## ĐẠI HỌC QUỐC GIA THÀNH PHỐ HỒ CHÍ MINH TRƯỜNG ĐẠI HỌC BÁCH KHOA KHOA KHOA HOC - KỸ THUẬT MÁY TÍNH



# BÁO CÁO CÔNG NGHỆ PHẦN MỀM

Assignment 2

# SFCS - Smart Food Court System

GVHD: Bùi Hoài Thắng

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TP. Hồ CHÍ MINH, THÁNG 5/2020



# Trường Đại Học Bách Khoa Tp.Hồ Chí Minh Khoa Khoa Học và Kỹ Thuật Máy Tính

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#### 1 Introduction

In 2020, the university wish to build a smart food court system (SFCS) to make the university more smart. The system is for customers to order foods at the food courts or before coming to that places.

To build the system, first step is from diagrams. This report is for that purpose: team process on usecase diagrams.

#### 2 Five main actors and their use-cases

My group discuss and choose 5 main actors for SFCS include:

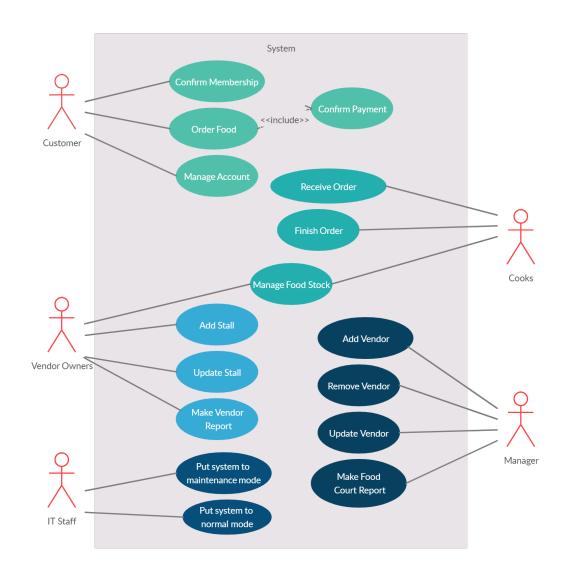
- Customer: Most important actor. Use-cases: Confirm membership, Order food, Manage account
- Cook: Receive and finish order, Manage Food Stock
- Vendor Owner: Add stall, Update stall, Make Vendor report, Manage Food Stock
- Manager: Add Vendor, Remove Vendor, Update Vendor, Make Food Court report
- IT Staff: Put system to Maintainance mode, Put system to Normal mode

Aside functional requirements, there are also non-functional requirements for each actors.



# 3 Task assign

### 3.1 Functional requirements



Hình 1: Usecase diagram

#### • Customer

Usecase name	Put system to maintenance modes			
Created by:	Trần Đức Bình Last Updated by: Trần Đức Bình			
Date Created:	23/04/2020	Date Last Updated:	26/04/2020	
Actor:	IT Staff			

# Trường Đại Học Bách Khoa Tp.Hồ Chí Minh Khoa Khoa Học và Kỹ Thuật Máy Tính

Description:	Sometime the system need to be put in maintenance for maintain the		
	stable of system or repair the serious problem. At this time, the IT staff		
	will put system to maintennee.		
Trigger:	None		
Preconditions:	System is on normal mode, Being on the periodic maintenance time /		
	System encounters a serious problem of the system.		
Postconditions:	System is on maintenance mode.		
Normal Flow:	1. IT staff announce the periodic estimated maintenance time		
	2. System confirms that announcement had been send		
	3. IT staff process shutdown all online services		
	4. System confirms that all online services had been shutdown		
Alternative Flow:	Alternative 1: at step 3		
	3a. IT staff shutdown specific online services that necessary to maintain		
	3b. System confirms that specific online services had been shutdown		
	3c. IT staff announce the services that continue available		
	3d. System confirms that announcement had been send		
Exceptions:	Exception 1: at step 1		
	1a. If there is a serious problem on the system, IT staff estimate dealing		
	problem time		
	1b. Continue at step 1		
Note and Issues:	None		

Usecase name	Put system to normal modes			
Created by:	Trần Đức Bình	Last Updated by:	Trần Đức Bình	
Date Created:	23/04/2020	Date Last Updated:	26/04/2020	
Actor:	IT Staff			
Description:	Description: After the IT staff finish the maintenance, they will put the system to			
	the normal mode			
Trigger:	None			
Preconditions:	System is on maintenance:	mode, IT staff finished	the maintenance pro-	
	cess.			
Postconditions:	System is on normal mode.			
Normal Flow:	1. IT staff turn on all online services			
	2. System confirms that all online service being turn on			
Alternative Flow: Alternative 1: at step 1				
1a. IT staff turn on specific online services that unnecessary to maintain			nnecessary to maintain	
	1b. System confirms that specific online services had been shutdown			
	1c. IT staff announce the services that continue maintaining			
	1d. System confirms that announcement had been send			
	1e. After finished maintenance the specific services, IT staff turn on them			
and announce finish				
1f. System confirms that announcement had been send			send	



