FALL 2015 MIS 333K System Project: Longhorn Music

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# Background

Longhorn Music is a Texas-based music sales and management company. This company is just starting up, and wants your help designing a website for their users. They hope customers will use the website to buy all of their favorite music. To prevent illegal sharing, all music is stored in their database, and played using the player on their website. They’re going to build the music player in-house, and use a separate database to store all the music, but they want your team to set up everything else.

The system consists of two basic sides. Customers can search for music and manage their music collections. Customers can also use the mobile app to view their collections. Employees manage customers and maintain the website.

# Customer

A customer logs in with his email and password. Log in is not required for any customer pages (i.e. browsing) unless they want to purchase a song/album or view their music collection. Upon successful login, the customer should be met with a welcome page advertising the current featured song or album.

## Create Account

* Email, Password, First and Last Name, Address, Phone Number are required. City/State are automatically generated based on Zip Code.

## Modify/Manage Account

* View account information
* Modify First and Last name, Email, Address, and Phone Number.
* Change password – requires verification by entering in the old password
* The customer may choose to store information for one or two credit card
  + Allowed types are Visa, American Express, Discover, and Master Card
  + Credit cards are 16 digits, except for American Express, which is 15 digits
  + The system will automatically detect what type of credit card it is based on the following formula:
    - MasterCard, Visa, and Discover are 16 digits
      * MasterCard starts with 54
      * Visa starts with 4
      * Discover starts with 6
    - AMEX is 15 digits

## Music Search

The customer should have a search page available to them to search through LHM's music database. This database contains all individual songs, albums, and bands that LHM holds the rights to, as well as any current discounts.

### General Search Page Requirements

\* These requirements are applicable to all three search pages

* When searching for songs, albums, or artists, multiple selections should be handled as And searches. For example, searching title and artist for songs will return records that have both matching fields
* Users should be able to search all items by genre, and be able to select multiple genres. This should match all songs with **at least one** of those genres.
* The list of genres from which users can select multiple should reflect the genres actually in the database. It should not be hard coded.
* Searching by rating requirements for all pages: users can specify less than or greater than and a decimal between 1.0 and 5.0 inclusive. This should return items whose **average rating** matches.
* For all queries on all search pages, display a record count.
* Any time the user is given a textbox to search by, you must make sure that this textbox can accept SQL characters such as ‘ and % without breaking. The easiest way to do this is using stored procedures.

### Song Search

* Individual songs may be searched by any combination of the following: Title, Genre, Artist, Album, Rating
  + For Name, Artist, and Album, customers can do a partial search or keyword search. **If the customer is searching multiples of these fields, it is an AND search.**
    - Note that any given song can have multiple albums
  + **Search results should display Title, Artist, Rating, Price, and Album. Since multiple genres are possible, these fields need not be displayed on search results. Thus, search results should not show a song’s associated genres on the search results.**
* Sort search results by ascending/descending: title, artist, and rating

Clicking on the song in the search result will bring you to details for that song, which has all of its information:

* Name, artist, album(s), genre(s), rating, and price
  + Album and Artist names should link to that album/artist’s detail page
* Any discounted prices (include the original price)
* An option to add to the cart
* Current average rating and any reviews that have been written
* An option to review and rate the song (only available if the customer has purchased the song)
* If the song is already in the customer’s cart, do not allow the customer to add it again

### Album Search

* Individual albums may be searched by any combination of the following: Name, Genre, Artist, Rating
  + For Name and Artist, customers can do a partial search or keyword search
  + **Search results should display Title, Artist, rating, and price.**
* Sort search results by ascending/descending: name, artist, and rating

Clicking on the album in the search result will bring you to details for that album, which has all of its information:

* Name, artist, genre(s), rating, and price
  + The artist name should link to that artist’s detail page
* A full list of all songs on the album
  + This list should show the name of each song, which should be a link to the song’s details page
  + Songs should be in album order
* Show if the price is discounted
* An option to add to the cart
* Current average rating and any reviews that have been written
* An option to review and rate the album (only available if the customer has purchased the album)
* If the album is already in the customer’s cart, do not allow the customer to add it again

### Artist Search

* Individual artists may be searched by any combination of the following: Name, Genre, Rating
  + For Name, customers can do a partial search or keyword search
  + **Search results should display name and rating.**
* Sort search results by ascending/descending: name and rating

Clicking on the artist in the search result will bring you to details for that artist, which has all of its information:

* Name, genre(s), and rating
* A full list of all albums by that artist
  + This list should show the name of each album, which should be a link to the album’s details page
* A full list of all songs by that artist
  + This list should show the name of each song, which should be a link to the song’s details page
* Current average rating and any reviews that have been written
* An option to review and rate the artist (only available if the customer has purchased at least one album or song by that artist)

