

GENERAL FEEDBACK SO FAR (NOT SPECIFIC TO USE CASE DESCRIPTION ONLY)

- **In documentations, it is important to be careful to details. Hence, in this course, we need to be very systematic with our documentation**
 - Don't be sloppy and just go through motion (it defeats the purpose, and probably better off not doing documentation)
 - Note that the whole point of documentation is to make the process more systematic to increase the success rate of the project

Use Case Description Exercise

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Simple Telco Web Portal System (STWPS)

- Simple Telco Web Portal System (STWPS) is a web portal used by customers to buy mobile phone and manage their accounts.
- The portal provides an online shop for customers to search and shop for mobile phone at the comfort of their home anytime, anywhere (Similar to <http://www.singtelshop.com> , <http://www.m1shop.com.sg/> , <http://www.starhub.com/shoponline.html>)
- Try visiting any of the above URLs to get a feel of how a user can shop for mobile phones online.
 - Use Case: *Record online mobile phone order*

Simple Telco Web Portal System (STWPS)

Additional Information:

•3 modes of payments available:

- Cash
- Nets
- Credit card

•Cash

- Payment on delivery by cash

•Nets

- Delivery staff will bring a nets machine for the customer to make payment

•Credit card

- Customer must provide credit card details online and the card details are verified immediately during transaction

Simple Telco Web Portal System (STWPS)

Additional Information:

- ...

- After purchase order has been submitted**

- Customer will be prompted to select their preferred delivery date/timeslot
- A transaction number is generated if the transaction is successful

Feedback

PRECONDITION/POSTCONDITION SHOULD BE A CONDITION STATEMENT (BOOLEAN EXPRESSION)

Use Case:	<i>Record online mobile phone order</i>
Triggering Event:	Customer want to buy mobile phone
Brief Description:	Customer looks up his preferred mobile phone (model, color and memory size), select mobile package plan, select payment method, add to cart, input promo code, check out to create new order, get verified credit balance (in case of credit card) and finalize order placement.
Actors:	Customer
Preconditions:	-
Postconditions:	Create new mobile phone order

**SHOULD INCLUDE THE STEP
NUMBER FOR EACH
EXCEPTION UNDER THE
EXCEPTION CONDITION**

Use Case:	Record online mobile phone order	
Triggering Event:	User want to purchase a phone	
Brief Description:	When a customer accesses STWPS web portal to buy mobile phone	
Actors:	Customer	
Preconditions:	Customer must be logged in to their account	
Postconditions:	Prompted to select delivery date/time and transaction number created	
Flow of Events:	Actor	System
Exception Conditions:	More than 2 failed payment attempts No stock available / customer not interested	

**SHOULDN'T BE JUST GENERIC
FLOW BUT SHOULD INCLUDE
THE STEPS NEEDED TO
IMPLEMENT THIS USE CASE**

Flow of Events:	Actor	System
	1. Make and order	1.1 display payment selection
	2. If customer choose credit card , Enters credit card details (cc number, expiry date, CVV)	2.1 charge the money from card.
	2.a Select payment(<u>cash,nets</u> , credit cart) if customer choose cash or nets.	2.a.1 Displays order confirmation 2.a.2 Creates order transaction 2.a.3 Sends order confirmation email
	3. Customer receive the goods, if the payment is credit card, go to step 4.	
	3.a if the payment is <u>cash,charge</u> by delivery	3.a.1 receive from <u>delivery,update</u> order state
	3.b if the payment is nets, charge by delivery machine	3.a.2 receive from <u>delivery,update</u> order state
	4. Confirm signing for goods	4. Mark order finished

This is more of a generic e-commerce flow rather than one that is specific to this domain.
E.g. selecting price plan, phone number, etc

