



Elaboration Documents

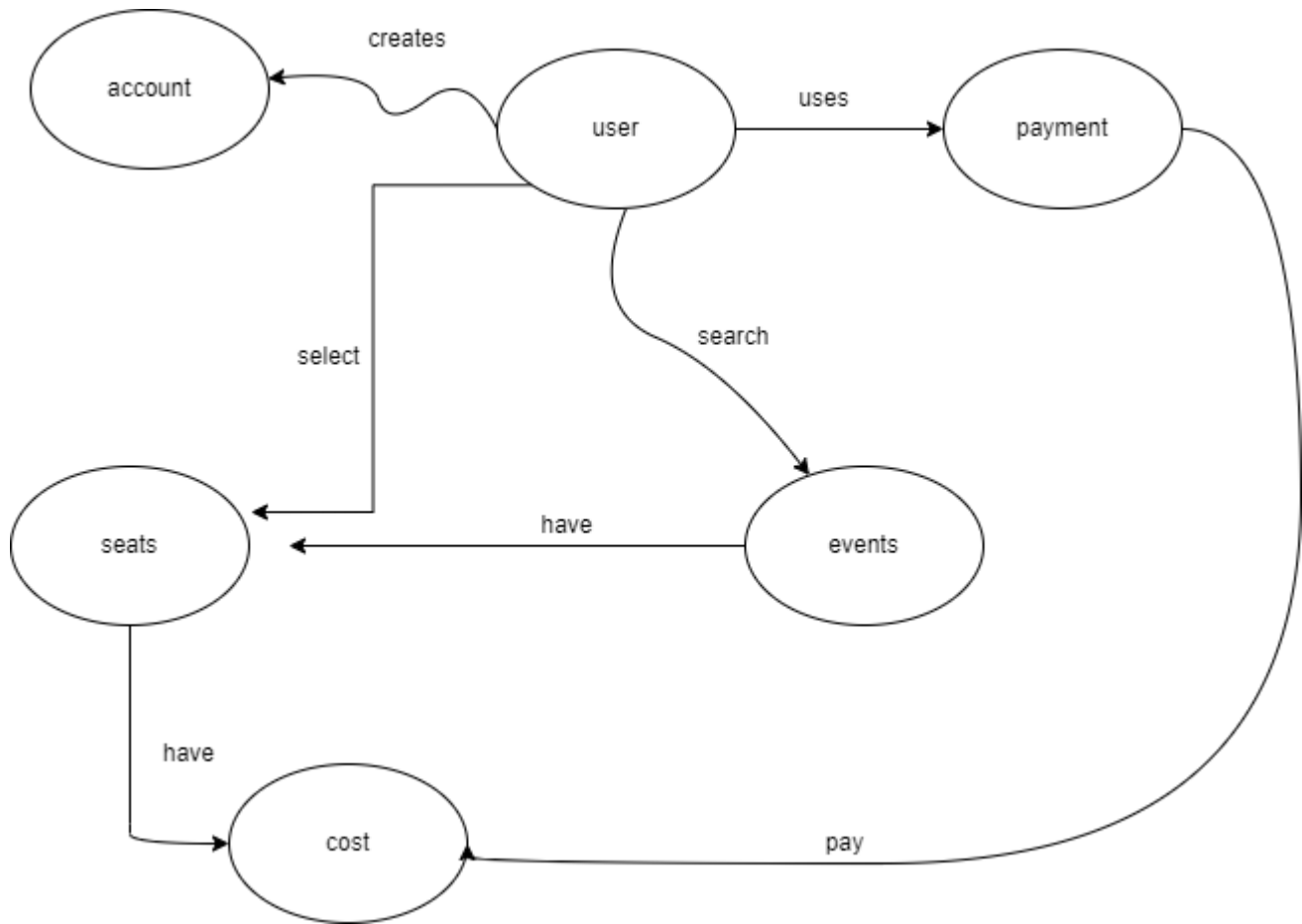
Team Deliverable 5

recent additions: OPC4, SDD4, Misuse Abuse Case

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1 Domain Model



2 Use Cases

2.1 USC1

UC1: login

Use Case Section	Text
Use Case Name	Login
Scope	Allow the user to make an account and login.
Level	User goal: The ability to login.
Primary Actor	The user wishing to login/create an account.
Stakeholders and Interests	A person wishing to use the CofC ticket system.
Preconditions	The user must have a pre-existing account or create an account using a valid email and password.
Success Guarantee	The user must successfully enter their current login credentials. The user must successfully create an account using a valid email and password.
Main Success Scenario	The user will enter their email/username and enter the correct password then click login. The user will click create an account and enter their email and password then follow the login steps once their account is created.
Extensions	If the wrong password or email is used, the user will not be granted to login. The application will prompt the user to try again or create an account.
Special Requirements	The user must have an existing account or create an existing account. Once an account is created the user will receive confirmation via email.
Technology and Data Variations List	The user will need a valid email to create an account.
Frequency of Occurrence	Every time the user wishes to use their account to purchase tickets.
Miscellaneous	Will the college make users create accounts using a @g.cofc.edu email??

2.2 USC2

UC2: Purchasing Tickets

Use Case Section	Text
Use Case Name	Purchasing a Ticket
Scope	A logged-in user purchases a ticket using the CofC ticketing system.
Level	User goal: Purchasing tickets via the ticketing system.
Primary Actor	The logged in user wishing to purchase a ticket.
Stakeholders and Interests	A user trying to purchase a ticket.
Preconditions	The user must be logged in.
Success Guarantee	The user must be logged in and their transaction must be approved.
Main Success Scenario	The user will login, find the ticket they desire, add it to their cart, purchase the tickets using a valid payment and receive an email receipt and ticket pdf/QR.
Extensions	If the user's payment is denied, it will ask for another payment method. The user must be logged in to view any of these options.
Special Requirements	The payment method has to communicate with the CofC gateway to ensure the payment is successful.
