PIMUICS

Professional Kitchen Management for University & College System



MEMBER & SUPERVISOR

Supervisor:

Trần Bình Dương

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- Nguyễn Đắc Dương
- Bùi Thị Thùy Linh
- Trần Văn Thịnh
- Nguyễn Đức Tiến
- Đào Ngọc Thành
- Nguyễn Tuấn



REFERENCE

- Eff Tian (February 2005). Software Quality Engineering Testing, Quality Assurance and Quantifiable Improvement. US: Wiley IEE Computer Society Press. p49.
- Shari Lawrence Pfleeger & Joanne M.Atlee (2006). Software Engineering Theory and Practice. 3rd ed. USA: Pearson Education, Inc., p58.
- Kai Quian, Xiang Fu, Lixin Tao, Chong-WeiXu, Jorge L.Diaz-Herrera (2010). Software Architecture and Design Illuminated. USA: Jones and Barlett Publishers. p199-221.
- Microsoft. (). *Microsoft Association Algorithm*. Available: http://msdn.microsoft.com/en-us/library/ms174916.aspx. Last accessed 17th Aug 2014.



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Project Background Project Management Plan System Requirement System Design Testing Project Result Demo



PROJECT BACKGROUND

FPT
University's
Cafeteria –
Hoa Lac
Campus

Business outline

Current solutions

PKMUCS (Oblivion)



FPT UNIVERSITY'S CAFETERIA (HOA LAC CAMPUS)



One of the most important building block at Hoa Lac Campus.

Served almost pupils

A large number of and staff eat one here day at



FPT UNIVERSITY'S CAFETERIA (HOA LAC CAMPUS)

Provide two big with different kind of food



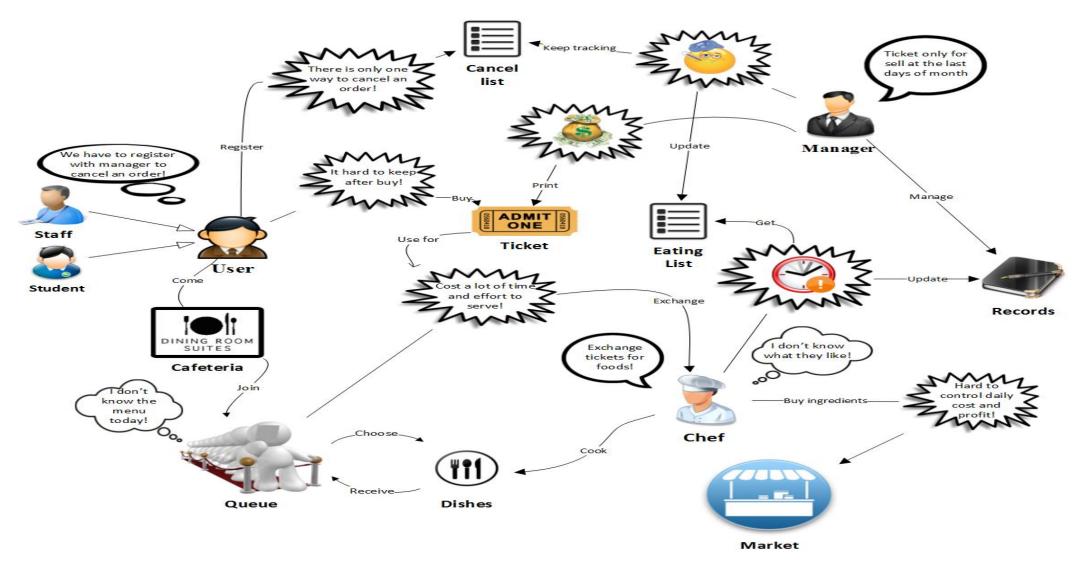
It also support breakfast for pupils of F-School.

> Got 3 main door to enter/ leave, 4 entry point to served food.

 ~ 2000 orders/day



BUSINESS OUTLINE



CURRENT SOLUTION

Manage using ticket

Advantages:

- Easy to control and manage the whole system.
- User can transfer or trade ticket with another user easily.



CURRENT SOLUTION

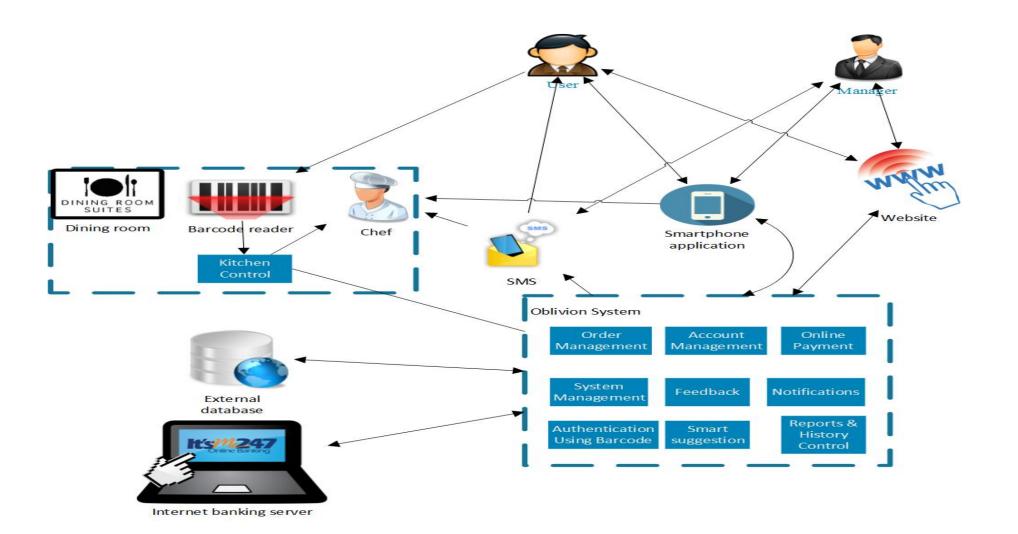
Manage using ticket

<u>Disadvantages:</u>

- The limitation of interactive between users, stakeholders of the system.
- The lacking of technology support for users and manager.
- The high cost to operate the whole system for a large number of users.
- There is no base data for predict behavior of users.



CONTEXT DIAGRAM



OBLIVION

Support order management and online payment, with multiple way to access system.

Automatic control user's order at the kitchen.

Important
business
suggestion, with
statistic data
and report.

System is easy to manage, maintained and upgrade.



PROJECT MANAGEMENT

➤ Project Overview

Project organization

Project Management Plan



PROJECT OVERVIEW

Boundaries of the system

> Oblivion developed with its main target is kitchen at Hoa Lac campus.

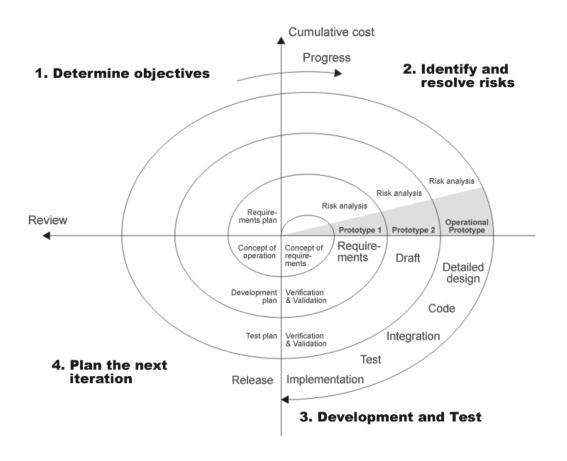
Development environment

	Development Machine	Server Machine
OS	Microsoft Window 7 64 bit	CentOS 6 Server 64 bit
	Microsoft Window 8 32/64 bit	
Framework	.NET Framework 3.5	CodeIgnite
	.NET Framework 4.0	.NET Framework 4.0
Tool	Microsoft Visual Studio 2012	Netbean
	Ultimate	MySQL
	Microsoft SQL Server 2012	
	PHPDesigner	



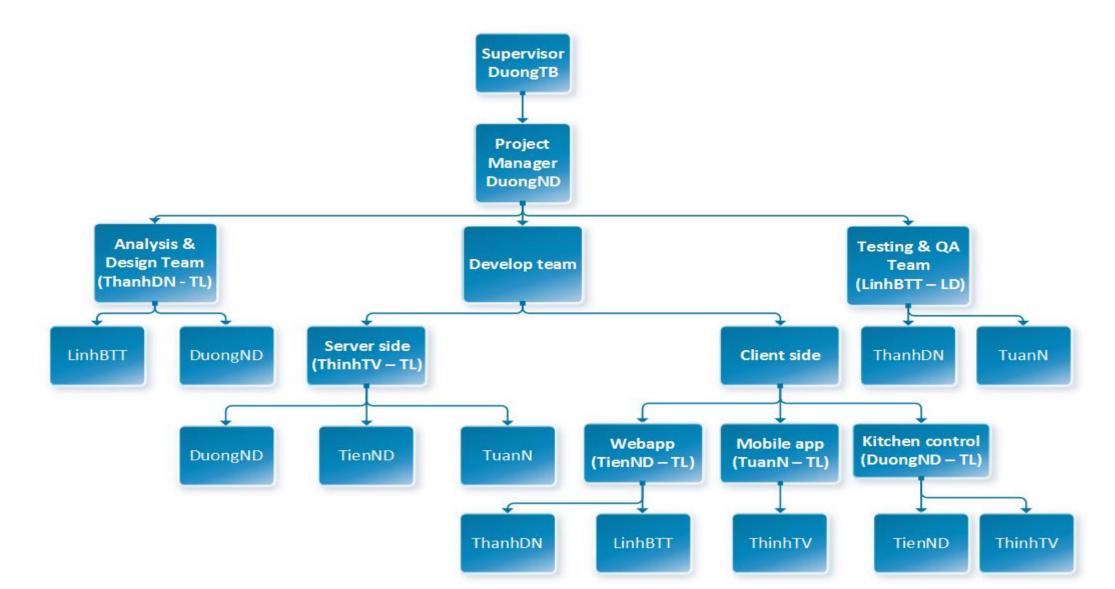
PROJECT ORGANIZATION

Software process model





ROLES & RESPONSIBILITY





PROJECT MANAGEMENT PLAN

Phase 2: System architecture design & Testing Preparation

Phase 1: Project preparation & Requirement Analysis Phase 3: Implementation

- Iteration 1: Register/Login/User management component
- Iteration 2: Order management/Kitchen Control component
- Iteration 3: Smart combo suggestion/System notification component
- Iteration 4: Feedback/System setting/ System statistics

