CraftVerify

Team Wanderer

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

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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. Customers can trust the authenticity of every transaction because of CraftVerify's requirement for visual proof of production, whether in the form of pictures or videos. Beyond mere authentication, 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. The initial launch of CraftVerify will serve only the community of crafters and buyers within Long Beach and will only support the American English language.

Values:

- Authenticity: Our portal only sells genuine handcrafted goods, guaranteeing a distinctive, artisan buying experience. Unlike eBay or Amazon, we need visual proof of the creation process through videos and/or images, providing unmatched authenticity.
- Expression: Our portal is built to create strong personal relationships between buyers and sellers. We aim to allow sellers to express themselves and personalize the experience to their customers. This personal experience will differentiate our product from other sites like eBay or Amazon.

Vision:

At CraftVerify, we see a horizon where the essence of e-commerce transcends mere transactions. Our pursuit is to craft a vibrant ecosystem wherein artisans don't just sell but come together, collaborate, and magnificently showcase their one-of-a-kind talents. Authenticity and expression remain our unwavering pillars. As we move forward, our platform will introduce the pioneering concept of CraftGuilds—a modern nod to ancient guild traditions—offering artisans a close-knit community dedicated to fostering unparalleled craftsmanship. This not only promises collaborations but ensures they are seamless, courtesy of the CraftGuild messaging system. Simultaneously, we recognize that at the heart of every craft is the material from which it is born. Hence, our next phase will empower artisans with the 'Supplies and Materials' feature, streamlining their material management by integrating with leading suppliers such as Home Depot and Lowe's. But what is craftsmanship without its story? To ensure every narrative is told, our 'Story Teller' feature will allow artisans to curate video showcases, and with our 'Monthly Spotlight of Crafter', we aim to celebrate and recognize the brilliance of our artisan community, creating not just a marketplace but a stage for their artistry.

Long-Term Goals:

These are our long-term goals for CraftVerify as our plans outside of the development of the program to help achieve each goal. In addition, our future features during Phase 2 of development will support the achievement of at least one of these goals.

1. Market Leadership in Authentic Handcrafted E-commerce:
   Objective: Within the next five years, we want to firmly establish CraftVerify as a leader in the internet market for handcrafted goods.
   Details: A multi-pronged strategy will be used to achieve this, with an emphasis on aggressive marketing campaigns, clever alliances with artisan groups, and providing unmatched customer service. Our capacity to constantly outperform competitors in crucial measures like monthly active users, sales turnover, and accolades from the industry will serve as a yardstick for success.

2. Expansion of Artisan Community:
   Objective: Build a robust and varied network of international craftsmen on CraftVerify.
   Details: We are dedicated to developing relationships with crafters who exhibit a diverse range of crafts made in various parts of the world. Our goal is to highlight the diversity and richness that these craftspeople contribute to our platform through committed and purposeful engagement activities. By doing this, we aim to promote and elevate the numerous cultural traditions, complex skills, and traditional practices that these craftspeople have developed over many generations.

3. Enhanced Consumer Trust:
   Objective: Setting an industry standard for ensuring product authenticity was the goal.
   Details: We are sincerely dedicated to preserving the integrity of our platform. We promise to handle any frauds, problems, or customer-related issues that may emerge. We want to hold frequent training and awareness seminars for our craftsmen to guarantee that they completely grasp and achieve our authenticity standards. We will implement strong consumer feedback methods to assess trustworthiness and make required modifications. Our ultimate objective is to provide a safe, transparent, and dependable environment for all users.

4. Education and Community Building:
   Objective: The goal is to improve links within the CraftVerify community and encourage lifelong learning.
   Details: In addition to yearly conferences, we'll launch several webinars and online seminars where artisans may present their work, tell their stories, and engage with the public. Customers can take part in online craft lessons to increase their understanding of the skills.

