as it is less than 6 characters long or is more than 30 characters long.
    - The user will be informed that the username does not meet the length requirement for the username.
  - The username fails to change as it contains a space or contains symbols.
    - The user will be informed that the username can only contain letters and numbers as their current username input has either a space or has a symbol in it.
  - The password fails to change as it contains less than 6 characters or is more than 30 characters.
    - The user will be informed that their password does not meet the length requirement for the password.
  - The password fails to change as it does not contain a number or symbol.
    - The user will be informed that there needs to be a number or symbol in their password.
  - The email changed into is not a valid email address.

- The user will be informed that the email address is not valid and will need to re-input it.
- The profile picture fails to be added/changed due to being an invalid file type.
  - The user will be informed that the picture is in an invalid file type.
- The profile picture fails to be added/changed due to the file size of the picture exceed the size limitation
  - The user will be informed that the picture exceeds the max file size.
- The video fails to be added/changed due to being an invalid file type.
  - The user will be informed that the picture is in an invalid file type.
- The video fails to be added/changed due to the file size of the picture exceed the size limitation
  - The user will be informed that the picture exceeds the max file size.
- The written description fails to be added/changed due to exceeding the 5000 characters limitation.
  - The user will be informed that the description went over the 5000 characters limitation.

## Feature #1: Item listing/Creation and Offering System

### 1. Item Listing + Creation

- User Story:
  - As a registered non-admin user, I can create an item to sell and list it for users or buy. Information in the listing includes item name, a description, and product cost, images, and videos.
- Scope: Feature that will allow registered users to create and list items for sale for handcrafted items.
- Effort Point: 100
- Target Audience
  - Any registered user who wants create an item and or list it for sell
  - Any registered user who wishes to make an offer on an item.
- Preconditions:
  - Users must be logged in as a registered user and must be on the seller dynamic dashboard.
- Successful outcomes.
  - Item creation/listing



- Item created successfully within 3 seconds
- Item created and listed within 5 seconds
- Item created successfully with all required info.
  - (Required user input) Item name must be max 250 characters for seller. A-z, A-Z, and 0-9 allowed characters. This data will be logged into the database.
  - (optional user input) Item description must be max 2000 characters for seller. A-z, A-Z, and 0-9 allowed characters. Will be logged into the database.
  - (optional user input) Item production cost. Will be logged into database
  - (optional user upload) <= 5 photos allowed. (JPEG, PNG, GIF - non-animated, TIFF; max 7 MB each)
  - (optional user upload) <= 2 videos allowed for seller. MP4 or MOV format, restricted to 500MB and resolutions between 240p and 1080p.
- Items listed successfully during creation or after creation.
  - List item for sale box checkmarked during or after creation of item.
- Item unlisted successfully within 5 seconds
- Item unlisted successfully by user
  - Un- Checkmark List item for sale box
- Failure Scenarios
  - Item Listing
    - User exceeds range of acceptable offer listing price
      - Error handling: user is told to re-submit a price within parameters.
    - User exceeds characters allowed for name or leaves name blank
      - Error Handling: User is told that they exceeded character limit or left blank and instructed to retype their name within parameters.
    - User exceeds description character limit
      - Error handling: Users will be notified they exceeded character limit and told to redo their description within the requirement parameters.
    - Users exceed the acceptable range of acceptable item production cost.

- Error handling: Users will be notified they exceeded acceptable range and told to resubmit their production cost within the correct parameter.
- Users image upload fails due to wrong file type, exceeds size limitation, or upload failure
  - Error handling: Users will be notified of the error with their image and told to try uploading again.
- User video fails to upload due to type of file, size of file, or upload failure
  - Error handling: Users will be told of the error with their video submissions and will be told to try again.

## 2. Item Offer

- User Story:
  - As a registered non-admin user I can offer a price to buy an item only requiring your bid offer number. Initiates a chat with the seller when an offer is made.
- Scope: Feature that will allow registered users to submit an offer on a listed item and facilitate sale between vendor and buyer.
- Effort Point: 60
- Target Audience
  - Any registered user who wishes to make an offer on an item.
- Preconditions:
  - Users must be logged in as registered users and on the item listings page to make an offer.
- Successful outcomes.
  - Offer sends within 3 seconds
  - Messaging initiates within 3 seconds of successful offer
  - User is able to click on an item listing and make an offer.
    - (user input required) For auction offers the buyer has to input a price to make an offer.
- Failure Scenarios
  - User exceeds range of acceptable offer price
    - Error handling: users will be told that their offer exceeds the acceptable range and told to submit a new price.

## Feature #2: Class Hosting and Joining:

Description: Authenticated non-admin users will be able to host and join classes teaching how to craft different types of items.

### 1. Class Hosting

- Scope:
  - This feature will only be available to authenticated non-admin users
- User Story
  - As an authenticated user, I can create a class that teaches how to craft a specific type of item.
- Effort Points: 60
- Target Audience:
  - Any authenticated non-admin user
- Pre-conditions:
  1. User is logged in as an authenticated non-admin user.
  2. User is on the create a class page.
- Success Outcomes:
  - The class is successfully created by a host within 3 seconds and saved to our relational database.
    - (required user input) title of class within a 250 character limit.
    - (required user input) a written description about the class that is within a 3000 character limit.
    - (required user input) a link to where the class will be hosted.
    - (required user input) the start time in hours and minutes
    - (required user input) the start date by month, day and year
    - (required user input) the end time in hours and minutes
    - (required user input) a maximum capacity of the class that goes up to 100 students.
- Failure Outcomes:
  - The class takes more than 3 seconds to be created by a host.
    - Error Handling: The user will be informed that the class failed to be created due to the operation taking too long and will be asked to try to create the class again.
  - The title of the class goes over the 250 character limit
    - Error Handling: The system will inform the user that the class failed to be created because the title of the class is over the character limit.
  - The description of the class goes over the 3000 character limit
    - Error Handling: The system will inform the user that the class failed to be created because the description of the class is over the character limit.
  - A link to the class is not provided
    - Error Handling: The system will inform the user that the class failed to be created as they did not give a link to where they will host the class.

- The start time and date or the end time of the class being created conflicts with the time of another class the user is hosting or has joined.
  - Error Handling: The system will inform the user that the class failed to be created because the time conflicts with the schedule of another class they have either created or joined.
- The class has no maximum capacity defined
  - Error Handling: The system will inform the user that the class failed to be created because the user forgot to define the maximum capacity of the class
- The class maximum capacity goes over 100 students.
  - Error Handling: The system will inform the user that the class failed to be created because the defined maximum capacity can only have a maximum of only 100 students.