Exceptions:	Exception 1: at step 1		
	1a. If the system need more time to maintain, IT staff estimate the delay		
	time		
	1b. IT staff announce the delay time		
	1c. System confirms that announcement had been send		
	1d. After finished maintenance continue at step 1		
Note and Issues:	None		

### $\bullet$ Cook

Usecase name	ecase name Put system to maintenance modes				
Created by: Trần Đức Bình Last Updated by: T		Trần Đức Bình			
Date Created:	23/04/2020	Date Last Updated:	26/04/2020		
Actor:	1 1				
Description:	Sometime the system need	to be put in mainten	ance for maintain the		
	stable of system or repair the	ne serious problem. At	this time, the IT staff		
	will put system to mainten	nce.			
Trigger:	None				
Preconditions:	System is on normal mode	, Being on the periodi	c maintenance time /		
	System encounters a serious	s problem of the system	m.		
Postconditions:	System is on maintenance r				
Normal Flow:	1. IT staff announce the periodic estimated maintenance time				
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	4. System confirms that all online services had been shutdown				
Alternative Flow:	Alternative 1: at step 3				
	3a. IT staff shutdown specific online services that necessary to maintain				
3b. System confirms that specific online services had been shutdown					
	3c. IT staff announce the se	ervices that continue a	vailable		
	3d. System confirms that announcement had been send				
Exceptions:	Exception 1: at step 1				
	1a. If there is a serious problem on the system, IT staff estimate dealing				
	problem time				
	1b. Continue at step 1				
Note and Issues:	: None				

Usecase name	Put system to normal modes			
Created by:	Trần Đức Bình Last Updated by: Trần Đức Bình			
Date Created:	23/04/2020 Date Last Updated: 26/04/2020			
Actor:	IT Staff			
Description:	After the IT staff finish the maintenance, they will put the system to			
	the normal mode			



Trigger:	None	
Preconditions:	System is on maintenance mode, IT staff finished the maintenance pro-	
	cess.	
Postconditions:	System is on normal mode.	
Normal Flow:	1. IT staff turn on all online services	
	2. System confirms that all online service being turn on	
Alternative Flow:	Alternative 1: at step 1	
	1a. IT staff turn on specific online services that unnecessary to maintain	
	1b. System confirms that specific online services had been shutdown	
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	and announce finish	
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Exceptions:	Exception 1: at step 1	
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	time	
	1b. IT staff announce the delay time	
	1c. System confirms that announcement had been send	
	1d. After finished maintenance continue at step 1	
Note and Issues:	None	

### • Vendor Owner

Usecase name	Put system to maintenance modes			
Created by:	Trần Đức Bình	Last Updated by:	Trần Đức Bình	
Date Created:	23/04/2020	Date Last Updated:	26/04/2020	
Actor:	IT Staff			
Description:	Sometime the system need	to be put in mainten	ance for maintain the	
	stable of system or repair th	ne serious problem. At	this time, the IT staff	
	will put system to mainten	nce.		
Trigger:	None			
Preconditions:	System is on normal mode	, Being on the periodi	c maintenance time /	
	System encounters a serious problem of the system.			
Postconditions:	System is on maintenance mode.			
Normal Flow:	1. IT staff announce the periodic estimated maintenance time			
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	4. System confirms that all online services had been shutdown			
Alternative Flow:	Alternative 1: at step 3			
	3a. IT staff shutdown specific online services that necessary to maintain			
	3b. System confirms that specific online services had been shutdown			
	3c. IT staff announce the services that continue available			
	3d. System confirms that announcement had been send			



Exceptions:	Exception 1: at step 1	
	1a. If there is a serious problem on the system, IT staff estimate dealing	
	problem time	
	1b. Continue at step 1	
Note and Issues:	None	

Usecase name	Put system to normal modes		
Created by:	Trần Đức Bình	Last Updated by:	Trần Đức Bình
Date Created:	23/04/2020	Date Last Updated:	26/04/2020
Actor:	IT Staff	ı	
Description:	After the IT staff finish th	ne maintenance, they v	vill put the system to
	the normal mode		
Trigger:	None		
Preconditions:	System is on maintenance in	mode, IT staff finished	the maintenance pro-
	cess.		
Postconditions:	System is on normal mode.		
Normal Flow:	1. IT staff turn on all onlin		
	2. System confirms that all	online service being to	ırn on
Alternative Flow:	Alternative 1: at step 1		
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	and announce finish		_
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	time		
	1b. IT staff announce the delay time		
	1c. System confirms that announcement had been send		
	1d. After finished maintenance continue at step 1		
Note and Issues:	None		

### $\bullet$ Manager

Usecase name	Put system to maintenance modes			
Created by:	Trần Đức Bình Last Updated by: Trần Đức Bình			
Date Created:	23/04/2020	Date Last Updated:	26/04/2020	
Actor:	IT Staff			

