

Spring 2018 MIS 333K Project: Longhorn Cinema

Version 1.1 | Last Updated January 11, 2018

Background

You have been asked to help create an IT system for Longhorn Cinema, a (factitious) small independent theater in Austin. You will need to create a website that provides functionality for customers, employees, and managers.

The system should be a C#-based ASP.NET MVC website using a SQL Server Database hosted on one of your team member's Azure account. The website should also be hosted in an Azure account. You should consider adding your team members as administrators to the main Azure account.

Katie and the TAs will be your first contacts for requirements questions. Requirements are subject to change/clarification as the project progresses. Katie will have final say on everything. The Piazza discussion board will be the official medium for communication about requirements. No requirements change/clarification is official unless it has been posted on Piazza and tagged with the "project_requirements" label.

Customer Site

Customers log in to the site with his/her email and password. Log in is not required for any customer pages (i.e. browsing) unless they want to purchase tickets or see previous ticket orders. Upon successful login, the customer should be met with a welcome page advertising the current day's show times.

Search for Movies

Without being logged in, a customer should be able to search for movies and show times. Movie search should meet the following criteria:

1. The customer should be able to search movies by title, tagline, genre, release year, MPAA rating (G, PG, PG-13, etc.), customer rating (see below), and actors.
2. Search should be as flexible as possible - allow the user to select the criteria and a single value or range of values.
3. The list of genres from which users can select multiple should reflect the genres actually in the database. It should not be hard coded.
4. 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.
5. When searching by user rating, the user 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 the specified criteria.
6. Search results should include movie title, genre(s), release date, MPAA rating, customer rating, run time, and upcoming show times.
7. Customers should be able to click on each search result to see the full details (all fields) for the movie. This page should have a link to purchase tickets for this movie.
8. For all queries on all search pages, display a record count.

The customer should also be able to search for a particular date to see the movies scheduled for that date. Date-based search results should include title, MPAA rating, customer rating, number of seats available for the showing, and a link to view full details of the movie.

38 Create a Profile

39 To purchase a ticket, customers must create a profile on our site. To create an account, the user must provide an
40 email address, password, first and last name, address, phone number and birthday. A customer must be at least 13
41 years old to create an account. No two customers may have the same email address. Customers should be able to
42 edit their address, phone number and birthday. They can also change their password, as long as they provide the
43 current password. Customers may not change the email account associated with their account. The customer
44 profile page should show the customer's current PopcornPoints balance.

45 Order History

46 Customers should be able to see all of their transactions, including past purchases, cancelled orders, and future
47 showings. Customers should be able to cancel future reservations, but not change any data related to past
48 transactions. The customer should also be able to see all transactions related to his/her PopcornPoints account (see
49 below).

50 Customer Credit Cards

51 The customer may choose to store information for up to two credit cards. The allowed types are Visa, American
52 Express, Discover, and MasterCard. Credit cards are 16 digits, except for American Express, which is 15 digits. The
53 system will automatically detect what type of credit card it is based on the following rules:

- 54 • MasterCard, Visa, and Discover are 16 digits
 - 55 • MasterCard starts with 54
 - 56 • Visa starts with 4
 - 57 • Discover starts with 6
- 58 • Amex is 15 digits

59 Customer Email

60 The system should be able to send messages to the customer's email address. Customers get messages when:

- 61 • They create an account
- 62 • They place an order (i.e. complete checkout). See the checkout section for more information
- 63 • An order is cancelled by the customer
- 64 • A movie is cancelled or rescheduled by a manager

65 For security purposes, it is recommended that each group create a new Gmail account to send these. The subject
66 line of all emails should start with "Team [Number]:" to help the grader find the emails from your team.