## Purchase

Customers should have the option to purchase music from LHM

### Checkout

* Customers should not be able to move forward with a purchase until they have items in the shopping cart. Choosing the checkout option without items in the cart should give the customer an error saying that they must choose what to purchase first.
* A customer cannot have duplicate songs in their cart.
  + If an album is added to the cart, then all songs that are in the album that are also in the cart are registered as duplicates
  + Customers must be notified that there is a duplicate track in their cart that must be removed before checkout can be completed
  + This rule only applies to a single transaction. If a user wants to buy a duplicate of a song at a later transaction, this is okay.
* Once the customer is ready to checkout and has items in the cart, the checkout screen should show them their subtotal, tax (tax rate is 8.25%), and total. They should have the option to select which credit card they want to use at this point (only display the last four digits of the card, ex. \*\*\*\*\*\*\*\*\*\*\*\*4212). Customers may either use a credit card they have on file (up to two credit cards per customer) or enter a different credit card. If using a new credit card, all the same validations apply as when the customer is adding one to their account.
  + Any deductions should automatically be factored into the price
* During the first screen of checkout, customers should also have the option to make the purchase **as a gift** for another customer. This requires the customer to put in their friend’s email address. If that email address is on file, then the order should go through just fine. If we do not have that address on file, then give the customer an error.
* This means that an ENTIRE cart becomes the gift, not single items in the cart
* The second screen should show the customer their full order, the credit card used (only display the last four digits), the recipient (eg. If it is a gift, the email account of the person who will be receiving the music), and the full price. It should ask the customer to confirm the order. Confirmation should thank the customer, send out emails, and present the customer with a link back to their home page.

### Email

* Completing an order should send out one or two emails
  + If the music is bought as a gift, send an email to the gift-giver confirming that the order went through, and another to the recipient showing what the gift-giver bought for them
  + If the music is bought for oneself, then just send one email to that person showing them what they bought
* The email sent to the recipient should also include recommendations
  + Pick one song genre from an album or song in the purchase, any is fine
  + Take the highest rated band that produces music of that genre, and include a recommendation that the customer try out that band as well
* The email sent to the purchasing customer should include a link to refund the order if it was made incorrectly as well as a link to download the music.
  + The customer should be able to click this link, confirm that the order was a mistake, and cancel the order. If this happens, the customer (and gift-recipient, if the music was bought as a gift) should receive an email confirming that the music was removed from their account.
  + This step should completely wipe the transaction from record and **remove the music from the recipient’s account**.
  + Customers should only be eligible to receive a refund if they have NOT downloaded the music.

### shopping cart

* Customers should have a link to their shopping cart where they can manage the contents
* For songs and albums, customers navigate to a detail page, which allows them to add the item to the cart.
* The shopping cart is automatically saved for the users. If the customer logs out and logs back in later, all the items in the shopping cart should be preserved
* Customers can delete songs or albums from their cart
* Customers cannot complete checkout with duplicate songs in their cart
* The price of all the items together should be displayed in the shopping cart.
  + Discounts should be calculated automatically. The customer should see a message next to each discounted item showing the discounted price and savings
  + If a discount is added or removed while the item is in the customer’s shopping cart, the shopping cart should update to reflect this change
* The subtotal and total for the order should be displayed in the shopping cart (list each of these separately:
  + The subtotal consists of the cost of all items together
  + Tax: 8.25% of subtotal
  + Total: subtotal + tax

## Email

* They system should be able to send messages to the customer’s email address.
* Customers get messages when:
  + They create an account
  + They place an order (i.e. complete checkout). See the email section under checkout for more information
  + An order is refunded
* **Include team number in all emails for ease of grading**

## Rate and Review products

* Customers can review songs, albums and artists. If writing a review, the customer must include a rating on a scale from 1-5. The customer should also have the *option* of writing a full review (limited to 100 characters)
* Item ratings are a simple average of approved customer ratings. They should be carried out to 1 decimal place (e.g. 4.3, 3.2). Display the product rating along with the product's other information
* A customer may change their review or rating once it has been submitted (and rating average should be updated accordingly)
* Customers may not review items they haven't purchased from LHM, and may only review each item once
  + They may edit and delete reviews
  + They may edit but not delete ratings
  + Purchasing any song or album by a particular band gives the customer the ability to review that band
  + Customers may review albums only if they
    - A) own the album
    - B) own every song from that album
* However, any customer can up vote or down vote a comment if they are logged in. They can change their vote at any time but can only vote once.
  + Comments will be ordered by the number of votes they have

## Order History

Customers can see a list of all orders they’ve placed, most recent first. Includes all information about the order (except only the last 4 digits of the credit card # should show – all other digits should be replaced with an asterisk). Customers who receive an order as a gift should not see that order in their order history. Order history must show purchase price.

