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

Software Requirement Specification

By

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

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Document Name	OEGP-Software Requirement	Owner	NS.PW	Dago	1/56		
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Table of contents

Document His	tory	1
Chapter 1	Introduction	4
1.1. Iden	ntification	4
1.2. Acro	onyms	4
Chapter 2	User Scenario and User Characteristic	4
2.1 Use	r Scenario	4
2.2 Use	r Characteristic	4
Chapter 3	Requirement Specification	6
3.1. Fund	ctional Requirement	6
3.1.1.	User Requirement Specification (URS)	6
3.1.2.	User Requirement Description	8
Sub-Fe	eature 1: Manage the user account	8
URS	-01: The user registers as a member	8
URS	-02: The user updates their information	10
URS	-03: The administrator deletes the member account	12
URS	-04: The administrator approves a general pharmacist registration	14
URS	-05: The administrator changes an authorized person status	16
Sub-Fe	eature 2: Calculate the drug reformulation by using the inference engine	18
URS	-06: The user calculates a drug reformulation by using an inference engine	18
Sub-Fe	eature 3: View the drug reformulation history	21
URS	-07: The user views their drug reformulation history	21
Sub-Fe	eature 4: Make the drug reformulation evaluation	22
URS	-08: The user makes a drug formulation evaluation	22
Sub-Fe	eature 5: Manage the drug substance	25
URS	-09: The user adds a new substance into the system	25
URS	-10: The user updates an existing substance in the system	30
URS	-11: The user deletes an existing substance from the system	35
URS	-12: The user views the substance in the system	36
Sub-Fe	eature 6: Manage the drug excipient	37
URS	-13: The user adds a new drug excipient to the system	37
URS	-14: The user update an existing drug excipient in the system	40

Document Name OEGP-Software Requirement Specification_V.2.0.docx		Owner	NS,PW	Page	2/56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

URS-15: The user deletes an existing drug excipient in the system	43
URS-16: The user views all of the excipient in the system	44
Sub-Feature 7: Manage the drug formulation	45
URS-17: The user adds a new drug formulation case into the system	45
URS-18: The user update an existing drug formulation case in the system	48
URS-19: The user deletes an existing drug formulation case in the system	51
URS-20: The user views all of the formulation in the system.	52
Sub-Feature 8: Login to the system.	54
URS-21: The user log in to the system.	54
Sub-Feature 09: Logout from the system	55
URS-22: The user logouts from the system	55

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	3 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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.

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	4/56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

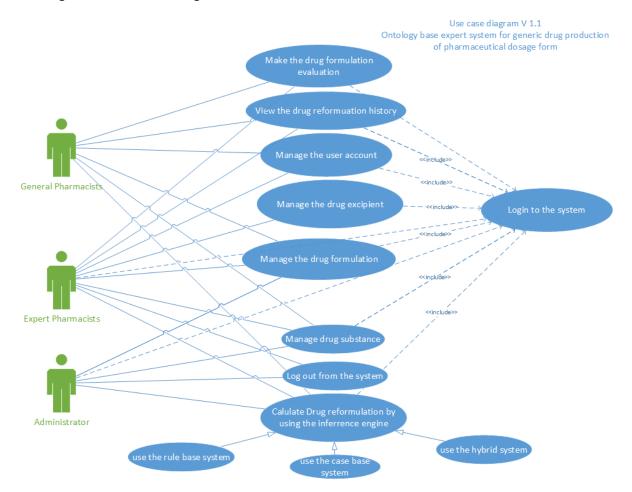


Figure 1 : OEGP's Use Case Diagram

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	5 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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 reg	isters as a m	ember.	General P	harmacists	
	account	URS-02	The user upo	lates their		General P	harmacists,	
			information.			Expert Ph	armacists,	
						Administr	ator	
		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	es an			
			authorized p	erson status	5.			
2	Calculate the drug	URS-06	The user cald	culates a dru	ıg	General P	harmacists,	
	reformulation by		reformulatio	n by using a	n	Expert Ph	armacists,	
	using the inference		inference en	gine.		Administr	ator	
	engine.							
3	View the drug	URS-07	The user view	ws their dru	5	General P	harmacists,	
	reformulation		reformulatio	n history.		Expert Ph	armacists,	
	history					Administrator		
4	Make the drug	URS-08	The user mal	kes the drug		General P	harmacists,	
	reformulation		reformulatio	n evaluatior	١.	Expert Pharmacists,		
	evaluation					Administr	ator	
5	Manage the drug	URS-09	The user add	ls a new sub	stance	Expert Pharmacists,		
	substance		into the system.			Administrator		
		URS-10	The user updates an existing					
			substance in	to the syste	m.			
		URS-11	The user dele	etes an exist	ing			
			substance fro	substance from the system.				
		URS-12	The user view	ws the subst	ance in			
			the system.					
6	Manage the drug	URS-13	The user add	ls a new exc	ipient to	Expert Ph	armacists,	
	excipient		the system.			Administr	ator	
		URS-14	The user upo	lates an exis	ting drug			
			excipient in t	he system.				
		URS-15	The user dele	ete an existi	ng drug			
			excipient in t	he system.				
		URS-16	The user view	ws all the dr	ug			
			excipient in t	he system.				
7	Manage the drug	URS-17	The user adds a new drug			Expert Ph	armacists,	
	formulation		formulation	case into the	e system.	Administr	ator	
		URS-18	The user updates an existing drug					
			formulation case in the system.					
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Docui	ment Name Specification_			Owner	NS,PW	Page	6 / 56	
Docu	ment Type Software Requ	irement Spec	ification	Release	October 22,	Print Date	October 22,	
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		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

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	7 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

3.1.2. User Requirement Description

Sub-Feature 1: Manage the user account

URS-01: The user registers as a member.