67 Purchase Tickets

68 Customers should be able to purchase tickets to movies. Purchases are restricted by the following rules:

- 69 1. Customers must be logged in with a valid account to purchase tickets. See above for rules about creating
70 accounts.
- 71 2. Customers may not purchase tickets for movies that have already started (either earlier today or on a previous
72 day).
- 73 3. Customers may purchase more than one ticket at a time (for family members or friends). Our theaters have a
74 limited capacity (see below for more information about this). Customers may not purchase more tickets than
75 there are seats available in the theatre.
- 76 4. Our theater provides reserved seating. The customer must select the seat(s) he or she wants for each movie
77 selected. If possible, this should be displayed in a graphic format. The user is not required to specify who will
78 be occupying each seat. Each theater has 32 seats. The seats are numbered as follows:

SCREEN							
A1	A2	A3	A4	A5	A6	A7	A8
B1	B2	B3	B4	B5	B6	B7	B8
C1	C2	C3	C4	C5	C6	C7	C8
D1	D2	D3	D4	D5	D6	D7	D8

5. Customers who are less than 18 years old may not purchase tickets to movies with an MPAA rating of R or NC-17.
6. Customers may purchase tickets for more than one movie at a time. However, in a single transaction, the customer may not purchase movies that overlap times. For example, if I purchase tickets to a 90 minute movie that starts at 7:00pm, I may not purchase tickets for another movie that starts at 7:30pm. I may, however, purchase tickets to a movie that starts at 8:30pm or later.

Movie Prices

Movie prices are calculated according to the following rules:

1. All movies that start before 12:00 noon on weekdays (MTWThF) are considered matinees. Tickets for matinees cost \$5.00 per ticket.
2. Tuesdays are discount days – all movies that start before 5:00pm on Tuesdays are \$8.00 per ticket.
3. Senior citizens (customers 60 years old or older) receive \$2.00 off per ticket on all tickets. This discount may only be applied to two tickets per transaction. Additional tickets on the transaction will be charged regular price.
4. Shows that start at 12:00 noon or later on weekdays (MTWTh – but not Fridays) are \$10.00 per ticket.
5. All shows on weekends (Friday after 12:00 noon and all day Saturday and Sunday) are \$12.00 per ticket.
6. Tickets purchased more than 48 hours before the showing are discounted by \$1.00.
7. A particular showing (such as the first showing of a popular new movie) may be marked as a “Special Event.” Special event showings are ineligible for ALL discounts, regardless of the day or time of the showing.
8. All of these prices are subject to change by theater management. A manager should be able to change all of the dollar amounts associated with ticket prices without having to modify code. Any tickets sold before the change in price will be honored – you do not need to charge the customer more for a ticket already purchased. (Hint: Make sure your reports reflect the correct price charged to the customer.)

Movie Checkout

- Customers should not be able to move forward with a purchase until they have items in their 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 movies in his/her cart. If a customer wants to purchase tickets to multiple showings of the same movie, he or she will have to create a separate transaction.
- Once a 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. Only display the last four digits of the card and the card type (e.g. **** * 4212 VISA). Customers may either use a credit card on file or enter a different credit card. If using a new credit card, apply the same validations as when adding a card to the account. Customers may also choose to purchase one or more tickets with PopcornPoints (see below). If the customer purchases the ticket with points, his or her account should be reduced by the corresponding amount (100 points per ticket).
- Any discounts (see above) should be automatically factored into the price. The user should see what type of discount (Discount Tuesday, Matinee, etc.) they are getting so that they understand how their total was calculated.
- 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 the address on file, then give the customer an error. A user may not purchase R or NC-17 tickets for another customer who is not at least 18 years old.
- The second screen should show the customer their full order, the credit card used (show only the last four digits), the recipient, and the order total. It should ask the customer to confirm the order.

- Once the user clicks “Confirm,” the system should generate a confirmation number for this transaction and send the required confirmation emails. Transaction numbers are consecutive numbers starting with 10001. The system should generate a view that thanks the customer, shows him/her the confirmation number, and presents the customer with a link back to the home page.

Popcorn Points

Longhorn Customers receive 1 popcorn point for every dollar they spend on movies. Once the customer has accumulated 100 points, he or she may redeem 100 points for a free movie ticket. Each ticket costs 100 points, regardless of the time or day of the movie. Special event movies are not eligible for PopcornPoint tickets. If a customer cancels a purchase made with points, the points should be returned to that customer’s account.

Cancellations

A customer may cancel tickets for a movie that starts more than an hour from now. Tickets for movies starting within an hour (or further in the past) may not be cancelled. Once an order is cancelled, the system should email the customer

Movie Reviews

Customers can review movies. 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). Customers may not review a movie unless they have purchased a ticket for that movie, and may only review each movie once. A customer may change their review or rating once it has been submitted (and rating average should be updated accordingly).