Technology and Data Variations List	Payment information entered using a keyboard. Payment confirmation sent via email.
Frequency of Occurrence	This will occur until the user has purchased their desired number of tickets.
Miscellaneous	The developers are debating the idea of adding alternate payment methods such as PayPal and Quadpay.

2.3 USC3

🔗 UC3: Search

Use Case Section	Text
Use Case Name	Search
Scope	Allow users to search events when clicking on the search bar.
Level	User goal: The ability to login.
Primary Actor	The user wishing to login/create an account.
Stakeholders and Interests	mainly the user wishing to use the CofC ticket system.
Preconditions	none
Success Guarantee	The user must successfully enter a query in the search bar and get a list of events.
Main Success Scenario	The user will enter a keyword into the search bar, the results after the search should be event related to that keyword.
Extensions	If no related events are available, the user will be notified of this. (UI SHOULD STILL SHOW SOME AVAILABLE EVENTS)
Special Requirements	
Technology and Data Variations List	The user will need a valid email to create an account.
Frequency of Occurrence	very frequent , every time the users wish to look up or buy a ticket.
Miscellaneous	entry mistakes by the users when using the search bar

2.4 USC4

UC4: Receipt

Use Case Section	Text
Scope	send an email receipt to users after their purchase.
Level	User goal: The ability to receive their certification of purchase through their email.
Primary Actor	A ticket buyer.
Secondary Actor	the user who posted the event.
Stakeholders and Interests	A user buying the ticket
Preconditions	The primary actor must have a pre-existing account or create an account using a valid email and password. The primary actor must select the "email receipt" during purchase.
Success Guarantee	The user must successfully receive an email confirmation of purchase in the mail inbox.
Main Success Scenario	
Extensions	If the wrong password or email is used, the user will not be granted to login. The application will prompt the user to try again or create an account.
Special Requirements	The user must have an existing account or create an existing account. Once an account is created the user will receive confirmation via email.
Technology and Data Variations List	The user will need a valid email to create an account.
Frequency of Occurrence	Every time the user wishes to use their account to purchase tickets.
Miscellaneous	Will the college make users create accounts using a @g.cofc.edu email??

