Ontology-based Expert System for a Generic Drug Production of Pharmaceutical Dosage Forms

Software Requirement Specification

By

Mr. Narongrit Saisuwan 542115017

Mr. Panupak Wichaidit 542115047

Department of Software Engineering
College of Arts, Media and Technology
Chiang Mai University

Project Advisor
Dr. Chartchai Doungsa-ard

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¹ NS- Narongrit Saisuwan , PW – Panupak Wichaidit , CD - Chartchai Doungsa-ard

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Chapter 1 | Introduction

1.1. Identification

Software Requirement describes the requirement specification of OEGP. The Software Requirement is composed of URS, User requirement description, and SRS. The purpose of this document are making the same understanding of the stakeholder and supporting the future development.

1.2. Acronyms

OEGP Ontology-based Expert System for a Generic Drug Production of Pharmaceutical Dosage Forms

PDPO Pharmaceutical Dosage Form Production Ontology

URS User Requirement Specification SRS System Requirement Specification

Chapter 2 | User Scenario and User Characteristic

2.1 User Scenario

The client want to use the OEGP on the tablet computer. The client need login before using the program. The program should show the current user after the user login to the system. The first page of program should be menu which consists of the history, evaluate case, manage a case and calculate drug reformulation as a generic version. The client need 3 types of the user. The first one is general pharmacists. The general pharmacists can register as member by sending the request to the administrator. The general pharmacist can use the system for evaluation and calculate drug reformulation. They also view their drug reformulate history. The drug reformulate history can search by drug's name and date. The second type of user is an administrator. The administrator can manage the member, drug formulation cases and substance in the program. They can approve the member register and change authorize status of member. They can change member status from general pharmacist to an expert pharmacist or the expert pharmacist to the general pharmacist. The administrator also add a new case in the program, update the existing case in the system and delete a case. The last user is expert pharmacists. The expert pharmacists come from general pharmacists. The expert pharmacist cannot register by themselves. This user must change by administrator. The expert pharmacists can use the program similar with the administrator but the expert pharmacists cannot manage make the member management.

2.2 User Characteristic

- **General Pharmacists** The general pharmacist can use system for making drug reformulation to the generic version. They also see the reformulation history and evaluate the system.
- **Expert Pharmacists** The expert pharmacists can make an activity with the system like the general pharmacists, but the expert pharmacists can manage the pharmaceutical ontology such as manage substance property, substance, excipient, and tablet formulation.
- Administrator- The administrator can make the activities like the general pharmacists and the expert pharmacists, but the administrator can manage the user account.

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From this User scenario and User Characteristic above, it can divide into use case diagram. The diagram is illustrated in Figure 1.

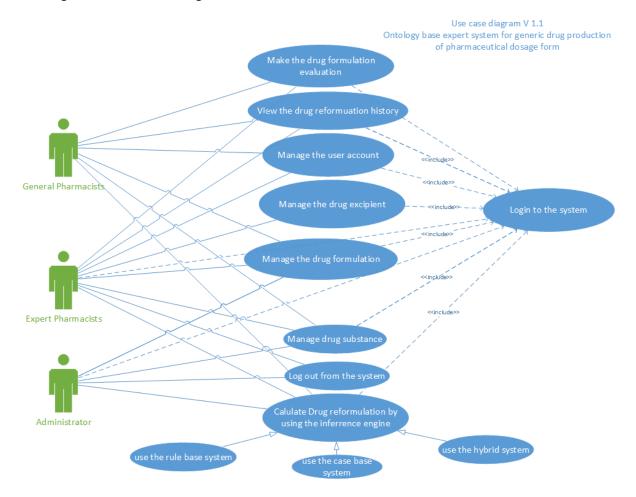


Figure 1 : OEGP's Use Case Diagram

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Chapter 3 | Requirement Specification

3.1. Functional Requirement

3.1.1. User Requirement Specification (URS)

From the use case diagram at the figure 1, there are 10 use cases in the OEGP. The use cases can divide into the User Requirement Specification. The User Requirement Specification (URS) is illustrated on the table.

No	Sub-Feature	URS No.	URS Name			Actor		
1	Manage the user	URS-01	The user regi	sters as a m	ember.	General P	harmacists	
	account	URS-02	The user upd	lates their		General P	harmacists,	
			information.			Expert Ph	armacists,	
						Administr	rator	
		URS-03	The Administ	trator delete	es the			
			member acco	ount.				
		URS-04	The Administ	trator appro	ves a	Admi	nistrator	
			general phar	macist regis	tration.			
		URS-05	The Administ	trator chang	ges an			
			authorized p	orized person status.				
2	Calculate the drug	URS-06	The user calc	e user calculates a drug			harmacists,	
	reformulation by		reformulation by using an			Expert Ph	armacists,	
	using the inference		inference engine.			Administ	rator	
engine.								
3	View the drug	URS-07	The user view	ws their dru	9	General P	harmacists,	
	reformulation		reformulatio	reformulation history.			armacists,	
	history					Administr	rator	
4	Make the drug	URS-08	The user makes the drug				harmacists,	
	reformulation		reformulation evaluation.			Expert Ph	armacists,	
	evaluation					Administ	rator	
5	Manage the drug	URS-09	The user add	s a new sub	stance	•	armacists,	
	substance		into the syste			Administ	rator	
		URS-10	The user upd		_			
			substance in	•				
		URS-11	The user dele		_			
			substance fro					
		URS-12	The user view	vs the subst	ance in			
			the system.					
6	Manage the drug	URS-13	The user add	s a new exc	ipient to	•	armacists,	
	excipient		the system.			Administ	rator	
		URS-14	The user upd		ting drug			
			excipient in t	•				
		URS-15	The user dele		ng drug			
			excipient in t					
		URS-16 The user views all the drug						
			excipient in the system.					
7	Manage the drug	URS-17	The user adds a new drug			•	armacists,	
	formulation		formulation (•	Administ	rator	
URS-18 The user updates an existing drug								
		formulation case in the system.						
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Bocument Type Software negationers				Date	2014		2014	

		URS-19	The user deletes an existing drug formulation in the system.	
		URS-20	The user views all of the formulation in the system.	
9	Login to the system	URS-21	The user logins to the system.	General Pharmacists, Expert Pharmacists, Administrator
10	Logout from the system	URS-22	The user logouts from the system.	General Pharmacists, Expert Pharmacists, Administrator

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3.1.2. User Requirement Description

Sub-Feature 1: Manage the user account

URS-01: The user registers as a member.

User Requirement	URS-01							
Specification ID:								
User Requirement	The user regi	The user registers as a member.						
Specification Name:								
Create By:	Panupak Wic	haidit	Last update b	y: Panupak Wichaidit				
Date Created :	April 1, 2014		Last Revision Dat	e: April 12, 2014				
Actor:	General Phar	macists						
Description:	URS-01 is use	ed, when th	e user wants to use	e the OEGP at the first time.				
Trigger:	The user sele	ects "Registe	er" to create a gene	eral pharmacist account.				
Pre-condition:	N/A							
Post-condition:	• The	system save	es user information	into a system.				
	• An a	dministrato	or receives a memb	er registration request from the				
	user							
Input data	Input name	Example		Description				
	Email	"member	01@gmail.com"	The email should be the same				
				as the email address that user				
			used.					
	Password	"pass01"		The password of the user				
			should have a length 4-1					
				characters.				
	Confirm	"pass01"	The password of the user					
	password			should have a length 4-15				
				characters.				
Normal Flow:	1. The	user opens	the registration pa	age for creating a new member				
	acco							
		•	•	d for member registration.				
				bol for sending the member				
	_		dministrator.					
		•	fies email and passy					
		•	es the user informat	•				
		•	•	request to the administrator.				
		•		g registration to administrator				
		essful page.						
Alternative Flow:				user inputs a password less than				
			more than 15 chara					
		-		ssage about a password less than				
			s or more than 15 cl					
	2. 1	ne user go	pack to do a step 2	of the normal flow again.				
	• In ct	en 3 of the	normal flow if the	user selects "cancel" instead of				
		mit."	normal now, if the	data aciecta cuilcei iliatedu Oi				
0500.6	oftware Peguirem							

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Exception:	 The system shows the login page of the program. In step 3 of the normal flow, if the user selects "reset" instead of "submit." The system resets the user information for member registration such as email and password. In step 4 of the normal flow, if the user inputs a password less than
Exception	 4 characters or more than 15 characters. 1. The system shows an error message about a password less than 4 characters or more than 15 characters. 2. The user go back to do step 2 of the normal flow again. In step 4 of the normal flow, if the user inputs a confirm password not equal with the password.
	 The system shows the error message about a confirm password not same as the password. The user go back to do a step 2 of the normal flow again.
	 In step 4 of the normal flow, if the user inputs an email in a wrong format The system shows an error message about the email format is wrong. The user go back to do step 2 of the normal flow again.
	 In step 4 of the normal flow, if the email is already used The system shows an error message about the email is already used. The user go back to do step 2 of the normal flow again.
	 In all of step of the normal flow, if the system disconnects from an internet. The system shows an error message about internet disconnection.
Include:	N/A

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URS 01: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-01	The system provides the Graphic user interface (GUI) which receive email, password
	and confirm password.
SRS-02	The system can check the password format. The password must be 4-15 character.
SRS-03	The system can check the email format. The email must be the email format.
SRS-04	The system can check the confirm password format. The confirm password must be 4-
	15 character and same as password.
SRS-05	The system save the user information to the system.
SRS-06	The system shall send the request of a member registration to an administrator.
SRS-07	The system shall show the successful sending request member registration page.
SRS-08	The system shall display the error message "The password length should be 4-15".
SRS-09	The system shall display the error message "The email format is not correct".
SRS-10	The system shall display the error message "The email is already used"
SRS-11	The system shall display the error message "The confirm password is not same as
	password".
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

URS-02: The user updates their information.

Description							
User Requirement	URS-02						
Specification ID:							
User Requirement	The user upda	tes their info	rmation.				
Specification							
Name:							
Create By:	Panupak Wich	aidit	Last update by : Panupak Wichaidit				
Date Created :	April 2, 2014		Last Revision Date : April 12, 2014				
Actor:	General Pharm	nacists, Expe	rt Pharmacists, Administrator				
Description:	URS-02 is used	l, when the ເ	ser wants to update their information.				
Trigger:	The user selec	ts "update" t	to update information of the user.				
Pre-condition:	• The us	er must log i	nto the system.				
Post-condition:	• The sy	stem saves t	he user information into a system.				
Input data	Input name	Example	Description				
	Password	"pass02"	The password of the user should have a length				
			4-15 characters.				
	Confirm	"pass02"	The password of the user should have a length				
	password		4-15 characters.				
Normal Flow:	1. The us	er opens up	dating information page.				
	2. The s	ystem show	ows the existing user information such as the				
	passw	ord.					
	3. The u	iser inputs	a new password and confirm password for				
		nation updati	9				
	4. The us	er selects "c	onfirm" to update the information.				