## 2. Class Joining

- Scope:
  - This feature will only be available to authenticated non-admin users
- User Story
  - As an authenticated user, I can join a class to learn how to craft a specific type of item.
- Effort Points: 60
- Target Audience:
  - Any authenticated non-admin user
- Pre-conditions:
  1. User is logged in as an authenticated non-admin user.
  2. User is on the list of available classes page.
- Success Outcomes:
  - The class is successfully joined within 3 seconds
  - The class being joined is not at maximum capacity.
  - The class being joined does not conflict with the schedule of any other class they have joined or hosted.
- Failure Outcomes:
  - The user fails to join a class because the class would go over the maximum capacity.
    - Error Handling: The system will inform the user that they cannot join the class because the class is currently at maximum capacity.
  - The user fails to join a class because the operation took more than 3 seconds to resolve.

- Error Handling: The system will inform the user that they cannot join the class because the operation is taking too long and will be asked to try again.
- The users fails to join a class because the class they are trying to join conflicts with another class they joined or are hosting
  - Error Handling: The system will inform the user that they cannot join the class because the time the class takes place in conflicts with another class they have either created or joined.

## Feature #3: Make to Order

Description: Authenticated non-admin users will be able to create a custom item order for other authenticated users to send offers to make that item.

### 1. Create Custom Order

- Scope:
  - This function will only be available to authenticated non-admin users
- User Story:
  - As an authenticated non-admin user, I can create a one-of-a-kind item order for sellers to create.
- Effort Points: 30
- Target Audience:
  - Any authenticated non-admin user
- Pre-conditions:
  1. User is logged in as a registered user
  2. User is on the Make to Order page
- Success Outcomes:
  - The item order is successfully posted within 3 seconds onto the make to order offer page.
    - (required user input) title of the item order with a max of 250 characters
    - (required user input) description of the order with a max of 3000 characters.
- Failure Outcomes:
  - The item order cannot be posted as the description for the item order goes over the 3000 characters limit.
    - Error Handling: The system will inform the user that the item order failed to be posted due to going over the character limit for the description.
  - The item order is not posted within 3 seconds.

- Error Handling: The user will be told that the item order failed to be posted due to the operation taking too long and will be asked to try to post it again.
- The item order cannot be posted because there is no title.
  - Error Handling: The user will be informed by the system that they are missing a title if they try to post the item order.
- The item order cannot be posted because there is no description.
  - Error Handling: The user will be informed by the system that they are missing a description if they try to post the item order.

## 2. Give Offer to Create

- Scope:
  - This function will only be available to authenticated non-admin users
- User Story:
  - As an authenticated non-admin user, I can give offers to create the item described in a custom item order.
- Effort Points: 30
- Target Audience:
  - Any authenticated non-admin user
- Pre-conditions:
  1. User is logged in as a registered user
  2. User is on the Make to Order page
- Success Outcomes:
  - The offer for an item order is given within 3 seconds onto the make to order offer page.
    - (required user input) description of the offer with a max of 3000 characters.
    - (required user input) estimated cost of the item requested in the order.
    - (required user input) estimated timeframe the item will be created, given weeks, months or days.
- Failure Outcomes:
  - The offer cannot be sent as the description for the offer goes over the 3000 characters limit.
    - Error Handling: The system will inform the user that the offer failed to be posted due to going over the character limit for the description.
  - The offer is not posted within 3 seconds.

- Error Handling: The user will be told that the offer failed to be sent due to the operation taking too long and will be asked to try to send it again.
- The offer cannot be sent because there is no description.
  - Error Handling: The user will be informed by the system that they are missing a description if they try to send the offer.
- The offer cannot be sent because the timeframe is not given.
  - Error Handling: The user will be informed by the system that they are missing a creation timeframe if they try to send the offer.

### 3. Accept Offer

- Scope:
  - This function will only be available to authenticated non-admin users
- User Story:
  - As an authenticated non-admin user, I can accept offers for my custom item order or send counteroffers.
- Effort Points: 30
- Target Audience:
  - Any authenticated non-admin user
- Pre-conditions:
  1. User is logged in as a registered user
  2. User is on the Offers page
- Success Outcomes:
  - The offer for an item order is accepted within 3 seconds.
    - (Required Input) the offer that is being accepted.
- Failure Outcomes:
  - The offer is not accepted within 3 seconds.
    - Error Handling: The user will be told that the offer failed to be accepted due to the operation taking too long and will be asked to try to accept it again.

## Feature #4: Wishlist Functionality:

Description: Authenticated users will be able to add and remove items to a wishlist and view and sort through the list.

### 1. Add to Wishlist

- Scope:
  - The function will only be available to authenticated non-admin users

- User Story:
  - As an authenticated user, I can add items to a list for items I want to buy in the future.
- Effort Points: 40
- Target Audience:
  - Any authenticated non-admin user.
- Pre-conditions:
  1. User is logged in as a authenticated non-admin user
  2. User is on either an individual item listing of the item they wish to add.
- Success Outcomes:
  - An item is successfully added to the wishlist within 3 seconds which can store up to 20 items at a time.
    - (required input) the listing of the item being added
- Failure Outcomes:
  - An item is not added as it took more than 3 seconds after operation
    - Error Handling: The system will inform the user that the operation took too long and will be asked to try again.
  - An item fails to be added to the wishlist as there are already 20 items on the wishlist.
    - Error Handling: The system will inform the user that the item was not added to the wishlist due to there already being 20 items on the wishlist currently.

## 2. Remove from Wishlist

- Scope:
  - The function will only be available to authenticated non-admin users
- User Story:
  - As an authenticated user, I can remove items from my own wishlist.
- Effort Points: 40
- Target Audience:
  - Any authenticated non-admin user
- Pre-conditions:
  1. User is logged in as a registered user
  2. User is on either an individual item listing or on their wishlist page.
- Success Outcomes:
  - An item is successfully removed to the wishlist within 3 seconds from either the individual item listing of the item that was removed or from the user's wishlist page.
    - (required input) the item listing of the item being removed.



- Failure Outcomes:
    - An item is not removed as it took more than 3 seconds after operation
      - Error Handling: The system will inform the user that the operation took too long and will be asked to try again.
3. List and Sort Wishlist:
- Scope:
    - The function will only be available to authenticated non-admin users
  - User Story:
    - As an authenticated user, I can view and sort my own wishlist.
  - Effort Points: 40
  - Target Audience:
    - Any authenticated non-admin user
  - Pre-conditions:
    1. User is logged in as a registered user
    2. User is on their wishlist page.
  - Success Outcomes:
    - The wishlist is sorted by the method defined by the user.
      - (required input) the sorting method from the following options: the date added ascending, the date added descending, the price ascending, or the price descending.
  - Failure Outcomes:
    - The wishlist fails to be sorted by the method defined by the user.
      - Error Handling: If the system detects an issue with the sorting function, it will passively log the issue for the admins to look at. Authenticated users on this page can also report this issue to the admins if they notice a problem with the sorting.

