SEPP CW1

Requirements Document

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3.1 Identify stakeholders

1. Shielding individuals: they need to place free food box orders once a week on the system.

2. Catering company: they can place their order directly on the system for one of a finite set of preassembled food boxes available.

3. Supermarket: they can be directed to a choice of supermarkets for browsing for the desired products and placing their order on the system.

4: External delivery service provider: the catering company might be required to use an external delivery service to dispatch their food boxes.

5: Public Health Scotland: keeping track and verify the information about the shielding individuals with the system.

6: Scottish Government: access to the order on the system.

7: Hospitals: they may need the address information from the system about the individuals so that they can help them once their conditions become worse.

8: Police Office: they may need the address information from the system about the individuals to take a random check for making sure they are in isolation and do not break the COVID-19 restrictions.

3.2 Describe system state

1) shielding individuals:

   a- full name

   b- medical conditions

   c- age

   d- CHI number

   e- phone number

   f- home address and post code

   g- preference: i) catering company ii) supermarket

   h- dietary restriction

      o Allergies

      o Vegetarian

      o Diabetic

      o Gluten free

      o Halal

   i- selected delivery date and time

   j- quantity of food

   k- whether be notified of the status of order: i) yes ii) no

2) food boxes orders:

   a- business names of catering company

   b- names of supermarkets

   c- names of delivery service providers

d- status of the food boxes: i) packed ii) unpacked iii) dispatched

iv) not dispatched

<mark>h-Food box modifications (if any)</mark>

3) catering companies:

a- stock of food boxes

b- box contents

c- minimum estimated time for delivery

d- type of delivery: i) in-house ii) third party

4) supermarkets:

a- location of the supermarket

b- link of "food box" web page

c- normal time takes to deliver

5)delivery service providers:

a- time arranged to deliver

b- name of couriers

c- whether the food boxes are signed

Other Things Need To Record

1) the most popular combination of products in the food boxes

2) the percentage of individuals choose catering company/

supermarket

3)the successful completion rate of orders by different

company/supermarket

4) average deliver time

5) price of food boxes

Statuses of boxes and orders should the system track

- order created

- order confirmed

- packing the food boxes

- food boxes packed

- dispatching the food boxes

- food boxes dispatched

- order completed

- possible statues: order canceled

3.3

Use case name: User register

Primary actor: User

Supporting actors: Public Health Scotland's electronic record system

Summary: User registered in the system

Precondition: If the user's Community Health Index (CHI) number match the data in Public Health Scotland's electronic record system.

Trigger: User register with valid CHI number

Guarantee: Show you are not Shielding individuals if register was failed.

Main Success Scenario:

1.User input CHI number,

2.User CHI number match the data in Public Health Scotland's

   electronic record system

3.Then registered successfully.

Use case name: Choosing food box provider

Primary actor: User

Supporting actors: Company /supermarket

user will choose between two options after user login and did not

order food box in this week. Food box order process will be end if

user already ordered food box in this week.

Use case name: Place order

Primary actor: User

Supporting actors: Catering company

Summary: User orders food from catering company

Precondition: User was login after input CHI numbers, user did not place any order in this week.

Trigger: User choosing catering company

Guarantee: Show category and number of food boxes in stock

Main Success Scenario:

1.System check food box is available

2.Amend the box's contents

3.User add food box to basket

4.User select a date and time for delivery and place the order

5.System issues a confirmation of the order

Extensions:

2a. System show the name and quality of each product

　.1 User can decrease only the quality of each products in the box's contents

4a. User can turn on notified automatically of the status of their order. Date and time selected by the user cannot be below the minimum estimated time for delivery for the catering company maintained by the system.

Use case name: place order from supermarket

Primary actor: User

Supporting actors: Supermarket

User chooses to order food box from supermarket

User access to the link of suggest supermarkets food box webpage which provided by the system user order food box directly from the supermarket.

Use case 5 name: Cancel box

Primary actor: User

Supporting actors: Catering company

Summary: User cancel box

Precondition: Box has not been dispatched yet

Trigger: User cancel box

Guarantee: Box been cancelled.