Phase 4: System testing, Deploy & System delivery



PHASE 1

	0	Task Mode ▼	Task Name ▼	Duration 🔻	Start →	Finish 🔻	Predecessors ▼	2014 Qtr 2, 2014 Qtr 3, 2014 Feb Mar Apr May Jun Jul Aug Se
1		*	△ Software development plan	141 days	Mon 2/10/14	Mon 8/25/14		
2	~		Phase 1: Project preparation & Requirement Analysis	15 days	Mon 2/10/14	Fri 2/28/14		
3	✓	<u>-</u>		4.5 days	Mon 2/10/14	Fri 2/14/14		П
4	✓	<u>-</u>	Identify project stakeholders	2 hrs	Mon 2/10/14	Mon 2/10/14		DươngND[10%]
5	✓	-5	Develop project charter	3.75 days	Mon 2/10/14	Thu 2/13/14	4	LinhBTT[70%],DurongND[60%]
6	√	-5	Kick-off meeting	4 hrs	Fri 2/14/14	Fri 2/14/14	5	All team[50%]
7	√	-5	△ Scope	3 days	Fri 2/14/14	Wed 2/19/14		📫
8	√	-5	Determine project scope	2 days	Fri 2/14/14	Tue 2/18/14	6	LinhBTT[45%],DurongND[50%]
9	V	-5	Secure project sponsorship	1 day	Tue 2/18/14	Wed 2/19/14	8	DươngND[30%],TuấnN[40%],ThịnhTV[40%
10	~	-5	Define preliminary resources	1 day	Tue 2/18/14	Wed 2/19/14	9SS	ThànhDN[65%],TiếnND[50%],LinhBTT[50%
11	~	-5	■ Analysis/Software requirement	7.5 days	Wed 2/19/14	Fri 2/28/14		m
12	√	-5	Requirement Analysis	5 days	Wed 2/19/14	Wed 2/26/14	10,9	LinhBTT[65%],ThànhDN[70%],TuấnN[70%
13	~	-5	Research existing system on the market	4 hrs	Wed 2/19/14	Wed 2/19/14	12SS	TiếnND[70%]
14	~	5	Collect and analysis information from existing system	3 days	Thu 2/20/14	Mon 2/24/14	13	ItiếnND[50%],ThịnhTV[50%]
15	√	-5	Develop project budget	2 days	Thu 2/20/14	Fri 2/21/14	14SS	DươngND[75%]
16	√	-5	Draft software specifications	1 day	Wed 2/26/14	Thu 2/27/14	12	LinhBTT[40%],ThànhDN[45%]
17	~		Team meeting: Review software specifications	4 hrs	Thu 2/27/14	Thu 2/27/14	16	All team[40%]
18	√	-5	Update SRS	6 hrs	Fri 2/28/14	Fri 2/28/14	17	LinhBTT[50%],ThànhDN[50%]
19	~	-5	Release SRS	2 hrs	Fri 2/28/14	Fri 2/28/14	18	2/28

PHASE 2

	0	Task Mode ▼	Task Name	Duration 🕶	Start ▼	Finish 🔻	Predecessors ▼	2014 Qtr 2, 2014 Qtr 3, 2014 Qtr 4, 2014 Feb Mar Apr May Jun Jul Aug Sep Oct Nov Doc
20	'		 Phase 2: System architecture design & Testing preparation 	15.25 days	Mon 3/3/14	Mon 3/24/14		
21	√	5	NodeJS research	2 days	Mon 3/3/14	Tue 3/4/14	19	ThịnhTV[70%]
22	✓	- 5	JSON for Android research	2 days	Mon 3/3/14	Tue 3/4/14	21SS	↓ TuấnN[70%]
23	✓	-5 ₃	JSON for PHP research	2 days	Mon 3/3/14	Tue 3/4/14	21SS	TiếnND[70%]
24	~		Research Card/Barcode reader for C# client	2 days	Mon 3/3/14	Tue 3/4/14	21SS	DươngND[60%]
25	~	5	Research template for web application and mobile application	2 days	Mon 3/3/14	Tue 3/4/14	21SS	ThànhDN[70%]
26	✓	5	System architecture design	6 days	Wed 3/5/14	Wed 3/12/14	21,22,23,25	UrongND[55%],ThinhTV[40%],TiếnND[45%]
27	✓	-5	■ Develop prototype A	4 days	Thu 3/13/14	Tue 3/18/14		
28	✓	<u>_</u> 5	For website	4 days	Thu 3/13/14	Tue 3/18/14	26	† ThànhDN[60%],TiếnND[50%]
29	✓	-5	For web server	4 days	Thu 3/13/14	Tue 3/18/14	26	ThinhTV[70%],DurongND[30%]
30	✓	<u>_</u>	For Android application	4 days	Thu 3/13/14	Tue 3/18/14	26	TuấnN[65%],ThànhDN[10%],TiếnND[20%]
31	~	=5	Team meeting: Review prototype A	4 hrs	Wed 3/19/14	Wed 3/19/14	28,29,30	All team[50%]
32	✓	-5 ₃	Update change for prototype	20 hrs	Wed 3/19/14	Fri 3/21/14	31	
33	√	-5	Develop unit test plan	2 days	Thu 3/13/14	Fri 3/14/14	26	LinhBTT[50%],DurongND[10%]
34	~		Develop system integration & system test plans	3 days	Mon 3/17/14	Wed 3/19/14	33	LinhBTT[60%],DurongND[25%]
35	~	-5	Release prototype A, system architecture design & testing	2 hrs	Mon 3/24/14	Mon 3/24/14	32,34	₩ 3/24

PHASE 3 – INTERACTION 1

	0	Task Mode ▼	Task Name ▼	Duration ▼	Start →	Finish ▼	Predecessors ▼	Qtr 2, 2014 Qtr 3, 2014 Qtr 4, 2014 Qtr 1, 2015 Qtr 2, 2015 Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May J
36		-5	△ Phase 3: Implement	103 days	Mon 3/24/14	Thu 8/14/14		
37	~	-5	Iteration 1: Register/Login/User management component	43.5 days	Mon 3/24/14	Thu 5/22/14		
8	~	-5	Set up source control enviroment	0.5 days	Mon 3/24/14	Mon 3/24/14	35	▼TiếnND[40%],DươngND[40%]
9	~	-5	Set up NodeJS server & Mongo database	2 days	Mon 3/24/14	Wed 3/26/14	38	₩ThịnhTV[60%]
10	~	-9	Details design register functional	3 days	Wed 3/26/14	Mon 3/31/14		П
4	✓	5	Develop register functional	5 days	Fri 3/28/14	Fri 4/4/14		п
8	~	-9	Develop unit test case for each register functional	6 days	Wed 3/26/14	Thu 4/3/14	41SS	LinhBTT[70%],DurongND[5%],ThànhDN[20%],TuấnN[15%]
9	✓	-5	Do unit test for register funtion	4 days	Fri 4/4/14	Thu 4/10/14	45,46,47,48	₹ ThinhTV[40%],LinhBTT[50%],TuấnN[40%],ThànhDN[45%],TiếnND[50%]
0	✓	5	Fix bugs and re-test	2 days	Thu 4/10/14	Mon 4/14/14	49	ThinhTV[70%],ThànhDN[65%],LinhBTT[70%],TuấnN[65%],TiếnND[65%],DươngND[40%]
1	✓	-5	Update prototype A to A1	4 hrs	Mon 4/14/14	Tue 4/15/14	50	ThinhTV[40%],TuấnN[30%],TiếnND[30%]
2	~	-5	Team meeting: Review prototype A1	4 hrs	Tue 4/15/14	Tue 4/15/14	51	All team[50%]
3	✓	-5	Collect and update document	4 hrs	Tue 4/15/14	Wed 4/16/14	51SS,52	LinhBTT[20%],DurongND[20%]
54	✓	-5	Details design login functional	3 days	Tue 4/15/14	Fri 4/18/14		
8	✓	-5	Develop login functional	3 days	Thu 4/17/14	Tue 4/22/14		п
2	~	-5	Develop unit test case for each login functional	4 days	Tue 4/15/14	Mon 4/21/14	55SS	LinhBTT[50%],ThànhDN[15%]
3	✓	-5	Do unit test for login funtional	2 days	Tue 4/22/14	Thu 4/24/14	59,60,61,62	ThinhTV[65%],TiếnND[60%],ThànhDN[50%],TuấnN[60%],LinhBTT[40%]
54	✓	-5	Fix bugs and re-test	2 days	Thu 4/24/14	Mon 4/28/14	63	★ ThinhTV[50%],TuấnN[55%],TiếnND[55%],LinhBTT[40%]
5	✓	-5	Update prototype A1 to A2	4 hrs	Mon 4/28/14	Tue 4/29/14	64	ThinhTV[20%],ThànhDN[30%],TiếnND[30%],TuấnN[25%]
6	~	-5	Team meeting: Review prototype A2	4 hrs	Tue 4/29/14	Tue 4/29/14	65	All team[50%]
57	✓	-5	Collect and update document	4 hrs	Tue 4/29/14	Wed 4/30/14	65SS,66	LinhBTT[20%],DurongND[20%]
8	~	-5	 Details design user authorization and user management functional 	5 days	Tue 4/29/14	Tue 5/6/14		П

PHASE 3 – INTERACTION 1 (CON.)

			Task						Qtr 2, 2014
		0	Mode ▼	Task Name ▼	Duration 🔻	y Start →	Finish 🔻	Predecessors ▼	Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr
	72	√	-5	Develop user authorization and user management funtional	6 days	Fri 5/2/14	Mon 5/12/14		П
	76	√		Develop unit test case for user authorization and user management functional	4 days	Tue 4/29/14	Mon 5/5/14	69SS	LinhBTT[70%],DươngND[10%],ThànhDN[10%],TuấnN[10%]
	77	✓	=5	Do unit test for user authorization and user management functional	2 days	Mon 5/12/14	Wed 5/14/14	76,73,74,75	◆ ThànhDN[50%],TiểnND[55%],TuấnN[55%],ThịnhTV[60%],LinhBTT[30%]
	78	✓	-	Fix bugs and re-test	2 days	Wed 5/14/14	Fri 5/16/14	77	ThinhTV[70%],ThànhDN[65%],TiếnND[65%],TuấnN[50%],LinhBTT[40%
	79	✓	- 5	Modular integration test	2 days	Fri 5/16/14	Tue 5/20/14	78	†ThinhTV[30%],ThanhDN[40%],LinhBTT[50%],TuấnN[40%],TiếnND[30%
	80	✓	-	Update prototype A2 to B	4 hrs	Tue 5/20/14	Wed 5/21/14	79	ThinhTV[20%],TiếnND[20%],TuấnN[20%]
	81	√	-5	Team meating: Review prototype B	4 hrs	Wed 5/21/14	Wed 5/21/14	80	All team[40%]
RT	82	✓	- 5	Collect & update document	4 hrs	Wed 5/21/14	Thu 5/22/14	80SS,81	LinhBTT[40%],DurongND[65%]
CHA	83	✓	- 5	Release prototype B, documen	2 hrs	Thu 5/22/14	Thu 5/22/14	80,82	TuấnN[20%],ThànhDN[20%]
ANTT	84	V	-5	Public API of Register/Login/ User management component	4 hrs	Thu 5/22/14	Thu 5/22/14	83SS	→ 5/22

