# CPSC 2150 Lab 2 Report

Reeves Farrell, Phillip Hedden, Abigail Poropatich

## **Requirements Analysis**

#### **Functional Requirements:**

- 1. As a user, I need to access my order history so that I can see what I bought.
- 2. As a user, I need to change my credit card information so that I can pay with a different card.
- 3. As a user, I need to see shipping options so that I can choose how much I want to spend on shipping.
- 4. As a user, I want to see recommendations so that I can buy things similar to what I like.
- 5. As a user, I want to redeem gift cards so that I can use the balance I was given as a gift.
- 6. As a user, I want to choose my language so that I can understand what I am purchasing..
- 7. As a user, I need to choose a delivery address so that I can pick where my package is going.
- 8. As a user, I need to sort by price so that I can get the best deal.
- 9. As a user, I need to be able to talk to customer support so that I can resolve any transaction issues.
- 10. As a seller, I want to be able to create analytics so that I may see how to price my items competitively.
- 11. As a user, I want to be able to schedule regular deliveries so that I can get certain items on a set schedule.
- 12. As a user, I want to be able to rent movies so that I can spend quality time with my family.
- 13. As Jeff Bezos, I need to be able to see total monthly earnings so that I can know how much money I made.
- 14. As a seller, I want to be able to rate customers so that I can let other sellers know who pays quickly and is easy to communicate with.
- 15. As a user, I want to be able to rate sellers so that other users can know how reliable a seller is..
- 16. As a seller, I need to be able to receive instant messages so that I may address the concerns of my buyers.
- 17. As a back-end developer, I want to see website analytics so that I may see when the server has the most down time.
- 18. As a user, I want to have multiple profiles so that my entire family can each do their own shopping.
- 19. As a user, I want to make wishlists so that I can save items for a different time.
- 20. As a user I need to be able to buy now so that I can make purchases quickly.
- 21. As a user, I want to be able to share wishlists so that I can send them to family members so they can buy items for me.
- 22. As a shipper, I need to be able to access shipping information so that I may deliver packages.
- 23. As a user, I need to be able to provide product information so that buyers know more about my product.
- 24. As a user, I need to be able to search for items so that I can find items by name.

- 25. As a user, I need to be able to return orders so that I can get my money back for returned purchases.
- 26. As a user, I need to be able to see related items so that I can compare similar items and prices.
- 27. As a user, I need to be able to review products so that I can leave my opinion.
- 28. As a user, I need to be able to link my insurance so that I can pay less for medicine.
- 29. As a user, I need to be able to ask questions so that I can learn more about the product.
- 30. As a user, I need to be able to separate purchases into monthly payments so that I don't have to pay all at once.
- 31. As a warehouse manager, I need to access order details so that I know what to ship.
- 32. As a user, I need to be able to purchase items from other countries so that I can get items that are not in my country.
- 33. As a developer, I need to improve voice recognition so that there are less misunderstandings between alexa and user.
- 34. As a user, I need to be able to link my Twitch account so that I can receive Prime rewards.
- 35. As a user, I want to be able to change my password so that I can prevent people from logging into my account.
- 36. As a warehouse manager, I need to access order details so that I know what box size to ship.
- 37. As a user, I need to be able to link my account to my Firestick so that I can access my show.
- 38. As a buyer, I need to receive an email that my order was processed so that I can stay up to date with my order status.
- 39. As a seller, I receive notification of an order by email so that I can ship a person's order quickly.
- 40. As a user, I want to be able to track my pack so that I know how close it is to delivery.
- 41. As a user, I need to be able to purchase multiple items at once so that I do not have to place multiple orders.
- 42. As a postal worker, I need buyer information so that I can deliver to the correct address.
- 43. As a seller, I need to be able to sell multiple products at a time so that I can make more money.
- 44. As a user, I want to see product recommendations so that I may compare prices.
- 45. As a paper company, I need to access purchasing analytics so that I know how many boxes to produce.
- 46. As a user, I need to be able to livestream so that I can advertise my product.
- 47. As a shareholder, I need to see revenue reports so that I may vote on ownership rights.
- 48. As a front end developer, I need to create a search bar so that users can find specific items.
- 49. As a front end developer, I need to maintain the amazon specific color scheme so that customers associate it with the platform.
- 50. As a front end developer, I need to implement a scroll bar so that users may scroll down the page.
- 51. As a user, I need to be able to sell products at a discounted price for a limited time so that the deals do not last for too long.
- 52. As a user, I need the site to have categories for items so that I can search specific sections and types of items.
- 53. As a user, I need to be able to buy items on Amazon through my Alexa so that it is easier for me to shop.