2.5 Misuse Case & Abuse Case

2.5.1 Abuse Case

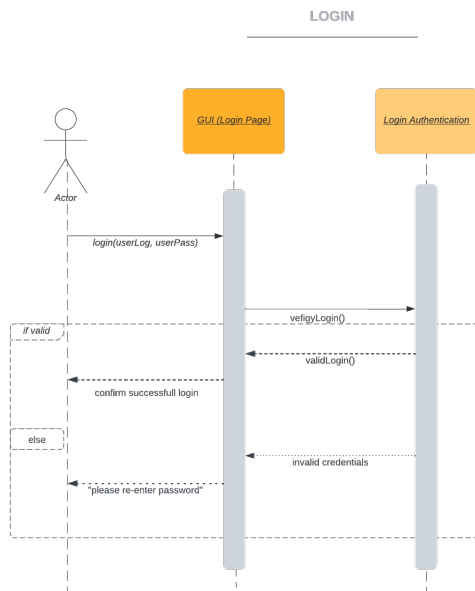
Abuse Case	account reach
Potential Harm	An intruder can use various methods and tools to guess a targeted user's login credentials.
Priviledge Range	the intruder might carry out the abusive action by: <ul style="list-style-type: none">- brute force guessing- using password generator tools- email phishing
Solution	<ul style="list-style-type: none">- enforce strong passwords- enforce a two-factor authentication policy- avoid allowing users to enter their email as part of the login credentials.

2.5.2 Misuse Case

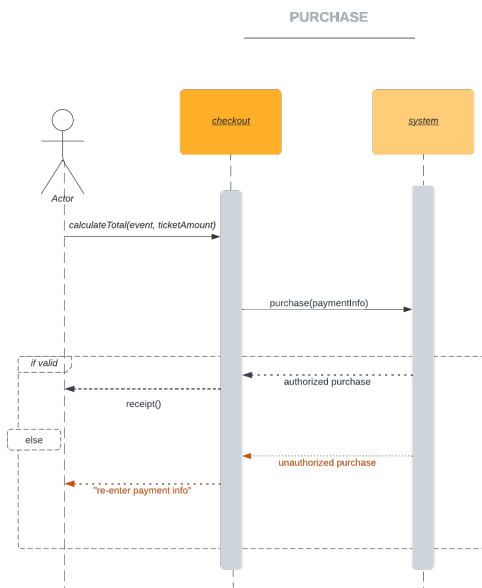
Misuse Case	exiting out during checkout
Potential Harm	The user can lose the progress of selecting specific seats(if seated event) if they exit by mistake during checkout.
Misuse scenario	<ol style="list-style-type: none">1. the user selects seats and goes to the checkout2. during checkout the user might exit the checkout tab. or:<ol style="list-style-type: none">2a. close the browser2b. go back to the homepage2c. the computer's battery can die
Solution	<ul style="list-style-type: none">- save the selected tickets in a cart with a delete function to discard items the user does not want.

3 System Sequence Diagram

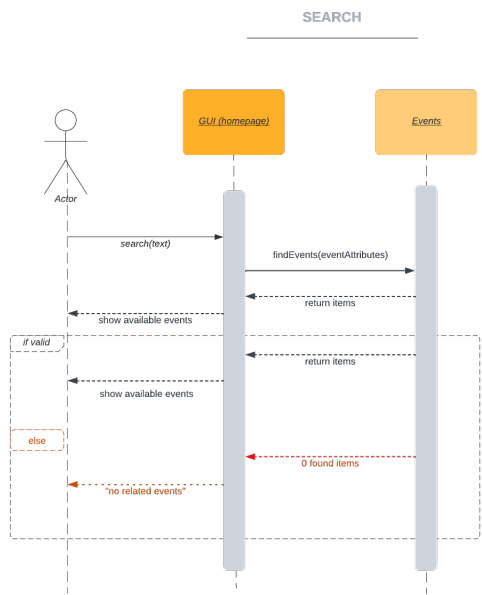
3.1 SDD 1: LOGIN



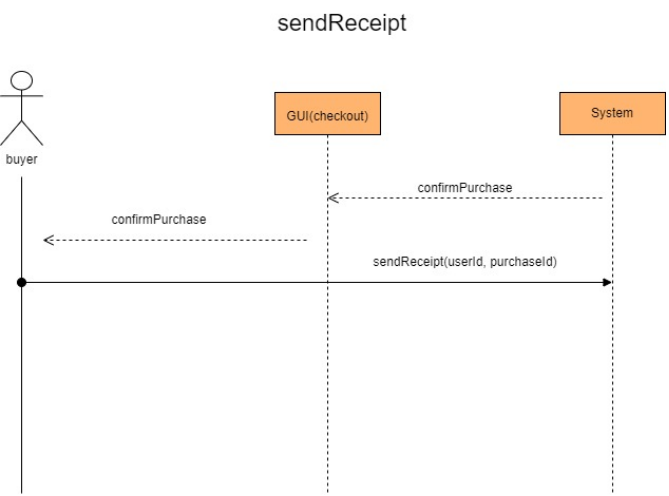
3.2 SDD 2: PURCHASE



3.3 SSD 3: SEARCH



3.4 SSD 4: RECEIPT



4 Operation Contracts

4.1 OPC 1

Operation	login
Cross References	Use Cases: login
Preconditions	User has created an account
Postconditions	* If the correct credentials are entered, the user will be taken to the homepage. * if the incorrect credentials are entered, the user will be notified and prompted to login again.