PHASE 3 – INTERACTION 2

		0	Task	- 1.0	n		e		, 2014		Qtr 3, 2			4, 2014			1, 2015			, 2015		Qtr 3, 201
					Duration →		Finish ▼	Predecessors 🔻	<u> </u>	Jun	Jul	Aug Sep	Oct	Nov	Dec	Jan	Feb	Iviar	Apr	May	Jun	Jul Aug
	85	~	-5	 Iteration 2: Order management/ Kitchen control component 	23 days	Thu 5/22/14	Tue 6/24/14		Г													
	86	~	-5	Details design for order management functional	8 days	Thu 5/22/14	Tue 6/3/14		Г	٦												
	90	~	5	Details design for order management functional in Kitchen Control component	4 days	Thu 5/22/14	Wed 5/28/14	87SS	•	Dươ	ngND[45	%]										
	91	~		Create UI for Kitchen Control component	2 days	Wed 5/28/14	Fri 5/30/14	90		Thàr	hDN[309	%]										
	92	~	- 5	Develop code for order management functional	8 days	Fri 5/30/14	Wed 6/11/14			r												
	96	~	-5	Develop code for order management functional in Kitchen Control component	4 days	Wed 5/28/14	Tue 6/3/14	90,91SS	\ 	. Dur	ngND[6	5%]										
	97	~		Develop unit test case for order management funtional	7.25 days	Thu 5/22/14	Mon 6/2/14	87SS	•	Linl	nBTT[40%	5]										
	98	~	->	Do unit test case for order management funtional	4 days	Wed 6/11/14	Tue 6/17/14	97,93,96,94,95		+	[hinhTV	50%],Tiến!	ND[409	%],Dươ	ngND[30%],Т	hànhD	N[15%	á],Tuấr	nN[50%],LinhE	STT[20%]
	99	✓	-5	Fix bugs and re-test	3 days	Tue 6/17/14	Fri 6/20/14	98		+	ThịnhTV[30%],Duo	ngND[30%],T	iếnND[30%],	[hành[N[209	%],Linl	hBTT[20)%],Tuấ	ínN[30%]
-	100	✓	-5	Update prototype B to C	4 hrs	Fri 6/20/14	Mon 6/23/14	99		_	ThịnhTV	[20%],Durc	ngND	[20%],1	iếnND	[20%],	TuấnN	[20%]				
-	101	~		Team meeting: Review prototype C	4 hrs	Mon 6/23/14	Mon 6/23/14	100		ŧ	All team	[40%]										
-	102	✓	-5	Collect & update document	4 hrs	Mon 6/23/14	Tue 6/24/14	100SS,101		ليا	ThànhD	N[30%],Liı	nhBTT[30%]								
-	103	~		Release prototype C & document	2 hrs	Tue 6/24/14	Tue 6/24/14	102,100		<u>ئ</u> م	ThànhD	N[30%]										
	104	~	-5	Public API of Order management/Kitchen control component	4 hrs	Tue 6/24/14	Tue 6/24/14	103SS		ليا ا	ThịnhTV	[40%],Tiế	nND[4	0%]								

PHASE 3 – INTERACTION 3

	0	Task Mode 🕶	Task Name ▼	Duration -	Start -	Finish 🔻	Predecessors •	Jun		Qtr 3, : Jul			Sep	Qtr 4 Oct		.4 / Dec		tr 1, 20 in ∣ Fe			r 2, 201 or Ma			3, 20: Au	
105	~	-3	Iteration 3: Smart combo suggestion/System notification component	23.75 days		Mon 7/28/14							-									, , ,	. 30		Б,
106	~		Details design smart combo suggested functional in server	6 days	Tue 6/24/14	Wed 7/2/14	104	۱ ا	*	Thịnh1	TV[€5%],Dư	o'ngN[D[409	%]									
107	~		Details design GCM notification functional	4 days	Tue 6/24/14	Mon 6/30/14			П																
110	~	-5	Details design SMS notification functional in server	3 days	Tue 6/24/14	Fri 6/27/14	106SS	4	*	iếnND)[3(0%]													
111	~	-	Details design web notification functional	6 days	Tue 6/24/14	Wed 7/2/14			п																
114	~	-5	Develop code for smart combo suggested functional in server	5 days	Wed 7/2/14	Wed 7/9/14	106		+	Thịnl	hT۱	V[60	%],D	u'o'ngN	ND[60	0%]									
115	~		Develop code for GCM notification functional in server and Android application	4 days	Mon 6/30/14	Fri 7/4/14	108,109			TuấnN	N [6	iC%]													
116	~	-5	Develop code for SMS notification functional in server	3 days	Fri 6/27/14	Wed 7/2/14	110		*	TiếnN	D[5	50%]													
117	~	-5	Develop code for web notification functional in server and client	4 days	Wed 7/2/14	Tue 7/8/14	112,113		=	Thàn	hĐ	N[60	7,[%0	iếnND	(20%	6]									
118	~	-5	Develop unit test for smart combo suggested and notification functional	7 days	Tue 6/24/14	Thu 7/3/14	106SS	L	=	LinhB ¹	щ	70%]												
119	~	<u> </u>	Do unit test	5 days	Wed 7/9/14	Wed 7/16/14	114,115,116,117			Thị	nh1	Γ / [4	0%],	LinhBT	T[20	%],Thài	nhDi	N[50%]	,Dươn	gND[60%],Tiê	nND[55%],T	uấnN[50%
120	V	-5	Fix bugs and re-test	4 days	Wed 7/16/14	Tue 7/22/14	119			± Th	nin	hTV[45%	,Thàn	hDN[45%],L	inhB	TT[159	6],Dươ	ngND	[40%],Ti	ếnND	[35%]	TuấnN	1[40
121	V	-9	Modular integration test	2 days	Tue 7/22/14	Thu 7/24/14	120			ŁLi	inh	втт[30%	,Thịnh	nTV[3	0%],Tu	iấnN	[30%],	Thànhi	DN[30	%]				
122	V	-5	Upgrade prototype C to D	4 hrs	Thu 7/24/14	Fri 7/25/14	121			_,∳ті	hịn	hTV	[20%],Thàn	hDN	[20%],[Dươi	ngND[2	20%],T	uấnN[20%]				
123	~		Team meating: Review prototype D	4 hrs	Fri 7/25/14	Fri 7/25/14	122			<u>+</u> A	all to	eam	[409	6]											
4			F7F				•	4		1 1	- 1														

PHASE 3 – INTERACTION 3 (CON.)

	θ	Task Mode ▼	Task Name ▼	Duration ▼	Start •	Finish 🔻	Predecessors ▼	Jun	1	3, 2014 Aug		,	, 2014 Nov		Qtr 1, Jan	2015 Feb Mar
124	√	-	Collect & update document	4 hrs	Fri 7/25/14	Mon 7/28/14	122SS,123		اوا	LinhB	TT[209	6],Tiến	ND[15%	6]		
125	✓	-5	Release prototype D & document	2 hrs	Mon 7/28/14	Mon 7/28/14	122,124		_	Du'o'r	ngND[2	0%],Th	ànhDN	[20%]		
126	✓	-5	Public API of System notification	2 hrs	Mon 7/28/14	Mon 7/28/14	125SS		4	7/28	3					

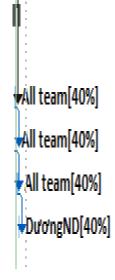


PHASE 3 – INTERACTION 4

			Task						Qtr 3, 2014
		0	Mode →	Task Name ▼	Duration -		Finish 🔻	Predecessors 🔻	Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oc
	127	~	-5	Iteration 4: Feedback / System setting/ System statistics	12.75 days	Mon 7/28/14	Thu 8/14/14		
	128	~		 Details design feedback component 	4 days	Mon 7/28/14	Fri 8/1/14		• •
	129	~	5	For server and web application	4 days	Mon 7/28/14	Fri 8/1/14	126	
	130	✓	-s,	For Android application	1.5 days	Mon 7/28/14	Tue 7/29/14	129SS	TuấnN[75%]
	131	~	-5	Details design system setting for server	2 days	Mon 7/28/14	Wed 7/30/14	129SS	purongND[60%]
	132	~		Details design report and statistics data functional for server and web application	3 days	Mon 7/28/14	Thu 7/31/14	129SS	, Tiến ND[65%]
	133	~	-5	Develop code for feedback component	4 days	Fri 8/1/14	Thu 8/7/14	129	ThinhTV[60%],ThànhDN[55%]
RI	134	✓	-5 ₃	Develop code for system settir	2 days	Wed 7/30/14	Fri 8/1/14	131	DurongND[55%]
0	135	~	->	Develop code for report & statistics data functional	2.5 days	Thu 7/31/14	Mon 8/4/14	132	# TiếnND[50%]
GANTT	136	~		Develop code feedback functional for Android application	1 day	Wed 7/30/14	Wed 7/30/14	130	±านล์กN[50%]
	137	✓	-5 ₃	Develop unit test case	2 days	Mon 7/28/14	Wed 7/30/14	129SS	ы ціпhВТТ[60%]
	138	~	-5	Do unit test	1 day	Thu 8/7/14	Fri 8/8/14	137,133,134,135	LinhBTT[20%],TiếnND[30%],ThànhDN[40%],ThịnhTV[35%],TuấnN[40%],DươngND[40%]
	139	√	-5	Fix bugs and re-test	1 day	Fri 8/8/14	Mon 8/11/14	138	LinhBTT[30%],ThinhTV[30%],ThànhDN[25%],TiếnND[15%],TuấnN[40%],DươngND[25%]
	140	√	-5	Modular integration test	1 day	Mon 8/11/14	Tue 8/12/14	139	LinhBTT[50%],TuấnN[30%],ThànhDN[30%],ThịnhTV[30%]
	141	~	-3	Upgrade prototype D to product(beta)	4 hrs	Tue 8/12/14	Tue 8/12/14	140	ThinhTV[20%],TuấnN[20%],TiếnND[20%]
	142	~	-5	Team meeting: Review product(beta)	4 hrs	Wed 8/13/14	Wed 8/13/14	141	All team[40%]
	143	√		Collect & update document	4 hrs	Wed 8/13/14	Wed 8/13/14	141SS,142	LinhBTT,TiếnND
	144	~	5	Release product (beta) & document	2 hrs	Thu 8/14/14	Thu 8/14/14	141,143	DurongND[20%],TuấnN[20%]
	145	✓	-5	Public API	2 hrs	Thu 8/14/14	Thu 8/14/14	144SS	8/14

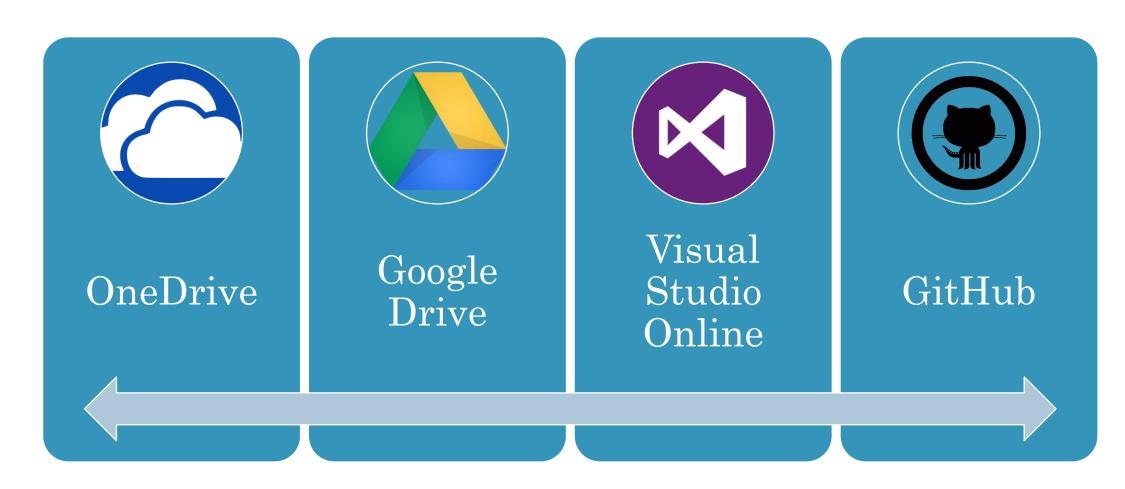
PHASE 4

146	√	-	Phase 4: System testing, Deployment & System delivery	3 days	Thu 8/14/14	Tue 8/19/14	
147	V	5	Develop system testing case	1 day	Thu 8/14/14	Fri 8/15/14	145
148	√	5	Do system test	4 hrs	Fri 8/15/14	Fri 8/15/14	147
149	V	5	Deploy system	1 day	Fri 8/15/14	Mon 8/18/14	148
150	✓	5	Delivery system	4 hrs	Mon 8/18/14	Tue 8/19/14	149





