ISDS 454-01

Group #1

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Event Ticket Purchasing Site

Introduction

With the new system built, our ticketing event website will have a more efficient system that is able to process purchases and cancellations as well as viewing event information. This system report outlines the purpose, requirements for our system, use cases, data flow diagrams, logic entity relationship diagrams, and the user interface.

The requirements for our system define what the definitions and standards should be for our system will be as followed, but not limited to:

- Real time ticket availability and prices.
- Proper storage of customer information and purchase history.
- Generate reports such as for sales and revenue.

Through the use cases, the system is able to arrange the processes to align our requirements from creating an employee-generated report to purchasing a ticket. Each use case explains an interaction between the users (employee and user) and the system itself. From these use cases, data flow diagrams such as the context and level 0 diagram are able to depict the overall, general process of the ticket booking system. With each level 1 process diagram, it is shown an internal, in-depth direction of how each of these processes are made such as creating weekly sales reports and employees being able to manually change event details and pricing in accordance.

The logic entity relation diagrams help to show the system in its entirety alongside the needed entities for the business. It will create an established setting stone for the ticketing booking relational database from the relationships such as from user to their payment information. From the logic entity relation diagrams, a user interface is done to show the outline of how the system will work between the user navigating through the website and the machine itself once the system is fully operational.

Requirement Definitions

Nonfunctional Requirements

1. Operational

1.1 The software requires Mac OS, IOS, Linux, Android, Windows, or Chrome and will only operate with capable operating systems.

1.2 The system will be able to operate the software on any computer with capable operating systems.

2. Performance

2.1 The software should be capable of transferring data without long periods of lag.

2.2 The software will update itself to display accurate open ticket sales and pricing.

2.3 The software would require maintenance monthly.

2.4 The software is set up to run indefinitely.

2.5 The software will be available seven days a week and 24 hours a day unless it is undergoing system maintenance.

3. Security

3.1 The software will only allow a user to log in with a username and a password.

3.2 The software will automatically log out after 30 minutes of inactivity.

3.3 The software will only allow 5 attempts of incorrect login entries before asking to change username and/or password.

3.4 Information will be encrypted if traveling over the network

4. Cultural and Political

4.1 Personal information of customers is protected in compliance with the Data Protection act.

Functional Requirements

1. Purchase

1.1 The system will allow the customer to choose specific tickets to purchase.

1.2 The system will verify and collect the customers payment information. The purchased tickets will be then sent to the customer after verification

2.Employee Ticketing Management

2.1 The software can automatically generate ticket rates based on availability, and the employee can also manually change prices.

2.2 The software won't allow cancellations 48 hours before the concert

2.3 The software will generate real time ticket availability.

3. Customer Purchase History

3.1 Display information based on the customer's purchase history

3.2 Customers are able to change purchase information such as requesting a refund.

4.Customer Records Management

4.1 The software will record the customer's first name, last name, email address, phone number, and address.

4.2 The software will indefinitely record ticket purchase and cancellation history.

5.Data Report for Sales Management

5.1 The software will generate reports to show statistics on sales for managers.

5.2 The software will generate reports on sales

6.Data Report for Accounting Management

6.1 The software will generate reports to show statistics on revenue and profits for accountants

6.2 The software will generate reports on revenue, cost, and net profits.

Use Cases

Use Case Name: Purchasing Ticket(s)	**ID:** 1	**Priority:** High

Actor: Customer

Description: This use case is used to describe how a customer would purchase a ticket or tickets

Trigger:
Type ☒ External ☐ Temporal

Preconditions:

1. Tickets for the event must be for sale
2. The website is accessible to the customer

Normal Course:
1.0

1. Website is displayed to the customer
2. Customer selects search bar and looks up the event name
3. Website displays results based on search input
4. Customer selects the event and chooses the number of tickets and adds it to the cart
5. Customer selects the cart and begins the checkout process
6. Website displayed checkout page
7. Customer inputs payment information and confirms the purchase
8. Website shows webpage confirming the purchase
9. An email is sent to the customer with the ticket information

Alternative Courses:
1.1 Customer selects event from home page and does not search for an event (Branch at step 2)

1. Customer selects the event from the home page
2. Website displays the full event information
3. Customer returns to normal course (Step 4)

Postconditions:

1. The sale is logged
2. Payment is received from credit card company
3. Ticket(s) are removed from sales database

Exceptions:

E1: Ticket becomes unavailable

1. After next click from user a web page is displayed stating the ticket(s) is not available

E2: Payment does not work

1. Webpage states the payment didn't work and ticket(s) was not purchased

Summary Inputs	**Source**	**Outputs**	**Destination**
Search Term	Customer	Event Details	Ticket Database
User Selection	Customer	Payment Confirmation	Payment Clearing House
Payment Information	Customer	Email Ticket Information	Email Server
Payment Authentication	Payment Clearing House		

Use Case Name: Manually Changing Event & Ticket Information (price and availability)	**ID:** 2	**Priority:** High

Actor: Employee

Description: This use case describes how employees can manually change or input event details & ticket information.

Trigger: System finds and creates new event(s)(concert or sports).
Type ☒ External ☐ Temporal

Preconditions:

1. Employees must be able to log in to their account.
2. Only accounts that are authorized may change/adjust ticket information.
3. Event and ticket information (ticket price and availability) must exist in the database.

Normal Course:

1.0 Manually changing the price/availability for event(s).

1. Employee logs in with their credentials to access system and data
2. Employee searches for event(s) they want to view.
3. The system will show the event and will allow for edits.
4. Employee will make any necessary changes and verify everything is correct.
5. The system will ask for a confirmation before completing changes.
6. Employees will confirm, and the system will display the new details & information for customers to purchase.

Alternative Courses:

1.1 System automatically finds and adjusts price/availability of event(s)

1. System find/receives new and updated information about event and ticket information
2. An email/notification is sent to a Manager regarding new price/availability and asks if it should adjust or update the current price/availability.
3. Managers must log in to their account and verify themselves in order to accept request(s).
4. Manager must confirm everything is correct and can accept the request.
5. System will update and display new ticket information if the request is accepted.

Postconditions:

1. Any changes made will be saved and recorded.
2. Customers will be able to see new and updated ticket price/availability.

Exceptions:

E1: Ticket price is set to a fixed amount by event organizers and does not allow for price changes

1. System will display message that states ticket price cannot be changed
2. System will deny requests for changes and return back to normal course (step 3).

Summary Inputs	**Source**	**Outputs**	**Destination**
Employee ID/Password	Employee	Account Homepage	System
Event search	Employee	Event Details	System
Ticket Price & Ticket Availability	Employee	Confirmation Message	System
Event Details	Employee	Confirmation Message	System

Use Case Name: Viewing Customer Information and Purchase History	**ID:** 3	**Priority:** High

Actor: Customer

Description: This use case describes when a customer requests to view the storage of their information and their purchase history.

Trigger: Customer goes to “Your Account”.
Type ☒ External ☐ Temporal

Preconditions:

1. Customer created an account.
2. Customer verified their account.
3. System self-updates.

Normal Course:
1.0 Customer logs into system with ID and password.

1. Customer goes to “Your Account”.
2. System will generate “Your Account” webpage.
3. If Customer clicks on “Personal Information”.
    a. System prompts Customer to verify identity with password.
    b. System allows Customer to view “Personal information”
    c. System allows Customer to edit “Personal information” if requested.
    d. Customer clicks “Back to Your Account”
4. If Customer clicks on “Purchase History”
    a. System prompts Customer to verify identity with password.
    b. System allows Customer to view “Purchase History” of tickets purchased with the account.
    c. Customer views location, price, method of purchase, and event.
    d. Customer clicks “Back to Your Account”.
5. Customer prompts system to log out.

Alternative Courses:
1.1 Customer cannot verify identity with password.

1. System will request 2-step verification process after 5 tries.
2. Customer will have to confirm identity with email code or text code of their preference.
3. System will prompt for the code to be sent.
4. Customer types in confirmation code.
5. System will prompt for password change.
6. Customer inputs new password and confirms password.
7. Customer presumes back to normal course at step 3.

Postconditions:

1. If customer information is edited, a confirmation email/text will be sent to email/phone number on the account.

Exceptions:
E1: Customer edits “Personal Information”

1. System displays editable page of “Personal Information”
2. Customer chooses what to edit.
3. System will prompt to confirm changes.
4. Customer confirms or cancels changes.
    a. If customer cancels, step 1 presumes back.
    b. If customer confirms, system will presume back to “Personal Information” webpage.

Summary Inputs	**Source**	**Outputs**	**Destination**
Customer ID/Password User Selection	Customer Customer	Account Confirmation Account Details	Account Homepage Personal Information/Purchase History

Use Case Name: Customers cancels or changes a purchased ticket	**ID:** 4	**Priority:** High

Actor: customer

Description: This describes how a purchased ticket is canceled or changed.

Trigger: Customers go on the website to cancel a ticket or change a purchased ticket.
Type ☒ **External** ☐ **Temporal**

Preconditions:

1. There must be a purchased ticket in the system.
2. The information of the customer is in the system.

Normal Course:

1. Customer login to the system to verify their identification.
2. Customer retrieved the ticket information from purchased history.
3. Customer makes a desired action to cancel or change the purchased ticket.
    - **3.1** For ticket cancelations – the customer must confirm to the system once again that they want to cancel the ticket.
    - **3.2** If 3.1 the ticket is within 48 hours of the concert, then the cancelation is invalid
    - **3.3** If the ticket is valid the system will cancel it.
    - **3.4** For changing the ticket – the customer must confirm to the system once again that they want to change the ticket.
    - **3.5** If 3.4 the ticket is within 48 hours of the concert, then the change is invalid.
    - **3.6** If the ticket is valid, they will go over the process of purchasing a ticket again, then the new ticket is formed.

