Innoventory Requirements Document

Group: DWMS

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Purpose: The requirements document for the Innoventory mobile and desktop app includes user stories and the specifics gathered from them describing the desired functionality of the app. These stories show how a customer, employee, or manager will interface with and manipulate the app and store.

**User Stories**

1. Customer User
   1. **New user login** - Bork wants to access the online store app. He opens the app which prompts him for a username and password, which he does not have. He clicks the “New User” button which leads him to type in his information.
   2. **Existing user login** - Bernie wants to access the online store app. He opens the app which prompts him for a username and password, which he has.
   3. **Search for an item** - Bart wants to access an online store from his Android device. He taps the store’s icon on his Galaxy S20, which opens the Innoventory app and loads to the front page. From here, he taps the search bar at the top of the screen and begins to type the name of the item he wants. After pressing enter on his keyboard (or the magnifying glass on the far right of the search bar), the screen loads briefly before pulling in a list of items that relate to the name for which he searched. He scrolls down the list, looking for the specific item, glancing at the others’ descriptions, prices, and quantities. Once he has reached the end of the list, he gets an idea and scrolls up to reveal the previously hidden search bar. He types in the item’s category and hits enter. Once the page of items loads, he begins scrolling until he finds the item he wants.
   4. **Select an item** - A customer user launches the Innoventory app from their Android smartphone. The user initiates a search for an item from the home page of the app. Once the desired item has been found in the search results, the user taps on the desired item with their finger or stylus. Once the selection has been made, the user is navigated to a screen with more information on the desired product, including a product description, price, and the quantity in stock.
   5. **Purchase an item** - After searching for and selecting an item from the website, Cooper decides to make a purchase. On the side of the product page, he types “2” into the quantity box and hits the large “Add to cart” button underneath. He is taken to a page that confirms two of the selected items are in his cart, and shows him the other contents in his cart if any exist. At the bottom of the page, two large buttons present Cooper with a choice – “Continue shopping” or “Check out”. He clicks “Check out,” which takes him to a page which displays Cooper’s total purchase amount. Cooper enters in his name, address, email, and his credit card information. At the bottom of the page he clicks the large “Confirm Order” button. Cooper reviews the “Order Confirmed” page, which tells him that his order was accepted and gives him an order number, a list of the items he purchased, and his total purchase amount in printable format. Cooper prints the receipt and puts it in his file cabinet.
2. Employee/Manager User
   1. **Modify Item** - An employee or manager user notices a discrepancy between the quantity of an item on hand and the quantity listed in the Innoventory inventory count for that item. While logged in to their account, the user searches for the item using the search bar. The employee or manager then selects "Modify", which is a button only visible to employee or manager users. The user types the new quantity into a prompt box then confirms the new amount. Depending on the level of access (employee users have more restrictions than manager users), the user will be able to modify quantity or even name and price.
   2. **Add item to inventory** - An employee or manager user wishes to add a new item to the inventory application. Using the Innoventory app, the employee or manager user logs into their account. If the login is successful, the user navigates from the home screen menu to the add item menu by pressing the "Add Item" button. On the add item screen, the user is shown several boxes of information to fill in. Once all information has been added, the user confirms the entry and the item is added to the database.
   3. **Remove item from inventory** - As an operations manager at the warehouse, Anna is in charge of removing items from inventory when they sell out and don’t plan on restocking an item or when an item has been discontinued. She logs into the Innoventory app and clicks the “Remove Item” button. On the next screen she searches for the item to be removed by typing its SKU (an identifier). Anna enters the item to be removed’s SKU and chooses between unstaging an item (this makes the item non-sellable but does not delete it from the database) or removing it completely. Anna clicks the “Remove From Inventory” button and is prompted to confirm the removal. Upon confirming, Anna searches for the item name or SKU in the search bar and finds no results.
   4. **Generate sales report** - Anna checks her watch. It’s almost 5:00. She’d better get the weekly sales report to her boss. She logs into Innoventory, clicks the “Generate Report” dropdown list, and then clicks “Sales Report.” She is taken to a new screen, where she enters the start and end dates, then clicks the “Generate Report” button. A window pops up with a nicely formatted report showing categories for each item: the amount sold, the item’s selling price, and the profit made from sales. At the end of the report, it shows the total revenue and profit. After reviewing it on her screen, Anna clicks the “Print Report” button, and gives the paper copy to her boss.
   5. **Generate inventory (product quantity) report** - Travis grabs his warehouse-issued Android smartphone off the table and logs into Innoventory. As a warehouse employee, Travis is responsible for ensuring that the amount of inventory on the shelves match what’s listed on the records. He taps the “Generate Report” icon, and then taps “Inventory Report.” He is shown a table of every item the warehouse sells, and the amount that should be in stock. As he counts inventory, he notices that they have an extra katana in stock. He enters a 25 in the “On Hand Quantity” box so he can tell his manager to make an inventory modification.
3. Automated User
   1. **Upload mock data** - As part of the software testing phase, large-scale app usage must be simulated. To begin, mock data will be generated which corresponds to expected real-world data. This will include product categories, item names, and quantity on hand. The data will be uploaded to the database server for use by the Innoventory app.
   2. **Simulate purchases and quantity update** - To simulate real-world use of the Innoventory app as an inventory tracking solution, item purchases and searches will be automated. The simulation will use 60-second (subject to change) increments, and at the end of each increment, the products and their quantities will be updated. When the simulation completes, it will be possible to test the generation of all reporting functionality. We will generate daily reports in our simulation. We can also have the simulation periodically add and remove items from stock.
   3. **Simulate item searching and database query handling** - To test the capabilities of the database, we will flood it with search requests for random items the app store may or may not sell. We will time each request (whether it returned a successful search or not) and generate a performance log. Additional details may be added later.