SOURCE CONTROL





RISK

Human Resources • Personal shortfall

Technology

- Different platforms and device.
- Lack of support tools

Scope

Too big

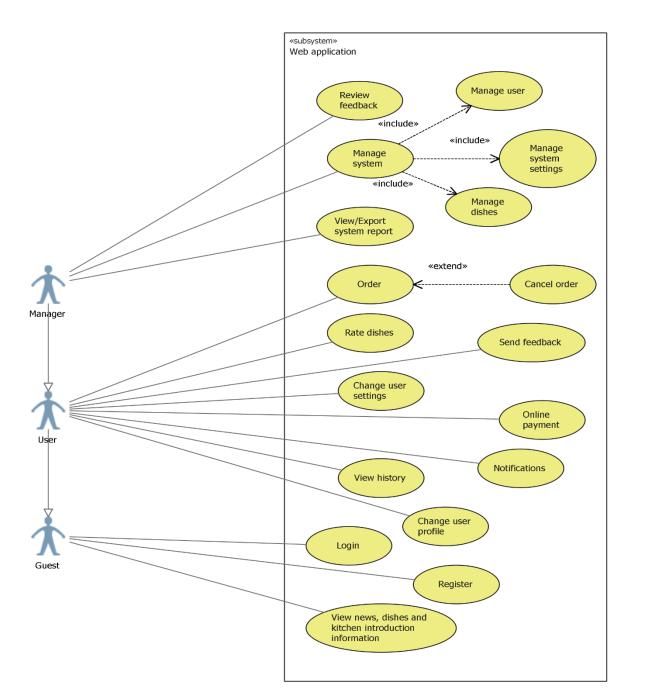
Time

• 4 months maybe not enough



USE CASE

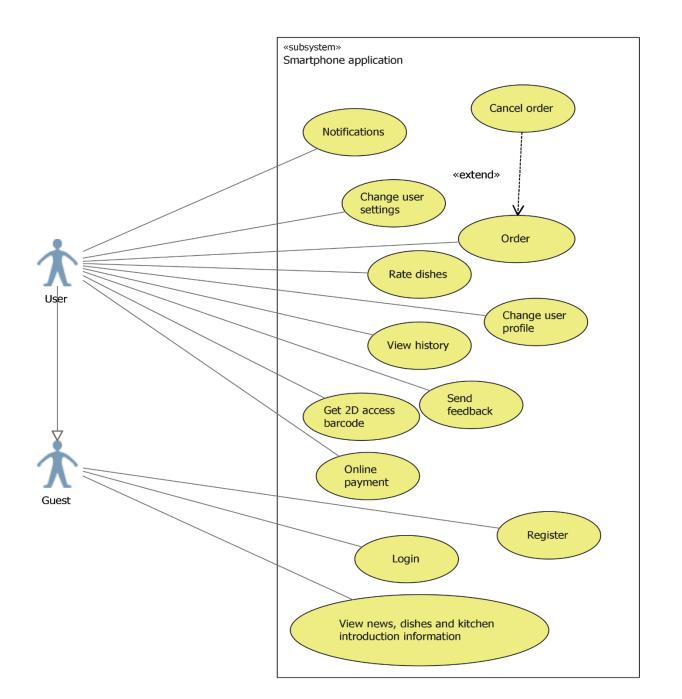
Web application





USE CASE

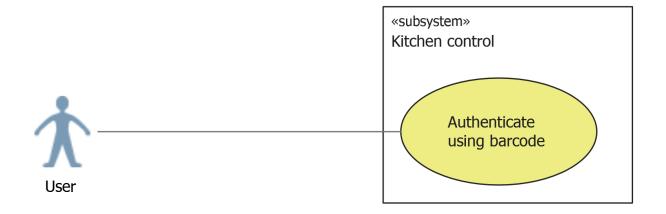
Android application





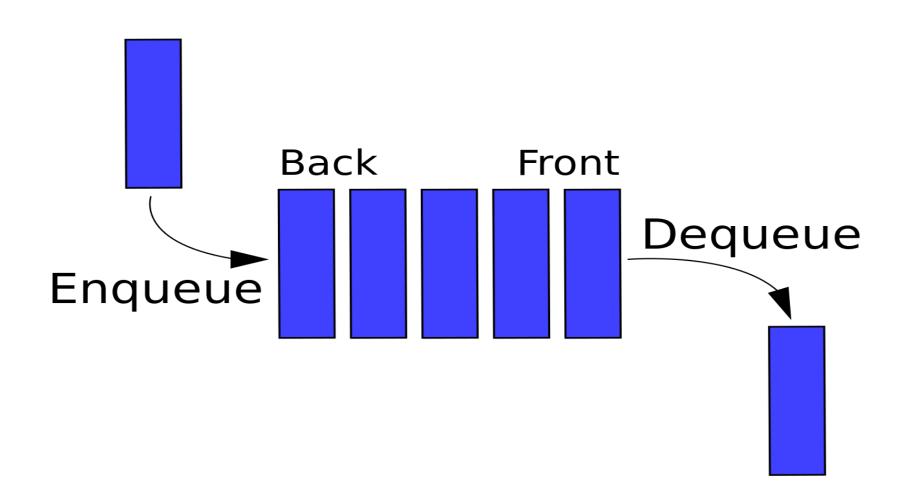
USE CASE

Kitchen Control application





ACCESS CONTROL ALGORITHM





ACCESS CONTROL ALGORITHM







SUGGEST COMBO ALGORITHM

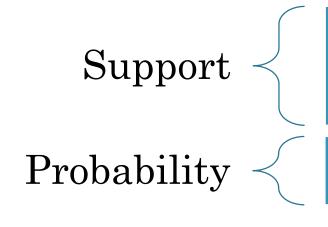
Apriori Algorithm

```
Apriori(T, \epsilon)
       L_1 \leftarrow \{\text{large } 1 - \text{itemsets}\}
       k \leftarrow 2
               while L_{k-1} \neq \emptyset
                      C_k \leftarrow \{a \cup \{b\} \mid a \in L_{k-1} \land b \in \bigcup L_{k-1} \land b \not\in a\}
                       for transactions t \in T
                              C_t \leftarrow \{c \mid c \in C_k \land c \subseteq t\}
                              for candidates c \in C_t
                                      count[c] \leftarrow count[c] + 1
                       L_k \leftarrow \{c \mid c \in C_k \land count[c] \ge \epsilon\}
                      k \leftarrow k + 1
               return \bigcup L_k
```