Description

Document Name

Document Type

Specification_V.2.0.docx

Software Requirement Specification

User Requirement	URS-01								
Specification ID:									
User Requirement Specification Name:	The user reg	gisters as a n	nemb	er.					
Create By :	Panupak Wi	chaidit		Last update	hv:	Panun	ak Wicha	aidit	
Date Created :	April 1, 2014		Las	Revision D			2, 2014	arare	
Actor:	General Pha		Lus	. ILCVISION B	ucc .	710111 3	2, 2011		
Description:		URS-01 is used, when the user wants to use the OEGP at the first time.							
Trigger:	The user sel								-
Pre-condition:	N/A	cots regist	<u> </u>	create a ge	c.a.	priarrie			
Post-condition:	1	system save	אל ווגר	r informatio	nn into	a syste	-m		
1 ost condition		administrato				-		est froi	m the
	use		,, ,,,,	cives a men	iibei i	-Bisti at	lon requ	CSC II OI	II tile
Input data	Input name	1			De	scriptio	on		
pat data	Email	•	01@s	mail.com"			l should	he the	same
			- C 2	,			nail addre		
		used.							
	Password	"pass01"			Th	The password of the user			
		'					ave a		
					cha	aracter	s.	_	
	Confirm	"pass01"			Th	e pass	sword o	f the	user
	password				sho	should have a length 4-15			
					cha	aracter	rs.		
Normal Flow:	1. The	user opens	the	registration	page	for cre	ating a n	ew me	mber
	acco	ount.							
		user inputs		•			_		
		user selec		-	mbol	for se	ending t	he me	mber
	_	stration to a							
		system veri		•					
		system save					•		
		system sen		_	-				
		system di		s the send	ing re	gistrati	on to a	dminist	rator
Altawastina Flann		cessful page		-1.0					
Alternative Flow:		tep 4 of the		-		•	a passw	ord less	than
		aracters or							
	1.	The system					. a passw	ora iess	tnan
	2	4 characters or more than 15 characters. 2. The user go back to do a step 2 of the normal flow again.							
	۷.	ille usei go	Dack	to do a step)	ווכ ווטוו	nai now	agaiii.	
	• In c	tep 3 of the	norm	al flow if +	he use	r salac	ts "cance	ıl" insta	ad of
		omit."	110111	iai iiow, ii ti	iie use	i seiel	is carrice		au Oi
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Document Name	oftware Requirer	nent		Owner	NS	,PW	Page	8/	56

October 22,

2014

Page

Print Date

8/56

October 22,

2014

Owner

Release

Date

	1. 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.
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.
	2. 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.
	2. 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

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	9 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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	General Pharmacists, Expert Pharmacists, Administrator						
Description:	URS-02 is used	l, when the ເ	ser wants to update their information.					
Trigger:	The user selec	The user selects "update" to update information of the user.						
Pre-condition:	• The us	 The user must log into 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	s the existing user information such as the					
	passw	password.						
	3. The user inputs a new password and confirm password for							
		nation updati	9					
	4. The us	er selects "c	onfirm" to update the information.					

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	10 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

	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".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	11 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

URS-03: The administrator deletes the member account.

Description					1			
User Requirement Specification ID:	URS-03							
User Requirement	The Admini	strator dele	tes the member account.					
Specification								
Name:								
Create By :	Panupak W	ichaidit	Last update by :	Par	nupak Wichaidit			
Date Created :	April 12, 20		Last Revision Date :		iy 20, 2014			
Actor:	Administrat				,			
Description:	URS-03 is u	sed, when t	he administrator wants to	dele	ete the existing user			
	account fro				· ·			
Trigger:	The adminis	The administrator selects "delete the existing user" for deleting the existing						
	user from t		_					
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 member	er email	"member01@gmail.com	า"	The email should be			
					the same as the email			
				address that user				
					used.			
Normal Flow:	1. The	user opens	deleting the existing men	nber	r page.			
	2. The	system sho	ows the list of member's u	sern	name from the system.			
	3. The	administra	tor chooses the member ι	useri	name from a list of			
	me	mber usern	ame.					
	4. The	administra	tor selects "delete" for de	letir	ng the existing member			
	acc	ount from t	he system.					
	5. The	system sho	ows the alert message for	chec	cking the member			
		ount deletir	_					
			tor selects "Yes" for confi	rmin	g to delete the			
		mber accou						
			etes the member account					
			ows deleting the existing s					
Alternative Flow:		•	normal flow, if the user u					
		•	nember account by using					
			cting the member's email	trom	n the list of member's			
		rname.		,				
	1.		istrator inputs the membe					
	2.	2. The administrator selects "searching" for searching the existing						
	ว		count in the system.	f +h ~	mamhar			
		3. The system shows the information of the member.4. The step of this use case is resumed at step 2 of the normal						
		flow.						
		•	the normal flow, if the us	er se	elects "cancel" instead			
	_	electing "Ye		ula -				
	1.	rne system	shows the main page of t	ıne p	orogram.			

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	12 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

Exception:		intern 1. Th	et.	em	shows		system dis 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".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	13 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