## Trường Đại Học Bách Khoa Tp.Hồ Chí Minh Khoa Khoa Học và Kỹ Thuật Máy Tính

Description:	Sometime the system need to be put in maintenance for maintain the	
	stable of system or repair the serious problem. At this time, the IT staff	
	will put system to maintennee.	
Trigger:	None	
Preconditions:	System is on normal mode, Being on the periodic maintenance time /	
	System encounters a serious problem of the system.	
Postconditions:	System is on maintenance mode.	
Normal Flow:	1. IT staff announce the periodic estimated maintenance time	
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	3c. IT staff announce the services that continue available	
	3d. System confirms that announcement had been send	
Exceptions:	Exception 1: at step 1	
	1a. If there is a serious problem on the system, IT staff estimate dealing	
	problem time	
	1b. Continue at step 1	
Note and Issues:	None	

Usecase name	Put system to normal modes		
Created by:	Trần Đức Bình	Last Updated by:	Trần Đức Bình
Date Created:	23/04/2020	Date Last Updated:	26/04/2020
Actor:	IT Staff		
Description:	After the IT staff finish the maintenance, they will put the system to		
	the normal mode		
Trigger:	None		
Preconditions:	System is on maintenance mode, IT staff finished the maintenance pro-		
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Normal Flow:	1. IT staff turn on all online services		
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Exceptions:	Exception 1: at step 1
	1a. If the system need more time to maintain, IT staff estimate the delay
	time
	1b. IT staff announce the delay time
	1c. System confirms that announcement had been send
	1d. After finished maintenance continue at step 1
Note and Issues:	None

### • IT Staff

Usecase name	Put system to maintenance modes			
Created by:	Trần Đức Bình	Last Updated by:	Trần Đức Bình	
Date Created:	23/04/2020	Date Last Updated:	26/04/2020	
Actor:	IT Staff			
Description:	Sometime the system need to be put in maintenance for maintain the			
	stable of system or repair the serious problem. At this time, the IT staff			
	will put system to maintennce.			
Trigger:	None	None		
Preconditions:	System is on normal mode, Being on the periodic maintenance time /			
	System encounters a seriou	s problem of the system	m.	
Postconditions:	System is on maintenance mode.			
Normal Flow:	1. IT staff announce the periodic estimated maintenance time			
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	3a. IT staff shutdown speci		· ·	
	3b. System confirms that specific online services had been shutdown			
	3c. IT staff announce the services that continue available			
	3d. System confirms that a	nnouncement had beer	n send	
Exceptions:	Exception 1: at step 1			
	1a. If there is a serious prob	olem on the system, IT	staff estimate dealing	
	problem time			
	1b. Continue at step 1			
Note and Issues:	None			

Usecase name	Put system to normal modes		
Created by:	Trần Đức Bình	Last Updated by:	Trần Đức Bình
Date Created:	23/04/2020	Date Last Updated:	26/04/2020
Actor:	IT Staff		
Description:	After the IT staff finish the maintenance, they will put the system to		
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Trigger:	None	
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	time	
	1b. IT staff announce the delay time	
	1c. System confirms that announcement had been send	
	1d. After finished maintenance continue at step 1	
Note and Issues:	None	

## 3.2 Non-functional requirements

#### • Customer

- Punctuality: The maintaining process should be complete earlier or punctually to avoid the delay making bad affect to the whole system. The extend time must be as short as possible.
- Easier maintenance for later: The structure of the system
- Flexible: The maintenance time should be flexible, it should be on the day off or outside working hour of the smart court.
- Period: The maintenance should be periodic to make system more stable.
- Security: The online services must be security to protect information of user from being leak out.

#### • Cook

- Punctuality: The maintaining process should be complete earlier or punctually to avoid the delay making bad affect to the whole system. The extend time must be as short as possible.
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#### • Vendor Owner

- Punctuality: The maintaining process should be complete earlier or punctually to avoid the delay making bad affect to the whole system. The extend time must be as short as possible.
- Easier maintenance for later: The structure of the system
- Flexible: The maintenance time should be flexible, it should be on the day off or outside working hour of the smart court.
- Period: The maintenance should be periodic to make system more stable.
- Security: The online services must be security to protect information of user from being leak out.

#### • Manager

- Punctuality: The maintaining process should be complete earlier or punctually to avoid the delay making bad affect to the whole system. The extend time must be as short as possible.
- Easier maintenance for later: The structure of the system
- Flexible: The maintenance time should be flexible, it should be on the day off or outside working hour of the smart court.
- Period: The maintenance should be periodic to make system more stable.
- Security: The online services must be security to protect information of user from being leak out.

#### • IT Staff

- Punctuality: The maintaining process should be complete earlier or punctually to avoid the delay making bad affect to the whole system. The extend time must be as short as possible.
- Easier maintenance for later: The structure of the system
- Flexible: The maintenance time should be flexible, it should be on the day off or outside working hour of the smart court.
- Period: The maintenance should be periodic to make system more stable.
- Security: The online services must be security to protect information of user from being leak out.

# 4 Conclusion and development strategy

In this assignment, team has successfully created all usecase possible for actors. This is the first step in building SFCS system. New process in assignment will be reported in next reports.