Alternative Courses:

1. Customer searches for the event to see their ticket.
2. Customer decides to cancel or change the ticket.
3. Customer go through the process (step 3)

Postconditions:

1. Action recorded
2. Confirmation message sent to the customer

Exceptions:

E1: Customer information is invalid (step 1)

1. System displays a message that the customer username/ password is incorrect.
2. System asks the customer to re-enter their username/ password.

Summary Inputs	**Source**	**Outputs**	**Destination**
Customer ID/password	Customer	Canceled ticket	System
Event search	Customer	Confirmation message	Customer
Ticket selection	Customer	New ticket	System
Ticket purchased	Purchased history		

Use Case Name: Generating Sales Reports

ID: 5

Priority: High

Actor: Employee

Description: This Use Case describes the process of creating weekly sales reports.

Trigger: Employee generates a sales report for a manager or department.
Type ☒ External ☐ Temporal

Preconditions:

1. Employees must log into the system to see ticket sale data.
2. There must be ticket purchases in the system.

Normal Course:

1.0 Requesting Sales information from the system.

1. Employee logs in with employee credentials to access data.
2. Employee specifics the desired sales information from the system for the report.
3. The system calculates and generates a sales report for that week.
4. The employee verifies the information given by the system.
5. The system prompts the employee to enter a destination to send the sales report.
6. Employee enters the recipient's information.
7. The sales report is sent to the recipient.
8. The system stores the report in its data storage.

Alternative Courses:

1.1 Manager or other department generates the sales report themselves (Branch at step 5)

1. The system prompts the employee to enter a destination to send the sales report.
2. Employee sends the report to themself.
3. The system continues at step 7.

Postconditions:

1. Reports are stored for modification and correction in the future.
2. Reports are sent.

Exceptions:

E1: There is not enough information in the reports.

1. The system will tell the employee that there is not enough information to generate a proper report.
2. The system will ask the employee if they want to re-enter information or to cancel and exit.
3. The employee asks to re-enter information.
4. The system starts the Normal Course again.
5. The employee asks to exit.
6. The system terminates the current use case and exits.

Summary Inputs	**Source**	**Outputs**	**Destination**
Employee ID/password	Employee	Sales Data	System
Information needed	Employee	Sales Report	System
Recipient’s address	Employee	Sent Report	Recipient

Use Case Name: Generating Revenue, Cost, and Net Profit Reports	**ID:** 6	**Priority:** High

Actor: Employee

Description: This Use Case describes the process of creating revenue, cost and net profit reports.

Trigger: Employee generates revenue, cost and net profit reports.

Type ☒ External ☐ Temporal

Preconditions:
1. The user must log into the system to see ticket price data
2. Tickets must be purchased before being made available on the system
3. Tickets must be sold to customers at either pre-set prices or manually adjusted prices

Normal Course:

1.1. Requesting ticket price information from the system

1. Employee logs in to access the data

2. Employee enters ticket price information from the system

3. The system will generate revenue, cost, and net Profit reports for the specified timeframe

4. The employee will enter a destination in the prompted field to send the revenue, cost and net profit reports.

5. The sales report is sent to the recipient.

6. The system stores the report in its data storage.

Alternative Courses:
1.1 Manager or another department generates the revenue, cost or net profit report
1. The system prompts the employee to enter a destination to send the revenue, cost and net profit reports.
2. Employee sends the report to themself.

Postconditions:
1. Reports are stored for modification and correction in the future.
2. Reports are sent.

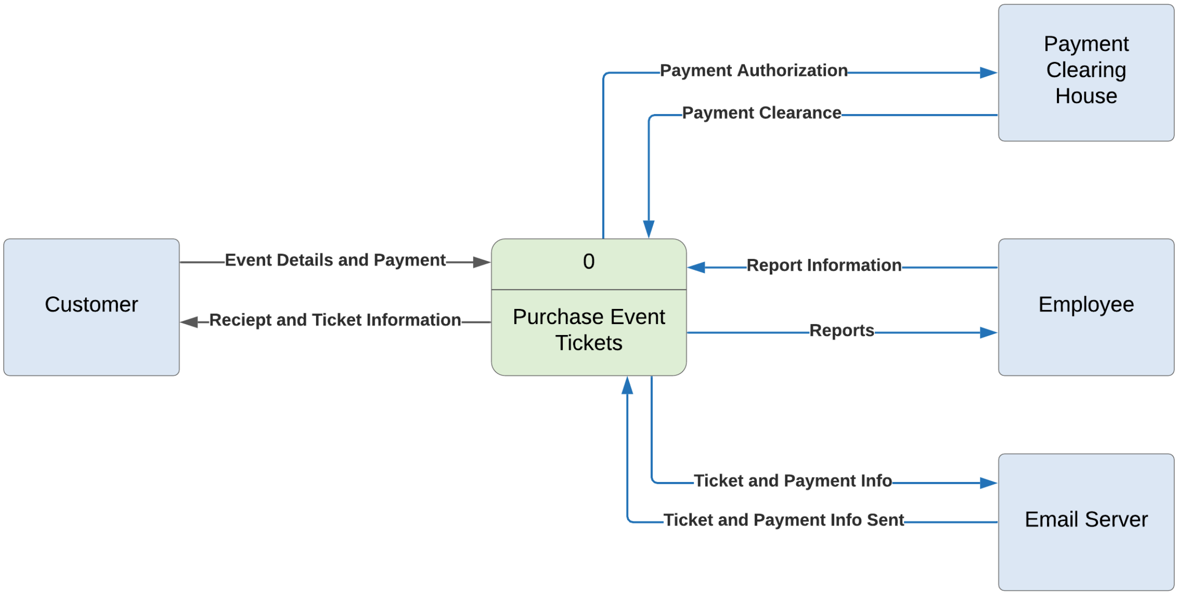
Exceptions:
E1: There is not enough information in the reports.
1. The system will tell the employee that there is not enough information to generate a proper report.
2. The system will ask the employee if they want to re-enter information or to cancel and exit.
3. The employee asks to re-enter information.
4. The system starts the Normal Course again.
5. The employee asks to exit.

The system terminates the current use case and exits.

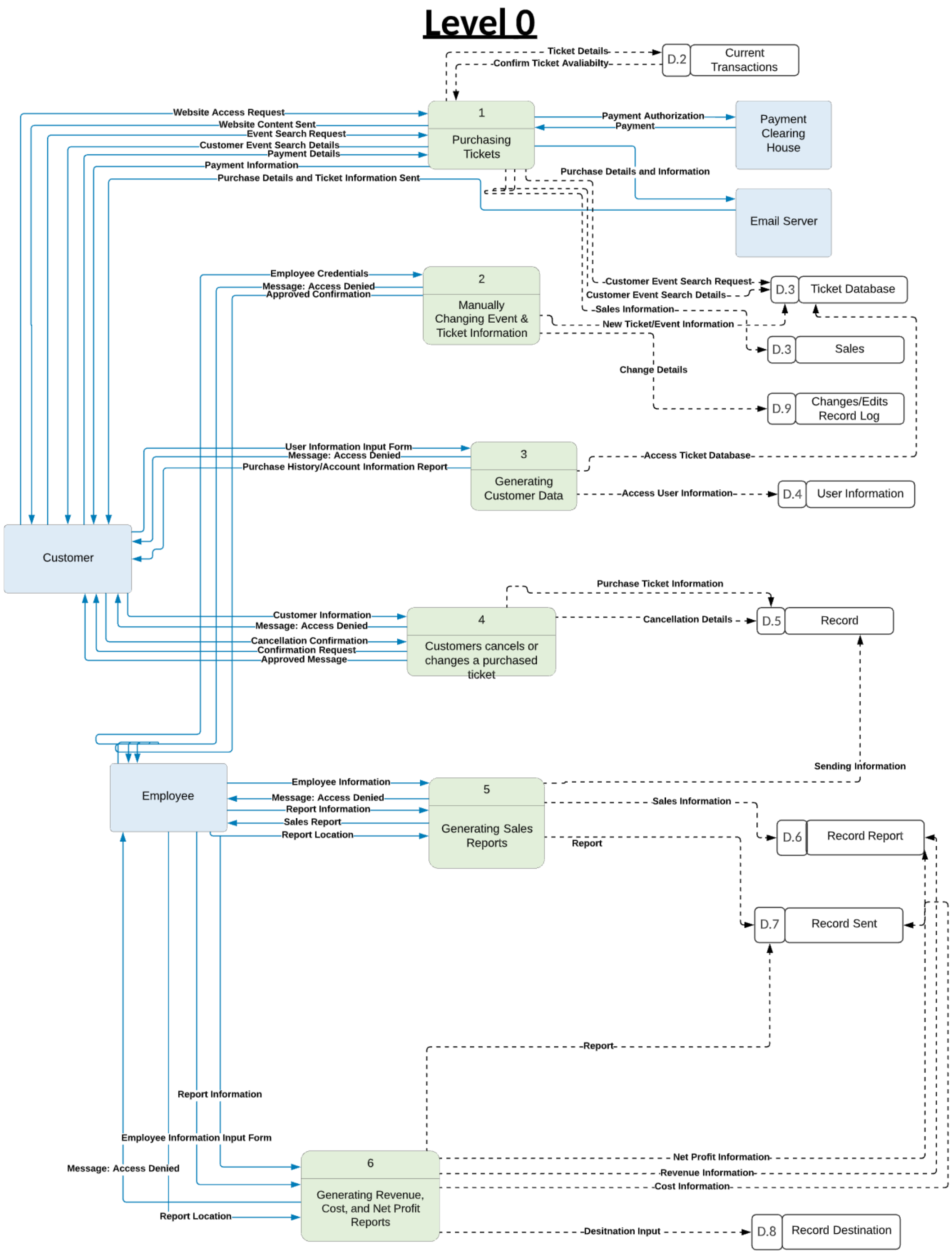
Summary Inputs	**Source**	**Outputs**	**Destination**
Employee ID/Password	Employee	Ticket Price Data	System
Information needed	Employee	Revenue, Cost, and Net Profit Report	System
Recipient's Address	Employee	Sent Report	Recipient