**AND MAKE SURE THE FLOW IS
DETAILED**

Flow of Events:	Actor	System
	<ol style="list-style-type: none"> 1. The user submits the mobile phone number 2. Wait for the verification code sent by the system 3. Enter the verification code and click Login or register 	<ol style="list-style-type: none"> 1. Check whether the mobile phone number is valid 2. If yes, generate a verification code and send it to the user 3. Check whether the verification code sent by the user is consistent with the generated one 4. If the user is queried according to the mobile phone number 5. Check whether the user exists 6. If the user exists, save the user to the back-end session 7. If no user exists, create a new user in the database

**DON'T USE POSTCONDITIONS
TO DESCRIBE WHAT HAPPENS
IN THE USE CASE (USE THE
FLOW OF EVENTS INSTEAD)**

Use Case:	See preceding slide	
Triggering Event:	See preceding slide	
Brief Description:	See preceding slide	
Actors:	See preceding slide	
Preconditions:	See preceding slide	
Postconditions:	<p>A new order is created in the system with the selected phone model, quantity, and delivery address.</p> <div style="border: 2px solid red; padding: 5px;"> <p>The customer receives a confirmation email with their order details and a transaction number.</p> </div> <p>The inventory level of the selected phone model is decreased by the ordered quantity.</p>	
Flow of Events:	Actor	System
	See next slide	See next slide
Exception Conditions:	<p>The system encounters an error during order processing. The customer provides incorrect information during checkout.</p>	

**DON'T USE PRECONDITION AS
REPLACEMENT OF (FIRST FEW
STEPS OF) FLOW OF EVENTS**

Use Case:	Record Online Mobile Phone Order
Triggering Event:	Customer completes the purchase process for a mobile phone on the STWPS.
Brief Description:	It describes recording an online mobile phone order placed by a customer on the STWPS.
Actors:	Customer, Delivery Staff
Preconditions:	<p>The customer is logged in to the system.</p> <p>The customer has selected a mobile phone to purchase.</p> <p>The customer has selected a mode of payment.</p> <p>The customer has provided necessary information for delivery.</p>
Postconditions:	<p>The order is recorded.</p> <p>The customer receives a transaction number if it is successful.</p> <p>The selected mobile phone is available.</p> <p>Delivery date/timeslot is scheduled based on the customer's preference.</p>
Exception Conditions:	If the customer's selected mode of payment fails (e.g., credit card declined), the system notifies the customer and prompts for an alternative payment method.

**EXCEPTION SHOULD BE A
STEP UNDER THE SYSTEM
LANE**

Use Case:	Record online mobile phone order	
Triggering Event:	Customer wants to make a mobile phone order online	
Brief Description:	When the customer is on the page of the desired mobile phone to purchase, the customer clicks the checkout button. The system will prompt the customer to log in, select payment method, verify payment details if payment by credit card, select preferred delivery date and timeslot, and get a transaction number.	
Actors:	Customer.	
Preconditions:	Customer is on the page of the desired mobile phone to purchase.	
Postconditions:	Purchase order is created and recorded.	
Flow of Events:	Actor	System
	Refer to next few slides	Refer to next few slides
Exception Conditions:	2b. Customer does not register as a new member. 2c. Customer's login details are incorrect after three attempts.	

**THE FLOW SHOULD INCLUDE
EVERYTHING THAT'S NEEDED
TO COMPLETE THE USE CASE
(NOT JUST THE PART AFTER
THE USER PRESS CHECK OUT)**

Flow of Events:	Actor	System
	<p>1. Click on the "Checkout" button and specify quantity to purchase.</p> <p>2a. If the customer is logged in, go to step 3.</p> <p>2b. If the customer is not logged in, and is not a member, he/she enters his/her personal details to register as a new member.</p> <p>2c. If the customer is not logged in but is a member, he/she enters login details.</p> <p>3. Select payment method: either Cash, Nets, or Credit Card.</p>	<p>1.1. Display item summary page.</p> <p>2b.1. Create a new member record and save the record in database.</p> <p>2b.2 Logs the user into the system and displays the form to select payment method.</p> <p>2c.1. Verify the login details and log the user into the system.</p> <p>2c.2. Displays form for customer to select payment method.</p> <p>3.1a. If customer chooses cash or Nets, go to step 3.2.</p>

