Lancaster University College
at Beijing Jiaotong University

[UseCase: MyGrocer]

CNSCC204: Software Design Coursework 3

[Student name and ID]	[Student name and ID]
Zhuohua Qi 16722019	Yuekai Yin 16722034
Haotian Sang 16722022	Peixiang Zhao 16722036
Xiao Xie 16722031	Chenhui Mao 16723026

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1. Use Case

Below is a use case diagram for Grocery system (Figure 1.1) showing basic use cases of the user buying commodities. In addition to the diagram there are also several more detailed use case tables (Table 2.1, 2.2, 2.3,2.4,2.5,2.6) describing in more depth the key actors and success conditions for these use cases.

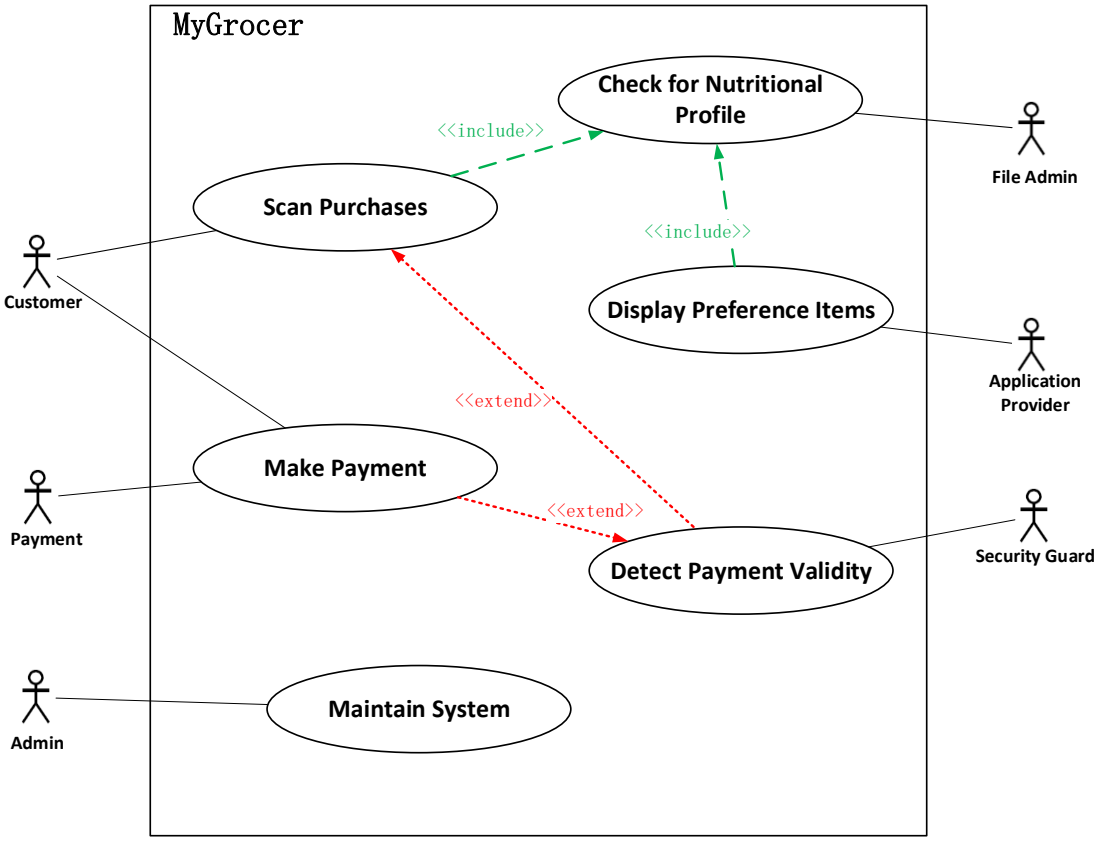

Figure 1.1 Use case Diagram

2. Use Case Table

Table 2.1 Use case table for ‘scan purchases’

Use case name:	***Scan purchases***
Scope:	MyGrocer
Primary actor:	Consumer
Secondary actors:	None
Summary:	Scanning purchases as they are added to the shopping cart
Preconditions:	The consumer is at the app scan interface and aims at purchases
Main success scenario:	1. The consumer turns on the app to scan purchases with camera 2. App gets purchases’ information 3. App calls information of dietary restrictions, nutritional preferences that user has input 4. App compares the information to checks for compliance to the nutritional profile 5. App shows the purchase and its price 6. App add it to shopping cart
Alternatives:	3.a. App directly jumps to step 6 if no restrictions lists or user choses to skip 6.a. (Additional step) App calculates the total prices and total quantity if user chose
Exceptions:	1a. App warns the user if low battery or internet connection lost 2a. App warns the user if purchase is not in goods database
Postconditions:	The purchase is added to shopping cart.