2C3CHPtioH						
User Requirement	URS-04					
Specification ID:						
User Requirement	The administrator appi	roves a general pha	rmacist re	egistration.		
Specification						
Name:						
Create By :	Panupak Wichaidit	Last updat	e bv : Pa	anupak Wich	naidit	
Date Created :	April 2, 2014					
Actor:	Administrator			, 20, 201		
Description:		URS-04 is used, when the administrator wants to approve a member				
Description.	registration that reque		•	•		
		ist iroiii a persoii wi	io waiits	to be the ger	ilerai	
	pharmacist.	. "		"		
Trigger:	The administrator sele	cts "approve memb	er registra	ation" to app	orove a	
	member registration.					
Pre-condition:	 The administra 	ator must log into th	e system.			
	 The administra 	ator must receive a	request	of member	registration	
	from the gener	ral pharmacists.				
Post-condition:	The system sav	ves information abo	ut approv	ing member	registration	
	into the systen			Ü	J	
	•	nds an email to the	nerson v	who wants to	n he general	
	•	out member registra	•		o be general	
	-	_			o ho gonoral	
	<u> </u>	nds an email to the	•		_	
		oout member regi				
		This post-conditio	n is used	when the	user selects	
	"cancel" in Alto	ernative flow.				
Input data	Input Name	Example		Description		
	The member email	"member01@gm	ail.com"		I should be	
				the same	as the email	
				address	that user	
				used.		
Normal Flow:	1. The administra	ator opens the appro	oving mer	mber registra	ation page.	
	2. The system sho	ows the list of the g	eneral ph	armacist reg	istration	
	that request fr	om the person who	wants to	be the gene	ral	
	pharmacist.	•		· ·		
	•	ator chooses the rec	uest that	want to apr	rove as the	
	general pharm					
		ator selects "confirm	n" to annr	ove the real	lest of	
	member regist		i to appi	ove the requ	acst 01	
	_	proves the member	account t	that calacta	hy tha	
	5. The system apparts administrator.	איטאבי נוופ ווופוווטפו	account	נוומנ אבופננפנ	a by the	
			latuati-:	المالية		
	6. The system sends the member registration successful message to					
	•	_	,istration .	Juccessiai ii	iessage to	
	the member e	mail.			J	
	the member ei 7. The system sho	mail. ows approving mem	ber regis	tration is suc	ccessfully.	
Alternative Flow:	the member ender 7. The system shows In step 3 of the	mail.	ber regis	tration is suc	ccessfully.	
Alternative Flow:	the member ei 7. The system sho	mail. ows approving mem	ber regis	tration is suc	ccessfully.	
	the member ender 7. The system shows In step 3 of the	mail. ows approving mem	ber regis	tration is suc	ccessfully.	

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	14 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

	 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".				

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	15 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

User Requirement Specification ID: User Requirement Specification Name: Create By: Date Created: Actor: Description: Trigger:	Panupak Wichaidit April 2, 2014 Administrator URS-05 is used, who	Last update by: Last Revision Date:	status. Panupak Wichaidit				
Specification Name: Create By: Date Created: Actor: Description:	Panupak Wichaidit April 2, 2014 Administrator URS-05 is used, who	Last update by :					
Create By : Date Created : Actor: Description:	April 2, 2014 Administrator URS-05 is used, who person status from		Panupak Wichaidit				
Date Created : Actor: Description:	April 2, 2014 Administrator URS-05 is used, who person status from		Panupak Wichaidit				
Actor: Description:	Administrator URS-05 is used, who person status from	Last Revision Date :					
Description:	URS-05 is used, who		May 20, 2014				
•	person status from						
Trigger:	•	en the administrator wants to					
Trigger:		on status from a general pharmacist to an expert pharmacist.					
		selects "change authorized per	son" to change the status				
	of the members						
Pre-condition:		strator must log into the syste					
	-	n must have at least one of	general pharmacist in the				
	system.						
Post-condition:	·	saves the changing of authori	zed person status into a				
	system.						
	·	sends the email to a person w	_				
		person status by administrato					
Input data	Input name	Example	Description				
	Member email	"member01@gmail.com					
	A .1						
	Authorize status	"expert pharmacist"					
Normal Flaur	1 The admin	istrator space the charging					
Normal Flow:		ilstrator opens the changing	authorized person status				
	, ,	ala a tha Para Cara ala a a	was a second for any the second second				
	2 The cyctem	stem shows the list of member username from the system.					
	·		•				
	3. The admini	istrator chooses the member ι	•				
	3. The admini status chan	istrator chooses the member unging.	sername for the authorize				
	3. The admini status chan4. The system	istrator chooses the member unging. In shows the member detail w	sername for the authorize				
	 The admini status chan The system registration 	istrator chooses the member unging. In shows the member detail was and authorize status.	sername for the authorize which consist of email and				
	 The admini status chan The system registration The admini 	istrator chooses the member unging. In shows the member detail was and authorize status. In strator selects "change author	sername for the authorize which consist of email and rized status".				
	3. The admini status chan4. The system registration5. The admini6. The system	istrator chooses the member unging. In shows the member detail was and authorize status. In strator selects "change author	sername for the authorize which consist of email and rized status".				
	 The admini status chan The system registration The admini The system changing. 	istrator chooses the member unging. In shows the member detail was and authorize status. In strator selects "change author	which consist of email and rized status".				
	 The admini status chan The system registration The admini The system changing. 	istrator chooses the member unging. In shows the member detail was date and authorize status. Istrator selects "change author shows alert message for checking the checking and the change and the checking and the change author shows alert message for checking the change and the change and the change author as the change and the change	which consist of email and rized status".				
	 The admini status chan The system registration The admini The system changing. The admini changing. 	istrator chooses the member unging. In shows the member detail was date and authorize status. Istrator selects "change author shows alert message for checking the checking and the change and the checking and the change author shows alert message for checking the change and the change and the change author as the change and the change	which consist of email and rized status". Cking the authorized status onfirm an authorize status				
	 The admini status chan The system registration The admini The system changing. The admini changing. 	istrator chooses the member unging. In shows the member detail was date and authorize status. Istrator selects "change author shows alert message for checistrator selects "confirm" to commupdates the authorize status.	which consist of email and rized status". Cking the authorized status onfirm an authorize status				
	 The administatus channel The system registration The administration The system changing The administration The system administration 	istrator chooses the member unging. In shows the member detail was date and authorize status. Istrator selects "change author shows alert message for checistrator selects "confirm" to commupdates the authorize status.	vhich consist of email and vized status". Cking the authorized status on firm an authorize status tus that selected by the				
	 The administatus chan The system registration The administration The system changing. The administration The system administration The system to the mem 	istrator chooses the member unging. In shows the member detail was date and authorize status. Istrator selects "change author in shows alert message for check istrator selects "confirm" to commupdates the authorize stator. In sends the changing authorize inber email.	which consist of email and rized status". Cking the authorized status onfirm an authorize status tus that selected by the status successful message				
	 The administatus chan The system registration The administration The system changing. The administration The system administration The system to the mem 	istrator chooses the member unging. In shows the member detail was date and authorize status. Is strator selects "change authoria shows alert message for check istrator selects "confirm" to compute the authorize stator. In sends the changing authorize mber email. In shows the changing authorize stators and the changing authorize memoirs.	which consist of email and rized status". Cking the authorized status onfirm an authorize status tus that selected by the status successful message				
Normal Flow:	page.	the same as the email address that user used. The authorize status should be the characters. The administrator opens the changing authorized person status.					