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	5. The system validates the password format.
	6. The system saves the information updating into the system.
	7. The system shows updating information successfully page.
Alternative Flow:	 In step 3 of the normal flow, if user selects "cancel" instead of "confirm" The system shows the main page of the program.
Exception:	 In step 4 of the normal flow, if the user inputs a password less than 4 characters or more than 15 characters. The system shows an error message about a password less than 4 characters or more than 15 characters. The user go back to do step 2 of the normal flow again. In step 4 of the normal flow, if the user inputs a confirm password not equal with the password. The system shows the error message about a confirm password not same as the password. The user go back to do a step 2 of the normal flow again. In all of step of the normal flow, if the system disconnects from an internet. The system shows an error message about internet disconnection.
Include:	URS-24
meidae.	010-21

URS 02: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-13	The system provides the Graphic user interface (GUI) which receive the password and
	confirm password for user information updating.
SRS-02	The system can check the password format. The password must be 4-15 character.
SRS-03	The system can check the confirm password format. The confirm password must be 4-
	15 character and same as password.
SRS-14	The system shall update the user information in the system.
SRS-15	The system shall show the successful sending member updating page.
SRS-08	The system shall display the error message "The password length should be 4-15".
SRS-11	The system shall display the error message "The confirm password is not same as
	password".
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

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URS-03: The administrator deletes the member account.

Description								
User Requirement Specification ID:	URS-03							
User Requirement	The Administrator deletes the member account.							
Specification								
Name:								
Create By :	Panupak Wi	chaidit	Last update by :	Par	nupak Wichaidit			
Date Created :	April 12, 201		Last Revision Date :		iy 20, 2014			
Actor:	Administrat				•			
Description:	URS-03 is us	ed, when t	he administrator wants to	dele	ete the existing user			
-	account froi	n the syste	m.		_			
Trigger:	The adminis	trator sele	cts "delete the existing use	er" f	or deleting the existing			
	user from th	ne system.						
Pre-condition:	• The	administra	tor must log into the syste	em.				
Post-condition:	• The	system del	etes the existing user fron	n the	e system.			
Input data	Input name		Example		Description			
	The membe	r email	"member01@gmail.com	า"	The email should be			
					the same as the email			
			address that user					
					used.			
Normal Flow:			s deleting the existing men					
		•	ows the list of member's u		•			
			tor chooses the member ι	useri	name from a list of			
		nber usern						
			tor selects "delete" for de	eletir	ng the existing member			
			he system.		alida a Ala a na anala an			
		system sno ount deletir	ows the alert message for	cnec	iking the member			
			ıg. Itor selects "Yes" for confii	rmin	og to delete the			
		nber accou			ig to delete the			
			letes the member account	fror	n the system.			
			ows deleting the existing s					
Alternative Flow:			normal flow, if the user u					
		•	nember account by using					
		•	cting the member's email					
	use	name.	-					
	1.	The admin	administrator inputs the member's email in the search bar.					
	2.							
		member account in the system.						
		The step of flow.	f this use case is resumed a	at st	ep 2 of the normal			
	• In th	ne step 6 of	f the normal flow, if the us	er se	elects "cancel" instead			
		electing "Ye						
	1.	The system	n shows the main page of t	the p	orogram.			

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Exception:		internet. 1. The	·	shows		system disc message	
Include:	URS-24						

URS 03: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-16	The system provides the Graphic user interface (GUI) which consists the list member
	username.
SRS-17	The system shows the detail of the member account such as member email and
	register date.
SRS-18	The system shows the Confirm dialog box (YES/NO option). The confirm dialog is used
	for confirming to delete member account.
SRS-19	The system deletes the member account from the account that selected by
	administrator.
SRS-20	The system shall show the successful member account deleting.
SRS-21	The system provides a search bar for searching the member account. The search bar
	uses the member's email for searching.
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

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URS-04: The administrator approves a general pharmacist registration.

User Requirement	URS-04						
Specification ID:							
User Requirement	The administrator appr	oves a general pharr	macist reg	gistration.			
Specification							
Name:							
Create By :	Panupak Wichaidit	Panupak Wichaidit Last update by: Panupak Wichaidit					
Date Created :	April 2, 2014	Last Revision Da		ay 20, 2014			
Actor:	Administrator						
Description:	URS-04 is used, when t	he administrator war	nts to ann	nrove a mer	mher		
Description	registration that reque						
		st from a person which	J Wallts to	o be the ger	ilerai		
	pharmacist.	. "		".			
Trigger:	The administrator selection	cts "approve membe	r registra	tion" to app	orove a		
	member registration.						
Pre-condition:	 The administra 	tor must log into the	system.				
i	 The administra 	ator must receive a	request of	of member	registration		
	from the gener	al pharmacists.	•				
Post-condition:		res information abou	t approvi	ng member	registration		
	into the system		сарр.от.		r egisti ation		
	•		norcon w	ho wants t	o ho gonoral		
	•	nds an email to the p			o be general		
	-	out member registrat					
	_	nds an email to the p	•		_		
		out member regist					
	administrator.	This post-condition	is used	when the	user selects		
	"cancel" in Alte	ernative flow.					
Input data	Input Name	Example		Descriptio	n		
Input data	Input Name The member email	Example "member01@gmail	il.com"		n I should be		
Input data		· · · · · · · · · · · · · · · · · · ·	il.com"	The emai			
Input data		· · · · · · · · · · · · · · · · · · ·	il.com"	The emai the same	I should be as the email		
Input data		· · · · · · · · · · · · · · · · · · ·	il.com"	The emai the same address	I should be		
	The member email	"member01@gmai		The emai the same address used.	l should be as the email that user		
Input data Normal Flow:	The member email 1. The administra	"member01@gmai tor opens the approv	ving mem	The emai the same address used. nber registra	I should be as the email that user ation page.		
	The member email 1. The administra 2. The system sho	"member01@gmai tor opens the approv ows the list of the ger	ving mem	The emai the same address used. hber registra rmacist reg	I should be as the email that user ation page. istration		
	1. The administra 2. The system sho	"member01@gmai tor opens the approv	ving mem	The emai the same address used. hber registra rmacist reg	I should be as the email that user ation page. istration		
	1. The administra 2. The system sho that request fro pharmacist.	"member01@gmai tor opens the approv ows the list of the ger om the person who v	ving mem neral pha wants to l	The emai the same address used. ber registra rmacist reg be the gene	I should be as the email that user ation page. istration		
	1. The administra 2. The system sho that request fro pharmacist. 3. The administra	"member01@gmain tor opens the approxons the list of the ger om the person who we tor chooses the requ	ving mem neral pha wants to l	The emai the same address used. ber registra rmacist reg be the gene	I should be as the email that user ation page. istration		
	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm	"member01@gmain tor opens the approve tows the list of the gen tom the person who we tor chooses the requestions.	ving mem neral pha wants to l uest that v	The emai the same address used. nber registra rmacist reg be the gene want to app	I should be as the email that user ation page. istration eral		
	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm	"member01@gmain tor opens the approxons the list of the ger om the person who we tor chooses the requ	ving mem neral pha wants to l uest that v	The emai the same address used. nber registra rmacist reg be the gene want to app	I should be as the email that user ation page. istration eral		
	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm	"member01@gmaintor opens the approximation of the gerom the person who was tor chooses the requacist. tor selects "confirm"	ving mem neral pha wants to l uest that v	The emai the same address used. nber registra rmacist reg be the gene want to app	I should be as the email that user ation page. istration eral		
	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm 4. The administra member regist	"member01@gmaintor opens the approximation of the gerom the person who was tor chooses the requacist. tor selects "confirm"	ving mem neral pha wants to I uest that v	The emaing the same address used. The registration is a same address and the gene and the gene and the requirement to approve the requirement.	I should be as the email that user ation page. istration eral		
	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm 4. The administra member regist	"member01@gmain tor opens the approximation the person who we tor chooses the requacist. tor selects "confirm" ration.	ving mem neral pha wants to I uest that v	The emaing the same address used. The registration is a same address and the gene and the gene and the requirement to approve the requirement.	I should be as the email that user ation page. istration eral		
	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm 4. The administra member regist 5. The system app administrator.	"member01@gmain tor opens the approximation opens the approximation the person who was tor chooses the requacist. It to selects "confirm" ration.	ving mem neral pha wants to b uest that v ' to appro account th	The emaing the same address used. The registration is the gene want to approve the requirements and the selected that selected the same address.	I should be as the email that user ation page. istration eral prove as the uest of d by the		
	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm 4. The administra member regist 5. The system app administrator. 6. The system ser	"member01@gmain tor opens the approximation to select the member approximation."	ving mem neral pha wants to b uest that v ' to appro account th	The emaing the same address used. The registration is the gene want to approve the requirements and the selected that selected the same address and the selected that selected the same address and th	I should be as the email that user ation page. istration eral prove as the uest of d by the		
	1. The administra 2. The system shoth that request from pharmacist. 3. The administration general pharm 4. The administration member regist 5. The system applications administrator. 6. The system serithe member en	"member01@gmail tor opens the approvous the list of the ger om the person who votor chooses the requacist. tor selects "confirm" ration. proves the member and the member regismail.	ving mem neral pha wants to b uest that v ' to appro- account the stration s	The emaing the same address used. The registra in the general want to approve the requirements selected uccessful managements.	I should be as the email that user ation page. istration eral prove as the uest of d by the nessage to		
Normal Flow:	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm 4. The administra member regist 5. The system app administrator. 6. The system ser the member er 7. The system sho	"member01@gmaintor opens the approximation of the person who we tor chooses the requacist. It to selects "confirm" ration. Peroves the member and the member and the member registers.	ving mem neral pha wants to b uest that v to appro- account th stration s	The emaing the same address used. The registration is successful method and the selected accessful method is successful method in the successful method is successful method in the successfu	I should be as the email that user ation page. istration eral brove as the uest of d by the nessage to excessfully.		
	1. The administra 2. The system show that request from pharmacist. 3. The administrating general pharm 4. The administrating member regist 5. The system applications administrator. 6. The system service the member error. 7. The system show In step 3 of the	"member01@gmail tor opens the approvous the list of the ger om the person who votor chooses the requacist. tor selects "confirm" ration. proves the member and the member regismail.	ving mem neral pha wants to b uest that v to appro- account th stration s	The emaing the same address used. The registration is successful method and the selected accessful method is successful method in the successful method is successful method in the successfu	I should be as the email that user ation page. istration eral brove as the uest of d by the nessage to excessfully.		
Normal Flow:	1. The administra 2. The system sho that request fro pharmacist. 3. The administra general pharm 4. The administra member regist 5. The system app administrator. 6. The system ser the member er 7. The system sho	"member01@gmaintor opens the approximation of the person who we tor chooses the requacist. It to selects "confirm" ration. Peroves the member and the member and the member registers.	ving mem neral pha wants to b uest that v to appro- account th stration s	The emaing the same address used. The registration is successful method and the selected accessful method is successful method in the successful method is successful method in the successfu	I should be as the email that user ation page. istration eral brove as the uest of d by the nessage to excessfully.		

