Shopping application requirements

SE-333 Fall 2021
Class Project

This document defines the requirements for a single page shopping application. While its feature set is very sparse and rudimentary, it should still be testable and subject to analysis within the context of the features it does have. The items below spell out how the application provides the customer with the ability to make a purchase of multiple items, using the system.

1. **General**
   a. The service is only available in the 50 US states
2. **Purchasing items**
   a. The customer is presented with a user interface that lets them enter the following information:
      i. Their name
      ii. their state of residence
      iii. item to be purchased
      iv. quantity of items to be purchases
      v. a shipping option. One of:
         1. Standard
         2. Next day
   b. The available user actions are:
      i. add item to their shopping cart
      ii. get current total
      iii. see contents of shopping cart
      iv. checkout
      v. get a list of past Purchases
   c. Add item requirements
      i. when the add item action selected, the given item is added to the shopping cart and the user receives a message indicating the current count of items in the cart
   d. Get current total
      i. When the get current total action is selected, the user receives a message that reports the total for the items in the shopping cart. Taxes and shipping charges are included in this sum. Taxes and shipping are defined in section 2 below
   e. Checkout
      i. When the checkout action is selected, the following work is done:
         1. the current transaction is written to the database
         2. The new average purchase amount is calculated and displayed on the screen. The average is for all purchases over time, for the current user, not just the current session.

f. View shopping cart
   i. When the view shopping cart option is selected, a modal window is opened, listing all the items the customer has added during the current session, each item on it's own row.
   ii. The fields shown are
      1. Name of item purchased
      2. The unit cost of the item
      3. The quantity of the item purchased
g. View past purchases
   i. When the view past purchases option is selected, a modal window is opened, list all the purchases the customer has made. The display only shows totals, not the individual items. The fields shown are:
      1. Date of purchase
      2. Cost
      3. Shipping type
   ii. The display should show purchase events for the current user only
h. Other requirements
   i. The screen is not cleared after any button click
   ii. an invalid state value should result in a error showing in the status field
   iii. A quantity of less than 1 or that is non integer should result in a error showing in the status field
   iv. The smallest acceptable purchase amount is $1.
   v. The maximum acceptable purchase amount is $99,999.99

3. **Taxes and shipping**
   a. **Taxes**
   3 states require the payment of a sales tax
   IL - Illinois
   CA - California
   NY - New York

   In each case, the sales tax is 6%

   All other states charge no tax

   Sales tax is not charged against shipping

   b. **Shipping**
   There are 2 kinds of shipping offered:
   i. STANDARD - the cost of standard shipping is $10. If the raw purchase price is over $50, standard shipping is free
   ii. NEXT_DAY - the cost of next day shipping is $25. There is no free NEXT_DAY shipping