**Worksheet 2: Funtional Requirments**

Thi Van Anh DUONG Student ID: 90023112

Diploma of Information Technology, Curtin College

ISEN1000 : Introduction to Software Engineering

Coordinator: Khurram Hameed

7 March 2022

## **Student Declaration of Originality**

|  |  |
| --- | --- |
|  | This assignment is my own original work, and no part has been copied from another student’s work or source, except where it is clearly attributed. |
|  | All facts/ideas/claims are from academic sources are paraphrased and cited/referenced correctly. |
|  | I have not previously submitted this work in any form for THIS or for any other unit; or published it elsewhere before. |
|  | No part of this work has been written for me by another person. |
|  | I recognise that should this declaration be found to be false, disciplinary action could be taken and penalties imposed in accordance with Curtin College policy. |

**Electronic Submission:**

|  |  |
| --- | --- |
|  | I accept that it is my responsibility to check that the submitted file is the correct file, is readable and has not been corrupted. |
|  | I acknowledge that a submitted file that is unable to be read cannot be marked and will be treated as a non-submission. |
|  | I hold a copy of this work if the original is damaged, and will retain a copy of the Turnitin receipt as evidence of submission. |

1. **Actor**
2. **A word processor**

* Users (Human)
* Database (Non- Human)
* Moderator of online document (Non- Human)
* Printer (Non- Human)

1. **An online retail website**

* Customers (Human)
* Database (Non-Human)
* Administrator (Human)
* Retailers (Human)
* Shipping department (Human)
* Payment system (Non- Human)
* Advertisers (Human)
* Web developers (Human)

1. **A class registration system**

* Database (Non- Human)
* Students (Human)
* Teachers (Human)
* Administrator (Human)

1. **A online mapping application**

* Database (Non- Human)
* GPS (Non- Human)
* Travelers (Human)
* Administrators (Human)
* Application developers (Human)

1. **A set of traffic light**

* Pedestrians (Human)
* Drivers (Human)
* Traffic controllers (Human)
* Sensors (Non- Human)
* Electrical staff (Human)
* Timer machine (Non- Human)

1. **User Stories**
2. **An online retail website**

* *Customers (Human)*
* As a customer, I want to see all comments and ratings so that I can confidently chose my suitable products online.
* As a customer, I want to check order status so that I can track my orders.
* *Administrator (Human)*
* As an administrator, I want to add and update more products to the list so that the clients will have more choices.
* *Retailers (Human)*
* As a retailer, I want to buy products so that I can sell them with higher prices.
* *Shipping department (Human)*
* As a shipping department, I want to deliver products so that I can make profit.
* *Advertisers (Human)*
* As an advertiser, I want to display and advertise my products in the website so that many people will be informed about them.
* *Web developers (Human)*
* As a web developer, I usually check & maintain the website so people can shopping online smoothly.

1. **A class registration system**

* *Students (Human)*
* As a student, I want to check all of my units to plan for my study job.
* As a student, I want to check my balance to register my units.
* As a student, I want to view my grade so that I can know my academic standing.
* *Teachers (Human)*
* As a teacher, I want add more tutorial class to distribute my students reasonably.
* As a teacher, I want to view my students’ grade to track their study.
* As a teacher, I want to check units to arrange my timetable.
* *Administrator (Human)*
* As an administrator, I want to add more online tutorial classes to students who can not attend on offline classes.
* As an administrator, I want to remove some classes that having no students attend.

1. **A online mapping application**

* *Travelers (Human)*
* As a traveler, I want to know my direction so that I will not get lost.
* As a traveler, I want to find the nearest bus station so that I can go home.
* *Administrators (Human)*
* As an administrator, I want to update new places to the app so that people can use it accurately.
* *Application developers (Human)*
* As an application developers, I want to add timer feature so that users can estimate how long they will arrive to their desired destination.

1. **Use cases**

**Use case 1. An online retail website**

* *Goal*: Buy quality goods online

*Primary actor*: ***Customers****.*

*Secondary actor*: Database.

*Trigger*: confirm order and make purchase.

*Precondition*: log in or create a new account to start shopping

*Flow of event:*

1. Customer login or create a new account to begin shopping online.
2. Customer find the items they want to buy in the searching bar.
3. When customers found their desired products, they read the reviews and ratings.
4. Add products to cart.
5. Confirm order and make purchase.

*Extension*:

1A. The customers forget their password.

1. The web ask customer select “Forget password” option.
2. The web ask customer to reset password via email or phone number.
3. The use case resumes at step 1.

1B. The account name has existed.

1. The system ask customer create a new account name.
2. The use case resumes at step 1.

4A. The product is out of stock.

1. The system will recommend customer similar products.
2. The use case resumes at step 3.

* *Goal:* Deliver products from retailers to customers.

*Primary actor*: ***Shipping department.***

*Secondary actor:* vehicles (ships, planes, trains, trucks, etc).

