Student name: Alex Fisher **Score:** _____

- **Project description**: Authentication, ordering, personalization, report, and GIS. **Total 150 points**.
- **Due by 11:59pm on 12/2/2023**. You must submit the project through class website at http://vader.kean.edu/students/
- Phase 2 is based on phase 1 and all p1 functions should be still working. Refer to Figure 1 for **project** page.
- Please refer to the demo project for all figures on website http://imc.kean.edu/CPS5740
- Note: The program names must be exactly the same as indicated *____. Otherwise, your project won't be graded.
- Note: Your project will not be graded if the system detects plagiarism in your programs.

- **OVERALL**

1. _____ (**5 pts**) All your project programs accessing any employee data should use **EMPLOYEE2** table in **CPS5740** database. The password in **EMPLOYEE2** has been encrypted using **SHA2 256** method as shown in Figure 2. **Tiger** and **panda** passwords are **xyz123**, and monkey's password is secret.
2. ✓ (**10 pts**) You should create 3 new table (with the required fields) under **YOUR** database and implement the functional requirements shown in other items:

   PRODUCT (id, description, name, *vendor_id*, cost, sell_price, quantity, *employee_id*)
   ORDER (id, *customer_id*, date)
   PRODUCT_ORDER (*order_id*, *product_id*, quantity)
   - The above underlined fields should be the primary keys and auto increment in these tables.
   - The above *italic fields* should be the foreign keys in these tables.
   - *vendor_id* in **PRODUCT** table is a foreign key references to the primary key (id) of the **VENDOR** table.
   - *employee_id* in **PRODUCT** table is a foreign key references to the primary key (id) of the **EMPLOYEE2** table.
   - *order_id* in **PRODUCT_ORDER** table is a foreign key references to the primary key (id) of the **ORDER** table.
   - *product_id* in **PRODUCT_ORDER** table is a foreign key references to the primary key (id) of the **PRODUCT** table.
   - *customer_id* in **ORDER** table is a foreign key references to the primary key of the **YOUR CUSTOMER** table.
   - date in **ORDER** table is the transaction time and it should be **datetime** data type.
   - **EMPLOYEE2** and **VENDOR** tables are located in **CPS5740** database.
   - All the data fields cannot be NULL or empty.
3. ✓(**5 pts**) The product search rules will apply to any requirements that has search product function for customer and employee. The input can have multiple keywords (NOT case sensitive) separated by space. Refer to Figure 3. If the product's **name** or **description** is **pattern match** all input keywords, the product should be displayed in **HTML TABLE** format. If the input is *, all products and all their attribute values should be displayed, except **customer** should not see **cost**. Your program should display vendor name, NOT vendor id. Refer to Figure 10 and 15.
4. ✓(**5 pts**) The vendor should be selected from a drop-down list in **any functions** that can select vendors as shown in Figure 5 and 10. You should retrieve all vendors' **name** and **id** from the **VENDOR** table and display the vendor names in the drop-down list.

- **EMPLOYEE**

5. After an employee (included manager) successfully login (must use cookie), do the followings:

5.1 ✓ (**5 pts**) Add 3 new links on the **employee page**: 1). "**Add product**". 2). "**Search and update product**". 3). "**View vendors**". These 3 links will generate new web pages and call corresponding programs to complete the functions. (Fig 4)

5.2 ✓(**5 pts**) After "**Add product**" link is clicked, a new web page will let the employee to enter data (Figure 5).

5.3 *✓ (**5 pts**) After clicking on the "submit" button, a program "**employee_insert_product.php**" should insert the data into **your PRODUCT** table. **No duplicated product name, negative numbers and cost must < sell_price**. Your program should give meaningful message either product inserted successful or failed. Refer to Figure 4 and 6.