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	 The system cancels the request of member registration. The system shows the main page of the program. 			
Exception:	 In all of step of the normal flow, if the system disconnects from an internet The system shows the error message about internet disconnection. 			
Include:	URS-15,URS-24			

URS 04: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-16	The system provides the Graphic user interface (GUI) which consists the list member
	username.
SRS-17	The system shows the detail of the member account such as member email and
	register date.
SRS-22	The system approves the member account in the system.
SRS-23	The system sends the member registration successful message to the member email.
SRS-24	The system shall show the successful member registration approving page.
SRS-21	The system provides a search bar for searching the member account. The search bar
	uses the member's email for searching.
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

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URS-05: The administrator changes an authorized person status.

	1				
User Requirement Specification ID:	URS-05				
User Requirement Specification	The administrator cha	anges an authorized person	status.		
Name:		1			
Create By :	Panupak Wichaidit	Last update by :	Panupak Wichaidit		
Date Created :	April 2, 2014	Last Revision Date :	May 20, 2014		
Actor:	Administrator				
Description:		the administrator wants to	_		
	•	general pharmacist to an ex			
Trigger:	The administrator selects "change authorized person" to change the status of the members				
Pre-condition:	The administrator must log into the system.				
	The system i	must have at least one of	general pharmacist in the		
	system.				
Post-condition:	The system sa	aves the changing of author	ized person status into a		
	system.				
	The system sends the email to a person who has been changed the				
		erson status by administrato			
Input data	Input name	Example	Description		
	Member email	"member01@gmail.con	n" The email should be		
			the same as the email		
			address that user		
			used.		
	Authorize status	"expert pharmacist"	The authorize status		
			should be the		
			characters.		
Normal Flow:	1. The administ page.	trator opens the changing	authorized person status		
		hows the list of member use	ername from the system.		
			username for the authorize		
	status changi	ng.			
	4. The system s	shows the member detail	which consist of email and		
	registration of	late and authorize status.			
	The administ	rator selects "change autho	rized status".		
	The system s changing.	hows alert message for che	cking the authorized status		
		rator selects "confirm" to	confirm an authorize status		
	changing.	rator selects commin to t	commin an authorize status		
	0 0	undates the authorize sta	atus that selected by the		
	administrato		acas that selected by the		
			e status successful message		
	to the memb		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
			thorized person status is		
	successfully.	2 2 0 0 44	,		
<u> </u>	Jaccessiany.				

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Alternative Flow:	 In step 3 of the normal flow, if the user uses search bar for searching the member by member email instead of selecting the member email in the list of member email. 1. The administrator inputs the member email into the search bar. 2. The administrator selects "submit" for searching the member by the email. 3. The system shows the member email. 4. The process of this use case is continuing at step 5 of the normal flow.
Exception:	 In all of step of the normal flow, if the system disconnects from an internet The system shows the error message about internet disconnection.
Include:	URS-24

URS 05: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-16	The system provides the Graphic user interface (GUI) which consists the list member
	in the system.
SRS-17	The system shows the detail of the member account such as member email and
	register date.
SRS-25	The system provides the Graphic user interface (GUI) which consist the method of
	authorized person status changing.
SRS-26	The system updates the authorize status to system that selected by the administrator.
SRS-27	The system sends the changing authorized status successful message to the member
	email.
SRS-28	The system shall show the successful member registration approving page.
SRS-21	The system provides a search bar for searching the member account The search bar
	use the member's email for searching.
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

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URS-06: The user calculates a drug reformulation by using an inference engine.

User	URS-06									
Requirement										
Specification ID:										
User	The user calculate	es a drug reformu	lation by using	g an inferen	ce engine.					
Requirement		_	-	-	-					
Specification										
Name:										
Create By:	Panupak Wichaid	anupak Wichaidit Last update by : Panupak Wichaidit								
Date Created :	April 2, 2014									
Actor:	General Pharmac	sts, Expert Pharm	nacists, Admin	istrator						
Description:	URS-06 is used, w	hen the user wan	ts to calculate	a drug refo	rmulation as a					
	generic version by	using an inferen	ce engine.							
Trigger:	The user selects "	Calculate" to calc	ulate drug ref	ormulation	as a generic					
	version.									
Pre-condition:	The user	must log into the	system.							
Post-condition:	 The syste 	m saves the user	information ir	nto a system						
Input data	Part	Name	Example		Description					
	Formulation	Formulation	Paracetam	ol	The value					
					should be the					
					object of the					
					formulation.					
	DF properties	Total weight	630.00		The value					
					should be the					
					float number.					
		Disintegration	28		The value					
		Time			should be the					
					Integer value.					
		Hardness	8.30		The value					
					should be the					
					float number.					
		Dissolution	81.31		The value					
		Profile			should be the					
					float number.					
	Instruction	instruction	"This is Par	acetamol	The value of					
			"		the instruction					
		should the								
			<u> </u>		character.					
Normal Flow:		opens the calcula	_							
		•		•	and instruction.					
		selects the reform	nulation symb	oi for calcula	ating drug					
	reformula	ition.		reformulation.						

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	4. The system shows the reformulation result to the user. The
	reformulation results are separate follow the inference engine that
	user selected. The reformulation result consist of the formulation
	name and instruction. 5. The user saves the reformulation result to the history.
Alternative Flow:	5. The user saves the reformulation result to the history. N/A
Aiternative Flow.	N/A
Exception:	In step 2 of the normal flow, if the user inputs the formulation in a
	wrong format.
	1. The system shows the error message about the formulation
	format is wrong.
	2. The user go back to do the step 2 of the normal flow again.
	 In step 2 of the normal flow, if the user inputs a Total weight at DF
	properties part in a wrong format.
	1. The system shows the error message about Total weight format is
	wrong.
	2. The user go back to do the step 2 of the normal flow again.
	• In step 2 of the normal flow, if the user inputs a Disintegration Time at
	DF Properties in a wrong format.
	1. The system shows the error message about Disintegration Time
	format is wrong. 2. The user go back to do the step 2 of the normal flow again.
	2. The user go back to do the step 2 of the normal flow again.
	• In step 2 of the normal flow, if user inputs a Hardness at DF Properties
	in the wrong format.
	1. The system shows the error message about Hardness format is
	wrong.
	2. The user go back to do the step 2 of the normal flow again.
	• In step 2 of the normal flow, if user inputs Dissolution Profile at DF
	Properties in the wrong format.
	1. The system shows the error message about Dissolution Profile
	format is wrong.
	2. The user go back to the step 2 of the normal flow again.
	 In step 2 of the normal flow, if user inputs instruction in the wrong
	format.
	1. The system shows the error message about instruction format is
	wrong.
	The user go back to the step 2 of the normal flow again.
	• In all of step of the normal flow, if the system disconnects from an
	internet
	1. The system shows the error message about internet
	disconnection.
Include:	URS-24

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URS 06: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-29	The system provides the Graphic user interface (GUI) which receive Formulation, DF
	Properties and instruction.
SRS-30	The system can check the formulation name. The formulation name must be an
	object.
SRS-31	The system can check the total weight at DF property. The total weight must be a float
	value.
SRS-32	The system can check the disintegration time. The disintegration time must be an
	integer value.
SRS-33	The system can check the hardness at DF property. The hardness must be a float
	value.
SRS-34	The system can check the Dissolution Profile at DF property. The Dissolution Profile
	must be a float value.
SRS-35	The system calculates drug reformulation by using the inference engine such as Rule
	Base engine, Case Base Reasoning Engine and Hybrid Reasoning.
SRS-36	The system shows the results page that include the formulation and appropriate
	instruction.
SRS-37	The system shall display the error message "The formulation is wrong"
SRS-38	The system shall display the error message "The total weight must be the float value".
SRS-39	The system shall display the error message "The disintegration time must be the
	integer value".
SRS-40	The system shall display the error message "The hardness must be the float value".
SRS-41	The system shall display the error message "The dissolution profile must be the float
	value".
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

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URS-07: The user views their drug reformulation history.

User Requirement	URS-07					
Specification ID: User Requirement	The user views their dru	g reformulation history	,			
Specification Name:	The user views their uru	g reformulation history	•			
Create By :	Panupak Wichaidit	Last update by :	Panupak Wichaidit			
Date Created :	April 2, 2014	Last Revision Date : April 2, 2014				
Actor:	General Pharmacists, Ex	pert Pharmacists, Admi	inistrator			
Description:	URS-07 is used, when th reformulation.	e user wants to view th	ne history of a drug			
Trigger:	The user selects "view the history" to view the history of a drug reformulation.					
Pre-condition:	The user must lo	og into the system.				
Post-condition:	• N/A					
Input date	Input name	Example	Description			
	Formulation	Paracetamol	The formulation format should be the object.			
	Date	"22/10/2014"	The date should be the date format.			
Normal Flow: Alternative Flow:	 The user opens the history of a drug reformulation page. The system shows a list of a drug reformulation history name with date. The user selects the date of drug reformulation that they want to see the detail. The system shows a detail of the history that the user selected. In step 3 of the normal flow, if the user uses search bar for searching the history by date instead of selecting the history in a list. The user inputs the date into the search bar. 					
Exception:	 The user selects "submit" for searching a history by date. The system shows a list of history. In all of step of the normal flow, if the system disconnects from an internet The system shows the error message about internet disconnection. 					
Include:	URS-24					

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URS 07: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-42	The system shows a list of drug reformulation history.
SRS-43	The system provides a search bar for searching the history. The search bar uses the
	date of making drug reformulation for searching.
SRS-44	The system shows the detail of the history. The history detail includes the drug's
	name, date, manufacturing and ingredient.
SRS-12	The system shall display an error message "The system is disconnect from the
	internet."

Sub-Feature 4: Make the drug reformulation evaluation.