Data Flow Diagrams

Context Diagram

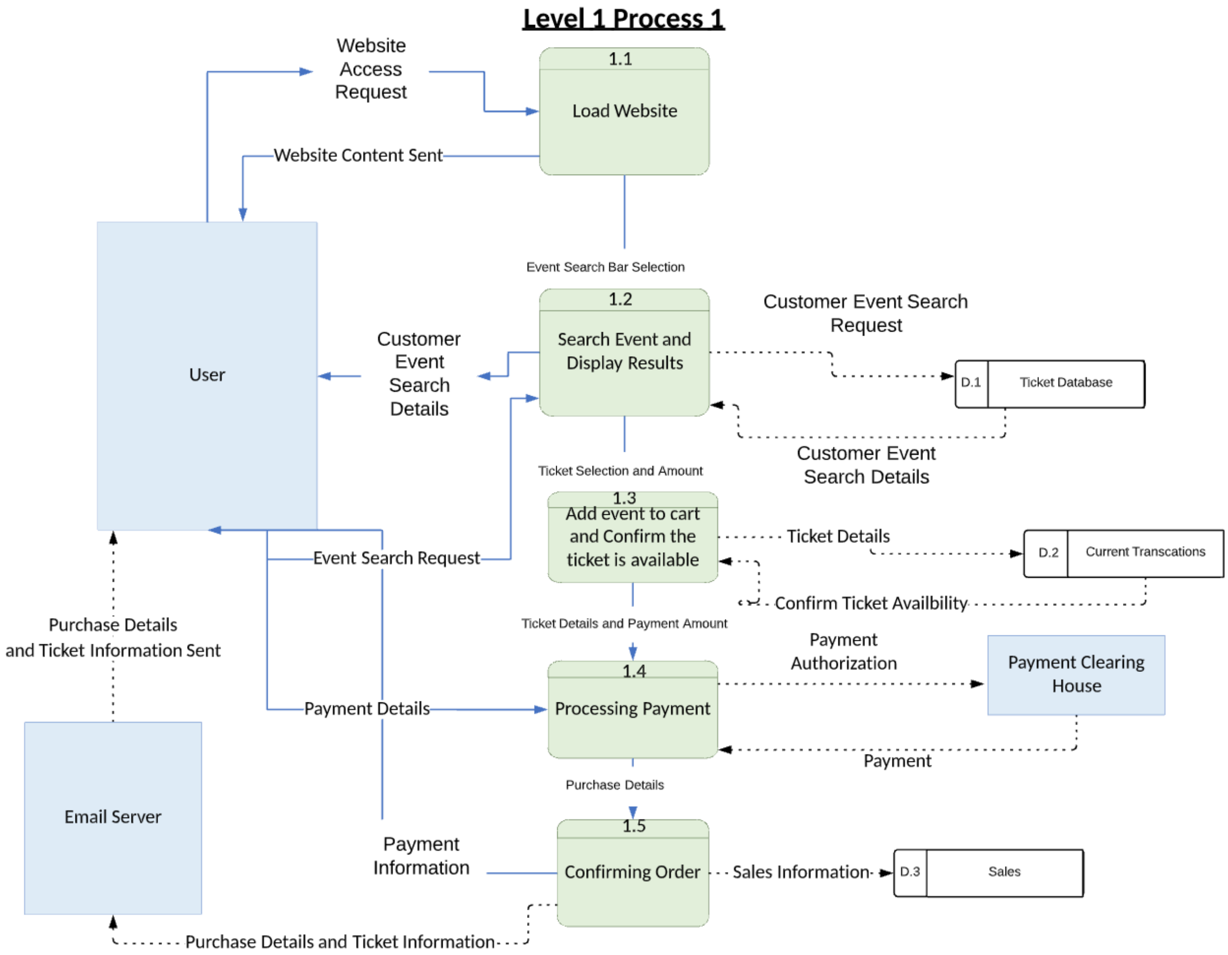


Level 0 Diagram

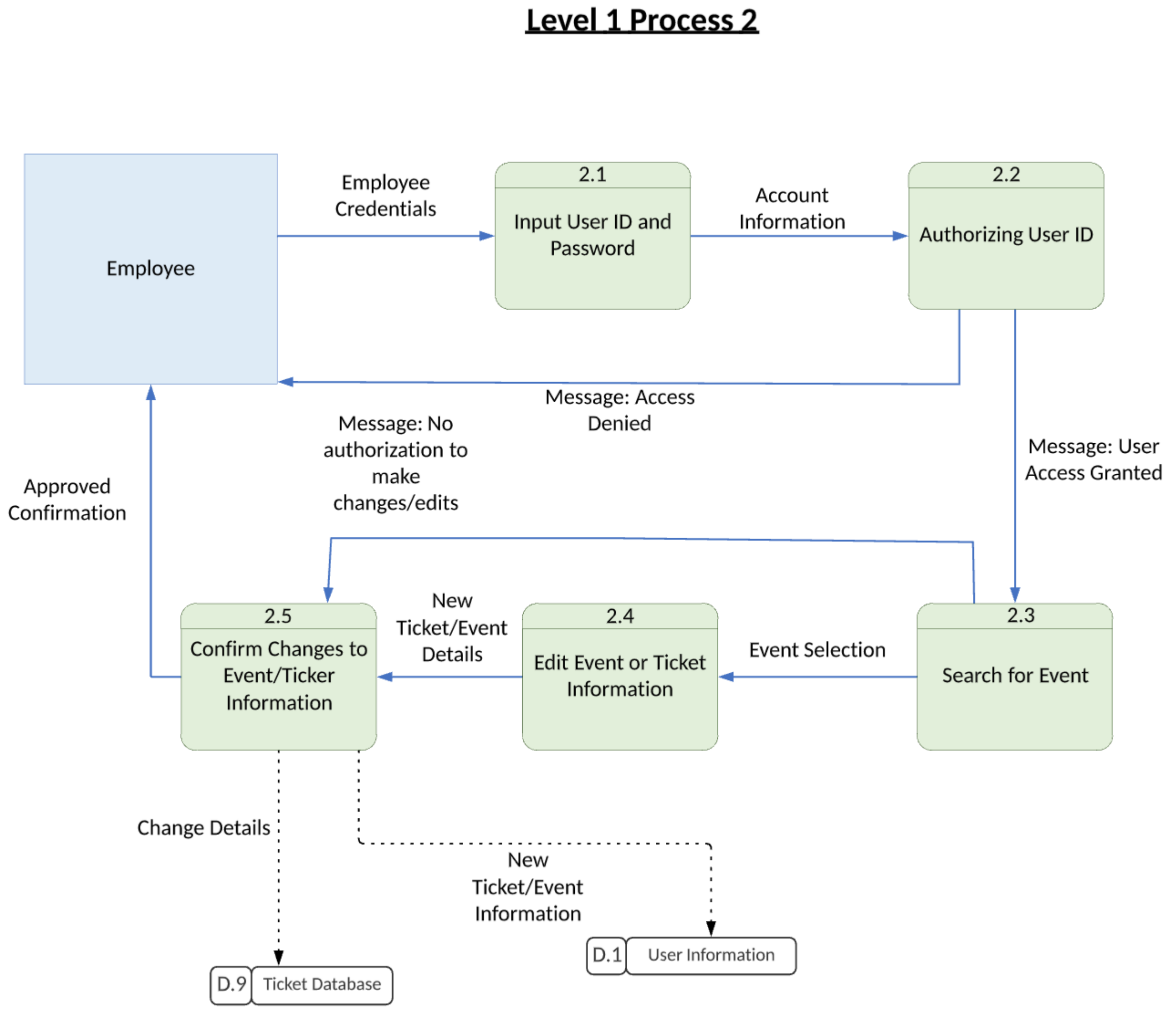


Level 1 Diagrams

Process 1

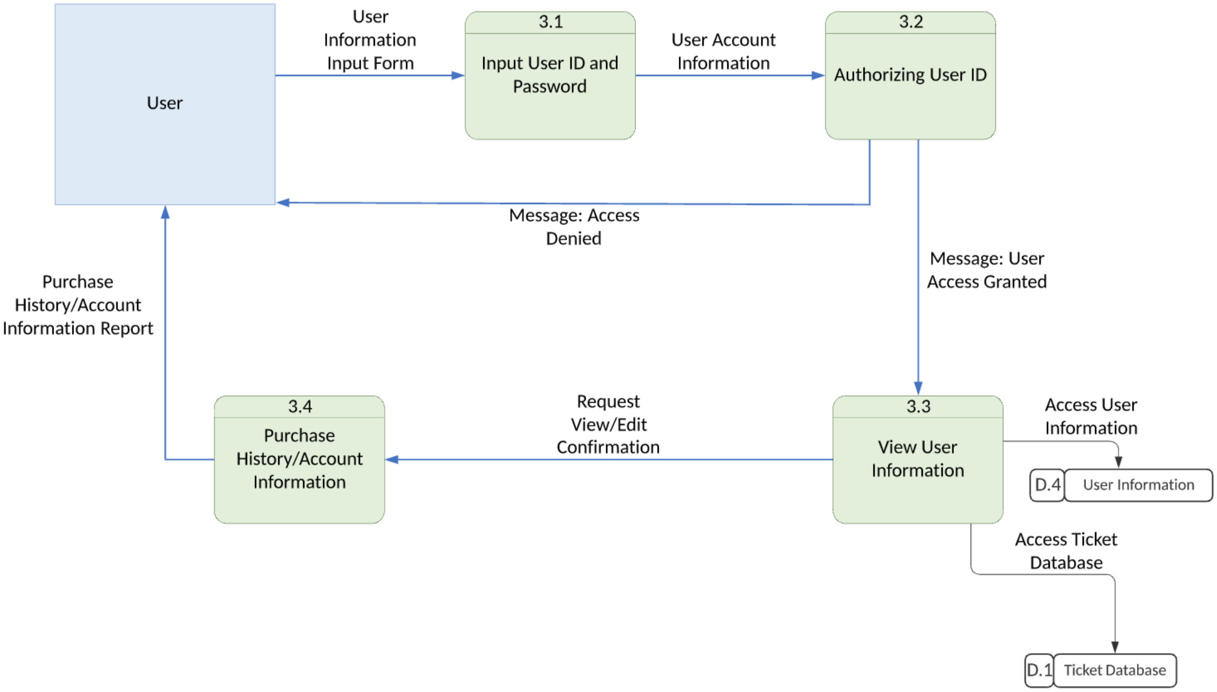

Level 1 Process 1
1.1
Load Website
Website Access Request
Website Content Sent
Event Search Bar Selection
1.2
Search Event and Display Results
Customer Event Search Request
D.1
Ticket Database
Customer Event Search Details
Customer Event Search Details
User
Event Search Request
Ticket Selection and Amount
1.3
Add event to cart and Confirm the ticket is available
Ticket Details
D.2
Current Transcations
Confirm Ticket Availbility
Ticket Details and Payment Amount
Purchase Details and Ticket Information Sent
1.4
Processing Payment
Payment Details
Payment Authorization
Payment Clearing House
Payment
Purchase Details
Email Server
1.5
Confirming Order
Payment Information
Sales Information
D.3
Sales
Purchase Details and Ticket Information

Process 2


Level 1 Process 2
