



MINISTRY OF EDUCATION AND TRAINING

FPT UNIVERSITY

Capstone Project Document

M-Services Card

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Capstone Project code	MSSC

-Ho Chi Minh City, 09/2014-

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Definitions, Acronyms, and Abbreviations

Name	Definition
MSSC	Multi Services Card
App	Application
OS	Operating System
Admin	Administrator
API	Application Programming Interface
HTTP	Hyper Text Transfer Protocol
Big 4	Cloud, Mobile, Social, Data Analytics
3G	Third generation of mobile telecommunications
Business Card	The NFC card with contain contact information
Name Card	The NFC card with contain contact information
Event Ticket	The NFC card with contain event ticket information

A. Report No. 1 Introduction

1. Project Information

- Project name: **M-Services Card**
- Project Code: **MSSC**
- Product Type: **Website & Android Application**
- Start Date: **Sep 9th, 2014**
- End Date: **Dec 20th, 2014**

2. Introduction

Nowadays, technology is changing our daily life so fast in an amazing way that help us a modern life with more and more convenient in our daily task. Mobility – one of the “Big 4”- improves lives and society in both developed and developing economies. Mobile phone as a useful device has become a part of human life. Many applications that take advantages of mobile camera, 3G network that provide us utility feature for our daily life and of course enhance some business operations.

In our project, we want to explore the NFC feature of smart phone device on Android OS, to support users manage their business contacts and provide an e-Ticket for event attendance. Instead of traditional process of using their eye to capture data, users can use their phone to touch the card/ticket and receive information. Furthermore, we also build a Web Application to fulfill necessary management features for users.

3. Current Situation

Below are some current behaviors of user:

- Name Card
 - At meeting place, people often exchange their business cards with each other and keep them in some place that when they need, they will search the specific card or they use their eyes to read information and store on their phone contacts book.
 - When they change their information, they have to re-make their business card and no simple solutions to notify their business partners about the changes.
- Event Ticket
 - When buying for an event ticket on some online website, they have to wait for the ticket which is sent by post or some delivery services. Or they will receive a code (string, bar code, QR code) and bring the code to the entrance gate of event for check-in.
 - The event providers will have to count the ticket after event happened to get statistic information.

4. Problem Definition

Below are the disadvantages of current situation:

- The process of recognize data on the card by human eye and transfer it to information is take a lot of time and may be affected by human errors.

Name Card	Event Ticket
<ul style="list-style-type: none"> - No centralized approach on the case of changing information. - No solution for notify business partner about our updated profile. 	<ul style="list-style-type: none"> - For event ticket, remembering a code may obstruct user. Actual paper ticket may be damaged on delivery or carry, and no real time statics can be count for event providers. - The process of scanning QR code, bar code sometime cause bad performance and depend on the quality of the image and the camera.

5. Proposed Solution

We propose a new system to take advantages of NFC feature on Android smart phone to try to solve those disadvantages. Our system includes a web application and an Android application to help user manage name card information and enhance event attendance check-in process. In detail, the system will enable the following functions:

5.1 Feature functions

- Admins can manage the system, manage accounts.
- Name Card
 - Users can touch NFC business card to store name card into their online phonebooks. Also, they can write their own business card with an Android app.
 - Users can change their profile information and notification will be sent to their friends and otherwise.
 - System provides user suggested events and suggested relationships.
- Event Ticket
 - Partners can sell event tickets online and have an Android app to check-in attendants.
 - Partners can view statics information of their events.
 - Partners can change some basic information of their profile and their event but will have to be approved by Staffs.
 - Staffs can approve change request from partners.
 - Users can purchase event tickets online and use an Android app to write their tickets information into NFC card for check-in process.

5.2 Advantages and disadvantages

The advantages and disadvantages of the proposed solution:

- Advantages:
 - Provide new interactions for users via NFC feature.
 - Less input and reduce human errors

Name Card	Event Ticket
<ul style="list-style-type: none"> - Easily to add new contact and maintain update to newest data. - Suggest may be known friends based on graph theory. 	<ul style="list-style-type: none"> - Speed up the process of check-in for event. - Suggest appropriate events based on users history.

- Disadvantages:
 - o Users must have a laptop/computer **and** Android smart phone to use all features of this system. Internet connection is required.
 - o The phone requires having NFC enable feature.

6. Functional Requirements

Function requirements of the system are listed as below:

6.1 Name Card Management

- Users can write their own contact into card and read others card to store contacts.
- Users can manage their friendship and notify friends when update information. On the other hand, auto updates their phonebook when their friends change their profile.

6.2 Event

- Partners can create event and sell event tickets on website
- Users can book an event ticket and write it into NFC card
- Partners can read the card at check-in time
- Partners can request for changing basic information of event and staffs will decide to approve or not.

6.3 Searching

- Users can search events by some conditions.

6.4 Suggestion

- Suggest users some events based on their history.
- Suggest users some friends who they may know based on graph theory.

6.5 User Management

- Admins can manage accounts: active, de-active, approve or deny changes.

7. Role and Responsibility

No	Full Name	Role	Position	Contact
1	Kiều Trọng Khánh	Project Manager	Instructor	Khanhkt@fpt.edu.vn
2	Trần Nguyễn Đăng Khoa	Developer	Leader	Khoatndse60680@fpt.edu.vn
3	Đặng Ngọc Huy	Developer	Member	Huydnse60913@fpt.edu.vn

4	Nguyễn Hoàng Tân	Developer	Member	Tannhse60819@fpt.edu.vn
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Table 1: Roles and Responsibilities

B. Report No.2 Software Project Management Plan

1. Problem Definition

1.1 Name of this Capstone Project

- M-Services Card (MSSC)

1.2 Problem Abstract

Most of the information system purposes are to provide effective ways in storing, analyzing, and processing data. After collecting information, many transition rule and knowledge learning processes are applied to mining the data. However, the correctness of data depends on input process. If the input process is taken by human, the correctness of data can't be guarantee always true. Mistakes can happen easily due to various reasons: visual impairments, noise distraction, and fat finger error... in both objective and subjective ways.

Furthermore, exchange data is no longer the case that only happened between different data systems. For considering, information exchange between humans has long history of using communication channels such as voice, text, and image... Accompanied with channels are barriers that can cause misunderstand, misconstrue, and inaccurate...

These two problems are addressed in this project as our purpose is to answer the question: "Can we apply NFC technology to overcome these problems in order to enhance the process of recognize data by eyes and accelerate the exchange information speed?"

To emphasize on our narrow issues addressed in this project scope, we want to explore the NFC feature of smart phone device on Android OS, to support users manage their business cards and provide an e-Ticket for event attendance.

1.3 Project Overview

1.3.1 Current Situation and Disadvantages

Below are some current behaviors of user:

- Name card exchange:
 - o User makes a name card which personal information is written on
 - o User gives his/her name card to business partner. The receiver needs to read the card and save the information usually on cellphone (or memory, or phonebook) for later reference.
 - o When user changes information, they throw their old card and make new one. They inform the changes to their partner by their new card or via some communication channels (SMS, email, voice message...). Partner must update the information manually.
- Event ticket:
 - o User purchases an event ticket on online website or at retailer store.
 - o At event time, user brings his/her ticket to event gate, waits in line for check-in procedure. An event's staff will collect ticket from user,

- use his/her eyes to check the ticket format and does other check-in required procedures.
- In case of paper ticket, staffs will have to spend time counting to get statistic information.
- In case of QR code ticket, staffs will have to use scanner device to decode the picture.

Below are the disadvantages of current situation:

- The process of recognize data by human eye and transfer it to information is take a lot of time and may be affected by human errors.
- No centralized approach on the case of changing information
- For event ticket, remembering a code may obstruct user.
- Actual paper ticket may be damaged on delivery or carry
- No real time statics can be count for event providers
- The process of scanning QR code, bar code sometime cause bad performance and depend on the quality of the image and the camera.

Our project is also taking into consideration about:

- Technology Feasibility:
 - NFC applied in Android implementation [Ref: Appendix 1]
 - NFC compare with Bluetooth [Ref: Appendix 2]
 - NFC specification [Ref: Appendix 3]
- Social study report:
 - “Vietnam ranks third in the world for the number of first-time smartphone users” [Ref: Appendix 4]
 - “Smartphone orders occupy more than 35% density on e-commerce websites” [Ref: Appendix 5]

1.3.2 The Proposed System

We propose a new system to take advantages of NFC feature on Android smart phone to try to solve those disadvantages. Our system includes a web application and an Android application to help user manage name card information and sanitize event attendance check-in process.

1.3.2.1 Web Site

- Admins can manage the system, manage accounts.
- Staffs can approve change request from partners.
- Partners can sell event tickets online.
- Partners can replies to a comment made by member about their events.
- Partners can view statics information of their events.
- Partners can change some basic information of their profiles and their events but will have to be approved by Admins.
- Users can purchase event tickets online.
- Users can comment on an event or add an event to their wish list.
- Users can change their profile information and notification will be sent to their friends and otherwise.
- System provides user suggested events and suggested relationships.

1.3.2.2 Mobile Application

- Users can touch NFC business card to store contacts into their online phonebooks.
- Users can write their own business card.
- Users can write their own ticket to an NFC card.
- Partners can read NFC tickets and do check-in process. Also, they can view statics information of their events.

1.3.3 Boundaries of the System

- The system can be used by every people with a smart phone which enable NFC feature and a laptop/computer with Internet connection.
- The language of the system is Vietnamese.
- The complete product includes:
 - + The website, for admins, partners and users.
 - + The mobile applications, for partners and users.
 - + All the process document involved.

1.3.4 Development Environment

1.3.4.1 Hardware requirements

For server		
Windows	Minimum Requirements	Recommended
Internet Connection	Cable, Wi-Fi (4 Mbps)	Cable, Wi-Fi (8 Mbps)
Operating System	Window Server 2008	Window Server 2008
Computer Processor	Intel® Xeon ® 1.4GHz	Intel® Xeon ® Quad Core (12M Cache, 2.50 GHz)
Computer Memory	1GB RAM	2GB or more

Table 2: Hardware Requirement for Server

For Mobile		
Mobile	Minimum Requirements	Recommended
Internet Connection	2 Mbps	4 Mbps
Operating System	Android 4.0	Android 4.4.2
Hardware	NFC supported	NFC supported
Memory	512MB	1GB or more

Table 3: Hardware Requirement for Mobile

1.3.4.2 Software requirements

- Window Server 2008: operating system and platform for development.
- SQL Server 2008 Enterprise R2: used to create and manage the database for system.
- Visual Studio 2012: used to implement website and web service.
- Google Code & TortoiseSVN: used for source control.
- StarUML: used to create models and diagrams.
- Skype: used for communication and meeting.

2. Project organization

2.1 Software Process Model

Project is developed under modified waterfall model (SASHIMI).

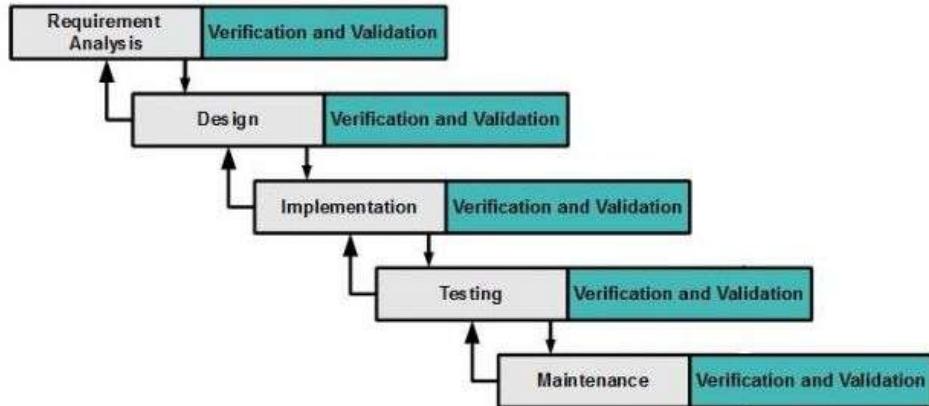


Figure 1: Modified Waterfall Development Model

For more information: <http://www.waterfall-model.com/sashimi-waterfall-model/>

2.2 Roles and responsibilities

No	Full name	Role in Group	Responsibilities
1	Kiều Trọng Khánh	Project manager	<ul style="list-style-type: none">Specify user requirementControl the development processGive out technique and business analysis support
2	Trần Nguyễn Đăng Khoa	Team Leader, BA, DEV, Tester	<ul style="list-style-type: none">Managing processDesigning databaseClarifying requirementsPrepare documentsGUI DesignCreate test planCodingTesting
3	Đặng Ngọc Huy	Team Member, BA, DEV, Tester	<ul style="list-style-type: none">Designing databaseClarifying requirementsPrepare documentsGUI DesignCreate test planCodingTesting
4	Nguyễn Hoàng Tân	Team Member, BA, DEV, Tester	<ul style="list-style-type: none">Designing databaseClarifying requirements

			<ul style="list-style-type: none"> • Prepare documents • GUI Design • Create test plan • Coding • Testing
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Table 4: Roles and Responsibilities Details

2.3 Tools and Techniques

- Front-end technologies: HTML5, CSS3, JavaScript, jQuery, AJAX.
- Back-end technologies:
 - + Website: ASP.NET MVC5 + Entity Framework 6.
 - + Web service: ASP.NET Web API 2
- Mobile: Android KitKat 4.4.2 – Java 7
- Web Server: Microsoft IIS 7.5 with .Net Framework 4.5.1 enable.
- Database Management System: MSSQL Server 2008 R2 Enterprise.

3. Project Management Plan

3.1 Software development life cycle

Phase	Description	Deliverables	Resource needed	Dependencies and Constrains	Risks
Requirement Analysis	- Collect requirements from customer. - Identify and clarify requirements for the system in general.	-Introduction of proposed system. -Software requirement specification. -Project Task Plan. - Prototypes	20 man-days	N/A	- Missing requirement - Unclear scope of project - Lack of member share of understand
Design	- Architecture design for the system - Detail design using top-down break down - Choose Architecture style	- Software Design Document - Base code structure - Technology notes	20 man-days	Depend on "Requirement Analysis"	- Lack of experience. - Not fulfil requirement.
Implementation	- Coding system core functions and other feature with GUI - Unit test	- Main user's functions on web and mobile. - Unit test document	50 man-days	Depend on "Design".	- Lack of experience and knowledge. - Human mistake.
Testing	- Integration test the system - Alpha test - Correct bugs - Beta test - Acceptance test	- Test document - Defect log	20 man-days	Depend on "Implementation"	- Lack of experience - Missing test case
Maintenance	- Deploy on sever and mobile	- Installation guide - User Manual	10 man-days	Depend on "Testing"	- Lack of experience.

Table 5: Software Development Life Cycle Detail

3.2 Phase Detail

3.2.1 Phase 1: Requirement Analysis

Task	Description	Author
1. Collect requirements	Find which systems currently provide similar service, their strengths and weakness.	KhoaTND, HuyDN, TanNH
2. Identify and clarify	Define which main functions system	KhoaTND, HuyDN,

main functions.	should provide.	TanNH
3. Create System Introduction.	Complete Introduction Report.	KhoaTND
4. Software Project Management Plan.	Prepare Project Management Plan.	KhoaTND
5. Website Prototype.	Build a prototype of proposed system (Website/Mobile).	KhoaTND, HuyDN, TanNH
6. SRS	Create SRS document.	KhoaTND, HuyDN, TanNH

Table 6: Phase 1: Requirement Analysis

3.2.2 Phase 2: Design

Task	Description	Author
1. Architecture Design	Implement function import and breakdown data from docx files.	KhoaTND, HuyDN, TanNH
2. Detailed Design	Compare new document with existed documents of system.	KhoaTND, HuyDN, TanNH
3. Database Design	Get jobs from other server to recommendation.	KhoaTND, HuyDN, TanNH
4. Technology research	Create search engine for basic search and advance search.	KhoaTND, HuyDN, TanNH
5. Design Document	Create software design document	KhoaTND, HuyDN, TanNH

Table 7: Phase 2: Design

3.2.3 Phase 3: Implementation

Task	Description	Author
1. Front-end web functions	Implement front-end functions on web	KhoaTND, HuyDN, TanNH
2. Back-end web functions	Implement back-end functions on web	KhoaTND, HuyDN, TanNH
3. Mobile functions	Implement mobile application	HuyDN, TanNH
4. Suggestion algorithms	Research and implement suggestion algorithms	KhoaTND
5. Unit testing	Write test case and testing for web functions	KhoaTND, HuyDN, TanNH
	Write test case and testing for mobile functions	HuyDN, TanNH

Table 8: Phase 3: Implementation

3.2.4 Phase 4: Testing

Task	Description	Author
1. Integration testing	Write test case and testing system	KhoaTND, HuyDN, TanNH
2. Alpha testing	Do alpha test with customer	KhoaTND, HuyDN, TanNH

Table 9: Phase 4: Testing

3.2.5 Phase 5: Maintenance

Task	Description	Author
1. Installation guide	Write installation guide	KhoaTND
2. User Manual	Write user manual	KhoaTND, HuyDN, TanNH

Table 10: Phase 5: Maintenance

3.3 All Meeting Minutes

Refer to Meeting Minutes folder.

4. Coding Convention

C#: Using to develop website.

Summary:

- Naming Convention:
 - o For variable's name, use camel case. Eg: minValue, maxValue...
 - o For function name, class name, use Pascal case. Eg: SearchEvent, GetRecommendEvent...
- Layout Convention:
 - o Write only one statement/declaration per line.
 - o Indent continuation one tab stop (four spaces).
 - o Add at least one blank line between method definitions and property definitions.
 - o Use parentheses to make clauses in an expression apparent.
- Commenting Convention:
 - o Place the comment on a separate line, not at the end of a line of code.
 - o Begin comment text with an uppercase letter.
 - o End comment text with a period.
 - o Insert one space between the comment delimiter (//) and the comment text.
 - o Do not create formatted blocks of asterisks around comments.
- Language Guidelines:

Using C# Code Convention From:

<http://msdn.microsoft.com/en-us/library/vstudio/ff926074.aspx>

Java: Using to develop mobile application.

Summary:

- Naming Convention.
 - o Use camel case for both variable and function name.
 - o Use Pascal case for class name.
- Indentation.
 - o Four spaces should be used as the unit of indentation. The exact construction of the indentation (spaces vs. tabs) is unspecified. Tabs must be set exactly every 8 spaces (not 4).

- Avoid lines longer than 80 characters, since they're not handled well by many terminals and tools.
- Declaration.
 - One declaration per line is recommended since it encourages commenting.
 - In absolutely no case should variables and functions be declared on the same line.
 - Do not put different types on the same line.
- Code Examples

Follow "Code Conventions for the Java TM Programming Language, by Sun Microsystems, rev April 20, 1999".

<http://www.oracle.com/technetwork/java/codeconventions-150003.pdf>

C. Report No. 3 Software Requirement Specification

1. User Requirement Specification

1.1 Guest Requirement

Guest is a person who doesn't have access to the system. Guest can use some functions in the system. To use all functions, guest must login. These are some functions guest can use:

- Register.
- Login.
- Search event.
- View event detail.
- Booking and payment for event tickets.

1.2 Member Requirement

Member is guest who uses his account to login to the system. Member can use additional functions, such as:

- Write ticket.
- Cancel ticket.
- Comment on an event.
- Manage wish list of event.
- Manage contact list.
- Update and write name card.
- View suggested events and suggested business contact.

1.3 Partner Requirement

Partner is the person who sells events. Partner account has to be active by admin. Partner can use these functions:

- Manage event.
- View event statistics.
- Update profile.
- Check-in tickets.
- Reply to comment.

1.4 Staff Requirement

Staff is the person who manages the change request from partner. Staff can use the following functions:

- Approve changes from partner.
- Activate partner account.

1.5 Admin Requirement

Admin is the person who manages the system. Admin is super user which can use the following functions:

- Manage account.
- Create staff account.

2. System Requirement Specification

2.1 External Interface Requirement

2.1.1 User Interface

- General requirement for graphics user interface is the GUI should be simple, clear, intuitive, and reminiscent.
- The interface design is an iterate process includes: design, sketching, prototyping, user assessment.
- Some design principles will be taken into consideration:
 - UI for businesss web applications - Janko Jovanovic [Ref: Appendix 6]
 - Ten principles of effective web design – Vitaly Friedman [Ref: Appendix 7]
 - Principles of mobile interface design – Jonathan Stark [Ref: Appendix 8]

2.1.2 Hardware Interface

- N/A

2.1.3 Software Interface

- Run with Cốc Cốc (version 35.0.1916.157), Firefox (33.1.0.5423), Chromes (version 39.0.2171.71) browsers and must support JavaScript and HTML5.
- The screen must bigger than (1024x768) to browse the completely part of document.

2.1.4 Communication Protocol

- Using HTTP/HTTPS protocol

2.2 System Overview Use Case

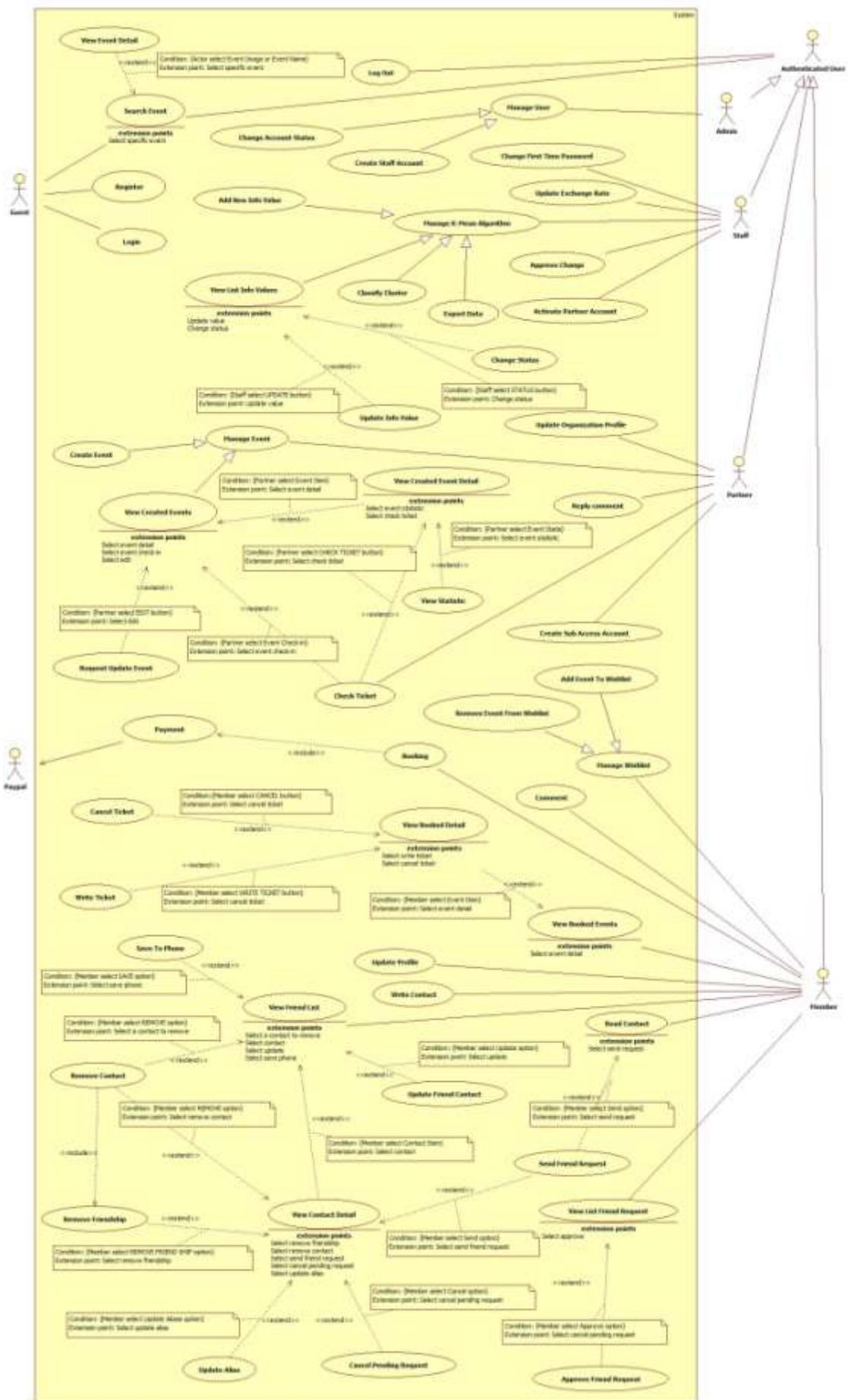


Figure 2: System Overview Use Case

2.3 List of Use Case

2.3.1 <Member>Overview Use Case

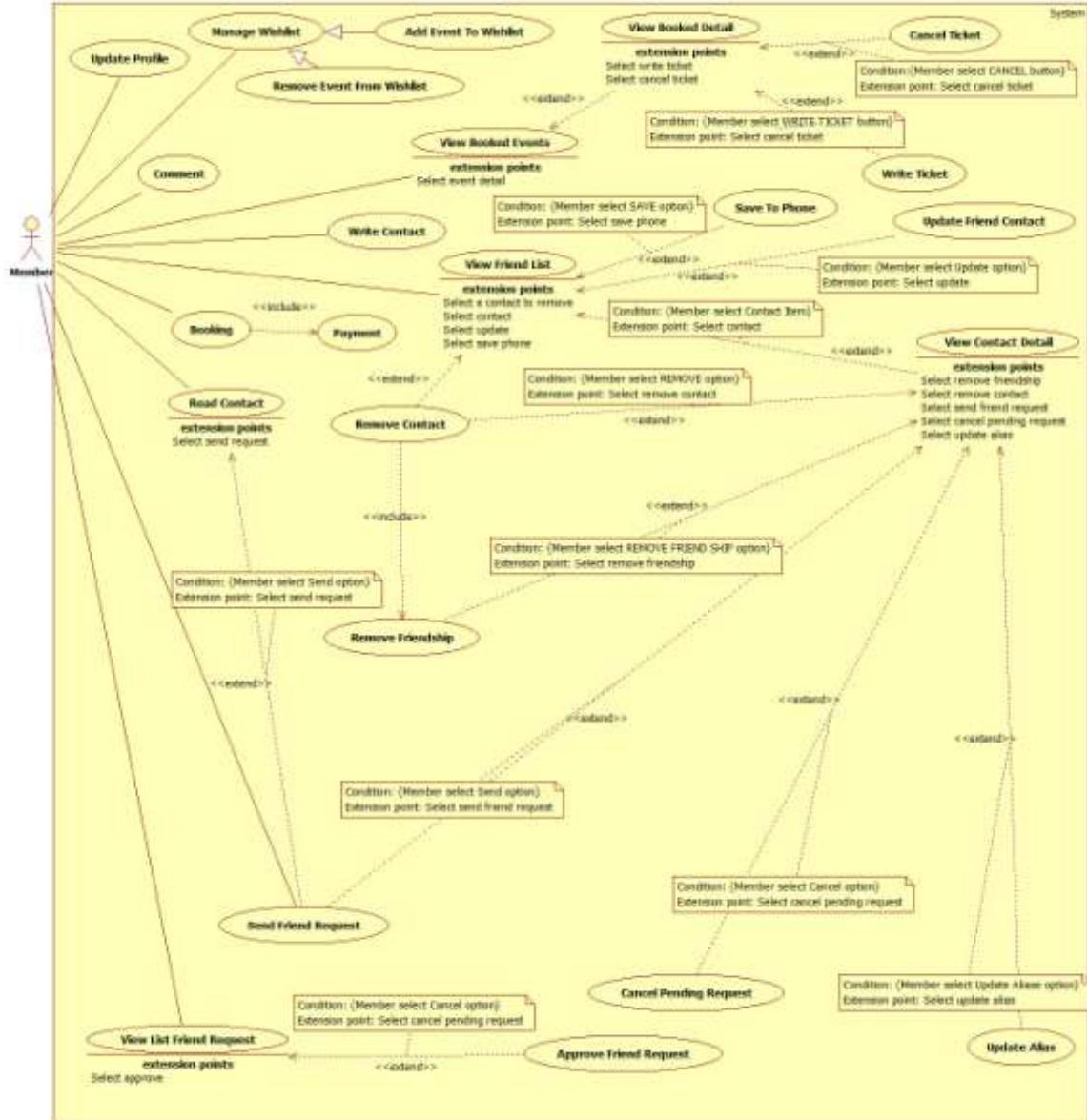


Figure 3: <Member> Overview Use Case

2.3.1.1 <Member> View Friend List Use Case Diagram

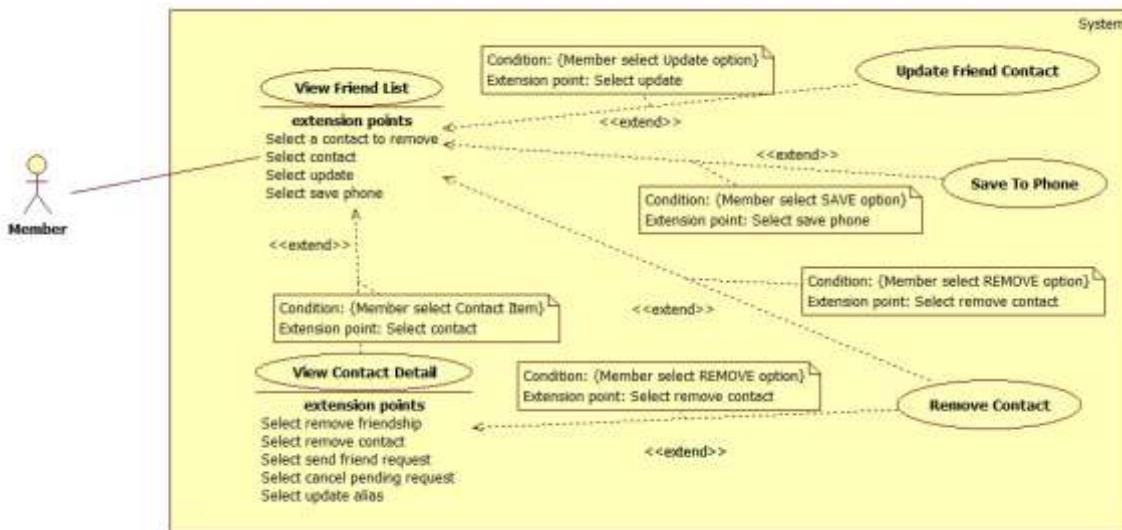


Figure 4: <Member> View Friend List

Use Case Specification

Android

USE CASE – MSSC001			
Use Case No.	MSSC001	Use Case Version	2.0
Use Case Name	View Friend List		
Author	HuyDN		
Date	12/09/2014	Priority	High
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:	<ul style="list-style-type: none"> - This use case allows member to view all contacts that includes MSSC contacts and android cellphone contacts. 		
Goal:	<ul style="list-style-type: none"> - Member can view all of their contacts. 		
Triggers:	<ul style="list-style-type: none"> - Member touches tab “Tất Cả Danh Bạ” to view the list of contacts. - Member touches tab “Danh Bạ MSSC” to view the list of MSSC contacts. - Member touches tab “Danh Bạ Android” to view the list of Android contacts. 		
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Show list of all contacts. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Member touches tab “Tất Cả Danh Bạ” to view all contacts list. [Alternative 1] [Alternative 2]	Show list of contacts as a grid which shows the following information: <ul style="list-style-type: none"> - “Tên liên lạc”: label 	

		<ul style="list-style-type: none"> - “Số điện thoại”: label - “update” : image - “friendship” : image <p>[Alternative 3] [Exception 1]</p>
--	--	---

Alternative Scenario:

No	Actor Action	System Response
1	Member touches tab “Danh Bạ MSSC” to view all MSSC contacts.	<p>Show list of contacts as a grid which shows the following information:</p> <ul style="list-style-type: none"> - “Tên liên lạc”: label - “Số điện thoại”: label - “update” : image - “friendship” : image <p>[Alternative 3] [Exception 1]</p>
2	Member touches contact tab “Danh Bạ Điện Thoại” to view all android cellphone contacts.	<p>Show list of contacts as a grid which shows the following information:</p> <ul style="list-style-type: none"> - “Tên liên lạc”: label - “Số điện thoại”: label <p>[Alternative 3] [Exception 1]</p>
3	Member doesn't have any contact in contact list.	Show message: “Danh sách liên hệ trống”.

Exceptions:

No	Actor Action	System Response
1	Connect to mobile database fail	Show message “khởi động lại ứng dụng”.

Relationships: extended by Save To Phone (Select save phone), extended by Remove Contact (Select a contact to remove), extended by Update Friend Contact (Select update), and extended by View Contact Detail (Select contact).

Business Rules:

- List of contacts are always gotten from mobile database.
- When having internet connection, Sync happens to synchronize mobile database and server database.
- List of contacts are sorted by alphabet based on alias.
- Search bar on the top and fast scroll bar on the right help user finding contact faster.
- “friendship” and “update” image are only shown on contacts which are an MSSC contact.
- Every time member logs into system in online mode, application will use web service to check and show “update” image and “friendship” image on contacts.
- “friendship” image is only shown on a contact which is having friendship.

- Friendship contacts can update information when the owner of it update their profile.
- “update” image is only shown on a friendship contacts in online mode, when current information are different from database.
- Member can keep old information of a contact.
- Member can call or make text message to a contact by touch and hold it.

Web

USE CASE – MSSC001

Use Case No.	MSSC001	Use Case Version	2.0
Use Case Name	View Contact List		
Author	HuyDN		
Date	12/09/2014	Priority	High

Actor:

- Member.

Summary:

- This use case allows member to see all MSSC contacts on website.

Goal:

- Member can view all MSSC contacts on web.

Triggers:

- Member clicks on “Danh Bạ Liên Lạc” to view list of all contacts.

Preconditions:

- Member must login into system.

Post Conditions:

- **Success:** Show list of MSSC contacts.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member touches “Tất Cả Danh Bạ” tab to view list of contacts.	<p>Show list of contacts as a grid which shows the following information:</p> <ul style="list-style-type: none"> - “Tên liên lạc”: label. - “Số điện thoại”: label. - “Chi tiết”: button. - “Kết bạn”: button. - “Hủy lời mời”: button. - “Hủy bạn bè”: button. - “Xóa liên lạc”: button. <p>[Alternative 1]</p>

Alternative Scenario:

No	Actor Action	System Response
1	Member doesn't have any contacts in contact list.	Show message: “Hiện không có bản ghi”.

Exceptions:

No	Actor Action	System Response
1	Time out when connect to server	Show message "Lỗi kết nối".

Relationships: extended by Save To Phone (Select save phone), extended by Remove Contact (Select a contact to remove), extended by Update Friend Contact (Select update), and extended by View Contact Detail (Select contact).

Business Rules:

- List of contacts are always gotten from server database.
- “Kết bạn” button is only shown on a contact which doesn't have friendship or pending friendship request.
- “Hủy lời mời” button is only shown on a contact which is having a pending friendship request.
- “Hủy bạn bè” button is only shown on a contact which has friendship.
- Contacts that have friendship will automatically update information when the owners change their information profiles.

2.3.1.2 <Member> View Contact Detail Use Case Diagram

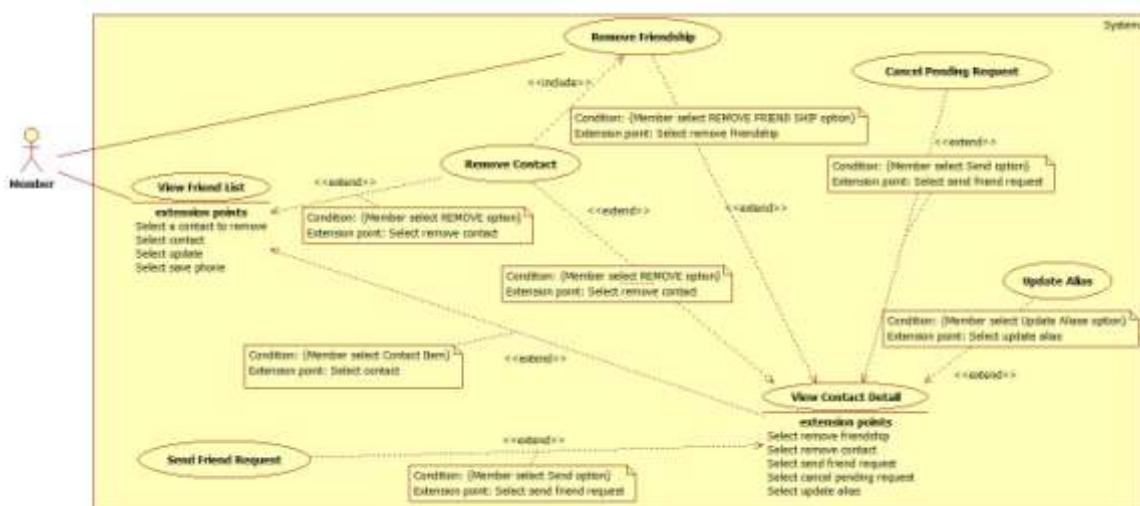


Figure 5: <Member> View Contact Detail
Use Case Specification

Android

USE CASE – MSSC002			
Use Case No.	MSSC002	Use Case Version	2.0
Use Case Name	View Contact Detail		
Author	HuyDN		
Date	12/09/2014	Priority	High
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:	<ul style="list-style-type: none"> - This use case allows member to view detail information of a contact. 		

Goal:

- Show detail information of a contact.

Triggers:

- Member touches on the contact to view detail information in contact list.

Preconditions:

- Member must login into system.

Post Conditions:

- **Success:** Show detail information of contact.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member touches on the contact to view detail information.	<p>Show contact detail which contains the following information:</p> <ul style="list-style-type: none"> - “Tên liên lạc”: label - “Số điện thoại”: label - “Họ và Tên” label - “Công ty” : label - “Địa chỉ” : label - “Nghề nghiệp”: label - “Hộp thư”: label - “Cập nhật tên liên lạc”:button <p>In case, contact has no friendship or pending friendship request:</p> <ul style="list-style-type: none"> - “Gửi lời mời kết bạn” : button <p>In case, contact has friendship:</p> <ul style="list-style-type: none"> - “Hủy liên kết bạn bè” : button <p>In case, contact has pending friendship request:</p> <ul style="list-style-type: none"> - “Hủy lời mời kết bạn” : button

Alternative Scenario:N/A**Exceptions:**

No	Actor Action	System Response
1	Connect to mobile database fail	Show message “khởi động lại ứng dụng”.

Relationships: extended by Remove Friendship (Select remove friendship), extended by Remove Contact (Select remove contact), extended by Send Friend Request (Select send friend request), extended by Cancel Pending Request (Select cancel pending request), extended by Update Alias (Select update alias), and extend for View Friend List (Select contact).

Business Rules:

- Contact Detail is always gotten from mobile database.
- When having internet connection, Sync happens to synchronize mobile database and server database.

- “Gửi lời mời kết bạn” button, “Hủy lời mời kết bạn” button and “Hủy liên kết bạn bè” button are only shown on a contact which is an MSSC contact.
- “Gửi lời mời kết bạn” button is only shown on a contact which doesn't have friendship or pending friendship request.
- “Hủy lời mời kết bạn” button is only shown on a contact which is having a pending friendship request.
- “Hủy liên kết bạn bè” button is only shown on a contact which is having friendship.
- Member can call or make text message to contact by touching on the number label.
- Member can change alias of a contact by touching “Cập nhật tên liên lạc” button.

Web

USE CASE – MSSC002

Use Case No.	MSSC002	Use Case Version	2.0
Use Case Name	Contact Detail		
Author	HuyDN		
Date	12/09/2014	Priority	High

Actor:

- Member.

Summary:

- This use case allows member to see detail information of a contact on MSSC website.

Goal:

- Show detail information of a contact.

Triggers:

- Member click “Chi tiết” button to view detail information of contact.

Preconditions:

- Member must login into system.

Post Conditions:

- **Success:** Show detail information of contact.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member click “chi tiết” button.	Show contact detail which shows the following information: <ul style="list-style-type: none"> - “Tên liên lạc”: label - “Số điện thoại”: label. - “Họ và Tên”: label. - “Công ty”: label. - “Địa chỉ”: label. - “Nghề nghiệp”: label. - “Hộ thu”: label.

Alternative Scenario:N/A

Exceptions:

No	Actor Action	System Response
1	Time out when connect to server	Show message "Lỗi kết nối".

Relationships extended by Remove Friendship (Select remove friendship), extended by Remove Contact (Select remove contact), extended by Send Friend Request (Select send friend request), extended by Cancel Pending Request (Select cancel pending request), extended by Update Alias (Select update alias), and extend for View Friend List (Select contact).

Business Rules:

- Contact Detail is always gotten from server database.
- Friendship contact's information will automatically update on server database when the owner changes their information.

2.3.1.3 <Member> Remove Friendship Use Case Diagram

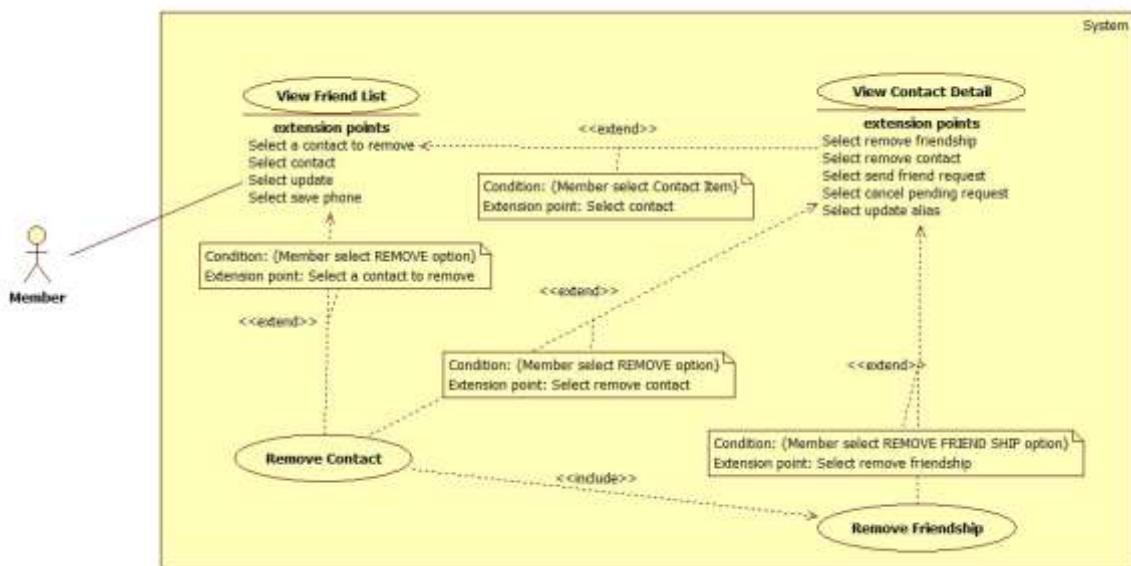


Figure 6: <Member> Remove Friendship
Use Case Specification

Android

USE CASE - MSSC003			
Use Case No.	MSSC003	Use Case Version	2.0
Use Case Name	Remove Friendship		
Author	HuyDN		
Date	11/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:			

- Member removes friendship of a contact.