4.2 OPC 2

Operation	purchaseTicket
Cross References	Use Cases: purchasing a ticket
Preconditions	User has logged in and found a ticket.
Postconditions	The user will be prompted to purchase their ticket(s). Upon a successful purchase, the user will receive an email verification of the purchase. The ticket stock will be updated. The user will still be able to browse for more tickets.

4.3 OPC 3

Operation	searchTickets
Cross References	Use Cases: search
Preconditions	User is logged in and goes to the search for tickets section on the website.
Postconditions	The user will access the search bar to look for the tickets they desire. The user can also just browse the currently available tickets. If there are no tickets from the search provided, the website will notify the user. If they find their tickets they can move on to the purchaseTicket operation.

4.4 OPC 4

Operation	sendReceipt
Cross References	Use Cases: receipt
Preconditions	User has successfully purchased tickets
Postconditions	After purchasing tickets the user will be sent an email verifying the purchase. This email will be sent to the address associated with their account. The email contents will include proof of purchase, and possibly a pdf or scannable ticket.

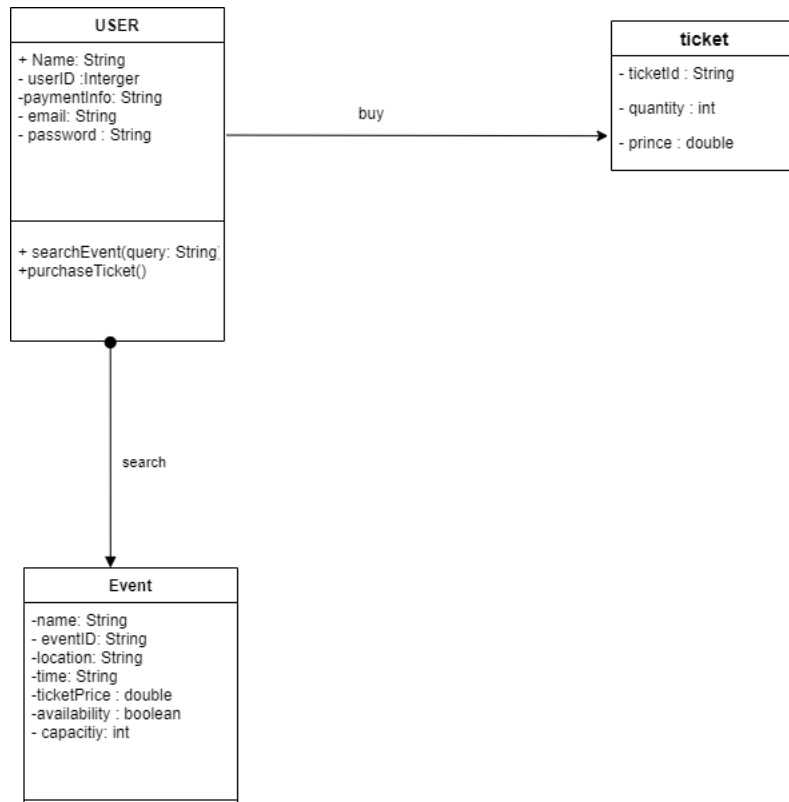
4.5 OPC 5

Operation removeTicket()

Operation	removeTicket()
Cross References	Misuse case: exiting during checkout.
Preconditions	User has selected tickets and is on the checkout page.
PostCondition	the total cost has changed accordingly to the price of the removed item.

5 UML System Diagram

5.1 UML system Diagram



6 System Objects and Application Layer analysis

TP D4

Object	Need to know	Responsibilities (Performs)
User	Name UserID paymentInfo password	access users login and purchasing information. Purchase tickets/search events.
Events	Name Location Time Price available() Start End	Creates ticket
Ticket	ticketID Type price	Creates receipt and updates availability.
Reciept	userID ticketID	Sends receipt to the buyer.