**Specific Requirements**

1. General Requirements
   1. Modes
      1. The storefront shall be accessible from a mobile app.
      2. The store “warehouse” shall be accessible from a desktop computer.
   2. Mobile app
      1. The mobile app shall be developed for Android.
      2. The mobile app shall have item search capability.
      3. The mobile app shall have user login capabilities.
2. Customer / Consumer User (Mobile App)
   1. Login
      1. The app shall prompt new customers to create an account before accessing the store.
      2. The app shall only allow customers who are signed in to access the store.
   2. Item search and discovery
      1. The app shall allow users to search for items.
      2. Searching for an item may be performed by typing an item into the app search bar.
      3. Searching for an item may be performed by typing a category into the app search bar.
      4. The search bar shall be oriented at the top of the screen.
      5. The search bar shall automatically hide when the user scrolls down toward the bottom of the page. When the user scrolls up to the page top, it should re-appear.
      6. The item categories must be accessible from a menu.
      7. If a user search has results, the app shall display relevant items one after the other on the screen.
      8. If a user search has no results, the app shall display “No results.”
   3. Item selection and purchase
      1. The user may open an item’s description page by tapping on the item's icon in the app.
      2. The description page shall display an item’s name, price, availability, and available quantity.
      3. The description page shall allow users to add a product to their shopping cart by clicking an “Add to Cart” button.
      4. The description page shall allow customers to specify the quantity of items to add to their cart by typing a number into a fillable text box.
      5. The app shall display the customer’s shopping cart after each item addition is made to the cart.
      6. The shopping cart page shall allow the customer to continue shopping by clicking a “Continue shopping” button.
      7. The shopping cart page shall allow customers to navigate to the purchasing page by clicking a “Check out” button.
      8. The user shall be navigated to the purchasing page upon pressing the "Check out" button.
      9. The purchasing page shall prompt for customer name, address, email, and payment method information.
      10. The purchasing page shall submit the order if the customer clicks a button labelled “Confirm purchase”.
      11. The order confirmation page shall display an order number, a joyful message of appreciation that confirms the user’s purchase, and a printable receipt.
3. Employee / Manager (EM) User
   1. Login
      1. EM users may log into the app from a desktop computer/console.
      2. EM users may log into the app from a mobile device.
      3. There shall be two tiers of inventory users: Employee and Manager users.
      4. Managers users shall have privileges allowing for the addition of products, removal of products, and quantity modification.
      5. Manager users shall be able to generate reports.
      6. Manager users may grant other EM users elevated access.
      7. New Employee user accounts shall be given basic quantity modification privileges.
      8. New Employee user accounts shall not be able to remove products.
   2. Items and store inventory
      1. EM users shall be granted privileges to change product quantities.
      2. EM users shall be able to change a product quantity through the mobile app by manually navigating to the item in the store and clicking the "Modify quantity" button.
      3. EM users shall be able to change a product quantity through the console application on a desktop computer.
      4. EM users shall be able to add an item to the store through the mobile app manually by clicking an “Add item” button and entering product details.
      5. EM users shall be able to add an item to the store through the console application on a desktop computer.
      6. Manager users shall be able to remove an item from the store manually through the mobile app by clicking the “Remove item” button and entering product details.
      7. Manager users shall be able to remove an item from the store through the console application on a desktop computer.
      8. Manager users may generate sales reports from the app by clicking the “Generate Report” button, then the “Sales Report” button.
         1. The Manager user shall be able to specify the length of the period from which the report shall include data.
         2. The sales report shall display the period’s sold items, how many sold of each, their price, and total revenue.
      9. EM users may generate inventory reports from the app by clicking “Generate Report,” then “Inventory Report.”
         1. The inventory report shall display a list of every item in the database and the quantity in stock.