Goal:

- Remove friendship of a contact.

Triggers:

- Member views detail information of a contact.
- Member touches “Hủy bạn bè” button on action bar.

Preconditions:

- Member must login into system.

Post Conditions:

- **Success:** Remove friendship and show successful message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member touches “Hủy bạn bè” button.	Show dialog message “Bạn có muốn hủy liên kết bạn bè” which contains: <ul style="list-style-type: none"> - “Chấp nhận”: button. - “Hủy”: button.
2	Member touches “Chấp nhận” button. [Alternative 1]	Remove friendship, show success message “Đã hủy liên kết bạn bè”. “Hủy bạn bè” button is replaced by “Kết bạn” button. [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Member touches “Hủy” button.	Close dialog message.

Exceptions:

No	Actor Action	System Response
1	Member touches “Hủy bạn bè” button many times, nothing happen.	Show message “Lỗi kết nối”.

Relationships: extend for View Contact Detail (Select remove friend ship), included by Remove Contact.

Business Rules:

- “Hủy liên kết bạn bè” button is only shown on a contact which is having friendship.
- Unfriend contact won’t update information when the owner’s information changed.
- Member can resend friendship request to unfriend contacts.

Web

USE CASE – MSSC003

Use Case No.	MSSC003	Use Case Version	2.0
Use Case Name	Remove Friendship		
Author	HuyDN		
Date	11/09/2014	Priority	Normal

Actor:

- Member.

Summary:

- This use case allows member to remove friendship of a contact.

Goal:

- Remove friendship of a contact.

Triggers:

- Member selects a contact and clicks “Hủy bạn bè” button.

Preconditions:

- Member must login into system.

Post Conditions:

- **Success:** Remove friendship and show successful message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member selects contact and clicks “Hủy bạn bè” button.	Show dialog message “Bạn có chắc muốn hủy liên kết bạn bè” which contains: <ul style="list-style-type: none"> - “Chấp nhận”: button. - “Hủy”: button.
2	Member Click “Chấp nhận” button. [Alternative 1]	Remove friendship, show success message “Đã hủy liên kết bạn bè”. “Hủy bạn bè” button is replaced by “Kết bạn” button.

Alternative Scenario:

No	Actor Action	System Response
1	Member clicks “Hủy” button.	Close dialog message.

Exceptions:

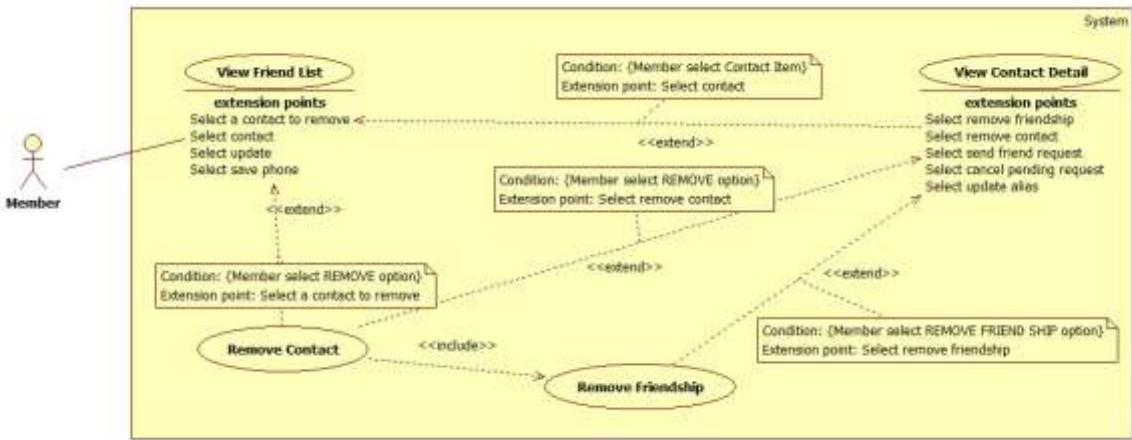
No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: extend for View Contact Detail (Select remove friend ship), included by Remove Contact.

Business Rules:

- Unfriend contact won't update information when the owner's information changed.
- Member can resend friendship request to unfriend contacts.

2.3.1.4 <Member> Remove Contact Use Case Diagram



**Figure 7: <Member> Remove Contact
Use Case Specification**

Android

USE CASE – MSSC004									
Use Case No.	MSSC004	Use Case Version	2.0						
Use Case Name	Remove Contact								
Author	HuyDN								
Date	12/09/2014	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Member. 								
Summary:	<ul style="list-style-type: none"> - This use case allows member to remove a contact. 								
Goal:	<ul style="list-style-type: none"> - Remove contact. 								
Triggers:	<ul style="list-style-type: none"> - Member touches on a contact to remove in contact list and hold it then choose “Xóa liên lạc”. Or - Member touches “remove” button in contact list screen then check the checkbox to select contacts that will be removed. - Member touches “Xóa” button. 								
Preconditions:	<ul style="list-style-type: none"> - Member must login into system. 								
Post Conditions:	<ul style="list-style-type: none"> - Success: Remove contact and show successfull message. - Fail: Show error message. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Choose contact and hold a contact then choose “Xóa liên</td><td></td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Choose contact and hold a contact then choose “Xóa liên	
Step	Actor Action	System Response							
1	Choose contact and hold a contact then choose “Xóa liên								

	lạc". [Alternative1]	Show dialog message "Bạn có muốn xóa liên lạc" which contains: - "Chấp nhận": button. - "Hủy": button.
2	Member touches "Chấp nhận" button. [Alternative 3]	Remove friendship and show success message. [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Member touches "remove" button, checks the checkbox to select contacts that will be removed then touch "Xóa" button. [Alternative 2]	Show dialog message "Bạn có muốn xóa liên lạc" which contains: - "Chấp nhận": button. - "Hủy": button.
2	Member touches "Chấp nhận" button. [Alternative 3]	Remove friendship and show success message. [Exception 1]
3	Member touches "Hủy" button.	Close dialog message.

Exceptions:

No	Actor Action	System Response
1	Member touches "Xóa liên lạc" many times, nothing happen.	Show message "Lỗi kết nối".

Relationships: extended by View Friend List (select contact to remove), extended by View Contact Detail (select contact to remove), and include Remove Friendship.

Business Rules:

- When member removes an MSSC contact, system also removes the friendship between member and the contact's owner.
- When member removes an android contact, system also removes the contact in member's cellphone.
- If member removes contact in offline mode, application only removes this contact on member's cellphone. When having internet connection, "Sync" function called, removed contact will be removed from system database.

Web

USE CASE – MSSC004			
Use Case No.	MSSC004	Use Case Version	2.0

Use Case Name	Remove Contact		
Author	HuyDN		
Date	12/09/2014	Priority	Normal
Actor:			
<ul style="list-style-type: none"> - Member. 			
Summary:			
<ul style="list-style-type: none"> - Member removes a contact from contact list on website. 			
Goal:			
<ul style="list-style-type: none"> - Remove contact on website. 			
Triggers:			
<ul style="list-style-type: none"> - Member selects a contact and clicks “Xóa liên lạc” button. 			
Preconditions:			
<ul style="list-style-type: none"> - Member must login into the system. 			
Post Conditions:			
<ul style="list-style-type: none"> - Success: Remove contact and show successful message. - Fail: Show error message. 			
Main Success Scenario:			
Step	Actor Action	System Response	
1	Member selects contact and clicks “Xóa liên lạc” button.	Show dialog message “Bạn có chắc muốn xóa liên lạc này” which contains: <ul style="list-style-type: none"> - “Chấp nhận”: button. - “Hủy”: button. 	
2	Member clicks “Chấp nhận” button. [Alternative 1]	Remove friendship and show success message.	
Alternative Scenario:			
No	Actor Action	System Response	
1	Member clicks “Hủy” button.	Close dialog message.	
Exceptions: N/A			
Relationships: extended by View Friend List (select contact to remove), extended by View Contact Detail (select contact to remove), and include Remove Friendship.			
Business Rules:			
<ul style="list-style-type: none"> - When member removes an MSSC contact, system also removes the friendship between member and contact's owner. 			

2.3.1.5 <Member> Read Contact Use Case Diagram

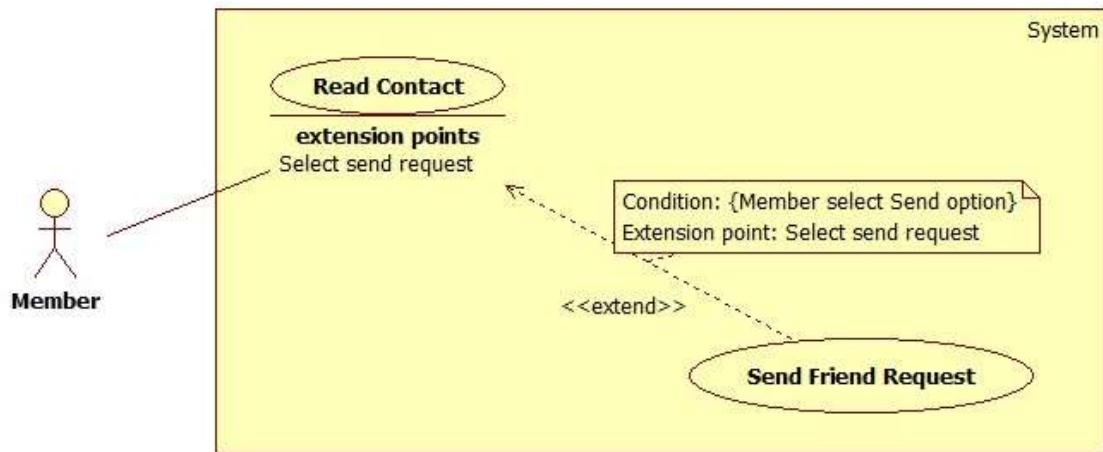


Figure 8: <Member>Read Contact
Use Case Specification

USE CASE – MSSC005						
Use Case No.	MSSC005	Use Case Version	2.0			
Use Case Name	Read Contact					
Author	HuyDN					
Date	11/09/2014	Priority	High			
Actor:	<ul style="list-style-type: none"> - Member. 					
Summary:	<ul style="list-style-type: none"> - This use case allows member to read contact information from an NFC card. 					
Goal:	<ul style="list-style-type: none"> - Read information in an NFC contact card then chooses add new contact or update information with exist contact. 					
Triggers:	<ul style="list-style-type: none"> - Member puts the NFC card under cellphone. Detail information of NFC contact card will be shown. - If this contact is new, “Add” image will be shown. Member touches the image to add information from NFC Contact card to member’s contact list. If this contact has already been existed, update image will show. Member touches the image to update information. 					
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. 					
Post Conditions:	<ul style="list-style-type: none"> - Success: Show contact information. - Fail: Show error message. 					
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> </table>			Step	Actor Action	System Response
Step	Actor Action	System Response				

1	Member puts the NFC card under cellphone.	<p>“Thêm liên lạc” screen shows the following information:</p> <ul style="list-style-type: none"> - “Tên liên lạc”: textbox. - “Số điện thoại”: label. - “Họ và Tên”: label. - “Công ty”: label. - “Địa chỉ”: label. - “Nghề nghiệp”: label. - “Hộp thư”: label. - “Thêm liên lạc”: button. <p>[Alternative 1] [Alternative 2]</p>
2	Member touches “Thêm liên lạc” icon.	<p>Show dialog message “Gửi lời mời kết bạn” which contains:</p> <ul style="list-style-type: none"> - “Kết bạn”: button. - “Không kết bạn”: button.
3	Member touches “Kết bạn” button [Alternative 4]	<p>Show message “Đã gửi lời mời kết bạn”. [Exception 1]</p>

Alternative Scenario:

No	Actor Action	System Response
1	Contact has already existed, same information.	<p>“Thêm liên lạc” screen show with the following information:</p> <ul style="list-style-type: none"> - “Thông báo”: message - “Tên liên lạc”: textbox. - “Số điện thoại”: label. - “Họ và Tên”: label. - “Công ty”: label. - “Địa chỉ”: label. - “Nghề nghiệp”: label. - “Hộp thư”: label.
2	Contact has existed already but has different information.	<p>“Thêm liên lạc” screen show with the following information:</p> <ul style="list-style-type: none"> - “Thông báo”: message - “Tên liên lạc”: textbox. - “Số điện thoại”: label. - “Họ và Tên”: label. - “Công ty”: label. - “Địa chỉ”: label.

		<ul style="list-style-type: none"> - “Nghề nghiệp”: label. - “Hộp thư”: label. - “Cập nhật”: button. <p>[Alternative 3]</p>
3	Member touches “Cập nhật” button.	Show message “Liên lạc đã được cập nhật mới”.
4	Member touches “Không kết bạn” button.	Show message “Đã thêm liên lạc vào danh bạ”.

Exceptions:

No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: extended by Send Friend Request (Select send request).

Business Rules:

- When member adds a contact in online mode, contact will be added to mobile database then application will call web service to check the existen of added contact. If contact is new, new data will be sync and stored to system database.
- If contact is existed, system will check different information between NFC card and mobile database. In case different information, Member can update information from NFC card to phone.
- When member adds a contact in offline mode, contact will be added to mobile database with state is “Not sync”. On next login with online mode, application will call web service to sync all data with state “Not sync” to system database.
- “Cập nhật” button is only shown when the information is different between android’s and system’s database.

2.3.1.6 <Member> Send Friend Request Use Case Diagram

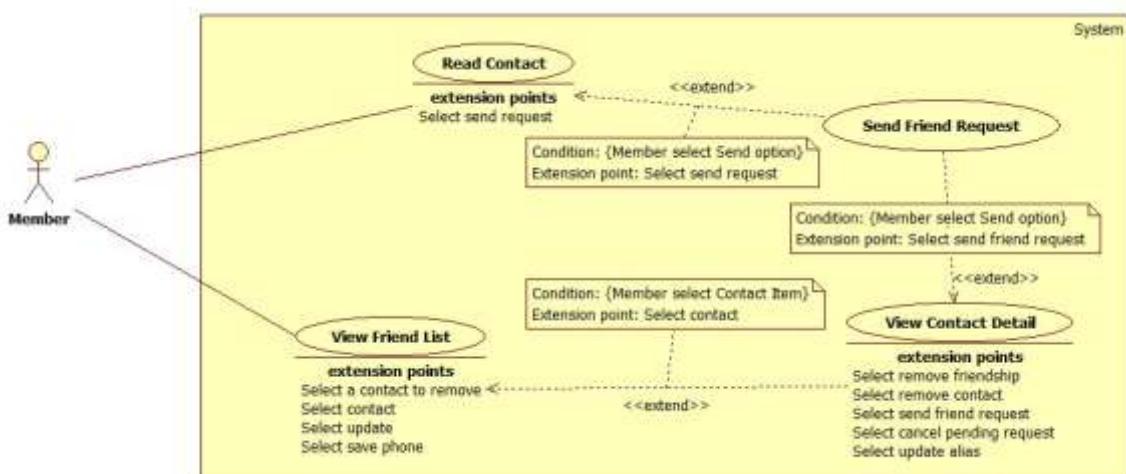


Figure 9: <Member>Send Friend Request
Use Case Specification

Android

USE CASE - MSSC006			
Use Case No.	MSSC006	Use Case Version	2.0
Use Case Name	Send Friend Request		
Author	HuyDN		
Date	12/09/2014	Priority	Normal

Actor:

Member

Summary:

- This use case allows member to send friendship request to an MSSC contact.

Goal:

- Send friendship request.

Triggers:

- Member touches “Gửi Lời Mời Kết Bạn” button on contact detail screen.

Preconditions:

- Member must login into system.

Post Conditions:

- **Success:** Show successful message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member touches “Send friendship request” icon on action bar.	Show dialog message “Bạn có muốn gửi yêu cầu kết bạn” which contains: <ul style="list-style-type: none"> - “Chấp nhận”: button. - “Hủy”: button.
2	Member touches “chấp nhận” button. [Alternative 1]	Show message “Đã gửi lời mời kết bạn”. [Exception1]

Alternative Scenario:

No	Actor Action	System Response
1	Member touches “Hủy” button.	Close dialog message.

Exceptions:

No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: extend for Read Contact (Select send request), and extend for View Contact Detail (Select send friend request).

Business Rules:

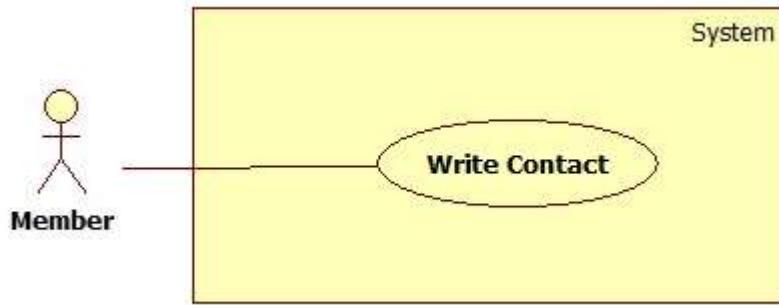
- “Gửi lời mời kết bạn” button is only shown on a contact which doesn’t have friendship or pending friendship request.
- Receiver can approve friendship request (reference Approve Friend Request)
- When member sends friendship request to a contact which has already sent friendship request, they will become friends.

Web

USE CASE - MSSC006					
Use Case No.	MSSC006	Use Case Version	2.0		
Use Case Name	Send Friend Request				
Author	HuyDN				
Date	11/5/2014	Priority	Normal		
Actor:	Member				
Summary:	<ul style="list-style-type: none"> - This use case allows member to send friendship request to an MSSC contact. 				
Goal:	<ul style="list-style-type: none"> - Send friendship request. 				
Triggers:	<ul style="list-style-type: none"> - Member selects contact and clicks “Kết Bạn” button. 				
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. 				
Post Conditions:	<ul style="list-style-type: none"> - Success: Send friend request and show success message. - Fail: Show error message. 				
Main Success Scenario:					
Step	Actor Action	System esponse			
1	Member clicks “Kết Bạn” button.	Show dialog message “Bạn đã gửi yêu cầu kết bạn” “Kết bạn” is replaced by “Hủy lời mời” button. [Exception 1]			
Alternative Scenario: N/A					
Exceptions:					
No	Actor Act on	System Response			
1	Time out when connect to server.	Show message “Lỗi kết nối”.			
Relationships: extend for Read Contact (Select send request), and extend for View Contact Detail (Select send friend request).					
Business Rules:					
<ul style="list-style-type: none"> - Member can only send friendship request when the contact doesn't have any friendship with member or pending friendship request. - Receiver can approve friendship request (reference Approve Friend Request) - When member sends friendship request to a contact which has already sent a friendship request to member, they will become friends. 					

2.3.1.7 <Member> Write Contact

Use Case Diagram



**Figure 10: <Member>Write Contact
Use Case Specification**

USE CASE - MSSC007

Use Case No.	MSSC007	Use Case Version	2.0
Use Case Name	Write Contact		
Author	HuyDN		
Date	11/09/2014	Priority	High

Actor:

- Member.

Summary:

- This use case allows member to write their profile's information to NFC card.

Goal:

- Write member's profile to NFC card.

Triggers:

- Member touches “Viết danh thiếp” menu item.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** Contact information is written to NFC card and show successful message
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member touches “Viết danh thiếp” menu item.	<p>“Viết danh thiếp” screen shows the following information:</p> <ul style="list-style-type: none"> - “Họ và Tên”: label. - “Số điện thoại”: label. - “Chọn tất cả”: checkbox. - “Công ty”: checkbox. - “Địa chỉ”: checkbox. - “Nghề nghiệp”: checkbox. - “Hộp thư”: checkbox.

		<ul style="list-style-type: none"> - “Dung lượng dữ liệu”: label. - “Dung lượng thẻ”: label. - “Viết danh thiếp”: button.
2	Member touches “Viết danh thiếp” button.	<p>Profile information is written to NFC card. Show successful message “Ghi thành công”.</p>

Alternative Scenario: N/A

Exceptions:

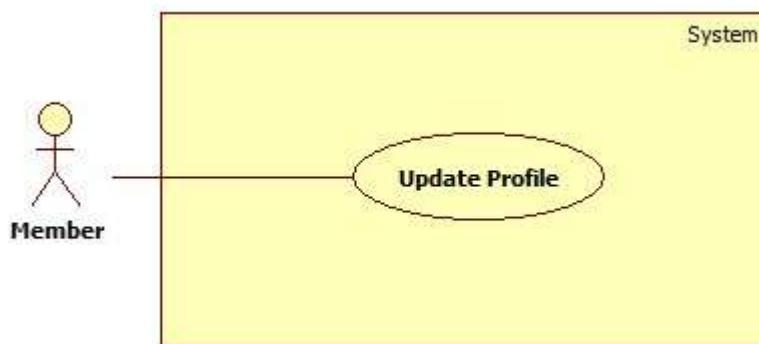
No	Actor Act on	System Response
1	NFC card is out of range	Show message “Không tìm thấy thẻ”.

Relationships: N/A

Business Rules:

- Member can only write their information contact.
- Full name and phone number is required, others are optional.
- “Dung lượng dữ liệu” shows data size which is written to NFC card. It changes when member checks or unchecks checkbox.
- “Dung lượng thẻ” shows capacity of NFC card. It shows when member puts NFC card near cellphone (Topaz NFC: 462 Bytes, NTAG203/213 NFC: 144 Bytes).
- The data which will be written to NFC card must have smaller size than card data storage size.

2.3.1.8 <Member> Update Profile Use Case Diagram



**Figure 11: <Member>Update Profile
Use Case Specification**

Android

USE CASE – MSSC008			
Use Case No.	MSSC008	Use Case Version	2.0
Use Case Name	Update Profile		
Author	HuyDN		
Date	12/09/2014	Priority	Normal

Actor:

- Member

Summary:

- This use case allows member to update personal profile on android.

Goal:

- Update member's profile.

Triggers:

- Member touches “Viết Danh Thiếp” menu item.
- Member touches “edit profile” button on action bar.

Preconditions:

- Member must login into the system in online mode.

Post Conditions:

- **Success:** Show successful message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member touches “edit profile”button on action bar	“update profile” screen contains the following : <ul style="list-style-type: none"> - “Tên liên lạc”: textbox, required, max length: 50. - “Công ty”: textbox, max length: 30. - “Địa chỉ”: textbox, max length: 30. - “Nghề nghiệp”: textbox, max length: 30. - “Hộp thư”: textbox, required, max length: 50. - “Lưu”: button. - “Thoát”: button.
2	Member touches “Lưu” button. [Alternative 1] [Alternative 2]	Show dialog message “Liên lạc sẽ được cập nhật” which contains : <ul style="list-style-type: none"> - “Chấp nhận”: button. - “Hủy”: button.
3	Member touches “Chấp nhận” button. [Alternative 3]	Show message “Liên lạc đã được cập nhật thành công”. [Exception 1] .

Alternative Scenario:

No	Actor Action	System Response
1	Member touches “Lưu” button without changing any information.	Show message “Không có sự khác biệt về thông tin”.
2	Member touches “Lưu” button but “Họ và Tên” textbox is empty.	Show message “Cần nhập thông tin về họ

		và tên”.
3	Member touches “Hủy” button.	Close dialog message.

Exceptions:

No	Actor Action	System Response
1	Member touches “Chấp nhận” button many times, nothing happen.	Show message “Lỗi kết nối”.

Relationships: N/A

Business Rules:

- When member updates profile information. Contacts that have friendship with member will automatically update information on website or show update image on mobile.
- Member can update new information or hold old information for contact (reference Update Friend Contact).

Web

USE CASE – MSSC008			
Use Case No.	MSSC008	Use Case Version	2.0
Use Case Name	Update Profile		
Author	HuyDN		
Date	12/09/2014	Priority	Normal

Actor:

- Member

Summary:

- This use case allows member to update personal profile on website.

Goal:

- Update member's profile.

Triggers:

In dashboard menu:

- Member clicks “Cập nhật liên lạc” menu item.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** Show success message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member clicks “cập nhật liên lạc” on dashboard menu.	<p>Navigate to “Cập nhật liên lạc” page which contains the following :</p> <ul style="list-style-type: none"> - “Họ tên”: textbox, required, max length: 50. - “Hình đại diện”: file picker, image

		<p>format.</p> <ul style="list-style-type: none"> - “Giới tính”: radio button. - “Ngày sinh”: datetime picker. - “Email”: textbox, required, max length: 50. - “Nghề nghiệp”: textbox, max length: 30. - “Chức vụ”: textbox, max length: 30. - “Công ty”: textbox, max length: 30. - “Địa chỉ”: textbox, max length: 80. - “Thông tin khác”: textbox, max length: 200. - “Xóa”: button. - “Cập nhật”: button.
2	Member clicks “Cập nhật” button. [Alternative 1]	Show toast message “Liên lạc đã được cập nhật thành công”.

Alternative Scenario:

No	Actor Action	System Response
1	Member clicks “Xóa” button	Clear all data.

Exceptions:

No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: N/A

Business Rules:

- When member updates profile information. Contacts that have friendship with member will automatically update information on website or show update image on mobile.
- Member can update new information or hold old information for contact (reference Update Friend Contact).

2.3.1.9 <Member> View List Friend Request Use Case Diagram

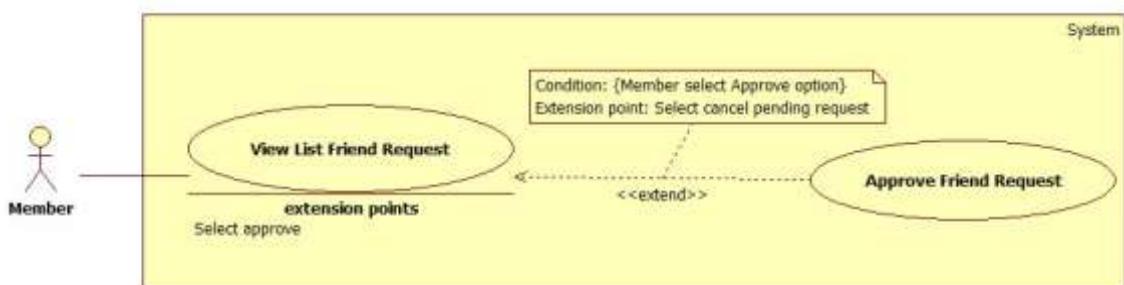


Figure 12: <Member> View List Friend Request
Use Case Specification

Android

USE CASE – MSSC009					
Use Case No.	MSSC009	Use Case Version	2.0		
Use Case Name	View List Friend Request				
Author	HuyDN				
Date	12/09/2014	Priority	Normal		
Actor:	<ul style="list-style-type: none"> - Member. 				
Summary:	<ul style="list-style-type: none"> - This use case allows member to view the list of pending friendship request. 				
Goal:	<ul style="list-style-type: none"> - View list of friendship request. 				
Triggers:	<ul style="list-style-type: none"> - Member touches “Yêu cầu kết bạn” menu item. 				
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system in online mode. 				
Post Conditions:	<ul style="list-style-type: none"> - Success: Show list of pending friendship request. - Fail: Show error message. 				
Main Success Scenario:					
Step	Actor Action	System Response			
1	Member touches “Yêu cầu kết bạn” menu item.	Go to “Yêu cầu kết bạn” screen which contains: <ul style="list-style-type: none"> - List of pending request, each item includes: <ul style="list-style-type: none"> + “Họ và Tên”: label. + “Số điện thoại”: label. + “Chấp nhận”: button. + “Lúc khác”: button. 			
Alternative Scenario:	N/A				
Exceptions:					
No	Actor Action	System Response			
1	Time out when connect to server.	Show message “Lỗi kết nối”.			
Relationships:	extended by Approve Friend Request (Select approve).				
Business Rules:	<ul style="list-style-type: none"> - There are two type of friendship request. Send request by using NFC card (reference Read Contact, Send Friend Request) and by suggestion from system. 				

Web

USE CASE – MSSC009			
Use Case No.	MSSC009	Use Case Version	2.0

Use Case Name	View List Friend Request		
Author	HuyDN		
Date	12/09/2014	Priority	Normal

Actor:

- Member.

Summary:

- This use case allows member to view the list of pending friendship request.

Goal:

- View list of friendship request.

Triggers:

- Member clicks “Yêu cầu kết bạn” on dashboard menu.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** Show list of pending friendship request.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member clicks “Yêu cầu kết bạn” on dashboard menu.	Show list of pending friendship request on “Yêu cầu kết bạn” page which contains: <ul style="list-style-type: none"> - “Họ và Tên”: label. - “Trạng thái gửi”: label. - “Số bạn chung”: label. - “Chấp nhận”: button. - “Lúc khác”: button.

Alternative Scenario: N/A

Exceptions:

Step	Actor Action	System Response
1	Member clicks “Yêu cầu kết bạn” on dashboard menu.	Show list of pending friendship request on “Lời mời kết bạn” page which contains: <ul style="list-style-type: none"> - “Họ và Tên”: label. - “Trạng thái gửi”: label. - “Số bạn chung”: label. - “Chấp nhận”: button. - “Lúc khác”: button.

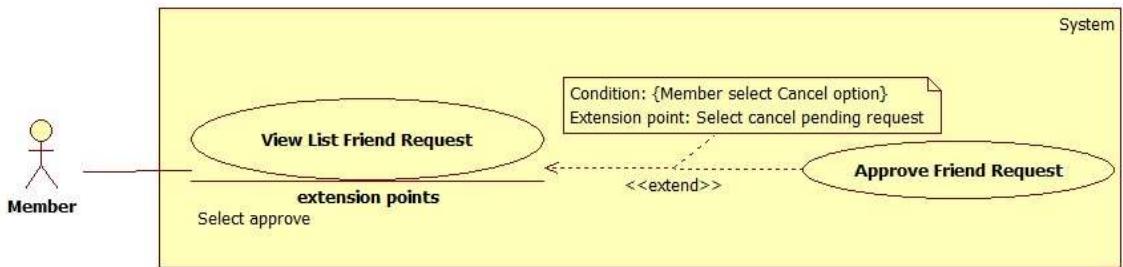
Relationships: extended by Approve Friend Request (Select approve).

Business Rules:

- There are two type of friendship request. Send request by using NFC card (reference Read Contact, Send Friend Request) and by suggestion from system.

2.3.1.10 <Member> Approve Friend Request

Use Case Diagram



**Figure 13: <Member>Approve Friend Request
Use Case Specification**

Android

USE CASE – MSSC010												
Use Case No.	MSSC010	Use Case Version	2.0									
Use Case Name	Approve Friend Request											
Author	HuyDN											
Date	12/09/2014	Priority	Normal									
Actor:	<ul style="list-style-type: none"> - Member. 											
Summary:	<ul style="list-style-type: none"> - This use case allows member to approve pending friendship request. 											
Goal:	<ul style="list-style-type: none"> - Approve pending friendship request. 											
Triggers:	<ul style="list-style-type: none"> - Member touches “Lời mời kết bạn” menu item. 											
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. 											
Post Conditions:	<ul style="list-style-type: none"> - Success: Show successful message. - Fail: Show error message. 											
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Member touches “Lời mời kết bạn” menu item.</td><td> Go to “Lời mời kết bạn” screen which contains: <ul style="list-style-type: none"> - List of pending request, each item includes: <ul style="list-style-type: none"> + “Họ và Tên”: label. + “Số điện thoại”: label. + “Chấp nhận”: button. + “Lúc khác”: button. </td></tr> <tr> <td>2</td><td>Member touches “Chấp nhận” button. [Alternative 1]</td><td>Show message “Đã trở thành bạn bè”. [Exception 1]</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Member touches “Lời mời kết bạn” menu item.	Go to “Lời mời kết bạn” screen which contains: <ul style="list-style-type: none"> - List of pending request, each item includes: <ul style="list-style-type: none"> + “Họ và Tên”: label. + “Số điện thoại”: label. + “Chấp nhận”: button. + “Lúc khác”: button. 	2	Member touches “Chấp nhận” button. [Alternative 1]	Show message “Đã trở thành bạn bè”. [Exception 1]
Step	Actor Action	System Response										
1	Member touches “Lời mời kết bạn” menu item.	Go to “Lời mời kết bạn” screen which contains: <ul style="list-style-type: none"> - List of pending request, each item includes: <ul style="list-style-type: none"> + “Họ và Tên”: label. + “Số điện thoại”: label. + “Chấp nhận”: button. + “Lúc khác”: button. 										
2	Member touches “Chấp nhận” button. [Alternative 1]	Show message “Đã trở thành bạn bè”. [Exception 1]										
Alternative Scenario:												

No	Actor Action	System Response
1	Member touches “Lúc khác” button.	Show message “Đã hủy lời mời kết bạn”. [Exception 1].

Exceptions:

No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: extend for View List Friend Request (Select approve).

Business Rules:

- When accept a pending friendship request, if member hasn't had this contact yet, it would be added to member's friend list.
- New contact will be added to server database and mobile database.
- If member has already added the contact, system will show “update” button when data is new.

Web

USE CASE – MSSC010			
Use Case No.	MSSC010	Use Case Version	2.0
Use Case Name	Approve Friend Request		
Author	HuyDN		
Date	12/09/2014	Priority	Normal

Actor:

- Member.

Summary:

- This use case allows member to approve pending friendship request.

Goal:

- Approve pending friendship request.

Triggers:

- Member clicks “Lời mời kết bạn” menu item on dashboard menu.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** Show success message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member clicks “Lời mời kết bạn” on dashboard menu.	Show list of pending friendship request on “Lời mời kết bạn” page which contains: <ul style="list-style-type: none"> - “Họ và Tên”: label. - “Trạng thái gửi”: label. - “Số bạn chung”: label. - “Chấp nhận”: button.

		- “Lúc khác”: button.
2	Member selects request and clicks on “Chấp nhận” button. [Alternative 1]	Show message “Đã trở thành bạn bè”.

Alternative Scenario:

No	Actor Action	System Response
1	Member selects request and clicks “Lúc khác” button.	Show message “Đã hủy lời mời kết bạn”. .

Exceptions:

No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: extend for View List Friend Request (Select approve).

Business Rules:

- When accept a pending friendship request, if member hasn't had this contact yet, it would be added to member's friend list.
- New Contact will add to server database
- If member already has the contact, “Cập nhật liên lạc” button will be shown.

2.3.1.11 <Member> Update Alias Use Case Diagram

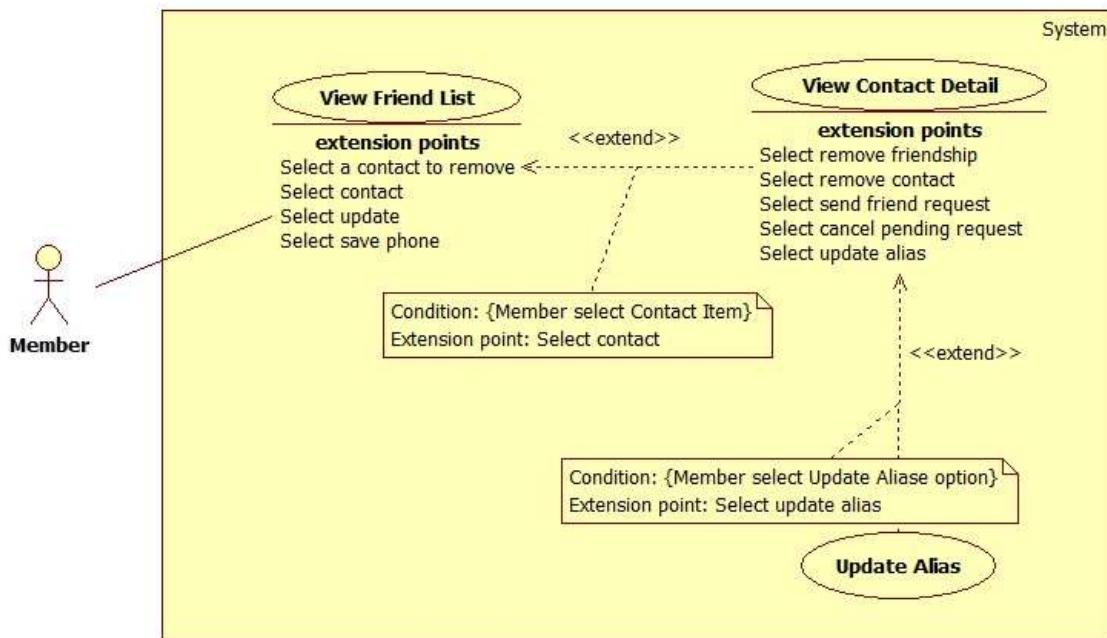


Figure 14: <Member> Update Alias
Use Case Specification

USE CASE - MSSC011			
Use Case No.	MSSC011	Use Case Version	2.0

Use Case Name	Update Alias		
Author	HuyDN		
Date	12/09/2014	Priority	Normal

Actor:

- Member.

Summary:

- This use case allows member to update alias of an MSSC contact.

Goal:

- Update alias of an MSSC contact.

Triggers:

- Member selects contact to view detail information.
- Member touches “Cập nhật” button.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** Show success message.
- **Fail:** show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member touches “Cập nhật” button.	Go to “edit alias” screen which contains the following information: <ul style="list-style-type: none"> - “Tên liên lạc”: textbox, required, max length: 30. - “Số điện thoại”: label. - “Họ và Tên”: label. - “Công ty”: label. - “Địa chỉ”: label. - “Nghề nghiệp”: label. - “Hộp thư”: label. - “Lưu”: button. - “Thoát”: button.
2	Member inputs new information for “Tên liên lạc” and touches “Lưu” button. [Alternative 1]	Show message “Đã cập nhật thành công”. [Exception 1,2]

Alternative Scenario:

No	Actor Action	System Response
1	Member touches “Thoát” button	Go back to “Contact detail screen”.

Exceptions:

No	Actor Action	System Response
1	Member inputs same information for “Tên liên lạc” and touches “Lưu” button.	Show message “Không có thay đổi nào”.

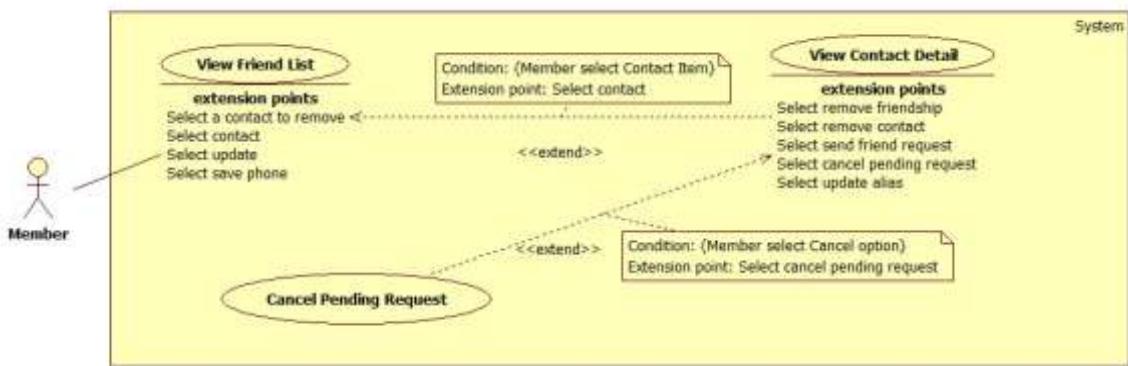
2	"Tên liên lạc" is empty and member touches "Lưu" button.	Show message "Nhập tên liên lạc".
---	--	-----------------------------------

Relationships: extend for View Contact Detail (Select update alias).

Business Rules:

- Only MSSC contact can update alias.
- When member updates alias in online mode, it will update information on server database and mobile database.
- When member updates alias in offline mode, it will update information on mobile database. When having internet connection, "Sync" method call and it will update alias on server database.

2.3.1.12 <Member> Cancel Pending Request Use Case Diagram



**Figure 15: <Member> Cancel Pending Request
Use Case Specification**

Android

USE CASE – MSSC012			
Use Case No.	MSSC012	Use Case Version	2.0
Use Case Name	Cancel Pending Request		
Author	HuyDN	Priority	Normal
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:	<ul style="list-style-type: none"> - This use case allows member to cancel a sending friendship request to other. 		
Goal:	<ul style="list-style-type: none"> - Cancel a sending friendship request to other. 		
Triggers:	<ul style="list-style-type: none"> - Member selects contact and touches "Hủy lời mời" button. 		
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. 		
Post Conditions:			

- **Success:** Cancel sending friendship request and show successfull message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member selects contact and touches “Hủy lời mời” button.	Show message “Bạn có muốn hủy lời mời kết bạn” which contains: <ul style="list-style-type: none"> - “Chấp nhận”: button. - “Hủy”: button.
2	Member touches “Chấp nhận” button. [Alternative 1]	Remove friendship and show success message. [Exception1]

Alternative Scenario:

No	Actor Action	System Response
1	Member touches “Hủy” button.	Close dialog message.

Exceptions:

No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: extend for View Contact Detail (Select cancel pending request).

Business Rules:

- “Hủy lời mời kết bạn” button is only shown on a contact which is having a sending request friendship.

Web

USE CASE – MSSC012			
Use Case No.	MSSC012	Use Case Version	2.0
Use Case Name	Cancel Pending Request		
Author	HuyDN		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:	<ul style="list-style-type: none"> - This use case allows member to cancel a sending request friendship request to other. 		
Goal:	<ul style="list-style-type: none"> - Cancel a sending friendship request to other. 		
Triggers:	<ul style="list-style-type: none"> - Member selects a contact and clicks “Hủy lời mời” button. 		
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. 		

Post Conditions:

- **Success:** Cancel sending request and show successful message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member selects contact and clicks “Hủy lời mời” button.	Show message “Đã hủy lời mời kết bạn thành công”. [Exception 1]

Alternative Scenario: N/A

Exceptions:

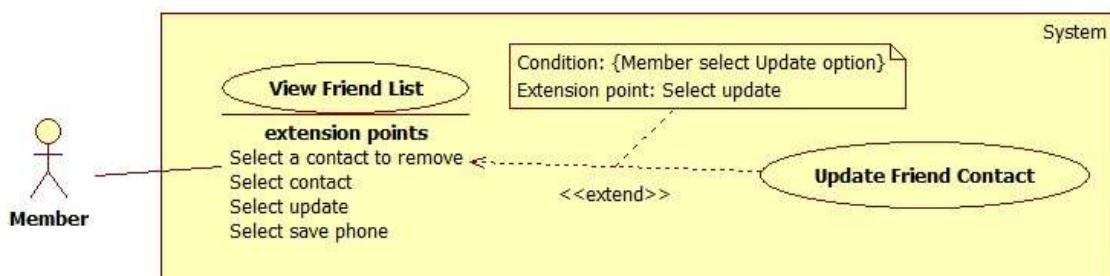
No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: extend for View Contact Detail (Select cancel pending request).

Business Rules:

- Contacts which are having sending friendship request from member, have ““Hủy lời mời”” button.

2.3.1.13 <Member> Update Friend Contact Use Case Diagram



**Figure 16: <Member> Update Friend Contact
Use Case Specification**

USE CASE – MSSC013			
Use Case No.	MSSC013	Use Case Version	2.0
Use Case Name	Update Friend Contact		
Author	HuyDN		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:	<ul style="list-style-type: none"> - This use case allows member to update a friendship MSSC contact when the owner of the contact update information. 		
Goal:	<ul style="list-style-type: none"> - Update new information for a friendship contact. 		