**THERE SHOULD NOT BE
MULTIPLE ACTORS INVOLVE
IN A USE CASE AND USE CASE
DESCRIPTION IS NOT JUST
BUSINESS PROCESSES BUT
REAL INTERACTION WITH THE
SYSTEM**

Flow of Events:	Actor	System
	<p>Customer: The customer plays a central role in this use case by selecting a mobile phone product, providing payment information, choosing a preferred delivery date/timeslot, and receiving order confirmation and delivery.</p> <p>STWPS System: The STWPS system facilitates the entire order process. It displays product details, handles payment modes (Cash, Nets, Credit Card), verifies credit card details, generates transaction numbers, records order details, sends order confirmation emails,</p>	<p>The customer interacts with the STWPS system through the platform's user interface. The STWPS system processes customer requests, displaying product details and managing the shopping cart.</p> <p>Payment processing is handled by the STWPS system in real-time based on the selected payment mode.</p> <p>The system prompts the customer for their preferred delivery date/timeslot.</p> <p>Upon successful submission, the system generates a unique</p>

Unlike activity diagram, we are listing down the interaction between the user and the system (for ONE use case), it's not just business processes

**MAKE SURE THE STEP
NUMBERS (UNDER THE FLOW
OF EVENTS) ARE UNIQUE**

Flow of Events:	Actor	System
	<p>Actor: Customer</p> <ol style="list-style-type: none"> 1.Customer selects a mobile phone from the online shop. 2.Customer adds the selected mobile phone to the cart. 3.Customer proceeds to checkout. 4.Customer selects a mode of payment (Cash, Nets, or Credit Card). <p>Actor: Delivery Staff</p> <ol style="list-style-type: none"> 1.Delivery staff processes the order for delivery on the scheduled date/timeslot. 	<p>If Cash is selected:</p> <ol style="list-style-type: none"> 1.System confirms the order. 2.Order is recorded in the system. 3..Customer receives a transaction number. 4.Customer selects preferred delivery date/timeslot. <p>If Nets is selected:</p> <ol style="list-style-type: none"> 1.System confirms the order. 2.Order is recorded in the system. 3.Customer receives a transaction number. 4.Delivery staff brings a Nets machine for payment upon delivery.

**PRECONDITION CANNOT BE
USED TO DESCRIBE WHAT THE
USER MUST DO (USER COULD
PROVIDE WRONG
INFORMATION)**

Use Case:	User SMS register and login	
Triggering Event:	Users must be logged in to interact with the system	
Brief Description:	When users enter the system for the first time, they need to register, and then they only need to enter the account and password to log in. After successful authentication, they can access the services provided by the system	
Actors:	User	
Preconditions:	The user enters the correct and legal mobile phone number	
Postconditions:	The user information must be successfully created and after the authentication is successful, the user is granted access permission.	
Flow of Events:	Actor	System
	See below	See below
Exception Conditions:	1. The mobile phone number entered by the user is invalid 2. The verification codes entered by users are inconsistent	

**BE CLEAR WHAT'S PART OF
THIS USE CASE AND WHAT'S
PART OF ANOTHER USE CASE
(NOT POSSIBLE TO HAVE 3
LANES UNDER THE FLOW OF
EVENT)**

Use Case:	Record online mobile phone order		
Triggering Event:	Customer wants to make an online mobile phone order.		
Brief Description:	The customer searches for mobile phones and phone plans that he wishes to order, and adds these items to the order. The system will create the new order, verify payment, create the order transaction and finalise the order.		
Actors:	Customer, Delivery Staff		
Preconditions:	-		
Postconditions:	Order and order line items must be created.		
Flow of Events:	Customer	Delivery Staff	System
	1. Search for listings using keywords		1.1 Displays the listings associated with keywords
	2. Selects the mobile phone, input quantity, colour, storage size, payment option, phone plan and add to shopping cart.		2.1 Updates the current shopping cart by adding the selected items.
	3. Repeat step 1 and 2 until all the items have been added.		