- 54. As a user, I need the site to be able to show items that are trending so that I can see what is popular right now.
- 55. As a user, I need to be able to contact customer support to receive help with my items or purchases.
- 56. As a user, I need to be able to request custom shipping information in case I need to have my items delivered in a certain way.
- 57. As a user, I need to be able to register my business with Amazon to be able to sell products under my business name.
- 58. As a user, I need to be able to access troubleshooting information to help with any of my Amazon devices.
- 59. As a user, I need to be able to manage my gift cards to check their balances.
- 60. As a user, I need to be able to customize my Amazon Music settings to change what kind of music I listen to.
- 61. As a user, I need to be able to set purchase reminders in order to remember when to rebuy specific items.
- 62. As a user, I need to be able to delete my Amazon account to be able to close it if I ever need to.
- 63. As a user, I need to be able to manage all of my Amazon apps to be able to keep track of them all.
- 64. As a user, I need to be able to manage my advertising preferences to choose what kind of ads that I receive.
- 65. As a user, I need to be able to modify my order history if I ever wanted to delete something I previously bought.

#### **Non-Functional Requirements**

- 1. Must be compatible with mobile.
- 2. Must be coded in Java.
- 3. Must be able to support at least 100,000 transactions per day.
- 4. Must have support for MacOS and Windows.
- 5. Must have a 99.95% uptime.
- 6. Must be able to withstand hacks/attacks.
- 7. Must encrypt all user data.
- 8. Must be compatible with Android.
- 9. Must open a webpage in less than one second.
- 10. Must be able to scale with website and order number growth.

## **System Design**

#### Student:

#### Class diagram:

#### Student

firstName: stringlastName: stringpreferredName: stringschoolEmail: string

- cuid: int

- classStanding: string- phoneNumber: int- enrollmentStatus: string

- GPA: int

- + Student()
- + Student(fn: string, In: string, pn: string)
- + Student(email: string, standing: string)
- + Student(phoneNum: int, enroll: string)
- + getFirstName(): string
- + setFirstName(fn: string): void
- + getLastName(): string
- + setLastName(In: string): void
- + getPreferredName(): string
- + setPreferredName(pn: string): void
- + getSchoolEmail(): string
- + getCUID(): int
- + getClassStanding(): string
- + setClassStanding(standing: string): void4
- + getPhoneNumber(): int
- + setPhoneNumber(phoneNum: int): void
- + getEnrollmentStatus(): string
- + setEnrollmentStatus(enroll: string): void
- + calculateGPA(GPA: int): int

## Class diagram:

#### Course

- Major Code: String [1]

- Course Name: String [1]

- Course Number: int [1]

- Credit Hours: int [1]

- Prerequisite: String [1]

- Corequisite: String [1]

- + Course()
- + Course(mc: string, cname: string, cnum: int, ch: int)
- + Course(ps: string, cs: string)
- + getMajorCode(): string
- + setMajorCode(mc: string): void
- + getCourseName(): string
- + setCourseName(cname:string): void
- + getCreditNumber(): int
- + setCreditNumber(cnum:int): void
- + getCreditHours(): int
- + setCreditHours(ch:int): void
- + getPrequisite(): string
- + setPrequisite(ps:string): void
- + getCorequisite(): string
- + setCorequisite(cs:string): void

#### **Enrollment:**

## Class diagram:

## Enrollment

- studentID: int - courseName: string - semester: string

- year: int

- courseStatus: string - grade: string - completed: bool

+ Enrollment()

+ Enrollment(id: int, course: string, semester: string, year: int, status: string, grade: string, comp: bool)

+ getStudentID(id: int): void

+ getCourseName(cn: string): void + getSemester(sem: string): void

+ getYear(y: int): void + getCourseStatus(cs: string): void + getGrade(grade: string): void + setGrade(): string

+ getCompleted(comp: bool): void