SUGGEST COMBO ALGORITHM

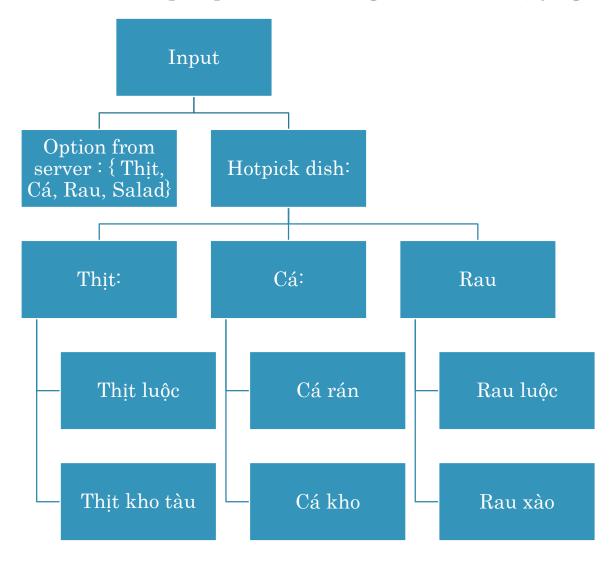
Microsoft Association Algorithm



- Min Support Max Support
- Min Probability

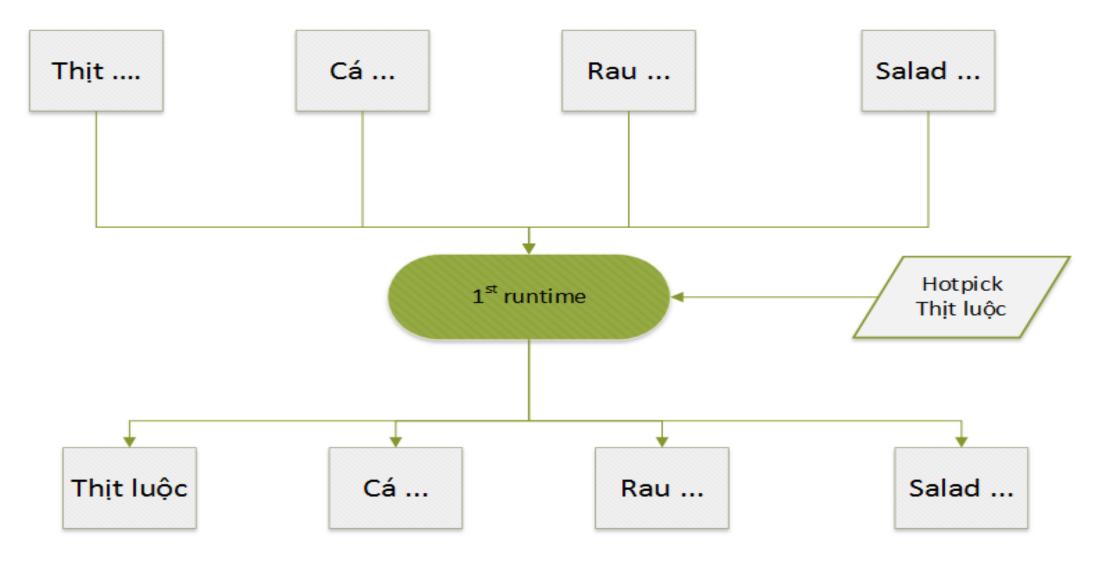


SUGGEST COMBO ALGORITHM



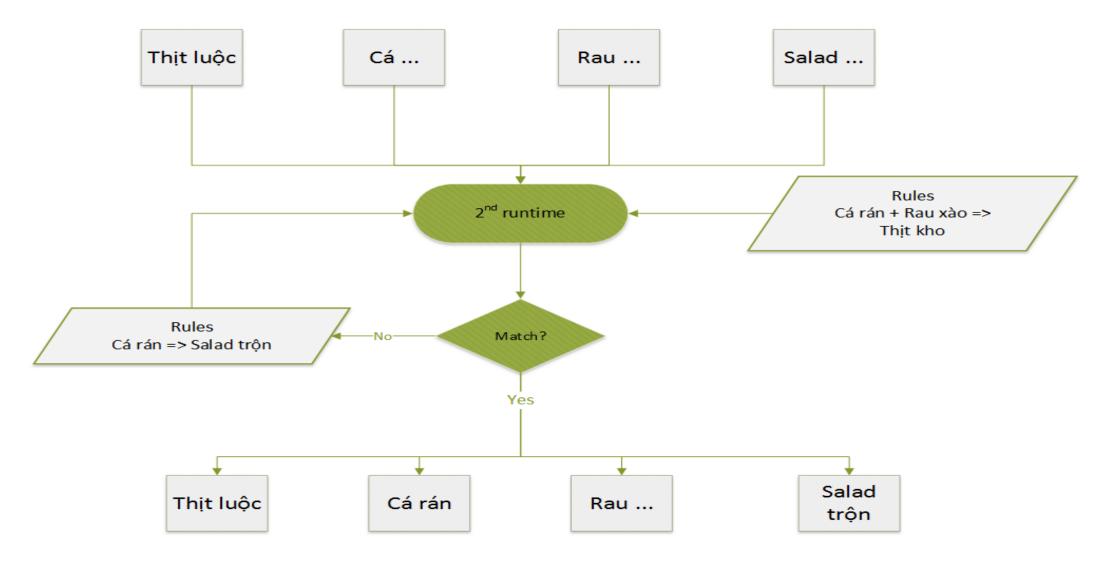


SUGGEST COMBO ALGORITHM

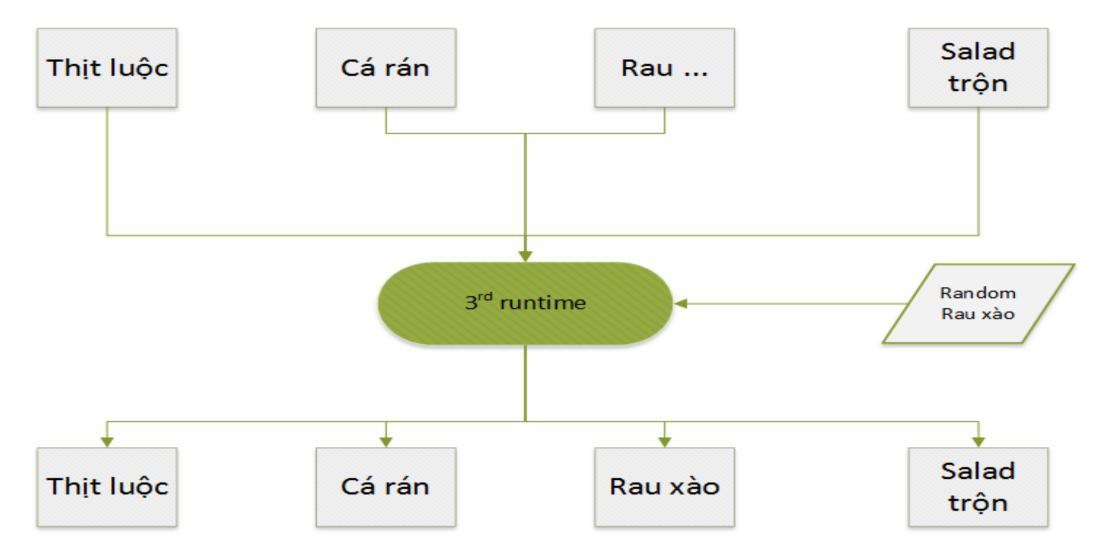




SUGGEST COMBO ALGORITHM



SUGGEST COMBO ALGORITHM





SYSTEM DESIGN

System Architecture Design

ERD

Class diagram

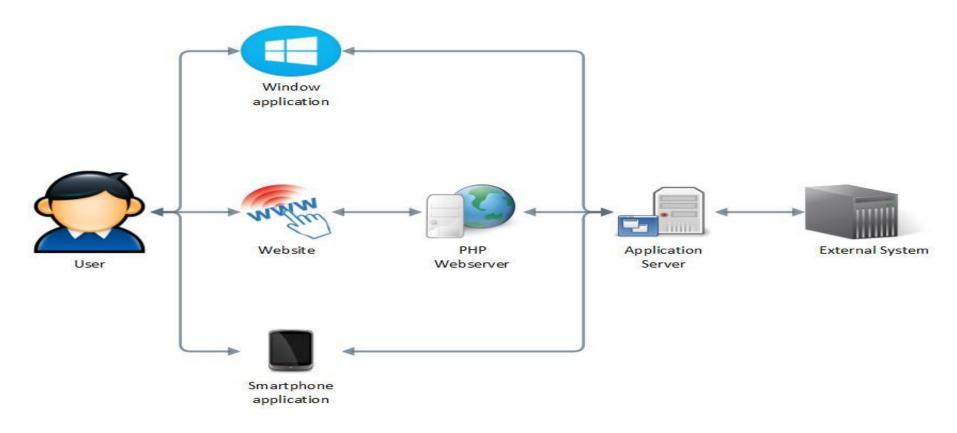
Sequence Diagram

Data warehouse



SYSTEM ARCHITECTURE DESIGN

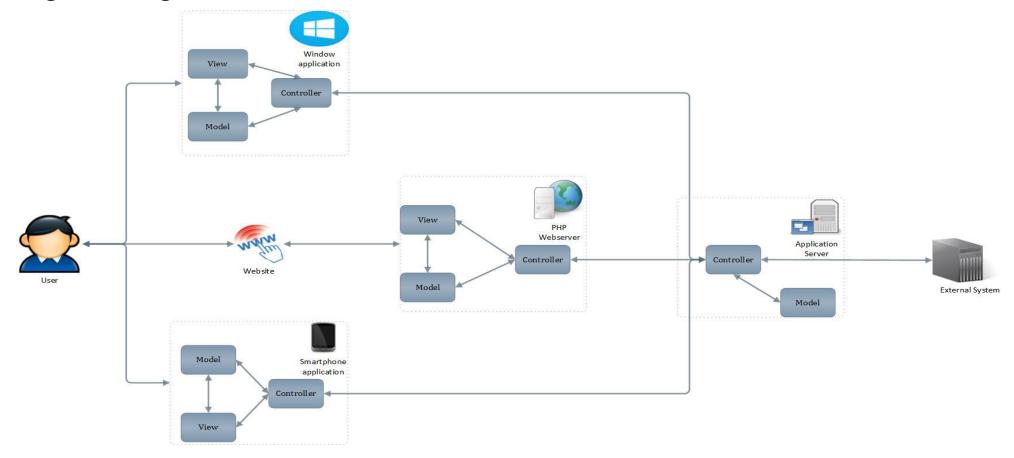
Physical design





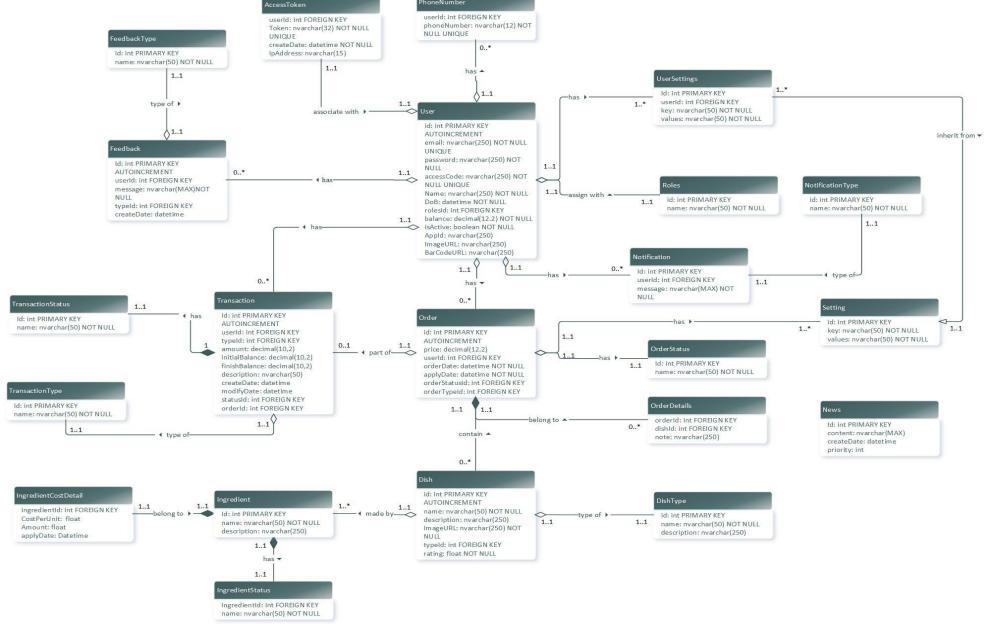