Main Success Scenario:

1.User request cancelling box.

2.Box been cancelled successfully.

Use case name: Edit box

Primary actor: User

Supporting actors: Catering company

Summary: User edit box

Precondition: Box has not been packed

Trigger: User request edit box

Guarantee: Product quantities in the box been reduce or unchanged

Main Success Scenario:

    1. User reduces or deletes items in the box.

Extensions:

1a. SMS text messages user can decrease the quality of each products in the box's contents by sending "Pa b". a means the order of product in the box. B means the new quantity of the product.

Notes:

- User can only reducing product quantities.

Use case name: Tracking Order

Primary actor: User

Supporting actors: Catering company, supermarket

User can request tracking order and position of driver of this order. If the order was place at supermarket the system will provide order status from supermarket system. If the order was place at catering company notified automatically of the status of their order.

Use case name: Update order status

Supporting actors: Ordering system; Delivery company; shielding individual.

After a Shielding individual's order for Food Box is placed, supermarket/catering company

needs to notify the system whenever there is a change in order status, for example if the
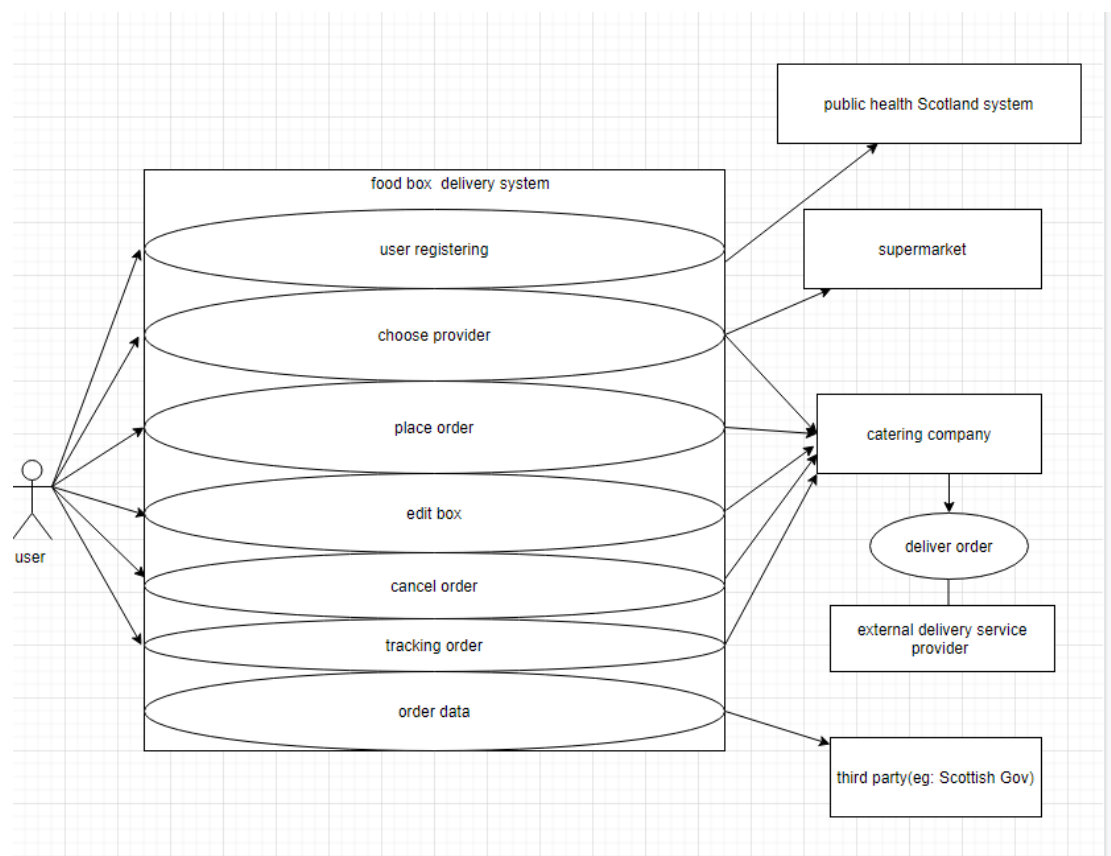
food box is dispatched, supermarket/catering campany must send the massage to ordering

system about this change.