## Feature #5: Shopping Cart

- Scope:
  - This function will be used by authenticated registered users while they are logged in.
- User Story:
  - As an authorized user, I want to be able to place items in a shopping cart before I make an offer on them.
- Effort Points: 100
- Target Audience:
  - Any registered user.

- Pre-Conditions:
  - User is logged in as an authenticated registered user.
  - User is looking at an individual item's page or their shopping cart page.
- Success Outcomes:
  - (Required input) An item is added to the users' shopping cart, which is stored in a database.
    - User clicks on the add to cart button on an item page.
  - (Required input) An item is removed from the users' shopping cart either manually, by adding it to their wishlist, or by sending an offer.
    - User clicks the remove from cart button on the shopping cart page, the add to wishlist button on the item page, or the send offer button on the item page or shopping cart page.
  - Shopping cart stores up to 50 items in it at a time.
  - Shopping cart empties itself when the user logs out.
- Failure Outcomes:
  - An item is not added to the users' shopping cart because the operation took longer than 3 seconds.
    - Error Handling: System aborts the operation, logs the time and reason for the error, and notifies the user why the error occurred.
  - An item is not removed from the users' shopping cart because the operation took longer than 3 seconds.
    - Error Handling: System aborts the operation, logs the time and reason for the error, and notifies the user why the error occurred.
  - An item is not added to the users' shopping cart because the cart is full with the 50 item limit.
    - Error Handling: System aborts the operation, logs the time and reason for the error, and notifies the user that their shopping cart is full.

## Feature #6: Price Range Sorting

### 1. Price Range Sorting

- Scope:
  - This feature can be used by any type of users, authenticated and unauthenticated..
- User Story:
  - PRS-1, as an authenticated user, I can sort craft goods, auction goods, and craft classes based on the price range set by me.
  - PRS-2, as an unauthenticated user, I can sort craft goods, auction goods, and craft classes based on the price range set by me.
- Effort Points: 100

- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = BuyingGoods, AuctionGoods, ClassJoining
- App Permission:
  - Permission = Sort
  - Scope = BuyingGoods, AuctionGoods, ClassJoining
- Target Audience:
  - Any type of users, authenticated and unauthenticated.
- Pre-conditions:
  1. The user could be authenticated or unauthenticated user.
  2. The user is on the buying page/ auction page/ class list page.
- Required User Inputs:
  - Top price (optional, up to 1,000,000.00).
  - Bottom price from 0 and up.
- Success Outcomes:
  - An authenticated/ non authenticated user successfully sees the sorting results of craft goods, auction goods, and craft classes in under 3s.
  - Results are within the top and bottom prices.
  - Results are shown in up to 10 items/classes per page format.
  - Results pages are from 0 up to 100.
  - Results show count of items, classes, auction items from 0 up to 100.
  - Results are shown in order of ascending price, from low to high.
  - System successfully logs the input prices, result count of unauthenticated user to persistent storage in under 3s.
  - System successfully logs the input prices, result count, user id of authenticated user to persistent storage in under 3s.
- Failure Outcomes:
  - No results are shown although there are items/classes available in the chosen price range.
    - Error Handling: overall, the error will be logged with user id, timestamp, sorting status = fail, input prices, result count, user id for authenticated user...in general. The extra for this error is data log level "emergency", noted message "no result shown", send a detail message to inform user the situation.
  - Results show non-price relevant items/classes.
    - Error Handling: same log as no result but log level is "error", noted message "not relevant results", send a detail message to inform user the situation.
  - Results are not shown in up to 10 items/classes per page format.

- Error Handling: log level “error”, noted message “wrong format results”, send a detail message to inform user the situation.
- Results page count is missing or not in correct format from 0 up to 100.
  - Error Handling: log level “error”, page count, noted message “page count error”, send a detail message to inform user the situation.
- Results show wrong format or don’t show count of items, classes, auction items from 0 up to 100.
  - Error Handling: log level “error”, item count, class count, auction count, noted message “item count error”, send a detail message to inform user the situation.
- Results are not shown in order of ascending price, from low to high.
  - Error Handling: log level “error”, noted message “wrong order results”, send a detail message to inform user the situation.
- System unsuccessfully logs the input prices, result count of unauthenticated user and extra log data as user id for authenticated user to persistent storage within 3s.
  - Error Handling: log level “emergency”, noted message “log error”, send a detail message to inform user the situation.

## Feature #7: Search Capability

- Scope:
  - This function is prominently positioned in the main navigation area of the CraftVerify site, making it readily accessible to all visitors. Regardless of where a user is on the site, the search tool is always available.
- Effort Points: 100
- User Story:
  - As a visitor, I wish to look up specific items by title or creator to swiftly locate things that pique my interest.
- Target Audience:
  - Every CraftVerify visitor.
- Pre-conditions:
  1. The visitor is on the CraftVerify platform.
- Success Outcomes:
  - Users can retrieve pertinent search outcomes.
  - Navigating and sorting through search outcomes is straightforward for users.
  - A maximum of 10 outcomes are shown on each search results page.
  - Users have the option to sort search outcomes by relevance, recent additions, or in alphabetical sequence.
  - Search outcomes appear in under 3 seconds.

- The search tool is prominently displayed on the homepage.
- The search tool interacts with the Relational Database Management System (RDBMS) to fetch pertinent search outcomes.
- Both the beginning and end of the search process are recorded.
- Failure Outcomes:
  - If a search query surpasses 32 words, the system cannot handle it.
    - Error Handle: Display a clear error message advising users to shorten their search query and suggest breaking it into smaller segments.
  - The search yields no outcomes, leaving the user without useful data.
    - Error Handle: Show a message like "No results found. Please try different keywords or check your spelling."
  - If search outcomes take more than 3 seconds to appear, users may become irritated and less engaged.
    - Error Handle: Display a loading spinner or animation with a note "Fetching results, please wait..." to keep the user informed.
  - The search mechanism doesn't prioritize pertinent outcomes, resulting in less precise search results.
    - Error Handle: Notify users that results are broad and offer filters or tips for refining their search.
  - The sorting tool (by relevance, recent additions, or alphabetical sequence) doesn't work correctly or produces incorrect sequences.
    - Error Handle: Display an error message, "Sorting failed. Displaying default results," and log the issue for immediate developer review.