5.4 *✓ (**5 pts**) After "**search and update product**" is clicked, a program "**employee_display_product.php**" should display the results as shown in Figure 10. You should display employee name, not id. **Search** should follow the **requirement 3 using POST method**. The update should **NOT** allow any fields with **negative** and **empty** values in the database. Vendor rules follow **requirement 4**. An employee should be able to update multiple products at the same time. You need to give meaningful message either the update successful or failed. (Figure 4, 7 and 11)

VIEW VENDORS: The program name must be "**employee_view_vendors.php**"

5.5 *✓ (**5 pts**) After "**view vendors**" is clicked, please **read** and **display** vendor id, name, address, city, state, zipcode, and location (latitude, longitude) on the web page in **HTML <TABLE>** format. Refer to Figure 4 and 8.

5.6 *✓ (**5 pts**) Show the vendors on the Google Map under the HTML. Refer to 12.

VIEW REPORTS: The program name must be "**manager_view_reports.php**" for entire 7.

6 If the employee is a manager, display the sale report functions on the employee home page. Refer to Figure 9.

6.1 The report function should have two drop-town options – period for users to select different period - **all**, **past week**, **current month**, **past month, past year**, and type – **all sales**, **products**, **vendors**.

6.2 *_____ (**5 pts**) If the report type is by **all sales**, please list **all orders'** information - product name, current quantity in stock, quantity was sold, unit cost, price was sold, customer name who bought the items, net profit of the order, order date, and the total of sub-total and total profit for all sales. **If a product was never sold, don't list it**. Refer to Figure 18.

6.3 *_____ (**5 pts**) If the report type is by **products**, please list **ALL products** and sale information – product name, vendor name, unit cost, quantity in stock, quantity sold, unit selling price, **profit** for each product, and the total of sub-total and total profit for all products. Every product should be output (**even never sold**) with one row only. Refer to Figure 19.

6.4 *_____ (**5 pts**) If the report type is by **vendors**, please list the product sales information for **ALL vendors** – vendor name, product name, total quantity of all items in stock, amount needs to pay to the vendor for items which have been sold, subtotal of sales, and the **profit** from selling this item. At the end, please show the total amount needs to pay to all vendors and total profit from items/products which have been sold. Every vendor should be output (**even no product was sold**) with one row only. Refer to Figure 20.

6.5 *_____ (**5 pts**) The report should only display the records with the selected period.

- **CUSTOMER**

7 After customer successfully login (based on cookie), do the followings: Refer to Figure 13. The program name to display the customer home page should be "**customer_check_p2.php**" for 8.1 and 8.2

7.1 *_____ (**5 pts**) Add two links: 1). "**search and order**" that will user to place order (multiple items) and display the total price. 2). "**view order history**". These 2 links will generate new web pages and call corresponding programs to complete the functions.

7.2 *_____ (**10 pts**) Display Personalized Ad with **image**, **description** and **url** from **CPS5740.Advertisement** table on customer home page based on the last search keyword. You need to classify the search keywords to match the values of the category field in the table. You need to display the image, description and go to the url website when users click on the image. If the search keyword is not available, retrieve the default Ad "YOUR AD HERE" image and price to display. Refer to Figure 13.

7.3 *_____ (**10 pts**) After "**view order history**" is clicked, a program named "**customer_order_history.php**" should be called to display history for all orders: order id, order date, product name, quantity, the **sub-total** for each order and **the total for reach order**. The items with the same order id should be in the same table. Refer to Figure 14.

7.4 *_____ (**5 pts**) After "**search and order**" is clicked, a program "**search_product.php**" should be called to display the correct results as shown in Figure 15. Do NOT display employee information. **Search** should follow the **requirement 3 using GET method**.

7.5 *_____ (**10 pts**) After the **order** button is clicked, a program "**customer_order.php**" should be called to handle the order. The order function should allow one customer to order multiple products at one time. Your program should verify if the ordering quantity is more than the stock quantity for **every product** before updating the database. If any of the ordering products does not have enough quantity, display an error message saying "Not enough quantity for product xxx. This order did not go through.", and the transaction should not complete. No records should be updated in the database. Refer to Figure 15 and 17.