Triggers:

- Member touches “Cập nhật” button.
- Member checks the checkbox of contact to update.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** Show success message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Members touches “Cập nhật” button.	<p>Go to “Updatable contact” screen include a list of updatable contact which each item contains:</p> <ul style="list-style-type: none"> - “Chọn”: checkbox. - “Họ và Tên”: label. - “Số điện thoại”: label. <p>On action bar:</p> <ul style="list-style-type: none"> - “Cập nhật”: button. - “Thoát”: button.
2	Member checks the checkbox to select contact to update. Touches on “Cập nhật” button. [Alternative 1]	Show message “Cập nhật những liên lạc đã chọn” which contains: <ul style="list-style-type: none"> - “Chấp nhận”: button. - “Hủy”: button.
3	Touches on “Chấp nhận” button. [Alternative 2]	Show message “Đã cập nhật thành công”. [Exception1]

Alternative Scenario:

No	Actor Action	System Response
1	Member touches “Thoát” button.	Go back to “Tất cả danh bạ” screen.
2	Member touches “Hủy” button.	Close dialog message.

Exceptions:

No	Actor Action	System Response
1	Member touches “Chấp nhận” button many times, nothing happen.	Show message “Lỗi kết nối”.

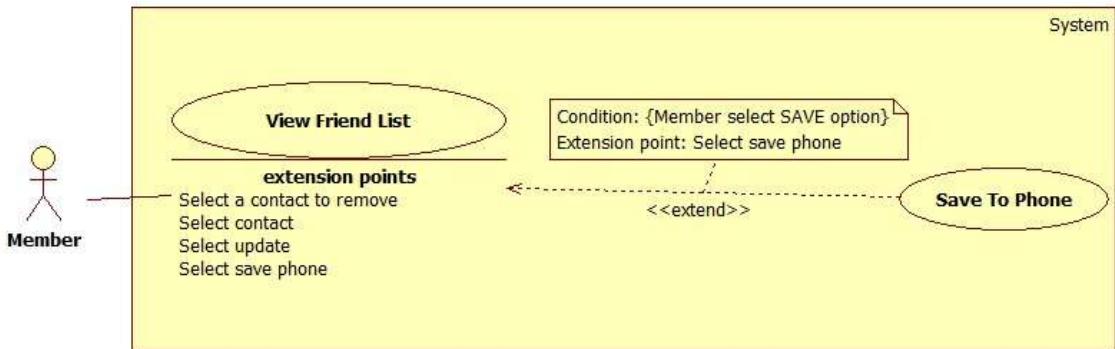
Relationships: extend for View Friend List (Select update).

Business Rules:

- Member only can update information of friendship contacts.

2.3.1.14 <Member> Save To Phone

Use Case Diagram



**Figure 17: <Member> Save To Phone
Use Case Specification**

USE CASE - MSSC014

Use Case No.	MSSC014	Use Case Version	2.0
Use Case Name	Save To Phone		
Author	HuyDN		
Date	12/09/2014	Priority	Normal

Actor:

- Member.

Summary:

- This use case allows member to copy an MSSC contact to cellphone.

Goal:

- Copy an MSSC contact to cellphone.

Triggers:

- Member touches “Sao chép liên lạc” button.
- Member checks the checkbox of contact to copy.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** Show success message.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Members touches “Sao chép liên lạc” button.	<p>Go to “Save to phone” screen include a list of copiable contact which each item contains:</p> <ul style="list-style-type: none"> - “Chọn”: checkbox. - “Họ và Tên”: label. - “Số điện thoại”: label. <p>On action bar:</p> <ul style="list-style-type: none"> - “Sao chép”: button. - “Thoát”: button.
2	Member checks the checkbox	

	to select contact to update. Touches on “Sao chép” button. [Alternative 1]	Show message “Sao chép những liên lạc đã chọn” which contains: <ul style="list-style-type: none"> - “Chấp nhận”: button. - “Hủy”: button.
3	Touches on “Chấp nhận” button. [Alternative 2]	Show message “Đã sao chép thành công”. [Exception1]

Alternative Scenario:

No	Actor Action	System Response
1	Member touches “Thoát” button.	Go back to “Tất cả danh bạ” screen.
2	Member touches “Hủy” button.	Close dialog message.

Exceptions:

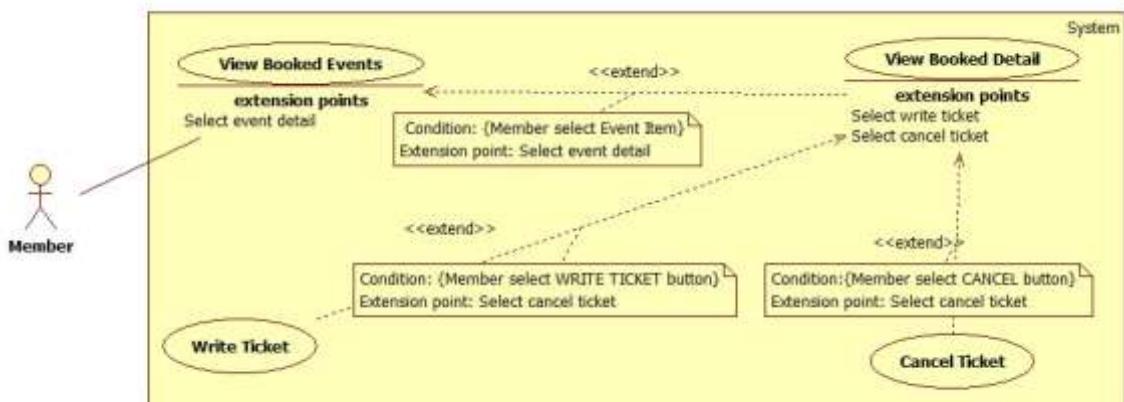
No	Actor Action	System Response
1	Member touches “Chấp nhận” button many times, nothing happen.	Show message “Lỗi kết nối”.

Relationships: extend for View Friend List (Select save phone).

Business Rules:

- Member can only copy MSSC contacts that aren't exist in cellphone.

2.3.1.15 <Member> View Booked Events Use Case Diagram



**Figure 18: <Member> View Booked Events
Use Case Specification**

Android

USE CASE - MSSC015			
Use Case No.	MSSC015	Use Case Version	2.0
Use Case Name	View Booked Events		
Author	TanNH		
Date	12/09/2014	Priority	Normal

Actor:

- Member.

Summary:

- This usecase allows member to view the list of booked events.

Goal:

- View list of booked events.

Triggers:

- Member login into the system.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** List will be shown.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member logs in into the system.	<p>Go to “Sự kiện của tôi” screen includes list of booked events which each item contains:</p> <ul style="list-style-type: none"> - “Tên sự kiện”: label. - “Ngày diễn ra”: label. - “Số lượng vé”: label. - “Ghi vé”: button. - “Thông tin sự kiện”: button.

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	No internet connection.	Error Show messagen: “Không có kết nối”.

Relationships: extended by View Booked Detail (Select event detail).

Business Rules:

- The list of booked events will be sorted by ascending order of event date.
- Booking for ended events can't be written ticket.
- List will be refreshed when member holds and pulls the list down or tabs on “Bấm để tải lại” link when it shown.

2.3.1.16 <Member> View Booked Detail

Use Case Diagram

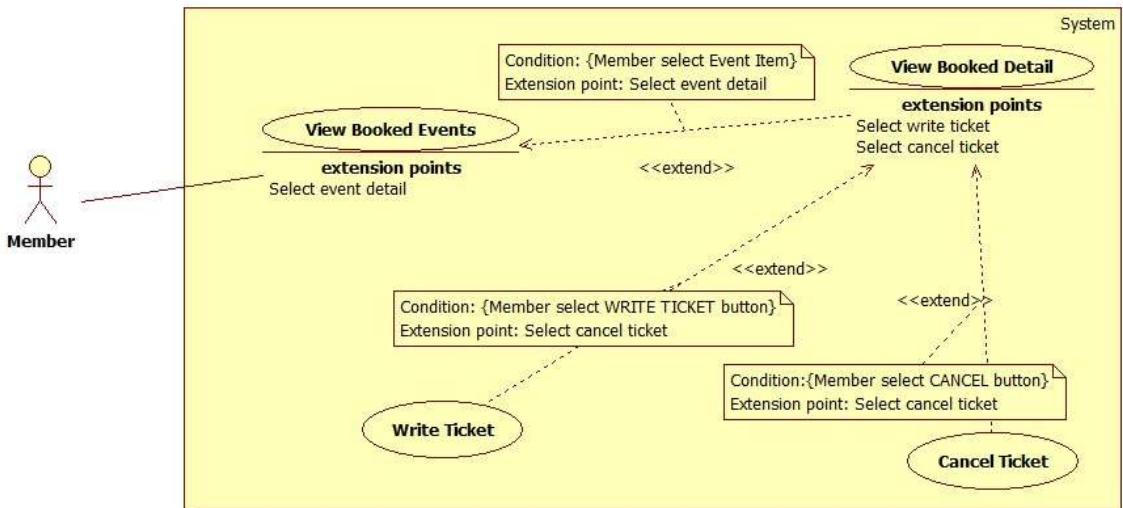


Figure 19: <Member> View Booked Detail

Use Case Specification

USE CASE - MSSC016

Use Case No.	MSSC016	Use Case Version	2.0
Use Case Name	View Booked Detail		
Author	TanNH		
Date	12/09/2014	Priority	Normal

Actor:

- Member

Summary:

- This use case allows member to view detail of booked event.

Goal:

- View detail of booked event.

Triggers:

Open left navigation bar menu:

- Member logs in into the system
- Member selects a booking and tabs on “Thông tin sự kiện” button.

Preconditions:

- Member must login the system.

Post Conditions:

- **Success:** Show detail of booked event.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Tab on “Thông tin sự kiện” button	Navigate to “Thông tin sự kiện” screen which contains 2 tabs: - “Mô tả”: tab button. Which contains: + Event image: image. + Event description: text.

		<ul style="list-style-type: none"> - “Chi tiết”: tab button. Which contains: <ul style="list-style-type: none"> + Event Name: label. + Event date: label. + Kind: label. + Sector: label. + Ticket range: label. + Quantity: label. + “Ghi vé”: button.
--	--	--

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	No internet connection	Error Show message: “Không có kết nối”.

Relationships: extend for View Booked Events (Select event detail), extended by Write Ticket (Select write ticket), and extended by Cancel Ticket (Select cancel ticket).

Business Rules:

- The list of booked events will be sorted by ascending order of event date.
- Booking for ended events can't be written ticket.
- List will be refreshed when member holds and pulls the list down or tabs on “Bấm để tải lại” link when it shown.

2.3.1.17 <Member> Write Ticket Use Case Diagram

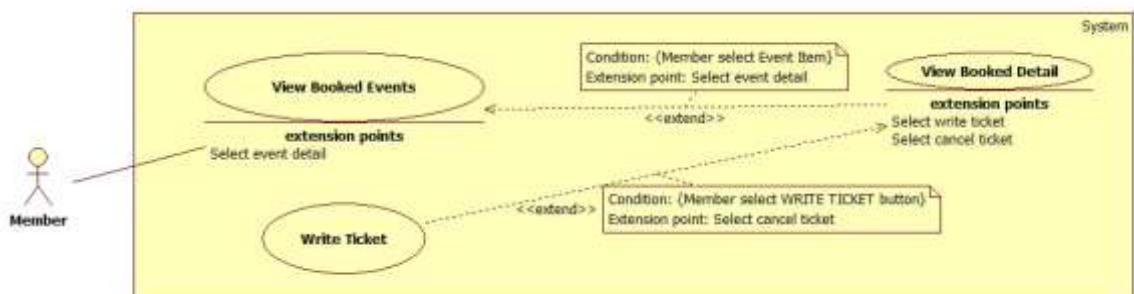


Figure 20: <Member>Write Ticket
Use Case Specification

USE CASE - MSSC017					
Use Case No.	MSSC017	Use Case Version	2.0		
Use Case Name	Write Ticket				
Author	TanNH	Priority	High		
Date	11/09/2014				
Actor:					
- Member.					
Summary:					
- This use case allows members to write ticket data in M-Services Card.					

Goal:

- Write ticket info into card.

Triggers:

- Tab on menu item named “Sự kiện của bạn”.
- Select an event then tab on “Ghi vé” button on the screen.

Preconditions:

- Member must log in to the system.

Post Conditions:

- **Success:** The ticket data is written to the card.
- **Fail:** show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member selects an event.	<p>Go to Ticket detail Screen which contains :</p> <ul style="list-style-type: none"> - Event name: label. - Time: label. - Description: label. - Ticket type: label. - Number of Participant: label. - “Ghi vé”: Button. - List of Written ticket which each item contains: <ul style="list-style-type: none"> +Quantity of ticket. +”Xóa”: button.
2	Member puts NFC Card under the cellphone.	<p>A popup will be shown which contains: “bạn có muốn ghi tách vé không?”: text label</p> <p>Checkbox with text “có”</p> <p>Disabled Dropdown list.</p> <ul style="list-style-type: none"> - “Ghi vé”: button. - “Hủy”: button. <p>[Alternative 1, 2]</p> <p>[Exception 1]</p>
3	Member tabs on “Ghi vé” button.	<p>Ticket will be written to NFC card.</p> <p>[Exception 2]</p>

Alternative Scenario:

No	Actor Action	System Response
1	Member checks the checkbox with text “có”.	<p>Dropdown list will be enabled with items are from 1 to writable quantity of current booking.</p>

	Member selects the quantity and tabs on “Ghi vé” button.	Ticket will be written to NFC card with chosen quantity.
2	Member doesn't check the checkbox and tab on “Ghi vé” button.	Ticket will be written to NFC card with booking's quantity. [Exception 2]

Exceptions:

No	Actor Action	System Response
1	Written tickets are enough or total quatity is equal booking's quantity	Show message “Số lượng vé đã đủ! Không thể ghi mới”.
2	NFC card not detected	Show message “KHÔNG TÌM THẤY TAG”.

Relationships: extend for View Booked Detail (Select write ticket).

Business Rules:

- Happened events cannot be written ticket again.
- Definition of ticket data: <Book id>-<Ticket id>.
- If member doesn't check the checkbox to separate ticket, full ticket will be written and member cannot write more ticket with current booking detail unless the written ticket is deleted.
- If a written ticket is checked in, it can't be deleted.
- When member writes ticket, he/she can write a ticket which have quantity equal 1 at least and equal booking quantity at most.
- If member wrote a ticket which have quantity higher than 1 but lower than booking's quantity, member just can write ticket that have quantity which equal remain quantity of booking's quantity.

2.3.1.18 <Member> Cancel Ticket Use Case Diagram

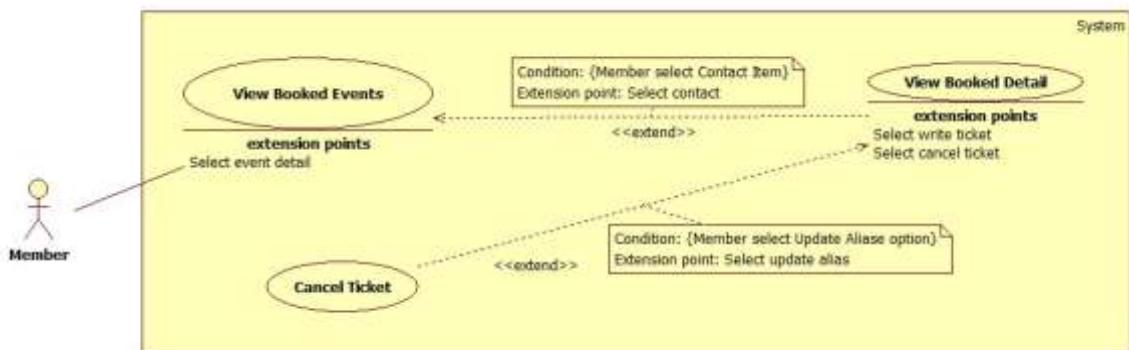


Figure 21: <Member> Cancel Ticket

Use Case Specification

USE CASE - MSSC018			
Use Case No.	MSSC018	Use Case Version	2.0
Use Case Name	Cancel Ticket		
Author	TanNH		
Date	12/09/2014	Priority	High

Actor:

- Member.

Summary:

- This use case allows member to delete written ticket.

Goal:

- Written ticket info deleted.

Triggers:

- Member selects an event then touches on “Ghi vé” button.

Preconditions:

- Member must log in into the system.

Post Conditions:

- **Success:** The ticket data is written to the card and show successful message.
- **Fail:** show error message.

Main Success Scenario:

Step	Actor Action	System Response
2	Member selects an event and touches on “Ghi vé” button.	<p>“Ghi vé” Screen contains :</p> <ul style="list-style-type: none"> - Event date: label. - Time: label. - Address: label. - Ticket range: label - Quantity: label - “Ghi vé” : Button - List of Written ticket which each item contain: <ul style="list-style-type: none"> +Quantity of ticket. +”Xóa”: button.
3	On list of written ticket, Member selects ticket and touches on “Xóa” button. [Alternative 1]	<p>Ticket selected will be deleted from list and from database.</p> <p>Show dialog message: “Vé đã được xóa”.</p>

Alternative Scenario:

No	Actor Action	System Response
1	Member deletes written ticket when it just has been checked in to the event	Show dialog message: “Vé đã được soát, không thể xóa”.

Exceptions:

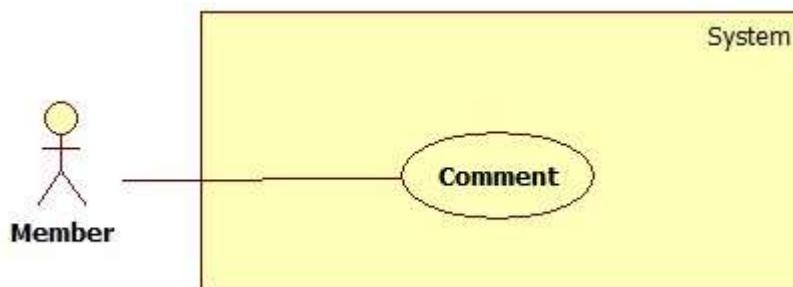
No	Actor Action	System Response
1	Time out when connect to server.	Show message “Lỗi kết nối”.

Relationships: extend for View Booked Detail (Select cancel).

Business Rules:

- Happened events cannot be written ticket again.
- Member can touch on a ticket to view ticket state.
- Ticket will be deleted from database.
- List of written ticket contains the number of item equal booking's quantity.

2.3.1.19 <Member> Comment Use Case Diagram



**Figure 22: <Member>Comment
Use Case Specification**

USE CASE - MSSC019

Use Case No.	MSSC019	Use Case Version	2.0
Use Case Name	Comment		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal

Actor:

- Member.

Summary:

- This use case allows member to post comment for an event in the system.

Goal:

- New comment will be added to the system.

Triggers:

- In event detail screen:
 - + Select “BÌNH LUẬN” tab.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** New comment will be added to the database.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	In event detail screen, member clicks “BÌNH LUẬN” tab.	<p>“BÌNH LUẬN” tab will be displayed which contains:</p> <ul style="list-style-type: none"> - List of comments. - “Bình luận”: textbox, min length: 25, max length: 200, required. - “Gửi bình luận”: button. <p>List of comments of event will be displayed in grid format sorted by post time in descending order:</p> <ul style="list-style-type: none"> - Avatar: image - Member username: label. - Post time: label. - Comment content: label. <p>If the comment has reply, reply will be displayed in nested format of the comment:</p> <ul style="list-style-type: none"> - Avatar: image. - Member username: label. - Post time: label. - Comment content: label. <p>In case the event has no comment yet, a friendly message “Chưa có bình luận” will be displayed.</p>
2	Member inputs comment content and clicks “Gửi bình luận” button.	<p>Insert member's comment to database and list of comment will be updated with new comment. [Exception 1,2]</p>

Alternative Scenario: N/A

Exceptions:

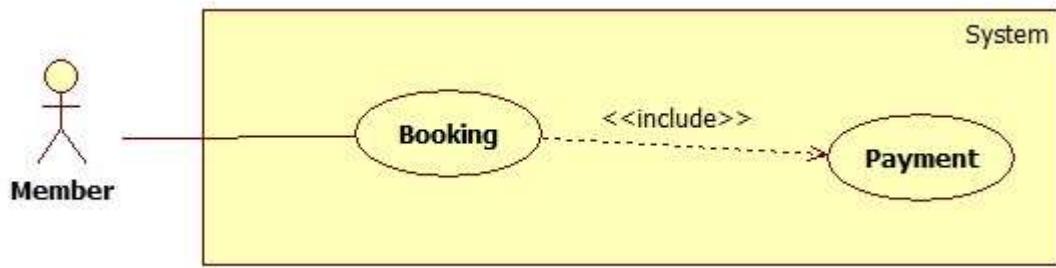
No	Actor Action	System Response
1	Length of “Bình luận” is under 25 characters.	Show error message: “Tối thiểu 25 ký tự”.
2	Length of “Bình luận” is over 200 characters.	Show error message: “Tối đa 200 ký tự”.

Relationships: N/A

Business Rules:

- Only 10 newest comments per event will be displayed.

2.3.1.20 <Member> Booking Use Case Diagram



**Figure 23: <Member>Booking
Use Case Specification**

USE CASE – MSSC020			
Use Case No.	MSSC020	Use Case Version	2.0
Use Case Name	Booking		
Author	KhoaTND		
Date	12/09/2014	Priority	High
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:	<ul style="list-style-type: none"> - This use case allows member to book event's ticket. 		
Goal:	<ul style="list-style-type: none"> - New booking will be added to the system. 		
Triggers:	<ul style="list-style-type: none"> - In event detail screen: <ul style="list-style-type: none"> + Select number of ticket. In addition, edit phone number. + Click "Mua vé" button. 		
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. - Event is still available. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: New booking will be added, event ticket quantity will be balanced. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Member selects number of ticket, edits phone number and then clicks "Mua vé" button.	Redirect to PayPal payment website. (Reference Payment UseCase) [Exception 1,2,3,4,5] Insert booking to database and change the quantity of event ticket. In case event ticket quantity is running out, no booking	

		<p>will be added and redirect to apologize page.</p> <p>Redirect to confirm page which contains:</p> <ul style="list-style-type: none"> - "Event name": label. - "Event time": label. - "Event place": label. - "Partner name": label. - "Ticket range": label. - "Quantity": label. - "Price": label. - "Total": label. - "Phone": label. - "Hủy": button. - "Thanh toán": button. <p>- Countdown message: 15 minutes. After 15 minutes, booking state will set to cancel and event ticket quantity will be balanced in database.</p>
2	Member clicks "Thanh toán" button. [Alternative 1]	<p>Booking state will be changed to complete in database. [Exception 6]</p> <p>Redirect to "thank you" page which contains booking information:</p> <ul style="list-style-type: none"> - "Event name": label. - "Event time": label. - "Event place": label. - "Partner name": label. - "Ticket range": label. - "Quantity": label. - "Price": label. - "Total": label. - "Phone": label. - "In hóa đơn": button. - "Về lại trang chủ": button.
3	[Optional] Member clicks "In hóa đơn" button. [Alternative 2]	Generate order history's file to download. .

Alternative Scenario:

No	Actor Action	System Response
1	Member clicks "Hủy" button.	Booking state will set to cancel and event

		ticket quantity will be balanced in database. Redirect to main page.
2	Member clicks “Về lại trang chủ” button.	Redirect to main page.

Exceptions:

No	Actor Action	System Response
1	“Số điện thoại” field is empty.	Show error message: “Bạn phải nhập số điện thoại di động”.
2	Value of “Số lượng” field is greater than 4 or greater than ticket quantity.	Show error message: “Vượt quá số lượng cho phép”.
3	Value of “Số lượng” field is 0.	Show error message: “Số lượng vé muốn mua không thể là 0”.
4	“Số lượng” field is empty.	Show error message: “Phải nhập số lượng vé muốn mua”.
5	“Số điện thoại” field is wrong format.	Show error message: “Định dạng đi động +84XXXXXXXXXX hoặc 0XXXXXXXXX”.
6	Member account balances lower than total amount.	Redirect to PayPal page.

Relationships: Include Payment.

Business Rules:

- When a booking is made, event ticket available quantity will be decreased by the amount of booking.
- When a booking state is changed to cancel, event ticket available quantity will be increased by the amount of booking (reverted).
- When member made a booking, member will have 15 minutes to pay. If he/she doesn't pay after 15 minutes, the booking state is changed to cancel by the system.
- System only allows 4 tickets max per booking and member can't book more than event's available tickets.
- An available event is an event that hasn't happen yet.

2.3.1.21 <Member> Payment Use Case Diagram

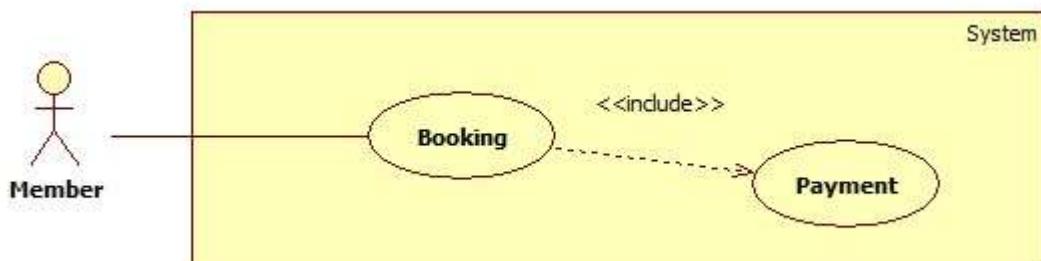


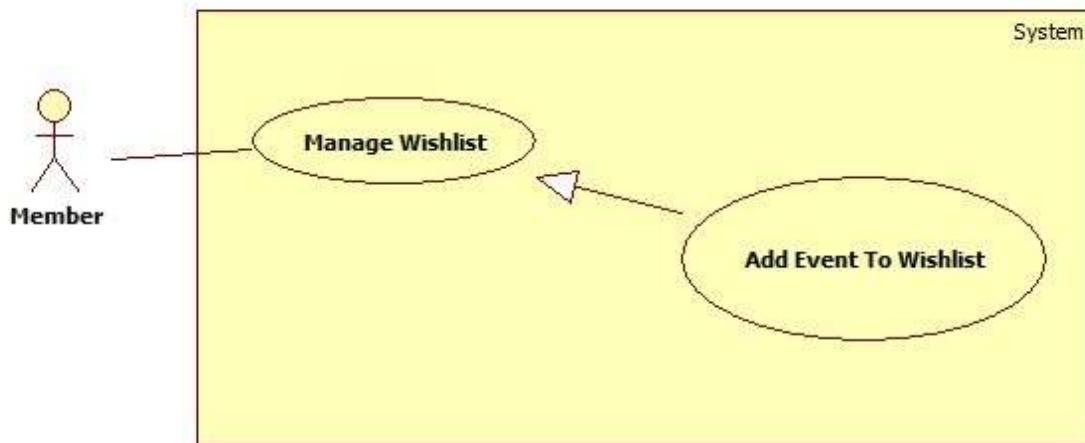
Figure 24: <Member>Payment

Use Case Specification

USE CASE - MSSC021			
Use Case No.	MSSC021	Use Case Version	2.0
Use Case Name	Payment		
Author	KhoaTND		
Date	12/09/2014	Priority	High
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:	<ul style="list-style-type: none"> - This use case allows member to pay for his/her booking. 		
Goal:	<ul style="list-style-type: none"> - Change booking state to paid. 		
Triggers:	<ul style="list-style-type: none"> - In event detail screen: <ul style="list-style-type: none"> + Select number of ticket. In addition, edit phone number. + Click "Mua vé" button. 		
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Redirect to confirm for booking page. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	<p>Member inputs username, password and then clicks "Login" button.</p>	<p>Redirect to PayPal website for payment which contains:</p> <ul style="list-style-type: none"> - Order list. - Login panel. <p>Order list displays information of booking:</p> <ul style="list-style-type: none"> - Event name: label. - Ticket quantity: label. - Subtotal: label. - Total: label. <p>Login panel contains:</p> <ul style="list-style-type: none"> - Username: textbox. - Password: textbox. - Login: button. 	
2	<p>Member reviews billing information and clicks "Continue" button. [Alternative 1]</p>	<p>Redirect to confirm page to continue booking process. [Exception 1]</p>	

Alternative Scenario:								
<table border="1"> <thead> <tr><th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr><td>1</td><td>Member clicks "Cancel" link.</td><td>Redirect to MSSC home page.</td></tr> </tbody> </table>			No	Actor Action	System Response	1	Member clicks "Cancel" link.	Redirect to MSSC home page.
No	Actor Action	System Response						
1	Member clicks "Cancel" link.	Redirect to MSSC home page.						
Exceptions:								
<table border="1"> <thead> <tr><th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr><td>1</td><td>Event is sold out.</td><td>Redirect to out of stock error page.</td></tr> </tbody> </table>			No	Actor Action	System Response	1	Event is sold out.	Redirect to out of stock error page.
No	Actor Action	System Response						
1	Event is sold out.	Redirect to out of stock error page.						
Relationships: Included by Booking. Business Rules: <ul style="list-style-type: none"> - PayPal system will handle the process of login and money transfer. - MSSC system is only responsible for billing information and currency exchange rate. - This payment uses express checkout method from PayPal. 								

2.3.1.22 <Member> Add Event to Wish List Use Case Diagram



**Figure 25: <Member>Add Event To Wish List
Use Case Specification**

USE CASE - MSSC022			
Use Case No.	MSSC022	Use Case Version	2.0
Use Case Name	Add Event To Wish List		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Member. 		
Summary:	<ul style="list-style-type: none"> - This use case allows member to add an event to his/her wish list. 		

Goal:

- New wish list item will be added to system.

Triggers:

- In event detail screen, member click “Thêm vào danh sách yêu thích”.

Preconditions:

- Member must login into the system.

Post Conditions:

- **Success:** New wish list item will be added to database.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Member clicks “Thêm vào danh sách yêu thích” link.	[Alternative 1] Insert wish list item to database Display a notification message “Đã thêm vào danh sách yêu thích” on the top left of the screen. [Exception 1]

Alternative Scenario:

No	Actor Action	System Response
1	Member has already added the event.	Display an error message “Sự kiện đã tồn tại trong danh sách yêu thích” on the top left of the screen.

Exceptions:

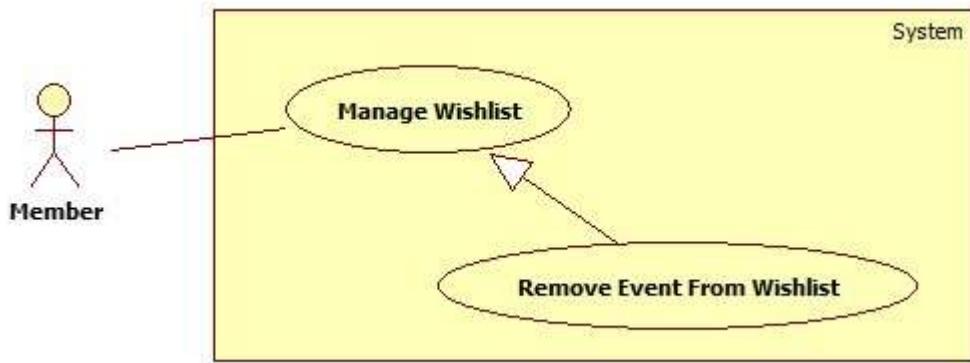
No	Actor Action	System Response
1	Request time out.	Display an error message “Đã có lỗi xảy ra” on the top left of the screen.

Relationships: Specialized for Manage Wish list (Abstract Use Case).

Business Rules:

- Member can only have 1 single wish list but he or she can add as many events as he or she wants.
- An event will stay in the list until member removes it from the list even though it has happen.

2.3.1.23 <Member> Remove Event From Wish List Use Case Diagram



**Figure 26: <Member>Remove Event From Wish List
Use Case Specification**

USE CASE - MSSC023					
Use Case No.	MSSC023	Use Case Version	2.0		
Use Case Name	Remove Event From Wish List				
Author	KhoaTND				
Date	12/09/2014	Priority	Normal		
Actor:	<ul style="list-style-type: none"> - Member. 				
Summary:	<ul style="list-style-type: none"> - This use case allows member to remove an event from his or her wish list. 				
Goal:	<ul style="list-style-type: none"> - Change status of a wish list item to deactivate. 				
Triggers:	<ul style="list-style-type: none"> - In wish list management screen, member selects event and clicks “Xóa khỏi danh sách” button. 				
Preconditions:	<ul style="list-style-type: none"> - Member must login into the system. 				
Post Conditions:	<ul style="list-style-type: none"> - Success: Wish list item will be changed status in database. - Fail: Show error message. 				
Main Success Scenario:					
Step	Actor Action	System Response			
1	Member selects event and clicks “Xóa khỏi danh sách” button.	Remove event information row from the list. Change status of wish list item to deactivate.			
Alternative Scenario: N/A					
Exceptions:					
Step	Actor Action	System Response			
1	Request time out.	Display an error message “Đã có lỗi xảy			

ra" on the top left of the screen.	

Relationships: Specialized for Manage Wish list (Abstract Use Case).

Business Rules:

- Removed item can be added again as a separated item from the old one.

2.3.2 <Partner>Overview Use Case

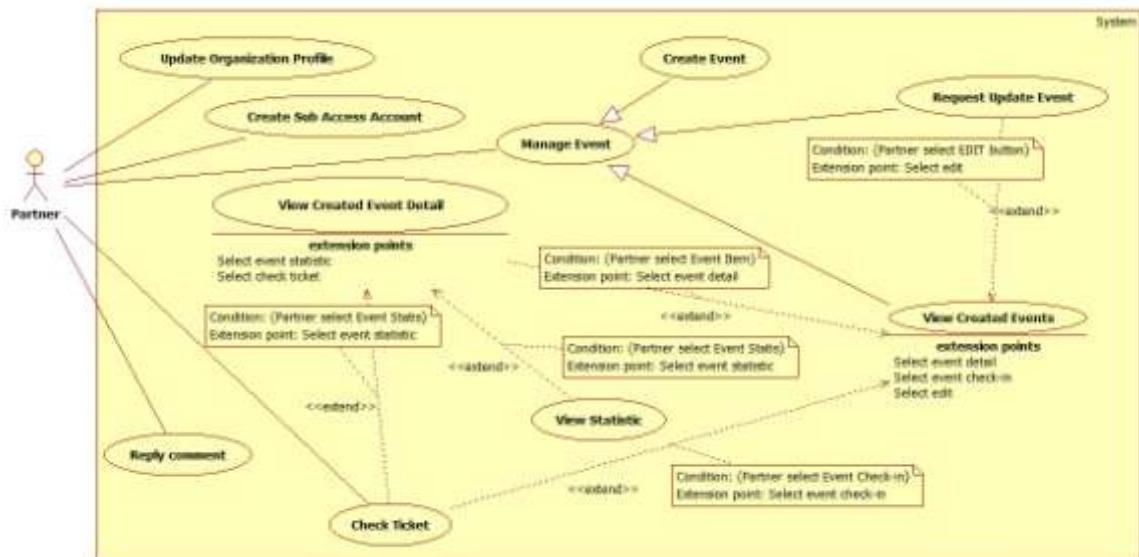


Figure 27: <Partner> Overview Use Case

2.3.2.1 <Partner> Create Event Use Case Diagram

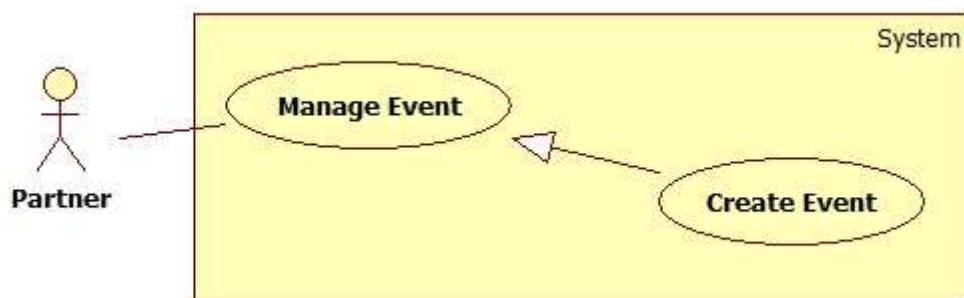


Figure 28: <Partner>Create Event
Use Case Specification

USE CASE – MSSC024			
Use Case No.	MSSC024	Use Case Version	2.0
Use Case Name	Create Event		

Author	TanNH		
Date	12/09/2014	Priority	High
Actor:			
- Partner			
Summary:			
- This use case allow a partner to create new event and ticket range.			
Goal:			
- New event will be added to the system.			
Triggers:			
- From menu navigation bar: + Select “Quản lý sự kiện” link. + Select “Tạo sự kiện mới” link.			
Preconditions:			
- Partner must login into the system.			
Post Conditions:			
- Success: New event will be added to the database. - Fail: Show error message.			
Main Success Scenario:			
Step	Actor Action	System Response	
1	Partner clicks menu item “Quản lý sự kiện”.	<ul style="list-style-type: none"> - Expand 2 children menu : <ul style="list-style-type: none"> + “Danh sách sự kiện”: link. + “Tạo sự kiện mới”: link. 	
2	Partner clicks “Tạo sự kiện mới” link.	<p>Navigate to “Tạo sự kiện mới” popup which contains:</p> <ul style="list-style-type: none"> - “Tên sự kiện”: textbox, min length: 6, required. - “Địa điểm”: textbox, min length: 6, required. - “Tỉnh /Thành phố”: dropdown list. - “Ngày diễn ra”: datetime picker, required. - “Poster sự kiện”: file picker, image format. - “Lĩnh vực”: dropdown list, required. - “Kỹ năng”: dropdown list, required. - “Độ tuổi”: dropdown list, required. - “Mô tả”: multi-line textbox. - “Tạo vé”: Table which contains: <ul style="list-style-type: none"> + “Loại vé”: textbox, required. + “Mô tả”: textbox. 	

		<ul style="list-style-type: none"> + “Số lượng”: textbox, required. + “Giá”: textbox, required. + “Xóa”: button. <p>[Exception 1,2,3,4,5,6,7,8,9,10]</p>	
3	Partner fills data into the form and clicks “Tạo sự kiện” button. [Alternative 1]	Insert new staff account to database and make a toast for success.	

Alternative Scenario:

No	Actor Action	System Response
1	Partner clicks on “Xóa” button.	Clear all data input.

Exceptions:

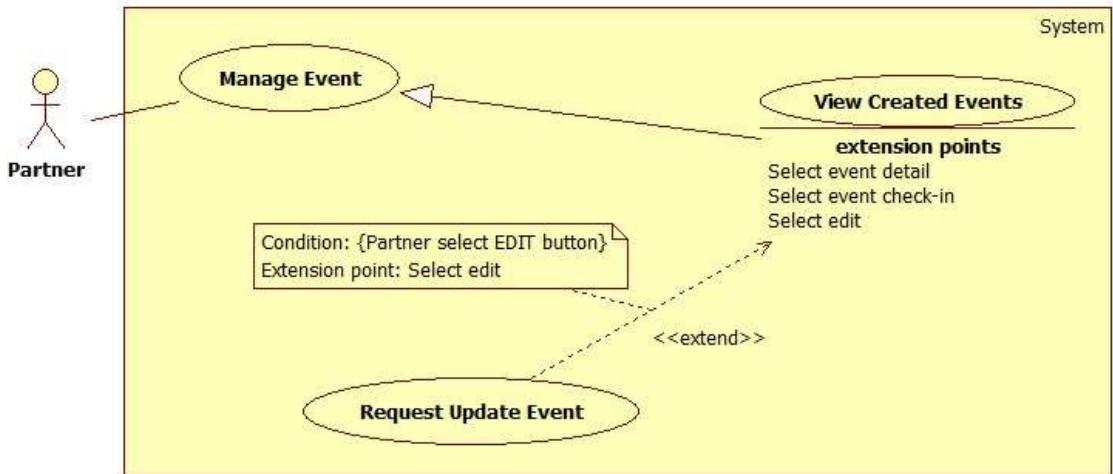
No	Actor Action	System Response
1	Length of “Tên sự kiện” is not in range, lower than min.	Show error message: “Tên sự kiện phải từ 6 ký tự trở lên.”
2	Length of “Tên sự kiện” is not in range, higher than max.	Show error message: “Tên sự kiện không được quá 50 ký tự.”
3	Length of “Địa điểm” is not in range, lower than min.	Show error message: “Địa điểm phải từ 6 ký tự trở lên.”
4	Length of “Tên sự kiện” is not in range, higher than max.	Show error message: “Địa điểm không được quá 80 ký tự.”
5	Time is not picked in “Ngày diễn ra” datetime picker.	Show error message: “Ngày diễn ra phải được chọn”.
6	“Lĩnh vực” dropdown list is not selected.	Show error message: “Lĩnh vực phải được chọn.”
7	“Kỹ năng” dropdown list is not selected.	Show error message: “Kỹ năng phải được chọn.”
8	“Độ tuổi” dropdown list is not selected.	Show error message: “Độ tuổi phải được chọn.”
9	“Tạo vé” table is not filled.	Show error message: “Sự kiện phải có ít nhất 1 loại vé.”
10	Time in “Ngày diễn ra” is a day in the past.	Show error message: “Ngày diễn ra không được trước ngày hiện tại”.
11	Value of “Poster sự kiện” is not in image format.	Show error message: “Hệ thống chỉ hỗ trợ định dạng hình ảnh”.

Relationships: Specialized for Manage Event (Abstract Use Case).

Business Rules:

- Each event must have at least 1 ticket range.
- Event created must have date after current date and time at least 24 hours.
- Ticket range can't be added more after event created successfully.

