**Inventory Test**

Please read the case study and answer the questions below.

* *Please submit only docx and vpp format. Two files only.*
* *Please note that submitted work, in any other format will not be graded.*
* *Your diagrams must be imported to the word document and must be readable*
* *If you don’t have your name tags with* 
  + ***your name,***
  + ***group number***
  + ***student number***
  + ***professor name***
  + ***date, name of the work (inventory test create purchase diagram etc)***

*in the diagrams you will not be graded for that work. (Every diagram should have this information)*

* *This test is starting from 23rd of February 9am (Tuesday) to 25th of February 6pm (Thursday). No late submission will be accepted*

You are welcome to use additional tools (example Visual Paradigm) as long as you copy pictures of your work into this document. The pictures must be legible. Your professor will not grade any work that isn’t easy to read.

You are welcome to use outside sources in formulating your answers. Be sure to reference your work using APA format. ***Work not properly referenced will be passed to the Academic Integrity Committee for review.***

**Case Study**

Ally runs *Tiles R Us*, a small company that offers construction services to residential and commercial clients. Ally employs a small team, including some office, constructors, drivers and staff. A few times a year, Ally attends trade shows and visits manufacturers to learn about new flooring supply products and construction equipment.

Your team has started looking at Ally’s inventory records and found that Ally records measurements for each of the products that she stocks, for proper placement in her warehouse. Ally orders products from various suppliers through their online ordering portals, and must record her purchases so that she knows what she’s purchased and what’s about arrive at his warehouse.

Your team leader has written the following scenarios to capture Ally’s requirements.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **Create Product Information** | | |
| **Triggering Event** | A new product of interest to the business | | |
| **Brief Description** | Allows the Owner to record a new product. | | |
| **Actors** | Owner | | |
| **Related Use Cases** |  | | |
| **Preconditions** | Owner has opened the Main Menu. | | |
| **Post Conditions** | Product is saved to the database and now can be purchased or used in a service. | | |
| **Flow of activities** | **Actor** | | **System** |
|  |  | Requests to add a new product | Displays a list of products currently recorded in the system and prompts to add a new product. |
|  |  | Enters the product name, description, height, width, color and depth of the new product. | Verifies that all of the data is entered. Displays the newly created product and requests to save. |
|  |  | Request to save | Saves the product and returns to the main menu |
| **Exception Conditions** | * Owner chooses to cancel adding the product | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **Create Purchase** | | |
| **Triggering Event** | Purchase of a product. | | |
| **Brief Description** | Allows the Owner to record a new purchase. | | |
| **Actors** | Owner | | |
| **Related Use Cases** |  | | |
| **Preconditions** | Owner has opened the Main Menu. | | |
| **Post Conditions** | Purchase is saved to the database and now can be queried. | | |
| **Flow of activities** | **Actor** | | **System** |
|  | 1. | Requests to add a new purchase | Displays a list of suppliers and prompts for selection. |
|  | 2. | Selects a supplier. | Verifies that a supplier was selected. Displays a calendar and prompts for purchase date and expected delivery date. |
|  | 3. | Selects purchase date and expected delivery date | Verifies that purchase date and delivery date were selected.  Creates a unique identifier for the purchase. Prompts to enter product details. |
|  | **Loop** | Chooses new detail | Displays a list of products and prompts for selection. Prompts for price, quantity ordered and quantity received |
|  | 4. | Selects a product and enters price and quantity. | Product must be selected.  Price and quantity must be entered  Data is valid  Dollar value of the detail is calculated and added to the total dollar value of the purchase  Dollar value of purchase and purchase detail are displayed  Prompts to add another product |
|  | **End** | When all products selected | Displays purchase including totals, date and list of products.  Verifies that at least one product has been selected.  Prompts to save purchase |
|  | 5. | Chooses to save | Saves the purchase and returns to the main menu |
| **Exception Conditions** | * Owner chooses to cancel adding the purchase | | |

Question 1 (worth 15 marks)

Complete a class diagram to support what your team has learned so far about *Tiles R Us.*

Question 2 (worth 20 marks)

Complete sequence diagrams to support the above scenarios.

Question 3 (worth 2 marks)

Ally would like the system to suggest how much he should expect delivery to cost. To do that, she needs to know how much the purchase will weigh. How would you change your model to support this request?

Question 4 (worth 2 marks)

What is WHMIS? Is this important to Ally?

Question 5 (worth 2 marks)

Ally finds a sale on vinyl flooring and would like to buy six months’ worth of product. How would she use your model to figure out how many to buy?