Table 2.2 Use case table for ‘Make Payment’

Use case name:	***Make payment***
Scope:	MyGrocer
Primary actor:	Payment
Secondary actor:	Customer
Summary:	The customer makes a payment when he/she leaves the store
Preconditions:	The customer has successfully selected his/her commodities and leaves the store
Main success scenarios:	1. The customer leaves the store through the door 2. The sensors which are installed around the door will detect the exit of the customer 3. The App totals the purchases 4. The system finishes the payment via a predetermined payment method 5. The App presents “Payment success” to the customer 6. The detail of the bill is sent to the customer.
Alternatives:	1.a. (additional step) the customer touch “Make payment” manually and finishes the payment directly, App presents “Payment success” to customer 4.a. If customer already paid the bill then the app will directly jump to step 6.
Exceptions:	2.a. The sensor fails to detect the exit of the customer 4.a. The predetermined payment method fails to finishes the customer’s payment
Postconditions:	The payment is finished.

Table 2.3 Use case table for ‘Check for Nutritional Profile’

Use case name:	***Check for Nutritional Profile***
Scope:	MyGrocer
Primary actor:	File Admin
Secondary actor:	None
Summary:	The file admin checks the purchases for compliance to the nutritional profile.
Preconditions:	The purchases added to the shopping cart are scanned.
Main success scenarios:	1. Obtain the nutritional information of the product through the barcode 2. If the user has entered the restrictions, the application acquires the nutritional profile from the file admin 3. Compare the nutritional information of the product and restrictions profile of the user in turn, and check for compliance 4. If matches, display the matching results and information of the product
Alternatives:	2.a. The user does not have dietary restrictions, so turn to the last step 4.a. If has noncompliance, alert the user to error messages and display the results
Exceptions:	1.a. Failure to gain the information of the product. End
Postconditions:	The smart phone checks for the compliance successfully

Table 2.4 Use case table for ‘Display Preference Item’

Use case name:	***Display Preference Items***
Scope:	MyGrocer
Primary actor:	Application Provider
Secondary actor:	None
Summary:	The smart phone displays a list of special items that satisfies the nutritional profile and dietary restrictions.
Preconditions:	The user has entered a dietary preference and this information has been obtained by the App
Main success scenarios:	1. If the user has entered dietary restrictions, nutritional preferences, the App will automatically get the information. 2. The App obtains the nutritional information of the product of the current user's store. 3. App compares user's demands with product information. 4. Finally, display the product listings which meet user restrictions.
Alternatives:	1.a The user did not provide dietary preferences and nutritional needs. 1.b. The App provides customers with a page with the words "Welcome! Wish you a happy shopping". 3a.1 No products were found that match the specific needs from the user. 3a.2 The App displays a page with the words "Sorry, no such items:(".
Exceptions:	2a. The App does not find the product information of the store where the user is located. Say "sorry" to the user.
Postconditions:	The smart phone displays a list of special items that satisfy the nutritional profile successfully.

Table 2.5 Use case table for ‘Detect Payment Validity’

Use case name:	***Detect Payment Validity***
Scope:	MyGrocer
Primary actor:	Security Guard
Secondary actor:	None
Summary:	The security guard can use this app to detect payment validity and safety during and after customers do their purchases.
Preconditions:	Customers have selected their goods and ready to the purchases.
Main success scenarios:	1. The security guard can manage the situation of goods on the shelf in real time by app. 2. The security guard can monitor the payment of each order in real time by app. 3. The app can send out a warning to the security guard about problematic or incomplete orders. 4. The app can push messages to the security guard about the accidental loss of goods on the shelf.
Alternatives:	1.a. If someone tries to steal some goods from the shelf, the app will send a serious warning to the security guard. 2.a. If customers forget to scan the purchase of any goods, the app will alert to customers directly rather than warn to the security guard.
Exceptions:	3.a. Temporary payment failure due to any network reasons will delay reminding the security until network returns to normal.
Postconditions:	Customers leave the shop without any problem.

Table 2.6 Use case table for ‘Maintain System’

Use case name:	***Maintain System***
Scope:	MyGrocer
Primary actor:	Admin
Secondary actor:	None
Summary:	The Admin will maintain the System when there is malfunction.
Preconditions:	A malfunction happens in the system.
Main success scenarios:	1. A system emerges a malfunction, then the system automatically contacts the Admin 2. Admin finds the causes of the error. 3. Admin fixes the error.
Alternatives:	1.a A system emerges a malfunction, the store keeper makes a phone call to an Admin
Exceptions:	2.a The Admin fails to find the error.
Postconditions:	The malfunction is repaired