2.3.2.2 <Partner> Request Update Event Use Case Diagram



**Figure 29: <Partner>Request Update Event
Use Case Specification**

USE CASE - MSSC025

Use Case No.	MSSC025	Use Case Version	2.0									
Use Case Name	Request Update Event											
Author	TanNH											
Date	12/09/2014	Priority	Normal									
Actor:	<ul style="list-style-type: none"> - Partner. 											
Summary:	<ul style="list-style-type: none"> - This use case allows partner to request to change event's information. 											
Goal:	<ul style="list-style-type: none"> - A request will be added and wait for Staff approval. 											
Triggers:	<ul style="list-style-type: none"> - From left-side menu bar: <ul style="list-style-type: none"> +Select “Quản lý sự kiện” menu. +Select “Danh sách sự kiện” child-menu of “Quản lý sự kiện”. +Select event and click “Cập nhật” button. 											
Preconditions:	<ul style="list-style-type: none"> - Partner must login into the system. 											
Post Conditions:	<ul style="list-style-type: none"> - Success: A request will be created and wait for Staff approval. - Fail: Show error message. 											
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Partner clicks on menu item “Quản lý sự kiện”.</td><td> <ul style="list-style-type: none"> - Expand 2 children menu : <ul style="list-style-type: none"> + “Danh sách sự kiện”: link. + “Tạo sự kiện mới”: link. </td></tr> <tr> <td>2</td><td>Partner clicks on “Danh sách”</td><td></td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Partner clicks on menu item “Quản lý sự kiện”.	<ul style="list-style-type: none"> - Expand 2 children menu : <ul style="list-style-type: none"> + “Danh sách sự kiện”: link. + “Tạo sự kiện mới”: link. 	2	Partner clicks on “Danh sách”	
Step	Actor Action	System Response										
1	Partner clicks on menu item “Quản lý sự kiện”.	<ul style="list-style-type: none"> - Expand 2 children menu : <ul style="list-style-type: none"> + “Danh sách sự kiện”: link. + “Tạo sự kiện mới”: link. 										
2	Partner clicks on “Danh sách”											

	sự kiện”.	<p>Navigate to “Danh sách sự kiện” page which contains:</p> <ul style="list-style-type: none"> - A table with 6 columns: <ul style="list-style-type: none"> + “Tên sự kiện”: label. + “Địa điểm”: label. + “Ngày diễn ra”: label. + “Số lượng vé”: label. + “Ngày tạo”: label. + “Thống kê”: button. + “Cập nhật”: button.
3	Partner selects an event and clicks on “Cập nhật” button.	<p>[Alternative 1]</p> <p>A popup will be shown which contains:</p> <ul style="list-style-type: none"> - “Mô tả”: textbox. - “Lĩnh vực”: dropdown list. - “Kỹ năng”: dropdown list. - “Độ tuổi”: dropdown list. - “Cập nhật”: button. - “Đóng”: button.
4	<p>Partner edits to change and clicks “Cập nhật” button of popup.</p> <p>[Alternative 2]</p>	<p>[Exception 1]</p> <p>Insert new request record to database.</p> <p>Close pop up.</p> <p>Show message: “Đã gửi yêu cầu”.</p>

Alternative Scenario:

No	Actor Action	System Response
1	<p>Partner selects an event that already has a request.</p> <p>Partner clicks “Hủy yêu cầu” button.</p>	<p>A popup will be shown which contains</p> <ul style="list-style-type: none"> - Change request information - “Hủy yêu cầu”: button. - “Đóng”: button. Close popup on click. <p>Change state of request in database.</p> <p>Show message: “Đã hủy yêu cầu”.</p>
2	Partner clicks “Đóng” button.	Close popup.

Exceptions:

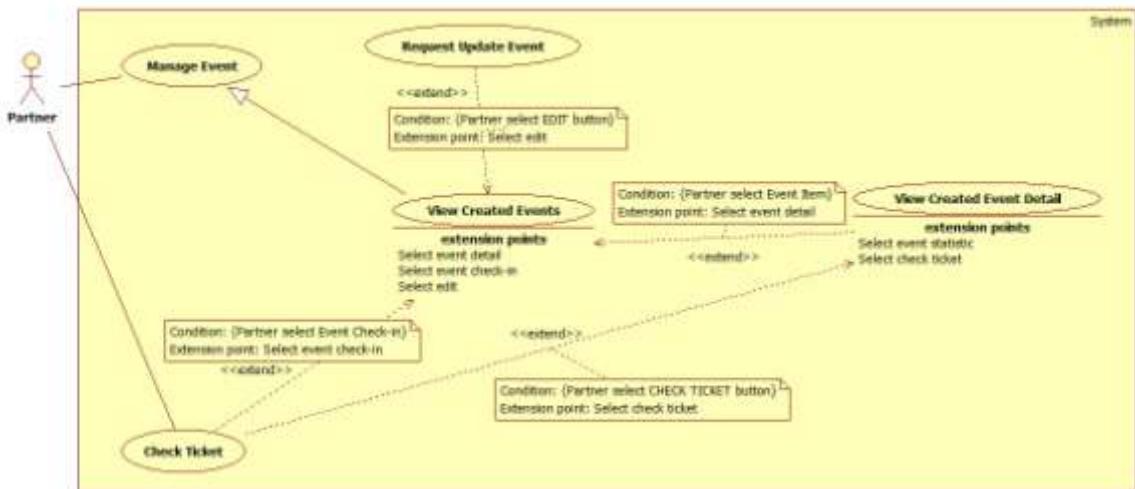
No	Actor Action	System Response
1	Request time out.	Display an error message “Đã có lỗi xảy ra”.

Relationships: Extend for View Created Events (Select edit).

Business Rules:

- Partner can only send 1 change request for 1 event. After the pending request is approved by a staff, partner can make another request for that event.
- Before the request is approved by staff, partner can cancel that request and make new one.
- The state of sent request is “Pending”.

2.3.2.3 <Partner> View Created Events Use Case Diagram



**Figure 30: <Partner> View Created Events
Use Case Specification**

Android

USE CASE - MSSC026			
Use Case No.	MSSC026	Use Case Version	2.0
Use Case Name	View Created Events		
Author	TanNH		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> Partner. 		
Summary:	<ul style="list-style-type: none"> Partner can view the list of created events. 		
Goal:	<ul style="list-style-type: none"> Show events created by partner. 		
Triggers:	<ul style="list-style-type: none"> Open left navigation bar menu. Tab on “Sự kiện của tôi” item. 		
Preconditions:	<ul style="list-style-type: none"> Partner must login into the system. 		
Post Conditions:	<ul style="list-style-type: none"> Success: Show list of created events. Fail: Show error message. 		
Main Success Scenario:			

Step	Actor Action	System Response
1	Partner tabs on the name of application on top-left of the screen to view navigation menu.	<p>Left navigation bar will be displayed:</p> <ul style="list-style-type: none"> - “Sự kiện trong ngày”: list item. - “Sự kiện của tôi”: list item. - “Thiết lập”: list item. - “Trợ giúp”: list item. - “Liên lạc”: list item.
2	Partner tabs on “Sự kiện của tôi”.	<p>[Exception 1]</p> <p>“Sự kiện của tôi” tab will be displayed which contains:</p> <ul style="list-style-type: none"> - “Trong ngày” Tab contains: List of in-day events. - “Sắp diễn ra” Tab contains: List of future events. - “Đã kết thúc” Tab contains: List of ended events. <p>Each item of the list will display:</p> <ul style="list-style-type: none"> - Event name: label. - Event datetime: label. - “Thông tin sự kiện”: button. <p>If event is in Check-in time, “Soát vé” button will be shown.</p>

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	Internet connection error	Display an error message “Không có kết nối mạng, xin kiểm tra lại”.

Relationships: Extended by Request Update Event (Select edit), extended by View Created Event Detail (Select event detail), and extended by Check Ticket (Select event check-in).

Business Rules:

- In-day events are events that have Event Date is today.
- Future events are events that have Event Date from tomorrow to the future.
- Ended events are events that have Event Date from yesterday to the past.
- Check-in time is the period of time from 3 hours before Event's time to 3 hours after Event's time.

WEB

USE CASE – MSSC026

Use Case No.	MSSC026	Use Case Version	2.0
Use Case Name	View Created Events		
Author	TanNH		
Date	07/11/2014	Priority	Normal

Actor:

- Partner.

Summary:

- This use case allows partner to view list of created events.

Goal:

- Show events created by partner.

Triggers:

- On left navigation bar menu click on “Quản lý sự kiện” link.
- Click on “Danh sách sự kiện” link.

Preconditions:

- Partner must login into the system.

Post Conditions:

- **Success:** Show list of created events.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Partner clicks on “Quản lý sự kiện” link on left-side navigation menu.	The menu will expand 2 children menu items which is: <ul style="list-style-type: none"> - “Danh sách sự kiện”: link. - “Tạo sự kiện mới”: link.
2	Partner clicks on “Danh sách sự kiện” link.	[Exception 1] Navigate to “Danh sách sự kiện” page which contains a table with 6 columns: <ul style="list-style-type: none"> - “Tên sự kiện”: label. - “Địa điểm”: label. - “Ngày diễn ra”: label. - “Số lượng vé”: label. - “Ngày tạo”: label. - “Thống kê”: button. - “Cập nhật”: button. - “Chi tiết”: button.

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	Request time out.	Display an error message “Đã có lỗi xảy ra”.

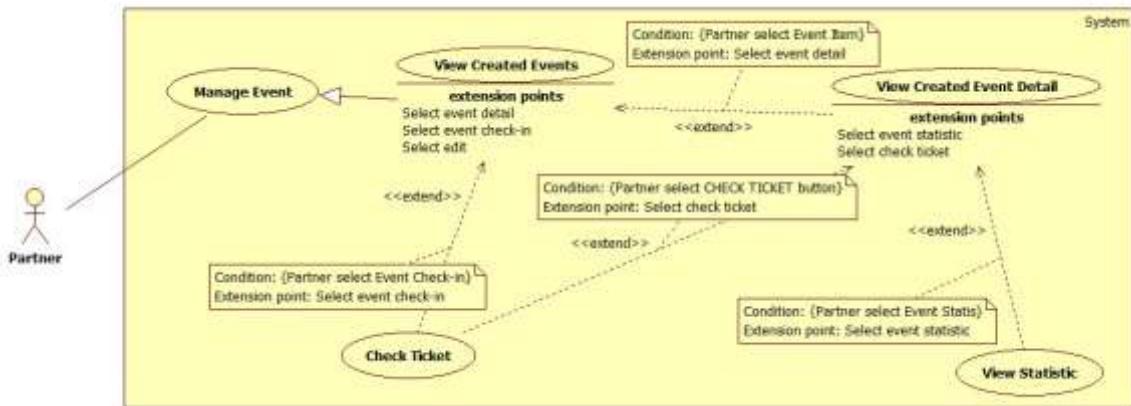
Relationships: Extended by Request Update Event (Select edit), extended by View Created Event Detail (Select event detail), and extended by Check Ticket (Select

event check-in).

Business Rules:

- The list of created event is sorted by event date in ascending order.
- “Cập nhật” button will be shown on events that have event date before current time.

2.3.2.4 <Partner> View Created Event Detail Use Case Diagram



**Figure 31: <Partner> View Created Event Detail
Use Case Specification**

Android

USE CASE - MSSC027									
Use Case No.	MSSC027	Use Case Version	2.0						
Use Case Name	View Created Event Detail								
Author	TanNH								
Date	12/09/2014	Priority	Normal						
Actor:	<ul style="list-style-type: none"> Partner 								
Summary:	<ul style="list-style-type: none"> Partner can view detail of created event. 								
Goal:	<ul style="list-style-type: none"> View created event detail. 								
Triggers:	<ul style="list-style-type: none"> Open left navigation bar menu, tab on “Sự kiện của tôi” item. Select an event and tab on “Chi tiết sự kiện” button. 								
Preconditions:	<ul style="list-style-type: none"> Partner must login into the system. 								
Post Conditions:	<ul style="list-style-type: none"> Success: Show event detail information. Fail: Show error message. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>3</td><td>Partner selects event and tabs on “Chi tiết sự kiện”</td><td>[Exception 1]</td></tr> </tbody> </table>			Step	Actor Action	System Response	3	Partner selects event and tabs on “Chi tiết sự kiện”	[Exception 1]
Step	Actor Action	System Response							
3	Partner selects event and tabs on “Chi tiết sự kiện”	[Exception 1]							

	button.	Show “Chi tiết sự kiện” screen which contains 2 tabs: <ul style="list-style-type: none"> - “Mô tả”: tab button which contains: <ul style="list-style-type: none"> + Event image: image. + Event description: label. - “Chi tiết”: tab button which contains: <ul style="list-style-type: none"> + Event name: label. + Event date: label. + Event address: label. + “Soát vé”: button. + List of ticket range which each item will show: <ul style="list-style-type: none"> _ Ticket Type: label. _ Ticket Description: label. _ Number of ticket: label. _ Number of sold ticket: label. _ Number of checked-in ticket: label.
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Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	Internet connection error	Display an error message “Không có kết nối mạng, xin kiểm tra lại”.

Relationships: Extend for View Created Events (Select event detail), extended by Check Ticket (Select event check-in), and extended by View Statistic (Select event statistic).

Business Rules:

- “Soát vé” button will visible when event date is in check-in time.
- Check-in time is the period of time from 3 hours before Event's time to 3 hours after Event's time.

WEB

USE CASE – MSSC027					
Use Case No.	MSSC027	Use Case Version	2.0		
Use Case Name	View Created Event Detail				
Author	TanNH	Priority	Normal		
Date	07/11/2014				
Actor:					
- Partner.					
Summary:					
- This use case allows partner to view detail information of created event.					
Goal:					

- Show detail of created event by partner.

Triggers:

- On left navigation bar menu click on “Quản lý sự kiện” link.
- Click on “Danh sách sự kiện” link.

Preconditions:

- Partner must login into the system.

Post Conditions:

- **Success:** Show detail of created events.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Partner clicks on “Quản lý sự kiện” link on left-side navigation menu.	The menu will expand 2 children menu items which is: <ul style="list-style-type: none"> - “Danh sách sự kiện”: link. - “Tạo sự kiện mới”: link.
2	Partner clicks on “Danh sách sự kiện” link.	Navigate to “Danh sách sự kiện” page which contains a table with 6 columns: <ul style="list-style-type: none"> - “Tên sự kiện”: label. - “Địa điểm”: label. - “Ngày diễn ra”: label. - “Số lượng vé”: label. - “Ngày tạo”: label. - “Thống kê”: button. - “Cập nhật”: button. - “Chi tiết”: button.
3	Click on “Chi tiết” button.	A pop up is shown includes: <ul style="list-style-type: none"> - “Mô tả”: label. - “Lĩnh vực”: label. - “Kỹ năng”: label. - “Độ tuổi”: label. - List of ticket range which contains: <ul style="list-style-type: none"> + “Loại vé”: label. + “Mô tả”: label. + “Số lượng”: label. + “Giá”: label.

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	Request time out.	Display an error message “Đã có lỗi xảy ra”.

Relationships: Extended by Request Update Event (Select edit), extended by View Created Event Detail (Select event detail), and extended by Check Ticket (Select event check-in).

Business Rules:

- The list of created event is sorted by event date in ascending order.
- “Cập nhật” button will be shown on events that have event date before current time.

2.3.2.5 <Partner> Check Ticket Use Case Diagram

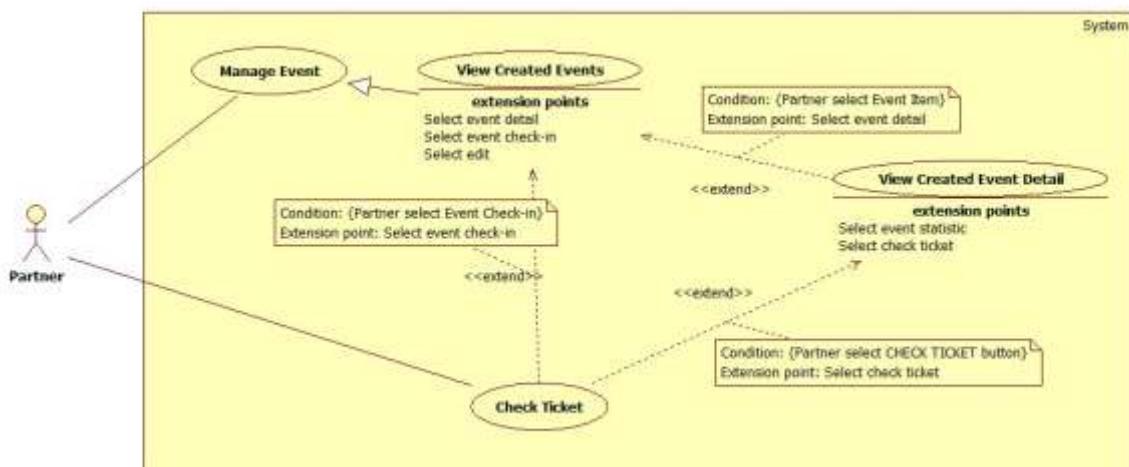


Figure 32: <Partner>Check Ticket
Use Case Specification

USE CASE – MSSC028			
Use Case No.	MSSC028	Use Case Version	2.0
Use Case Name	Check Ticket		
Author	TanNH		
Date	12/09/2014	Priority	High
Actor:	<ul style="list-style-type: none"> - Partner. 		
Summary:	<ul style="list-style-type: none"> - This use case allows partner to check event tickets. 		
Goal:	<ul style="list-style-type: none"> - Read an M-Services Card to check-in. 		
Triggers:	<p>Open left navigation bar menu:</p> <ul style="list-style-type: none"> - Tab on “Sự kiện của tôi” item. - On “Sự kiện của tôi” screen, Partner selects event and tab on “Soát vé” button. <p>Or</p> <ul style="list-style-type: none"> - After login, Partner put the ticket card under cellphone. 		
Preconditions:	<ul style="list-style-type: none"> - Partner must login into the system. - Event must be in check-in time. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: The state of ticket change to checked. 		

- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Partner selects an event and tabs on “Soát vé” button.	<p>Check ticket screen will display :</p> <ul style="list-style-type: none"> - Event name: label. - Ticket type: label. - Ticket description: label. - Ticket quantity: label. - “Soát vé thủ công” : button
2	<p>Partner put the M-Service Card under the phone.</p> <p>[Alternative 1]</p>	<p>[Exception 1,2]</p> <p>Display an “OK” icon.</p> <p>Show ticket infos and “Hoàn vé” button.</p>

Alternative Scenario:

No	Actor Action	System Response
1	Partner tabs on “Hoàn vé” button.	Change state of ticket to not check-in.

Exceptions:

No	Actor Action	System Response
1	The card has invalid data.	Display error message: “Vé không hợp lệ”.
2	Event date is not in check-in time.	Show message: “CHƯA ĐẾN GIỜ SOÁT VÉ, VUI LÒNG THỦ LẠI SAU!”

Relationships: Extend for View Created Event (Select check ticket).

Business Rules:

- One ticket can only be checked in 1 time.
- Partner tabs on “Hoàn vé” button, system will change state of checked-in ticket to not check. After 1 minute, “Hoàn vé” button will disappear.
- Definition of valid data: <Book id>-<Ticket id>.
- Check-in time is the period of time from 3 hours before Event's time to 3 hours after Event's time.
- State of the ticket changed changed from null into date and time checked.
- If the ticket is a full-ticket or total of checked ticket is equal booking's quantity, state of the booking is changed from “NotCked” into “Checked”.
- If Partner touches on “Hoàn vé” button, state of the ticket is changed from check-in date and time into null. If state of booking is “Checked”, it will be changed from “Checked” into “NotCked”.
- Full-ticket is a ticket that have quantity equal to booking's quantity.

2.3.2.6 <Partner> View Statistic Use Case Diagram

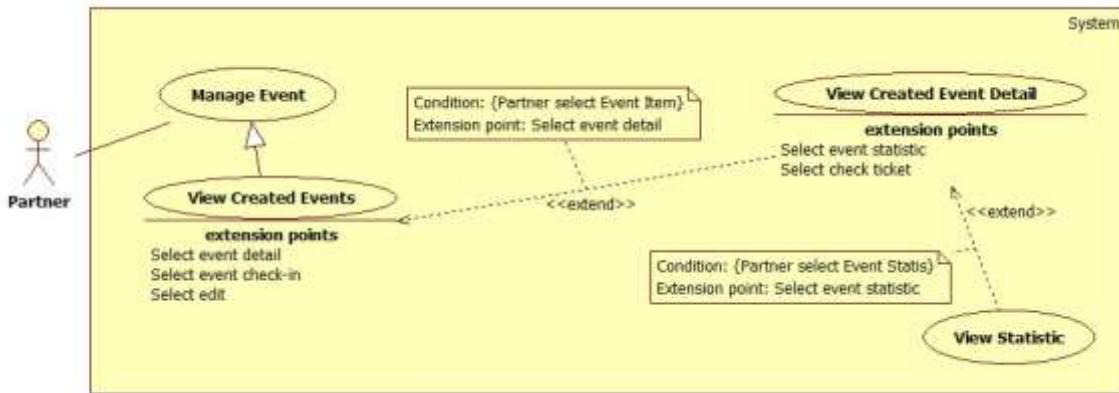


Figure 33: <Partner>View statistic

Use Case Specification

Android

USE CASE – MSSC029

Use Case No.	MSSC029	Use Case Version	2.0
Use Case Name	View statistic		
Author	TanNH		
Date	11/09/2014	Priority	Normal

Actor:

- Partner.

Summary:

- This use case allows partners to view the statistic information of an event that they created.

Goal:

- View statistic information of an event.

Triggers:

- Open left navigation bar menu.
- Tab on “Sự kiện của tôi” item.
- Select event on event list.

Preconditions:

- Partner must log in the application.

Post Conditions:

- **Success:** show information statistic.
- **Fail:** show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Select event and tab on “Chi tiết sự kiện” button	[Exception 1] “Chi tiết sự kiện” screen contains 2 tab: - “Mô tả”: Tab. - “Chi Tiết” : Tab.
2	Select “Chi tiết” tab button	[Exception 1] “Chi tiết” tab contains : • Event name: text label.

		<ul style="list-style-type: none"> Event date: text label. Street: text label. “Soát vé” button will be shown if current event is in the time range from 3 hours before event date and to before 3 hours after event date. <p>List of event's ticket ranges which each item contains :</p> <ul style="list-style-type: none"> Ticket type: text label. Ticket Description: text label. Number of ticket: text label. Number of sold: text label. 	
--	--	---	--

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	Internet connection error	Display an error message “Không có kết nối mạng, xin kiểm tra lại”.

Relationships: Extend for View Created Event (Select event static).

Business Rules:

- The list will be sorted by event date in ascending order.
- Statistic list will be automatically updated if event is in check-in time.
- Check-in time is the period of time from 3 hours before Event's time to 3 hours after Event's time.

WEB

USE CASE – MSSC029			
Use Case No.	MSSC029	Use Case Version	2.0
Use Case Name	View statistic		
Author	TanNH		
Date	10/11/2014	Priority	Normal
Actor:			
- Partner.			
Summary:			
- This use case allows partners to view the statistic information of an event.			
Goal:			
- View statistic information of an event.			
Triggers:			
- Open left navigation bar menu. +Click on “Quản lý sự kiện” link. +Click on “Danh sách sự kiện” link. +Click on “Thống kê” button.			
Preconditions:			
- Partner must log in the application.			
Post Conditions:			
- Success: show information statistic. - Fail: show error message.			

Main Success Scenario:

Step	Actor Action	System Response
1	Partner click on “Thông kê” button.	<p>“Thông kê” popup will be shown which contains :</p> <ul style="list-style-type: none"> • Event name: text label. • Event date: text label. <p>A table with 4 columns which is :</p> <ul style="list-style-type: none"> • Ticket type: text label. • Ticket description: text label. • Number of ticket: text label. • Number of sold ticket: text label.

Alternative Scenario: N/A

Exceptions:

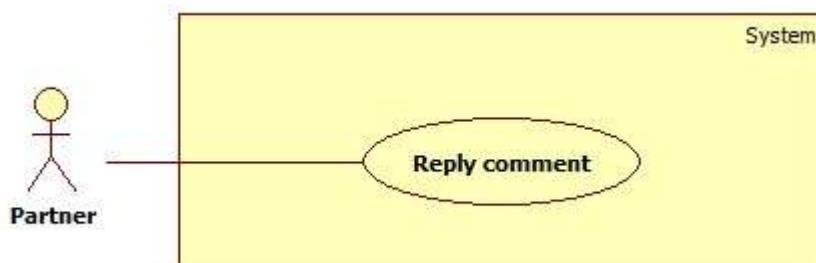
No	Actor Action	System Response
1	Request time out.	Display an error message “Đã có lỗi xảy ra”.

Relationships: Extend for View Created Event (Select event static).

Business Rules:

- The list will be sorted by event date in ascending order.

2.3.2.7 <Partner> Reply Comment Use Case Diagram



**Figure 34: <Partner>Reply Comment
Use Case Specification**

USE CASE – MSSC030			
Use Case No.	MSSC030	Use Case Version	2.0
Use Case Name	Reply Comment		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Partner. 		

Summary:

- This use case allows partner to reply a comment.

Goal:

- Add reply content for comment in database.

Triggers:

- In comment management screen, partner selects a comment and clicks “Trả lời” button.

Preconditions:

- Partner must login into the system.

Post Conditions:

- **Success:** Add reply content to comment in database.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Partner selects “Quản lý bình luận” menu item.	<p>Navigate to comment management page which contains:</p> <ul style="list-style-type: none"> - List of comments. <p>List of comments is displayed in table format with:</p> <ul style="list-style-type: none"> - ID: label - Event name: label. - Member: label. - Comment content: label. Only display short description (30 characters max). - Created Date : label - “Trả lời” button or “Xem lại” button.
2	Partner selects a comment and clicks “Trả lời” button	<p>A popup appears with:</p> <ul style="list-style-type: none"> - “Bình luận”: textbox, read only. - “Trả lời”: textbox, required,, max length: 200. - “Đóng”: button. - “Trả lời”: button.
3	Partner inputs reply content then clicks “Trả lời” button. [Alternative 1]	<p>Comment is updated in database.</p> <p>Show message “Đã trả lời bình luận” on the top left of the screen.</p> <p>[Exception 1,2]</p>

Alternative Scenario:

No	Actor Action	System Response
1	Partner clicks “Đóng” button.	Close pop up.

Exceptions:											
<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Length of "Trả lời" is over 200 characters.</td><td>Show error message: "Giới hạn 200 ký tự".</td></tr> <tr> <td>2</td><td>"Trả lời" is empty</td><td>Show error message: "Phải nhập nội dung trả lời".</td></tr> </tbody> </table>			No	Actor Action	System Response	1	Length of "Trả lời" is over 200 characters.	Show error message: "Giới hạn 200 ký tự".	2	"Trả lời" is empty	Show error message: "Phải nhập nội dung trả lời".
No	Actor Action	System Response									
1	Length of "Trả lời" is over 200 characters.	Show error message: "Giới hạn 200 ký tự".									
2	"Trả lời" is empty	Show error message: "Phải nhập nội dung trả lời".									

Relationships: N/A

Business Rules:

- After partner replies to a comment, partner can't change the reply content.

2.3.2.8 <Partner> Update Organization Profile

Use Case Diagram



Figure 35: <Partner>Update Organization Profile
Use Case Specification

USE CASE - MSSC031			
Use Case No.	MSSC031	Use Case Version	2.0
Use Case Name	Update Organization Profile		
Author	TanNH		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Partner. 		
Summary:	<ul style="list-style-type: none"> - This use case allows partner to change organization profile. 		
Goal:	<ul style="list-style-type: none"> - Update partner's organization profile. 		
Triggers:	<ul style="list-style-type: none"> - On dash board page, partner selects menu "Cập nhật thông tin". 		
Preconditions:	<ul style="list-style-type: none"> - Partner must login into the system. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Partner's organization profile updated to database. - Fail: Show error message. 		

Main Success Scenario:

Step	Actor Action	System Response
1	Partner clicks on “Cập nhật thông tin” menu item.	<p>Navigate to “Cập nhật thông tin” page which contains:</p> <ul style="list-style-type: none"> - “Tên đăng nhập”: textbox, disabled. - “Email”: textbox, required, min length: 6. - “Số điện thoại”: textbox, required. - “Tên công ty/ tổ chức”: textbox, required, min length: 6, max length: 80. - “Địa chỉ”: textbox, required, min length: 6, max length: 80. - “Cập nhật”: button.
2	Partner selects field to edit and clicks on “Cập nhật” button.	Show message: “Cập nhật thành công”.

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	“Số điện thoại” is empty	Show message: “Bạn phải nhập số điện thoại di động”.
2	“Số điện thoại” number is not valid format	Show message: “Định dạng di động +84XXXXXXXXXX hoặc 0XXXXXXXXX”.
3	“Email” is empty	Show message: “Vui lòng nhập địa chỉ email của bạn”.
4	“Email” is not match format	Show message: “Định dạng email không hợp lệ”.
	“Email” is used by another user.	Show message: “Email đã được sử dụng”.
5	“Tên công ty/ tổ chức” is empty	Show message: “Vui lòng nhập tên công ty/ tổ chức”.
6	“Tên công ty/ tổ chức” is not match min length.	Show message: “Tối thiểu 6 ký tự”.
7	“Tên công ty/ tổ chức” is over max length.	Show message: “Tối đa 80 ký tự”.
8	“Địa chỉ” is empty	Show message: “Vui lòng nhập địa chỉ”.
9	“Địa chỉ” is not match min length.	Show message: “Tối thiểu 6 ký tự”.
10	“Địa chỉ” is over max length.	Show message: “Tối đa 80 ký tự”.

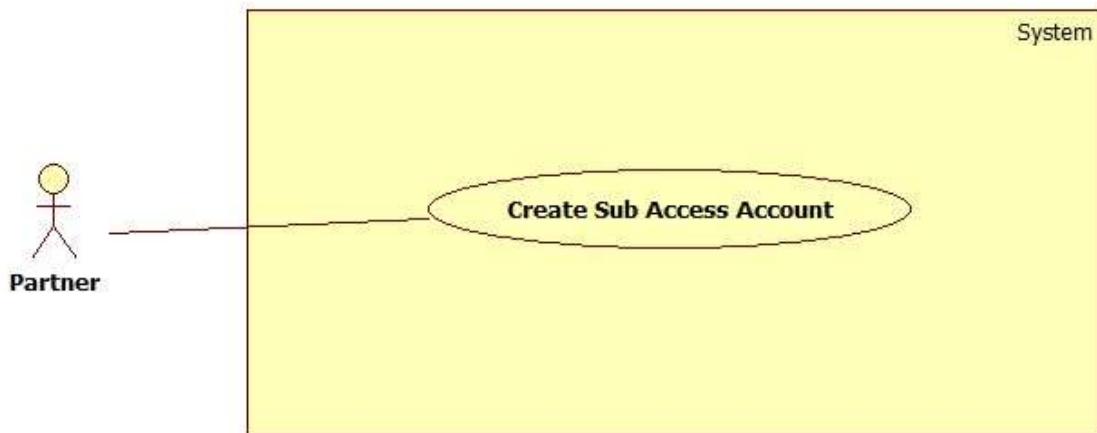
Relationships: N/A

Business Rules:

- Email must matches email format.

- Phone number must matches phone format and not used by others user.

2.3.2.9 <Partner> Create Sub Access Account Use Case Diagram



**Figure 36: <Partner>Create Sub Access Account
Use Case Specification**

USE CASE - MSSC032			
Use Case No.	MSSC032	Use Case Version	2.0
Use Case Name	Create Sub Access Account		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> Partner. 		
Summary:	<ul style="list-style-type: none"> This use case allows partner to create sub account for using Android app. 		
Goal:	<ul style="list-style-type: none"> Add new sub account for partner in the system. 		
Triggers:	<ul style="list-style-type: none"> On dash board page, partner selects sub menu “Tạo tài khoản phụ”. 		
Preconditions:	<ul style="list-style-type: none"> Partner must login into the system. 		
Post Conditions:	<ul style="list-style-type: none"> Success: New sub access account will be added to database. Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Partner selects “Tạo tài khoản phụ” sub menu item.	<ul style="list-style-type: none"> Naviagte to create android login account page which contains: <ul style="list-style-type: none"> “Tạo thủ công”: radio button. 	

		<ul style="list-style-type: none"> - “Tạo tự động”: radio button. - “Tài khoản”: text box, required, min length: 6, max length: 20. - “Mật khẩu”: password, required, min length: 6, max length: 20. - “Xác nhận mật khẩu”: password, required, match with “Mật khẩu”. - “Kích hoạt ngay”: checkbox. - “Xóa”: button. - “Tạo tài khoản”: button.
2	<p>Partner selects “Tạo thủ công” option and inputs informations. [Alternative 1,2]</p>	<p>[Exception 1,2,3,4,5,6,7,8] Insert new sub access account in database. The status of sub access account depends on “Kích hoạt ngay” checkbox. Clear all form fields and show message “Tạo tài khoản phụ thành công”.</p>

Alternative Scenario:

No	Actor Action	System Response
1	Partner clicks “Xóa” button.	Clear all form fields
2	<p>Partner clicks “Tạo tự động” radio button.</p> <p>Partner selects a value from the drop down list and clicks “Tạo tài khoản” button.</p>	<p>Display auto generate account tab which contains:</p> <ul style="list-style-type: none"> - Number of account: drop down list from 1 to 10. - “Tạo tài khoản”: button <p>System will auto generate sub access accounts which are in deactivate state. Show message “Tạo tự động thành công”.</p>

Exceptions:

No	Actor Action	System Response
1	Length of “Tài khoản” is under 6 characters.	Show error message: “Tối thiểu 6 ký tự”.
2	“Tài khoản” is empty.	Show error message: “Vui lòng nhập tài khoản”.
3	Length of “Tài khoản” is over 20 characters.	Show error message: “Chỉ được nhập tối đa 20 ký tự”.
4	Length of “Mật khẩu” is under 6 characters.	Show error message: “Tối thiểu 6 ký tự”.
5	Length of “Mật khẩu” is over	Show error message: “Bạn chỉ được nhập

	20 characters.	tối đa 20 ký tự”.
6	“Mật khẩu” is empty.	Show error message: “Vui lòng nhập mật khẩu”.
7	“Xác nhận mật khẩu” is empty	Show error message: “Vui lòng xác nhận mật khẩu”.
8	“Xác nhận mật khẩu” doesn’t match with “Mật khẩu”	Show error message: “Mật khẩu không khớp”.
9	Value of “Tài khoản” has already existed.	Show error message: “Tài khoản đã được đăng ký”.

Relationships: N/A

Business Rules:

- Sub access account can only be used in partner android app for authentication process.
 - When auto generated by the system, all the info such as username, password will be random and the state is deactivate. Partner need to review and activate the account before using in app.

2.3.3 <Staff>Overview Use Case

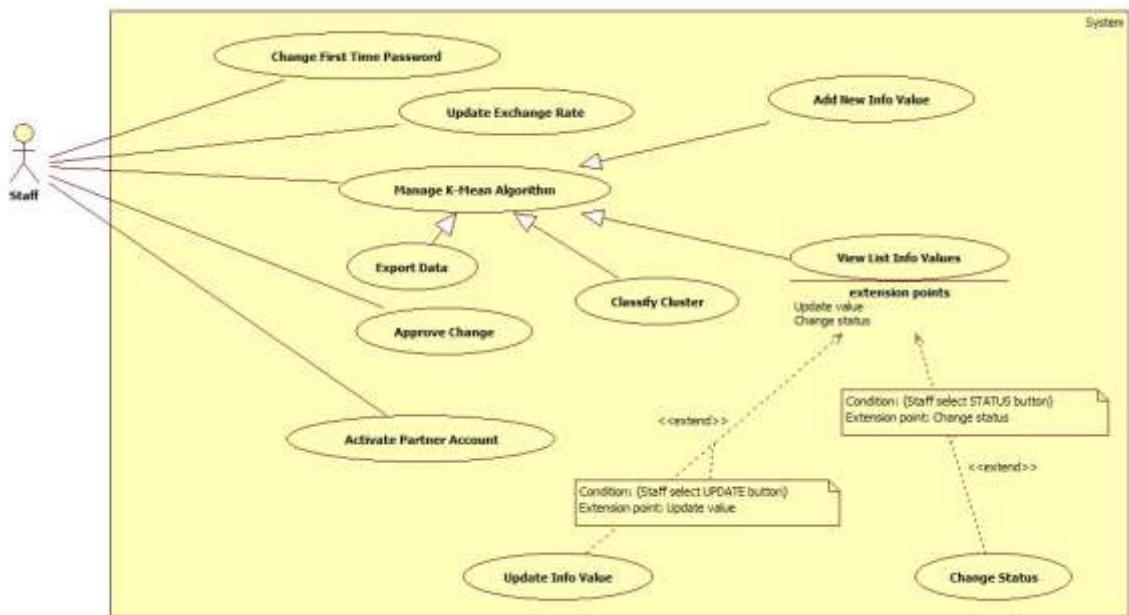
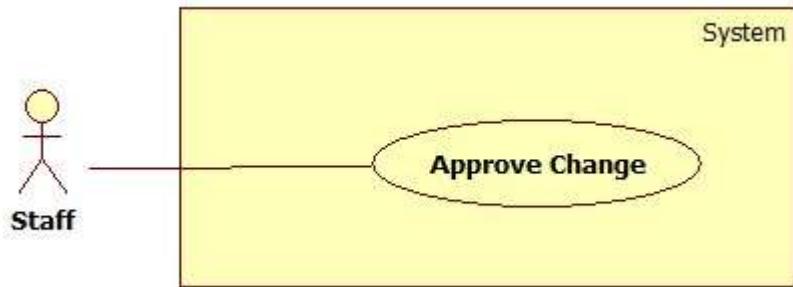


Figure 37: <Staff> Overview Use Case

2.3.3.1 <Staff> Approve Change Use Case Diagram



**Figure 38: <Staff>Approve Change
Use Case Specification**

USE CASE – MSSC033			
Use Case No.	MSSC033	Use Case Version	2.0
Use Case Name	Approve Change		
Author	TanNH		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Staff. 		
Summary:	<ul style="list-style-type: none"> - This use case allow staff to approve Partner's request to change Event info. 		
Goal:	<ul style="list-style-type: none"> - Change state of request to approved and change event info according to request item. 		
Triggers:	<ul style="list-style-type: none"> - In dashboard menu, click on “Quản lý sự kiện” link. 		
Preconditions:	<ul style="list-style-type: none"> - Staff must login to the system. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Change state of request to approved and change event info according to request item. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Staff selects “Quản lý sự kiện” menu item.	Navigate to activate partner account page which contains: <ul style="list-style-type: none"> - List of new registered partner in table format: <ul style="list-style-type: none"> + “Tên sự kiện”: label. + “Ngày gửi yêu cầu”: label. + “Người yêu cầu”: label. + “Trạng thái”: label. + “Duyệt”: button. + “Từ chối”: button. 	

		+ “Thông tin”: button
2	Staff selects a request and clicks on “Duyệt” button [Alternative 1,2]	[Exception 1,2] Change info in “Trạng thái” of request into “Đã được duyệt”. Chang state of selected request to approved on database. Show message “Đã xác nhận yêu cầu”. “Duyệt” button disappear.

Alternative Scenario:

No	Actor Action	System Response
1	Staff clicks on “Thông tin” button.	A popup show which contains : Changed field: label Old value: label New value: label “Duyệt”: button “Tù chối”: button
2	Staff clicks on “Tù chối” button.	Change info in “Trạng thái” of request into “Tù chối”. Chang state of selected request to denied on database. Show message “Đã từ chối yêu cầu”. “Duyệt” button disappear. “Tù chối” button disappear.

Exceptions:

No	Actor Action	System Response
1	Request time out.	Display an error message “Đã có lỗi xảy ra”.
2	Staff clicks “Duyệt” button when partner has just cancelled request.	Display an error message “Yêu cầu đã được hủy, không thể duyệt”.

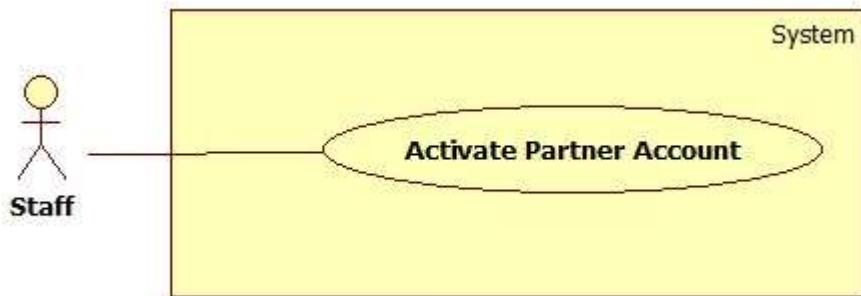
Relationships:

N/A

Business Rules:

- Partner can only make another request on an event when staff approved pending request.
- When a request approved by staff, request's state changes from “Pending” to “Approved”.

2.3.3.2 <Staff> Activate Partner Account Use Case Diagram



**Figure 39: <Staff>Activate Partner Account
Use Case Specification**

USE CASE - MSSC034			
Use Case No.	MSSC034	Use Case Version	2.0
Use Case Name	Activate Partner Account		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Staff. 		
Summary:	<ul style="list-style-type: none"> - This use case allows staff to activate a new registered partner. 		
Goal:	<ul style="list-style-type: none"> - Change state of registered partner account to activate. 		
Triggers:	<ul style="list-style-type: none"> - In dash board screen, staff selects “Xác thực đối tác” menu item. 		
Preconditions:	<ul style="list-style-type: none"> - Staff must login into the system. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Change state of partner account to activate. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Staff selects “Xác thực đối tác” menu item.	Navigate to activate partner account page which contains: <ul style="list-style-type: none"> - List of new registered partner in table format: <ul style="list-style-type: none"> + “Tài khoản”: label. + “Tổ chức”: label. + “Địa chỉ”: label. + “Thông tin liên lạc”: label. + “Ngày đăng ký”: label. + “Xác nhận”: button. 	
2	Staff selects an account and clicks “Xác nhận” button		

		Remove the selected row in table. Change state of partner account to activate in database. Show message “Đã xác nhận đối tác”. [Exception 1]
--	--	---

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	Request time out.	Display an error message “Đã có lỗi xảy ra” on the top left of the screen.

Relationships: N/A

Business Rules:

- List of new registered partner sort by register date in ascending order.
- The system is not in charge of verifying the registered information.

2.3.3.3 <Staff> Add New Info Value

Use Case Diagram

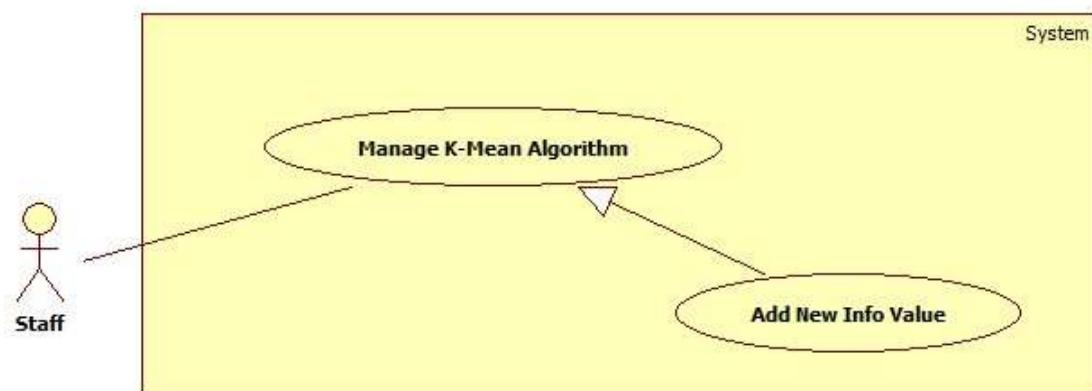


Figure 40: <Staff> Add New Info Value

Use Case Specification

USE CASE - MSSC035			
Use Case No.	MSSC035	Use Case Version	2.0
Use Case Name	Add New Info Value		
Author	KhoaTND	Priority	Normal
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Staff. 		
Summary:	<ul style="list-style-type: none"> - This use case allows staff to add new info value to the system. 		
Goal:	<ul style="list-style-type: none"> - Add new info value to the system. 		
Triggers:			

- In dash board screen, staff selects “Cấu hình thuật toán” menu item.
- In “Quản lý giá trị phân loại” tab, staff inputs information and clicks “Thêm” button.