7.6 *_____ (**10 pts**) If all the ordering products have enough quantities, the program "**customer_order.php**" should do the followings in correct order: 1). Deduct the quantity for each product in your **PRODUCT** table. 2). Insert order information into **ORDER** table. 3). Get the order id and insert the correct information to **PRODUCT_ORDER** for each product.

7.7 *_____ (**10 pts**) The program "**customer_order.php**" should implement concurrency control on the ordering – allow several customers to order the same products at the same time. Please note that users might stay on the order page for a while so the available quantity might be outdated. Follow the **requirement in 8.5 for quantity checking**, No negative number is allowed in any quantity fields in the database. Refer to Figure 17.

8 _____(**5 pts**) You need to give **meaningful messages** on the browser for any issues might occur when people (employee and customer) operate on your project, such as: login error, user exists when adding new user, add products, search products, **not enough quantity or negative quantity** when users order any products, missing fields, or any possible errors.

9 _____ (**5 pts**) All the functions required to use **cookie** to verify if an employee or customer login or not. You also need to provide logout function if there is a login function.

Welcome to your name's CPS5740 project

- Visitor search product
- View all employees
- Employee login
- Customer sign up
- View all customers
- Customer login

Project home page

Figure 1

The following employee are in the database.

ID	Login	Password	Name	Role
1	tiger	f0a72890897acefdb2c6c8c06134339a73cc6205833ca38dba6f9fdc94b60596	Victor Smith	M
2	panda	f0a72890897acefdb2c6c8c06134339a73cc6205833ca38dba6f9fdc94b60596	Joe Lee	E
3	monkey	6ca13d52ca70c883e0f0bb101e425a89e8624de51db2d2392593af6a84118090	new test	M

Figure 2

Customer login
search product:
(* for all, multiple keywords sepeated by the space.)
Search

project home page

Figure 3

Welcome employee: Joe Lee
Employee logout

Add products
View all vendors
Search & update product

Figure 4

Employee logout
Add products

Product Name: Apple TV
description: 64GB 4K
Cost: 150
Sell Price: 200
Quantity: 4
Select vendor: AAA (AAA, BBB, CCC)
Submit

Figure 5

Employee logout
Successfully insert the product: Apple TV

Employee home page
project home page

Figure 6

Employee logout

search product:
*
Search

Figure 7

Customer login
Available product list for search **tv**

Product Name	Description	Sell price	Available quantity	Vendor na
LED TV	RCA 4K LED TV	600.00	3	AAA
Apple TV	64GB 4K	200.00	32	DDD

project home page

Figure 8

Welcome manager: new test
Employee logout

Add products
View all vendors
Search & update product
View Reports - period: all (all, past week, current month, past month), by: products (all sales, products, vendors) Submit

Figure 9

Employee logout

Product list for search

Product ID	Product Name	Description	Cost	Sell Price	Available quantity	Vendor name	Last update by
4	ipad	ipad air 64GB	500.00	800.00	20	BBB	Victor Smith
5	computer	Dell laptop xps1 Xeon	400.00	1000.00	20	CCC	new test
6	camera	Sony LCD camera	200.00	300.00	20	CCC	Joe Lee
7	LED TV	RCA 4K LED TV	500.00	600.00	20	AAA	Victor Smith
8	iphone	64GB iPad 4	300.00	600.00	20	AAA	Joe Lee
9	Dell XPS	16GB RAM i7 CPUS	600.00	400.00	20	AAA	new test
10	soap	J&J new product	200.00	400.00	20	CCC	Victor Smith
32	Apple TV	64GB 4K	150.00	200.00	40	DDD	Joe Lee

Update Products
Employee home page
project home page

Figure 10

Employee logout
Successfully update product ID: 5
Successfully update product ID: 8

2 products were updated.
Employee home page
project home page

Figure 11

The following vendors are in the database.