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	16 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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".

Document Nam	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	17 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

User	URS-06							
Requirement								
Specification ID:								
User	The user calculate	s a d	rug reformula	ition by using	g an inferenc	ce engine.		
Requirement								
Specification								
Name:								
Create By:	Panupak Wichaidi	t	Last	update by:	Panupak W	/ichaidit		
Date Created :	April 2, 2014		Last Revi	ision Date:	April 2, 201	L4		
Actor:	General Pharmaci	armacists, Expert Pharmacists, Administrator						
Description:	URS-06 is used, w	JRS-06 is used, when the user wants to calculate a drug reformulation as a						
	generic version by	generic version by using an inference engine.						
Trigger:	The user selects "	The user selects "Calculate" to calculate drug reformulation as a generic						
	version.							
Pre-condition:	The user i	nust	log into the sy	ystem.				
Post-condition:	The syste	m sav	es the user ir	nformation in	nto a system			
Input data	Part	Nan	ne	Example Description				
	Formulation	For	mulation	Paracetam	ol	The value		
						should be the		
						object of the		
						formulation.		
	DF properties	Tota	al weight	630.00		The value		
						should be the		
						float number.		
		Disi	ntegration	28		The value		
		Tim	e			should be the		
						Integer value.		
		Har	dness	8.30		The value		
						should be the		
						float number.		
		Diss	olution	81.31		The value		
		Prof	file			should be the		
						float number.		
	Instruction	inst	ruction	"This is Par	acetamol	The value of		
				"		the instruction		
						should the		
						character.		
Normal Flow:		•	the calculate	•				
		•			•	and instruction.		
			s the reformu	ilation symb	oi for calcula	ating drug		
	retormula	reformulation.						

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	18 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

	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.
Ali	5.	The user saves the reformulation result to the history.
Alternative Flow:	N/A	
Exception:		In step 2 of the normal flow, if the user inputs the formulation in a
Exception.		wrong format.
		1. The system shows the error message about the formulation
		format is wrong.
		 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.
		In stan 2 of the normal flow if user inputs a Hardness at DE Droporties
	•	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.
		 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.
		2. 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	1
	•	

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	19 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	20 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

User Requirement Specification ID:	URS-07					
User Requirement	The user views their dru	ig reformulation history	<i>/</i> .			
Specification Name:		T				
Create By:	Panupak Wichaidit	Last update by:	Panupak Wichaidit			
Date Created :	April 2, 2014	Last Revision Date: April 2, 2014				
Actor:	General Pharmacists, Ex	•				
Description:	URS-07 is used, when the reformulation.					
Trigger:	The user selects "view t reformulation.	The user selects "view the history" to view the history of a drug reformulation.				
Pre-condition:	The user must log 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:	1. The user opens	the history of a drug re	formulation page.			
	2. The system sho	ws a list of a drug refor	rmulation history name with			
	date.					
	3. The user select	s the date of drug refo	rmulation that they want to			
	see the detail.					
	4. The system sho	ws a detail of the histor	y that the user selected.			
Alternative Flow:	In step 3 of the i	normal flow, if the user	uses search bar for searching			
	the history by d	ate instead of selecting	the history in a list.			
	1. The user in	outs the date into the se	earch bar.			
	2. The user se	2. The user selects "submit" for searching a history by date.				
	3. The system	shows a list of history.				
Exception:			system disconnects from an			
	internet					
	1. The system shows the error message about internet					
	disconnecti		-			
Include:	URS-24					

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	21 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

Lian Danisana	LIDC OO						
User Requirement	URS-08						
Specification ID:							
User Requirement	The user makes a	a drug r	eformul	ation evaluatio	n.		
Specification Name:							
Create By:	Panupak Wichaid	lit	Las	st update by:	Panupak Wichaidit		
Date Created :	April 7, 2014		Last R	evision Date:	May 28, 2014		
Actor:	General Pharmac	cists, Ex	inistrator				
Description:	URS-08 is used, w	d, when the user wants to evaluate the drug formulation is			te the drug formulation in		
	the system after	tem after they produce a real generic drug in a lab.					
Trigger:	The user selects	"Evalua	valuate" for making drug evaluation.				
Pre-condition:	The user	must lo	og into t	he system.			
Post-condition:	The system	em save	es the dr	ug formulation	evaluation into the system.		
Input data	Input Name Example Description			•			
	Dissolution Profil	.31	The value should be the float number.				
	Disintegration	21		The value sho	uld be the integer number.		
	time				<u> </u>		
	Pharmaceutical	3		The word sho	ould be the integer number.		
	equivalence				_		
Normal Flow:	1. The user	opens	drug for	mulation evalu	ation page.		
	2. The syste	em sho	ws a list	of drug reform	ulation history.		
	3. The user	selects	a drug f	ormulation fro	m the list of drug		
	reformul		_		_		
	4. The syste	em shov	ws a det	ail of the histor	y that the user selected.		
					drug formulation		
	evaluatio			_			
	6. The user	inputs	the Diss	olution profile,	Disintegration time and		
	Pharmac	eutical	equivale	ence of generic	drug that the user		
	produced	d.	·	_	_		
	•		"confirm	n" for making o	drug formulation evaluation.		
				_	f the result is good, the		
	•			sful page.	G .		
	•				n evaluation successful		
	page.			-			
	bage.						