SYSTEM ARCHITECTURE DESIGN

Logical design



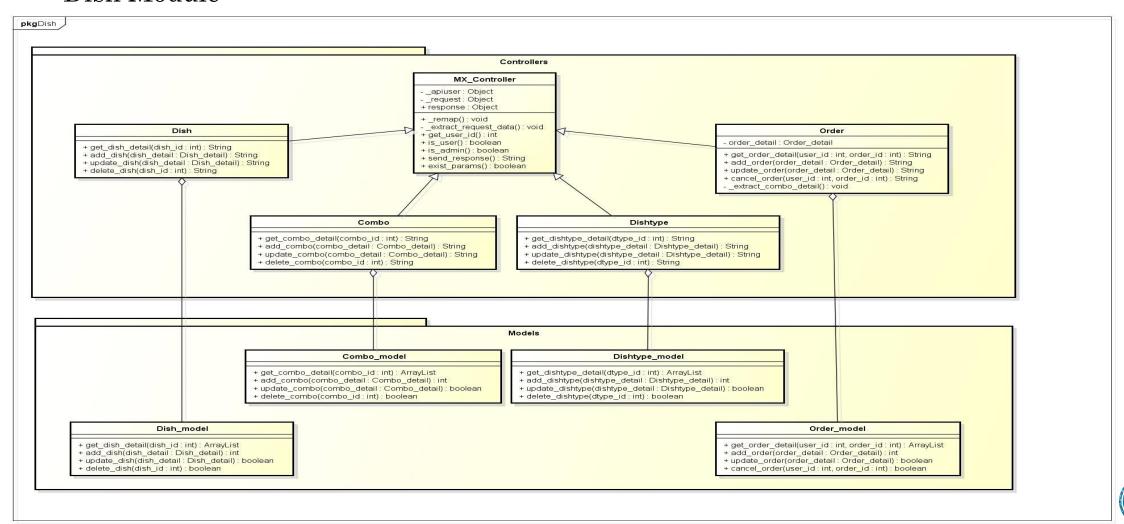


ERD

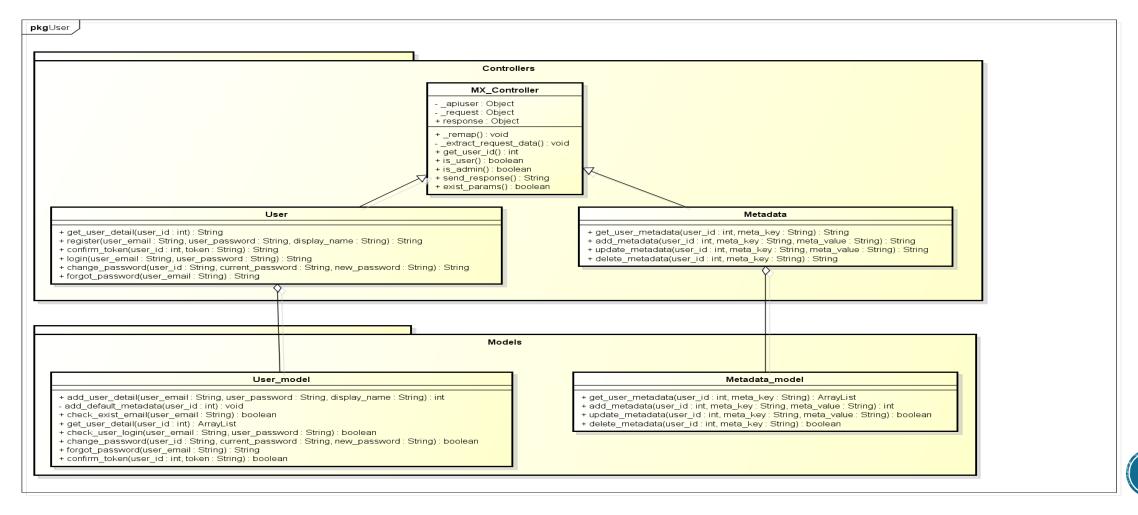




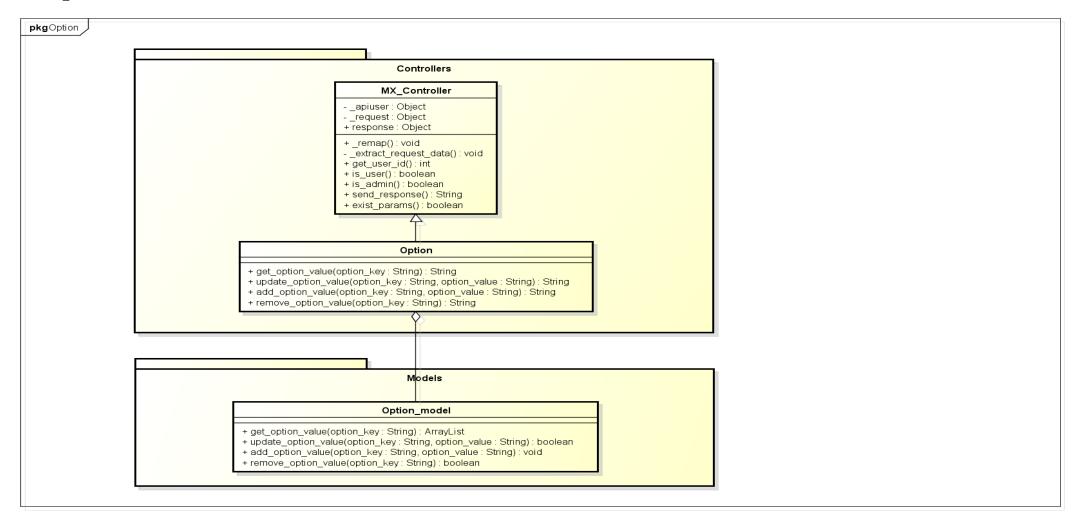
Dish Module



User Module

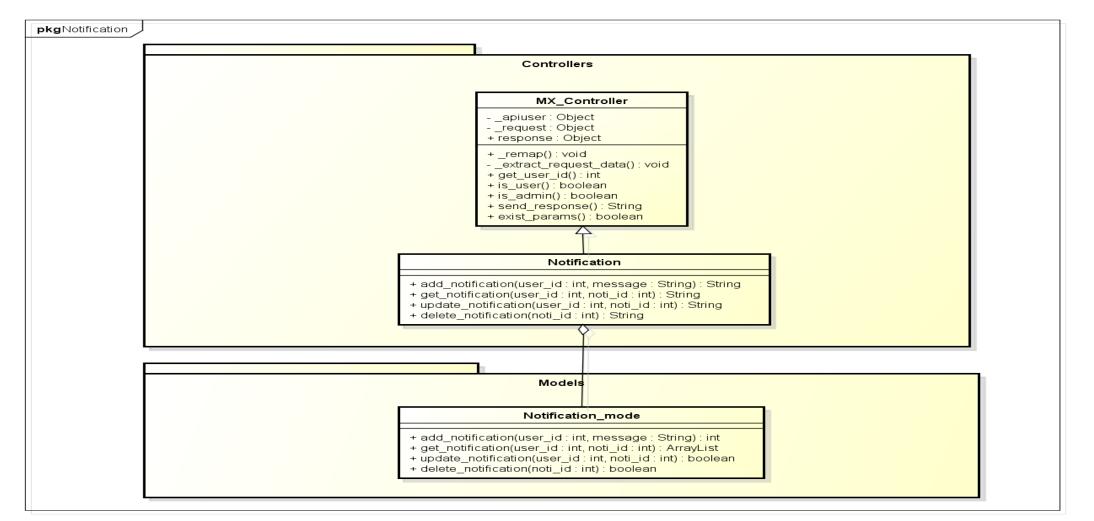


Option Module

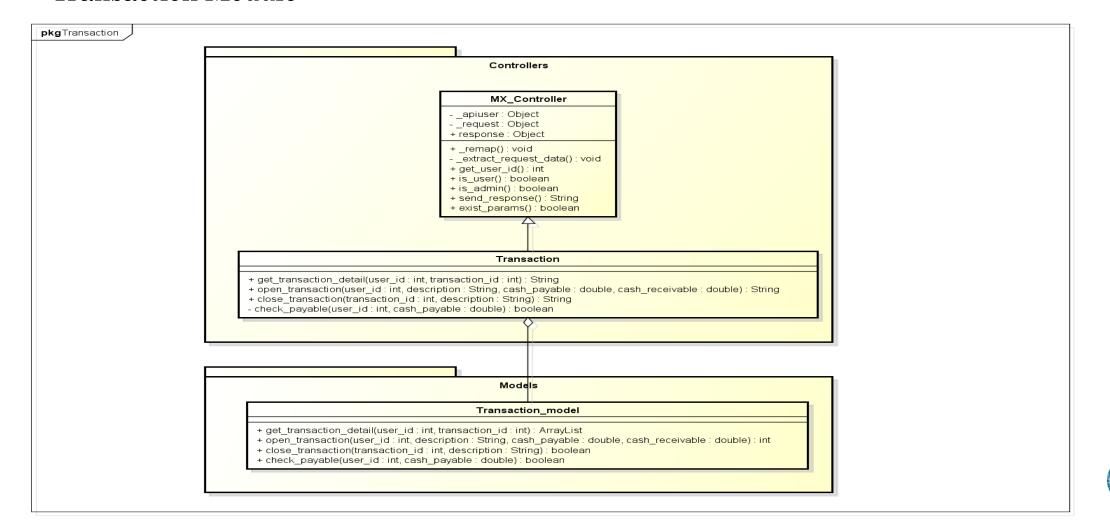




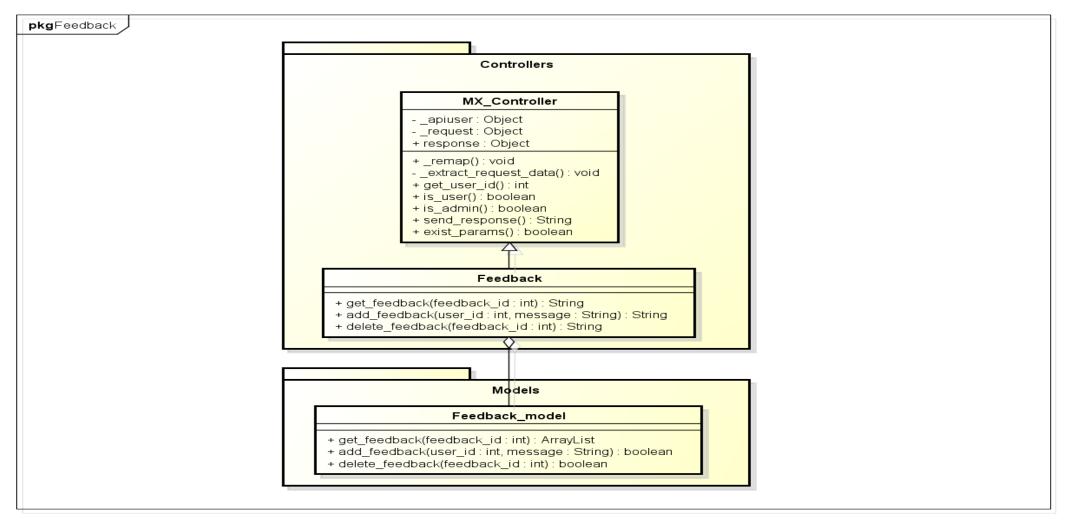
Notification Module



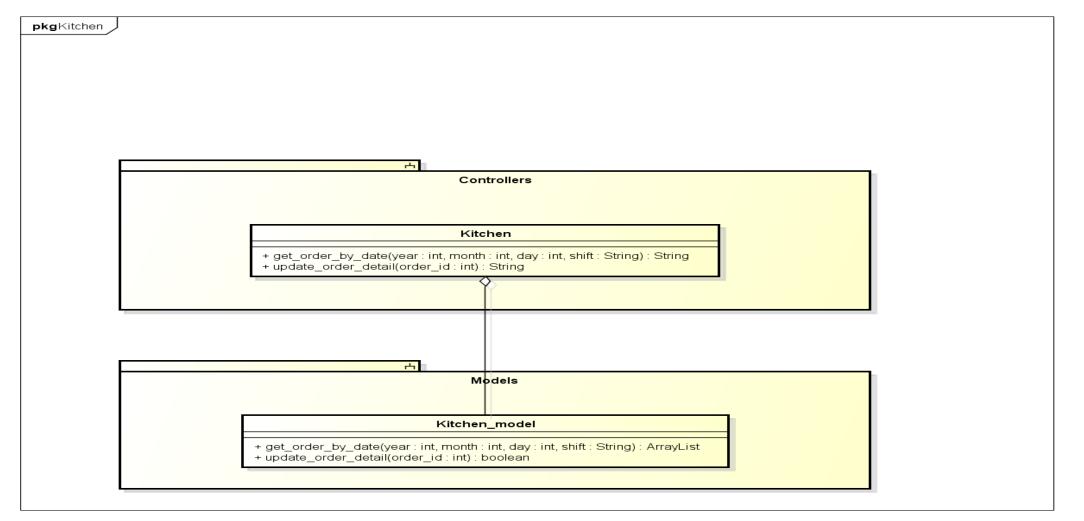
Transaction Module



• Feedback Module

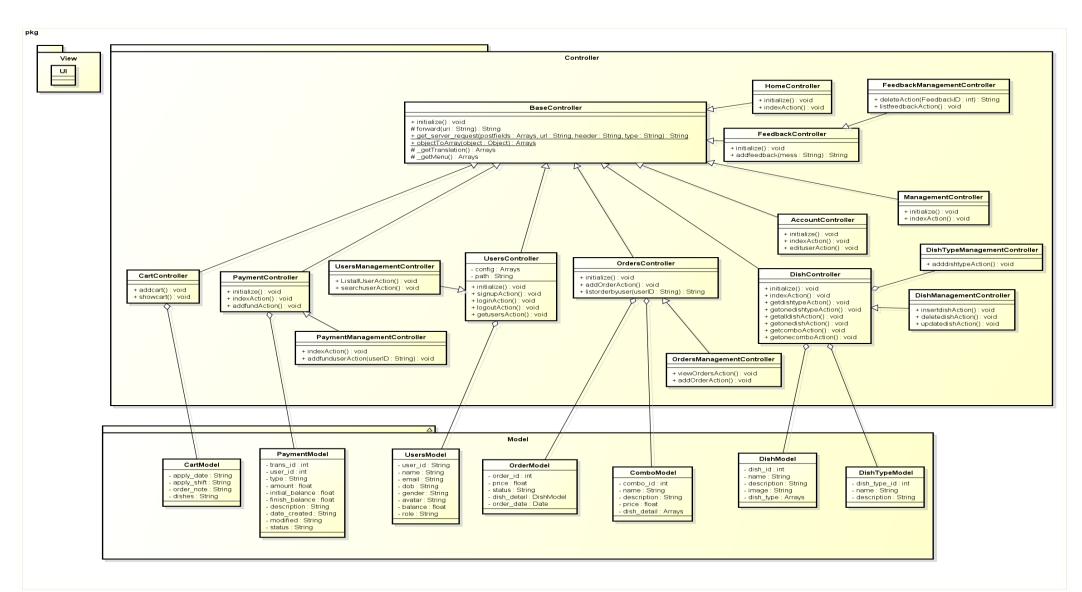


Kitchen Module

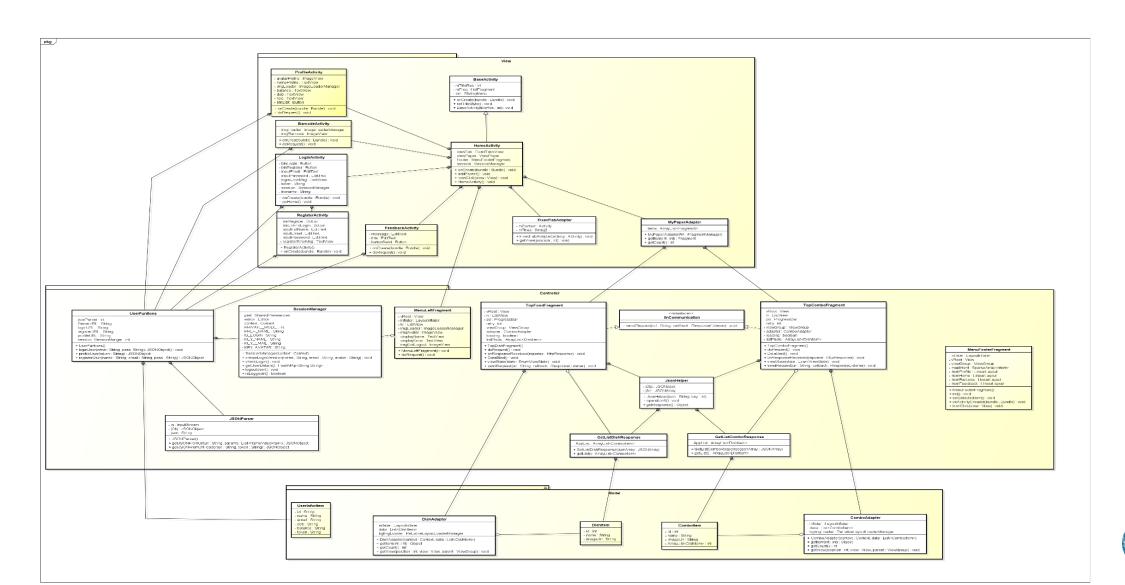




CLASS DIAGRAM – WEB APPLICATION

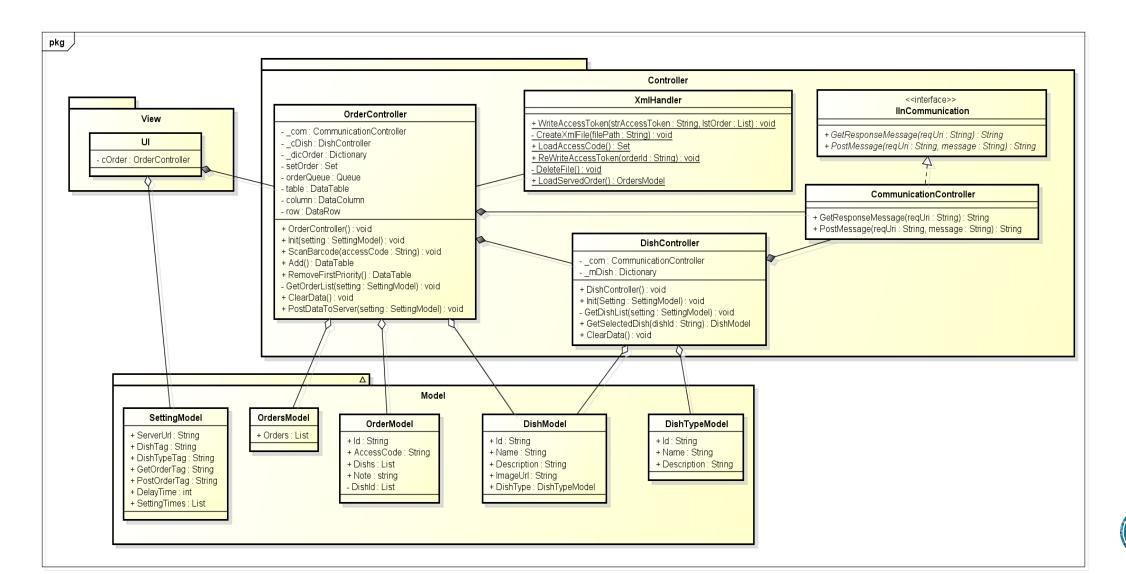