Preconditions:

- Staff must login into the system.

Post Conditions:

- **Success:** New info value added to database.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	<p>Add new info value region contains:</p> <ul style="list-style-type: none"> - “Nhóm”: drop down list, required, domain range (“Lĩnh vực”, “Độ tuổi”, “Kỹ năng”). - “Tên phân loại”: textbox, required, min length: 6, max length: 50. - “Điểm số”: textbox, required, numeric, min value: 0, max value: 100. - “Thêm”: button. <p>Staff inputs information and clicks “Thêm” button.</p>	<p>[Exception 1,2,3,4,5,6]</p> <p>Insert new info value to database.</p> <p>Show message: “Thêm mới giá trị thành công”.</p>

Alternative Scenario: N/A

Exceptions:

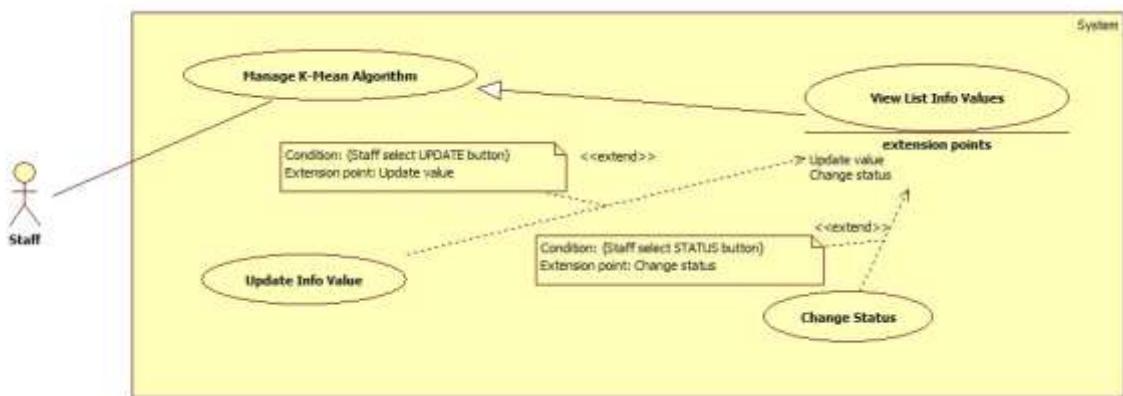
No	Actor Action	System Response
1	“Tên phân loại” is empty.	Show error message: “Phải nhập tên phân loại”.
2	Length of “Tên phân loại” is under 6 characters.	Show error message: “Tối thiểu 6 ký tự”.
3	Length of “Tên phân loại” is over 50 characters.	Show error message: “Tối đa 50 ký tự”.
4	Value of “Tên phân loại” has already existed.	Show error message: “Tên đã được sử dụng”.
5	Value of “Điểm số” is greater than 100	Show error message: “Lớn nhất là 100”.
6	“Điểm số” is empty.	Show error message: “Phải nhập giá trị điểm số”.

Relationships: Specialized for Manage Info Value (Abstract Use Case).

Business Rules:

- Added new info value will be in activating state.

2.3.3.4 <Staff> View List Info Values Use Case Diagram



**Figure 41: <Staff> View List Info Values
Use Case Specification**

USE CASE – MSSC036			
Use Case No.	MSSC036	Use Case Version	2.0
Use Case Name	View List Info Values		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Staff. 		
Summary:	<ul style="list-style-type: none"> - This use case allows staff to view all info values in the system. 		
Goal:	<ul style="list-style-type: none"> - Show all info values in the system. 		
Triggers:	<ul style="list-style-type: none"> - In dash board screen, staff selects “Cấu hình thuật toán” menu item. 		
Preconditions:	<ul style="list-style-type: none"> - Staff must login into the system. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Show all info values of the system. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Staff selects “Cấu hình thuật toán” menu item.	<p>Navigate to manage algorithm page which contains “Quản lý giá trị phân loại” tab: List of info values displays in three separate tabs:</p> <ul style="list-style-type: none"> - “Lĩnh vực” tab. - “Độ tuổi” tab. - “Kĩ năng” tab. <p>Each tab contains info values in table</p>	

		<p>format:</p> <ul style="list-style-type: none"> - “Tên phân loại”: label. - “Trạng thái”: label. If the info value in deactivate state, display “Đang tạm ngừng”. Otherwise, display “Đang sử dụng” - “Điểm số”: label. - “Khóa”: button. If the info value in deactivate state, “Mở” button. - “Cập nhật”: button.
--	--	--

Alternative Scenario: N/A

Exceptions:

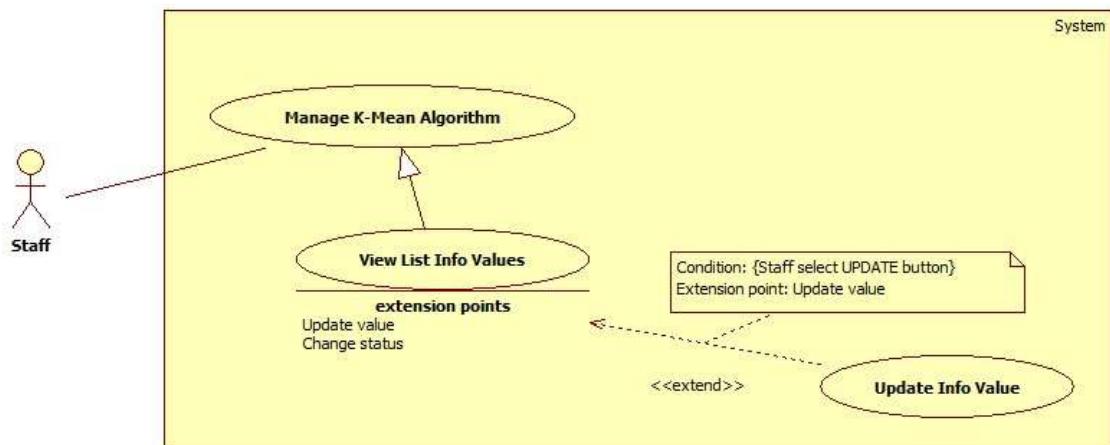
No	Actor Action	System Response
1	Session time out.	Redirect to error 403 page.

Relationships: Specialized for Manage K-Mean Algorithm (Abstract Use Case).

Business Rules:

- List of info value will be sorted by “Tên phân loại” in alphabetical ascending order.

2.3.3.5 <Staff> Update Info Value Use Case Diagram



**Figure 42: <Staff> Update Info Value
Use Case Specification**

USE CASE - MSSC037			
Use Case No.	MSSC037	Use Case Version	2.0
Use Case Name	Update Info Value		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:			

- Staff.

Summary:

- This use case allows staff to update an info value in the system.

Goal:

- Update info value in the system.

Triggers:

- In dash board screen, staff selects “Cấu hình thuật toán” menu item.
- In “Quản lý giá trị phân loại” tab, staff clicks “Cập nhật” button.

Preconditions:

- Staff must login into the system.

Post Conditions:

- **Success:** Update info value in the database.

- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Partner selects an info value and clicks “Cập nhật” button.	<p>Display “Cập nhật điểm số” pop up which contains:</p> <ul style="list-style-type: none"> - “Tên phân loại”: label. - “Điểm số”: textbox, required, numeric, min value: 0, max value: 100. - “Hủy”: button. - “Cập nhật”: button.
2	Partner edits “Điểm số” and clicks “Cập nhật” button. [Alternative 1]	<p>[Exception 1,2,3]</p> <p>Update info value score in database.</p> <p>Update information on table.</p> <p>Show message: “Cập nhật thành công”.</p>

Alternative Scenario:

No	Actor Action	System Response
1	Partner clicks “Hủy” button.	Close pop up.

Exceptions:

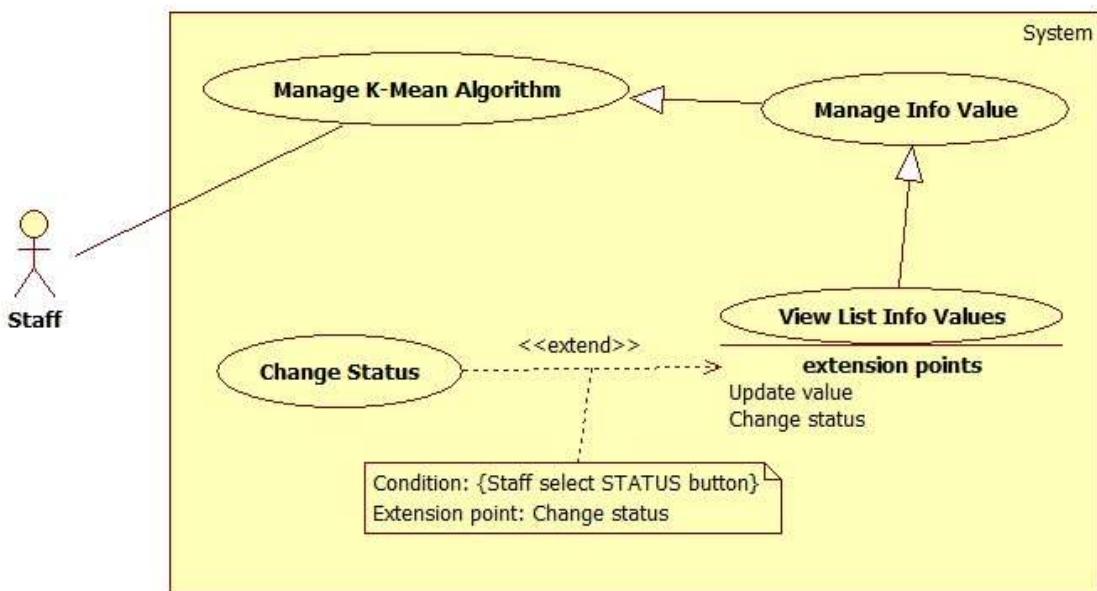
No	Actor Action	System Response
1	“Điểm số” is empty.	Show error message: “Phải nhập giá trị điểm số”.
2	Value of “Điểm số” is greater than 100.	Show error message: “Lớn nhất là 100”.

Relationships: Specialized for Manage K-Mean Algorithm (Abstract Use Case).

Business Rules:

- Staff needs to consider classifying cluster after update info value.

2.3.3.6 <Staff> Change Status Use Case Diagram



**Figure 43: <Staff> Change Status
Use Case Specification**

USE CASE – MSSC038									
Use Case No.	MSSC038	Use Case Version	2.0						
Use Case Name	Change Status								
Author	KhoaTND								
Date	12/09/2014	Priority	Normal						
Actor:	<ul style="list-style-type: none"> - Staff. 								
Summary:	<ul style="list-style-type: none"> - This use case allows staff to change status of info value. 								
Goal:	<ul style="list-style-type: none"> - Change status of info value. 								
Triggers:	<ul style="list-style-type: none"> - On staff dash board screen, staff clicks on “Cấu hình thuật toán” menu item. - Staff selects info value and clicks on “Khóa” button or “Mở” button. 								
Preconditions:	<ul style="list-style-type: none"> - Staff must login into the system. 								
Post Conditions:	<ul style="list-style-type: none"> - Success: Update status of info value. - Fail: Show error message. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Staff selects info value and clicks on “Khóa” button.</td><td>[Exception 1] Update status of info value to deactivate in</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Staff selects info value and clicks on “Khóa” button.	[Exception 1] Update status of info value to deactivate in
Step	Actor Action	System Response							
1	Staff selects info value and clicks on “Khóa” button.	[Exception 1] Update status of info value to deactivate in							

		database. Show message: “Đã cập nhật thành công”. “Trạng thái” column is changed to “Đang tạm ngừng”.
--	--	---

Alternative Scenario:

No	Actor Action	System Response
1	Staff selects info value and clicks on “Mở” button.	[Exception 1] Update status of info value to active in database. Show message: “Đã cập nhật thành công”. “Trạng thái” column is changed to “Đang sử dụng”.

Exceptions:

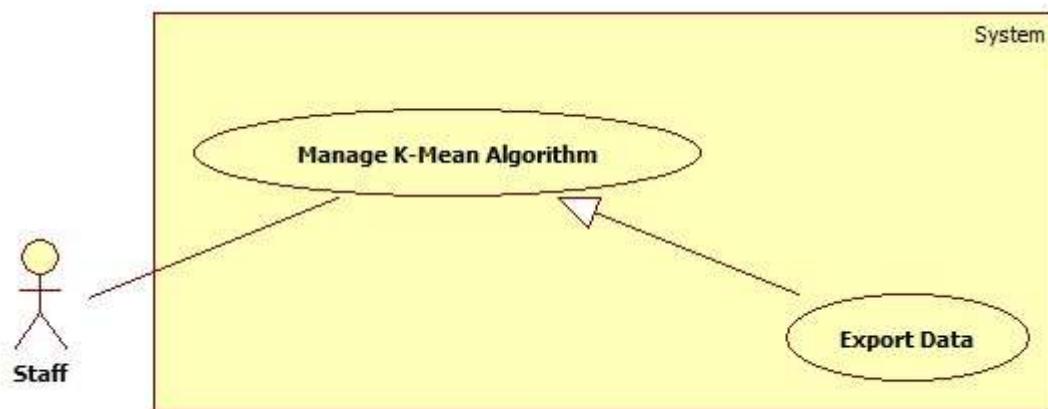
No	Actor Action	System Response
1	Session time out.	Redirect to error 403 page.

Relationships: Extend for View List Info Values (Change status).

Business Rules:

- Deactive items will be hidden on “Danh mục” tab and can not be used in creating event.
- Active items will be show on “Danh mục” tab and can be used in creating event.

2.3.3.7 <Staff> Export Data Use Case Diagram



**Figure 44: <Staff> Export Data
Use Case Specification**

USE CASE – MSSC039			
Use Case No.	MSSC039	Use Case Version	2.0

Use Case Name	Export Data		
Author	KhoaTND		
Date	12/09/2014	Priority	High

Actor:

- Staff.

Summary:

- This use case allows staff to export event data of the system.

Goal:

- Export event data.

Triggers:

- In dash board screen, staff selects “Cấu hình thuật toán” menu item.
- In “Xử lý với K” tab, staff clicks “Tải về kết quả” link.

Preconditions:

- Staff must login into the system.

Post Conditions:

- **Success:** Generate excel file contains event data.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Staff clicks “Xử lý với K” tab.	<p>Display “Xử lý với K” tab contains:</p> <ul style="list-style-type: none"> - “Chọn K” region - “Kết quả” region <p>“Kết quả” region contains:</p> <ul style="list-style-type: none"> - “Tải về kết quả”: link. - “Nhóm kết quả”: group of panels. Each panel contains cluster centroid value and number of event in that cluster.
2	Staff clicks “Tải về kết quả” link.	<p>Generate an excel file which contains:</p> <ul style="list-style-type: none"> - MSSC logo : image - Data table: 11 columns: <ul style="list-style-type: none"> + “Tên sự kiện”: text. + “Ngày diễn ra”: date time. + “Địa điểm”: text. + “Nhà tổ chức”: text + “Lĩnh vực”: text + “Độ tuổi”: text + “Kĩ năng”: text + “Nhóm”: text + “V_Sector”: number + “V_Age”: number + “V_Skill”: number <p>The excel file's name is in “DataReport_YYYYMMDDHHmm” format.</p>

Alternative Scenario: N/A

Exceptions:

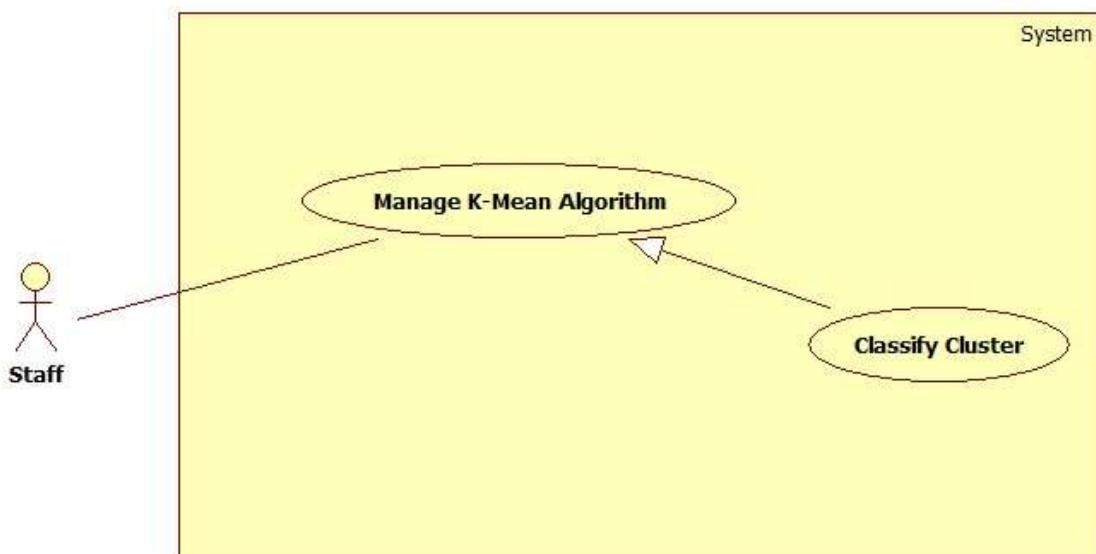
No	Actor Action	System Response
1	I/O exception.	Display an error message “Đã có lỗi xảy ra” on the top left of the screen.

Relationships: Specialized for Manage K-Mean Algorithms (Abstract Use Case).

Business Rules:

- All events data in the system will be exported even though the event is deactivate.

2.3.3.8 <Staff> Classify Cluster Use Case Diagram



**Figure 45: <Staff> Classify Cluster
Use Case Specification**

USE CASE – MSSC040

Use Case No.	MSSC040	Use Case Version	2.0
Use Case Name	Classify Cluster		
Author	KhoaTND		
Date	12/09/2014	Priority	High

Actor:

- Staff.

Summary:

- This use case allows staff to classify events into cluster in the system.

Goal:

- Clustering all events in the system.

Triggers:

- In dash board screen, staff selects “Cấu hình thuật toán” menu item.
- In “Xử lý với K” tab, staff clicks “Phân nhóm” button.

Preconditions:

- Staff must login into the system.

Post Conditions:

- **Success:** All events classify in to cluster in the database.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Staff clicks “Xử lý với K” tab	<p>Display “Xử lý với K” tab contains:</p> <ul style="list-style-type: none"> - “Chọn K” region - “Kết quả” region <p>“Chọn K” region which contains:</p> <ul style="list-style-type: none"> - “Chọn bởi hệ thống”: radio button. - “Tự nhập K”: radio button. - “Phân nhóm”: button
2	Staff selects “Chọn bởi hệ thống” option and clicks “Phân nhóm” button. [Alternative 1]	<p>Automatically determined number of cluster using rule of thumb and classify event into cluster in database.</p> <p>Display result:</p> <ul style="list-style-type: none"> - Number of cluster. - Group of panels. Each panel contain represent a cluster and contains: <ul style="list-style-type: none"> + Centroid value. + Number of events in cluster.

Alternative Scenario:

No	Actor Action	System Response
1	<p>Staff selects “Tự nhập K” option.</p> <p>Staff inputs K value and clicks “Phân nhóm” button.</p>	<p>Display “Nhập K” text box: required, numeric.</p> <p>Classify event into cluster in database.</p> <p>Display result:</p> <ul style="list-style-type: none"> - Number of cluster. - Group of panels. Each panel contain represent a cluster and contains: <ul style="list-style-type: none"> + Centroid value. + Number of events in cluster.

		[Exception 1,2]
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Exceptions:

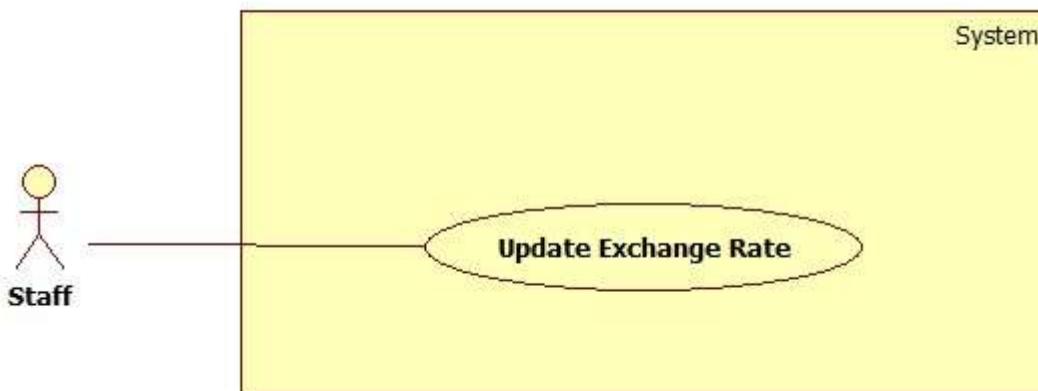
No	Actor Action	System Response
1	Value of “Nhập K” is greater than number of actual cluster in the system	Show error message: “Vượt quá số nhóm hiện tại”.
2	Value of “Nhập K” is smaller than 1	Show error message: “Giá trị nhỏ nhất là 1”.

Relationships: Specialized for Manage K-Mean Algorithms (Abstract Use Case)

Business Rules:

- Number of cluster (K) can be calculated by the system using rule of thumb or staff can use domain knowledge and experience to determine number of cluster in the system.
- In case K=1, it is considered as a trivial case that all events belong to 1 single cluster.

2.3.3.9 <Staff> Update Exchange Rate Use Case Diagram



**Figure 46: <Staff> Update Exchange Rate
Use Case Specification**

USE CASE – MSSC041			
Use Case No.	MSSC041	Use Case Version	2.0
Use Case Name	Update Exchange Rate		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:			
- Staff.			
Summary:			
- This use case allows staff to update exchange rate.			
Goal:			

- Update exchange rate value in the system.

Triggers:

- In dash board screen, staff selects “Quản lý tỉ giá” menu item.

Preconditions:

- Staff must login into the system.

Post Conditions:

- **Success:** Update exchange rate in database.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Staff selects “Quản lý tỉ giá” menu item	<p>Navigate to manage currency rate which contains</p> <ul style="list-style-type: none"> - “Tỉ giá”: textbox, required, numeric. - “Cập nhật”: button - “Danh sách tỉ giá tham khảo”: table contains currency rate from bank service.
2	Staff inputs “Tỉ giá” and click “Cập nhật” button.	<p>Update exchange rate in database. Show message: “Cập nhật tỉ giá thành công”. [Exception 1,2]</p>

Alternative Scenario: N/A

Exceptions:

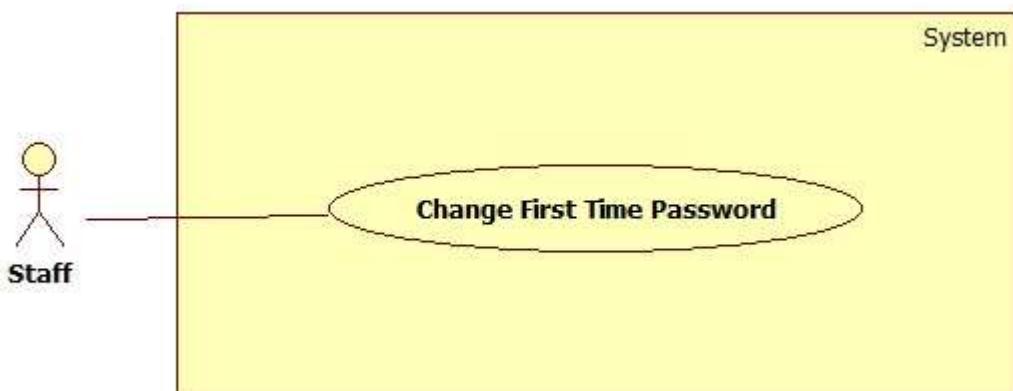
No	Actor Action	System Response
1	“Tỉ giá” is empty	Show error message: “Phải nhập tỉ giá”.
2	“Tỉ giá” is not in numeric format.	Show error message: “Tỉ giá không hợp lệ”.

Relationships: N/A

Business Rules:

- Exchange rate will be used to convert from VNĐ to USA currency for payment in PayPal.
- The system assist staff to check for changing in exchange rate every 24 hours, if the new one is different from the old one more than 1000 VNĐ, the exchange rate will be updated to the new one by the system.

2.3.3.10 <Staff> Change First Time Password Use Case Diagram



**Figure 47: <Staff> Change First Time Password
Use Case Specification**

USE CASE - MSSC042			
Use Case No.	MSSC042	Use Case Version	2.0
Use Case Name	Change First Time Password		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Staff. 		
Summary:	<ul style="list-style-type: none"> - This use case allows staff to change first time password. 		
Goal:	<ul style="list-style-type: none"> - Update new password for staff account in database. 		
Triggers:	<ul style="list-style-type: none"> - Staff first time login. 		
Preconditions:	<ul style="list-style-type: none"> - Staff must login into the system successful with the generated default password. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Update changed password in database. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Staff login with old password successful	Navigate to change password page which contains: <ul style="list-style-type: none"> - “Mật khẩu cũ”: password, required. - “Mật khẩu mới”: password, required. - “Xác nhận mật khẩu mới”: password, required, match to “Mật khẩu mới”. 	

		<ul style="list-style-type: none"> - “Gửi lại mật khẩu”: link - “Xóa”: button. - “Cập nhật”: button.
2	Staff inputs data and clicks “Cập nhật” button. [Alternative 1,2]	Update new password and account state of staff in database. Redirect to staff's dash board. [Exception]

Alternative Scenario:

No	Actor Action	System Response
1	Staff clicks “Xóa” button	Clear all form fields.
2	Staff clicks “Gửi lại mật khẩu” link	Send SMS message contain password to registered staff's phone number.

Exceptions:

No	Actor Action	System Response
1	Length of “Mật khẩu mới” is under 6 characters.	Show error message: “Tối thiểu 6 ký tự”.
2	Length of “Mật khẩu mới” is over 20 characters.	Show error message: “Bạn chỉ được nhập tối đa 20 ký tự”.
3	“Mật khẩu mới” is empty.	Show error message: “Vui lòng nhập mật khẩu”.
4	“Xác nhận mật khẩu mới” is empty	Show error message: “Vui lòng xác nhận mật khẩu”.
5	“Mật khẩu mới” doesn't match “Xác nhận mật khẩu mới”	Show error message: “Mật khẩu không khớp”.
6	“Mật khẩu cũ” doesn't match	Show error message: “Nhập sai mật khẩu cũ”.

Relationships: N/A

Business Rules:

- Staff must change first time password to use all staff's functions.
- If staff doesn't change password in 3 days after account created, the account will be deactivate forever.

2.3.4 <Guest>Overview Use Case

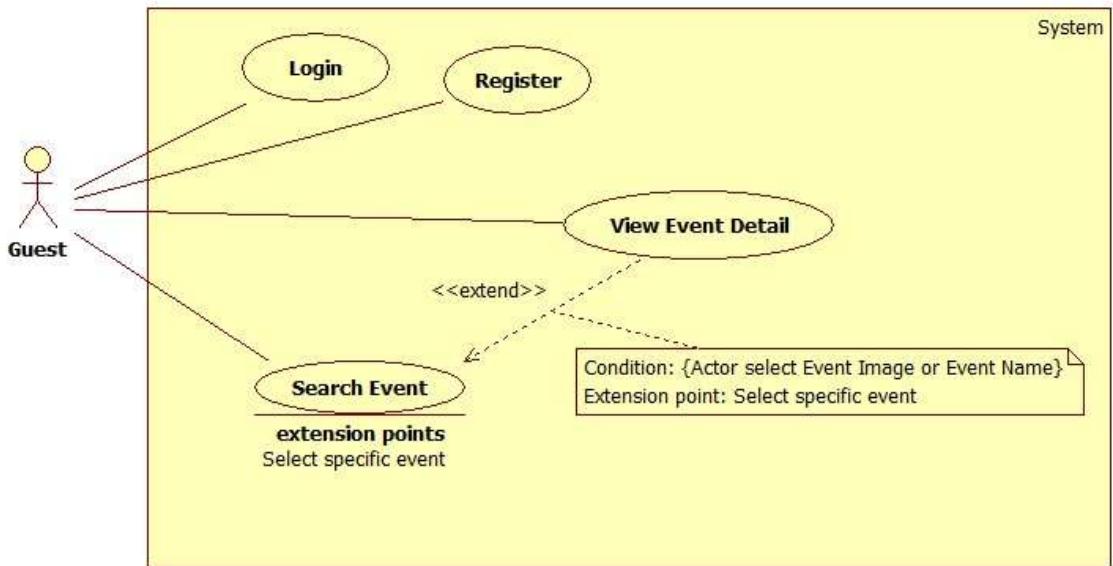
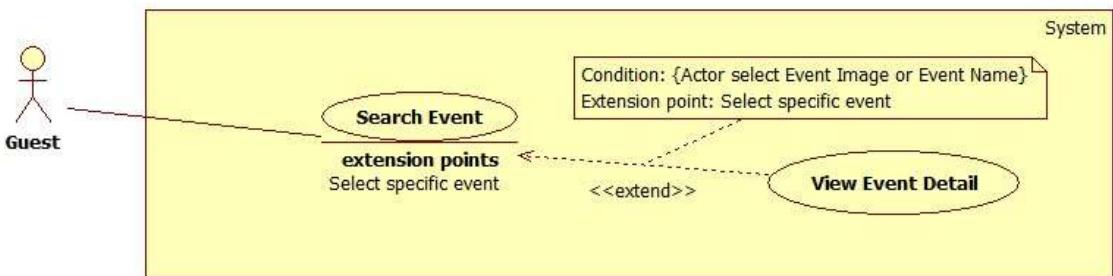


Figure 48: <Guest> Overview Use Case

2.3.4.1 <Guest> Search Event Use Case Diagram



**Figure 49: <Guest>Search Event
Use Case Specification**

USE CASE - MSSC043			
Use Case No.	MSSC043	Use Case Version	2.0
Use Case Name	Search Event		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:			
- Guest.			
Summary:			
- This use case allows guest to search event.			
Goal:			
- Show list of searched event.			
Triggers:			

- Guest inputs search information on search panel and clicks “Tìm kiếm” button.

Preconditions:

- N/A.

Post Conditions:

- **Success:** Show list of matching events. If list is empty, show message “Tìm thấy 0 sự kiện”.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	<p>Guest inputs search information and clicks “Tìm kiếm” button. [Alternative 2]</p>	<p>Search panel contains:</p> <ul style="list-style-type: none"> - “Tên sự kiện”: textbox. - “Tên nhà tổ chức”: textbox. - “Từ ngày”: date time picker. - “Đến ngày”: date time picker. - “Sự kiện đã diễn ra”: checkbox. - “Xóa”: button. - “Tìm kiếm”: button. <p>[Alternative 1] Navigate to search result page display matched events:</p> <ul style="list-style-type: none"> - Number of founded events: label. - Each event will be displayed with: <ul style="list-style-type: none"> o Event image: image. o Event name: label. o Event date: label. o Event state: button. - The list is paging to only show 12 events per page. <p>[Exception]</p>

Alternative Scenario:

No	Actor Action	System Response
1	Guest inputs search information that has no matching event.	Show message: “Tìm thấy 0 sự kiện”
2	Guest clicks “Xóa” button	Reset form fields.

Exceptions:

No	Actor Action	System Response
1	Value of “Đến ngày” is greater than “Từ ngày”.	Show error message: “Ngày không hợp lệ”.

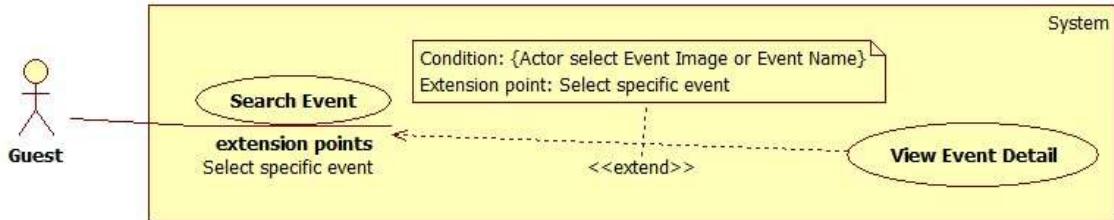
Relationships: Extended by View Event Detail (Select specific event)

Business Rules:

- In case there many events (more than 12), the result only show 12 events per

page and the page is loaded on demand.

2.3.4.2 <Guest> View Event Detail Use Case Diagram



**Figure 50: <Guest>View Event Detail
Use Case Specification**

USE CASE – MSSC044			
Use Case No.	MSSC044	Use Case Version	2.0
Use Case Name	View Event Detail		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Guest. 		
Summary:	<ul style="list-style-type: none"> - This use case allows guest to view detail of specific event. 		
Goal:	<ul style="list-style-type: none"> - Show information of an event. 		
Triggers:	<ul style="list-style-type: none"> - Guest clicks on an event image on home page or search result page. 		
Preconditions:	<ul style="list-style-type: none"> - N/A. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Show event detail page. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Guest clicks on an event image.	Navigate to event detail page which contains: <ul style="list-style-type: none"> - “Tên sự kiện”: label. - “Thời gian”: label. - “Địa điểm”: label. - “Nhà tổ chức”: label. - “Lĩnh vực”: label. - “Hướng tới”: label. - “Kĩ năng”: label. 	

		<ul style="list-style-type: none"> - If an event is still open for selling tickets: <ul style="list-style-type: none"> + “Loại vé”: drop down list, required. + “Thông tin vé”: label. + “Số lượng”: textbox, numeric, required. + “Thành tiền”: label. + “Điện thoại”: textbox, cell phone number, required. + “Mua vé”: button. - “Thông tin chi tiết” tab contains: <ul style="list-style-type: none"> + “Nhà tổ chức”: label. + “Ngày đăng”: label. + “Mô tả”: label. - “Bình luận” tab contains: <ul style="list-style-type: none"> + List of top ten newest comments: commenter's avatar, commenter's username, and post time, content. - “Nhà tổ chức” tab contains: <ul style="list-style-type: none"> + Organization image: image. + Organization name: label. + Email: label. + Phone: email. + Address: label. - “Có thể bạn quan tâm” tab displays list of recommended items (max is 3 events).
--	--	---

Alternative Scenario: N/A

Exceptions:

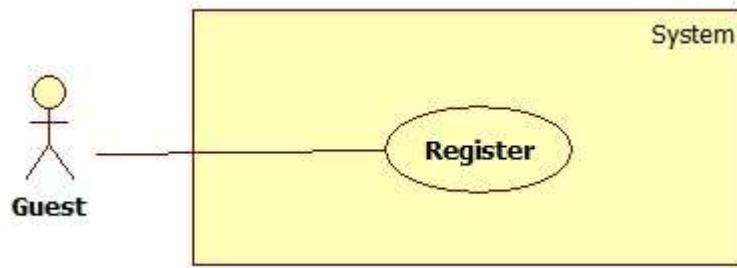
No	Actor Action	System Response
1	Event link is broken.	Navigate to error page.

Relationships: extend for Search Event (Select specific event).

Business Rules:

- An event opens for selling tickets is the event that still not happened yet and has available tickets to sell.
- List of recommended items contains maximum 3 events that the system suggests for user:
- Guest: events those still not happened and in the same group of viewed event.
- Member: events those still not happened and in the same group of member most buying group. Member most buying group is the group that has most buyed events from member.

2.3.4.3 <Guest> Register Use Case Diagram



**Figure 51: <Guest>Register
Use Case Specification**

USE CASE – MSSC045			
Use Case No.	MSSC045	Use Case Version	2.0
Use Case Name	Register		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Guest. 		
Summary:	<ul style="list-style-type: none"> - This use case allows guest to register an account in the system. 		
Goal:	<ul style="list-style-type: none"> - Create new account in the database. 		
Triggers:	<ul style="list-style-type: none"> - Guest clicks “Đăng ký” link. Or - Guest clicks “Dành cho đối tác” link. 		
Preconditions:	<ul style="list-style-type: none"> - N/A. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: Insert new account in the database. - Fail: Show error message. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Guest clicks “Đăng ký” link. [Alternative 1]	Navigate to register page which contains: <ul style="list-style-type: none"> - “Tài khoản”: textbox, required, min length: 6, max length: 20. - “Mật khẩu”: password, required, min length: 6, max length: 20. - “Xác nhận mật khẩu”: password, required, min length: 6, max length: 20. - “Email”: textbox, required, email, 	

		<ul style="list-style-type: none"> - "max length: 50. - "Hình đại diện": file picker, image format. - "Họ Tên": textbox, required, max length: 50. - "Giới tính": radio button. - "Ngày sinh": datetime picker. - "Số điện thoại": textbox, required, cell phone number. - "Nghề nghiệp": textbox, max length: 30. - "Chức vụ": textbox, max length: 30. - "Công ty": textbox, max length: 30. - "Địa chỉ": textbox, max length: 80. - "Thông tin khác": textbox, max length: 200. - "Xóa": button clears form fields when click. - "Đăng ký": button.
2	Guest inputs information and clicks “Đăng ký” button.	<p>[Exception 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21]</p> <p>Insert new member account into the database.</p> <p>Send a sms contains active code.</p> <p>Redirect user to verify account page.</p>

Alternative Scenario:

No	Actor Action	System Response
1	Guest clicks “Dành cho đối tác” link.	<p>Navigate to register page which contains:</p> <ul style="list-style-type: none"> - “Tài khoản”: textbox, required, min length: 6, max length: 20. - “Mật khẩu”: password, required, min length: 6, max length: 20. - “Xác nhận mật khẩu”: password, required, min length: 6, max length: 20. - “Email đăng ký”: textbox, required, email, max length: 50. - “Hình đại diện”: file picker, image format. - “Tên tổ chức”: textbox, required, max length: 50. - “Số điện thoại”: textbox, required, cell phone number.

	<p>Guest inputs information and clicks “Đăng ký” button.</p>	<ul style="list-style-type: none"> - “Email”: textbox, required, email, max length: 50. - “Địa chỉ”: textbox, max length: 80. - “Xóa”: button clears form fields when click. - “Đăng ký”: button. <p>[Exception 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 22, 23, 24, 25, 26, 27, 28]</p> <p>Insert new partner account into the database.</p> <p>Redirect user to wait for activate page.</p>
--	--	---

Exceptions:

No	Actor Action	System Response
1	“Tài khoản” is empty.	Show error message: “Vui lòng nhập tài khoản của bạn”.
2	Length of “Tài khoản” is under 6 characters.	Show error message: “Tối thiểu 6 ký tự”.
3	Length of “Tài khoản” length is over 20 characters.	Show error message: “Bạn chỉ được nhập tối đa 20 ký tự”.
4	Value of “Tài khoản” has already existed.	Show error message: “Tài khoản đã được đăng ký”.
5	“Mật khẩu” is empty.	Show error message: “Vui lòng nhập mật khẩu”.
6	Length of “Mật khẩu” is under 6 characters.	Show error message: “Tối thiểu 6 ký tự”.
7	Length of “Mật khẩu” is over 20 characters.	Show error message: “Bạn chỉ được nhập tối đa 20 ký tự”.
8	“Xác nhận mật khẩu” is empty.	Show error message: “Vui lòng xác nhận mật khẩu”.
9	Value of “Xác nhận mật khẩu” is different to “Mật khẩu”.	Show error message: “Mật khẩu không khớp”.
10	Length of “Email” is over 50 characters.	Show error message: “Bạn chỉ được nhập tối đa 50 ký tự”.
11	“Email” is empty.	Show error message: “Vui lòng nhập địa chỉ email của bạn”.
12	Value of “Hình đại diện” is not in image format.	Show error message: “Hệ thống chỉ hỗ trợ định dạng hình ảnh”.
13	“Họ tên” is empty.	Show error message: “Vui lòng nhập tên đầy đủ của bạn”.
14	Length of “Họ tên” is over 50 characters.	Show error message: “Bạn chỉ được nhập tối đa 50 ký tự”.
15	“Số điện thoại” is empty.	Show error message: “Bạn phải nhập số điện thoại di động”.
16	Value of “Số điện thoại” is in wrong format.	Show error message: “Định dạng di động +84XXXXXXXXXX hoặc 0XXXXXXXXX”.

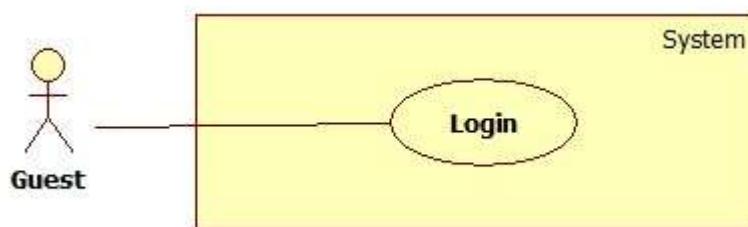
17	Length of “Nghề nghiệp” is over 30 characters.	Show error message: “Bạn chỉ được nhập tối đa 30 ký tự”.
18	Length of “Chức vụ” is over 30 characters.	Show error message: “Bạn chỉ được nhập tối đa 30 ký tự”.
19	Length of “Công ty” is over 30 characters.	Show error message: “Bạn chỉ được nhập tối đa 30 ký tự”.
20	Length of “Địa chỉ” is over 80 characters.	Show error message: “Bạn chỉ được nhập tối đa 80 ký tự”.
21	Length of “Thông tin khác” is over 200 characters.	Show error message: “Bạn chỉ được nhập tối đa 200 ký tự”.
22	Length of “Email đăng ký” is over 50 characters.	Show error message: “Bạn chỉ được nhập tối đa 50 ký tự”.
23	“Email đăng ký” is empty.	Show error message: “Vui lòng nhập địa chỉ email của bạn”.
24	“Số điện thoại liên lạc” is empty.	Show error message: “Bạn phải nhập số điện thoại di động”.
25	Value of “Số điện thoại liên lạc” is in wrong format.	Show error message: “Định dạng đi động +84XXXXXXXXX hoặc 0XXXXXXXXX”.
26	“Tên tổ chức” is empty.	Show error message: “Vui lòng nhập tên công ty”.
27	Length of “Tên tổ chức” is over 50 characters.	Show error message: “Bạn chỉ được nhập tối đa 50 ký tự”.
28	“Địa chỉ” is empty.	Show error message: “Bạn phải nhập địa chỉ”.

Relationships: N/A.

Business Rules:

- After registered, member account will be in deactive state until member enter the verify code which sent to his/her cell phone. Verify code is a 4 characters code auto generated by system.
- After registered, partner account will be in deactive state until staff verifies account information (ref: Activate Partner Account use case).
- After 3 day from registration, member account will be removed if it hadn't been activated.

2.3.4.4 <Guest> Login Use Case Diagram



**Figure 52: <Guest>Login
Use Case Specification**

USE CASE - MSSC046

Use Case No.	MSSC046	Use Case Version	2.0
Use Case Name	Login		
Author	KhoaTND		
Date	12/09/2014	Priority	Normal

Actor:

- Guest.

Summary:

- This use case allows guest to login into system.

Goal:

- Authentication and authorization.

Triggers:

- Guest clicks “Đăng nhập” link.

Preconditions:

- Guest has not logged in the system.???

Post Conditions:

- **Success:** User logged and redirect to appropriate page.
- **Fail:** Show error message.