Types of Users and their responsibilities:

	Root Admin	Delegate Admin	Authenticated 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 listings	X	X		
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

Expectation of Initial launch of the product (Phase 1):

- Feature #0: Authentication

  - Login
    - Description: Compare and check the information provide during the login process against stored PII data collected during account creation process.
    - Business Rules: All activities and given information will be stored in our RDBMS upon the initialization of the login process.

  - Logout
    - Description: Allow the user to terminate their login session which prevents unwanted access.
    - Business Rules: All activities and given information will be stored in our RBDMS upon the logout process. All activities are saved for the next session.

  - Authentication Process allows the authenticated users to have access to our product and prevent unwanted access by other parties.

  - Constraint: Authentication capability will depend on the logging performance of our RBDMS for all activities.

- Feature #0: Authorization

  - Grant Permission
    - Description: Grant authenticated users permission to use tools that are dedicated toward their role or user type.
    - Business Rule: Only authenticated users will be granted permissions.

  - Authorization Process will grant authenticated users permission to use tools and access data based on their role or user type.

  - Constraint: Constraint: Authentication capability will depend on the logging and access performance of our RBDMS for all activities.

- Feature #0: User Administration:

    - User Account Creation:
        - Description: Allows users to create an account for authentication with a username, password and email address with a unique User ID to identify the account.
        - Business rules: The information for the account will be stored in our RDBMS after being successfully created.

    - User Account Deletion:
        - Description: Allows authenticated users to delete their own account and all data associated with that account.
        - Business rules: All data associated with the user ID of the account being deleted will be removed.

    - User Account Recovery:
        - Description: Allows users to regain access to their account if they forget their password for the account.
        - Business rules: The account recovery process is performed by sending an email with a link to recover their account to the email address associated with the account being recovered.

    - User Profile Update:
        - Description: Allows authenticated users to change or add information about their account on their profile page.
        - Business rules: The authenticated user can change their username, password, email address and add/change their profile picture, profile introduction video and profile description.

    - Constraints: Logging must be robust in order to maintain current information for every user account currently on the system.

- Feature #1: Item Listing & Offering System

    - Item Creation and Listing
        - Description: Allows authenticated users to create an item and choose to list it for sale.
        - Business Rules: Creation and listing will be available in the seller dynamic dashboard. Must be an authenticated user. Must include

item name. Optional for them to include item description, key features description, images and videos. Optional button to list or leave unlisted. All users' inputs and activities will be logged and saved to our relational database. When an error occurs there will be a detailed message shown to the users.

- ○ Offering system
    - ■ Description: Allow users to place an offer on a currently listed item. Initiates a chat to facilitate the sale between vendor and buyer.
    - ■ Business rules: To make an offer a user must be authenticated. Offer needs to have a value to be sent. Optional message can be added to the offer. All users' inputs and activities will be logged and saved to our relational database.

- ○ The core of our application is creating a community of handcrafters and connoisseurs to buy and sell their products. Enhancing their experience providing a safe communal web app for everyone to share their handcrafted passions.

- ○ Constraints: Dependency on users to finish the sale on their end since we can't handle payment. Will need to log listings and efficiently to make sure to keep up to date listings

- ● Feature #2: Class Hosting and Joining System

    - ○ Class Hosting:
        - ■ Description: Allows authenticated users to create a class to teach students how to craft a product.
        - ■ Business rules: Classes contain a title of the class, a description of what the class is about, a link to where the class will be hosted, the starting time and date of the class, the end time of a class and the maximum capacity of students. The class will be logged with all of this information along with a timestamp of when the class was created.

    - ○ Class Joining:
        - ■ Description: Allows authenticated users to look through a list of classes and join individual classes as a student.
        - ■ Business rules: Successfully joining a class will be logged with the timestamp of when the class was joined, the user ID of the student,

the starting time and date of the class, the end time of a class and the title of the class. The list of classes will be sorted by the starting dates ascending.

- ○ Enhances the user's experience by allowing users interested in becoming a seller and crafter a way to learn a type of product that they can sell. In addition, crafters hosting and teaching a class can improve their own craft by answering questions given by students.