Movie 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 movie rating along with the movie's other information

Additionally, any customer can up vote or down vote a movie review if they are logged in. They can change their vote at any time but can only vote once. Movie reviews should be ordered by the number of votes they have.

Employee Site

Role-Based Access

The Longhorn Cinema site has three user roles (customers, employees, and managers). Any given user profile (login/password) should belong to ONE role only. That is, an employee who wants to make a reservation for him/herself must log out of the employee site and log in with a separate customer account. You MUST use Identity in your project to enable role-based access.

Employee Functionality

Edit Customer Profiles

Employees may edit any customer profile. The employee may change the customer’s address, phone number or birthday. They can also change their password without the current password (this would be done to help a customer who has lost his/her password). Employees may not change the email account associated with a customer’s account.

Sell Tickets

Employees also have the ability to sell tickets to customers. When an employee is selling tickets to a customer, that customer MUST have a profile. If the customer does not have a profile, the employee should have the ability to create one for the customer. The employee can make up a password for the customer. All other account creation rules apply – see the “Create a Profile” section above for more information. When an employee sells a ticket to a customer, those tickets should show up in the customer’s order history. All discounts and cancellation policies still apply to tickets purchased through an employee.

166 Movie Search

167 Employees should be able to search movies just like the customer can. The only difference between the employee

168 side and customer side searching is that employees do not need the option to purchase tickets, or have an option to

169 review the product (but they must be able to see the reviews/ratings). The employee should also see available show

170 times for the movie (if applicable).

171 Approve and Edit Reviews

172 Employees should be able to approve and edit reviews made by customers. Employees may change the text of the

173 review (for clarity and profanity, etc.), but they may not edit the numerical rating.

174 Edit Profile

175 Although employee profiles will be CREATED by managers, individual employees may edit their own profiles.

176 Employees should be able to edit their address, phone number and birthday. They can also change their password,

177 as long as they provide the current password. Employees may not change the email account associated with their

178 account.

179 Manager Functionality

180 Managers have access to all the employee functionality, plus the ability to manage customers and employees,

181 update movie information, and view reports.

182 Manage Employees

183 Managers have the ability to manage employee profiles, which includes the following:

184 • Hire new employees. Managers should create a profile for the new employee. To create an account, the user

185 must provide an email address, password, first and last name, address, phone number and birthday. Employees

186 must be at least 18 years old.

187 • Fire existing ones (their information should be kept in the system and can be rehired at a later date). Fired

188 employees should be blocked from logging in and should receive the appropriate message.

189 • Rehire fired employees – we'll assume that they accept

190 • Promote employees to managers

191 • Modify employee and customer profiles – Managers may modify any field except email on any employee or

192 customer profile. Managers may change employee or customer passwords WITHOUT having the previous

193 password.

194 Update Movie Information

195 *Adding Movies*

196 Longhorn Cinema maintains a list of movies for which they have a license to show in their theatres. Managers can

197 only schedule movies that exist in the current list of movies. Managers may add movies to this list. To add a movie,

198 the manager must provide a title, at least one genre, an overview, the release date, run time, MPAA rating, and at

199 least one actor. The tagline for the movie is optional. The system should provide a list of existing genres AND give

200 the manager the opportunity to add a new genre. The system will assign a MovieID, which is a consecutive number.

201 MovieIDs begin at 3001 and continue from there.

202 *Scheduling Movies*

203 Longhorn Cinema has one location with 2 theaters (Theater 1 and Theater 2). The schedule is released one week at

204 a time. Every Friday, a manager should schedule movies for the following week's Friday through Thursday. For

205 example, on Friday, May 4th, the manager will be scheduling movies for Friday May 11th through Thursday May 17th.

206 Managers will work together to create the schedule, so the pending schedule in progress should be available to all

207 managers.

208 The manager should schedule movies from 9:00am until midnight with as little free time between movies as
209 possible. The minimum amount of time that can be allowed between the end of one movie and the start of the next
210 is 25 minutes. There should not be a gap of more than 45 minutes between movies. The system should enforce
211 these rules. If a manager schedules less than 25 minutes or more than 45 minutes between movies, he or she
212 should receive an error. The last movie of the night must not end before 9:30pm. If the last currently scheduled
213 movie ends at 9:30pm or earlier, the manager must schedule an additional movie for the late slot.