## Feature #8: Feedback, Scoring, & Review Mechanism

- Scope:
  - This mechanism is part of the seller's profile and the post-purchase area on the CraftVerify site. Only registered users who have made a purchase can use this feature.
- Effort Points: 100
- User Story:
  - As an authenticated user, I wish to score and provide feedback on sellers based on my buying experience and highlight any issues.
- Target Audience:
  - Registered users who have made a purchase.
- Pre-conditions:
  - The user is signed in as a registered user. A purchase has been made by the user.
- Success Outcomes:

- Users can successfully provide ratings and reviews.
- Admins receive user reports.
- Within 3 seconds of submission, reviews and scores are visible on the seller's profile.
- The RDBMS stores ratings, reviews, and reports.
- The system logs the submission of reviews, scores, and reports.
- Failure Outcomes:
  - If a review surpasses 10,000 words, users cannot provide their feedback.
    - Error Handle: Prompt users with "Your review is too long. Please limit it to 10,000 words or less."
  - If a report description exceeds 3,000 characters, it hampers users from detailing their issues.
    - Error Handle: Notify users with "Report description is too lengthy. Please keep it under 3,000 characters."
  - If uploaded images for reports are larger than 7MB, it can cause upload issues or delays.
    - Error Handle: Display "Image too large. Please upload an image smaller than 7MB."
  - If the system doesn't display newly added reviews and scores on the seller's profile within 3 seconds.
    - Error Handle: Show a temporary message "Processing your feedback. It will appear shortly." and ensure it refreshes after the delay.
  - If reports aren't instantly sent to the admins, it could delay necessary actions.
    - Error Handle: Inform users with "Your report is saved but may be delayed in reaching our team. We appreciate your patience."
  - The review "helpful" marking system doesn't work or doesn't capture user inputs.
    - Error Handle: Provide feedback like "Error marking review. Please try again later." and log this for developer action.

## Feature #9: Product Bidding

### 1. Auction Initiation View

- Scope:
  - Only authenticated sellers can initiate an auction.
- User Story:
  - As an authenticated seller, I can start an auction for my item with a specific base price.

- Effort Points: 170
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = AuctionListings
- App Permission:
  - Permission = Create Auction
  - Scope = AuctionListings
- Target Audience:
  - Authenticated sellers
- Pre-conditions:
  - The seller must be an authenticated user.
  - The seller has a valid item listing.
  - The seller is on the auction initiation page.
- Required User Inputs:
  - Base price, Auction duration (1-7 days).
- Success Outcomes:
  - An authenticated seller successfully initiates an auction for their item in under 3s.
  - Auction details are displayed correctly.
  - Auction countdown begins based on the selected duration.
  - Notifications are sent to interested buyers about the new auction.
  - Auction is listed under the correct category or genre of the item.
- Failure Outcomes:
  - Auction not initiated.
    - Error Handling: Log level "error", noted message "auction initiation error", send a detail message to inform the seller of the situation.
  - Auction details displayed inaccurately.
    - Error Handling: Log level "warning", noted message "incorrect auction details", prompt user to review and correct details.

- Notification not sent to interested buyers.
  - Error Handling: Log level "error", noted message "notification error", send a detail message to inform the seller.
- Auction listed under the wrong category.
  - Error Handling: Log level "warning", noted message "category mismatch", prompt user to select the correct category.

## 2. Auction Completion View

- Scope:
  - Only winning buyers and sellers can enter the discussion phase.
- User Story:
  - As a winning buyer, I can discuss payment details with the seller post-auction.
- Effort Points: 180
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = AuctionWinners
- App Permission:
  - Permission = Discuss Payment
  - Scope = AuctionWinners
- Target Audience:
  - Winning buyers and sellers
- Pre-conditions:
  1. Auction has ended.
  2. User is a winning buyer or the seller of the item.
  3. The user is on the auction completion page.
- Required User Inputs:
  - Message content for discussion.
- Success Outcomes:



- Winning buyer and seller successfully enter a discussion phase.
- Payment details are discussed and agreed upon.
- System captures and logs the discussion for transparency.
- Notification of auction completion is sent to both parties.
- Failure Outcomes:
  - No discussion initiated within 24 hours.
    - Error Handling: Log level "emergency", noted message "discussion phase error", send a detail message to inform both users of the situation.
  - System fails to log the discussion.
    - Error Handling: Log level "error", noted message "logging failure", alert technical team for troubleshooting.
  - Notification of auction completion fails.
    - Error Handling: Log level "warning", noted message "notification failure", prompt the system to resend the notification.
  - Auction period set outside of the permissible 1 to 7 days.
    - Error Handling: Log level "warning", noted message "invalid auction period", prompt user to select a valid duration.
  - Multiple auctions initiated simultaneously for the same item.
    - Error Handling: Log level "error", noted message "multiple auction instances", inform seller and terminate additional auctions.
  - Incorrect base price is set.
    - Error Handling: Log level "warning", noted message "incorrect base price", prompt user to correct the base price.

## Feature #10: Class Management

### 1. Student View

- Scope:
  - Only authenticated user can use this feature.
- User Story:
  - SV-1, as an authenticated user, I can see and search the classes I have attended to.
- Effort Points: 100
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = ClassJoining

- App Permission:
  - Permission = Search
  - Scope = ClassJoining
- Target Audience:
  - Any authenticated non admin users
- Pre-conditions:
  1. The user must be an authenticated user.
  2. The user is on the class management page.
  3. The user is on the student view page.
- Required User Inputs:
  - Search Term (optional).
- Success Outcomes:
  - An authenticated user successfully sees and is able to search for attended craft classes in under 3s.
  - The classes are shown in alphabetical order.
  - The classes are shown in up to 10 classes per page format.
  - Class page counts are from 0 up to 100.
  - Search results show name relevant classes which has at least 2 characters match the search term.
  - Search results are shown in order of ascending alphabetical order.
  - System successfully logs the search term, result count to persistent storage in under 3s.
- Failure Outcomes:
  - No results are shown although there are classes users attended to.
    - Error Handling: overall, the error will be logged with user id, timestamp, class count, class number...in general. The extra for this error is data log level “emergency”, noted message “no class shown”, send a detail message to inform user the situation.
  - Results show non relevant classes.
    - Error Handling: same log as no result but log level is “error”, noted message “not relevant results”, send a detail message to inform user the situation.
  - Results are not shown in up to 10 classes per page format.
    - Error Handling: log level “error”, noted message “wrong format results”, send a detail message to inform user the situation.
  - Results page count is missing or not in correct format from 0 up to 100.
    - Error Handling: log level “error”, page count, noted message “page count error”, send a detail message to inform user the situation.
  - Results show wrong format or don’t show count of classes 0 up to 100.