Employee
Employee Credentials
2.1
Input User ID and Password
Account Information
2.2
Authorizing User ID
Message: Access Denied
Message: No authorization to make changes/edits
Message: User Access Granted
Approved Confirmation
2.5
Confirm Changes to Event/Ticker Information
New Ticket/Event Details
2.4
Edit Event or Ticket Information
Event Selection
2.3
Search for Event
Change Details
New Ticket/Event Information
D.9
Ticket Database
D.1
User Information

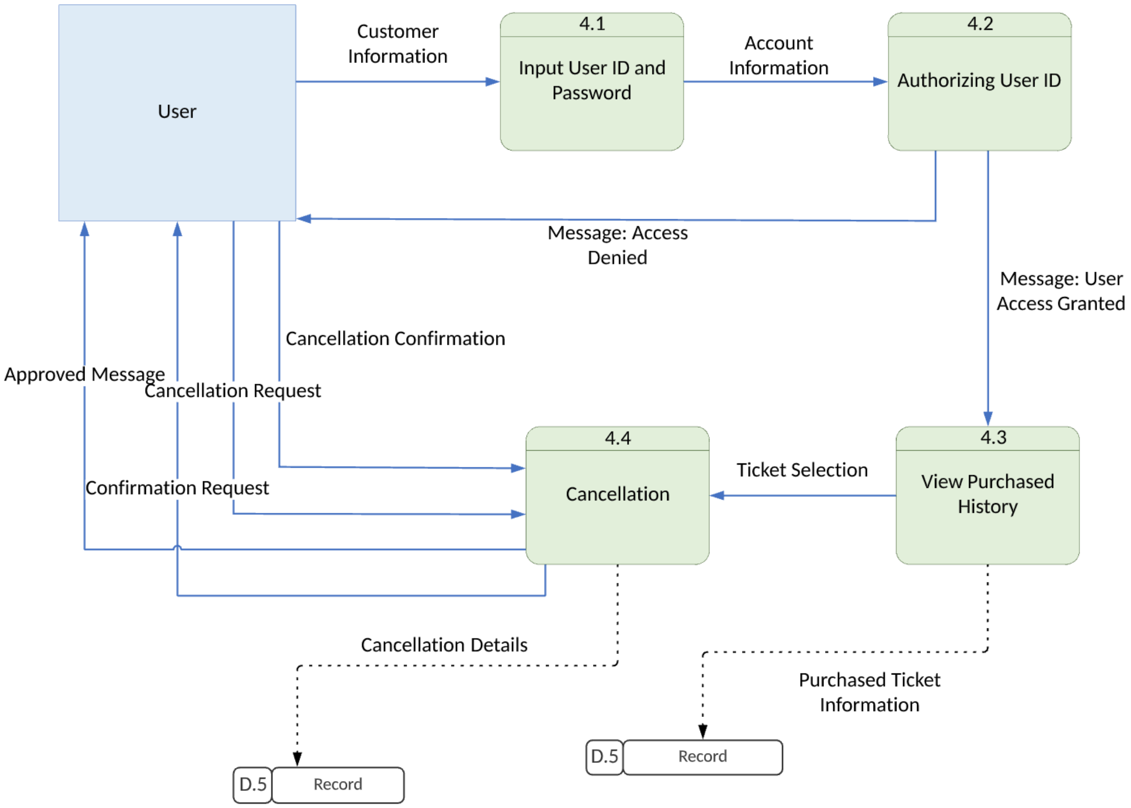
Process 3

Level 1 Process 3

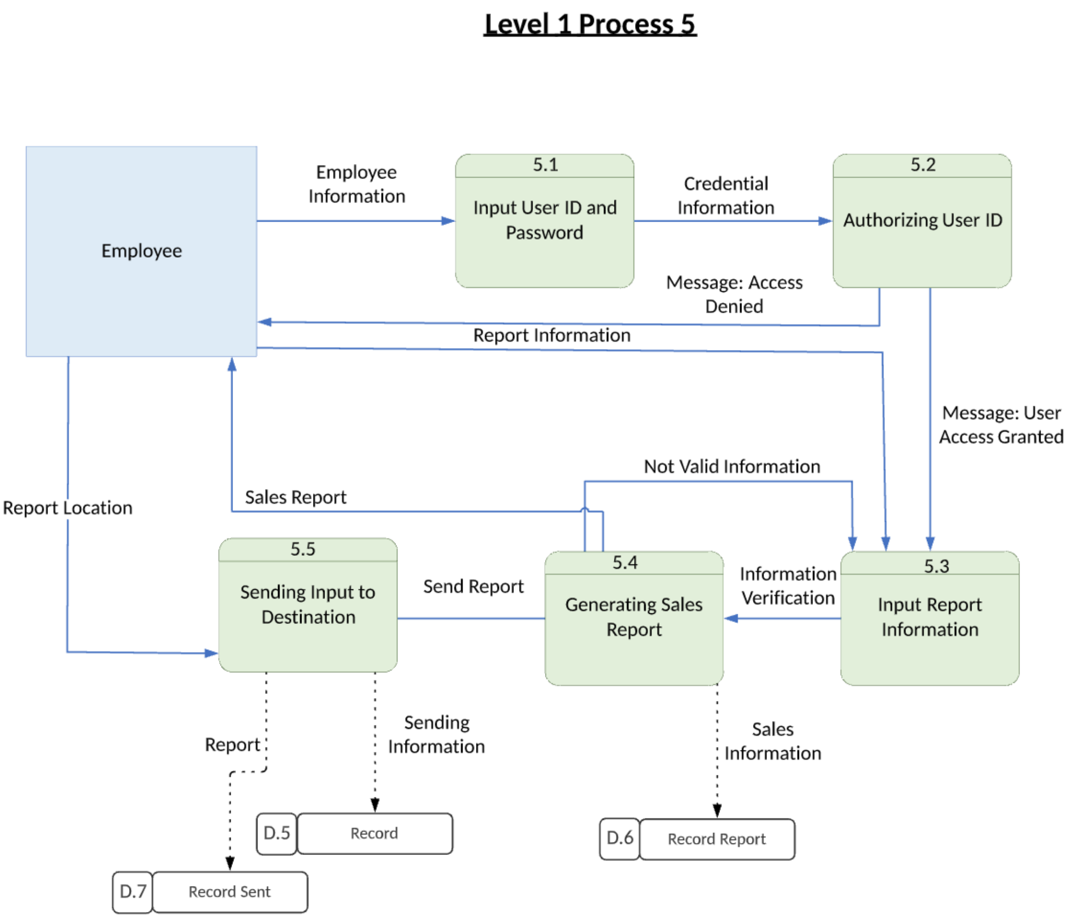

User
User Information Input Form
3.1
Input User ID and Password
User Account Information
3.2
Authorizing User ID
Message: Access Denied
Message: User Access Granted
Purchase History/Account Information Report
3.4
Purchase History/Account Information
Request View/Edit Confirmation
3.3
View User Information
Access User Information
D.4
User Information
Access Ticket Database
D.1
Ticket Database