3.4 use case diagram

use case diagram after Improved

3.5 describe non-functional requirements

1) accessibility:

a- give identified users limited access authority. For instance, identified shielding individuals can only look up their own orders and catering companies or supermarket can only visit the orders they are response for.

2) platform compatibility:

a- the system should work on both computer and smart phone under different system i.e., windows, mac os, Android, ios.

3) performance:

a- the system should respond quickly when user take an action like creating an order or decreasing the quantity of products.

4) security:

a- all data inside the system should be protected against malware attacks or unauthorized access.

5) usability:

a- users can clearly be guided to register their account and create order

b- when user makes mistake like choosing an impossible deliver time, the system should give an error message.

6 availability:

a- the system should be accessible for operation during most of time so that user can confirm order and receive food boxes.

b- When the number of users access the system increase at the same time, make sure

c- the server could afford and the system would not be crushed.

d- Could be accessed 24 hours

7 Data retention

Need a database to save data like user information and history order.

Allow Scotland NHS to access the data when necessary.

3.6 Identify ambiguities, subtleties, incompleteness

The provided system description did not mention the issue about returning or exchanging the food boxes. This might happen when the shielding individuals find the products are expired or they get a wrong combination about their orders.

For supermarkets, there is no description that how individuals can change the quantity of the products in the food boxes.

In section 2.2, the description said that users selected supermarkets cannot enquire the system about their order status. However, the

supermarket system would update the status to our system as any change happens. We should complete the function of the system and make user can track the supermarket order in our system.

For catering company, though they provide similar products and the system did not give user right to select the certain company. Whether the system will allocate the nearest catering company for users so that the deliver time can be decreased.

3.7 The software development

I suppose software project engineering is the best choice. This is because the whole system is designed under the requirement from Scottish Government aim to support the shielding individuals. It has clear functionality. The software product engineering is aim to make a generic solution rather than a specific one. In this case, software project engineering is definitely a more efficiency way.

We are using plan-driven process so far in this assignment. This is because the requirement for the functions of the system keeps constant during the procession. We also wrote a requirements document which include all the details before we start to develop the system.

The prototyping development process might be a better choice. This is because when we take prototyping process, we firstly design a

simple system for the user to satisfy their basic use like creating the order. Then we improve the system and add other functions based on the feedback gived by the users. In this way, we can create a system which most suitable for the users since developers and users have less misunderstands and more communications to each other.

5.1

1. I defined three type of stakeholders which are customers (shielding individuals), suppliers (catering companies, supermarkets, deliver service providers) and third parties (public health Scotland, Scottish government, police office, hospital).

2. I summarized the basic system state information mentioned from the description and case study. Moreover, I also add some points which I think is useful to the system

3.All the use cases from the system are strictly follow the notion of use cases from the lecture and tutorial.

4.We used seven use cases for the system, from register to tracking order can contain the three use cases in the coursework requirement, and 1 use case with reasonably full template, and rest of use cases use primary actor and supplementary actor and descriptions. The seven use cases can be covered all the use cases in the system description.

5. In the use case diagram, all the seven use cases have been

covered, and also shows the Third party operators, Scottish Government who can access to the system's order data.

6. Follow the definition of non-functional requirements, I wrote the accessibility, platform compatibility, availability, security and usability and all of them are clearly measurable.

7. I wrote three ambiguities associated with catering companies, supermarkets and deliver service providers, I provided the possible solution in my view for these problems.

8. Based on the concept of project and product engineering, I selected project one since it is more suitable for a clear function system design.

9. I suppose we are using plan-driven process. However, I suppose prototyping develop process is a better choice since it brings a closer relation to developer and user which make the system could be improved fluently.