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	22 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	23 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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."

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	24 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

User Requiremen		URS-09								
Specification ID										
User Requiremen		The user adds a new substance into the system.								
Specification										
Name										
Create By	<u> </u>	Panupak Wichaidit Last update by: Panupak Wichaidit								
Date Created					sion Da	ite :	Octobe	r 3, 2	2014	
Actor	<u> </u>									
Description										
Trigger		'Add	the new	subs	tance"	for ac	ding the	e nev	v suk	ostance to
	the system.									
Pre-condition			_		-					
Post-condition	 The syste 	m sa	ves the n	ew s	ubstan	ce to	the syst	em.		
Input data	Part	Inp	ut Name		Exam				Des	cription
	Substance's	Nar	ne		"Aplo	"			The	word
	name								sho	uld be the
									cha	racter.
	Water Solubility	Тур	е		"Sligh	itlySo	luble"		The	value
	Property								sho	uld be the
									inte	eger value.
	Stability	Deg	radation	1	"Oxio	lation	"		The	word
	Property	Me	chanism						sho	uld be the
									cha	racter.
		Kine	etic		"First	Orde	Kinetics	"	The	word
		Rea	ction						should be the	
								character.		
	Dissolution	Тур	е		"Weak"			The	word	
	Property								sho	uld be the
									character.	
	Partition	Тур	e		"Goo	dAbso	orbtion"		The	word
	Coefficient								sho	uld be the
	Property									racter.
	Physical Form	Тур	e		"Crys	talline	eMateria	als"	The	word
	Property								sho	uld be the
										racter.
	Hygroscopicity	Тур	e		"Sligh	itly hy	groscop	oic"		word
	Property									uld be the
										racter.
	Particle	Type "MicronizedParticle"			word					
	Property									uld be the
		<u> </u>								racter.
	Alcohol	1 ''					word			
	Solubility						uld be the			
	Property	character.					racter.			
Document Name	P-Software Requirement cification_V.2.0.docx	: 		Own	ner	N:	S,PW	Pa	ge	25 / 56
Document Type Soft	ware Requirement Speci	ficatio	າ	Rele Date			ober 22, 2014	Print	Date	October 22, 2014

	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	2.37	should be the			
		Weight		float value.			
	347 - 1 - 1 - 1) / - I	2.55				
	Weight	Value	2.55	The value			
	Property			should be the			
				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,			
		•	ion Property, Partition Co				
		•	operty, Hygroscopicity Pr				
		•	Property, Flow ability Pr				
			erty, Weight Property an	• •			
	· ·		adding the new substance	•			
		m validates the ir		.е.			
	-		·				
			tance to the system.	of all mana			
Altriant rela	•		substance adding succes				
Alternative Flow:		•	flow, if the user select "c	ancel" instead of			
	selecting						
			list of drug substance.				
Exception:			ow, if the user inputs the	substance name			
	that same	e as other substar	ice name in the system.				
	1. The s	system shows the	error message about the	substance name			
	is alre	eady used.					
	2. The u	iser go back to do	the step 2 of the normal	flow again.			
	 In step 4 	of the normal flo	ow, if the user inputs the	Water Solubility			
	Property	in a wrong forma	t.				
		-	error message about the	Water Solubility			
		, erty format is wro	_	,			
	•	2. The user go back to do the step 2 of the normal flow again.					
	2	iser go saon to ao	the step 2 of the normal	non agann			
	■ In sten /	of the normal flo	w, if the user inputs Stab	ility Property in a			
	wrong for		w, ii tiic usei iiiputs stab	mry rroperty ma			
	_		arrar massaga about the	Stability Droporty			
			error message about the	Stability Property			
	is wro	-	the stan 2 of the normal	flow again			
	2. The u	isei ko nark 10 00	the step 2 of the normal	now again.			
0500	Coftware Requirement						

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	26 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

- 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.

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	27 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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.

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	28 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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".
	internet .

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	29 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

Uses Description	LIDC 40					1		
User Requirement Specification ID:	URS-10							
User Requirement Specification	The user upo	lates an exi	stings	substance in the sys	item.			
Name:								
Create By :	Panupak Wid			Last update by:		upak Wichaidit		
Date Created :	April 7, 2014			st Revision Date:	Oct	ober 3, 2014		
Actor:	Expert Pharn				_			
Description:	URS-10 is use system.	s used, when the user wants to update the existing substance in the						
Trigger:		ects "Update	e the	existing substance"	for u	pdating the existing		
	substance in	-		J				
Pre-condition:				o the system.				
Post-condition:				substance updatin	ng to	the system.		
Input data	Part	Input Nam		Example	0	Description		
	Water	Туре		"SlightlySoluble"		The value should be		
	Solubility	71				the integer value.		
	Property							
	Stability	Degradati	on	"Oxidation"		The word should be		
	Property	Mechanis				the character.		
	, ,	Kinetic		"FirstOrderKinetic	cs"	The word should be		
		Reaction				the character.		
	Dissolution	Туре		"Weak"		The word should be		
	Property					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	_		//a //	. ,,			
	Particle	Туре		"MicronizedPartio	cle"	The word should be		
	Property	T		((Fine a bigC a bigle))		the character.		
	Alcohol	Туре		"FreelySoluble"		The word should be the character.		
	Solubility Property					the character.		
	Flow ability	Type		"ExcellentFlowabi	ility	The word should be		
	Property	Type		"	iiicy	the character.		
	Powder	Туре		"Trueldentity"		The word should be		
	Density	Type		Tructueffility		the character.		
	Property					the character.		
	Salt	Pka		"Very weak"		The word should be		
	Property			l c.,cak		the character.		
	roperty			1		the character.		