URS-08: The user makes a drug formulation evaluation

Description						
User Requirement	URS-08					
Specification ID:						
User Requirement	The user n	nakes a dru	ug reformul	ation evaluatio	n.	
Specification Name:						
Create By:	Panupak V	Vichaidit	Las	st update by:	Panupak Wichaidit	
Date Created :	April 7, 20	14	Last Ro	evision Date :	May 28, 2014	
Actor:	General Pl	narmacists	, Expert Pha	rmacists, Adm	inistrator	
Description:	URS-08 is	used, wher	n the user w	ants to evaluat	te the drug formulation in	
	the system	n after they	y produce a	real generic dr	ug in a lab.	
Trigger:	The user selects "Evaluate" for making drug evaluation.					
Pre-condition:	The user must log into the system.					
Post-condition:	The system saves the drug formulation evaluation into the system					
Input data	Input Nam	ne	Example	Description		
	Dissolution	n Profile	81.31	The value should be the float number.		
	Disintegra	tion	21	The value should be the integer number.		
	time					
	Pharmace	utical	3	The word should be the integer number.		
	equivalend	ce				
Normal Flow:	1. Th	ie user ope	ens drug for	mulation evalu	ation page.	
	2. Th	ie system s	shows a list	of drug reform	ulation history.	
	3. Th	ie user sele	ects a drug f	ormulation fro	m the list of drug	
		formulatio	•			
		•			y that the user selected.	
	5. Th	ie user sele	ects "evalua	te" for making	drug formulation	
	_	aluation.				
		•		•	Disintegration time and	
			ical equivale	ence of generic	drug that the user	
		oduced.				
	7. The user selects "confirm" for making drug formulation evaluation.					
		•			f the result is good, the	
	-		how succes			
		•	shows the d	rug formulation	n evaluation successful	
	pa	ige.				

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Alternative Flow: In step 3 of the normal flow, if the user uses a search bar for searching the history by date instead of selecting the history in a 1. The user inputs the date into the search bar. 2. The user selects "submit" for searching the drug formulation by date. 3. The system shows the drug formulation. 4. The step of this use case is resumed at step at step 3 of the normal flow. In step 6 of the normal flow, if the system gets "fail" result instead of getting "successful" result. 1. The system shows a new drug reformulation to the user. In the step 5 of the normal flow, if the user selects "cancel" instead of selecting "confirm". 1. The system shows the administrator main page. **Exception:** In step 4 of the normal flow, if the user inputs dissolution profile in the wrong format. 1. The system shows the error message about Dissolution profile format is wrong. 2. The user go back to do the step 4 of the normal flow again. In step 4 of the normal flow, if the user inputs a Disintegration time in a wrong format. 1. The system shows the error message about Disintegration time format is wrong. 2. The user go back to do the step 4 of the normal flow again. In step 4 of the normal flow, if the user inputs a Pharmaceutical equivalence in a wrong format. 1. The system shows the error message about Disintegration Time format is wrong. 2. The user go back to do the step 4 of the normal flow again. In all of step of the normal flow, if the system disconnects from an internet 1. The system shows the error message about internet disconnection. Include: URS-24

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URS 08: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-42	The system shows a list of drug formulation history.
SRS-45	The system provides the Graphic user interface (GUI) which receive Dissolution
	profile, Disintegration time and Pharmaceutical equivalence.
SRS-34	The system can check the Dissolution Profile at DF property. The Dissolution Profile
	must be a float value.
SRS-43	The system provides a search bar for searching the history. The search bar uses the
	date of making drug reformulation for searching.
SRS-46	The system evaluate the system by using the dissolution profile, disintegration time
	and pharmaceutical equivalence.
SRS-47	The system shall show the successful evaluate the system.
SRS-48	The system shall show the fail message when the evaluation not pass. The system
	send the new drug reformulation to the user.
SRS-32	The system can check the disintegration time. The disintegration time must be an
	integer value.
SRS-49	The system can check the Pharmaceutical equivalence. The Pharmaceutical
	equivalence must be a float value.
SRS-39	The system shall display an error message "The disintegration time must be an integer
	value."
SRS-41	The system shall display an error message "The dissolution profile must be a float
	value."
SRS-50	The system shall display an error message "The Pharmaceutical equivalence must be a
	float value."
SRS-12	The system shall display an error message "The system is disconnect from the
	internet."

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URS-09: The user adds a new substance into the system.

User Requireme		URS-09								
Specification										
User Requireme	ent The user adds a r	iew si	ubstance	into	the sy	stem.				
Specificati	on									
Nan	ne:									
Create E	By: Panupak Wichaid	it	L	ast u	pdate	by:	Panupa	k Wi	chai	dit
Date Create	·				ion Da		Octobe			
Act		ts Ar						. 0, -		
Description					s to ad	d a nev	w cubct	ance	to t	ha systam
_										•
Trigg		Auu	lile liew	Subsi	lance	ioi auc	ang trie	enev	v Sui	istance to
5	the system.									
Pre-condition										
Post-condition	on: • The syste	m sa	ves the r	iew s	ubstan	ce to t	he syst	em.		
Input da	ata Part	Inp	ut Name		Exam	ple			Des	cription
	Substance's	Nar	ne		"Aplo)"			The	word
	name								sho	uld be the
									cha	racter.
	Water Solubility	Тур	e		"Sligh	ntlySolu	ıble"		The	value
	Property	, , ,	_			, , , , , ,				uld be the
										ger value.
	Stability	Dec	radation	`	"Ovid	lation"				word
	Property	_	chanism	'	OXIG	iation	should be th			
	rioperty	IVIC	CHAIIISHI							racter.
		1/:			((- :+	0	/:t:	,,,		
		Kine			"FirstOrderKinetics"			5		word
		кеа	ction						should be the	
										racter.
	Dissolution	Тур	e		"Weak"				word	
	Property									uld be the
										racter.
	Partition	Тур	e		"Goo	dAbsor	btion"			word
	Coefficient								sho	uld be the
	Property								cha	racter.
	Physical Form	Тур	e		"Crys	tallinel	Materia	als"	The	word
	Property								sho	uld be the
									cha	racter.
	Hygroscopicity	Тур	e		"Sligh	ntly hyg	roscop	ic"	The	word
	Property	, ,				, , ,			sho	uld be the
	' '									racter.
	Particle	Тур	e		"Micr	onized	Particle	բ"		word
	Property	.,,	_			0111200	ii ai tioi			uld be the
	rioperty									racter.
	Alcohol	Typ			"Froo	dySolud	nle"			
		Type "FreelySoluble" The word						uld be the		
	Solubility	character.								
	Property					<u> </u>			cna	racter.
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	Flow ability	Type	"ExcellentFlowability"	The word				
	Flow ability	Туре	Excellentriowability					
	Property			should be the				
				character.				
	Powder Density	Туре	"Trueldentity"	The word				
	Property			should be the				
				character.				
	Salt Property	Pka	"Very weak"	The word				
				should be the				
				character.				
		Molecular	2.57	The value				
		weight		should be the				
		Weight.		float value.				
	Weight	Value	2.55	The value				
	_	Value	2.33	should be the				
	Property							
		_	<i>"</i>	float value.				
	Iconicity	Туре	"good"	The word				
				should be the				
				character.				
Normal Flow:	1. The user	opens adding the	new substance page.					
	2. The user	inputs the substa	nce name, Water Solubili	ty Property,				
	Stability F	Property, Dissolut	ion Property, Partition Co	efficient				
	Property,	Physical Form Pr	operty, Hygroscopicity Pr	operty, Particle				
	Property,	Alcohol Solubility	Property, Flow ability Pr	operty, Powder				
	Density P	roperty, Salt Prop	erty, Weight Property an	d Iconicity.				
	· ·		adding the new substance	•				
		m validates the ir	~ · · · · · · · · · · · · · · · · · · ·					
	-		tance to the system.					
	-		substance adding succes	sful nage				
Alternative Flow:	,		flow, if the user select "c					
Aitemative How.	selecting	•	now, if the user select c	ancei msteau oi				
	_		list of drug substance					
Evention			list of drug substance.					
Exception:			ow, if the user inputs the	substance name				
			nce name in the system.					
		•	error message about the	substance name				
		eady used.		.				
	2. The u	iser go back to do	the step 2 of the normal	Tiow again.				
		6.1	16.1					
	· ·		ow, if the user inputs the	Water Solubility				
		in a wrong forma						
			error message about the	e Water Solubility				
	•	Property format is wrong.						
	2. The u	2. The user go back to do the step 2 of the normal flow again.						
	• In step 4	of the normal flo	w, if the user inputs Stab	ility Property in a				
	_	ong format.						
	1. The s	ystem shows the	error message about the	Stability Property				
	is wro	-						
	2. The u	iser go back to do	the step 2 of the normal	flow again.				
0500	Coftware Poquirement							

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- In step 4 of the normal flow, if the user inputs Dissolution Property in a wrong format.
 - 1. The system shows the error message about the Dissolution Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Partition Coefficient Property in a wrong format.
 - 1. The system shows the error message about the Partition Coefficient is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Physical Form Property in a wrong format.
 - 1. The system shows the error message about the Physical Form Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Hygroscopicity Property in a wrong format.
 - 1. The system shows the error message about the Hygroscopicity Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Particle Property in a wrong format.
 - 1. The system shows the error message about the Particle Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Alcohol Solubility Property in a wrong format.
 - 1. The system shows the error message about the Alcohol Solubility is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Flow ability Property in a wrong format.
 - 1. The system shows the error message about the Flow ability Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Powder Density Property in a wrong format.
 - 1. The system shows the error message about the Powder Density is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.

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In step 4 of the normal flow, if the user inputs Salt Property in a wrong format. 1. The system shows the error message about the Salt Property is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 4 of the normal flow, if the user inputs Weight Property in a wrong format. 1. The system shows the error message about the Weight Property is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 4 of the normal flow, if the user inputs Iconicity in a wrong format. 1. The system shows the error message about the Iconicity is wrong. 2. The user go back to do the step 2 of the normal flow again. In all of step of the normal flow, if the system disconnects from an internet. 1. The system shows the error message about internet disconnection. Include: URS-21

URS 09: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-51	The system provides the Graphic user interface (GUI) which receive substance name,
	Water Solubility Property, Stability Property, Dissolution Property, Partition
	Coefficient Property, Physical Form Property, Hygroscopicity Property, Particle
	Property, Alcohol Solubility Property, Flow ability Property, Powder Density Property,
	Salt Property, Weight Property and Iconicity.
SRS-52	The system can check the substance name format. The substance name format should
	be the character.
SRS-53	The system can check the Water Solubility Property format. The Water Solubility
	Property format should be the character.
SRS-54	The system can check the Stability Property format. The Stability Property format
	should be the character.
SRS-55	The system can check the Dissolution Property format. The Dissolution Property
	format should be the character.
SRS-56	The system can check the Partition Coefficient Property format. The Partition
	Coefficient Property format should be the character.
SRS-57	The system can check the Physical Form Property format. The Physical Form Property
	format should be the character.
SRS-58	The system can check the Hygroscopicity Property format. The Hygroscopicity
	Property format should be the character.
SRS-59	The system can check the Particle Property format. The Particle Property format
	should be the character.