- Error Handling: log level “error”, class count, noted message “class count error”, send a detail message to inform user the situation.
- Searching results show no name relevant classes with matching at least 2 characters.
  - Error Handling: log level “error”, class count, noted message “miss match error”, send a detail message to inform user the situation.
- Searching results are not shown in order of ascending alphabetical order
  - Error Handling: log level “error”, noted message “wrong order results”, send a detail message to inform user the situation.
- System unsuccessfully logs the input prices, result count to persistent storage within 3s.
  - Error Handling: log level “emergency”, noted message “log error”, send a detail message to inform user the situation.

## 2. Teacher View

- Scope:
  - Only authenticated user can use this feature.
- User Story:
  - TV-1, as an authenticated user, I can see, search, delete my old classes, and modify the future classes that I created.
- Effort Points: 100
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = ClassHosting
- App Permission:
  - Permission = Search
  - Scope = ClassHosting
- Target Audience:
  - Any authenticated non admin users
- Pre-conditions:
  - 1.The user must be an authenticated user.
  - 2.The user is on the class management page.
  - 3.The user is on the teacher view page.
- Required User Inputs:
  - Search Term (optional).
  - Class Description Modification (optional).
- Success Outcomes:
  - An authenticated user successfully sees, search, delete, modify their own craft classes in under 3s.

- The classes are shown in alphabetical order.
- The classes are shown in up to 10 classes per page format.
- Class page counts are from 0 up to 100.
- Search results show name relevant classes which has at least 2 characters match the search term.
- Search results are shown in order of ascending alphabetical order.
- Class deletion, modification user inputs saved to RDBMS.
- System successfully logs the search term, result count to persistent storage in under 3s.
- Failure Outcomes:
  - No results are shown although there are classes owned by the user.
    - Error Handling: overall, the error will be logged with user id, timestamp, class count, class number...in general. The extra for this error is data log level “emergency”, noted message “no class shown”, send a detail message to inform user the situation.
  - Results show non relevant classes.
    - Error Handling: same log as no result but log level is “error”, noted message “not relevant results”, send a detail message to inform user the situation.
  - Results are not shown in up to 10 classes per page format.
    - Error Handling: log level “error”, noted message “wrong format results”, send a detail message to inform user the situation.
  - Results page count is missing or not in correct format from 0 up to 100.
    - Error Handling: log level “error”, page count, noted message “page count error”, send a detail message to inform user the situation.
  - Results show wrong format or don’t show count of classes 0 up to 100.
    - Error Handling: log level “error”, class count, noted message “class count error”, send a detail message to inform user the situation.
  - Searching results show no name relevant classes with matching at least 2 characters.
    - Error Handling: log level “error”, class count, noted message “miss match error”, send a detail message to inform user the situation.
  - Searching results are not shown in order of ascending alphabetical order
    - Error Handling: log level “error”, noted message “wrong order results”, send a detail message to inform user the situation.
  - User cannot modify, delete a class.
    - Error Handling: log level “error”, noted message “data modification error”, send a detail message to inform user the situation.
  - Class deletion and modification inputs are not saved to RDBMS.

- Error Handling: log level “emergency”, noted message “storing data error”, send a detail message to inform user the situation.
- System unsuccessfully logs the search term, result count to persistent storage within 3s.
  - Error Handling: log level “emergency”, noted message “log error”, send a detail message to inform user the situation.

## Feature #11: Timeline Management Calendar

### 1. Event Creation

- Scope:
  - The date on the calendar will follow the Long Beach, CA, Time Zone.
- User Story:
  - As an authenticated user, I can create an event for the Timeline Management Calendar
- Effort Points: 50
- Target Audience:
  - Any authenticated user
- Pre-conditions:
  - The user must be an authenticated user
  - The user is on the calendar page.
  - All collected PII data is kept inside of our data store following CPRA rules for data requests and deletions.
- Success Outcomes:
  - Authenticated users successfully create the event within 3 seconds and save it to our relational data store.
    - Required User Inputs:
      - The event name is within 100 characters.
      - The event description is within 250 characters.
      - The event date follows the MM/DD/YYYY format.
- Failure Outcomes:
  - The event creation takes more than 3 seconds to complete.
    - Error Handling: Our system will ask the authenticated user to re-create the event. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The given event name goes over 100 characters.
    - Error Handling: Our system will ask the user to re-enter the event name. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The given event description goes over 250 characters.

- Error Handling: Our system will ask the user to re-enter the event description. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given event date does not follow the MM/DD/YYYY format.
  - Error Handling: Our system will ask the user to re-enter the event date with the correct format. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The event creation function is unable to write an event onto our data store.
  - Error Handling: Our system will ask the user to re-enter the inputs. We will log this error into our data store and archive it from the data store. Level logging is Error.

## 2. Event Editing

- Scope:
  - The date on the calendar will follow the Long Beach, CA, Time Zone.
- User Story:
  - As an authenticated user, I can edit my event from the Timeline Management Calendar
- Effort Points: 50
- Target Audience:
  - Any authenticated user
- Pre-conditions:
  - The user must be an authenticated user
  - The user is on the calendar page.
  - All collected PII data is kept inside of our data store following CPRA rules for data requests and deletions.
- Success Outcomes:
  - Authenticated users successfully edit the event within 3 seconds and save it to our relational data store.
    - Required User Inputs:
      - The event name is within 100 characters.
      - The event description is within 250 characters.
      - The event date follows the MM/DD/YYYY format.
- Failure Outcomes:
  - The event creation takes more than 3 seconds to complete.
    - Error Handling: Our system will ask the authenticated user to re-edit the event. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The given event name goes over 100 characters.

- Error Handling: Our system will ask the user to re-enter the event name. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given event description goes over 250 characters.
  - Error Handling: Our system will ask the user to re-enter the event description. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given event date does not follow the MM/DD/YYYY format.
  - Error Handling: Our system will ask the user to re-enter the event date with the correct format. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The event editing function is unable to write/edit an event from our data store.
  - Error Handling: Our system will ask the user to re-enter the inputs. We will log this error into our data store and archive it from the data store. Level logging is Error.

### 3. Event Deletion

- Scope: N/A
- User Story:
  - As an authenticated user, I can delete my event from the Timeline Management Calendar
- Effort Points: 50
- Target Audience:
  - Any authenticated user
- Pre-conditions:
  - The user must be an authenticated user
  - The user is on the calendar page.
  - All collected PII data is kept inside of our data store following CPRA rules for data requests and deletions.
- Success Outcomes:
  - Authenticated users successfully delete an event within 3 seconds.
    - Required User Inputs:
      - The user chooses the delete event option on the calendar.
- Failure Outcomes:
  - The event deletion takes more than 3 seconds to complete.
    - Error Handling: Our system will ask the authenticated user to re-select the deletion option. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The event deletion function is unable to write an event off our data store.