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	30 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

		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	ing the existing substanc				
			ubstance from a list of su	•			
			Water Solubility Prope				
		•	Partition Coefficient P				
		operty, Hygroscopicity Property, Particle Property, Alcohol					
	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.					
		system validates t	•				
		•	e existing substance to t	-			
		•	existing substance upda				
Alternative Flow:		•	al flow, if the user uses so	•			
		-	by the substance name	instead of selecting			
		existing substance		1.1			
		•	ne substance name in the				
			searching" for searching	the existing drug			
		formulation in the system.					
		3. The system shows the substance.4. The step of this use case is resumed at a step 3 of the normal					
		flow.					
	'	now.					
	• In th	 In the step 4 of the normal flow, if the user selects "cancel" instead 					
		lecting "confirm t					
		•	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			
		•	s the error message abou	it the Stability Property			
		is wrong.2. The user go back to do the step 2 of the normal flow again.					
		THE USET BU DACK	to do the step 2 of the lit	omiai now again.			
	• In sta	en 4 of the norma	al flow, if the user inputs	Dissolution Property in			
		ong format.	, the aser inputs	2.333 actor i Toperty III			
		1. The system shows the error message about the Dissolution					
		Property is wrong	_				
	1	. , 0					

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	31 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

- 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.

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	32 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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
	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.

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	33 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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."

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	34 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

Description	ı						
User Requirement Specification ID:	URS-11						
User Requirement Specification Name:	The use	er deletes an exis	ting substance from the	e sy:	stem.		
Create By :	Panupa	Panupak Wichaidit Last update by : Panupak Wichaidit					
Date Created :	April 7, 2014 Last Revision Date: October 3, 2014						
Actor:	Expert Pharmacists, Administrator						
Description:	-			the	existing substance from		
•	the sys				o l		
Trigger:			the existing substance	" fo	r deleting the existing		
		nce from the syst	_				
Pre-condition:	•	The user must lo	og into the system.				
Post-condition:	•	The system dele	etes the substance from	ı the	e system.		
Input data	Input n	•	Example		Description		
	Substa	nce name	"Aplo"		The substance name should be the character.		
Normal Flow:	1.	The user opens	deleting the existing su	bsta	ance page.		
	2.	•	existing substance from				
	3.		"confirm to delete" fo				
		substance from	the system.				
	4.	The system show	ws the alert message fo	or ch	ecking the drug		
		substance delet	ing.				
	5.	The administrat	or selects "Yes" for con	firm	ning to delete the		
		member account.					
	6.	6. The system deletes the existing substance from the system.					
	7.	, 5					
Alternative Flow:	•	•	normal flow, if the user				
		searching the existing substance by the substance name instead of					
		selecting the existing substance in a list.					
		•	outs the substance nam				
			ects "searching" for se	arch	ing the existing drug		
			in the system.				
		•	shows the substance. this use case is resume	d a+	stan 2 of the normal		
		flow.	tills use case is resultie	u at	step 5 of the normal		
	•		the normal flow if the	יבטוו	selects "cancel" instead		
		of selecting "Yes	•	usci	sciects caricel instead		
		_	shows the main page o	f th	e program.		
Exception:	•	•			tem disconnects from an		
		internet.		-,5			
		1. The syster	n shows the error	m	essage about internet		
		disconnection					
Include:	URS-21						

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	35 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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				
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.		
	3. The user selects the name of drug reformulation 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 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	disconnection.			
Include:	URS-21, URS-09				

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	36 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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 bar
	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 drug excipient to 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-13 is used, when the	e user wants to add a no	ew excipient into the system.		
Trigger:	The user selects "Add a	new drug excipient" fo	r adding a new drug		
	excipient into the system	n.			
Pre-condition:	The user must lo	og into the system.			
Post-condition:	The system save	es the new drug excipie	nt 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.		

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	37 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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:

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	38 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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
CDC 400	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".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	39 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

'	Т				
User Requirement Specification ID:					
User Requirement	The user updates an existing drug excipient in the system.				
Specification Name:					
Create By:	Panupak Wichaidit	pak Wichaidit Last update by : Panupak Wichaidit			
Date Created :	April 7, 2014	Last Revision Date :	October 3, 2014		
Actor:	Expert Pharmacists,	Administrator			
Description:	URS-14 is used, whe	n the user updates an exis	ting drug excipient in the		
	system.				
Trigger:	The user selects "up	date an existing drug excip	pient" to update an existing		
	drug excipient in the	system.			
Pre-condition:	The user mu	st log into the system.			
Post-condition:	The system s	saves the drug excipient up	odating into the system.		
Input data	Input Name	Example	Description		
	Substance Function	"Binder"	The list substance		
	Name		Function Name should		
			be the characters.		
	Substance Function	"Very Small Binder"	The list substance		
	Туре		Function Type. It		
			should be the		
	May Cananantustian	F 00	characters.		
	Max Concentration	5.89	The max concentration		
			should be the float number.		
	Min Concentration	3.67	The min concentration		
	Willi Concentration	3.07	should be the float		
			number.		
Normal Flow:	1. The user ope	ens the drug excipient upd	L		
i i i i i i i i i i i i i i i i i i i	1		ient from a list for updating.		
		uts a new data for updatir			
		-	pe, max concentration and		
	min concent				
	4. The user sele	ects "confirm to update" fo	or update an existing drug		
	excipient.				
	1	validates the input data.			
		update the existing drug ex	-		
	-	shows the existing drug ex	cipient updating successful		
	page.				
Alternative Flow:	1		uses search bar for searching		
	the existing drug excipient by the substance name instead of				
	selecting the existing drug substance in a list. 1. The user inputs the substance name in a search bar.				
		·			
		t in the system.	searching the existing drug		
	_ ·	em shows the drug formul	ation		
	· ·	<u>~</u>	d at step 3 of the normal flow.		
	me step	or this ase case is resulfied	acticp of the normal now.		

