Worksheet 2:

1.

a)

Human:

User of processor.

Non-Human:

The computer/hardware.

b)

Human:

Customer, salesperson, administrator.

Non-human:

Product database, credit card company.

c)

Human:

Students. teachers.

Non-Human:

Database of student records/information.

d)

Human:

Map user, map creator.

Non-human:

Database, advertiser, external website with map embedded.

e)

Human:

Drivers, pedestrians, cyclists.

Non-Human:

Speed cameras/red light cameras.

2.

b)

- As a shopper, I want to be able to purchase goods so that I can receive them.

- As a shopper, I want to be able to safely enter my credit card information, so I can pay for goods.

- As a salesperson, I want to enter the goods on the database, so that they are listed to sell.

- As an administrator, I want the website to be accessible, so that customers can buy goods freely.

c)

- As a student, I want to register for my classes, so that I can attend school.

- As a teacher, I want to access class registrations, so that I can plan classes.

- As a student, I want to be able to update my details, so that my class registration is correct.

- As a teacher, I want to shift students between classes, so that I can comply with Covid-19 restrictions.

d)

- As a map user, I want to receive directions to my destination, so that I can arrive safely.

- As a map user, I want to take the shortest path to my destination, so that I can save time and fuel.

- As a map creator, I want the map to give correct and safe directions, so that people use my map, and do not die.

- As a map creator, I want my map to be embedded into external websites, so that it can become more widely used.

3.

|  |  |
| --- | --- |
| **Actor** | **Goal** |
| Customer | Select and purchase products. |
|  | View shipping information. |
|  | Cancel an order. |
|  | Pay with credit card. |
|  | Return an order. |
|  | Refund credit card. |
| Salesperson | Update database with products. |
|  | Monitor stock levels. |
|  | Pack and ship items. |
| Administrator | Ensure website operation. |
|  | Ensure secure payment. |

Diagram

Description automatically generated

**Use Case 1. Getting the shortest path on the online mapping application.**

Goal: To provide a user with directions to the destination of their choosing.

Primary Actor: Map user (human).

Secondary Actor: Database.

Precondition: The user inputs a destination and has an internet connection.

Trigger: The user selects the ‘Start’ button.

Flow of Events: 1. The user inputs directions into the search bar.

2. The user selects the ‘Start” button.

3. The system communicates with the database to get real-time traffic and road information

4. The system uses the real-time traffic and road information to calculate the route to the destination.

5. The system displays the route and instructions onto the display of the device.

6. The pathfinding ends when the destination is reached, or the user presses ‘Stop’.

Extensions:

3A – The user’s device does not have a valid internet connection.

1. The system asks the user to connect to the internet.
2. The use case resumes/ends, depending on the result.

4A – The system is unable to acquire the real-time traffic and road information.

1. The system will use the default road map information.
2. The use case resumes.

**Use Case 2. Purchasing goods on a website.**

Goal: To purchase an item/s off a retail website.

Primary Actor: Customer (human).

Secondary Actor: Product database, credit card company

Precondition: The customer enters the website.

Trigger: The customer selects an item and adds to cart.

Flow of Events: 1. The customer selects an item and adds it to cart.

2. The system checks against the database to ensure the item is in stock.

3. The system updates the cart with the item and the new total.

4. The customer selects the ‘Checkout’ button.

5. The system loads the Checkout page, with the item and price total displayed.

6. The customer enters their shipping information.

7. The system calculates the shipping amounts.

8. The customer selects a shipping option.

9. The customer proceeds to payment by pressing the ‘Pay’ button.

10. The customer enters their credit card information.

11. The system provides the credit card information to the credit card company, to verify the card and take payment.

12. The system provides the customer with a receipt and a shipping number.

Extensions:

2A – The item is out of stock.

1. The system notifies the customer that the item is out of stock.
2. The use case resumes at 1.

6A – The information provided is incorrect.

1. The system prompts the customer to re-enter their shipping information.
2. The use case resumes at 6.

11A – The credit card company fails to verify the card.

1. The system prompts the user that the payment method has failed.
2. The use case resumes at 10.