Main Success Scenario:

Step	Actor Action	System Response
1	Guest clicks “Đăng nhập” link.	<p>Navigate to login page which contains:</p> <ul style="list-style-type: none"> - “Tài khoản”: textbox, required. - “Mật khẩu”: password, required. - “Đăng nhập”: button.
2	Guest inputs information and clicks “Đăng nhập” button.	<p>Authentication and authorization.</p> <p>If guest is member, navigate to home page.</p> <p>If guest is staff, navigate to staff dash board.</p> <p>If guest is admin, navigate to admin dash board.</p> <p>If guest is partner, navigate to partner dash board.</p>

Alternative Scenario: N/A

Exceptions:

No	Actor Action	System Response
1	“Tài khoản” is empty.	Show error message: “Chưa nhập tên đăng nhập”.
2	“Mật khẩu” is empty.	Show error message: “Chưa nhập mật khẩu”.
3	Account is deactivated.	Show error message: “Tài khoản đã bị khóa”.

4	Account has not been activated.	Show error message: "Tài khoản chưa được kích hoạt".
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Relationships: N/A

Business Rules:

- Logged in account' expire duration is 2 hours.
- Only active account can login into the system.

2.3.5 <Admin>Overview Use Case

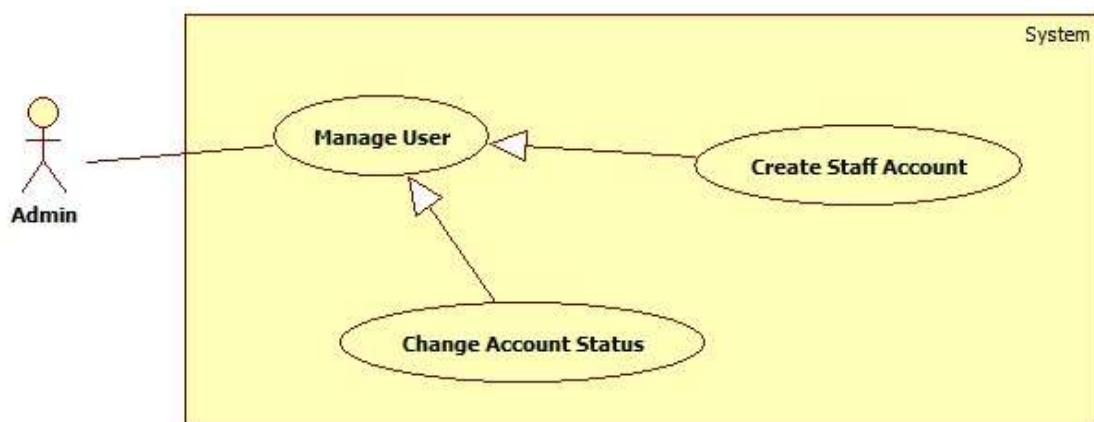


Figure 53: <Admin> Overview Use Case

2.3.5.1 <Admin> Create Staff Account Use Case Diagram

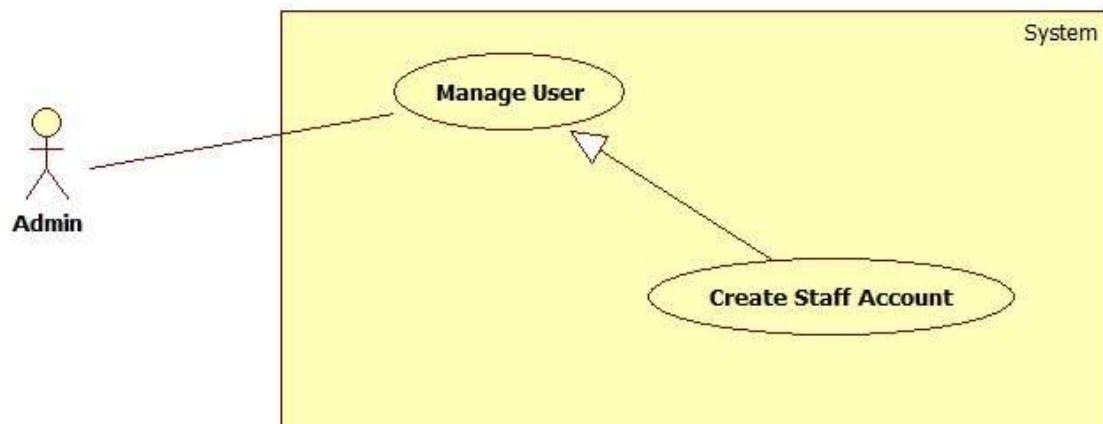


Figure 54: <Admin>Create Staff Account Use Case Specification

USE CASE - MSSC047			
Use Case No.	MSSC047	Use Case Version	2.0
Use Case Name	Create Staff Account		
Author	KhoaTND		
Date	11/09/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> - Admin. 		
Summary:	<ul style="list-style-type: none"> - This use case allows admin to create new account for staff in the system. 		
Goal:	<ul style="list-style-type: none"> - New staff account will be added to the system. 		
Triggers:	<ul style="list-style-type: none"> - From the side bar: <ul style="list-style-type: none"> + Select “Quản lý tài khoản” menu. + Select “Tạo tài khoản cho nhân viên” link. 		
Preconditions:	<ul style="list-style-type: none"> - User must login into the system with admin role. 		
Post Conditions:	<ul style="list-style-type: none"> - Success: New staff account will be added to the database. - Fail: Show error message on the current page, no new account added. 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	Admin click “Tạo tài khoản cho nhân viên” link	<p>Navigate to “Tạo tài khoản cho nhân viên” popup which contains:</p> <ul style="list-style-type: none"> - “Tài khoản”: textbox, min length: 6, max length: 30, required. - “Email”: textbox, required, email. - [Phone] - “Họ tên”: textbox, min length: 6, max length: 50, required. - “Số điện thoại”: textbox, required, phone number format. - “Vai trò”: textbox. - “Tạo tài khoản”: button. - “Xóa”: button. 	
3	Admin fills data and clicks “Tạo tài khoản” button. [Alternative 1]	<p>Insert new staff account to database and close popup. Staff account password will be generated by the system and send to staff cell phone in SMS message.</p> <p>Show message: “Đã tạo mới nhân viên thành công”.</p> <p>[Exception 1,2,3,4,5,6]</p>	

Alternative Scenario:

No	Actor Action	System Response
1	Admin clicks “Xóa” button.	Clear all input data.

Exceptions:

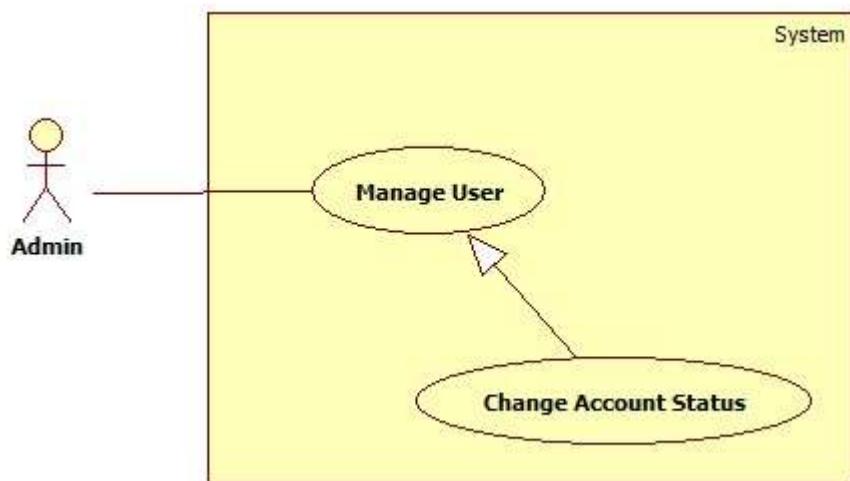
No	Actor Action	System Response
1	Length of “Tên tài khoản” is under 6 characters.	Show error message: “Tối thiểu 6 ký tự”.
2	Length of “Tên tài khoản” is over 20 characters.	Show error message: “Chỉ được nhập tối đa 20 ký tự”.
3	“Email” is invalid format.	Show error message: “Định dạng email không hợp lệ”.
4	“Tên tài khoản” has already existed.	Show error message: “Tài khoản đã được đăng ký”.
5	“Số điện thoại” is empty.	Show error message: “Phải nhập số điện thoại di động”.
6	Value of “Số điện thoại” is wrong format.	Show error message: “Định dạng di động +84XXXXXXXXXX hoặc 0XXXXXXXXX”.
7	Value of “Số điện thoại” has existed.	Show error message: “Số điện thoại di động này đã được đăng ký”.

Relationships: Specialized for Manage User (Abstract Use Case).

Business Rules:

- Staff account will be in deactivating state when inserted to database.
- Staff has to login and change first time password to activate his or her account.

2.3.5.2 <Admin> Change Account Status Use Case Diagram



**Figure 55: <Admin>Change Account Status
Use Case Specification**

Use Case No.	MSSC048	Use Case Version	2.0
Use Case Name	Change Account Status		
Author	KhoaTND		
Date	11/09/2014	Priority	Normal

Actor:

- Admin.

Summary:

- This use case allows admin to update status of an account.

Goal:

Account state is updated to database.

Triggers:

- From the side bar:
 - + Select “Quản lý tài khoản” menu.
 - + Select a deactivated account and select “Hoạt động” button. Or select an active account and select “Ngừng hoạt động” button.

Preconditions:

- User must log in to the system with admin role.

Post Conditions:

- **Success:** The selected account will change state: from active to deactivated or vice versa.
- **Fail:** Show error message on screen, no changes in database.

Main Success Scenario:

Step	Actor Action	System Response
1	Admin click menu item “Quản lý tài khoản”	<p>Navigate to “Quản lý tài khoản” page which contains:</p> <ul style="list-style-type: none"> - “Tạo tài khoản cho nhân viên” link - A table with 3 columns: <ul style="list-style-type: none"> o Tên tài khoản o Vai trò o Kích hoạt - “Tên tài khoản”: label. - “Vai trò”: label. <p>“Kích hoạt” : “Hoạt động” button or “Ngừng hoạt động” button.</p>
2	Admin select an active account and click “Ngừng hoạt động” button. [Alternative 1]	<p>The selected account will be change from active to deactivated state. [Exception 1]</p>

Alternative Scenario:

No	Actor Action	System Response
1	Admin select a deactivated account and click “Hoạt	

	đóng” button	The selected account will be change from deactivated to active state.
--	--------------	---

Exceptions:

No	Actor Action	System Response
1	Database connection error	Show error message “Đã có lỗi xảy ra trong quá trình thực hiện, vui lòng thử lại sau!”

Relationships: Specialized for Manage User (Abstract Use Case).

Business Rules:

- Active account: an account that can log in to the system and use account role's functions.
- Deactivated account: an account that can't log in to the system and can only use guest's functions.

2.3.6 <Authenticated User> Overview Use Case

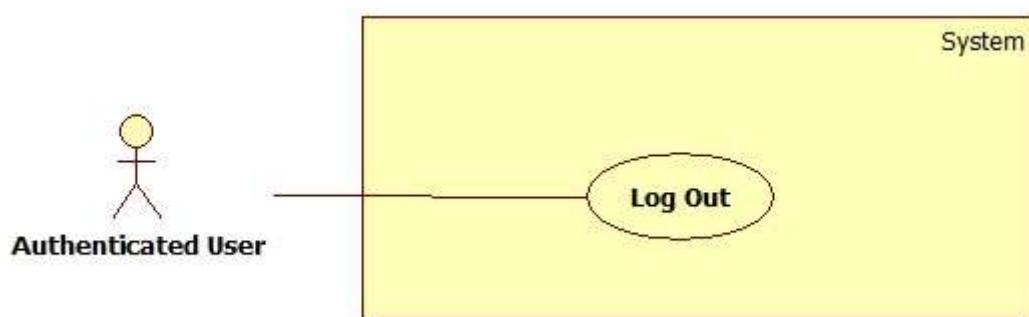
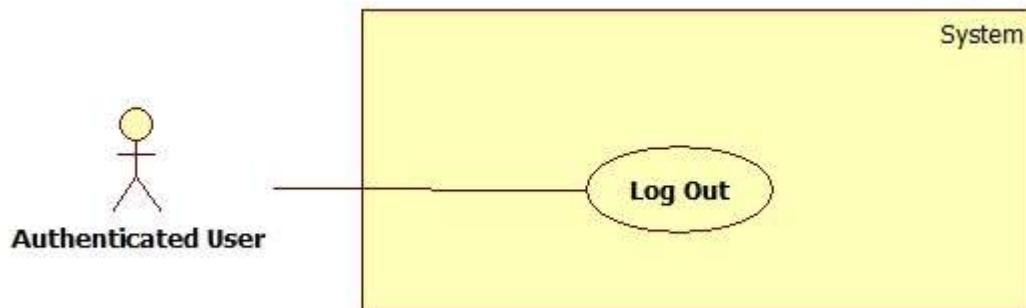


Figure 56: <Authenticated User> Overview Use Case

2.3.6.1 <Authenticated User> Log Out Use Case Diagram



**Figure 57: <Authenticated User> Log Out
Use Case Specification**

USE CASE – MSSC049					
Use Case No.	MSSC049	Use Case Version	2.0		
Use Case Name	Log Out				
Author	KhoaTND				
Date	12/09/2014	Priority	Normal		
Actor:					
- Authenticated User.					
Summary:					
- This use case allows authenticated user to log out of the system.					
Goal:					
- Log out.					
Triggers:					
- Authenticated User clicks on “Đăng xuất” link.					
Preconditions:					
- User is an authenticated user.					
Post Conditions:					
- Success: Authenticated user log out of the system.					
- Fail: Do nothing.					
Main Success Scenario:					
Step	Actor Action	System Response			
1	Authenticated User clicks on “Đăng xuất” link.	Clear session and log user out of the system. Navigate to home page.			
Alternative Scenario: N/A.					
Exceptions: N/A.					
Relationships: N/A.					
Business Rules:					
- After log out process, user will be navigated to MSSC home page regardless of which role user is.					

3. Software System Attribute

3.1 Usability

3.1.1 Graphic User Interface

- All the texts, labels and should be written in Vietnamese.

3.1.2 Usability

- Admin, staff should need less than one week of training to be productive with the system.

3.1.3 Installation

- The system must be easy to deploy. Customer can deploy successfully and learn to configure, maintain the system within one day of training.
- The attached manual guide must be clear. User can read and do themselves without developer's help.

3.2 Reliability

- The storing information on card is permanent.

3.3 Availability

- In online mode, system provides all features for user.
- In offline mode, user can use these functions: read, write contact, and write event ticket.

3.4 Security

- Privacy: Each role of user has a specific permission to interact with system.
- System always checks authorization and authentication before doing anything.
- Only admin can grant permission to partner.

3.5 Maintainability

- The system is divided into separated modules.

3.6 Portability

- The system can be deployed into many type of servers those have IIS server.

3.7 Performance

- On demand friend suggestion speed should be within 1 minute per one user.
- On demand event suggestion speed should be within 1 minute per one user.

4. Conceptual Diagram

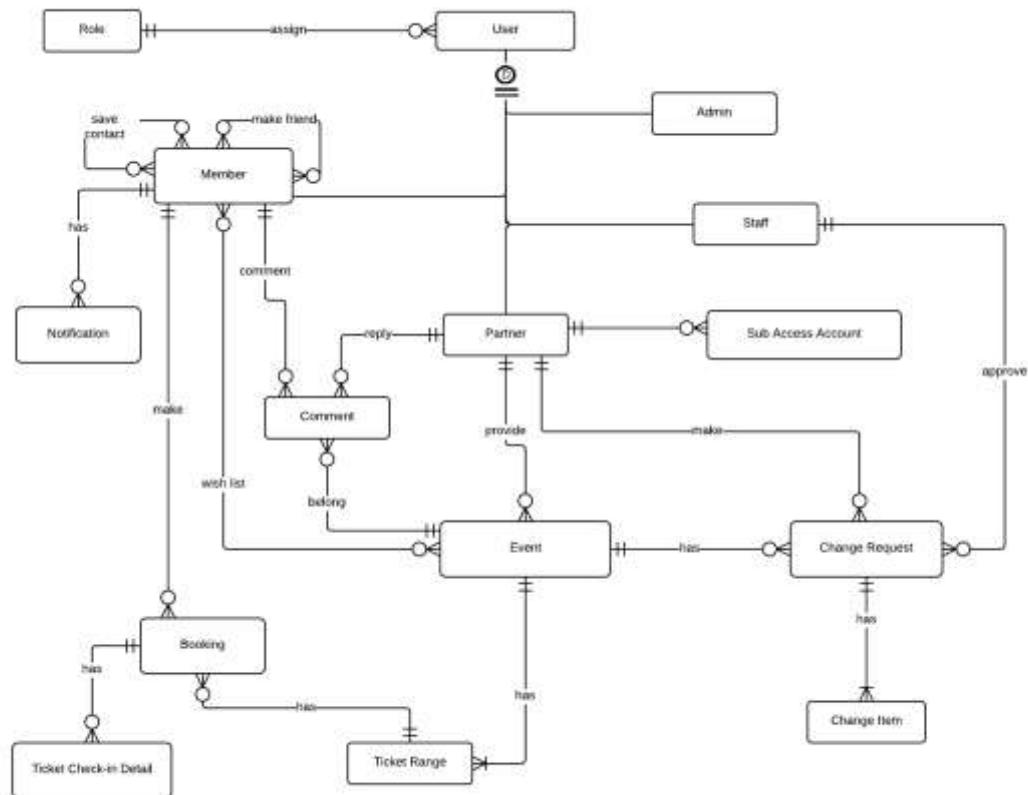


Figure 58: Conceptual Diagram

Data Dictionary

Entity Data dictionary: describe content of all entities	
Entity Name	Description
Role	Describe all roles in the system.
User	Describe all users in the system.
Admin	Describe all admin profiles in the system.
Member	Describe all member profiles in the system.
Staff	Describe all staff profiles in the system.
Partner	Describe all partner profiles in the system.
Sub Access Account	Describe all sub accounts of each partner in the system.
Notification	Describe all system notifications for members.
Event	Describe all events in the system.
Change Request	Describe all change requests by partners in the system.
Change Item	Describe all change items in change request.
Comment	Describe all comments in the system.
Ticket Range	Describe all ticket ranges of each event in the system.
Booking	Describe all bookings made by members in the system.
Ticket Checkin Detail	Describe all ticket check-in detail of each booking in the system.

D.Report No. 4 Software Design Description

1. Design Overview

- This document describes the technical and user interface design of MSSC System. It includes the architectural design, the detailed design of common functions and business functions and the design of database model.
- The architectural design describes the overall architecture of the system and the architecture of each main component and subsystem.
- The detailed design describes static and dynamic structure for each component and functions. It includes class diagrams, class explanations and sequence diagrams for each use cases.
- The database design describes the relationships between entities and details of each entity.
- Document overview:
 - Section 2: gives an overall description of the system architecture design.
 - Section 3: gives component diagrams that describe the connection and integration of the system.
 - Section 4: gives the detail design description which includes class diagram, class explanation, and sequence diagram to details the application functions.
 - Section 5: describe a fully attributed ERD.

2. System Architectural Design

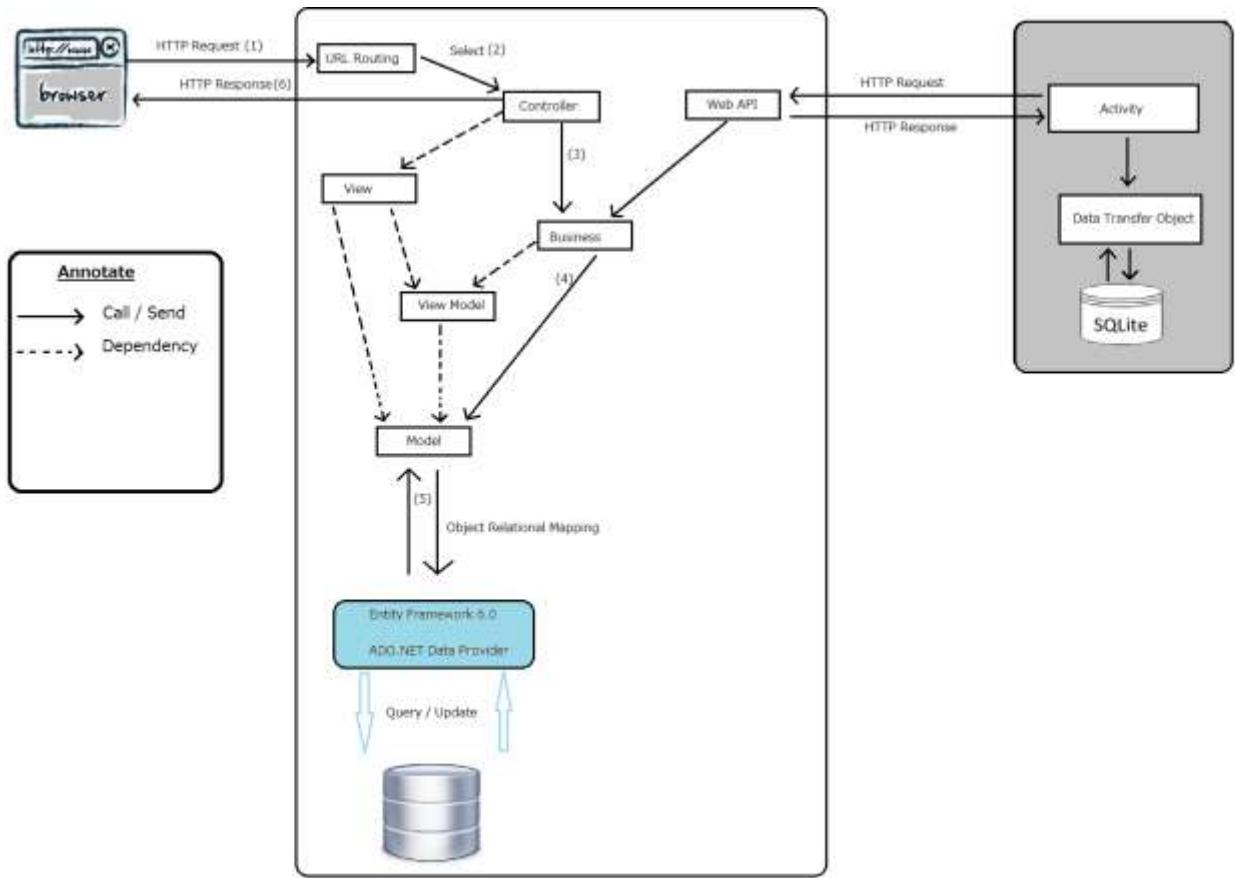


Figure 59: MSSC System Architectural

2.1 Web application architecture description

- The system is developed from MVC architecture style and customized with passive model to adapt to MVC5, Web API 2.2 and Entity Framework 6 technologies.
- **Model** is the parts of the application that acts like a data transfer object between the system and database (POCO). Model is generated by mapping the database table (ORM) by EF6
- **View** is the parts of the application that handles the display of the data. Most often the views are created from the model data. The creation of View is under control of Controller
- **Controller** is the parts of the application that acts like event handler to handles user interaction. Typically controller read data from a request and calls appropriate Business's method then selects view to generate.
- **Business** is the parts of the application that do business processing to solve domain problems.
- **View Model** is the parts of the application that acts like value object (VO). Typically view model contains model instances and is passed to view by controller.

- **Web API** is the parts of the application that acts like event handler for web communication via REST method.

2.2 Mobile application architecture description

- The application is developed as an Android native application. In general, the application architecture conforms to Android architecture.
- **Activity** is the basic core of an android application that handles user input, calls Web API...
- **Data Transfer Object** is the parts of the application that mapping to SQLite database table for CRUD operations.

3. Component Diagram

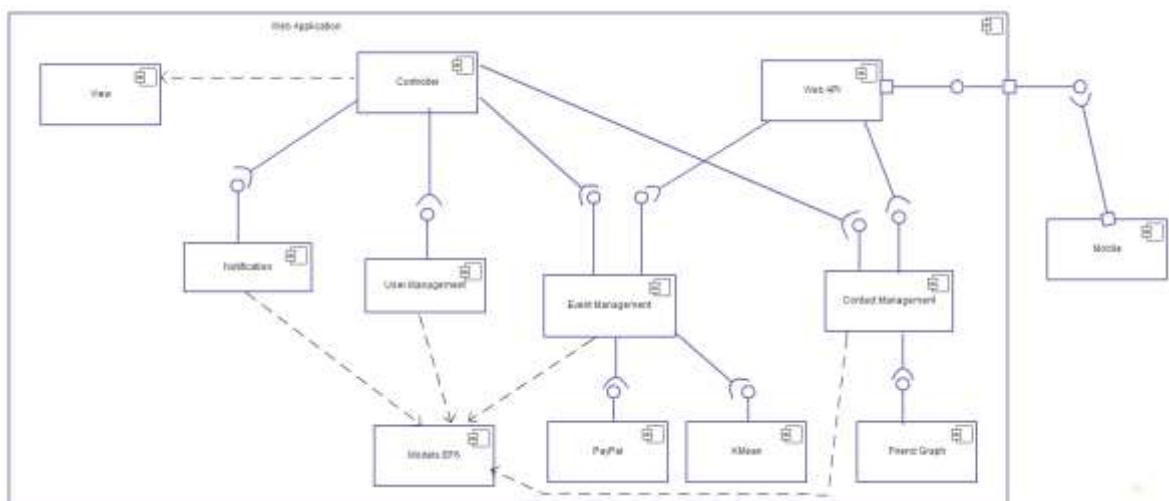


Figure 60: Component Diagram

Component dictionary: describe component	
Component Name	Description
View	Content all views of the system.
Controller	Content all controllers of the system.
Web API	Content all web API controllers of the system.
Notification	Sending message, store and retrieve notification.
User Management	Business logic processing for users.
Event Management	Business logic processing for event.
Contact Management	Business logic processing for contacts.
Models EF6	Entity Framework 6 mapping models.
Paypal	Handle working with PayPal.
KMean	Handle algorithm processing.
Friend Graph	Handle graph data processing.
Mobile	Android application package.

4. Detailed Description

4.1 Class Diagram

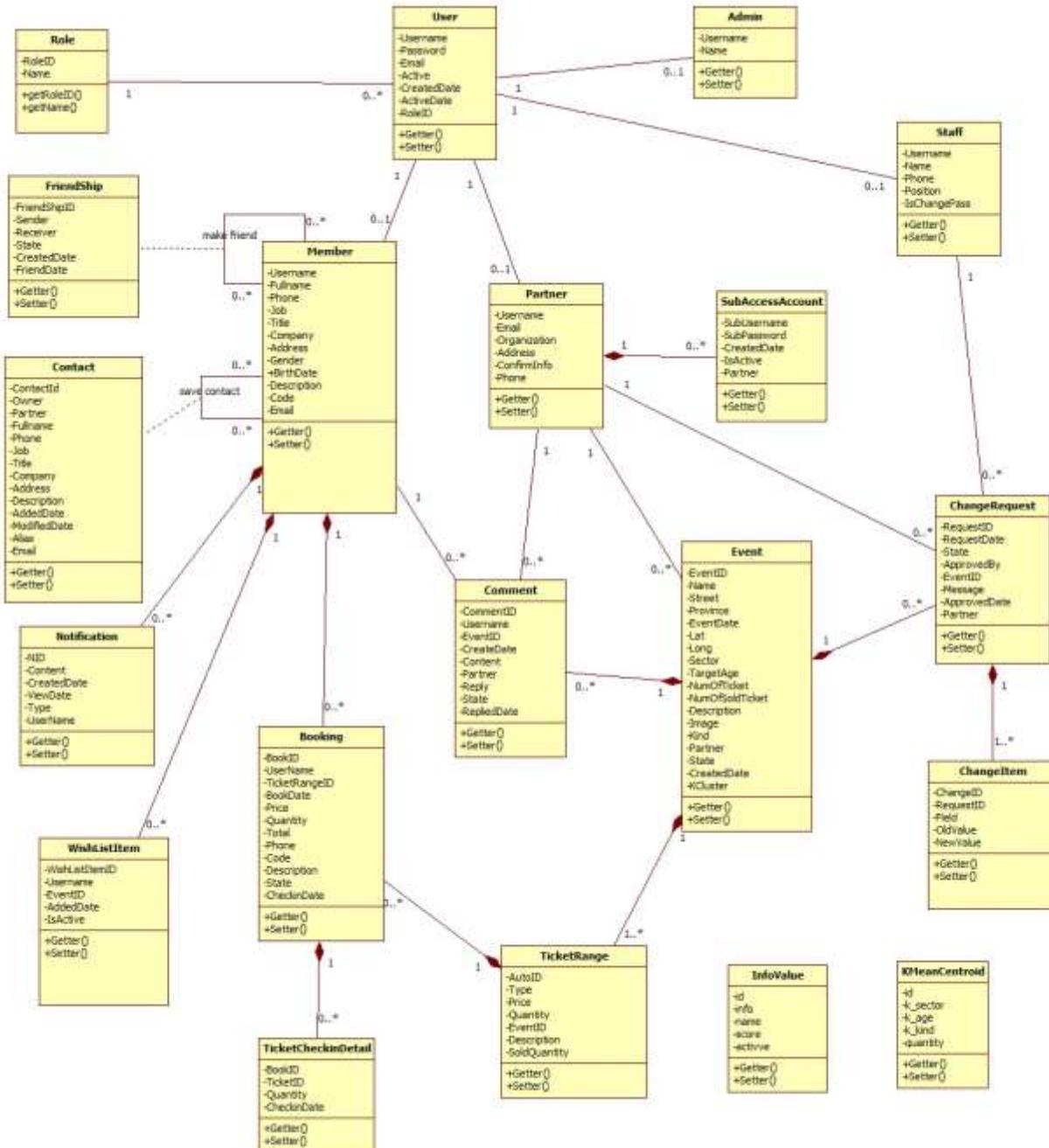


Figure 61: Class Diagram

4.2 Class Diagram Explanation

4.2.1 Role

Attribute

Attribute	Type	Visibility	Description
RoleID	int	Private	Unique identifier of a role
Name	string	Private	Role name

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.2 User

Attribute

Attribute	Type	Visibility	Description
Username	string	Private	Unique identifier of an account
Password	string	Private	Password of an account
Email	string	Private	Email address
RoleID	int	Private	ID of account's role
Avatar	string	Private	Avatar image link of an account
Active	bool	Private	State of an account
CreateDate	DateTime	Private	The date the account created
ActiveDate	DateTime	Private	The date the account activated

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.3 Admin

Attribute

Attribute	Type	Visibility	Description
Username	string	Private	Unique identifier of admin profile
Name	string	Private	Name of admin

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.4 Staff

Attribute

Attribute	Type	Visibility	Description
Username	string	Private	Unique identifier of staff profile
Name	string	Private	Name of staff
Phone	string	Private	Staff's cell phone number

Position	string	Private	Working position of staff
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Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.5 Partner

Attribute

Attribute	Type	Visibility	Description
Username	string	Private	Unique identifier of partner profile
Email	string	Private	Email address of partner
Organization	string	Private	Name of partner's company
Address	string	Private	Address of partner's company
ConfirmInfo	string	Private	Staff note on partner information
Phone	string	Private	Partner's cell phone number

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.6 Member

Attribute

Attribute	Type	Visibility	Description
Username	string	Private	Unique identifier of member profile
Fullscreen	string	Private	Member's full name
Phone	string	Private	Member's cell phone number
Job	string	Private	Member's job information
Title	string	Private	Title
Company	string	Private	Member's company name
Address	string	Private	Member's address
Gender	bool	Private	Member's gender
BirthDate	DateTime	Private	Member's birth day
Description	string	Private	Other description
Code	string	Private	Secret code
Email	string	Private	Member's contact email

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.7 Event

Attribute

Attribute	Type	Visibility	Description
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EventID	int	Private	Unique identifier of each event
Name	string	Private	Event's name
Street	string	Private	Event's place address
Province	string	Private	Event's province
EventDate	DateTime	Private	Event happen date
Lat	double	Private	Latitude
Long	double	Private	Longitude
Sector	string	Private	Event's sector
TargetAge	string	Private	Event's targeted age
NumOfTicket	int	Private	Total ticket quantity
NumOfSoldTicket	int	Private	Total sold ticket quantity
Description	string	Private	Event's description
Image	string	Private	Event image link
Kind	string	Private	Event's kind
Partner	string	Private	The organization of event
State	string	Private	Event's state
CreatedDate	DateTime	Private	Event's created date
KCluster	int	Private	Event's group

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.8 TicketRange

Attribute

Attribute	Type	Visibility	Description
AutoID	int	Private	Unique identifier of each range
Type	string	Private	Ticket range's name
Price	int		Ticket range's price
Quantity	int		Ticket range's quantity
EventID	int		Identify event of ticket range
Description	string		Describe about ticket range
SoldQuantity	int		Total sold tickets of ticket range

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.9 Booking

Attribute

Attribute	Type	Visibility	Description
BookID	int	Private	Unique identifier of each booking
Username	string	Private	Member who make booking
TicketRangeID	int	Private	Identify booking ticket range

BookDate	DateTime	Private	Booking date
Price	int	Private	Price of booked ticket range
Quantity	int	Private	Number of booked ticket
Total	int	Private	Total money of booking
Phone	string	Private	Customer's cell phone number
Code	string	Private	Booking's secret code
Decscription	string	Private	Other description
State	string	Private	Booking's state
CheckinDate	DateTime	Private	Completed check-in date

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.10 TicketCheckinDetail

Attribute

Attribute	Type	Visibility	Description
BookID	int	Private	Unique identifier of a booking
TicketID	int	Private	Unique identifier of a ticket
Quantity	int	Private	Percent compare between 2 break down
CheckinDate	DateTime	Private	The date the ticket checked-in

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.11 WishListItem

Attribute

Attribute	Type	Visibility	Description
WishListItemID	int	Private	Unique identifier of each wish list item
Username	string	Private	Member who own the item
EventID	int	Private	The wished event id
AddedDate	DateTime	Private	Added date
IsActive	bool	Private	The state of wish list item

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.12 Comment

Attribute

Attribute	Type	Visibility	Description

CommentID	int	Private	Unique identifier of each comment
Username	string	Private	Member who made the comment
EventID	int	Private	The id of commented event
CreateDate	DateTime	Private	Created Date
Content	string	Private	Content of the comment
Partner	string	Private	Partner who replied the comment
Reply	string	Private	Replied content
State	string	Private	State of the comment
RepliedDate	DateTime	Private	The replied date

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.13 ChangeRequest

Attribute

Attribute	Type	Visibility	Description
RequestID	int	Private	Unique identifier of a change request
RequestDate	DateTime	Private	The date of request
State	string	Private	Request's state
ApprovedBy	string	Private	The staff that approve this request
EventID	int	Private	The id of the requested event
Message	string	Private	Message content
ApprovedDate	DateTime	Private	The date that the request has been approved
Partner	string	Private	Who made the change request

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.14 ChangeItem

Attribute

Attribute	Type	Visibility	Description
ChangeID	int	Private	Unique identifier of a change item
RequestID	int	Private	The id of the change request
Field	string	Private	Requested change field
OldValue	string	Private	The old value
NewValue	string	Private	The new value

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.15 SubAccessAccount

Attribute

Attribute	Type	Visibility	Description
SubUsername	string	Private	Unique identifier of sub account
SubPassword	string	Private	Password of sub account
CreatedDate	DateTime	Private	The date of creation
IsActive	bool	Private	The status of sub account
Partner	string	Private	Who these sub accounts belong to

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.16 Contact

Attribute

Attribute	Type	Visibility	Description
ContactID	int	Private	Unique identifier of contact
Owner	string	Private	Who own the contact
Partner	string	Private	Who the contact belong to
Fullscreen	string	Private	Contact's full name
Phone	string	Private	Contact's phone number
Job	string	Private	Contact's job
Title	string	Private	Contact's title
Company	string	Private	Contact's company name
Address	string	Private	Contact's address
Description	string	Private	Other description
AddedDate	DateTime	Private	The date the contact added
ModifiedDate	DateTime	Private	The date the contact modified
Alias	string	Private	Alias name of the contact
Email	string	Private	Contact's email

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.17 Friendship

Attribute

Attribute	Type	Visibility	Description
FriendshipID	int	Private	Unique identifier of friendship
Sender	string	Private	Who make the request
Receiver	string	Private	Who the request sent to
State	string	Private	State of the request
CreatedDate	DateTime	Private	The date the request made
FriendDate	DateTime	Private	The date the request accepted

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.18 KMeanCentroid

Attribute

Attribute	Type	Visibility	Description
id	int	Private	Unique identifier of a centroid
k_sector	double	Private	Sector's value of mean
k_age	double	Private	Age's value of mean
k_kind	Double	Private	Kind's value of mean
quantity	int	Private	Cluster's size

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.19 Notification

Attribute

Attribute	Type	Visibility	Description
NID	int	Private	Unique identifier of a notification
Content	string	Private	The content of the notification
CreatedDate	DateTime	Private	The date the notification created
ViewDate	DateTime	Private	The date the notification viewed
Type	string	Private	The type of notification

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.2.20 InfoValue

Attribute

Attribute	Type	Visibility	Description
ID	int	Private	Unique identifier of a notification
Info	string	Private	Group info category
Name	string	Private	Name label of the value
Score	double	Private	Weighted score of value
Active	bool	Private	Status of the value

Method

Method	Return type	Visibility	Description
Getter	Attribute type	Public	Get attribute value
Setter	Void	Public	Set value of attribute

4.3 Interaction Diagram

4.3.1.1 <Member> View Friend List

Summary: This diagram shows how member views all contacts that include MSSC contacts and android cellphone contacts.

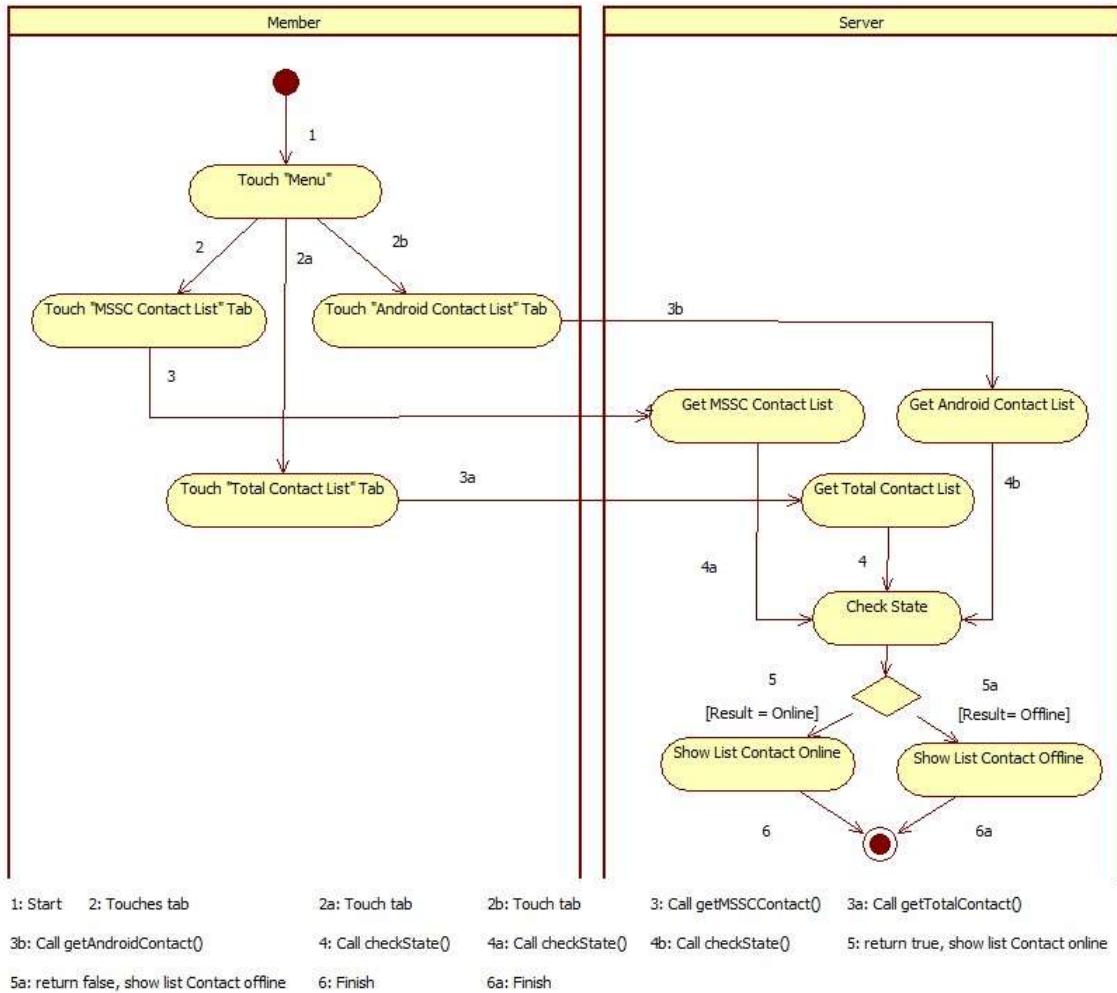
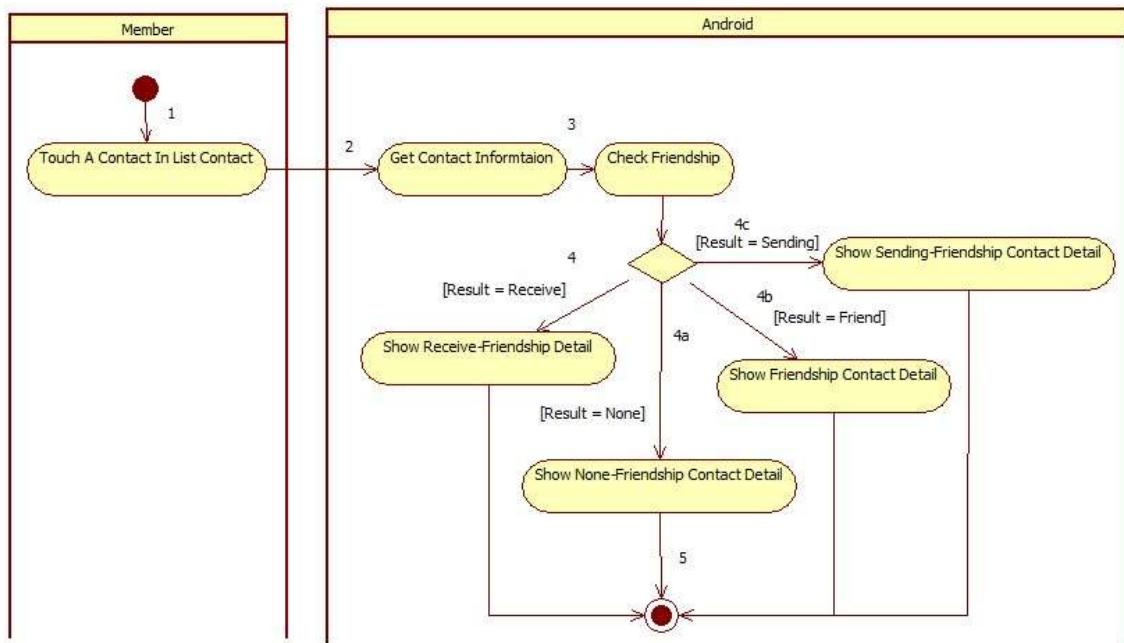


Figure 62: <Member> View Friend List

4.3.1.2 <Member> View Contact Detail

Summary: This diagram shows how member views detail information of a contact.