- Error Handling: Our system will ask the user to re-select the deletion option. We will log this error into our data store and archive it from the data store. Level logging is Error.

## Feature #12: Seller Dynamic Dashboard

### 1. Product Editing

- Scope:
  - The supported currency will be USA dollars.
- User Story:
  - As an authenticated user, I can edit my product from the data store.
- Effort Points: 60
- Target Audience:
  - Any authenticated user
- Pre-conditions:
  - The user must be an authenticated user.
  - The user is on the seller dynamic dashboard page.
  - All collected PII data is kept inside of our data store following CPRA rules for data requests and deletions.
- Success Outcomes:
  - An authenticated user successfully edits an existing product within 3 seconds and saves it to our relational data store.
    - Required User Inputs:
      - The product name is within 250 characters(a-z, A-Z, and 0-9 allowed characters).
      - The item description is within 2000 characters(a-z, A-Z, and 0-9 allowed characters).
      - The item price(only accepts integer and float values).
    - Optional User Inputs:
      - The item production cost(only accepts integers or floats).
      - The five chosen photos(only accept these files: JPEG, PNG, non-animated GIF, or TIFF), and each file size must be within 7 MB.
      - The two chosen videos(only accept MP4 or MOV) are within 500MB and have resolutions between 240p and 1080p.
- Failure Outcomes:
  - The given product name goes over 250 characters.
    - Error Handling: Our system will ask the user to re-enter the product name. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The given product description goes over 2000 characters



- Error Handling: Our system will ask the user to re-enter the product description. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given item price is not an integer or a float
  - Error Handling: Our system will ask the user to re-enter the product price. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given production cost is not an integer or a float
  - Error Handling: Our system will ask the user to re-enter the product production cost. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given photo files are not of the supported file types.
  - Error Handling: Our system will ask the user to re-upload the photos. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given video files are not of the supported file types.
  - Error Handling: Our system will ask the user to re-upload the videos. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given photos exceed the limit of 7 MB for each photo
  - Error Handling: Our system will ask the user to re-upload the photos. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The given videos exceed the limit of 500MB
  - Error Handling: Our system will ask the user to re-upload the videos. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The product editing function is unable to write a product onto our data store.
  - Error Handling: Our system will ask the user to re-enter the inputs. We will log this error into our data store and archive it from the data store. Level logging is Error.

## 2. Product Deletion

- Scope: N/A
- User Story:
  - As an authenticated user, I can delete my product from the data store.
- Effort Points: 80
- Target Audience:
  - Any authenticated user

- Pre-conditions:
  - The user must be an authenticated user.
  - The user is on the seller dynamic dashboard page.
  - All collected PII data is kept inside of our data store following CPRA rules for data requests and deletions.
- Success Outcomes:
  - Authenticated users successfully delete their products within 3 seconds.
    - Required User Inputs:
      - The user chooses the delete product option on the seller dynamic dashboard.
- Failure Outcomes:
  - The product deletion takes more than 3 seconds to complete.
    - Error Handling: Our system will ask the authenticated user to re-select the deletion option. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The product deletion function is unable to write an event off from our data store.
    - Error Handling: Our system will ask the user to re-select the deletion option. We will log this error into our data store and archive it from the data store. Level logging is Error.

### 3. Inventory Stock List

- Scope: N/A
- User Story:
  - As an authenticated user, I can view my products' stock.
- Effort Points: 40
- Target Audience:
  - Any authenticated user
- Pre-conditions:
  - The user must be an authenticated user.
  - The user is on the seller dynamic dashboard page.
- Success Outcomes:
  - The Inventory Stock List shows the inventory stock within 3 seconds.
    - Require User Input:
      - The authenticated user choose show the Inventory Stock function on the seller dynamic dashboard.
- Failure Outcomes:
  - The Inventory Stock List takes more than 3 seconds to show the list.

- Error Handling: Our system will ask the user to re-select the show stock list option. We will log this error into our data store and archive it from the data store. Level logging is Error.
  - The Inventory Stock List function is unable to read from our data store.
    - Error Handling: Our system will ask the user to re-select the show stock list option. We will log this error into our data store and archive it from the data store. Level logging is Error.
- 4. Financial Progress Report
  - Scope: N/A
  - User Story:
    - As an authenticated user, I can view my profit, revenue, and sales trends.
  - Effort Points: 50
  - Target Audience:
    - Any authenticated user
  - Pre-conditions:
    - The user must be an authenticated user.
    - The user is on the seller dynamic dashboard page.
    - The profit of the authenticated user is calculated using the optional input of production as one of the base variables, so the integrity of the profit value depends on user input. If the user decides to leave it blank, the profit will be equal to the revenue.
  - Success Outcomes:
    - Authenticated users see the Financial Progress Report within 3 seconds.
    - The profit, revenue, and sales can be viewed as yearly, quarterly, and monthly.
      - Required User Input:
        - The authenticated user choose show the Financial Progress Report function on the seller dynamic dashboard.
      - Optional User Input:
        - The user chooses the time period option on the seller dynamic dashboard.
  - Failure Outcomes:
    - The Financial Progress Report takes more than 3 seconds to show
      - Our system will ask the user to re-select the show Financial Progress Report. We will log this error into our data store and archive it from the data store. Level logging is Error.
    - The Financial Progress Report is not shown in yearly, quarterly, or monthly order

- Our system will ask the user to re-select the time period option. We will log this error into our data store and archive it from the data store. Level logging is Error.
- The Financial Progress Report calculation function is unable to read data from our data store for calculation.
  - Our system will ask the user to re-select the show Financial Progress Report. We will log this error into our data store and archive it from the data store. Level logging is Error.

## Feature #13: Quiz creation

- Scope:
  - This function will only be available to authenticated non-admin users who have created a class to better educate and quiz their students on their product.
- Effort Points: 10
- User Story:
  - As a Teacher of a class, I want people in my class to better comprehend the material they've been taught. I can create multiple choice quizzes in order to have students of a class test for comprehension and understanding.
- Target Audience:
  - CraftVerify Sellers who have created a class
- Pre-Conditions
  1. The user is signed in
  2. The user has created a class
- Success Outcomes
  - Students are able to grasp the class material better and benefit from a better understanding of crafting a product.
  - Teachers of a class benefit with an overall high product baseline on crafting their product from their students.
  - Quizzes are able to be created properly and be presented to students so they can test their knowledge of their product class.
- Failure Outcomes
  - Students of a class not benefitting from quizzes may result in a less uniform product quality.
    - Error Handle: Set minimum test score requirements that students have to reach in order to continue crafting the product, otherwise they have to review the course material again.
  - If Students of a class don't participate in quizzes, it won't have any benefit

- Error Handle: Have the option for teachers to make quizzes for students mandatory to continue making the product.
- Quizzes provide a more stressful experience to students
  - Error Handle: If students chose to opt out of taking a quiz, teachers are able to check in with students of the class to make sure they're still comprehending everything well.