- ○ Constraints: Classes an individual authenticated user hosts and joins must not have scheduling conflicts between each other. Logging must be accurate in order to prevent accidental schedule conflicts from happening for the authenticated users.

- ● Feature #3: Make to Order

  - ○ Create Custom Order:
    - ■ Description: Provides authenticated users a way to make custom item orders and post them.
    - ■ Business rules: An individual custom order has a title along with a description stating the requirements for the item. The order is then logged with the timestamp, title, description and the user ID.

  - ○ Give Offer to Create:
    - ■ Description: Provides authenticated users to be able to give offer to create the requested item to a user of a custom item order
    - ■ Business rules: An offer will give the cost of buying the item requested along with an estimated timeframe to create the item. This offer is logged with the timestamp, user ID of the person creating the offer, description of their offer, the title of the item order and the user ID of the owner of the item order.

  - ○ List Available Item Orders:
    - ■ Description: Gives authenticated users the ability to look through a list of available custom orders to give offers to along with options to sort through the list.
    - ■ Business rules: The item orders can be sorted by the date ascending or by the date descending.

- - - ○ Accept Offer:
        - Description: Allows authenticated users with a custom order posted to accept offers given by sellers/crafters. The authenticated user may also give the seller/crafter a counteroffer to help refine their request.
        - Business rules: Offers that have been accepted will be tracked through our RDBMS noting that the specific offer has been accepted.

    - Enhances the user experience by allowing users to be able to purchase and own products that match their own interests.

    - Constraints: Logging mechanism must be accurate in order to maintain proper communication between the user with the item order and the user who sent an offer to the order.

- Feature #4: Wishlist Functionality

    - Add to Wishlist:
        - Description: Allows authenticated users to add and save an item to a list of items that the user is interested in buying in the future.
        - Business rules: Items added to a wishlist will be logged to our RDBMS with a user ID to reference what wishlist that the item is a part of.

    - Remove from Wishlist:
        - Description: Allows authenticated users to remove items from their wishlist
        - Business rules: The item being removed will remove the association of the item with the user ID of the authenticated user removing the item.

    - List and Sort Wishlist:
        - Description: Allows authenticated users to look through all of the items on their wishlist and sort the items on the list.
        - Business rules: Users can sort by dates added ascending or descending or by price ascending or descending.

- ○ Enhances the user experience by giving users a method to track and remember products they want to buy in the future.

  - ○ Constraints: Dependency on the RDBMS for adding to the wishlist and to view the wishlist means any downtime or slow performance from the database can impact the wishlist functionality. Logging mechanisms must be robust in order to maintain accurate information on each user's wishlist.

- ● Feature #5: Shopping cart

  - ○ Store Interested Items
    - ■ Description: Allows users to store items in a shopping cart without immediately putting an offer on them.
    - ■ Business Rules: Users must be authorized to use the shopping cart. Shopping cart logs what items are in it along with the user id. Shopping cart is only saved as long as the user is logged in. Shopping cart has a limit on how many items can be in it at a time. Items are removed from the shopping cart if an offer is made on them or they are put on the wishlist of the user. A log is kept in our database of when items are moved into or out of the shopping cart of a user id.

  - ○ Enhances the user experience by allowing them to continue browsing other items while still having easy access to offer on something after they have decided they want to.

- ● Feature #6: Price Range Sorting

  - ○ Price Range Sorting
    - ■ Description: will provide a mechanism of price sorting for items, auction items, and craft classes depending on the top and bottom prices, set by the user.
    - ■ Business rule: Any type of users can use the feature. Unauthenticated user's activities will be logged with their top and bottom prices, sorting fail/success status, result counts. Authenticated user activities will be logged with user id in addition. The sortable data are based on our internal data store. The collected data will also be available for user privacy reports. When an error occurs during any time from accessing data to displaying results, there will be a detailed message shown to the users.