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SRS-60	The system can check the Alcohol Solubility Property format. The Alcohol Solubility
	Property format should be the character.
SRS-61	The system can check the Flow ability Property format. The Flow ability Property
	format should be the character.
SRS-62	The system can check the Powder Density Property format. The Powder Density
	Property format should be the character.
SRS-63	The system can check the Salt Property format. The Salt Property format should be
	the float value.
SRS-64	The system can check the Weight Property format. The Weight Property format
	should be float value.
SRS-65	The system can check the Iconicity format. The Iconicity format should be the
	character.
SRS-66	The system shows the Confirm dialog box (YES/NO option). The confirm dialog box
	use for confirming the substance creating.
SRS-67	The system save the substance to the system.
SRS-68	The system shall show the successful add a new substance page.
SRS-69	The system shall display the error message "The substance name should be the
	characters."
SRS-70	The system shall display the error message "The Water Solubility Property should be
	the characters."
SRS-71	The system shall display the error message "The Stability Property should be the
	characters."
SRS-72	The system shall display the error message "The Dissolution Property should be the
	characters."
SRS-73	The system shall display the error message "The Partition Coefficient should be the
	characters."
SRS-74	The system shall display the error message "The Physical Form Property should be the
	characters."
SRS-75	The system shall display the error message "The Hygroscopicity Property should be
	the characters."
SRS-76	The system shall display the error message "The Particle Property should be the
	characters."
SRS-77	The system shall display the error message "The Alcohol Solubility Property should be
	the characters."
SRS-78	The system shall display the error message "The Flow ability Property should be the
	characters."
SRS-79	The system shall display the error message "The Powder Density Property should be
	the characters."
SRS-80	The system shall display the error message "The Salt Property should be the float
	value."
SRS-81	The system shall display the error message "The Weight Property should be the float
	value."
SRS-82	The system shall display the error message "The Iconicity should be the characters."
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

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URS-10: The user updates an existing substance in the system.

User Requirement Specification ID:	URS-10							
		The user updates an existing substance in the system.						
User Requirement Specification	The user upo	lates an exis	sting s	substance in the sys	item.			
Name:	_							
Create By :	Panupak Wid			Last update by:		upak Wichaidit		
Date Created :	April 7, 2014			st Revision Date :	Octo	ctober 3, 2014		
Actor:	<u> </u>	acists, Administrator						
Description:	URS-10 is use system.	RS-10 is used, when the user wants to update the existing substance in the stem.						
Trigger:		ects "Update	e the	existing substance"	for u	pdating the existing		
00 -	substance in	•		G		,		
Pre-condition:				o the system.				
Post-condition:				substance updatin	ng to t	the system.		
Input data	Part	Input Nam		Example	0	Description		
	Water	Туре		"SlightlySoluble"		The value should be		
	Solubility	/ -				the integer value.		
	Property							
	Stability	Degradati	on	"Oxidation"		The word should be		
	Property	Mechanis				the character.		
	. ,	Kinetic		"FirstOrderKinetics"		The word should be		
		Reaction				the character.		
	Dissolution	Туре		"Weak"		The word should be		
	Property			the cha		the character.		
	Partition	Туре		"GoodAbsorbtion	"	The word should be		
	Coefficient					the character.		
	Property							
	Physical	Туре		"CrystallineMater	ials	The word should be		
	Form			"		the character.		
	Property							
	Hygroscopi	Туре		"Slightly		The word should be		
	city			hygroscopic"		the character.		
	Property	-		((B.A)	.1.7	T L		
	Particle	Туре		"MicronizedPartio	cie	The word should be the character.		
	Property Alcohol	Tuno		"FreelySoluble"		The word should be		
		Туре		FreelySoluble				
						the character.		
		Tyne	Type "ExcellentFlowahi		ilitv	The word should be		
	-	1,700		"	су			
		Type		"Trueldentity"				
		.,,,,				the character.		
	Salt	Pka		"Very weak"		The word should be		
	Property			,		the character.		
	Solubility Property Flow ability Property Powder Density Property Salt	Type Type Pka		"ExcellentFlowabi" "TrueIdentity" "Very weak"	ility			

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		Molecular	2.57	The value should be		
		weight	2.57	the float value.		
	Weight	Value	2.55	The value should be		
	Property	Value	2.55	the float value.		
	Iconicity	Туре	"good"	The word should be		
	leornerty	Type	5000	the character.		
Normal Flow:	1. The	user opens undat	pens updating the existing substance in the system.			
			ubstance from a list of su	-		
			Water Solubility Prope			
		•	Partition Coefficient P			
			oicity Property, Partic			
	Solul	bility Property, F	low ability Property,Pov	wder Density Property,		
	Salt I	Property, Weight	Property and Iconicity.			
	4. The ι	user selects "conf	irm to update" for update	e the existing substance		
	in th	e system.				
	5. The	system validates 1	the input value.			
		•	e existing substance to t	-		
		•	existing substance upda			
Alternative Flow:		•	al flow, if the user uses so	_		
		the existing substance by the substance name instead of selecting				
		the existing substance in a list.				
		•	ne substance name in the			
			searching" for searching	the existing drug		
		formulation in the	•			
		The system shows		ton 2 of the normal		
		flow.	se case is resumed at a si	tep 3 of the normal		
	'	iow.				
	• In th	e sten 4 of the no	ormal flow, if the user sel	ects "cancel" instead		
		lecting "confirm t		cots carreer materia		
		•	ne at the step 3 of the no	rmal flow.		
Exception:		,				
	• In st	ep 4 of the norm	nal flow, if the user inpu	ts the Water Solubility		
	Prop	erty in a wrong fo	ormat.			
	1. 7	The system shows	s the error message abo	ut the Water Solubility		
		Property format is	_			
	2. 1	The user go back t	to do the step 2 of the no	ormal flow again.		
		6.6.1				
		•	al flow, if the user input	s Stability Property in a		
		ng format.	. +	.t tha Ctability Dyanauty		
		1. The system shows the error message about the Stability Property				
		s wrong.	to do the sten 2 of the no	armal flow again		
		2. The user go back to do the step 2 of the normal flow again.				
	• In sta	en 4 of the norma	al flow, if the user innuts	Dissolution Property in		
		 In step 4 of the normal flow, if the user inputs Dissolution Property in a wrong format. 				
		1. The system shows the error message about the Dissolution				
		Property is wrong	_			

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- 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Partition Coefficient Property in a wrong format.
 - 1 The system shows the error message about the Partition Coefficient is wrong.
 - 2 The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Physical Form Property in a wrong format.
 - 1. The system shows the error message about the Physical Form Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Hygroscopicity Property in a wrong format.
 - 1. The system shows the error message about the Hygroscopicity Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Particle Property in a wrong format.
 - 1. The system shows the error message about the Particle Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Alcohol Solubility Property in a wrong format.
 - 1. The system shows the error message about the Alcohol Solubility is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Flow ability Property in a wrong format.
 - 1. The system shows the error message about the Flow ability Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Powder Density Property in a wrong format.
 - 1. The system shows the error message about the Powder Density is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.
- In step 4 of the normal flow, if the user inputs Salt Property in a wrong format.
 - 1. The system shows the error message about the Salt Property is wrong.
 - 2. The user go back to do the step 2 of the normal flow again.

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In step 4 of the normal flow, if the user inputs Weight Property in a wrong format.
1. The system shows the error message about the Weight Property is wrong.
2. The user go back to do the step 2 of the normal flow again.
In step 4 of the normal flow, if the user inputs Iconicity in a wrong format.
1. The system shows the error message about the Iconicity is wrong.
2. The user go back to do the step 2 of the normal flow again.
In all of steps of the normal flow, if the system disconnects from an internet.
1. The system shows the error message about internet disconnection.

URS 10: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-83	The system provides the Graphic user interface (GUI) which receive Water Solubility Property, Stability Property, Dissolution Property, Partition Coefficient Property,
	Physical Form Property, Hygroscopicity Property, Particle Property, Alcohol Solubility
	Property, Flow ability Property, Powder Density Property, Salt Property, Weight
606.04	Property and Iconicity.
SRS-84	The system shows the list of the existing substance in the system.
SRS-85	The system provides the search bar for searching the list of substance. The search bar
	uses the name of substance for searching.
SRS-53	The system can check the Water Solubility Property format. The Water Solubility
	Property format should be the character.
SRS-54	The system can check the Stability Property format. The Stability Property format
	should be the character.
SRS-55	The system can check the Dissolution Property format. The Dissolution Property
	format should be the character.
SRS-56	The system can check the Partition Coefficient Property format. The Partition
	Coefficient Property format should be the character.
SRS-57	The system can check the Physical Form Property format. The Physical Form Property
	format should be the character.
SRS-58	The system can check the Hygroscopicity Property format. The Hygroscopicity
	Property format should be the character.
SRS-59	The system can check the Particle Property format. The Particle Property format
	should be the character.
SRS-60	The system can check the Alcohol Solubility Property format. The Alcohol Solubility
	Property format should be the character.

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SRS-61	The system can check the Flow ability Property format. The Flow ability Property
	format should be the character.
SRS-62	The system can check the Powder Density Property format. The Powder Density
	Property format should be the character.
SRS-63	The system can check the Salt Property format. The Salt Property format should be
	the float value.
SRS-64	The system can check the Weight Property format. The Weight Property format
	should be float value.
SRS-65	The system can check the Iconicity format. The Iconicity format should be the
	character.
SRS-86	The system shows the Confirm dialog box (YES/NO option). The confirm dialog box
	use for confirming the substance updating.
SRS-87	The system update the existing substance that selected by the user.
SRS-88	The system shall show the successful the existing substance updating page.
SRS-70	The system shall display the error message "The Water Solubility Property should be
	the characters."
SRS-71	The system shall display the error message "The Stability Property should be the
	characters."
SRS-72	The system shall display the error message "The Dissolution Property should be the
	characters."
SRS-73	The system shall display the error message "The Partition Coefficient should be the
	characters."
SRS-74	The system shall display the error message "The Physical Form Property should be the
	characters."
SRS-75	The system shall display the error message "The Hygroscopicity Property should be
	the characters."
SRS-76	The system shall display the error message "The Particle Property should be the
	characters."
SRS-77	The system shall display the error message "The Alcohol Solubility Property should be
	the characters."
SRS-78	The system shall display the error message "The Flow ability Property should be the
	characters."
SRS-79	The system shall display the error message "The Powder Density Property should be
	the characters."
SRS-80	The system shall display the error message "The Salt Property should be the float
	value."
SRS-81	The system shall display the error message "The Weight Property should be the float
	value."
SRS-82	The system shall display the error message "The Iconicity should be the characters."
SRS-12	The system shall display the error message "The system is disconnect from the
	internet."

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URS-11: The user deletes an existing substance from the system.