## My music

Customers can see a list of all the music they have rights to. This list should show title, genres, and artist. This list should also show the album the song is a part of if the customer received the song as part of an album. Customers should be able to sort their collection by title, artist, or genre. Customers should also be able to filter their music by title, artist, album, and genre.

# Employee

Employees log in with their empID and password. This side should be presented separate from the main customer side. No customer should ever be able to view any of the employee pages.

## Modify Employee Account

Employees can modify their address, phone number, and password only. Changing the password requires entering in the old one again

## Manage Customers

Modify customers – same functionality as the customer side. However they should be able to change the password without entering in the old one.

Disable/enable customer account – A customer with a disabled account may still log in, the only difference is they cannot checkout. All information is preserved, so if the employee re-enables the account, everything for that account is back to normal

## Product Search

Employees should be able to search products just like the customer can. The only difference between employee side and customer side searching is that employees do not need the option to add the item to the cart, or have an option to review the product (but they must be able to see the reviews/ratings).

## edit Reviews/ratings

Employees should be able to edit reviews made by customers. Employees cannot edit the number of votes a review has or the rating.

# Manager

All functionality of regular employees, plus:

## Promotions

There are two types of promotions: featured items and individual item discounts. Managers should be able to set the featured item and put individual discounts in effect. Discounts can be modified after they are created, disabled (not actually deleted), and deleted.

### Featured Item

Managers can set up a featured item. This feature should be a featured band, song, or album. Including a picture of the featured item is optional (don’t try to store the picture in the database, just store a link to picture’s location/url and use it as the source for an image box). All customers should see the featured item when they log in. There may only be one featured item at a time.

### Discount for an item

1. The manager selects an item and inputs the amount of discount. This behaves much like changing the price for an item. Once the manager discontinues the discount, prices change back to the original price.
2. Item discounts should be automatically advertised on the customer-side website – customers should see the regular price, as well as the sale price on the item page. When the item is listed in a search result however, the only the discounted price should be displayed.
3. Customers should be able to see the amount of the discount on the song's page
4. There may be multiple discounted items at the same time.

## Manage Employees

* Hire new employees
* Fire existing ones (their information should be kept in the system and can be rehired at a later date). Fired employees should be blocked from logging in and should receive the appropriate message.
* Rehire fired employees – we’ll assume that they accept
* Promote employees to managers
* Modify employee profiles – ability to modify all fields except for EmpID and SSN.
* Managers also have the privilege to modify other manager accounts and are able to edit the same data as when editing employee accounts.

## Manage Products

Managers should have an option under each Song, Album, and Band’s detail page that lets them edit the data. All data, except unique numbers and auto-generated fields, can change. This includes adding and removing individual songs from albums.

\*Note – if manager makes changes in songs or albums, order history should show the original data at time of purchase

### **Songs**

* The manager can add new songs to the database
* All fields are required
* The song title can match another song title if the two songs are by different bands. A band may not produce a song with the same title twice
* Managers can go back and edit all data except automatically generated fields
* If a song’s title changes, any albums with that song should be automatically updated
* The band performing a song must be in the database, otherwise managers cannot add songs by that band. They must first add that band to the database, and then add the song afterwards.
* Songs can appear on more than one album. However, each version of the song is associated with an artist and an album. Thus, the songs are not exact duplicates.
* Each song can be associated with a maximum of 5 genres.

### **Albums**

* The manager can also add new albums to the database.
  + Songs must be in the database to end up on an album, so the manager must enter all of the new songs on the album before creating the album
  + The manager should select the band first, then get a list of all songs by that band which he can then add to the album
* All album fields are required
* Each album should have an album cover that shows up on the album page
* Managers can go back and edit all data except automatically generated fields
* \*Note Managers cannot add or delete songs from albums that are already in the database or change their bands
* Each album can be associated with a maximum of 5 genres.

### **Bands**

* The manager can also add new bands, but each band must have at least one song in order to be added to the database
* Once a band is in the database, additional songs and albums by that band can be added
* All fields are required
* Each band can be associated with a maximum of 5 genres.

### **Genres**

* When a manager adds or edits a song, album, or artist, the option to add a new genre should be available

## Reports

Include a count of the number of records for all reports.

1. All songs sold – lists all songs, the number of purchases, and the amount of revenue earned on that song
   * Only individual song purchases count here, albums are added to the next report
2. All albums sold – the same as above, but for albums
3. Top selling bands – Listed by genre, the top selling band for each genre, along with song purchases, song revenue, album purchases by album, revenue by album, and total revenue

\*\*\*The reports section may be expanded in the next few weeks to include reports to facilitate testing of your system.

# Data

Data and validation requirements for customers, employees/managers, and products will be provided at a later date.

# Mobile App

* Users can log in and view their personal My Music collection
* Users can search for songs, albums, and bands by title