Process 4

Level 1 Process 4

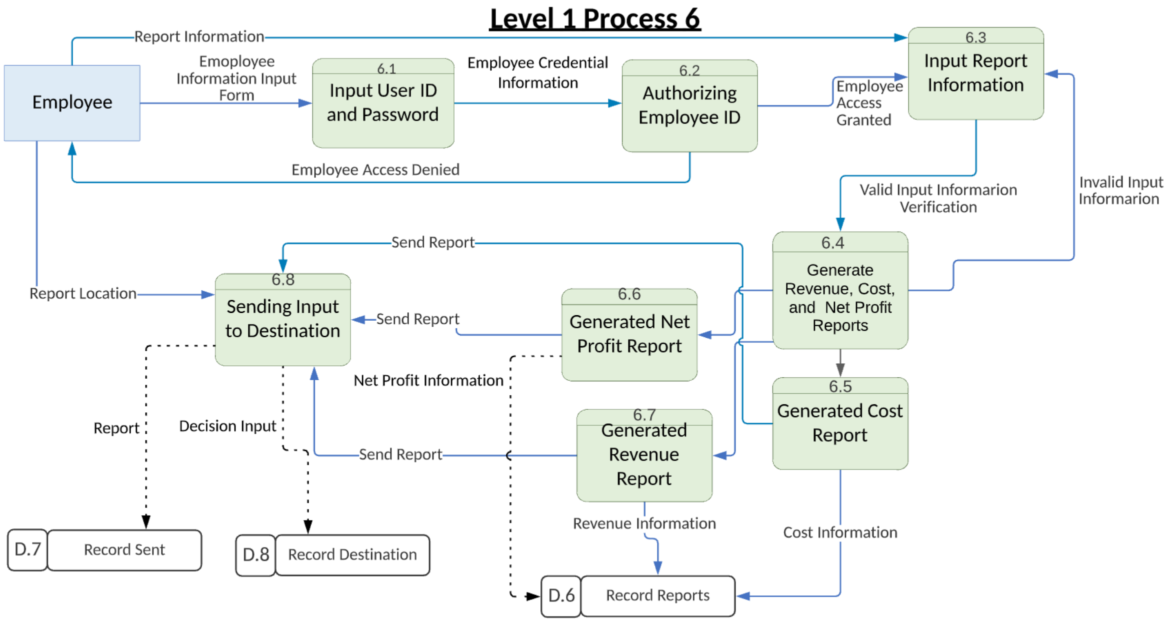


Process 5

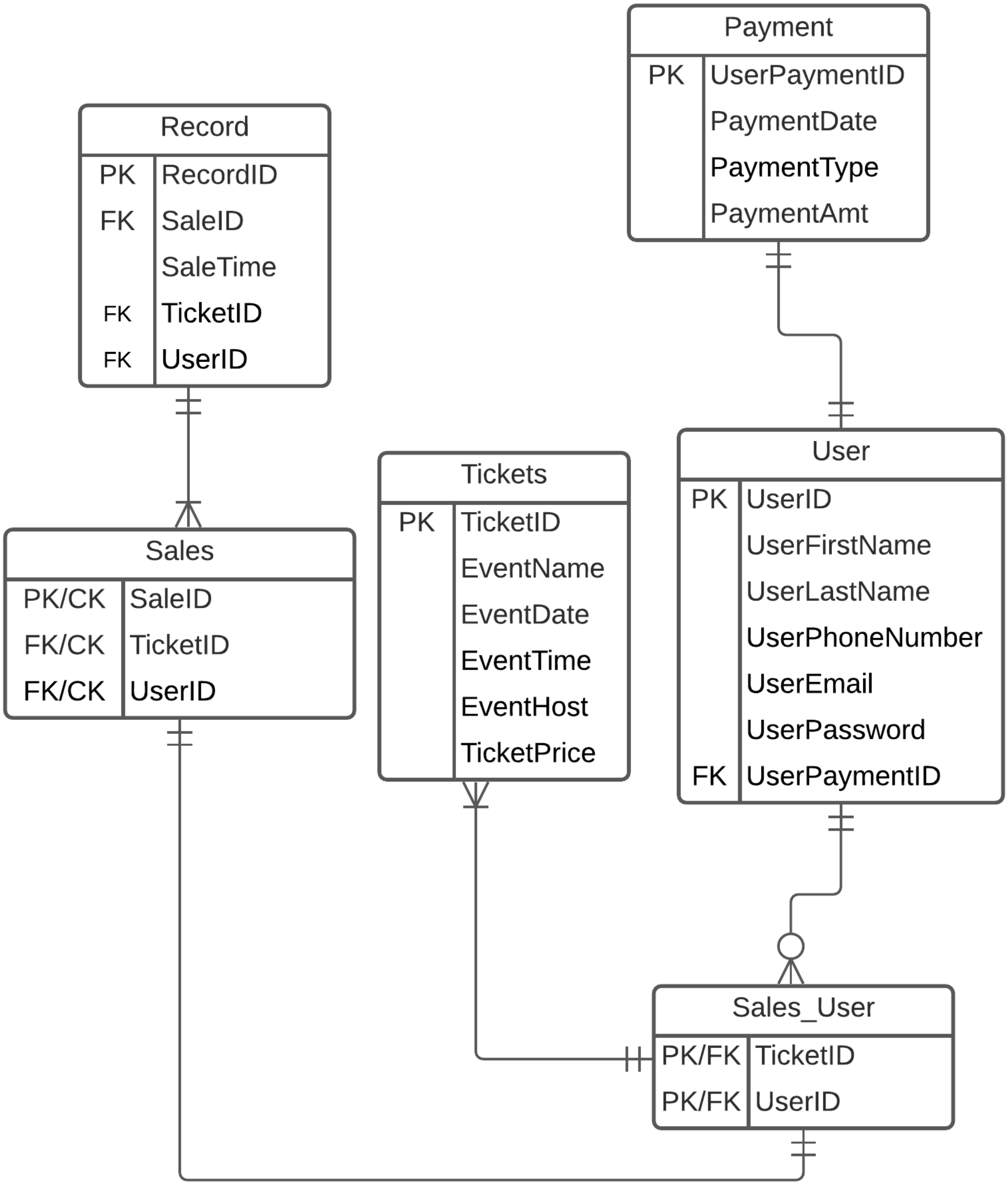


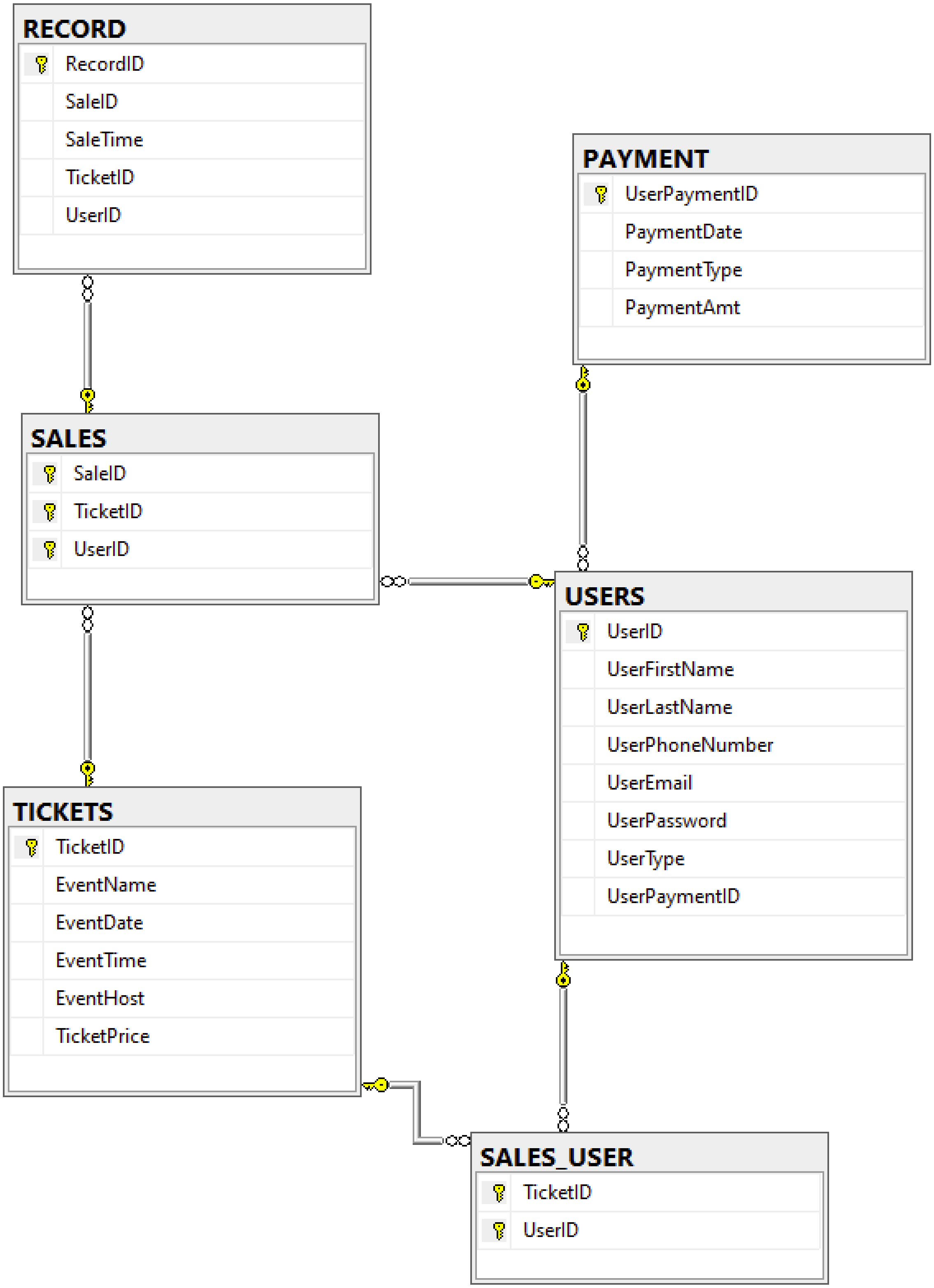
Level 1 Process 5
Employee
Employee Information
5.1
Input User ID and Password
Credential Information
5.2
Authorizing User ID
Message: Access Denied
Report Information
Message: User Access Granted
Not Valid Information
Sales Report
Report Location
5.5
Sending Input to Destination
Send Report
5.4
Generating Sales Report
Information Verification
5.3
Input Report Information
Report
Sending Information
Sales Information
D.5
Record
D.6
Record Report
D.7
Record Sent

Process 6


Level 1 Process 6
Employee
Report Information
Emoployee Information Input Form
6.1
Input User ID and Password
Employee Credential Information
6.2
Authorizing Employee ID
Employee Access Granted
6.3
Input Report Information
Employee Access Denied
Valid Input Informarion Verification
Invalid Input Informarion
Send Report
6.4
Generate Revenue, Cost, and Net Profit Reports
Report Location
6.8
Sending Input to Destination
Send Report
6.6
Generated Net Profit Report
Net Profit Information
6.5
Generated Cost Report
Report
Decision Input
Send Report
6.7
Generated Revenue Report
Revenue Information
Cost Information
D.7
Record Sent
D.8
Record Destination
D.6
Record Reports