<u> </u>	_						
User Requirement Specification ID:	URS-11						
User Requirement Specification Name:	The user deletes an exis	The user deletes an existing substance from the system.					
Create By :	Panupak Wichaidit	Panupak Wichaidit Last update by : Panupak Wichaidit					
Date Created :	April 7, 2014	Last Revision Date :	-				
Actor:	Expert Pharmacists, Adı	l .	,				
Description:			the existing substance from				
	the system.						
Trigger:	The user selects "delete substance from the system."	•	" for deleting the existing				
Pre-condition:	•	og into the system.					
Post-condition:		etes the substance from	n the system.				
Input data	Input name	Example	Description				
	Substance name	"Aplo"	The substance name				
			should be the				
			character.				
Normal Flow:	The state of the s	deleting the existing su	. •				
		s existing substance fro					
		s "confirm to delete" fo	r deleting the existing				
	substance from	•					
		ws the alert message for	or checking the drug				
	substance delet	-	firming to dolote the				
	5. The administration	tor selects "Yes" for cor	infining to delete the				
		etes the existing substa	nce from the system				
	-	_	substance successful page.				
Alternative Flow:	· · · · · · · · · · · · · · · · · · ·						
	 In step 2 of the normal flow, if the user uses search bar for searching the existing substance by the substance name instead of 						
	_	isting substance in a lis					
	1. The user in	puts the substance nam	ne in the search bar.				
	2. The user se	lects "searching" for se	arching the existing drug				
	formulation	n in the system.					
		shows the substance.					
	· ·	this use case is resume	d at step 3 of the normal				
	flow.						
	of selecting "Ye		user selects "cancel" instead				
	_	s . shows the main page c	of the program				
Exception:	•		system disconnects from an				
ZACCPHOII.	internet.	the normal now, if the	System disconnects from all				
		m shows the error	message about internet				
	disconnecti						
Include:	URS-21						

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URS 11: System requirement specification (SRS)

No	System requirement specification (SRS)	
SRS-84	The system shows the list of the existing substance in the system.	
SRS-85	The system provides the search bar for searching the list of substance. The search bar	
	use the name of substance for searching.	
SRS-89	The system shows the Confirm dialog box (YES/NO option). The confirm dialog box	
	use for confirming the substance deleting.	
SRS-90	The system delete the existing substance from the system.	
SRS-91	The system shall show the successful delete the existing substance page.	
SRS-12	The system shall display the error message "The system is disconnect from the	
	internet".	

URS-12: The user views the substance in the system.

User Requirement	URS-12	URS-12			
Specification ID:					
User Requirement	The user views the subs	tance in the system.			
Specification Name:					
Create By:	Panupak Wichaidit	Last update by:	Panupak Wichaidit		
Date Created :	April 2, 2014	Last Revision Date:	October 3, 2014		
Actor:	General Pharmacists, Ex	pert Pharmacists, Adm	inistrator		
Description:	URS-15 is used, when the	ne user wants to view th	ne substance of a drug.		
Trigger:	The user selects "view t	he substance" to view t	the substance of the drug.		
Pre-condition:	 The user must I 	og into the system.			
Post-condition:	• N/A				
Normal Flow:	1. The user opens	the drug substance pag	ge.		
	2. The system sho	ws a list of a drug subst	ance name.		
	The user select	•			
	see a detail.				
	4. The system shows a detail of the history that the user selected.				
Alternative Flow:	In step 3 of the normal flow, if the user use search bar for searching				
	the substance by name instead of selecting the substance in a list.				
	1. The user inputs the name into the search bar.				
	2. The user selects "submit" for searching a substance by name.				
	3. The system shows the list of substance.				
Exception:	In all of step of the normal flow, if the system disconnects from an				
	internet				
	1. The system shows the error message about internet				
	disconnecti	on.			
Include:	URS-21, URS-09				

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URS 12: System requirement specification (SRS)

No	System requirement specification (SRS)			
SRS-84	The system shows the list of the existing substance in the system.			
SRS-85 The system provides the search bar for searching the drug substance. The search				
	use the name of substance to searching.			
SRS-92	The system shows the detail of the substance. The substance detail include the			
	substance name, Water Solubility Property, Stability Property, Dissolution Property,			
	Partition Coefficient Property, Physical Form Property, Hygroscopicity Property,			
	Particle Property, Alcohol Solubility Property, Flow ability Property, Powder Density			
	Property, Salt Property, Weight Property and Iconicity			
SRS-12	The system shall display the error message "The system is disconnect from the			
	internet".			

Sub-Feature 6: Manage the drug excipient.

URS-13: The user adds a new drug excipient to the system.

Description					
User Requirement	URS-13				
Specification ID:					
User Requirement	The user adds a new dru	ig excipient to the syste	em.		
Specification Name:					
Create By:	Panupak Wichaidit	Last update by:	Panupak Wichaidit		
Date Created :	April 7, 2014	Last Revision Date:	October 3, 2014		
Actor:	Expert Pharmacists, Adn	Expert Pharmacists, Administrator			
Description:	URS-13 is used, when the	e user wants to add a n	ew excipient into the system.		
Trigger:	The user selects "Add a	new drug excipient" fo	r adding a new drug		
	excipient into the system.				
Pre-condition:	The user must log into the system.				
Post-condition:	The system saves the new drug excipient into the system.				
Input data	Input Name	Example	Description		
	Substance Name	"Lexapro"	The word should be		
			the character.		
	Substance Function	"Binder"	The list substance		
	Name		Function Name should		
			be the characters.		
	Substance Function	"Super Binder"	The list substance		
	Туре		Function Type. It		
			should be the		
			characters.		
	Max Concentration 2.40 The max concentration				
	should be the float				
	number.				
	Min Concentration	3.67	The min concentration		
			should be the float		
			number.		

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Normal Flow: 1. The user opens add new drug excipient page. 2. The user inputs Substance name, Substance Function Name, Substance Function Type, Max Concentration and Min Concentration. 3. The user selects "save" for saving a new drug excipient into the system. 4. The system validates the input data. 5. The system saves a new drug excipient to the system. 6. The system shows a new drug excipient successful page. **Alternative Flow:** In the step 3 of the normal flow, if the user select "cancel" instead of selecting "save". 1. The system shows the list of excipient page. **Exception:** In all of step of the normal flow, if the system disconnects from an 1. The system shows the error message about internet disconnection. In step 4 of the normal flow, if the user input the drug substance name in a wrong format. 1. The system shows the error message about the substance name format is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 4 of the normal flow, if the user input the Substance Function Name in a wrong format. 1. The system shows the error message about the Substance Function Name format is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 4 of the normal flow, if the user input the Substance Function Type in a wrong format. 1. The system shows the error message about the Substance Function Type format is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 4 of the normal flow, if the user input the max concentration in a wrong format. 1. The system shows the error message about the max concentration Intensity format is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 4 of the normal flow, if the user input the min concentration in a wrong format. 3. The system shows the error message about the min concentration format is wrong. The user go back to do the step 2 of the normal flow again. URS-21, URS-09 Include:

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URS 13: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-93	The system provides the Graphic user interface (GUI) which receive the substance
	name, substance function name, substance function type, max concentration and min
	concentration.
SRS-94	The system can check the substance name format. The substance name format should
	be the characters.
SRS-95	The system can check the substance function name format. The substance function
	name format should be the characters.
SRS-96	The system can check the substance function type format. The substance function
	type format should be the characters.
SRS-97	The system can check the max concentration format. The max concentration format
	should be the float number.
SRS-98	The system can check the min concentration format. The min concentration format
	should be the float number.
SRS-99	The system shows the Confirm dialog box (YES/NO option). The confirm dialog box
	use for confirming the excipient creating.
SRS-100	The system save the new drug excipient to the system.
SRS-101	The system shall show the successful add a new drug excipient page.
SRS-102	The system shall display the error message "The excipient name is not the
	characters".
SRS-103	The system shall display the error message "The Substance Function Name is not the
	characters".
SRS-104	The system shall display the error message "The Substance Function Type is not the
	characters".
SRS-105	The system shall display the error message "The max concentration is not the float
	number".
SRS-106	The system shall display the error message "The min concentration is not the float
	number".
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

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URS-14: The user update an existing drug excipient in the system.

<u> </u>	ı					
User Requirement Specification ID:	URS-14					
User Requirement Specification Name:	The user upda	tes an exi	sting drug excipient in	the	system.	
Create By :	Panupak Wich	aidit	Last update by: Par		Panupak Wichaidit	
Date Created :	April 7, 2014		Last Revision Date :	+	tober 3, 2014	
Actor:	Expert Pharma	acists. Adr				
Description:	•		ne user updates an exis	ting	drug excipient in the	
	system.	,	,	Ü	0 1	
Trigger:	<u> </u>	ts "update	e an existing drug excip	oient	" to update an existing	
	drug excipient in the system.					
Pre-condition:	• The us	ser must lo	og into the system.			
Post-condition:	The sy	stem save	es the drug excipient u	pdat	ing into the system.	
Input data	Input Name		Example		Description	
	Substance Fun	ction	"Binder"		The list substance	
	Name				Function Name should	
	be the character			be the characters.		
	Substance Fun	iction	"Very Small Binder"		The list substance	
	Type				Function Type. It	
				should be the		
					characters.	
	Max Concentr	ation	5.89		The max concentration	
					should be the float	
	Min Concentra	ation .	3.67		number. The min concentration	
	Willi Concentra	ation	3.07		should be the float	
					number.	
Normal Flow:	1. The us	ser opens	the drug excipient upd	atin		
		-			from a list for updating.	
			a new data for updatir			
	Functi	on Name,	Substance Function Ty	/pe,	max concentration and	
		oncentrati				
			"confirm to update" f	or u	odate an existing drug	
	excipie					
			dates the input data.	• •		
	-		ate the existing drug e	-		
		Stelli Silo	ws the existing drug ex	cipie	ent updating successful	
Alternative Flow:	page. • In ster	2 of the r	normal flow if the user	IICA	s search bar for searching	
Alternative How.					_	
	the existing drug excipient by the substance name instead of selecting the existing drug substance in a list.					
	The user inputs the substance name in a search bar.					
					rching the existing drug	
			the system.			
	3. Th	e system	shows the drug formu	latio	n.	
	4. Th	e step of	this use case is resume	d at s	step 3 of the normal flow.	