*Pre-condition*: receive orders from customers.

*Trigger condition*: orders notification.

*Flow of event:*

1. Shipping department receives orders from customers.
2. Shipping department confirm orders (customer personal details, address) and deposits.
3. Shipping department packs the products.
4. Shipping department uses vehicles to deliver products to customers.

*Extension:*

2A. Customer cancel the order.

1. Shipping department will check the products and charge customer’s previous deposits.
2. The use case ends.

2B. Customer change their addresss.

1. Customer reset their new address.
2. Use case resumes at step 1.

**Use case 2. A class registration system**

* *Goal*: To remove classes that have no students attend.

*Primary actor*: ***Administrator****.*

*Secondary actor*: Database.

*Trigger*: Administrator click “confirm” to remove the class.

*Precondition*: computer-based knowledge, know how to use system spreadsheet.

*Flow of event:*

1. Administrator gather list of classes that having no students
2. Administrator selects classes in spreadsheet.
3. Administrator click “remove” option and confirm it.

* *Goal*: Check balance

*Primary actor*: ***Student****.*

*Secondary actor*: Database.

*Trigger*: Student click “Register” to see balance .

*Precondition*: login student portal.

*Flow of event:*

1. Student login student portal.
2. Student click Enrolment & Registration option.

3.Student click “Register” option to view balance.

*Extension*:

1A. Student try to login but forget password.

1. The system ask student select “Forget password” option.
2. The system ask student to reset password via university email or phone number.
3. The use case resumes at step 1.

**Use case 3. An online mapping application**

* *Goal*: To know direction.

*Primary actor*: ***Traveler****.*

*Secondary actor*: Internet connection, GPS.

*Trigger*: Administrator click “confirm” to remove the class.

*Precondition*: click “Direction” option to know the direction

*Flow of event:*

1. Traveler key their current location and desired destination into the searching box.
2. The map displays different routes.
3. Traveler choose the most suitable route for them.

*Extension*:

1A. Wrong address/ destination.

1. The app display notice “The destination can not found”.
2. The traveler correct the address/destination.
3. The use case resumes at step 2.

* *Goal*: To add timer feature for the application.

*Primary actor*: ***Application developers****.*

*Secondary actor*: localhost server, database.

*Trigger*: Developer run code and test new feature .

*Precondition*: knowledge of web programming (programming language, etc).

*Flow of event:*

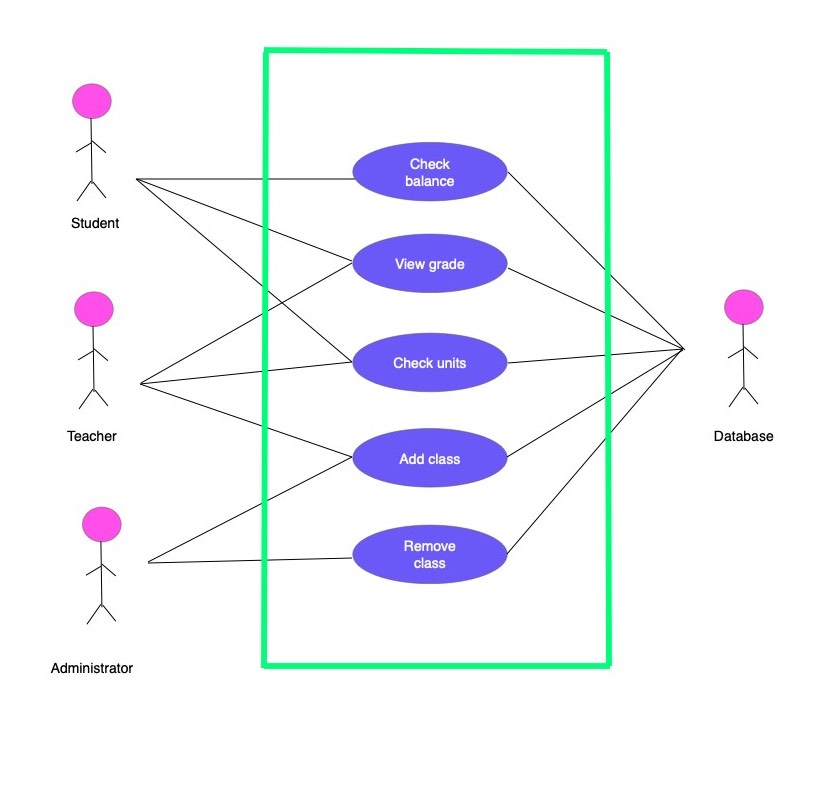
1. Developers design algorithms for timer feature.
2. Developers write code for timer feature.
3. Developers debug the code.
4. Developers select “Run” option to run and test the new feature.

*Extension*:

1A. The timer feature is faulty or not as expected.

1. Developer find where is the faulty code or unexpected feature.
2. The use case resumes at step 1.
3. **User case diagram**

**A Class Registration System**

****