Flow of Events:	Actor	System
	<p>8. Make payment on delivery. 8a. If customer pays by cash, go to step 9. 8b. If customer pays by NETs, go to step 10.</p> <p>9. Give cash to deliveryman.</p> <p>10. Give NETs to deliveryman.</p> <p>11. Receive delivery.</p>	<p>9.1 Creates order transaction</p> <p>10.1 Creates order transaction</p>

ALIGN THE STEP NUMBERS

Flow of Events:	Actor	System
	<ol style="list-style-type: none"> 1. Click check out button 2. Click delivery address information 3. Fill in or change personal information(address, name, contact number) 4. Click confirmation button 5. Click choose payment method bar 6. If choose to pay by cash or nets, go to step 8 6a. choose to pay by credit card 7. enter credit card details(cc number, expiry date, cvv) and complete order 8. Click confirmation button 9. Click preferred date bar 10. choose preferred delivery date 11. click confirmation button 	<ol style="list-style-type: none"> 1.1 verifies customer identity 1.2 find products in the customers' cart 1.3 display the order summary (item, item number, item price, total price), delivery address bar, payment method choose bar and preferred delivery date choose bar 2.1 display delivery address table 4.1 save the address information 5.1 display the available payment method choices 6a.1 display credit card information table 7.1 verify the card information 8.1 save the payment method information 9.1 display preferred date calendar 10.1 save the preferred date information 11.1 create order with all the

DON'T USE PRECONDITION AS ASSUMPTIONS (IF THERE IS CERTAIN LOGIC THAT NEEDS TO BE SATISFIED, SHOULD PROBABLY PUT IN THE FLOW OF EVENT)

Use Case:	Record online mobile phone order	
Triggering Event:	User wants to create a mobile phone order	
Brief Description:	On STWPS, when user places a new order for a mobile phone, select mobile plan, select a contract (to recontract or use a new line), add the selected mobile phone, mobile plan and contract to the order, verify payment, create order transaction, and finalize the order	
Actors:	User of STWPS	
Preconditions:	User needs to login if chooses to recontract on an existing contract	
Postconditions:	Order that consists of the phone, the mobile plan and contract must be created	
Flow of Events:	Actor	System

**WE ALWAYS ASSUME THAT
THE USERS WILL COMPLETE
THE USE CASE (USER WON'T
SUDDENLY DECIDE NOT TO
CONTINUE WITH THE USE
CASE)**

Exception Conditions:	1.2a.1. Customers enter invalid personal details or does not agree to Company storing and using the customer's personal details. Form cannot be submitted to the Company for further processing.	
	1.2a.1.3.2a. Customer does not request new One-Time Password after expiry of the previous One-Time Password. Subsequent screens cannot be displayed.	
	4.3.1a. Customer is unable to enter valid credit/debit card details for the order to be charged.	
	Customer does not proceed to submit the form during any step in the above flow of events.	
	Customer closes browser or tab before transaction is completed.	

**WE ALWAYS ASSUME THE
UNDERLYING TECHNOLOGY
WON'T FAIL**

Exception Conditions:	8.3 database internal error 8.2 transaction number cannot be generated 8.1 credit card verification failure
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**IT IS IMPORTANT TO CAPTURE
BRIEFLY WHAT ARE THE
PROCESSING THAT NEEDS TO
HAPPEN ON THE SYSTEM (E.G.
DATABASE RECORD CREATED,
EMAIL SENT, ETC)**

DON'T BE TOO SLOPPY WITH THE FLOW OF EVENTS (AFTER THIS PROCESS, WE WILL USE THE USE CASE DESCRIPTION TO DESIGN THE SYSTEM – IT IS IMPORTANT TO ENCODE ALL THE DETAILS)