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	 In the step 3 of the normal flow, if the user select "cancel" instead of selecting "confirm to update". 1. The system shows the administrator main page.
Exception:	 In all of step of the normal flow, if the system disconnects from an internet The system shows the error message about internet disconnection.
	 In step 5 of the normal flow, if the user inputs the Substance Function Name in a wrong format. 1. The system shows the error message about the Substance Function Name format is wrong. 2. The user go back to do the step 2 of the normal flow again.
	 In step 5 of the normal flow, if the user inputs the Substance Function Type in a wrong format. 1. The system shows the error message about the Substance Function Type format is wrong. 2. The user go back to do the step 2 of the normal flow again.
	 In step 5 of the normal flow, if the user inputs the max concentration in a wrong format. 1. The system shows the error message about the max concentration format is wrong. 2. The user go back to do the step 2 of the normal flow again.
	 In step 5 of the normal flow, if the user inputs the min concentration in a wrong format. 1. The system shows the error message about the min concentration format is wrong. 2. The user go back to do the step 2 of the normal flow again
Include:	URS-21,URS-13,URS-09

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URS 14: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-107	The system provides the Graphic user interface (GUI) which receive the substance
	function name, substance function type, max concentration and min concentration.
SRS-108	The system shows the list of excipient.
SRS-109	The system provides the search bar for searching the list of drug excipient. The search bar uses the name of substance for searching.
SRS-95	The system can check the substance function name format. The substance function name format should be the characters.
SRS-96	The system can check the substance function type format. The substance function type format should be the characters.
SRS-97	The system can check the max concentration format. The max concentration format should be the float number.
SRS-98	The system can check the max concentration format. The min concentration format should be the float number.
SRS-110	The system shows the Confirm dialog box (YES/NO option). The confirm dialog box use for confirming the excipient updating.
SRS-111	The system update drug excipient
SRS-112	The system shall show the successful update existing drug excipient page.
SRS-103	The system shall display the error message "The Substance Function Name is not the characters".
SRS-104	The system shall display the error message "The Substance Function Type is not the characters".
SRS-105	The system shall display the error message "The max concentration is not the float number".
SRS-106	The system shall display the error message "The min concentration is not the float number".
SRS-12	The system shall display the error message "The system is disconnect from the internet".

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URS-15: The user deletes an existing drug excipient in the system.

II D	Tunc 45				
User Requirement Specification ID:	URS-15				
User Requirement Specification Name:	The user deletes an existing drug excipient in the system.				
•					l . \A/! - l ! - l!#
Create By :		nk Wichaidit	Last update by:		nupak Wichaidit
Date Created :	April 7,		Last Revision Date :	Oc	tober 3, 2014
Actor: Description:	-	Pharmacists, Adn		o +b	o ovieting drug oveiniont
Description:		ne system.	ie user wants to delet	e tiii	e existing drug excipient
Trigger:			te the existing drug (excir	pient" to delete a drug
11188011		nt from the syste		CXCI	nent to delete a drug
Pre-condition:	•	•	og into the system.		
Post-condition:	•		tes the existing drug ex	vcini	ent from the system
Input data	Input n	•	Example	лсірі	Description
input data		nce name	"Lexapro"		The substance name
	Jabstai	nee name	Lexapro		should be the
					characters.
Normal Flow:	1.	The user opens t	the existing drug excipi	ient	
	2.	•	the substance name fr		
	3.	The user selects	"delete" for delete the	e exis	sting drug excipient from
	the system.				
	4. The system shows the alert message for checking the drug				
	excipient deleting.				
	5. The administrator selects "Yes" for confirming to delete the drug excipient.				
	6. The system deletes the existing drug excipient form the system.				
	7. The system shows the existing drug excipient deleting successful				
		page.			· ·
Alternative Flow:	In the step 3 of the normal flow, if the user selects "cancel" instead				
	of selecting "Yes".				
	The system shows the administrator main page.				
	•	•	normal flow, if the use		
		•	isting drug excipient b	•	
	instead of selecting the existing drug excipient in a list.				
	1. The user inputs the substance name in a search bar.				
	The user selects "searching" for searching the existing drug excipient in the system.				
	excipient in the system. The system shows the drug excipient				
	3. The system shows the drug excipient.4. The step of this use case is resume at a step 3 of the normal				
	flow.				
Exception:	•		the normal flow, if the	svst	em disconnects from an
		internet		,-,	
			n shows the error	me	essage about internet
	disconnection.				
Include:	URS-21	,URS-13,URS-09			
		<u> </u>	<u> </u>		

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URS 15: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-108	The system shows the list of excipient.
SRS-109	The system provides the search bar for searching the list of drug excipient. The search
	bar uses the name of substance for searching.
SRS-113	The system shows the Confirm dialog box (YES/NO option). For making confirm when
	the administrator want to delete the existing drug excipient.
SRS-114	The system deletes the drug excipient from the system.
SRS-115	The system shall show the successful deleting excipient page.
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

URS-16: The user views all of the excipient in the system.

User Requirement	URS-16			
Specification ID:				
User Requirement	The user views all the	excipient in the system.		
Specification Name:		·		
Create By:	Panupak Wichaidit	Last update by: Panupak Wichaidit		
Date Created :	April 2, 2014	Last Revision Date: October 3, 2014		
Actor:	General Pharmacists,	Expert Pharmacists, Administrator		
Description:	URS-16 is used, when	the user wants to view the excipient of a drug.		
Trigger:	The user selects "view	the formulation" to view the excipient of the drug.		
Pre-condition:	 The user must 	t log into the system.		
Post-condition:	• N/A			
Normal Flow:	1. The user oper	ns the viewing drug excipient page.		
	2. The system sh	nows a list of a drug excipient name.		
	The user select	cts the name of drug excipient that they want to see a		
	detail.			
	4. The system shows a detail of the drug excipient that the user selected.			
Alternative Flow:	 In step 3 of the normal flow, if the user uses search bar for searching the excipient by substance name instead of selecting the excipient in a list. 1. The user inputs the substance name into the search bar. 2. The user selects "submit" for searching the excipient by substance name. 3. The system shows the list of drug excipient. In all of step of the normal flow, if the system disconnects from an 			
	disconnec	tem shows the error message about internet ction.		
Include:	URS-21,URS-09			

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URS 16: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-108	The system shows the list of excipient.
SRS-109	The system provides the search bar for searching the list of drug excipient. The search
	bar uses the name of substance for searching.
SRS-116	The system shows the detail of the formulation .the substance name, substance
	function name, substance function type, max concentration and min concentration.
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

Sub-Feature 7: Manage the drug formulation.

URS-17: The user adds a new drug formulation case into the system.

Description							
User Requirement	URS-17						
Specification ID:							
User Requirement	The user adds a new dru	ig formulation case into	o the system.				
Specification Name:							
Create By:	Panupak Wichaidit	Last update by:	Panupak Wichaidit				
Date Created :	April 7, 2014	Last Revision Date:	October 3, 2014				
Actor:	Expert Pharmacists, Adn	ninistrator					
Description:	URS-17 is used, when th	ne user wants to add a	new reformulation case into				
	the system for using to	create a production and	d reformulation.				
Trigger:	The user selects "Add a	new drug formulation"	for adding a new drug				
	formulation into the system.						
Pre-condition:	The user must lo	og into the system.					
Post-condition:	The system saves the new drug reformulation case into the						
	system.						
Input data	Input Name	Example	Description				
	Formulation name	"Lexapro"	The word should be				
			the character.				
	Excipient name	talc, croscarmellose	The list of excipient				
		sodium,	should be the				
		microcrystalline	character.				
	cellulose/colloidal,						
	silicon dioxide and						
	magnesium						
	Excipient Function	"Disintegrant"	The excipient function				
	Name		name. It should be the				
			characters.				

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	Excipient Function	on "super disintegra	nt" The excipient function
	Type	Super distritegral	type. It should be the
	туре		characters.
	Llood Woight	5.34	The value of the used
	Used Weight	5.34	
			weight should be the
Alexandela	4 Th		float number.
Normal Flow:		opens add new drug reform	
		inputs Formulation name,	
		name, excipient function to	
		selects "save" for saving a	new drug formation into the
	system.		
	·	em validates the input data	
		em saves a new drug formu	•
			ulation case successful page.
Alternative Flow:	•	he normal flow, if the user	select "cancel" instead of
	selecting "save".		
	,	em shows the administrato	
Exception:	In all of s	step of the normal flow, if	the system disconnects from an
	internet		
	1. The	system shows the en	ror message about internet
	disco	onnection.	
	In step 4	of the normal flow, if the u	iser input the Formulation name
	in a wroi	ng format.	
	1. The	system shows the error n	nessage about the Formulation
	nam	e format is wrong.	
	2. The	user go back to do the step	2 of the normal flow again.
	 In step [∠] 	I of the normal flow, if the	e user input the drug excipient
	name in	a wrong format.	
	1. The	system shows the error me	essage about the drug excipient
	nam	e format is wrong.	
	2. The	user go back to do the step	2 of the normal flow again.
		afaba nama di di sa sing	and the state of t
	-		user input the excipient function
		a wrong format.	manage about the quainiont
		-	message about the excipient
		tion name format is wrong.	
	2. The	user go back to do the step	2 of the normal flow again.
	a lo stor A	of the normal flow if the	user input the everinient function
	-		user input the excipient function
		wrong format.	manage aloue the surface of
		•	message about the excipient
		tion type format is wrong.	2 of the many of the
	2. The	user go back to do the step	2 of the normal flow again.
	a In stor A	of the normal flow if the	user input the used weight in
	• In step 4 wrong fo		user input the used weight in a
	wrong ic	ninat.	

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	 The system shows the error message about the excipient used weight format is wrong. The user go back to do the step 2 of the normal flow again.
	 In step 4 of the normal flow, if the user input the drug name that in the wrong format. The system shows the error message about the drug name is wrong format.
	2. The user go back to do the step 2 of the normal flow again.
Include:	URS-21, URS-09, URS-13

URS 17: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-117	The system provides the Graphic user interface (GUI) which receive the formulation name, excipient name, excipient function name, excipient function type and used weight.
SRS-118	The system can check the formulation name format. The formulation name format should be the characters.
SRS-119	The system can check the excipient name format. The excipient name format should be the characters
SRS-120	The system can check the excipient function name format. The excipient function name format should be the characters.
SRS-121	The system can check the excipient function type format. The excipient function type format should be the characters.
SRS-122	The system can check the excipient quantity format. The excipient quantity format should be the float number.
SRS-123	The system shows the Confirm dialog box (YES/NO option). For making confirm when the administrator want to creating a new formulation.
SRS-124	The system save the drug formulation to the system.
SRS-125	The system shall show the successful add a new drug formulation page.
SRS-126	The system shall display the error message "The formulation name is not the characters".
SRS-127	The system shall display the error message "The excipient name is not the characters".
SRS-128	The system shall display the error message "The excipient function name is not the characters".
SRS-129	The system shall display the error message "The excipient function type is not the characters".
SRS-130	The system shall display the error message "The used weight is not the float number".
SRS-131	The system shall display the error message "The formulation name is already used".
SRS-12	The system shall display the error message "The system is disconnect from the internet".

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URS-18: The user update an existing drug formulation case in the system.