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	40 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

	 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

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	41 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	42 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

Description				
User Requirement Specification ID:	URS-15			
User Requirement Specification Name:	The user deletes an	existing drug excipient in t	he system.	
Create By :	Panupak Wichaidit	Last update by :	Panupak Wichaidit	
Date Created :	April 7, 2014	Last Revision Date :	October 3, 2014	
Actor:	Expert Pharmacists, Administrator			
Description:	URS-15 is used, whe	URS-15 is used, when the user wants to delete the existing drug excipient		
	from the system.			
Trigger:	The user selects "Delete the existing drug excipient" to delete a drug			
	excipient from the s	ystem.		
Pre-condition:	The user mu	st log into the system.		
Post-condition:	The system	deletes the existing drug e	xcipient from the system.	
Input data	Input name	Example	Description	
	Substance name	"Lexapro"	The substance name	
			should be the	
			characters.	
Normal Flow:	1. The user ope	ens the existing drug excip	ient deleting page.	
		ects the substance name f		
		ects "delete" for delete the	e existing drug excipient from	
	the system.			
		shows the alert message fo	or checking the drug	
	excipient de	•	· Construction de la lata de la lata de la construction de la construc	
	5. The adminis excipient.	trator selects "Yes" for cor	nfirming to delete the drug	
	1	deletes the existing drug e	xcipient form the system.	
	7. The system spage.	shows the existing drug ex	cipient deleting successful	
Alternative Flow:	· -	of the normal flow, if the	user selects "cancel" instead	
	of selecting			
	1. The syst	em shows the administrat	or main page.	
	 In step 2 of t 	the normal flow, if the use	r uses search bar for	
	_	e existing drug excipient b		
		electing the existing drug e	-	
		r inputs the substance nam		
	2. The user selects "searching" for searching the existing drug			
	excipient in the system.			
	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:		of the normal flow, if the	system disconnects from an	
	internet			
	1. The sy	stem shows the error	message about internet	
	disconn	ection.		
Include:	URS-21,URS-13,URS-	-09		

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	43 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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:	0.13 13			
User Requirement	The user views	all the exci	ipient in the system.	
Specification Name:			, , ,	
Create By:	Panupak Wicha	idit	Last update by:	Panupak Wichaidit
Date Created :	April 2, 2014		Last Revision Date:	October 3, 2014
Actor:	General Pharm	acists, Expe	ert Pharmacists, Adm	inistrator
Description:	URS-16 is used,	when the	user wants to view th	ne excipient of a drug.
Trigger:	The user select	s "view the	e formulation" to viev	v the excipient of the drug.
Pre-condition:	• The use	er must log	g into the system.	
Post-condition:	• N/A			
Normal Flow:	1. The use	er opens th	ne viewing drug excipi	ient page.
	2. The sys	tem shows	s a list of a drug excip	ient name.
	3. The use	er selects tl	he name of drug exci	pient that they want to see a
	detail.			
	4. The sy selecte		vs a detail of the d	rug excipient that the user
Alternative Flow: Exception:	 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. The user inputs the substance name into the search bar. The user selects "submit" for searching the excipient by substance name. The system shows the list of drug excipient. 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-21,URS-09			

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	44 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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 drug formulation case into 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 o	create a production and	d reformulation.			
Trigger:	The user selects "Add a	new drug formulation"	for adding a new drug			
	formulation into the sys	tem.				
Pre-condition:	The user must log 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.			

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	45 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

	Excipient Function	on "super disintegra	nt" The excipient function
	Type	Super distritegral	type. It should be the
	туре		characters.
	Used Weight	5.34	The value of the used
	Osed Weight	5.54	
			weight should be the float number.
Normal Flow:	1. The user	onone add now drug rafor	
NOTITIAL FIOW.		opens add new drug refor inputs Formulation name,	. •
		name, excipient function t	
			new drug formation into the
	system.	selects save for saving a	new drug formation into the
	•	em validates the input data	
		em saves a new drug formi	
	-	~	iulation case successful page.
Alternative Flow:		he normal flow, if the user	
Aiternative Flow:	selecting "save".	•	Sciedi Cancer Ilistedu UI
	•	em shows the administrato	or main nage
Exception:	•		the system disconnects from an
LACEPTION.	internet	step of the normal now, if	the system disconnects from an
		system shows the er	ror message about internet
		onnection.	Tol message about internet
	uisco	micetion.	
	● In sten 4	of the normal flow if the u	user input the Formulation name
	-	ng format.	aser input the Formalation name
		~	nessage about the Formulation
		e format is wrong.	nessage about the ronnalation
			2 of the normal flow again.
	2	ase. Be sauk to do the step	2 or the normal new again.
	• In step 4	of the normal flow, if th	e user input the drug excipient
	-	a wrong format.	,
		_	essage about the drug excipient
		e 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 u	user input the excipient function
	name in	a wrong format.	
	1. The	system shows the error	message about the excipient
	func	tion 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 u	user input the excipient function
	type in a wrong format.		
	1. The system shows the error message about the excipient		
		tion type format is wrong.	
	2. The	user go back to do the step	2 of the normal flow again.
		and the second of the second	
	· ·		user input the used weight in a
	wrong fo	חווומנ.	