CLASS DIAGRAM – ANDROID APPLICATION



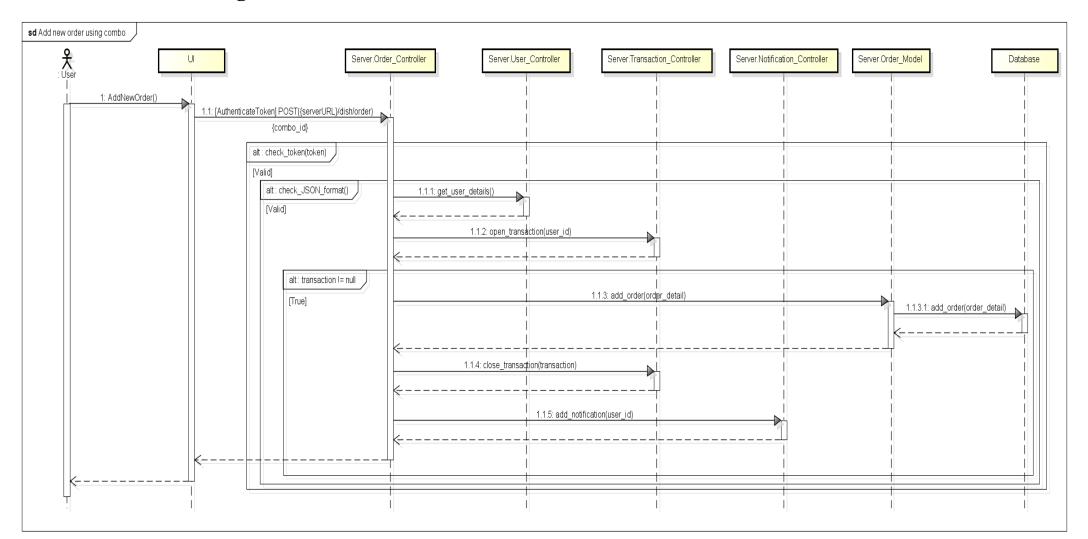


CLASS DIAGRAM – KITCHEN CONTROL APPLICATION



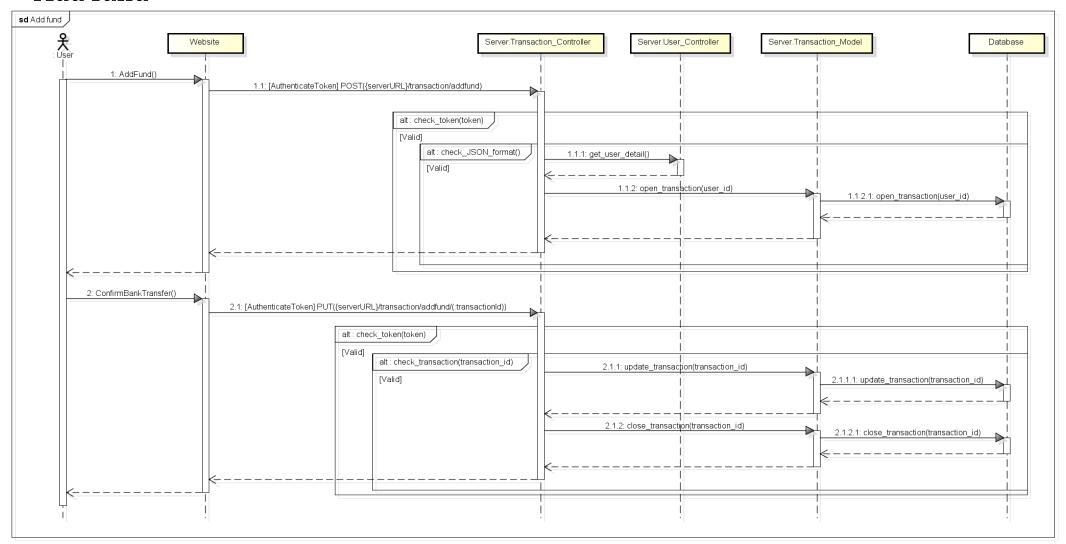
SEQUENCE DIAGRAM

• New order using combo id



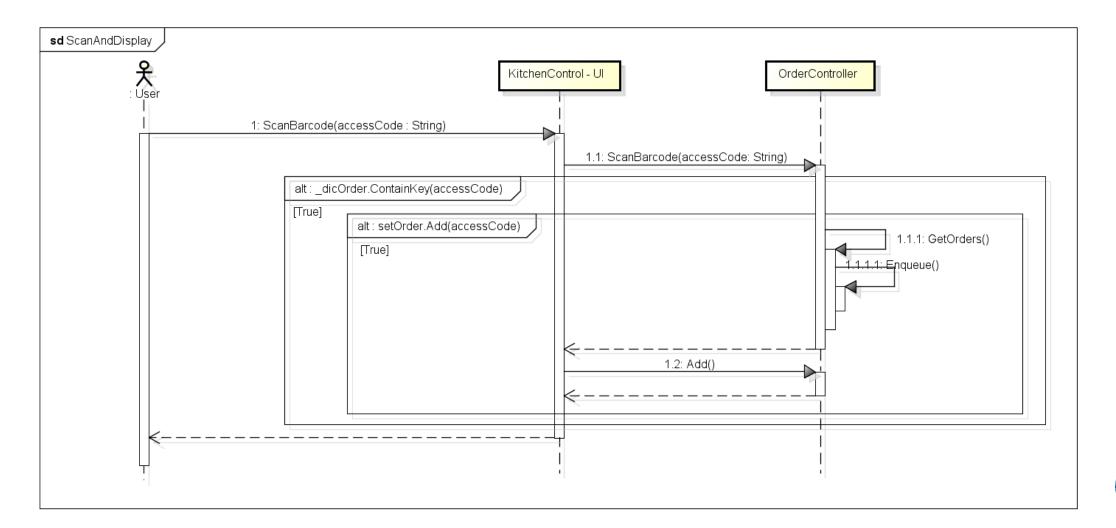
SEQUENCE DIAGRAM

Add fund



SEQUENCE DIAGRAM

• Scan access code and display order information

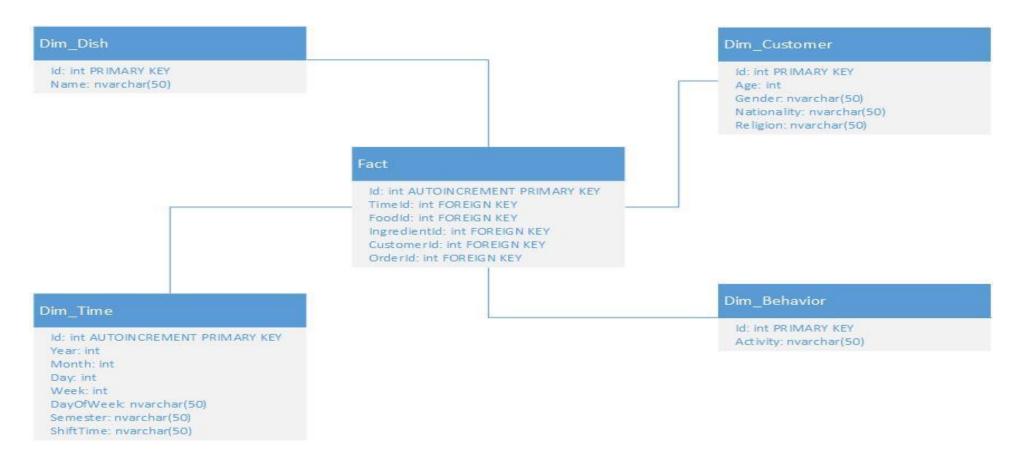


Information package

Time	Customer	Dish	Behavior		
Year	Age	Name	Activity		
Month	Gender				
Day	Nationality				
Week	Religion				
DayOfWeek					
Semester					
ShiftTime					
Measured Values	User favorite, User behavior & history, Food frequency				
	request				