Flow of Events:	Actor	System
	1. Enter customer details 2. initiate a new order 3. show available items to customer 4. select the item that the customer wants	1.1 verifies information 2.1 create a new order 3.1 Display items 4.1 Display item details

5. Add items to order 6. Add items

6. Repeat 4-5 till all items added

Sample Solutions

Use Case:		
Triggering Event:		
Brief Description:		
Actors:		
Preconditions:		
Postconditions:		
Flow of Events:	Actor	System
Exception Conditions:		



Use Case:	Record online mobile phone order	
Triggering Event:		
Brief Description:		
Actors:		
Preconditions:		
Postconditions:		
Flow of Events:	Actor	System
Exception Conditions:		



Use Case:	Record online mobile phone order	
Triggering Event:	Customer wants to create an online mobile phone order	
Brief Description:		
Actors:		
Preconditions:		
Postconditions:		
Flow of Events:	Actor	System
Exception Conditions:		



Use Case:	Record online mobile phone order	
Triggering Event:	Customer wants to create an online mobile phone order	
Brief Description:	Customer order mobile phone through STWPS. A mobile phone order is created after the necessary details for the mobile phone order is provided such as: the mobile phone, price plan/value added services are chosen, ...	
Actors:		
Preconditions:		
Postconditions:		
Flow of Events:	Actor	System
Exception Conditions:		



Use Case:	Record online mobile phone order	
Triggering Event:	Online mobile phone order	
Brief Description:	...	
Actors:	Customer	
Preconditions:		
Postconditions:		
Flow of Events:	Actor	System
Exception Conditions:		



Use Case:	Record online mobile phone order	
Triggering Event:	Online mobile phone order	
Brief Description:	...	
Actors:	Customer	
Preconditions:	The customer particulars and delivery addresses have been added.	
Postconditions:		
Flow of Events:	Actor	System
Exception Conditions:		



Use Case:	Record online mobile phone order	
Triggering Event:	Online mobile phone order	
Brief Description:	...	
Actors:	Customer	
Preconditions:	...	
Postconditions:	<p>The online mobile phone order must exist and associated with the customer.</p> <p>The amount of stock for mobile phone is reduced by the requested quantity.</p>	
Flow of Events:	Actor	System
Exception Conditions:		



Flow of Events:	Actor	System
	1. Searches mobile phone by brands	1.1 Displays the list of available mobile phone for brand


Flow of Events:	Actor	System
	<ul style="list-style-type: none">1. Searches mobile phone by brands2. Chooses the mobile phone.	<ul style="list-style-type: none">1.1 Displays the list of available mobile phone for brand2.1 Displays the available mobile phone number.

Flow of Events:	Actor	System
	<ol style="list-style-type: none"> 1. Searches mobile phone by brands 2. Chooses the mobile phone. 3. Chooses a mobile phone number. 	<ol style="list-style-type: none"> 1.1 Displays the list of available mobile phone for brand 2.1 Displays the available mobile phone number. 3.1 Displays the available price plans.

Flow of Events:	Actor	System
	<ol style="list-style-type: none"> 1. Searches mobile phone by brands 2. Chooses the mobile phone. 3. Chooses a mobile phone number. 4. Selects the price plan. 	<ol style="list-style-type: none"> 1.1 Displays the list of available mobile phone for brand 2.1 Displays the available mobile phone number. 3.1 Displays the available price plans. 4.1 Displays the available value-added services.

Flow of Events:	Actor	System
	<p>1. Searches mobile phone by brands</p> <p>2. Chooses the mobile phone.</p> <p>3. Chooses a mobile phone number.</p> <p>4. Selects the price plan.</p> <p>5. Selects the value added services.</p>	<p>1.1 Displays the list of available mobile phone for brand</p> <p>2.1 Displays the available mobile phone number.</p> <p>3.1 Displays the available price plans.</p> <p>4.1 Displays the available value-added services.</p> <p>5.1 If the user is logged in, displays the available payment modes.</p> <p>5.1a If the user is not logged in, displays login form/new registration form.</p>