ID	Name	Address	City	State	Zipcode	Location(Latitude,Lognitude)
1001	AAA	1000 Morris Ave.	Union	NJ	07083	(40.681212000000000,-74.235432000000000)
1002	BBB	210 N Central Ave.	Chicago	IL	60644	(41.884370000000000,-87.765540000000000)
1003	CCC	6 S Central Ave.	Los Angeles	IL	90013	(34.044253000000000,-118.239333000000000)
1004	DDD	255 Main Ave.	Dallas	TX	75208	(32.775764000000000,-96.827516000000000)
1111	new	111 Pike St.	Seattle	WA	98101	(47.608983000000000,-122.339306000000000)
1222	new2	9 Main St.	Boston	MA	02129	(42.372545000000000,-71.061814000000000)

Figure 12

Welcome customer: **avi Lee**
1000 Morris Ave, Union, IA 07083
Your IP: 67.86.58.193
You are NOT from Kean University.
Customer logout
Update my data
View my order history
search product (* for all):
Search

YOUR AD HERE

Your Ad here from $50

project home page

Figure 13

Welcome customer: **avi Lee**
1000 Morris Ave, Union, IA 07083
Your IP: 67.86.58.193
You are NOT from Kean University.
Customer logout
Update my data
View my order history
search product (* for all):
tv
Search

The cheapest TV for $99

project home page

Figure 13

Your order history:

Order ID	Product Name	Order Quantity	Unit price	Sub total	Order Date
8	ipad	1	800.00	800	2016-06-08 21:43:51
8	iphone	2	600.00	1200	2016-06-08 21:43:51
	order paid			2000	

Order ID	Product Name	Order Quantity	Unit price	Sub total	Order Date
9	LED TV	1	600.00	600	2016-06-08 22:01:38
	order paid			600	

Total paid	2600

Customer's home page
project home page

Figure 14

Customer logout
Available product list for search **tv**

Product Name	Description	Sell price	Available quantity	Order quantity	Vendor name
LED TV	RCA 4K LED TV	600.00	3		AAA
Apple TV	64GB 4K	200.00	32		DDD

Place Order
Customer home page
project home page

Figure 15

Customer logout
Your order list

Product name	Unit price	Quantity	Sub total
LED TV	600.00	3	1800
Apple TV	200.00	2	400
Total			2200

Customer home page
project home page

Figure 16.

Customer logout
NOT enough quantity for LED TV.
This order did not go through.
Customer home page
project home page

Figure 17.

Report by **all** during period: **past_week**

#	Product Name	Vendor name	Unit cost	Current Quantity	Sold Quantity	Sold Unit Price	Sub Total	Profit	Customer Name	Order Date
1	LED TV	AAA	500.00	3	3	600.00	1800	300	avi Lee	2017-10-29 20:23:04
2	LED TV	AAA	500.00	3	3	600.00	1800	300	avi Lee	2017-10-29 20:25:43
3	LED TV	AAA	500.00	3	3	600.00	1800	300	avi Lee	2017-10-29 20:26:36
4	LED TV	AAA	500.00	3	8	600.00	4800	800	avi Lee	2017-10-29 21:04:25
5	Apple TV	DDD	150.00	32	2	200.00	400			

Figure 18

Report by **products** during period: **all**

#	Product Name	Vendor Name	Avg unit cost	Current quantity	sold Quantity	Avg sold unit price	Sub Total	Profit
1	Apple TV	DDD	150.000000	32	8	200.000000	1600	400
2	camera	CCC	200.000000	20	1	300.000000	300	100
3	ipad	BBB	500.000000	20	1	800.000000	800	300
4	iphone	new	250.000000	20	2	600.000000	1200	700
5	LED TV	AAA	500.000000	3	18	600.000000	10800	1800
Total							14700	3300

Figure 19

Report by **vendors** during period: **all**

#	Vendor name	Quantity in Stock	Amount to Vendor	Sold Quantity	Sub Total Sale	Profit
1	AAA	3	9000.00	18	10800.00	1800
2	BBB	20	500.00	1	800.00	300
3	CCC	20	200.00	1	300.00	100
4	DDD	32	1200.00	8	1600.00	400
5	new	20	500.00	2	1200.00	700
Total			11400		14700	3300

project home page

Figure 20