Description	1		1		
User Requirement Specification ID:	URS-18				
User Requirement Specification Name:	The user updates an existing drug formulation case in the system.				
Create By:	Panupak Wichaidit	Last update by:	Panupak Wichaidit		
Date Created :	April 7, 2014	Last Revision Date:	October 3, 2014		
Actor:	Expert Pharmacists, Adr	ministrator			
Description:	URS-18 is used, when the in the system.	ne user updates an existir	ng drug reformulation case		
Trigger:	The user selects "updat existing case in the syst	e an existing drug formul em.	ation case" to update an		
Pre-condition:	The user must l	og into the system.			
Post-condition:	The system save	es the drug reformulatior	updating into the system.		
Input data	Input Name	Example	Description		
	Excipient name	talc, croscarmellose sodium, microcrystalline cellulose/colloidal, silicon dioxide and magnesium	The list of substance should be the character.		
	Excipient Function Name	Diluent, antiadherent, Libran, disintegrant	The list of excipient function name. It should be the characters.		
	Excipient Function Type	Diluent, antiadherent, Libran, disintegrant	The list of excipient function type. It should be the characters.		
	Used Weight	5.34	The value of a used weight should be the float number.		
Normal Flow:	 The user opens the drug reformulation updating page. The user selects an existing drug reformulation from a list for updating. The user inputs a new data for updating such as excipient name, excipient function name, excipient function type and used weight. The user selects "confirm to update" for update an existing drug reformulation. The system validates the input data. The system update the existing drug formulation. The system shows the existing drug reformulation updating successful page. 				
Alternative Flow:	 In step 2 of the normal flow, if the user uses search bar for searching the existing drug formulation by the formulation name instead of selecting the existing drug formulation in a list. The user inputs the formulation name in a search bar. 				

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2. The user selects "searching" for searching the existing drug formulation in the system. 3. The system shows the drug formulation. 4. The step of this use case is resumed at step 3 of the normal flow. In the step 3 of the normal flow, if the user select "cancel" instead of selecting "confirm to update". 1. The system shows the administrator main page. **Exception:** In all of step of the normal flow, if the system disconnects from an internet 1. The system shows the error message about internet disconnection. In step 5 of the normal flow, if the user inputs the drug excipient name in a wrong format. 1. The system shows the error message about the drug excipient name format is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 5 of the normal flow, if the user inputs the excipient function name in a wrong format. 1. The system shows the error message about the excipient function name format is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 5 of the normal flow, if the user inputs the excipient function type in a wrong format. 1. The system shows the error message about the excipient function type format is wrong. 2. The user go back to do the step 2 of the normal flow again. In step 5 of the normal flow, if the user inputs the used weight in a wrong format. 1. The system shows the error message about the used weight format is wrong. 2. The user go back to do the step 2 of the normal flow again.

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Include: URS-21, URS-09, URS-13

URS 18: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-132	The system provides the Graphic user interface (GUI) which receive excipient name,
	excipient function name, excipient function type and used weight.
SRS-133	The system shows the list of drug formulation.
SRS-134	The system provides the search bar for searching the list of drug formulation. The
	search bar uses the name of formulation for searching.
SRS-119	The system can check the excipient name format. The excipient name format should be the characters
SRS-120	The system can check the excipient function name format. The excipient function
	name format should be the characters.
SRS-121	The system can check the excipient function type format. The excipient function type
	format should be the characters.
SRS-122	The system can check the used weight format. The used weight format should be the
	float number.
SRS-135	The system shows the Confirm dialog box (YES/NO option). For making confirm when
	the administrator want to update the existing formulation.
SRS-136	The system update drug formation that selected by the administrator.
SRS-137	The system shall show the successful update existing drug formulation page.
SRS-127	The system shall display the error message "The excipient name is not the characters".
SRS-128	The system shall display the error message "The excipient function name is not the characters".
SRS-129	The system shall display the error message "The excipient function type is not the
	characters".
SRS-130	The system shall display the error message "The used weight is not the float number".
SRS-12	The system shall display the error message "The system is disconnect from the internet".

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URS-19: The user deletes an existing drug formulation case in the system.

Description						
User Requirement Specification ID:	URS-19					
User Requirement Specification Name:	The user deletes an existing drug formulation case in the system.					
Create By:	Panupak Wichaidit	Last update by :	Panupak Wichaidit			
Date Created :	April 7, 2014	Last Revision Date :	October 3, 2014			
Actor:	Expert Pharmacists, Ac		,			
Description:			the existing drug formulation			
	case from the system.					
Trigger:	,	ete the existing drug fo	rmulation" to delete a drug			
	formulation case from	the system.	_			
Pre-condition:		log into the system.				
Post-condition:			ormulation from the system.			
Input data	Input name	Example	Description			
•	Drug formulation	Lexapro	The drug formulation			
		'	should be the object.			
Normal Flow:	1. The user open	s the existing drug form	ulation deleting page.			
	2. The user selec	ts the drug name from tl	ne list.			
	3. The user selec	ts "delete" for delete t	he existing formulation from			
	the system.					
	4. The system shows the alert message for checking the drug					
	substance dele	eting.				
	5. The administrator selects "Yes" for confirming to delete the drug					
	formulation.					
	6. The system deletes the existing drug formulation form the system.					
	7. The system shows the existing drug formulation deleting successful					
	page.					
Alternative Flow:	-		user selects "cancel" instead			
	of selecting "Y					
	1. The system	n shows the administrate	or main page.			
	• In stan 2 of the	e normal flow, if the use	ruses search har for			
	-		n by the drug's name instead			
	_	e existing drug formulati				
	_	nputs the drug name in a				
			arching the existing drug			
		n in the system.				
		n shows the drug formul	ation.			
	· ·		at a step 3 of the normal			
	flow.		•			
Exception:	 In all of step o 	f the normal flow, if the	system disconnects from an			
	internet					
			message about internet			
	disconnec					
Include:	URS-21, URS-09, URS-1	13				

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URS 19: System requirement specification (SRS)

No	System requirement specification (SRS)
SRS-133	The system shows the list of drug formulation.
SRS-134	The system provides the search bar for searching the list of drug formulation. The
	search bar use the name of drug for searching.
SRS-138	The system shows the Confirm dialog box (YES/NO option). For making confirm when
	the administrator want to delete the existing drug formulation.
SRS-139	The system deletes the drug formulation from the system.
SRS-140	The system shall show the successful delete existing drug formulation case page.
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

URS-20: The user views all of the formulation in the system.

User Requirement	URS-20				
Specification ID:					
User Requirement	The user views all the formulation in the system.				
Specification Name:					
Create By:	Panupak Wichaidit	Last update by:	Panupak Wichaidit		
Date Created :	April 2, 2014	Last Revision Date:	October 3, 2014		
Actor:	General Pharmacists, Ex	pert Pharmacists, Admi	inistrator		
Description:	URS-20 is used, when th	e user wants to view th	ne formulation of a drug.		
Trigger:	The user selects "view t	ne formulation" to view	the formulation of the		
	drug.				
Pre-condition:	The user must lo	og into the system.			
Post-condition:	• N/A	• N/A			
Normal Flow:	 The user opens the viewing drug formulation page. 				
	2. The system shows a list of a drug formulation name.				
	3. The user selects the name of drug formulation that they want to see				
	a detail.				
	4. The system shows a detail of the history that the user selected.				
Alternative Flow:	In step 3 of the normal flow, if the user uses search bar for searching				
	the formulation by name instead of selecting the formulation in a				
	list.				
		outs the name into the			
		elects "submit" for se	arching the formulation by		
	name.				
	3. The system shows the list of formulation.				
Exception:	In all of step of the normal flow, if the system disconnects from an				
	internet.				
	1. The system shows the error message about internet				
	disconnection	on.			
Include:	IIDS_21 IIDS OO IIDS 12				
include:	URS-21, URS-09, URS-13				

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URS 20: System requirement specification (SRS)

No	System requirement specification (SRS)			
SRS-133	The system shows the list of drug formulation.			
SRS-134	The system provides the search bar for searching the drug formulation. The search bar			
	uses the name of formulation to searching.			
SRS-141	The system shows the detail of the formulation. The substance the drug name, excipient function type, Substance Quantity, Substance Intensity.			
SRS-12	The system shall display the error message "The system is disconnect from the internet".			

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URS-21: The user log in to the system.

Usan Danninana ant	LIDC 24				
User Requirement	URS-21				
Specification ID:					
User Requirement	The user log in to the s	The user log in to the system.			
Specification					
Name:					
Create By :		-	nupak Wichaidit		
Date Created :		April 1, 2014 Last Revision Date : April 1, 2014			
Actor:		Expert Pharmacists, Administr			
Description:	· ·	the user wants to use the OEC	iP.		
Trigger:	_	" to log in to the system.			
Pre-condition:		een register as a member.			
Post-condition:	•	ves a member history in a sys			
Input data	Input Name	Example	Description		
	Email	"member01@gmail.com"	Username of the user		
			should have length 4-		
		"password01"	15 characters		
	Password	Password of the user			
			should have length 4-		
			15 characters		
Normal Flow:	1. The user open				
		ts email and password for logi	-		
		ts a login symbol for log in to	-		
	·	ows main page of the prograr	n.		
Alternative Flow:	N/A				
Exception:	 In step 3 of the 	e normal flow, if the user inpu	it the email or password		
	wrong.				
		ows the error message about	the email or password is		
	wrong.		_		
	2. The user go ba	ack to do step 2 of the normal	flow again.		
	In all of step of the normal flow, if the system disconnects from an				
	internet				
	1. The system shows the error message about internet				
	disconnec	tion.			
Implicate:	LIDC 01				
Include:	URS-01				

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URS 21: System requirement specification (SRS)

No	System requirement specification (SRS)			
SRS-142	The system provides the Graphic user interface (GUI) which receive email and			
	password for logging in to the system.			
SRS-143	The system retrieves the email and password.			
SRS-144	The system can verify the email and password.			
SRS-145	The system retrieves the user information from the username.			
SRS-146	The system stores the user information as the current user.			
SRS-147	The system shows the main page of the program.			
SRS-148	The system shall display the error message "The username or password is invalid"			
SRS-12	The system shall display the error message "The system is disconnect from the			
	internet".			

Sub-Feature 09: Logout from the system

URS-22: The user logouts from the system.

Description

User Requirement	URS-22					
Specification ID:						
User Requirement	The user logouts from the system.					
Specification Name:						
Create By:	Panupak Wichaidit Last	t update by : Panupak Wichaidit				
Date Created :	April 1, 2014 Last Rev	vision Date: April 1, 2014				
Actor:	General Pharmacists, Expert Phar	macists, Administrator				
Description:	URS-22 is used, when the user wa	URS-22 is used, when the user want to log out from the OEGP.				
Trigger:	The user select "log out" to log out from the system.					
Pre-condition:	N/A					
Post-condition:	N/A					
Normal Flow:	1. The user selects the log out symbols.					
	2. The system shows log in page after the log out is successful.					
Alternative Flow:	N/A					
Exception:	 In all of step of the normal 	In all of step of the normal flow, if the system disconnects from an				
	internet					
	1. The system shows the error message about internet					
	disconnection.					
	a					
Include:	URS-24					
include.	0113 27					

URS 22: System requirement specification (SRS)

No	System requirement specification (SRS)	
SRS-149	The system provides the Graphic user interface (GUI) which show the log out symbols	
SRS-150	The system shall shows the successful member log out.	
SRS-12	The system shall display the error message "The system is disconnect from the	
	internet".	

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