- ○ Price Range Sorting is necessary to help users find handmade goods that fulfill their financial expectations.

- ○ Constraints: For auction goods, the results may not reflect the most up-to-date price if the items get more bids after the results are shown.

- ● Feature #7: Search Engine

  - ○ Search Capability
    - ■ Description: Allows users to search for specific products or artists.
    - ■ Business rules: Both authenticated and non-authenticated users can search. Authenticated users' searches are logged with their user ID, time of search, and search terms. Non-authenticated users' searches are logged with their session ID, time of search, and search terms.

  - ○ Autocomplete Suggestions
    - ■ Description: Aids users in finding items or artists more efficiently by providing possible matches as they type.
    - ■ Business rules: Suggestions are derived from our RDBMS which stores all product and artist data. Autocomplete functions are available for both product and artist searches.

  - ○ Results Sorting
    - ■ Description: Gives users the option to sort their search results.
    - ■ Business rules: Users can sort by relevance, date, or alphabetically. Sorting by date and alphabetically can be done in both ascending and descending order.

  - ○ Relevance Criteria:
    - ■ Product searches: The relevance is determined by metadata attributes like color, price, shape, weight, and craftsmanship quality.
    - ■ Artist searches: Relevance is based on the artist's popularity, craftsmanship skills, and number of products available.

  - ○ Enhances user experience by offering efficient and tailored search capabilities. The autocomplete function, in particular, aids in directing users towards potential matches, saving time and effort.

- ○ Constraints: Dependency on the RDBMS for search and suggestions means any downtime or slow performance from the database can impact search functionality. Logging mechanisms must be robust to ensure all searches are recorded accurately without affecting system performance.

- ● Feature #8: Report, Rating & Review System

  - ○ Rating System
    - ■ Description: Allows buyers to rate sellers based on product quality.
    - ■ Business rules: Ratings are between 1 to 5 stars. Only registered users can rate. Ratings can be given only after completing their purchase.

  - ○ Review System
    - ■ Description: Provides a platform for buyers to write reviews about the product and the seller.
    - ■ Business rules: Review titles are up to 250 characters. Review content can be up to 10,000 words. Only registered users can review. Reviews can be given only after completing their purchase.

  - ○ Review Sorting
    - ■ Description: Users can sort reviews based on different criteria.
    - ■ Business rules: Reviews can be sorted by ratings, date, or helpfulness. Users can mark reviews as "helpful."

  - ○ Reporting System
    - ■ Description: Users can flag concerns related to products or sellers.
    - ■ Business rules: Reports can be categorized into concerns like fraud, product inconsistency, or false advertising. Reports need a brief description up to 3,000 characters. Reports can include up to five images (JPEG, PNG, GIF, TIFF) with a 7MB limit for each image. All report links must be CraftVerify-specific. Admins will review each report.

  - ○ Ensures platform integrity, user safety, trust, and promotes high-quality sellers and products through feedback.

  - ○ Constraints: Dependency on the integrity of user-generated content, which might be subjective or potentially misle+ading. Reliance on admins to promptly and accurately review flagged reports.

- Feature #9: Item Auction

    - Auction Initiation
        - Description: Sellers can auction items starting at a specific base price.
        - Business rules: Auction period can range from 1 to 7 days.

    - Auction Completion
        - Description: Winning buyer and seller enter a discussion phase regarding payment.
        - Business rules: Winning buyer has 24 hours to discuss payment. If payment isn't completed, the next highest bidder becomes the winner. The process is repeated until the top five bidders. If the fifth bidder fails, the auction is considered canceled. The seller can restart the auction with previous or new settings.

    - Provides an interactive and dynamic selling method, potentially maximizing product value while offering buyers a competitive purchasing environment.

    - Constraints: Dependency on buyer and seller communication and trust. Risk of auction cancellation if top bidders do not complete the purchase.