Logic Entity Relationship Diagrams




RECORD
RecordID
SaleID
SaleTime
TicketID
UserID
PAYMENT
UserPaymentID
PaymentDate
PaymentType
PaymentAmt
SALES
SaleID
TicketID
UserID
USERS
UserID
UserFirstName
UserLastName
UserPhoneNumber
UserEmail
UserPassword
UserType
UserPaymentID
TICKETS
TicketID
EventName
EventDate
EventTime
EventHost
TicketPrice
SALES_USER
TicketID
UserID

Dummy Data

PAYMENT

10/01/2020, VISA, 100
10/02/2020, VISA, 200
10/03/2020, MASTERCARD, 300
10/04/2020,MASTERCARD', 400
10/05/2020, VISA, 500

USERS

Jimmy, John, 17141234561, JJ@gmail.com, Password123, 0, 1
Paul, Rover, 17141234562, PR@gmail.com, 123456, 0, 2
Tracey, Smith, 17141234563, TS@aol.com, dog123, 0, 3
Peter, Steel, 17141234564, PS@aol.com, 0123, 1, 4
Caroline, River, 17141234565, CR@yahoo.com, qwerty, 1, 5

TICKETS

AC/DC, 10/10/2020, 19:00, The Grove, 99.99
Angels Game, 10/11/2020, 13:30, Angels Stadium, 12.99
Ducks Game, 10/12/2020, 11:00, Honda Center, 23.99
Kings Game, 10/13/2020, 15:00, Staples Center, 24.99
Chargers, 10/14/2020, 16:00, SoFi Stadium, 49.99

SALES_USER	**SALES**	**RECORD**
1, 1	1, 1, 1	1, 13:32, 1, 1
2, 2	2, 2, 2	2, 14:45, 2, 2
3, 3	3, 3, 3	3, 13:00, 3, 3
4, 4	4, 4, 4	4, 6:23, 4, 4
5, 5	5, 5, 5	5, 19:48, 5, 5

Use Scenarios

Scenario 1

The most common use will be the user going onto the website then accessing the home page. They then will begin the first use case of purchasing a ticket. The user will Login or start the search immediately in the search bar. Searching by event name, event date, or availability of the event they will receive the results for their desired input. Selecting the event they will add the ticket and start the purchasing process. The user will be prompted for their payment information and once confirmed by the payment clearing house will be sent a confirmation. Their confirmation will appear after the transaction and the payment and ticket information will be sent to their email.

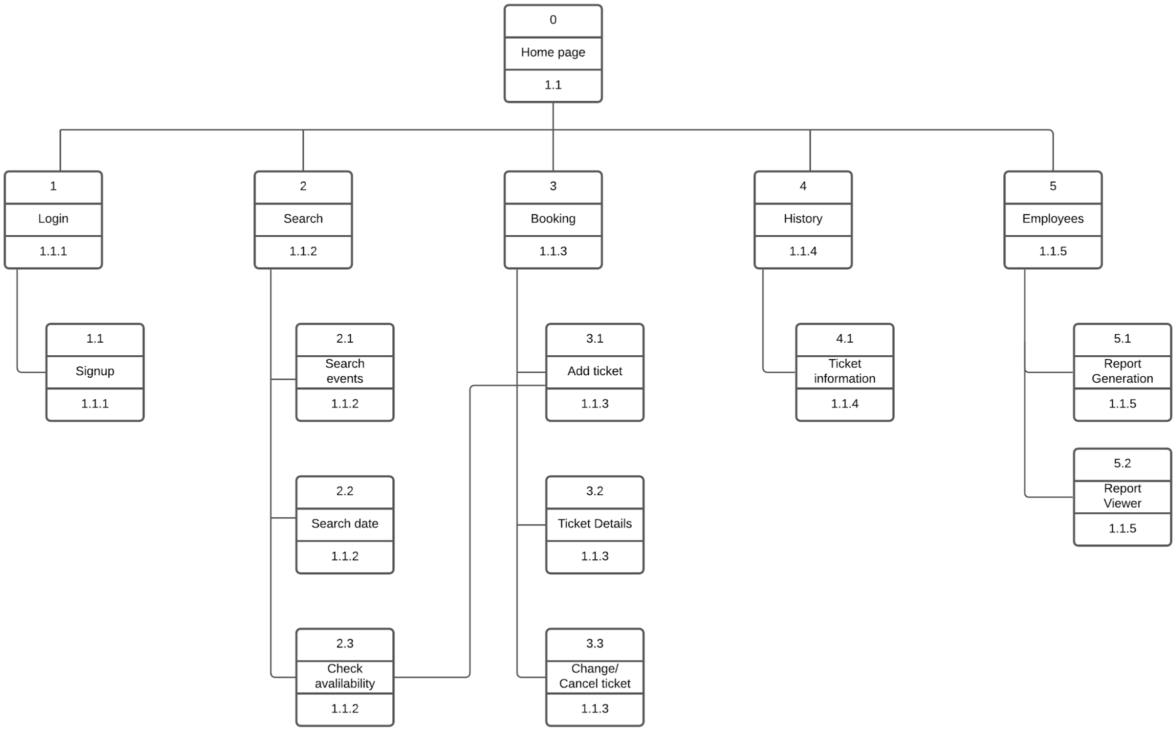
Scenario 2

The next most common use will be employees generating reports using the data from the purchasing site. Based on use case five and six the employee will login to the website and will go into the employee portal. From there the employee will be able to generate reports and view old reports. To generate the report they will input the information such as time frame and type of report they would like to generate. Once they fill out the information the information will be turned into a report and the employee will be sent to the report viewer. From the report viewer they can view and send the report to the destination that it needs to be sent.

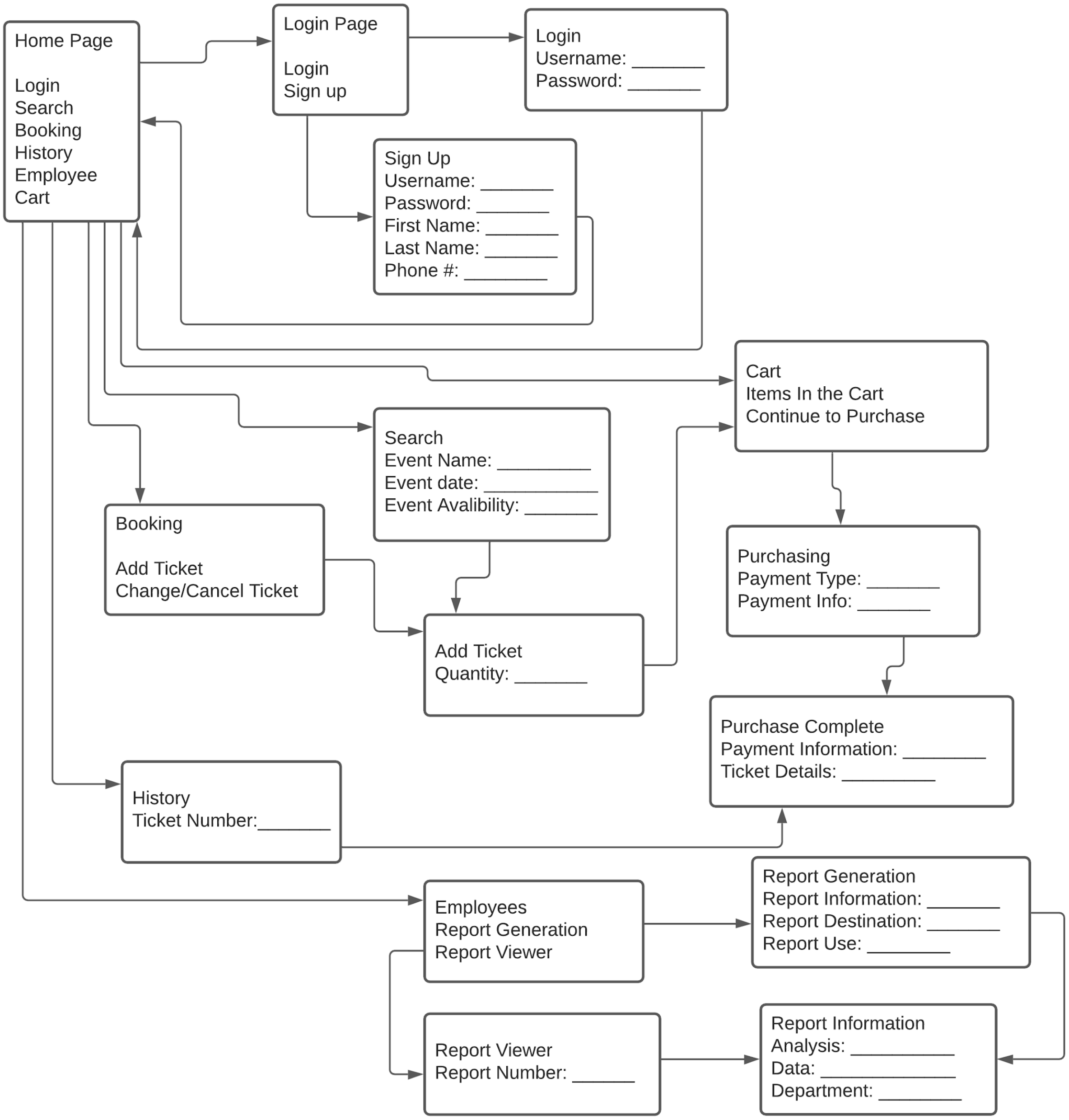
Scenario 3

The third common use would be for cancellations of tickets. The user will implement use case four where the user will log on to the website and verify their information to access their account. From there, the user will be able to retrieve their ticket information from their purchase history and be able to have the chance to cancel or change their ticket(s). The system will ask the user to confirm if the user wants to cancel or change their ticket(s) and will confirm their changes. If the change or cancellation is being done 48 hours before the event, the system will see the action as invalid and not continue any further.