Flow of Events:	Actor	System
	<p>6. If the customer is not logged in but is a member, he/she enters the login details.</p> <p>6a. If the customer is not logged in but is not a member, he/she enters his/her details and register as a new member.</p> <p>6b. If the customer is logged in, go to step 7.</p> <p>7. Selects the payment mode and delivery address (and provides the credit card details if credit card payment mode is selected)</p>	<p>6.1 Verifies log in details 6.2 If valid, displays the available payment modes. 6.2a If invalid, go to step 6.</p> <p>6a.1 If member details are valid, creates a new member record 6a.1a If member details are invalid, go to step 6a. 6a.2 Displays the available payment modes.</p> <p>7.1 Verifies credit card details if credit card payment mode. 7.2 Creates the transaction record with the necessary details.</p>


Flow of Events:	Actor	System
	1. Searches mobile phone by brands	1.1 Displays the list of available mobile phone for brand
	2. Chooses the mobile phone.	2.1 Displays the available mobile phone number. 
	3. Chooses a mobile phone number.	3.1 Displays the available price plans.
	4. Selects the price plan	4.1 Displays the available value-
	5. Selects the value ad services.	5.1 If the user is logged in, system displays the available payment modes.
	...	5.1a If the user is not logged in, system displays login form/new registration form. ...

2.1 Not enough stocks

Flow of Events:	Actor	System
	1. Searches mobile phone by brands	1.1 Displays the list of available mobile phone for brand
	2. Chooses the mobile phone.	2.1 Displays the available mobile phone number.
	3. Chooses a mobile phone number.	3.1 Displays the available price plans.
	4. Selects the price plan.	4.1 Displays the available value-added services.
	5. Selects the value added services.	... if the user is logged in, system displays available payment
	...	3.1 Selected number no longer available ... if the user is not logged in, system displays login form/new registration form. ...



3.1 Selected number no longer available

Flow of Events:	Actor	System
	1. Searches mobile phone by brands	1.1 Displays the list of available mobile phone for brand
	2. Chooses the mobile phone.	2.1 Displays the available mobile phone number.
	3. Chooses a mobile phone number.	3.1 Displays the available price plans.
	4. Selects the price plan.	4.1 Displays the available value-added services. 
	5. Selects the value added services.	5.1 If the user is logged in, system displays the available payment modes.
	...	4.1 The selected price plan is not available for this mobile phone If user is not logged in, system displays login form/new user registration form.

Flow of Events:	Actor	System
	<p>1. Searches mobile phone brands</p> <p>2. Chooses the</p> <p>3. Chooses a mobile number.</p> <p>4. Selects the price plan.</p> <p>5. Selects the value added services.</p> <p>...</p>	<p>1.1 Displays the list of available brands for brand</p> <p>2.1 Displays the available mobile</p> <p>3.1 Displays the available price</p> <p>4.1 Displays the available value-added services.</p> <p>5.1 If the user is logged in, system displays the available payment modes.</p> <p>5.1a If the user is not logged in, system displays login form/new registration form.</p> <p>...</p>

5.1 The selected value-added service is not available for this mobile phone/price plan



Flow of Events:	Actor	System
	<p>6. If the customer is not logged in but is a member, he/she displays the available login details.</p> <p>6a. If the customer's login details are valid, but is not a member, the system shows member record his/her details and registers him/her as a new member.</p> <p>6b. If the customer is logged in, go to step 7.</p> <p>7. Selects the payment mode and delivery address (and provides the credit card details if credit card payment mode is selected)</p>	<p>6.1 The system displays the available login details.</p> <p>6.2 If the login details are valid, go to step 6.</p> <p>6a.1 If the login details are valid, the system shows member record details.</p> <p>6a.2 Displays the available payment modes.</p> <p>7.1 Verifies credit card details if credit card payment mode.</p> <p>7.2 Creates the transaction record with the necessary details.</p>

7.1 The credit card information is invalid/ credit card verification failed