## Phase 2 Features:

### Feature #14: CraftGuilds

#### 1. CraftGuild Creation View

- Scope:
  - Only authenticated sellers can initiate a CraftGuild.
- User Story:
  - As an authenticated seller, I can propose the formation of a CraftGuild through private or public channels.
- Effort Points: 150
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = CraftGuildProposals
- App Permission:
  - Permission = Propose Guild
  - Scope = CraftGuildProposals
- Target Audience:
  - Sellers
- Pre-conditions:
  1. Seller is authenticated.
  2. Seller is on the CraftGuild creation page.
- Required User Inputs:
  - Method of proposal (private message or public announcement), CraftGuild description.

- Success Outcomes:
  - CraftGuild proposal is successfully made.
  - Interested sellers can see/respond to the proposal.
  - Notifications are sent to all guild members about the new proposal.
  - CraftGuild details are correctly displayed on the proposer's profile.
- Failure Outcomes:
  - Proposal not submitted.
    - Error Handling: Log level "error", noted message "guild proposal error", send a detail message to inform the user of the situation.
  - Proposal not visible to interested sellers.
    - Error Handling: Log level "error", noted message "visibility error", alert technical team for troubleshooting.
  - Notification not sent to guild members.
    - Error Handling: Log level "error", noted message "notification error", resend notifications to guild members.
  - CraftGuild details inaccurately displayed.
    - Error Handling: Log level "warning", noted message "guild details error", prompt user to review and correct the details.
  - Guild name already exists or is too similar to an existing one.
    - Error Handling: Log level "warning", noted message "duplicate guild name", prompt user for a name change.
  - The character limit is exceeded in the public announcement.
    - Error Handling: Log level "warning", noted message "character limit exceeded", inform the user to shorten the announcement.
  - System fails to notify the announcing seller about interested sellers.
    - Error Handling: Log level "error", noted message "notification error", alert technical team for a review.

## 2. CraftGuild Item Listings View

- Scope:
  - Only CraftGuild members can list items collaboratively.
- User Story:
  - As a CraftGuild member, I can collaborate with other members to list items permanently or for a limited-time.
- Effort Points: 140

- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = CraftGuildListings
- App Permission:
  - Permission = Add/Edit Listing
  - Scope = CraftGuildListings
- Target Audience:
  - CraftGuild members
- Pre-conditions:
  1. Member is part of a CraftGuild.
  2. Member is on the CraftGuild item listing page.
- Required User Inputs:
  - Item details, Listing type (permanent/limited-time), Timer duration (if limited-time)
- Success Outcomes:
  - CraftGuild members collaboratively create item listings effectively.
  - Limited-time listings' timer functions accurately, marking items as unavailable post-expiration.
  - Permanent item listings remain consistent and unchanged unless modified by a CraftGuild member.
- Failure Outcomes:
  - CraftGuild members are unable to add new item listings.
    - Error Handling: Log level "error", noted message "listing addition error", alert technical team.
  - Timer malfunction for limited-time listings.
    - Error Handling: Log level "error", noted message "timer error", prompt for immediate system check.
  - Permanent listings get accidentally modified or deleted.
    - Error Handling: Log level "error", noted message "unintended listing change", restore from backup and notify CraftGuild members.

### 3. CraftGuild Communication System View

- Scope:
  - Only CraftGuild members can access and communicate using the dedicated messaging system.
- User Story:
  - As a CraftGuild member, I can communicate with other members on collaborative projects using the dedicated system.
- Effort Points: 150
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = CraftGuildMessages
- App Permission:
  - Permission = Communicate
  - Scope = CraftGuildMessages
- Target Audience:
  - CraftGuild members
- Pre-conditions:
  1. Member is part of a CraftGuild. Member is on the CraftGuild messaging page.
  2. Required User Inputs:
  3. Message content
- Success Outcomes:
  - Message is successfully sent and received by other members. Historical messages are retrievable.
  - CraftGuild members communicate smoothly in the dedicated messaging system.
  - Group chats allow for seamless discussion on various topics.
  - The chat system supports multiple users without any hitches.
- Failure Outcomes:
  - Message sending fails. Unable to retrieve historical messages.



- Error Handling: For message sending failure: Log level "error", noted message "message send failure", alert user to retry or check their connection.
- The messaging system restricts more than two users from chatting.
  - Error Handling: Log level "error", noted message "user limit exceeded", prompt technical team for adjustment.
- CraftGuild member gets accidentally removed from the chat.
  - Error Handling: Log level "error", noted message "user removal error", reinstate the member and send notifications.
- CraftGuild chat experiences significant delays.
  - Error Handling: Log level "warning", noted message "chat delay", notify technical support for system optimization.

## Feature #15: Supplies and Materials

### 1.Item Material List

- Scope:
  - Only authenticated user can use this feature.
- User Story:
  - IML-1, as an authenticated user, I can add material UPC numbers and their quantity to a table in “Item Listing and Creation,” “Classes Hosting” to keep track of the required material.
- Effort Points: 100
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = ProductListing, ClassHosting
- App Permission:
  - Permission = Input Data
  - Scope = ProductListing, ClassHosting
- Target Audience:
  - Any authenticated non admin users
- Pre-conditions:
  - 1.The user must be an authenticated user.
  - 2.The user is on the product listing page/ class hosting page.
- Required User Inputs:
  - Material UPC numbers.
  - Material quantities.
- Success Outcomes:

- An authenticated user successfully enter the UPC numbers and material quantity of a craft good or a class, and these data are saved to the RDBMS in under 3s.
- UPC and Quantity table is in one row format for each material.
- UPC and Quantity table has at least 5 empty rows.
- UPC and Quantity table automatically adds an empty row after user input data for 1 material.
- Failure Outcomes:
  - UPC and Quantity table does not appear.
    - Error Handling: overall, the error will be logged with user id, timestamp, item number, class number,...in general. The extra for this error is data log level “emergency”, noted message “No UPC table is shown”, send a detail message to inform user the situation.
  - UPC and Quantity table is not in 1 row per material format.
    - Error Handling: same log as the no table error but log level is “error”, noted message “Wrong table format”, send a detail message to inform user the situation.
  - UPC and Quantity table does not have at least 5 empty row to begin with.
    - Error Handling: log level “error”, noted message “table reserve format error”, send a detail message to inform user the situation.
  - UPC and Quantity table does not automatically add one row after user input data to a row.
    - Error Handling: log level “error”, row count, UPC, quantity, noted message “Table row adding error”, send a detail message to inform user the situation.
  - User is unable to enter data for UPC and Quantity table.
    - Error Handling: log level “emergency”, item/class number, noted message “Table access error”, send a detail message to inform user the situation.
  - System unsuccessfully saves the UPC, quantity, item/class number, UPC count to RDBMS within 3s.
    - Error Handling: log level “emergency”, item/class number, noted message “Table data saving error”, send a detail message to inform user the situation.