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	46 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

	 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. 1. 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".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	47 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

<u> </u>					
User Requirement Specification ID:	URS-18				
User Requirement	The user updates an exi	sting drug formulation cas	se in the system.		
Specification Name:	·	0 0	,		
Create By:	Panupak Wichaidit	Last update by: P	anupak Wichaidit		
Date Created :	April 7, 2014	Last Revision Date : 0	ctober 3, 2014		
Actor:	Expert Pharmacists, Adr				
Description:	·	ne user updates an existing	g drug reformulation case		
	in the system.		"		
Trigger:		e an existing drug formula	ition case" to update an		
Pre-condition:	existing case in the syste				
Post-condition:		og into the system.	undating into the system		
	•	Example	updating into the system. Description		
Input data	Input Name Excipient name	talc, croscarmellose	The list of substance		
	Lxcipient name	sodium,	should be the		
		microcrystalline	character.		
		cellulose/colloidal,			
	silicon dioxide and				
	magnesium				
	Excipient Function	Diluent, antiadherent,	The list of excipient		
	Name	Libran, disintegrant	function name. It		
			should be the		
	Excipient Function	Diluent, antiadherent,	characters. The list of excipient		
	Type	Libran, disintegrant	function type. It should		
	Type	Librari, districegrant	be the characters.		
	Used Weight	5.34	The value of a used		
			weight should be the		
			float number.		
Normal Flow:	•	the drug reformulation up			
		ts an existing drug refor	rmulation from a list for		
	updating.	a now data for undating	t such as avainiont name		
	3. The user inputs a new data for updating such as excipient name, excipient function name, excipient function type and used weight.				
	4. The user selects "confirm to update" for update an existing drug				
	reformulation.				
	5. The system validates the input data.				
	6. The system update the existing drug formulation.				
	7. The system shows the existing drug reformulation updating				
	successful page				
Alternative Flow:	·		es search bar for searching		
	_	-	mulation name instead of		
		isting drug formulation in outs the formulation name			
	T. The user in	Jaco the formulation flame	. III a scarcii bai.		

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	48 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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.

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	49 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	50 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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	l .	,		
Description:			the existing drug formulation		
	case from the system.		5 6		
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 select	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 s	shows the alert messa	age for checking the drug		
	substance dele	eting.			
	formulation.				
	1		ormulation form the system.		
	•	ows the existing drug for	rmulation deleting successful		
	page.				
Alternative Flow:			user selects "cancel" instead		
	of selecting "Y				
	1. The system	n shows the administrate	or main page.		
	■ In step 2 of the	e normal flow, if the use	ruses search har for		
	· ·		n by the drug's name instead		
	~	e existing drug formulation			
	_	puts 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 $\overline{\sf the}$	system disconnects from an		
	internet				
	-		message about internet		
	disconnect				
Include:	URS-21, URS-09, URS-1	.3			

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	51 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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:	0N3-20				
User Requirement	The use	er views all the fo	rmulation in the syster	n.	
Specification Name:	THE US	er views un the ro	Thraid don in the system		
Create By:	Panupa	ak Wichaidit	Last update by:	Panupak Wichaidit	
Date Created :	April 2,	, 2014	Last Revision Date :	October 3, 2014	
Actor:	Genera	al Pharmacists, Ex	pert Pharmacists, Adm	inistrator	
Description:	URS-20) is used, when th	e user wants to view th	ne formulation of a drug.	
Trigger:	The use	er selects "view tl	ne formulation" to viev	v the formulation of the	
	drug.				
Pre-condition:	•	The user must lo	og into the system.		
Post-condition:	•	N/A			
Normal Flow:	1.	The user opens	the viewing drug formu	ulation page.	
	2.	The system show	ws a list of a drug form	ulation name.	
	3.	The user selects	the name of drug form	ulation 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.				
	 The user inputs the name into the search bar. 				
	2. The user selects "submit" for searching 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.		
lmalda.	LIDC 21	LUDE OO LUDE 12			
Include:	UK5-21	L, URS-09, URS-13			

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	52 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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 name, excipient function type, Substance Quantity, Substance
	Intensity.
SRS-12	The system shall display the error message "The system is disconnect from the
	internet".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	53 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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

Llear Denvisement	LIDC 24				
User Requirement	URS-21				
Specification ID:	The week has in to the				
User Requirement	The user log in to the	system.			
Specification					
Name:			1 140 1 10		
Create By :			nupak Wichaidit		
Date Created :	April 1, 2014		pril 1, 2014		
Actor:		Expert Pharmacists, Administr			
Description:	·	the user wants to use the OEC	GP.		
Trigger:		n" to log in to the system.			
Pre-condition:	 The user has 	been register as a member.			
Post-condition:	The system sa	aves a member history in a sys	tem.		
Input data	Input Name	Example	Description		
	Email	"member01@gmail.com"	Username of the user		
			15 characters		
	Password	Password of the user			
			should have length 4-		
			15 characters		
Normal Flow:	1. The user ope	ns login page.			
	2. The user inpu	2. The user inputs email and password for login into a system.			
	The user sele	3. The user selects a login symbol for log in to the system			
	4. The system sl	ystem shows main page of the program.			
Alternative Flow:	N/A				
Exception:	 In step 3 of th 	ne normal flow, if the user inpu	it the email or password		
	wrong.				
	 The system sl 	hows the error message about	the email or password is		
	wrong.				
	2. The user go b	ack to do step 2 of the normal	flow again.		
	 In all of step 	of the normal flow, if the syst	em disconnects from an		
	internet				
		tem shows the error me	essage about internet		
	disconne	ction.			
Include:	URS-01				

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	54 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014

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 update by: Panupak Wichaidit			
Date Created :	April 1, 2014 Last Revision Date : April 1, 2014			
Actor:	General Pharmacists, Expert Pharmacists, Administrator			
Description:	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 flow, if the system disconnects from an			
	internet			
	1. The system shows the error message about internet			
	disconnection.			
Include:	URS-24			

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".

Document Name	OEGP-Software Requirement Specification_V.2.0.docx	Owner	NS,PW	Page	55 / 56
Document Type	Software Requirement Specification	Release Date	October 22, 2014	Print Date	October 22, 2014