214 Managers should be able to schedule different movies in each theater on each day. That is, Monday's schedule in
215 Theater 1 could be different than the schedule on Tuesday in Theater 1. However, these daily schedules are likely to
216 be very similar, so the system should allow the user to copy the day's schedule for a theater to another theater. For
217 example, I should be able to copy the Monday schedule for Theater 1 into Tuesday's schedule for Theater 1. I
218 should also be able to copy Monday's schedule for Theater 1 into Tuesday's schedule for Theater 2 if I choose.

219 Managers may only schedule movies that are already part of our approved movie list. If the manager wishes to add
220 a movie, he or she will need to do so BEFORE attempting to schedule the movie.

221 The same movie may be scheduled in both theaters on the same day, but not at the same time. For instance, if
222 Theatre 1 is showing *Casablanca* at 10am, Theatre 2 must pick a different time to show *Casablanca*.

223 Managers may mark some showings as "special events," which means the movie is ineligible for discounts.

224 Once the manager has completed the schedule for the week (all seven days for both theaters) and the system has
225 verified that all the scheduling rules have been applied, the manager should publish the show times for the week.
226 Customers and employees should not be able to see the show times until they are published.

227 Modifying Movie Schedule

228 Managers may cancel or reschedule movies if necessary. Movies may be rescheduled or cancelled up until the time
229 the movie starts. Movies may not be rescheduled into the past. Rescheduled movies must follow the scheduling
230 rules regarding gaps between movies. If a manager reschedules a movie, all customers with tickets to the movie
231 should be notified via email, but no refunds should be issued. If a manager cancels a movie for which customers
232 have purchased tickets, those customers should be notified via email. Any tickets purchased with PopcornPoints
233 should have their points refunded to their accounts.

234 Reports

235 Reports should be accessed only by employees in the manager role. Longhorn Cinema needs a report of total seats
236 sold, total revenue, or both (user's choice). The report should be able to be limited by date range, movies, MPAA
237 rating, and time of day.

238 The manager also needs to see reports about seats sold and revenue by customer. The manager should be able to
239 see all data organized by customer or to select a single customer. The customer report should display all
240 transactions (both in dollars and in points), including cancellations.

241 The system should also provide a report of all tickets sold using PopcornPoints. The report should include movie
242 title, date of movie, customer name and date purchased.

243 Reports should be as flexible as possible - allow the user to select the criteria and a single value or range of values.

244 Data

245 We will provide you with seed data for the database in the form of Excel spreadsheets. This seed data (and ONLY
246 this seed data) MUST be pre-loaded on your site when grading begins or we will not be able to accurately grade your
247 project. See Canvas for the seed data.

248 Project Logistics

249 System Project Teams

250 The system project teams are made up of 3-4 class members. You will submit a peer evaluation form that is due by
251 the end of project grading on Friday, May 4th. However, if you are having trouble with one of your team members,
252 please let Katie know as early as possible. Katie reserves the right to adjust your grade (up to and including giving
253 you a zero) based on reviews from your group, so be a good teammate!

254 Project Submission

255 You will need to submit a link to your site's home page and a zipped version of the VS solution on Canvas by 12:00
256 noon on Friday May 4th. Unauthorized changes to your website after 12 noon on May 4th will be considered
257 violations of UT/McCombs academic integrity policies and will be reported to Student Judicial Services.

258 Project Grading

259 Project grading will take place in the MOD Lab starting at 12:15pm on Friday May 4th. **At least one member of your**
260 **team should plan on being present for grading.** Only one member of each team is allowed in the MOD Lab at any
261 given time, although you may swap team members as needed. Project grading usually wraps up by 4:00pm. The
262 IROM department will provide pizza and drinks around 2:00pm.

263 Project Awards

264 The MIS 333K Team System Project includes cash awards for the top two teams. Teams will be judged by the
265 instructor, who has the final say in the team standings. The first place team will receive \$2000 and the second place
266 team will receive \$1000. Upon accepting the prize money, winners will commit to writing a thank you note and
267 attending a dinner with ConocoPhillips. Instructions pertaining to both will come from the instructor at a later date.
268 The awards will be processed through the IROM office and will take several weeks to arrive.