1: Start 2: Call `getDetail()` 3: Call `checkFriendship()`
 4a: return none, show none-friendship Contact Detail
 4c: return sending, show sending-friendship contact detail

4: return receive, show receive-friendship detail
 4b: return friend, show friendship contact detail
 5 Finish

Figure 63: <Member> View Contact Detail

4.3.1.3 <Member> Remove Friendship

Summary: This diagram shows how member views all contacts that include MSSC contacts and android cellphone contacts.

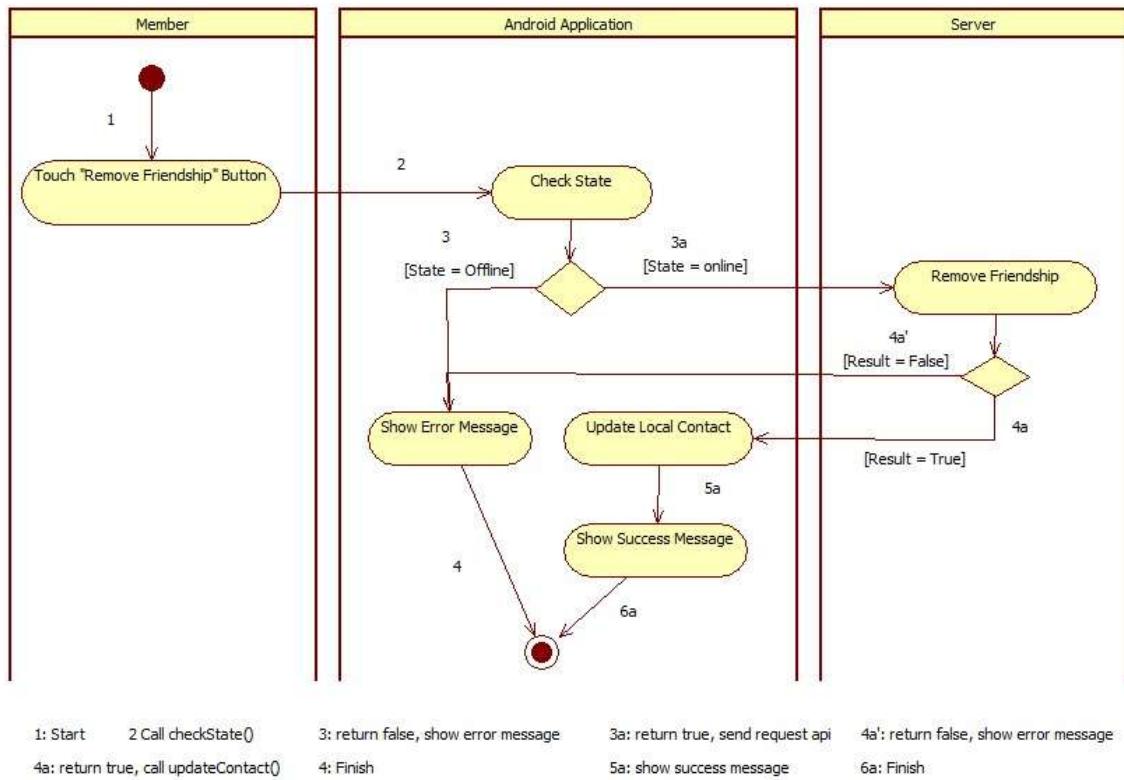


Figure 64: <Member> Remove Friendship

4.3.1.4 <Member> Remove Contact

Summary: This diagram shows how member removes friendship of a contact.

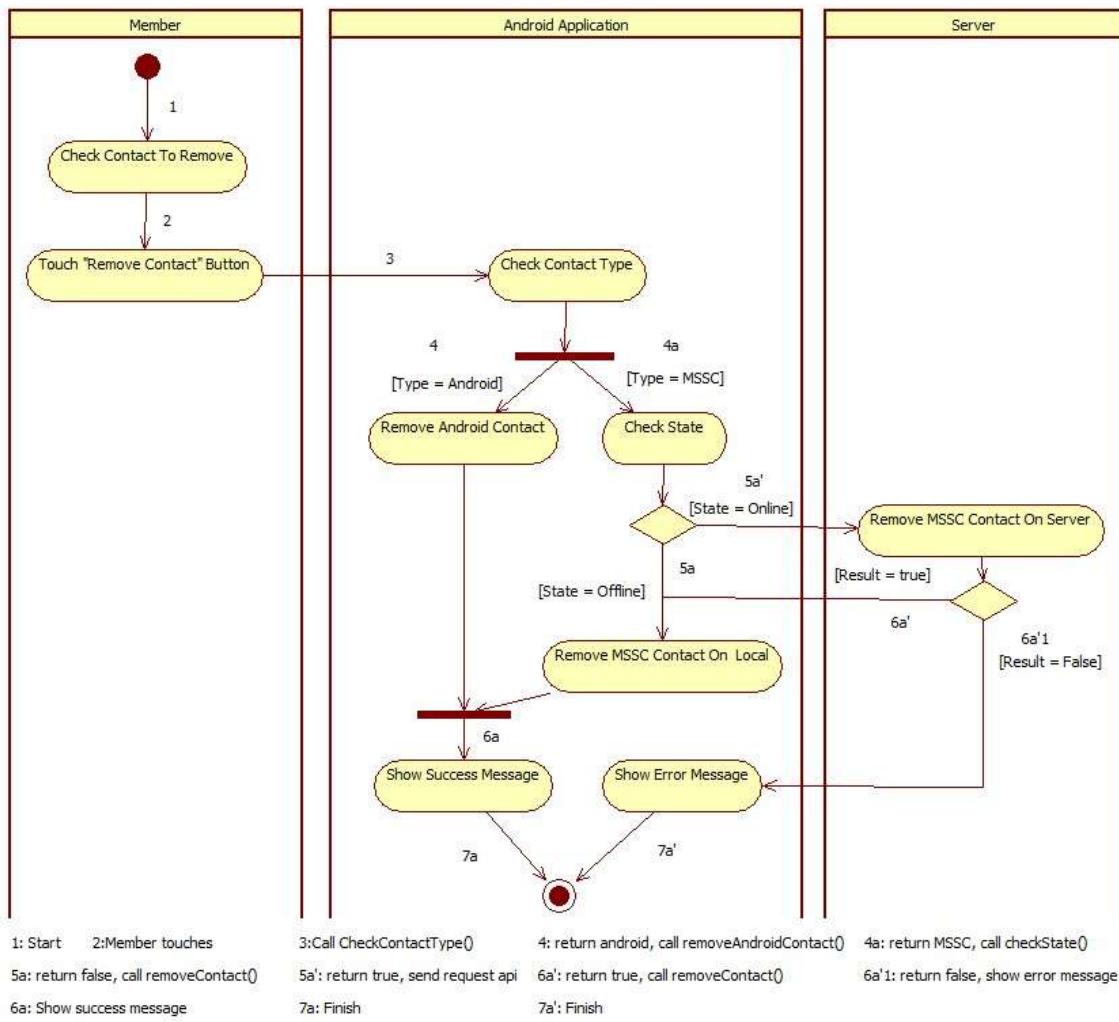


Figure 65: <Member> Remove Contact

4.3.1.5 <Member> Read Contact

Summary: This diagram shows how member reads contact information from an NFC card.

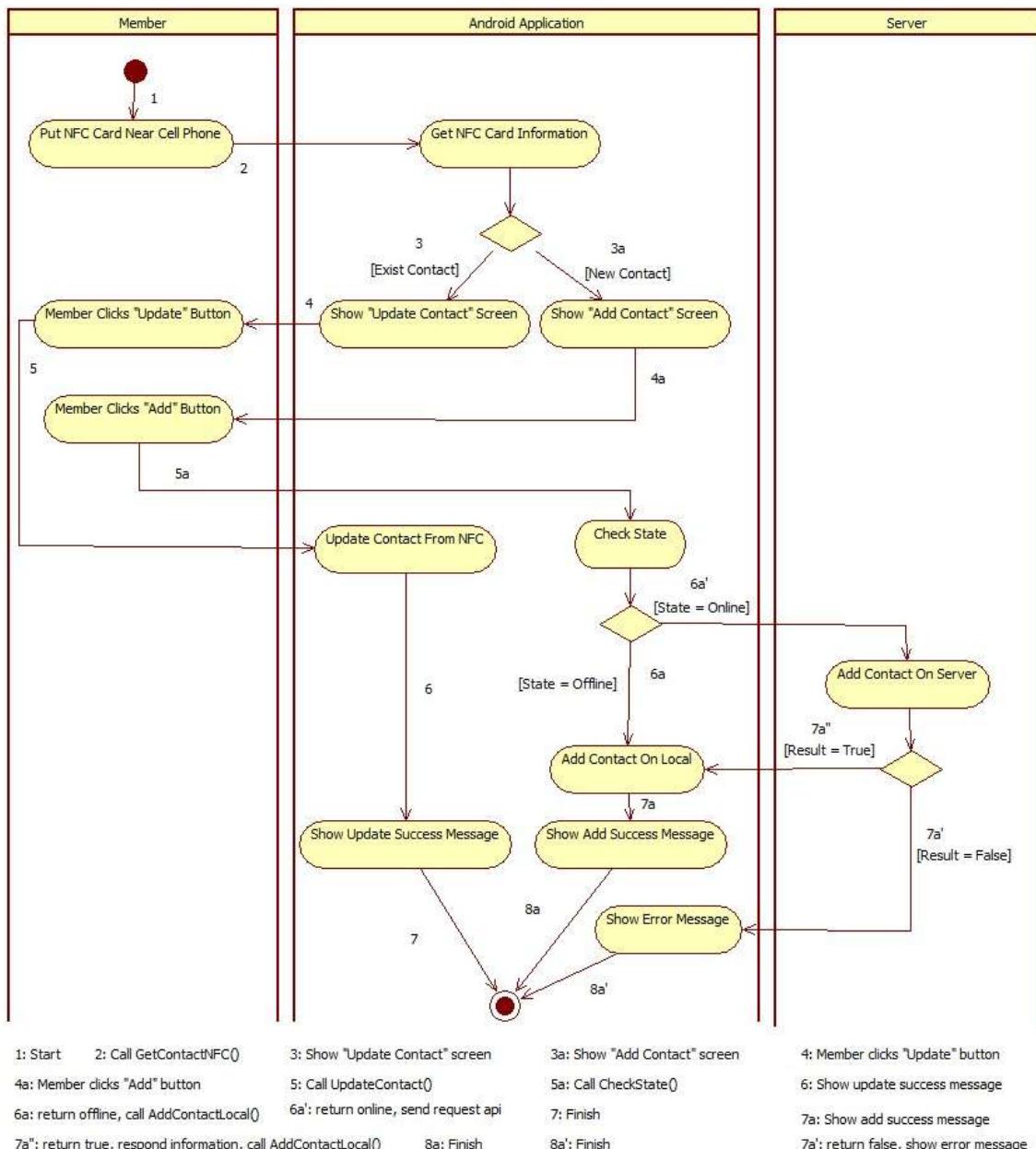


Figure 66: <Member> Read Contact

4.3.1.6 <Member> Send Friend Request

Summary: This diagram shows how member sends friendship request to an MSSC contact.

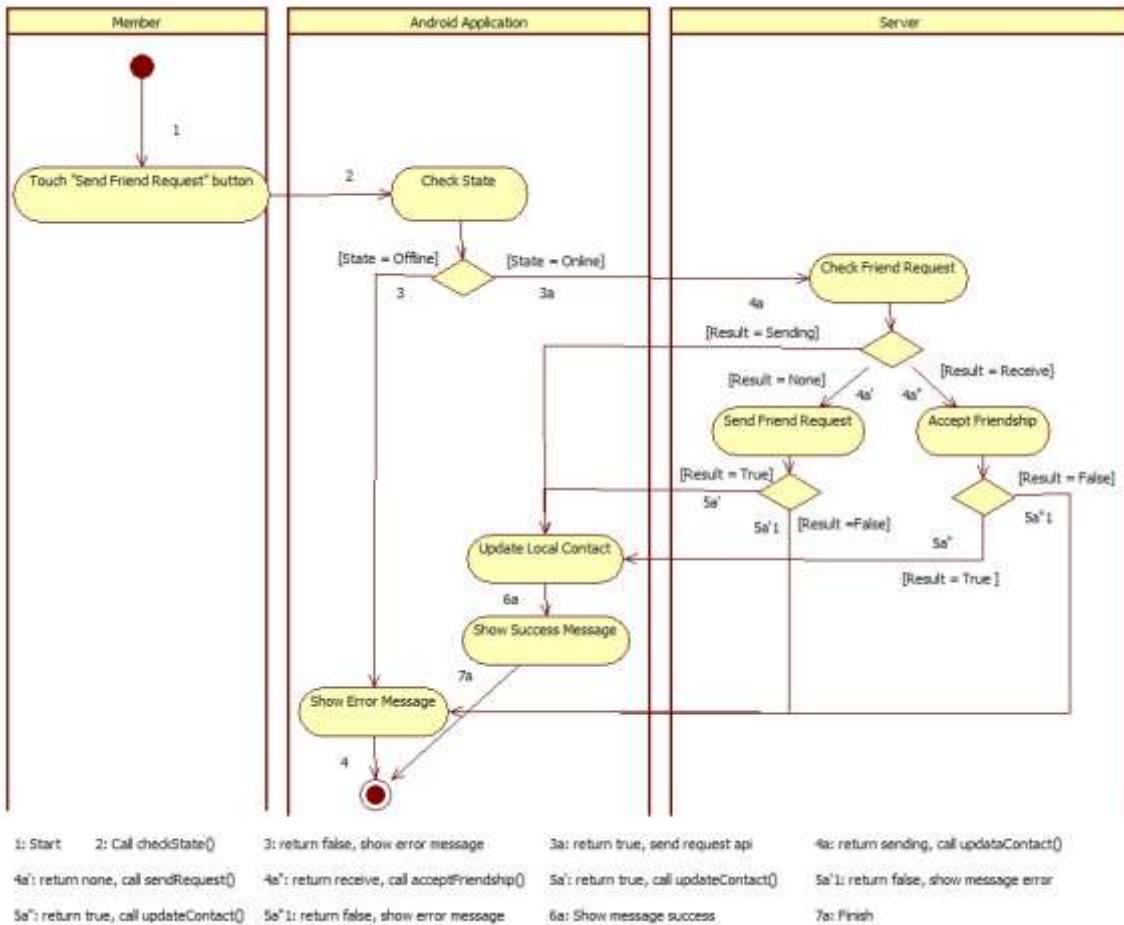
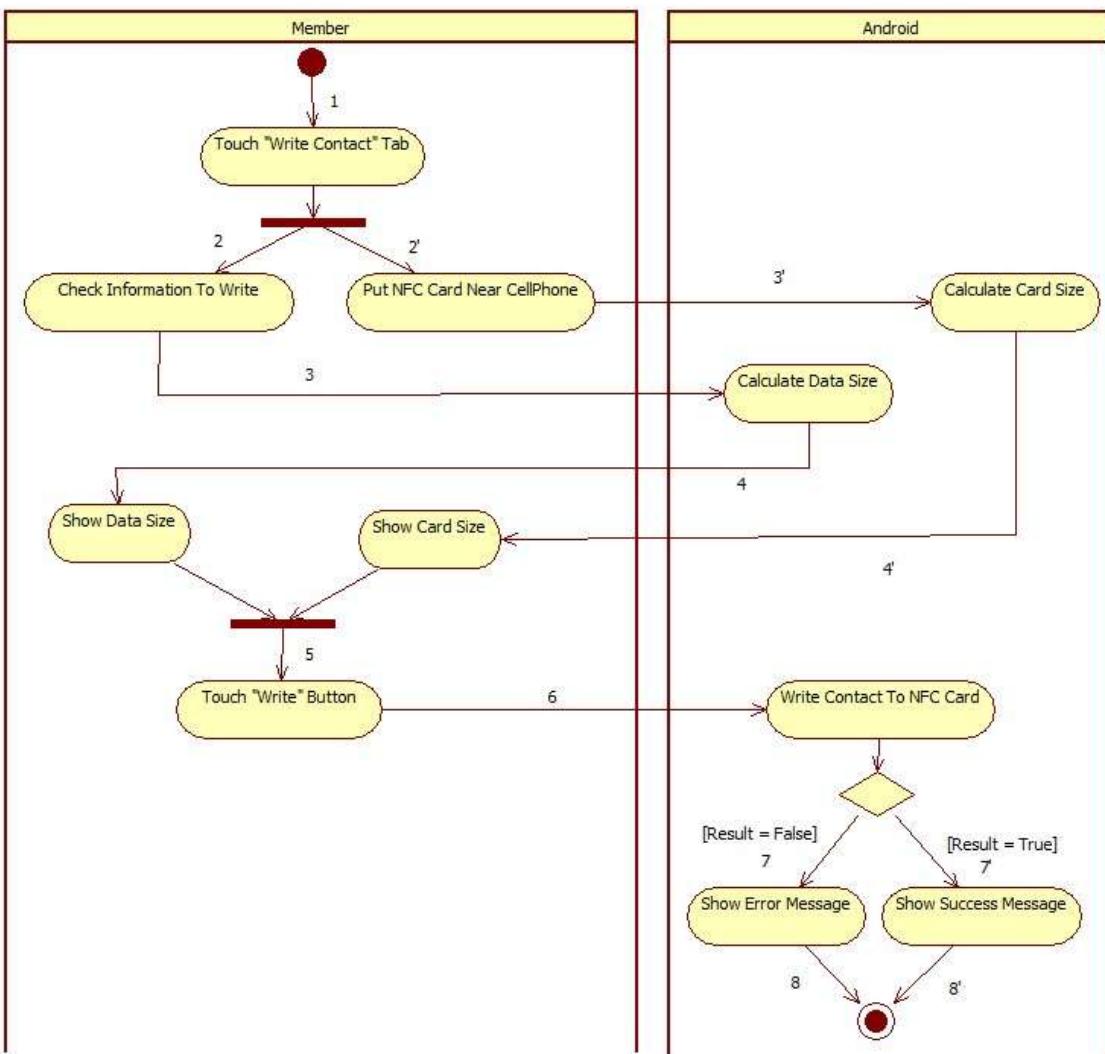


Figure 67: <Member> Send Friend Request

4.3.1.7 <Member> Write Contact

Summary: This diagram shows how member writes their profile's information to NFC card.



1: Start 2: Check checkbox 2': Put NFC Card Near CellPhone
 3: Call CaculateData() 3': Call GetCardSize()
 4: Show data size 4': Show card size 5: Touch "Write" button 6: Call WriteContact()
 7: return true, show success message 7': return false, show error message
 8: Finish 8': Finish

Figure 68: <Member> Write Contact

4.3.1.8 <Member> Update Profile

Summary: This diagram shows how member updates personal profile on android.

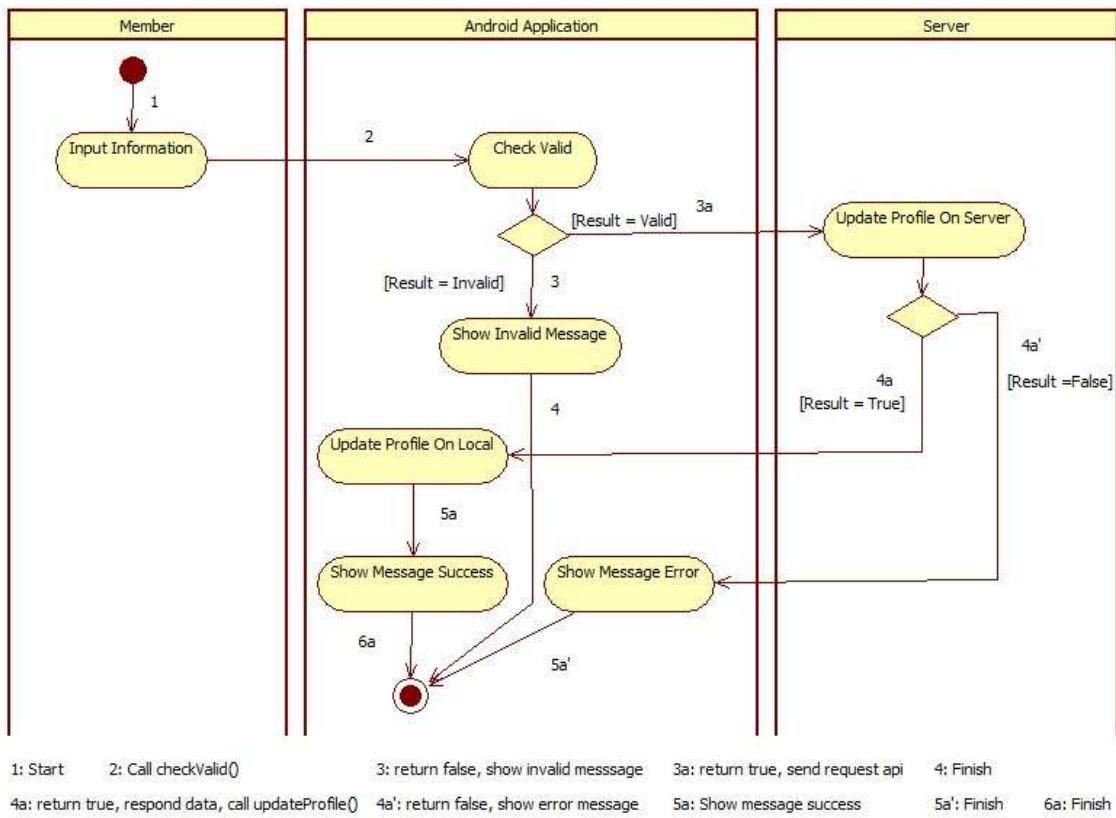
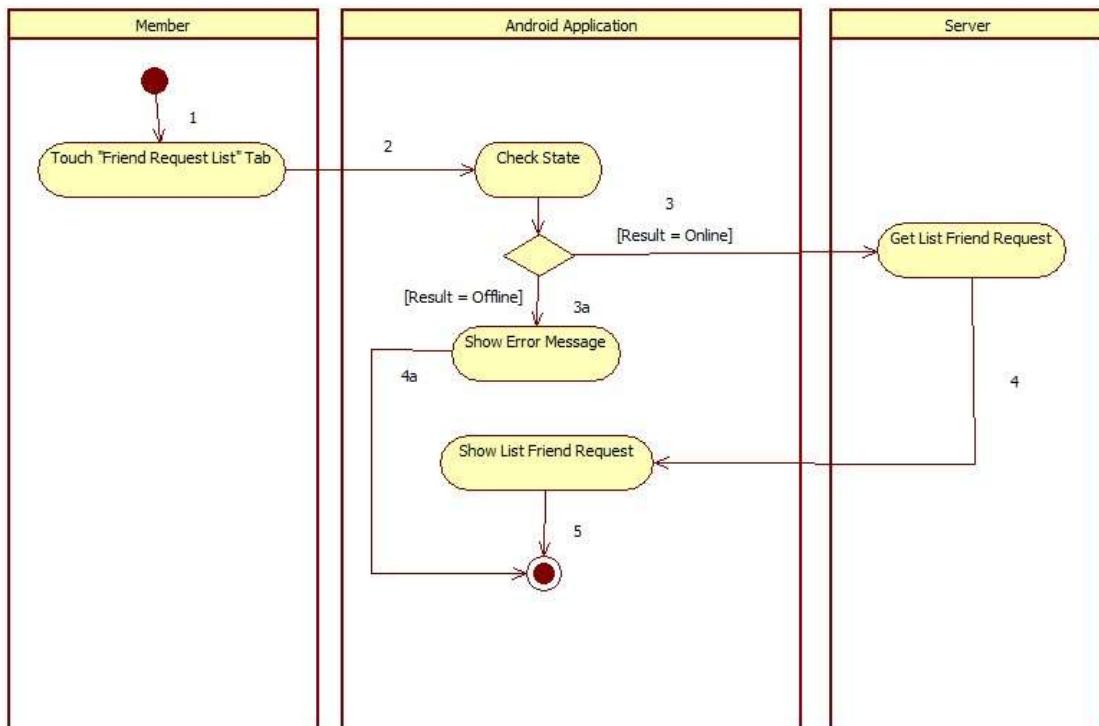


Figure 69: <Member> Update Profile

4.3.1.9 <Member> View List Friend Request

Summary: This diagram shows how member views the list of pending friendship request.



1: Start 2: Call checkState() 3a: return false, show error message 3: return true, send request api 4: respond data, show list 4a: Finish 5: Finish

Figure 70: <Member> View List Friend Request

4.3.1.10 <Member> Approve Friend Request

Summary: This diagram shows how member approves pending friendship request.

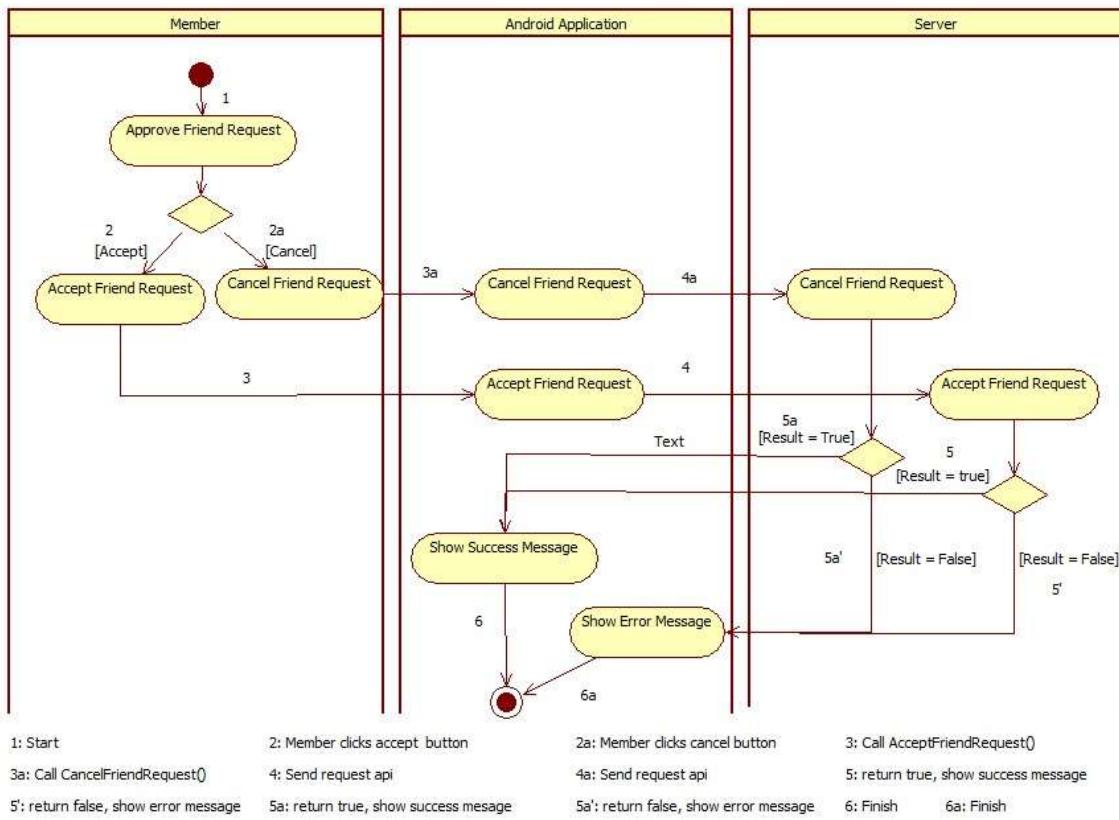


Figure 71: <Member> Approve Friend Request

4.3.1.11 <Member> Update Alias

Summary: This diagram shows how member updates alias of an MSSC contact.

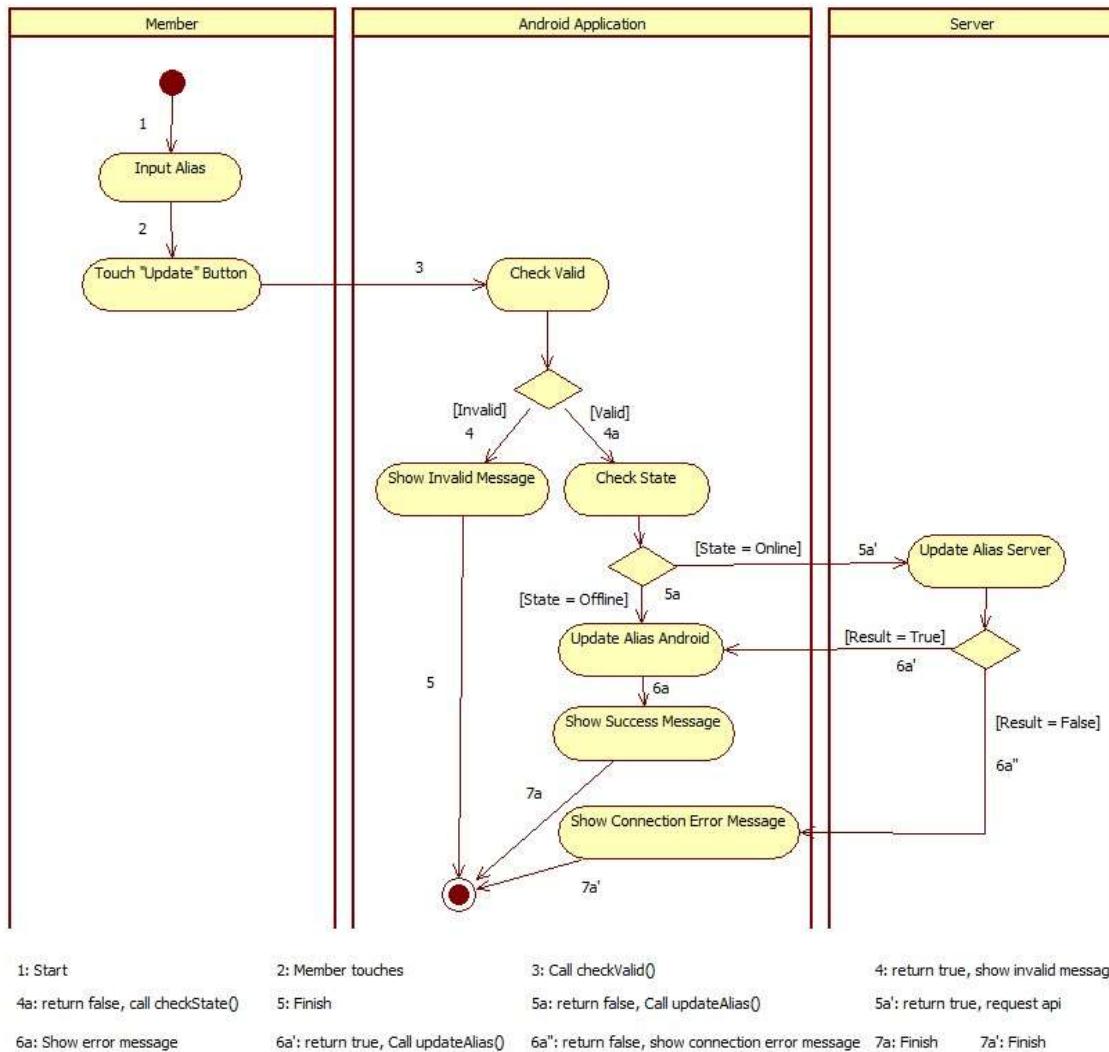


Figure 72: <Member> Update Alias

4.3.1.12 <Member> Cancel Pending Request

Summary: This diagram shows how member cancels a sending request friendship request to other.

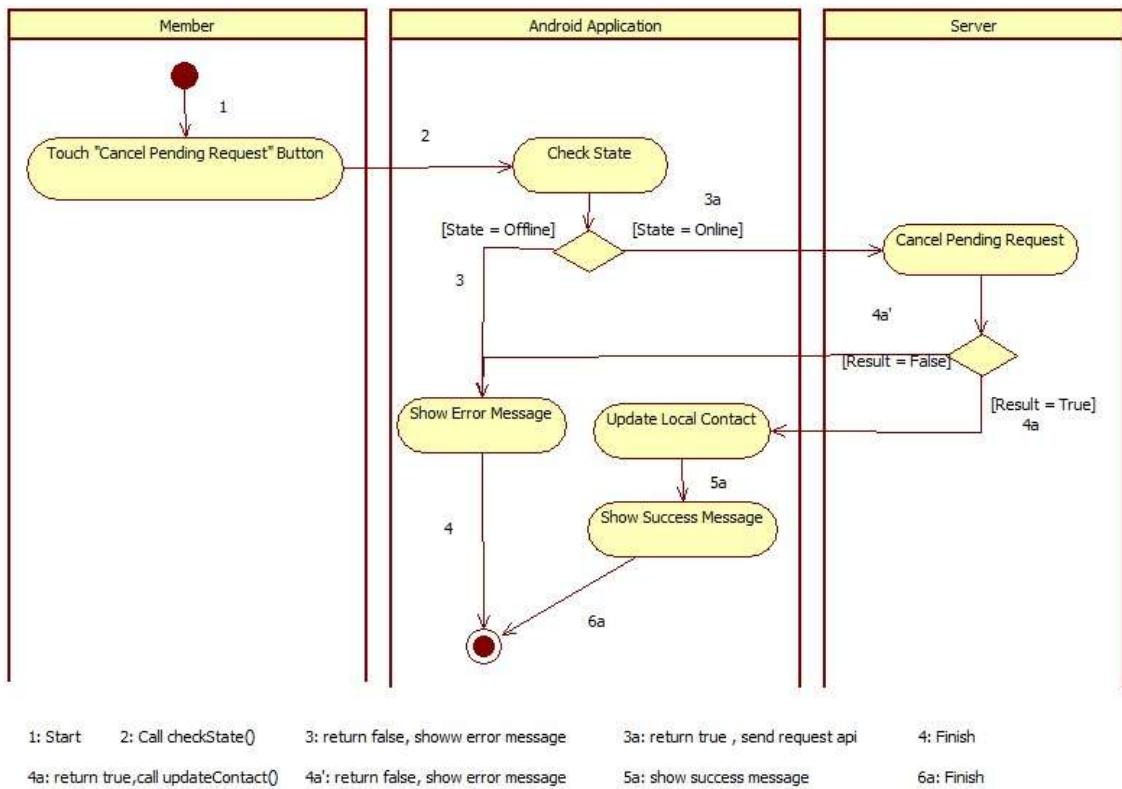


Figure 73: <Member> Cancel Pending Request

4.3.1.13 <Member> Update Friend Contact

Summary: This diagram shows how member updates a friendship MSSC contact when the owner of the contact updates information.

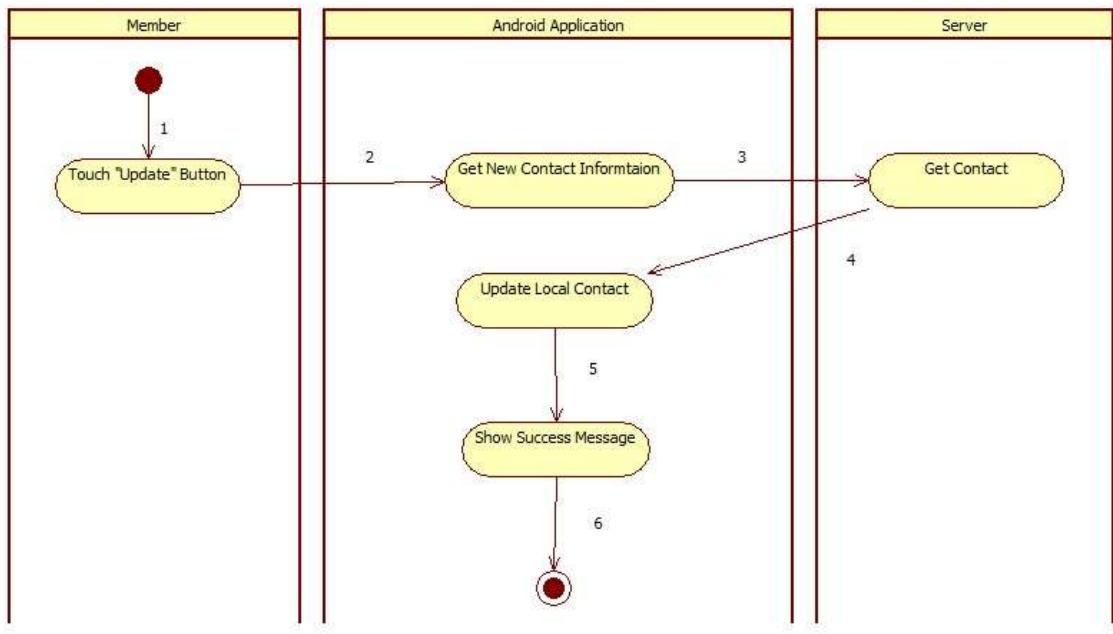


Figure 74: <Member> Update Friend Contact

4.3.1.14 <Member> Save To Phone

Summary: This diagram shows how member copies an MSSC contact to cellphone.

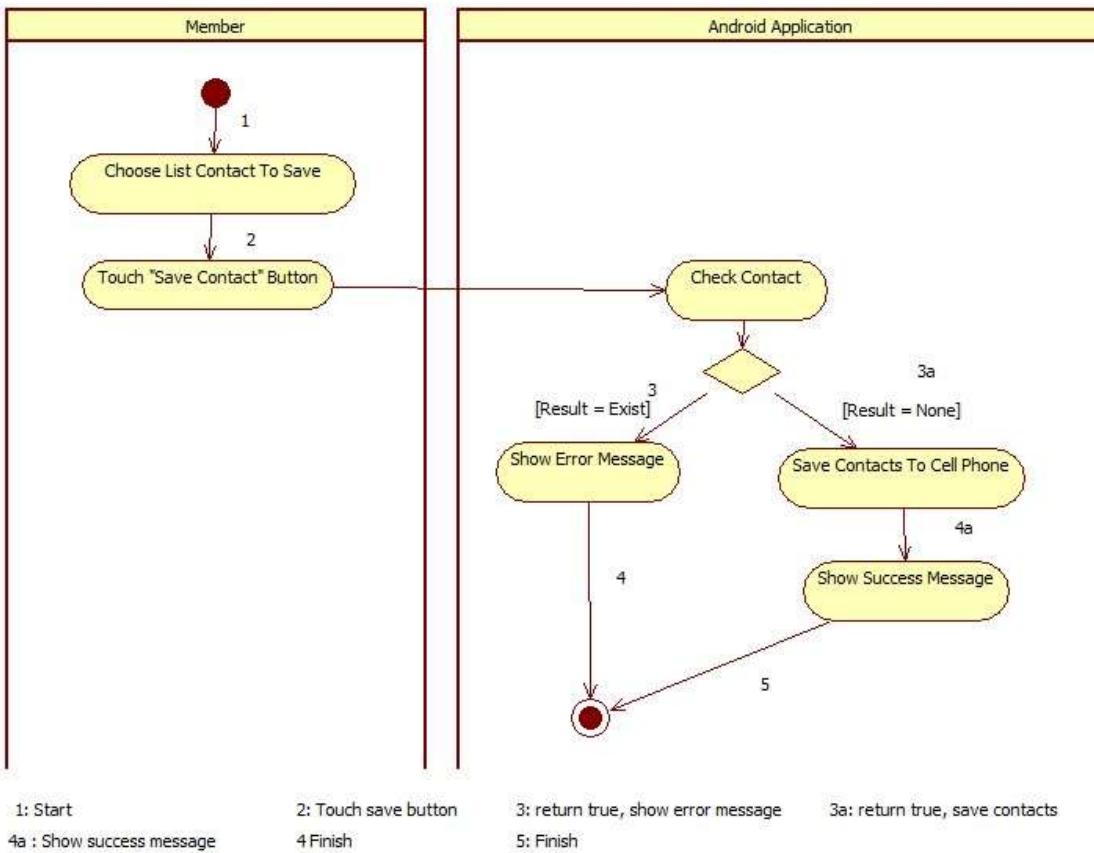


Figure 75: <Member> Save To Phone

4.3.1.15 <Member> View Booked Events

Summary: This diagram shows how a member can view his/her booked events.

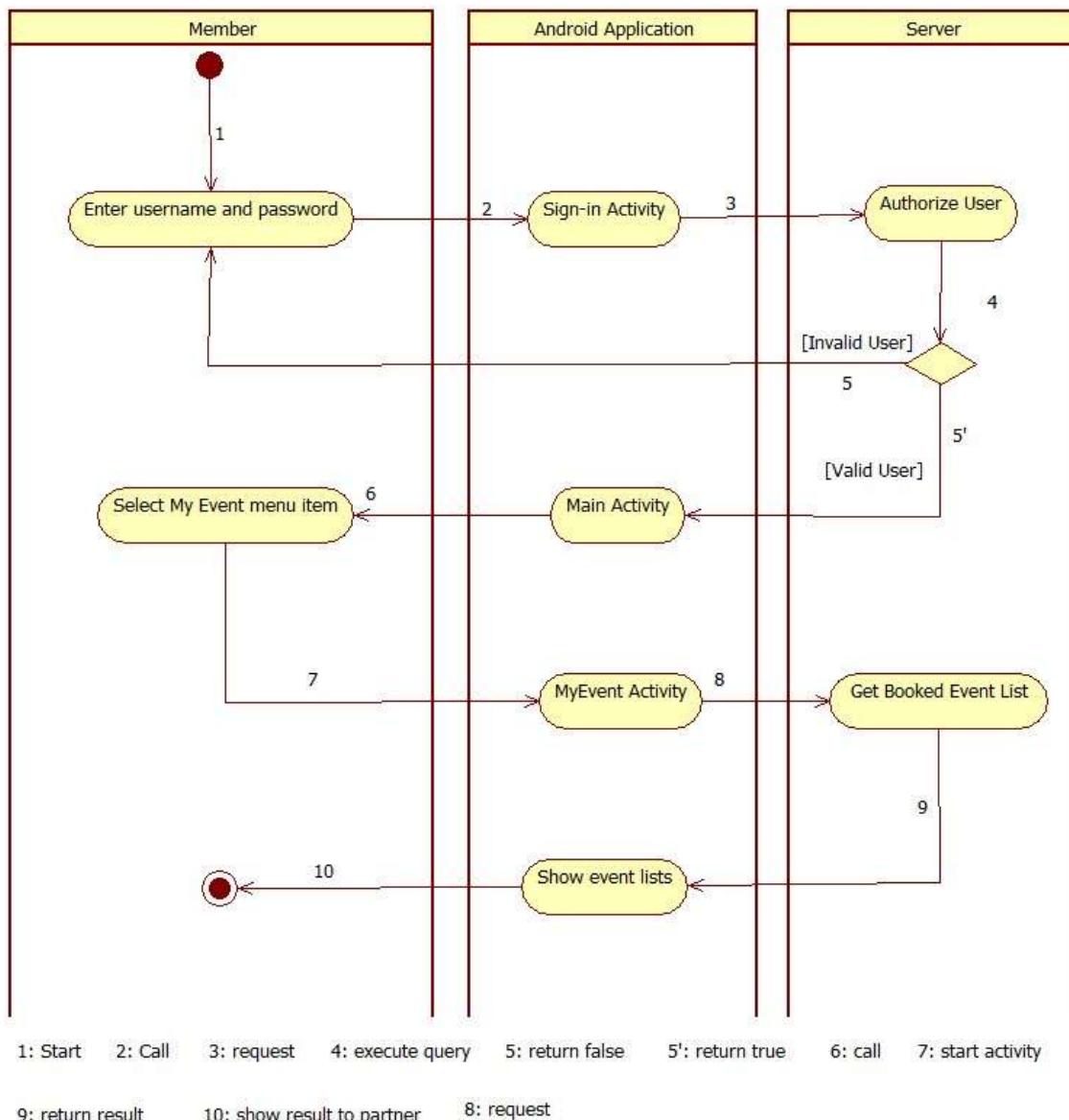


Figure 76: <Member> View Booked Events

4.3.1.16 <Member> View Booked Detail

Summary: This diagram shows how a member can view his/her booked event detail.