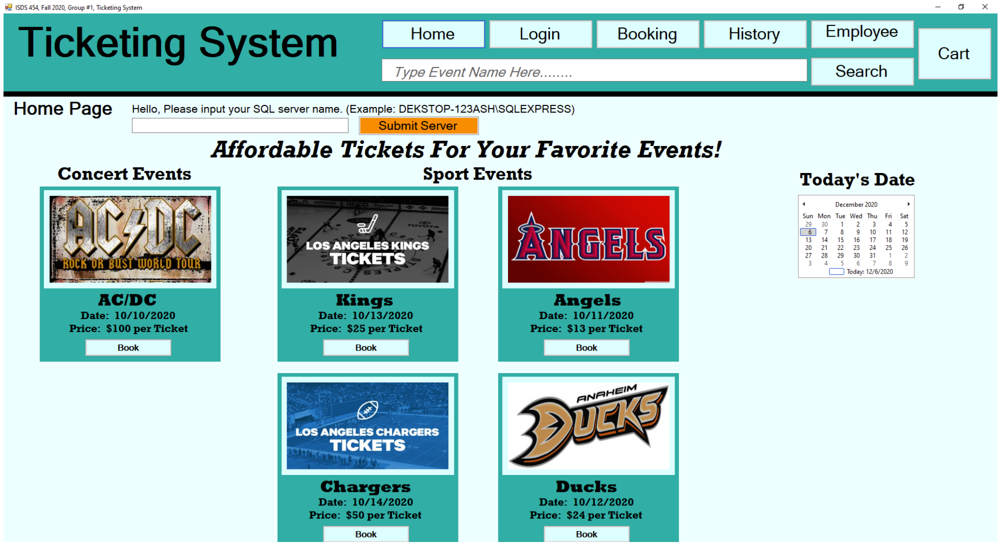
Virtual User Interface



Storyboard


Home Page
Login
Search
Booking
History
Employee
Cart
Login Page
Login
Sign up
Login
Username: ________
Password: ________
Sign Up
Username: ________
Password: ________
First Name: ________
Last Name: ________
Phone #: _________
Cart
Items In the Cart
Continue to Purchase
Search
Event Name: __________
Event date: ____________
Event Avalibility: ________
Booking
Add Ticket
Change/Cancel Ticket
Add Ticket
Quantity: ________
Purchasing
Payment Type: ________
Payment Info: ________
Purchase Complete
Payment Information: _________
Ticket Details: __________
History
Ticket Number:________
Employees
Report Generation
Report Viewer
Report Generation
Report Information: ________
Report Destination: ________
Report Use: _________
Report Viewer
Report Number: _______
Report Information
Analysis: ___________
Data: _______________
Department: _________

User Interface Screenshots



Hello, Please input your SQL server name. (Example: DEKSTOP-123ASH\SQLEXPRESS)

Affordable Tickets For Your Favorite Events!

Concert Events

AC/DC
Date: 10/10/2020
Price: $100 per Ticket

Sport Events

Kings
Date: 10/13/2020
Price: $25 per Ticket

Angels
Date: 10/11/2020
Price: $13 per Ticket

Chargers
Date: 10/14/2020
Price: $50 per Ticket

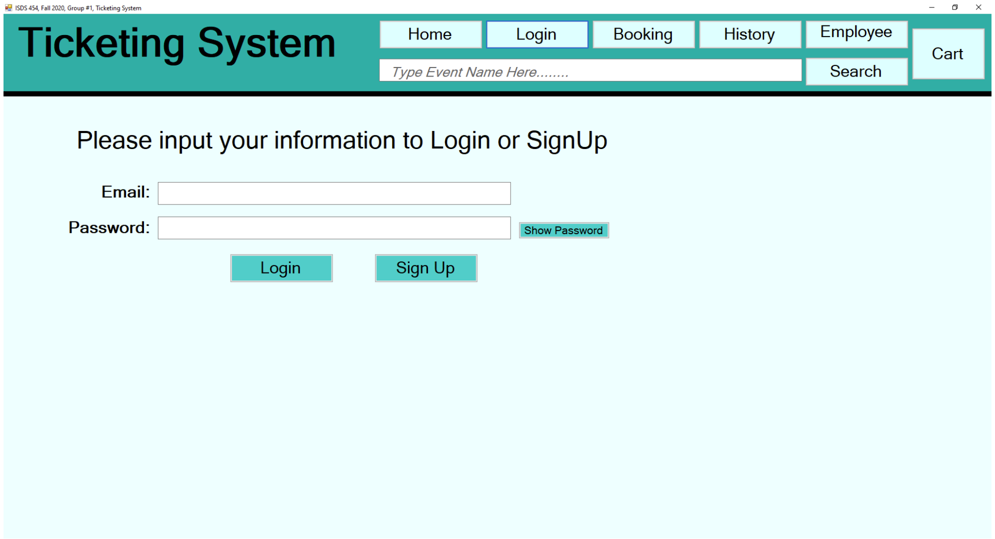
Ducks
Date: 10/12/2020
Price: $24 per Ticket

Today's Date

December 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

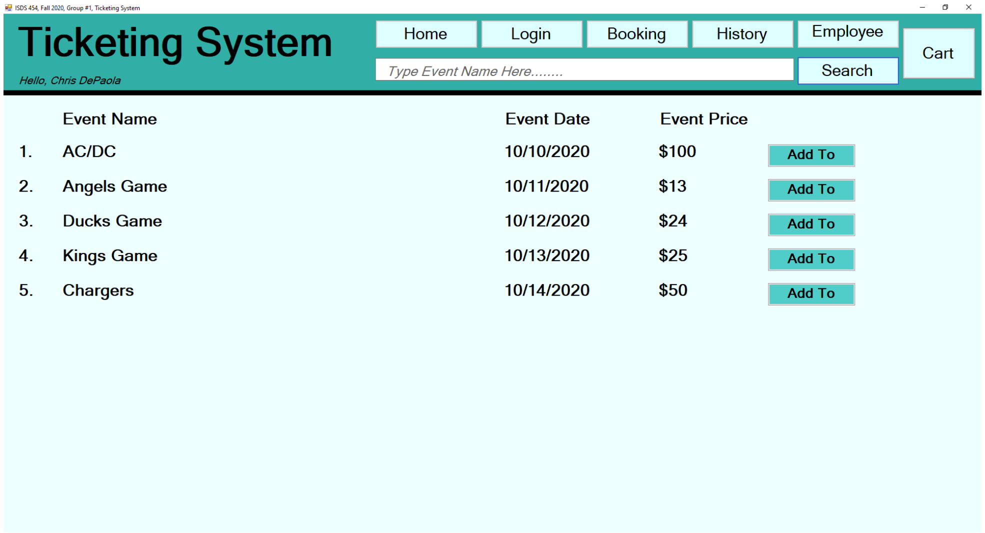
Today: 12/6/2020



Please input your information to Login or SignUp

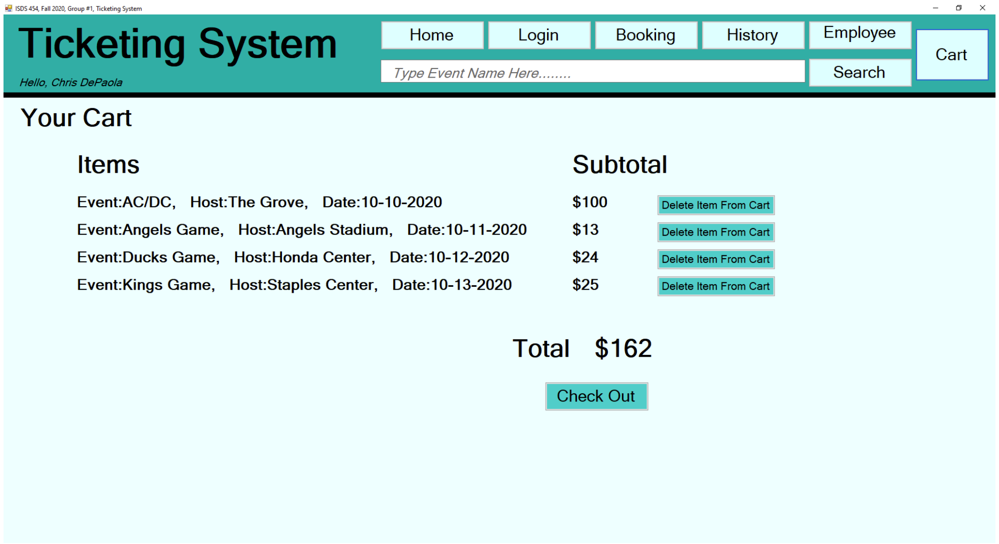
Email:

Password:


ISDS 454, Fall 2020, Group #1, Ticketing System
Ticketing System
Home
Login
Booking
History
Employee
Cart
Type Event Name Here........
Search

Hello, Chris DePaola

	Event Name	Event Date	Event Price	
1.	AC/DC	10/10/2020	$100	Add To
2.	Angels Game	10/11/2020	$13	Add To
3.	Ducks Game	10/12/2020	$24	Add To
4.	Kings Game	10/13/2020	$25	Add To
5.	Chargers	10/14/2020	$50	Add To