- Feature #10: Class Management
    - Student View

        - Description: provide a view for authenticated users, in which users can see and search for the classes they have attended.

        - Business rules: All the classes data are based on our internal data store. The user's activites will be logged with data about user role as student, user's actions, class number, search term, and these data will be saved on our data store. The collected data will also be available for user privacy reports. When an error occurs during any time from accessing data to displaying results, there will be a detailed message shown to the users.

    - Teach View
        - Description: provide a view for authenticated users, in which users can see, search for, delete classes they have created, and modify description for future classes.

- - Business Rules: This feature only uses data from our data store and user inputs. All the user's searching, deleting, modifying class inquiries will be logged with data about class number, user role as teacher, user actions, search term, and these activities will be saved on our data store. The collected data will also be available for user privacy reports. When an error occurs during any time from accessing data to displaying results, there will be a detailed message shown to the users.

  - Having a view to manage craft classes will help users to organize works and boost productivity.

  - Constraint: For this feature to work well, we need to allow student users option to enroll a class in shopping cart feature.

- Feature #11: Timeline Management Calendar

  - Event Creation
    - Description: Allow users to create an event on the calendar.
    - Business Rules: Only authenticated users have access to this tool, and any user type can use this tool. Collected PII data will be stored in our relational database and protected under CPRA for data requests and deletions.

  - Event Editing
    - Description: Allow users to edit an event on the calendar.
    - Business Rules: Only authenticated users have access to this tool, and any user type can use this tool. Collected PII data will be stored in our relational database and protected under CPRA for data requests and deletions

  - Event Deletion
    - Description: Allow users to delete an event from the calendar.
    - Business Rules: Only authenticated users have access to this tool, and any user type can use this tool.

  - Help authenticated users visualize their schedule in a familiar format and enhance their time management capability.

- - Constraints: The calendar performance, activity, and error logging capability will depend on the performance of our RDBMS.

- ● Feature #12: Seller Dynamic Dashboard

  - ○ Inventory Stock List
    - ■ Description: Show the stock of all products.
    - ■ Business Rules: Only authenticated users have access to this tool, and any user type can use this tool. Data used for calculation is from our relational database.

  - ○ Financial Progress Report
    - ■ Description: Show the profit, revenue, and sales trend
    - ■ Business Rules: Only authenticated users have access to this tool, and any user type can use this tool. Data used for calculation is from our relational database.

  - ○ Product Management

    - ■ Product Listing and Product Creation will be part of this feature

    - ■ Product Editing
      - ● Description: Allow authenticated users to edit their products inside our data store.
      - ● Business Rule: Only authenticated users have access to this tool, and any user type can use this tool. Collected PII data will be stored in our relational database and protected under CPRA for data requests and deletions.

    - ■ Product Deletion
      - ● Description: Allow authenticated users to delete their products inside our data store.
      - ● Business Rules: Only authenticated users have access to this tool, and any user type can use this tool.

  - ○ Relieve the seller stress of calculating their profits by offering the seller dashboard to help them visualize their financial progress and a tool to manage their products.

- ○ Constraint: The product stock list, financial progress report, and product management tool capability will depend on the performance of our RDBMS. The integrity of the financial progress report will depends on the information such as product price and production cost given by the authenticated users.

- ● Feature #13: Quiz creation

  - ○ Quiz Creation
    - ■ Description: Any authenticated user with a class(feature) can create a quiz composed of multiple choice questions for his users in the class.
    - ■ Business Rules: Authenticated users must have successfully created a class and have the teacher role to create a quiz. Max of ten questions with 4 multiple choices each with a max of 200 characters for each question.

  - ○ Constraints: Reliance on users/students to actively participate in the quiz. Reliance on having teachers to make up our quizzes for the platform

Expectation of Features by Next Release (Phase 2):
- ● Feature #14: CraftGuilds

  - ○ CraftGuild Creation
    - ■ Description: Sellers can initiate the formation of a CraftGuild through private messages or public announcements.
    - ■ Business rules: Sellers can privately message another seller directly through the latter's profile for CraftGuild formation. Public announcements for CraftGuild formation are made on a separate page of the seller's profile. Each public announcement post has a character limit of 2000. Interested sellers can message the one who made the announcement to join the CraftGuild. The announcing seller can interview those who respond to determine their fit for the CraftGuild.