## 1. Material Price and Supply List

- Scope:
  - Only authenticated user can use this feature.
- User Story:

- MPSL-1, as an authenticated user, I can see the material name, price per unit, price per material quantities, available stock, total price of the whole list using product API from Home Depot and Lowe's to match with the UPC and Quantity table I entered before.
- Effort Points: 100
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = ProductListing, ClassHosting
  - AuthenN: HomeDepotProductReader, LowesProductReader
- App Permission:
  - Permission = API product searching.
  - Scope = ProductListing, ClassHosting
- Target Audience:
  - Any authenticated non admin users
- Pre-conditions:
  - 1.The user must be an authenticated user.
  - 2.The user is on the product listing page/ class hosting page.
- Required User Inputs:
  -
- Success Outcomes:
  - An authenticated user can see Price table with material name, price per unit, price per material quantities, available stock, total price of the whole list, and these data are saved to the RDBMS in under 3s.
  - Material name, price per unit, price per quantity, available stock table is in one row format for each material.
  - The API works correctly, material name, price per unit, price per quantity, available stock table matches the UPC and Quantity table for the same material.
  - Total price of the whole material list is shown at the bottom of the tables.
- Failure Outcomes:
  - API does not show price results.
    - Error Handling: overall, the error will be logged with user id, timestamp, item number, UPC number, quantity number,...in general. The extra for this error is data log level "emergency", noted message "API not working error", send a detail message to inform user the situation.
  - UPC and Quantity table not matching Price table, shows non relevant item.

- Error Handling: same log as the no price table error but log level is “error”, noted message “UPC matching error”, send a detail message to inform user the situation.
- Price table is in wrong row format.
  - Error Handling: log level “error”, noted message “price table format error”, send a detail message to inform user the situation.
- Total price calculated incorrectly.
  - Error Handling: log level “warning”, row count, UPC, quantity, noted message “Price calculation error”, send a detail message to inform user the situation.
- Price table are not saved to RDBMS.
  - Error Handling: log level “emergency”, item/class number, noted message “Table saving error”, send a detail message to inform user the situation.

## Feature #16: Story Teller

- Scope:
  - Allows authorized users to create or view a video showcase of products on our show and tell page.
- Effort Points: 100
- User Story:
  - As a crafter, I wish to be highlighted on CraftVerify, increasing my visibility and showcasing my unique handcrafted item for all users to see on the show and tell page.
- Target Audience:
  - CraftVerify crafters and buyers.
- Pre-conditions:
  - Crafters are registered users of CraftVerify and have eligible content if submitting.
- Success Outcomes:
  - Crafters can successfully submit their video for the Show and Tell page.
    - MP4 or MOV format, restricted to 500MB and resolutions between 240p and 1080p.
    - Username and listing name stored in the database.
  - Chosen crafters get showcased on the show and tell page and get higher visibility for their item.
  - Authorized users able to successfully view show and tell pages and click on a storyteller item.
- Failure Outcomes:

- If a chosen spotlight doesn't resonate with the audience, it might result in reduced engagement.
  - Error Handle: CraftVerify can implement feedback mechanisms to better understand audience preferences and refine selection criteria.
- If video submissions don't adhere to guidelines, it may lead to disqualification.
  - Error Handle: CraftVerify provides clear guidelines, sample submissions, and prompt feedback on any issues, allowing crafters to correct and resubmit.
- Overwhelming submissions could lead to a backlog, causing potential delays in people getting item story's showcased..
  - Error Handle: CraftVerify could optimize the submission review process or introduce a preliminary filtering mechanism to manage the volume.
- Negative feedback on a spotlighted item story might affect the platform's credibility.
  - Error Handle: CraftVerify could establish a rigorous vetting process and ensure transparency in the selection process.
- Technical issues during the spotlight showcase might lead to poor user experience.
  - Error Handle: CraftVerify ensures robust server support during spotlights and a quick recovery mechanism in case of downtimes.

## Feature #17: Monthly Spotlight of Crafter

### 1. Spot Light View

- Scope:
  - Only authorized users with valid listings can submit for the spotlight.
- User Story:
  - As an authorized user, I can submit my item for a chance to be the monthly spotlight.
- Effort Points: 90
- Data Source:
  - Origin = Internal
  - Type = Database
  - Details = MonthlySpotlightSubmissions
- App Permission:

- Permission = Submit
- Scope = MonthlySpotlightSubmissions
- Target Audience:
  - Authenticated sellers with valid listings
- Pre-conditions:
  1. User is authenticated.
  2. User has a valid listing.
  3. User is on the monthly spotlight submission page.
- Required User Inputs:
  - Listing ID or item details for spotlight submission.

#### Success Outcomes:

- Item successfully submitted for monthly spotlight consideration.
- Submission confirmation received by user.
- The item appears under the "pending review" section of the user's dashboard.
- System logs the submission for future reference.
- Failure Outcomes:
  - Item not submitted.
    - Error Handling: Log level "error", noted message "spotlight submission error", send a detail message to inform the user of the situation.
  - Submission confirmation not received.
    - Error Handling: Log level "error", noted message "confirmation error", attempt to resend confirmation.
  - Item doesn't appear under "pending review".
    - Error Handling: Log level "error", noted message "dashboard display error", alert technical team for review.
  - System fails to log the submission.
    - Error Handling: Log level "error", noted message "logging failure", alert technical team for troubleshooting.
  - Submission criteria are not met, yet submission proceeds.
    - Error Handling: Log level "error", noted message "invalid submission", revert the submission and notify the user.
  - Spotlight is not updated monthly, and old spotlight remains.

- Error Handling: Log level "error", noted message "spotlight update failure", prompt technical team for an immediate update.
- Selected spotlight item information is incorrectly displayed.
  - Error Handling: Log level "warning", noted message "incorrect display", prompt for immediate correction.
- Multiple items are spotlighted instead of a singular item.
  - Error Handling: Log level "error", noted message "multiple spotlight error", revert to a single spotlight and inform the user.