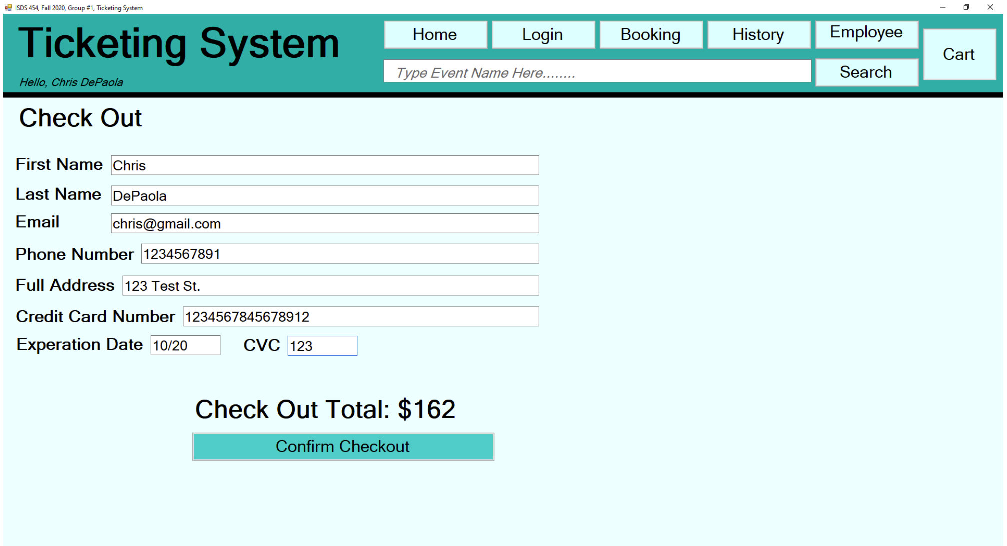


Your Cart

Items	Subtotal	
Event:AC/DC, Host:The Grove, Date:10-10-2020	$100	Delete Item From Cart
Event:Angels Game, Host:Angels Stadium, Date:10-11-2020	$13	Delete Item From Cart
Event:Ducks Game, Host:Honda Center, Date:10-12-2020	$24	Delete Item From Cart
Event:Kings Game, Host:Staples Center, Date:10-13-2020	$25	Delete Item From Cart

Total $162

Check Out



Check Out

First Name Chris

Last Name DePaola

Email chris@gmail.com

Phone Number 1234567891

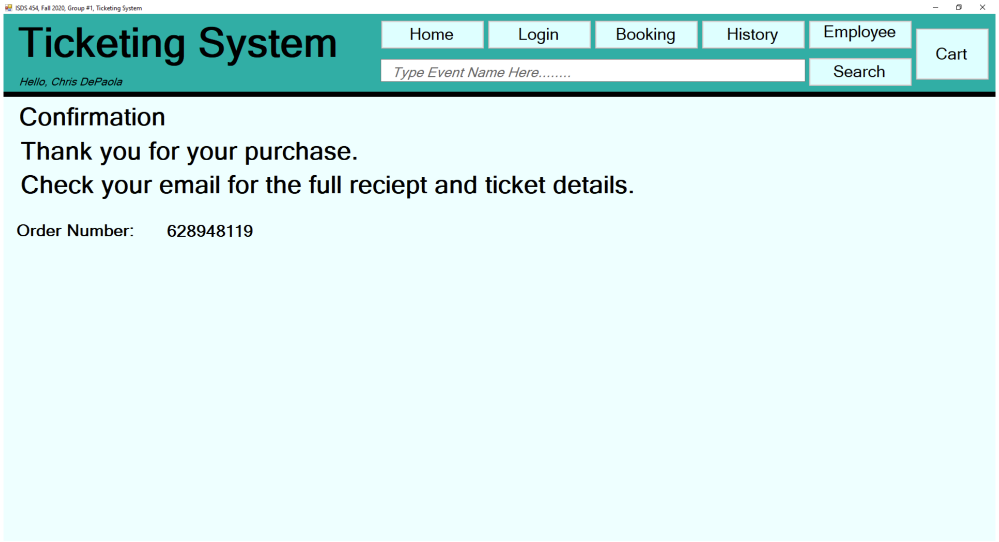
Full Address 123 Test St.

Credit Card Number 1234567845678912

Experation Date 10/20 CVC 123

Check Out Total: $162

Confirm Checkout

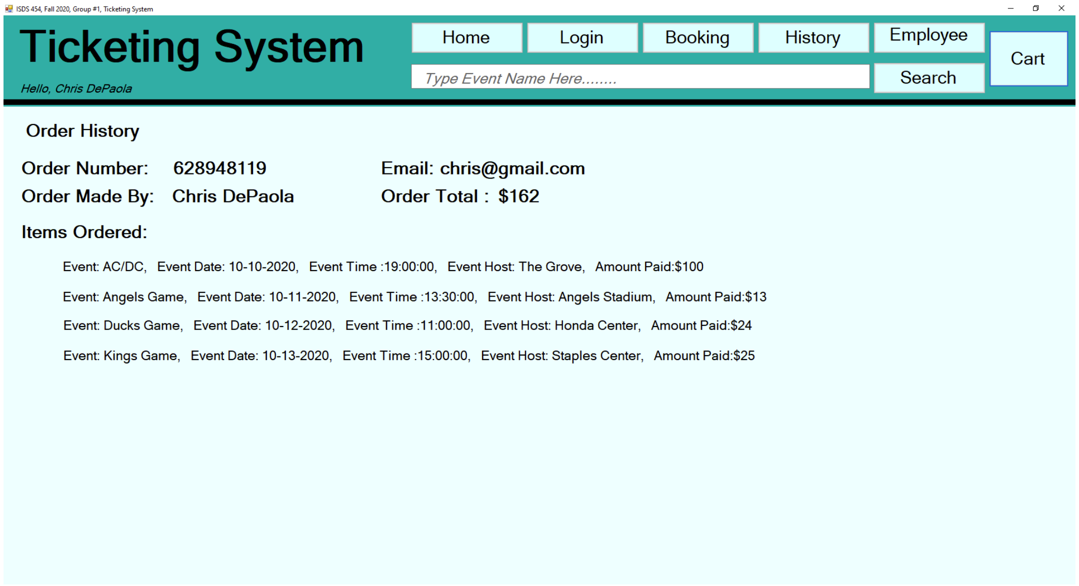


Confirmation

Thank you for your purchase.

Check your email for the full reciept and ticket details.

Order Number: 628948119



Order History

Order Number: 628948119

Email: chris@gmail.com

Order Made By: Chris DePaola

Order Total : $162

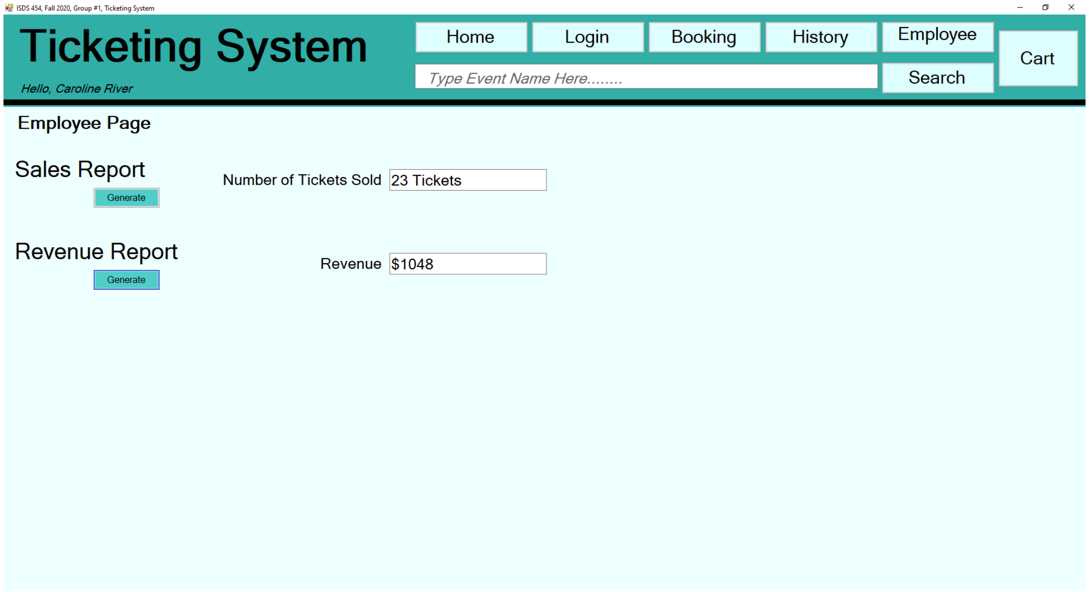
Items Ordered:

Event: AC/DC, Event Date: 10-10-2020, Event Time :19:00:00, Event Host: The Grove, Amount Paid:$100

Event: Angels Game, Event Date: 10-11-2020, Event Time :13:30:00, Event Host: Angels Stadium, Amount Paid:$13

Event: Ducks Game, Event Date: 10-12-2020, Event Time :11:00:00, Event Host: Honda Center, Amount Paid:$24

Event: Kings Game, Event Date: 10-13-2020, Event Time :15:00:00, Event Host: Staples Center, Amount Paid:$25



Employee Page

Sales Report

Number of Tickets Sold 23 Tickets

Revenue Report

Revenue $1048

Summary

To create a professional proposal alongside a deliverable, our team set to create a schedule that aligned with the class schedule in terms of what the class was learning that day. Most of our experience and knowledge was built off past classes such as creating ERDs and use cases that helped us complete our weekly assignments. Our group was able to complete one part every week that did not leave all work to the absolute last minute which granted time to revise our work and work on our presentation sections as well. Several programs we used include Lucidchart for our diagrams, SQL Server Management Studio, and Visual Studio. Several challenges as a group was that there are certain sections in the project that were needed to be worked on together, but all group members had various responsibilities outside of this class which made our schedules not align as much as we would have wanted to and as we have all had different professors throughout the semesters, the way we learned concepts varied between us. Overall, we were able to meet up through zoom calls usually after class or early in the mornings around 8 A.M. and discuss discrepancies we had on concepts to make sure we were on the same page.