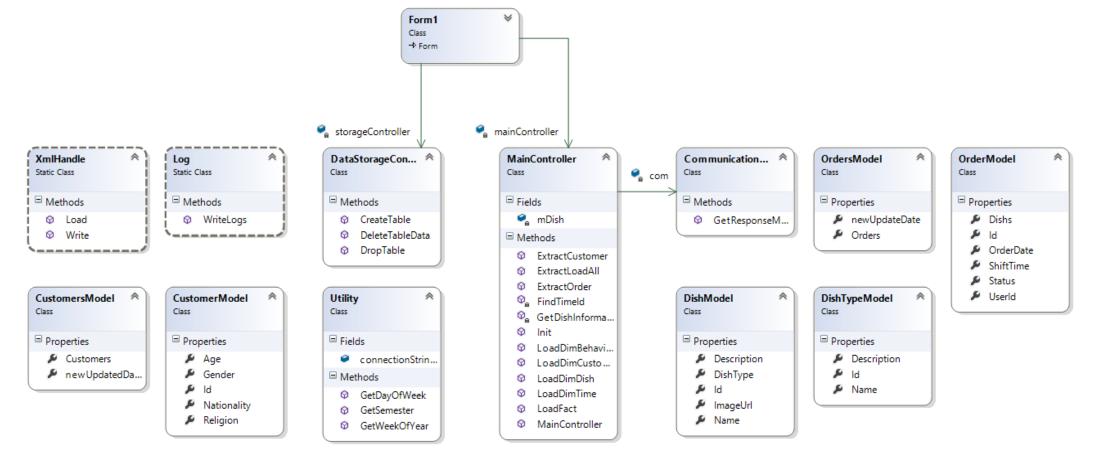


Data storage – Logical design





ETL Implementation



• Result after running Microsoft Association Algorithm



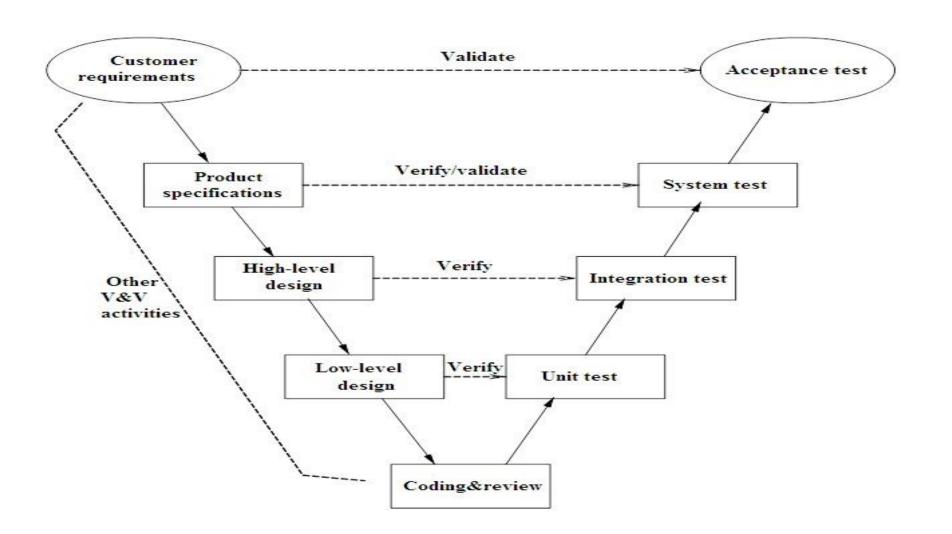
TESTING

Testing plan

Test Execution Test Report



TESTING MODEL



TEST TYPE

Unit test

• Developers

Integration Test

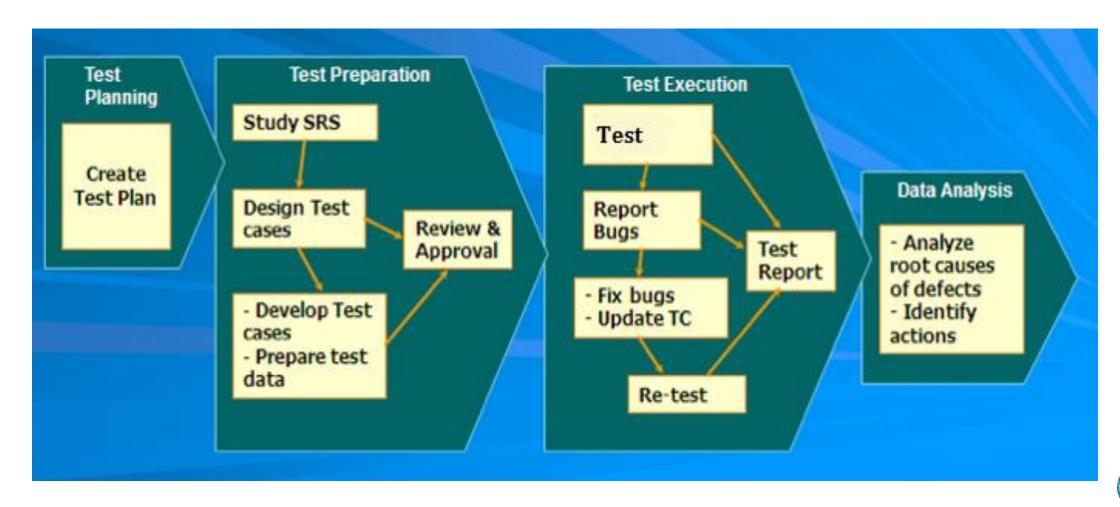
- Developers
- Testers

System Test:

• Testers



TEST PROCESS



TESTING TOOLS

	Tools	Version	Source	
Test Report	Microsoft Word Office	2013	Microsoft	
Test Plan	Microsoft Word Office	2013	Microsoft	
Test Case	Microsoft Excel	2013	Microsoft	
Test Result	Microsoft Excel	2013	Microsoft	
Unit test	Microsoft Visual Studio	Ultimate 2012	Microsoft	
	PHPUnit	4.2	Sebastian Bergmann	



TESTING DEVICES

	Device Name	OS version	Manufacturer
Android Smart Phone	Samsung LTE	Android 4.1.3	Samsung
	LG Optimus LTE2	Android 4.1.2	LG
	Samsung Galaxy Young GT- S5360	Android 2.3.6	Samsung
	Sony Xperia Z2	Android 4.4.2	Sony
Barcode Reader	Honey Xenon 1900		Honeywell Inc.
Client Computer	Sony VAIO E 15"	Window 8 Pro 64 bit	Sony
	HP Compaq CQ42 13,3"	Window 8 Pro 32 bit	HP
	Acer E machine 14"	Window 7 Pro 32 bit	Acer
	Dell Alienware M17 r5 17,7"	Window 8 Pro 64 bit	Dell



TEST CASE

Test Case ID	Test Summary	Test Steps	Test Data	Expected Result	Test Date	Test Result 1	Test Date2	Test Result 2	Notes
KC-01	Check get information from server functional (with internet access)	 Enable internet connection Open Kitchen control application 		Main form will be displayed	23/07/2014	OK	30/07/2014		
KC-02	Check get information from server functional (without internet access)	 Disable internet connection Open Kitchen control application 		An message box about internet connection will be displayed	23/07/2014	OK	30/07/2014	OK	
KC-03	Check automatic shedule functional(at start time)	start time 2. Open Kitchen control application	Start time: 10h30 am or 16h30 pm Test barcode: "SE02069"	Main form must be displayed. After enter barcode, orders will be displayed at dataGridView	23/07/2014	OK	30/07/2014	ОК	
KC-04	Check automatic shedule functional(before start time)	2. Open Kitchen control application	Start time: 10h30 am End time: 13h00 pm Test barcode: "SE02069"	Order information will be displayed: - Priority = 1 Dishs = "Cá rán", "Rau muống luộc", "Thịt bò xào" Notes = "Thêm cơm"	23/07/2014	OK	30/07/2014	OK	
KC-05	Check automatic schedule functional (before start time)	2 Open Kitchen control	Start time: 10h30am or 16h30 pm	Order with priority = 1 will be removed. Orther orders will be automatically reduced their priority by one	23/07/2014	OK	30/07/2014	ОК	
KC-06	Check barcode scan functional (with valid test access code)	application 2. Using bareada reader or	Valid test barcode: "SE02069"	Order information will be converted to JSON format and send to server	23/07/2014	OK	30/07/2014	OK	



DEFECT LOG

1	 Input Correct Email and Password Click Remember me check box Click Sign Up button Log Out 	Remember me checkbox doesn't work .	Email and Pass word saved to cookies . In next Login , email and Pass will be show	22/07/2014	LINHBTT	TienND	30/07/2014	MED	MED	CLOSED
2	1. Acess to LTD4 App in Android smart phone	Doesn't have Remember me feature in Login form Android	Have Remember me feature	22/07/2014		TuanN	30/07/2014	MED	MED	CLOSED
3	1. Input text to search box to search dish	Can't search dish or food in search feature .	User can search dish by search box	1/8/2014	LINHBTT	TienND	4/8/2014	MED	MED	CLOSED
4	 Acess to LTD4 App in Galaxy Young 2,5inch Login Click Barcode to get barcode Scan BarCode by Barcode reader 	Error when display barcode in 2.5" Android Smart Phone	Barcode reader can scan barcode of user	23/07/2014	LINHBTT	DuongND	27/07/2014	MED	MED	CLOSED

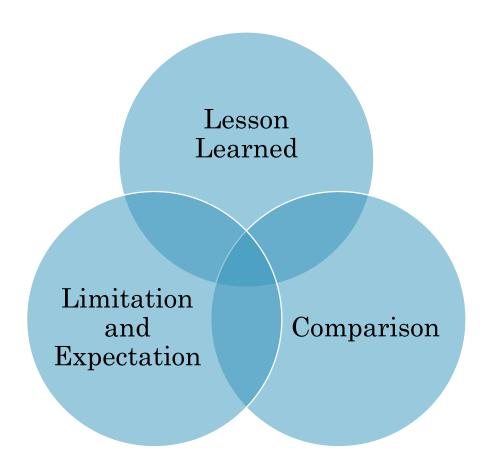


TEST REPORT

	Module	Pass	Fail	Untested	Test Case	Time
	Round 1	230	30	0	260	12/07 -> 16/07
Dhaga 2	Round 2	320	15	0	335	17/07 -> 20/07
Phase 3	Round 3	300	15	0	340	22/07 -> 28/07
	Round 4	100	7	0	110	30/07 -> 08/08
Phase 4	Round 5	150	5	0	157	09/08 -> 19/08

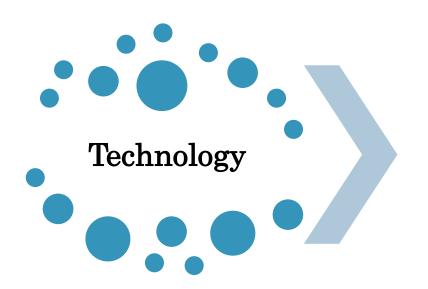


PROJECT RESULT





LESSON LEARNED



Soft skill



- New framework:
- CodeIgnite
- Phalcon

- Leadership
- Teamwork



LINE OF CODE

BI: 404

C#: 1310 CSS PHP Android JS Total Kitchen Web Total line JavaScript: CSS: Control: Java application: of code: 491 ETL: 415 Server:



COMPARISON

Main objective		
Purpose		
	Plan	Actual
Release date	19/8/2014	20/8/2014
Release version	1.0	1.0
Days	137	138
Test case	500	620
Defect	50	
Document pages	200	
Lines of code	25000	



LIMITATION AND EXPECTATION

Limitation

• Rate dishes functional is not completely implemented

Expectation

- Develop application for iOS and Window Phone.
- Expand to many schools, colleges and universities



DEMO



Q&A





THANK YOU!