  - ○ CraftGuild Item Listings
    - ■ Description: Members of a CraftGuild can collaboratively create permanent or limited-time item listings.

- - ■ Business rules: Limited-time listings have a timer which, once expired, makes the item unavailable for order. The timer can be set in days, months, or years.

  - ○ CraftGuild Communication System
    - ■ Description: CraftGuilds have a dedicated messaging system to aid in their collaborative projects.
    - ■ Business rules: The CraftGuild messaging system allows for group communication. The system supports discussions on the production line, item pricing, item types, etc. Unlike standard communication, the CraftGuild system allows for more than two users to chat. A CraftGuild is limited to eight members at a time.

  - ○ Fosters collaborative crafting by providing sellers with a platform to join forces, pool their skills, and jointly market their crafts. The dedicated communication system streamlines collaborative efforts and enhances the creation of unique, cooperative projects.

  - ○ Constraints:
    - ■ Dependency on the reliability of the CraftGuild messaging system.
    - ■ Limitation on the number of CraftGuild members may restrict larger collaborations.
    - ■ The character limit on public announcements may hinder comprehensive project descriptions.

- ● Feature #15: Supplies and Materials

  - ○ Item Materials List
    - ■ Description: provide users a table in "Item Listing and Creation," "Classes Hosting" to add/remove the UPC numbers and quantities for the item needed materials.
    - ■ Business Rules: Only authenticated users can use this feature. The UPC data comes from user's search from 3rd party's database. However, all the user's activities will be logged and saved on our data store with data about timestamp, user actions, item number, UPC count, UPC, UPC quantity. The collected data will also be available for user privacy reports. When an error occurs during any time from accessing data to displaying results, there will be a detailed message shown to the users.

- ○ Material Price and Supply List
    - ■ Description: Provide users a table with the material names, the price per unit, price per material quantities, available stock, total price of whole list using product API from Home Depot and Lowe's to match with the UPC from our system.
    - ■ Business Rules: Only authenticated users can use this feature. The UPC data comes from our data store. The price data comes from Home Depot and Lowe's through their product API. All the user's activities will be logged and saved on our data store with data about timestamp, UPC search status, UPC supply, UPC price, UPC quantity price, material list total price. The collected data will also be available for user privacy reports. When an error occurs during any time from accessing data to displaying results, there will be a detailed message shown to the users.

  - ○ This seamless API integration negates the need for manual research, saving time and potentially reducing costs.

  - ○ Constraints: This feature data depends on the API of 3rd party and their RDBMS; therefore, it may not work if the API fail the search for UPCs.

- ● Feature #16: Story Teller

  - ○ Story Teller
    - ■ Description: Allows users to create or view a video showcase of products.
    - ■ Business Rules: Authorized users with valid listings can upload a video to be played in a showcase. All users may view the showcase that is active. The uploaded videos for the showcase are stored in our database with the user id.

  - ○ Enhances the user experience by allowing sellers to show off their items to prospective buyers. Enhances the user experience by allowing users to view showcase products and learn more about them in detail that may not be on the item page.

- Feature #17: Monthly Spotlight of Crafter

  - Spot Light
    - Description: Users can submit their items for a chance to be showcased as the monthly spotlight on our web application.
    - Business Rules: Only authorized users with already valid listings can submit for the spotlight. The data of the listing chosen will be stored in our database with user id and any item information in the listing. All users can see the spotlight of the month

  - Enhances user experience showcasing and recognizing creators and their products. Enhances user participation as it fosters light competition and appreciation of other users listings.

  - Constraints:
    - In order for this to work we will rely on user submissions.