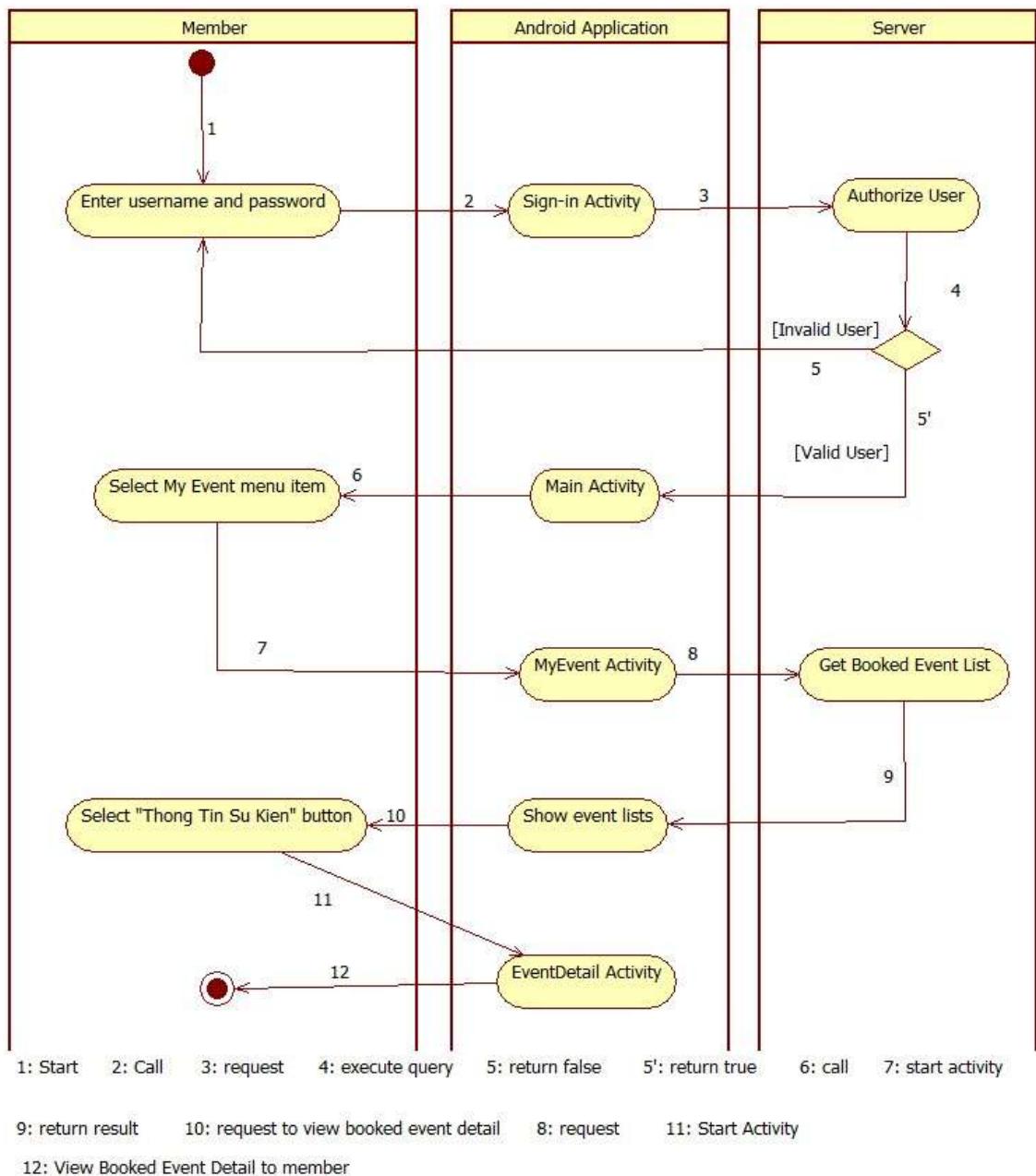
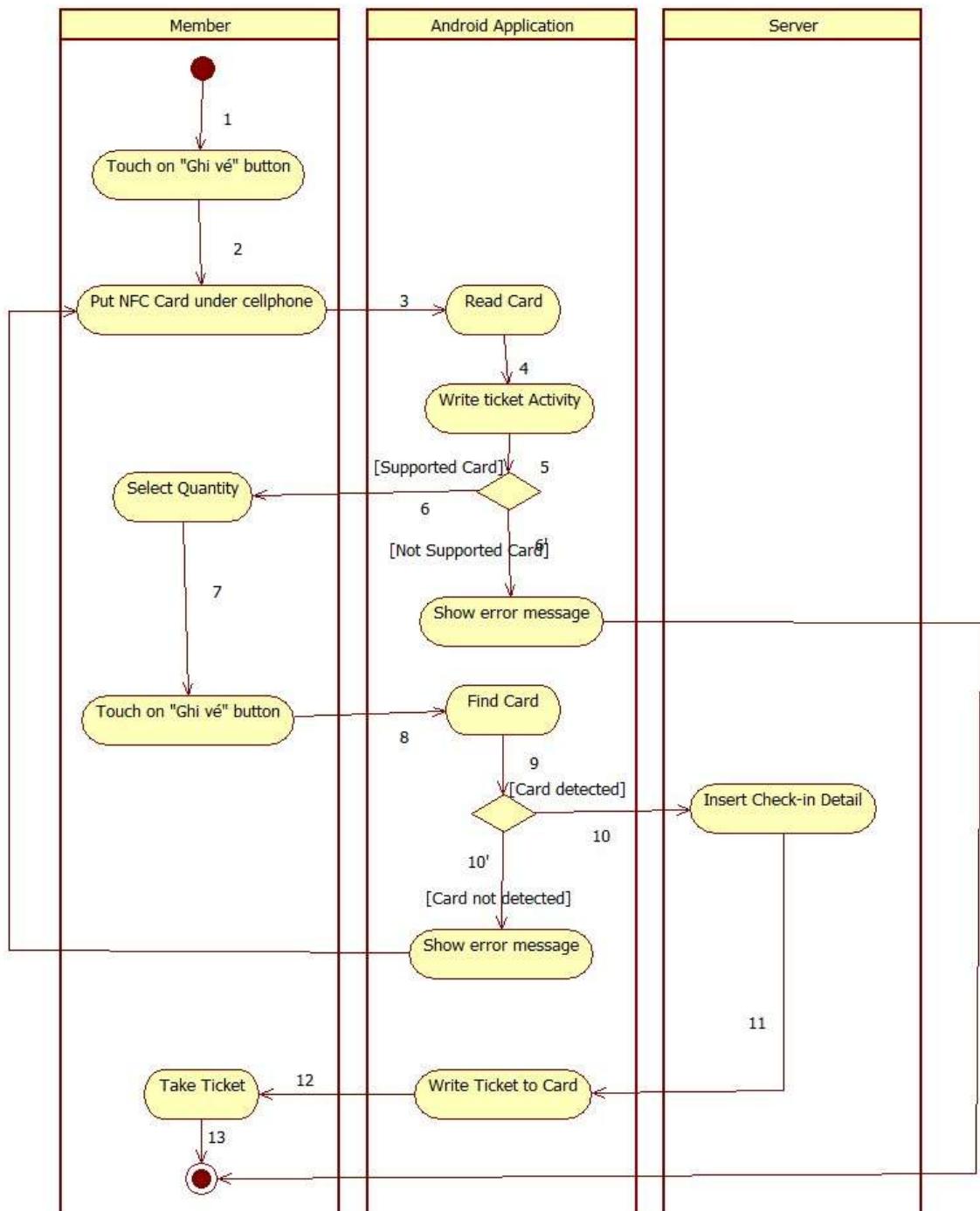


Figure 77: <Member> View Booked Details

4.3.1.17 <Member> Write Ticket

Summary: This diagram shows how members write their ticket into an NFC card.



1: start 2: input card 3: Call 4: Start activity 5: Check detected card 6: return true 7: Partner do
 8: Call 9: Detecting card 10: Card found 11: Return ticket id 12: Write ticket to NFC Card 13: Finish
 6': return false 10': Card not found

Figure 78: <Member> Write Ticket

4.3.1.18 <Member> Cancel Ticket

Summary: This diagram shows how members cancel their written ticket.

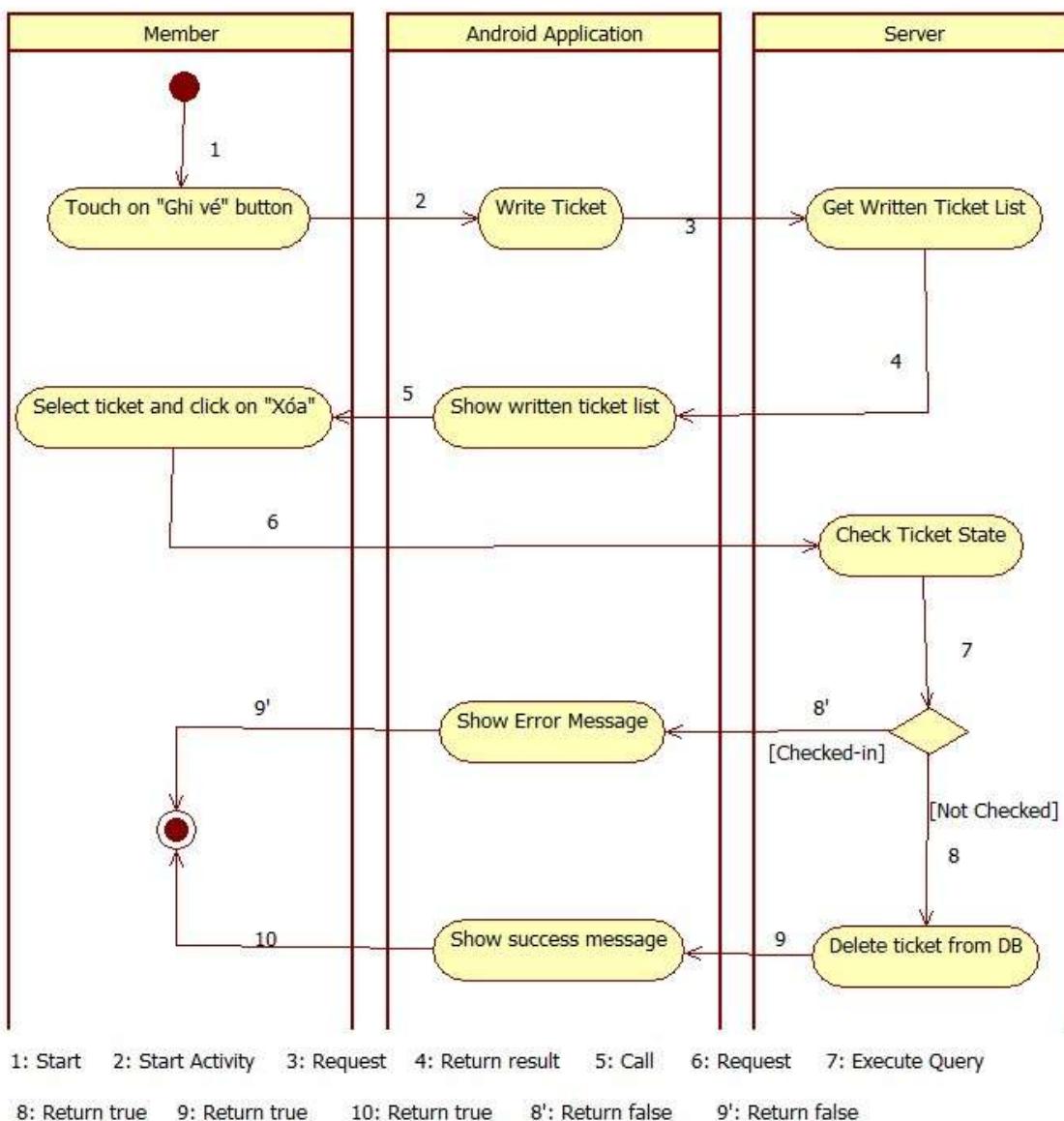


Figure 79: <Member> Cancel Ticket

4.3.1.19 <Member> Comment

Summary: This diagram shows how members comment on an event.

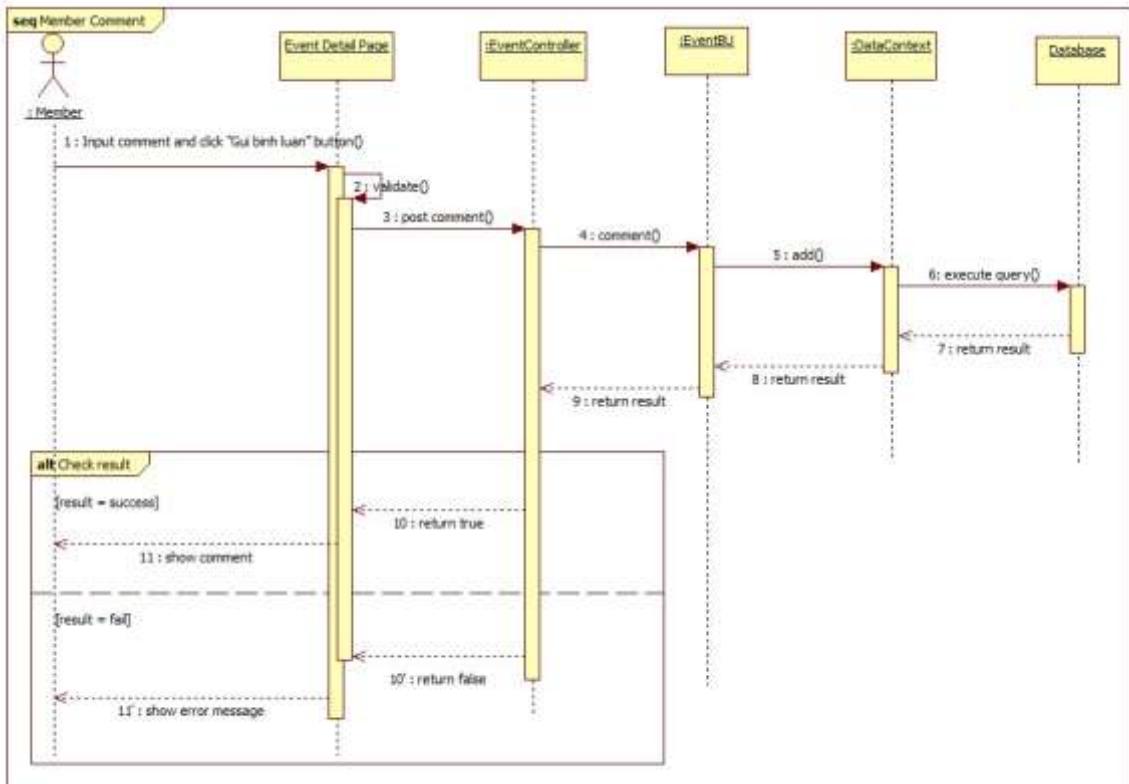


Figure 80: <Member> Comment

4.3.1.20 <Member> Booking

Summary: This diagram shows how members make booking for an event.

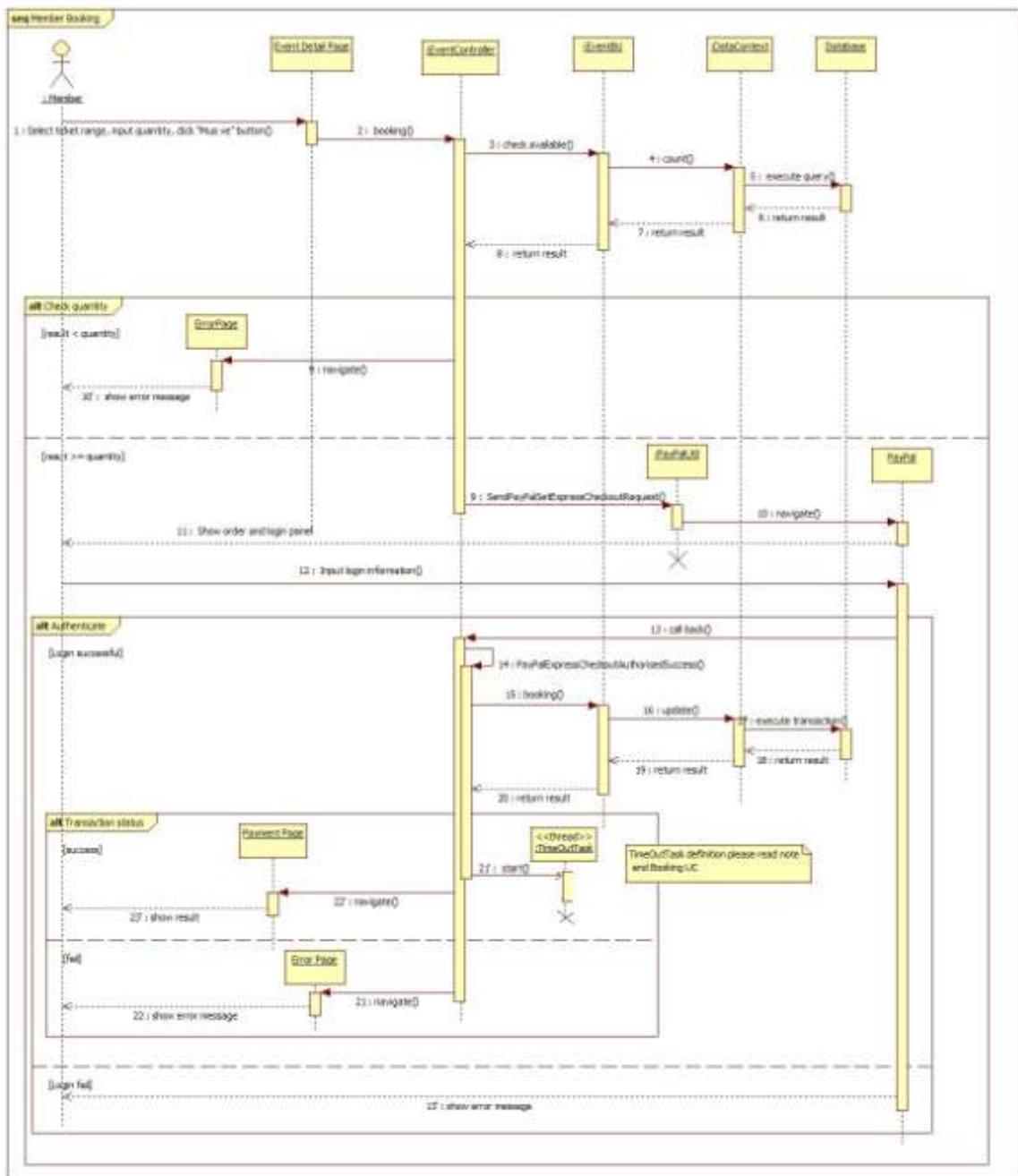


Figure 81: <Member> Booking

TimeOutTask: is running in background and after 15 minutes from instantiate will check the state of payment. If payment is not confirmed, booking is reverted.

4.3.1.21 <Member> Payment

Summary: This diagram shows how members make payment for a booking.

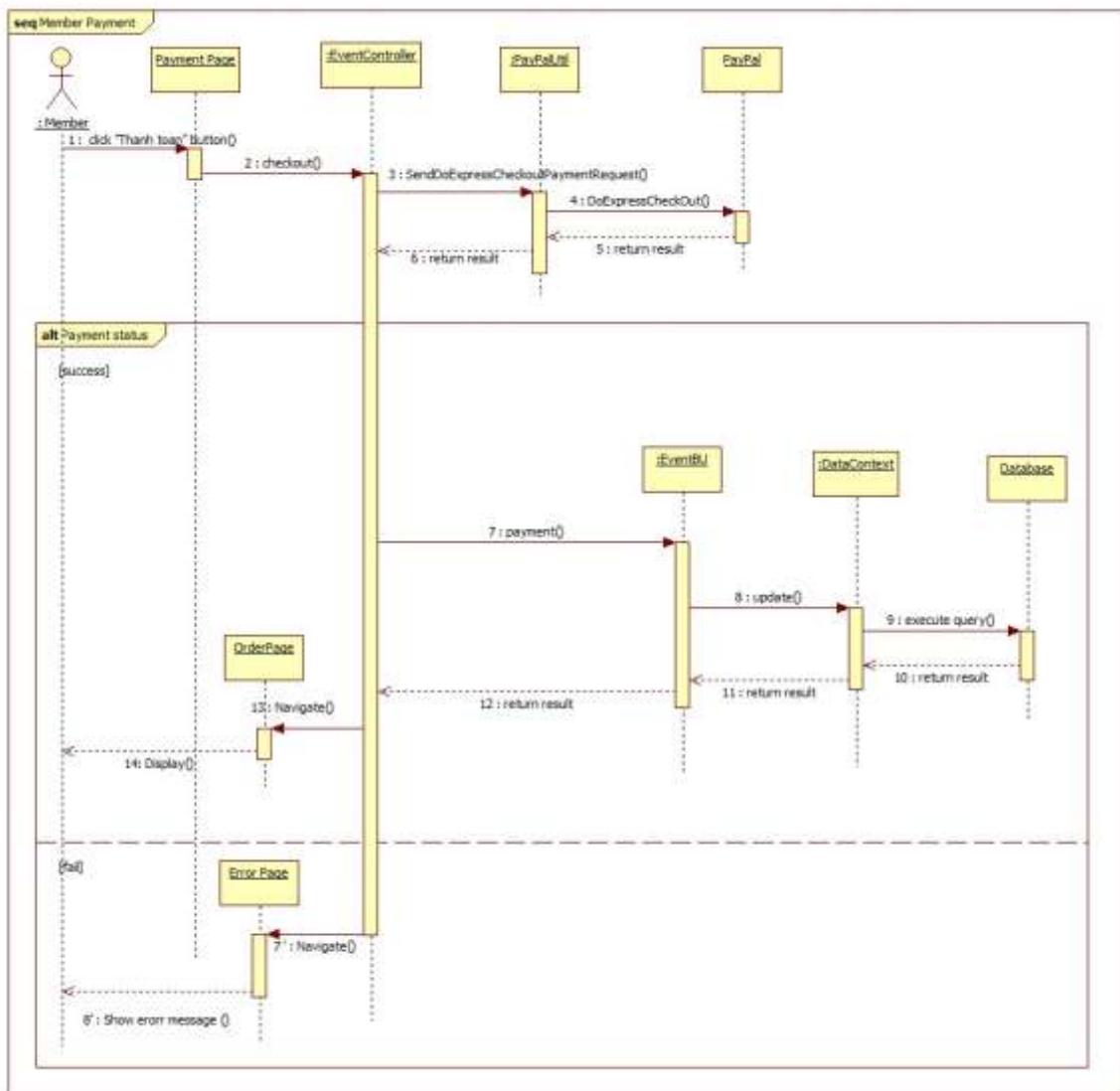


Figure 82: <Member>Payment

4.3.1.22 <Member> Add Event to Wish List

Summary: This diagram shows how members add event to wish list.

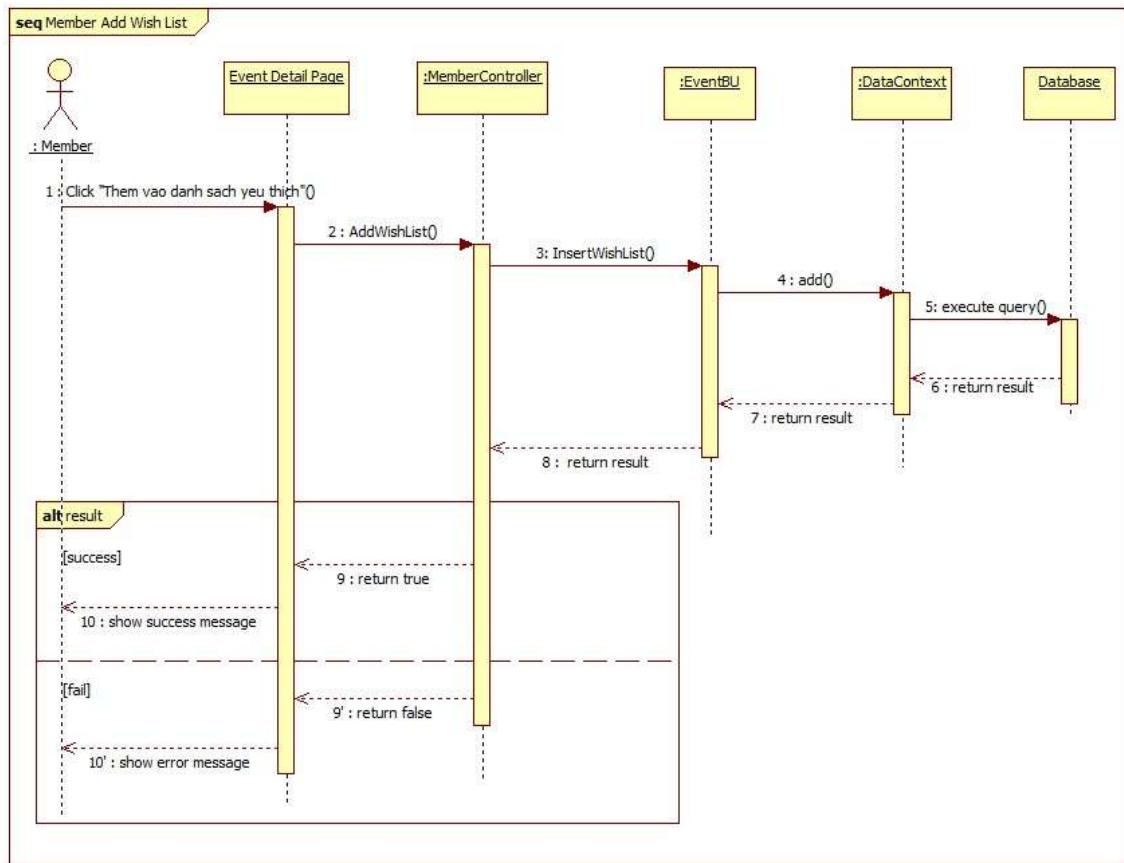


Figure 83: <Member> Add Event to Wish List

4.3.1.23 <Member> Remove Event from Wish List

Summary: This diagram shows how members remove event from wish list.

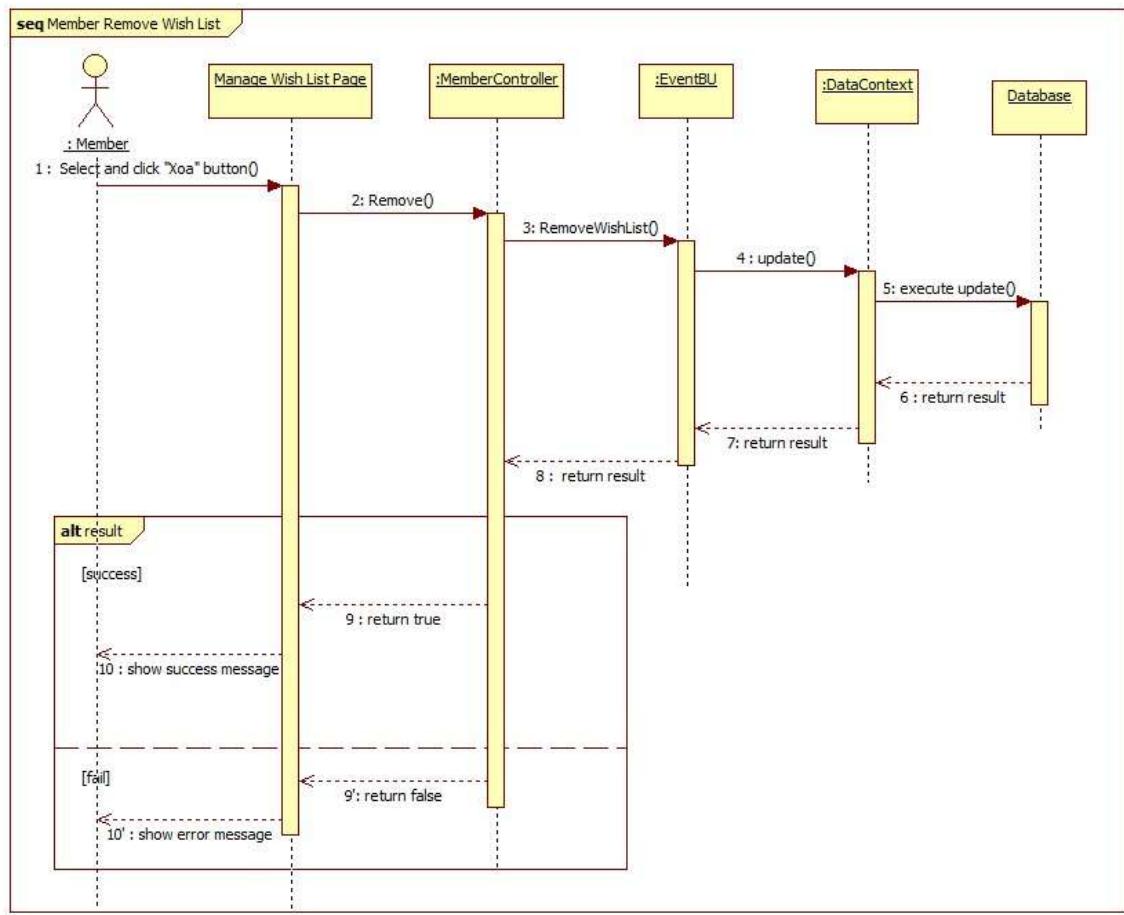


Figure 84: <Member>Remove Event from Wish List

4.3.1.24 <Partner> Create Event

Summary: This diagram shows how partners create their events.

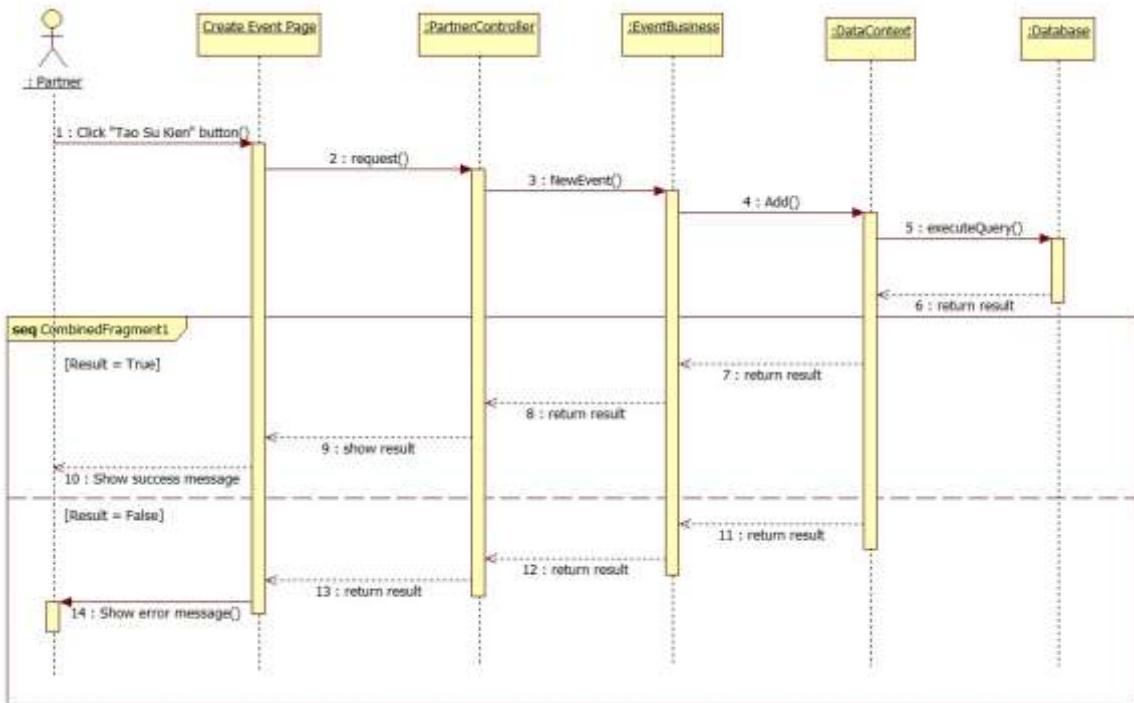


Figure 85: <Partner> Create Event

4.3.1.25 <Partner> Request Update Event

Summary: This diagram shows how partners send a request to update their event information.

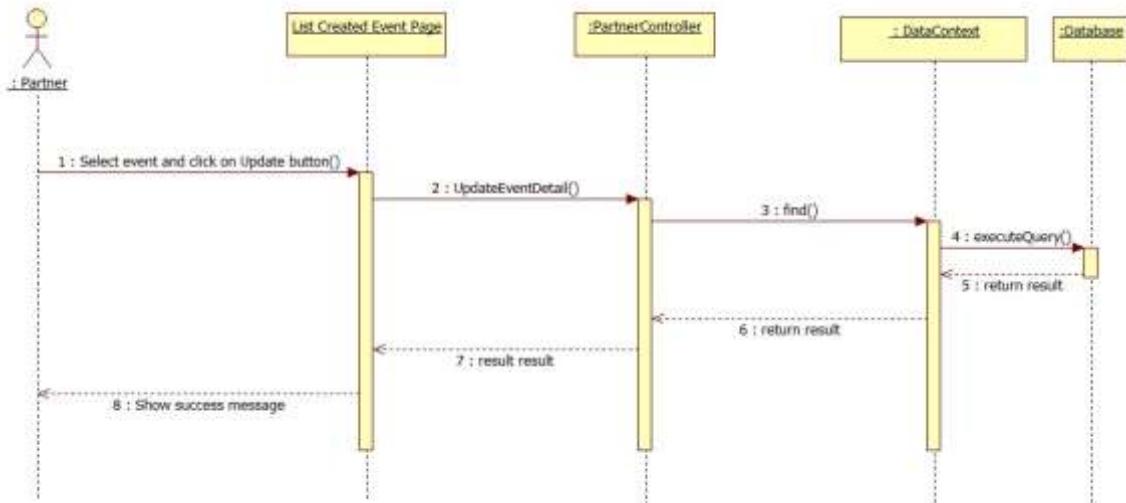


Figure 86: <Partner> Request Update Event

4.3.1.26 <Partner> View Created Events

Summary: This diagram shows how partners view their created events.

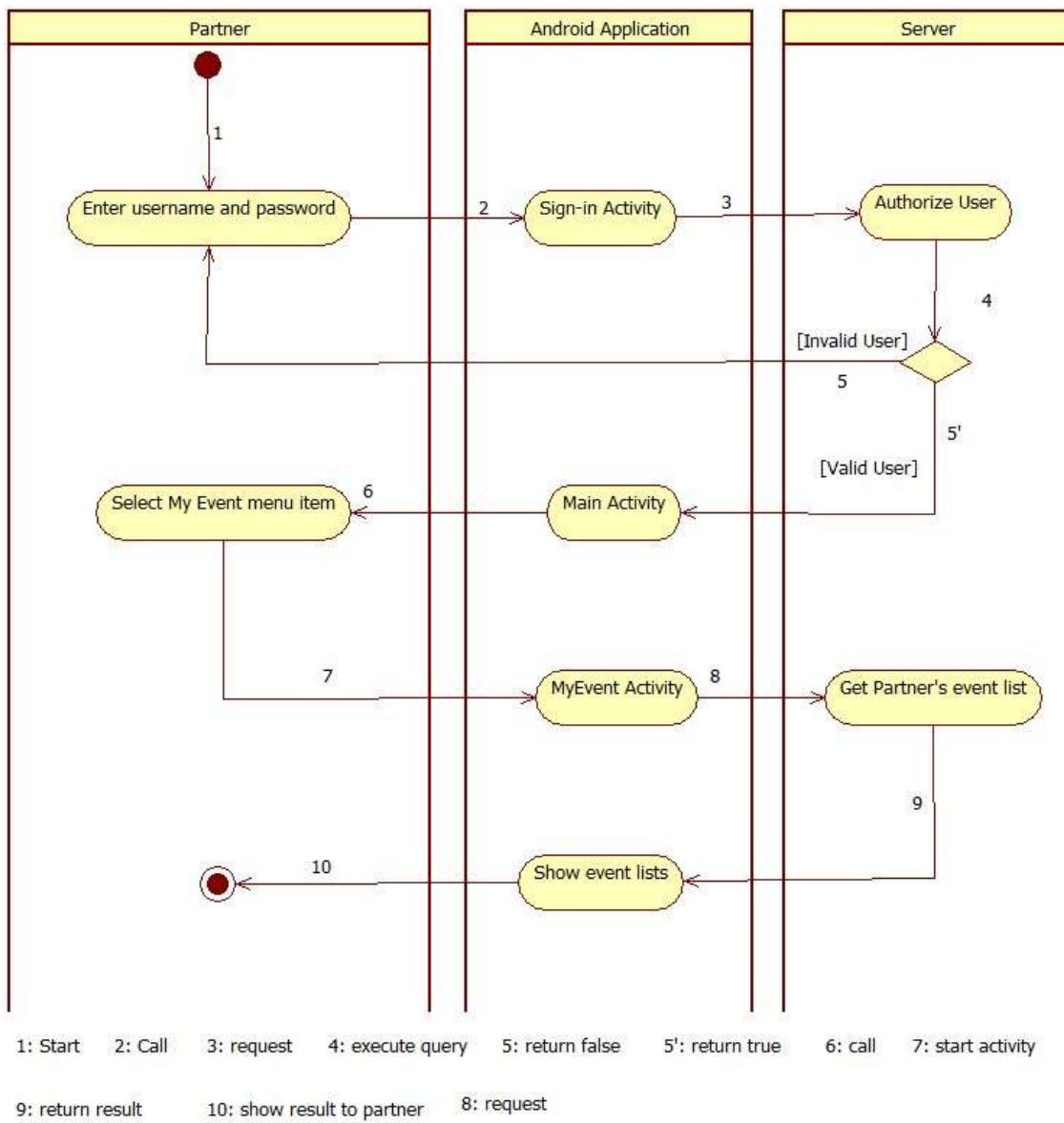


Figure 87: <Partner> View Created Event

4.3.1.27 <Partner> View Created Event Detail

Summary: This diagram shows how partners view detail of their created events.

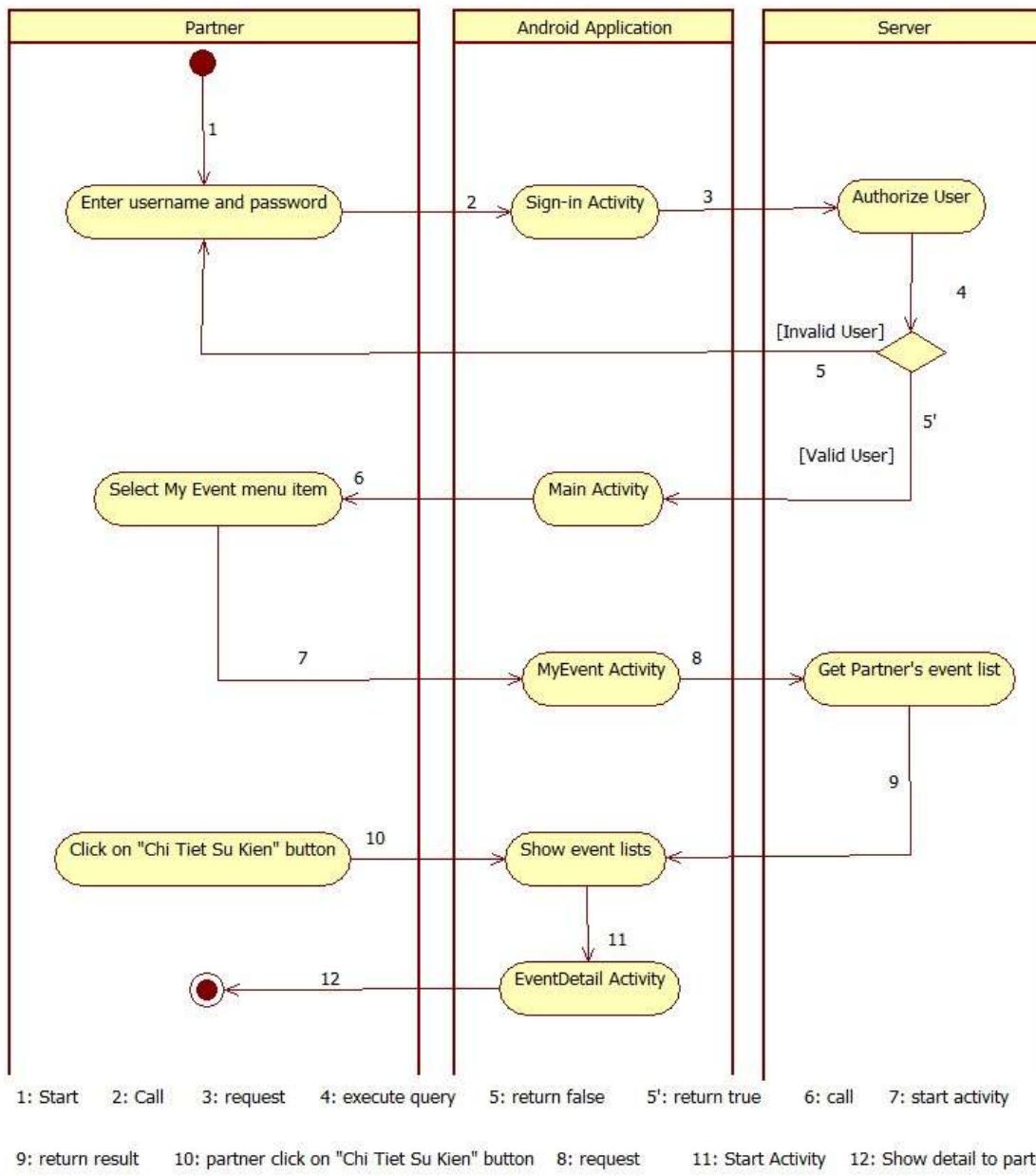


Figure 88: <Partner> View Created Event Details

4.3.1.28 <Partner> Check Ticket

Summary: This diagram shows how partners check ticket to a specific event.

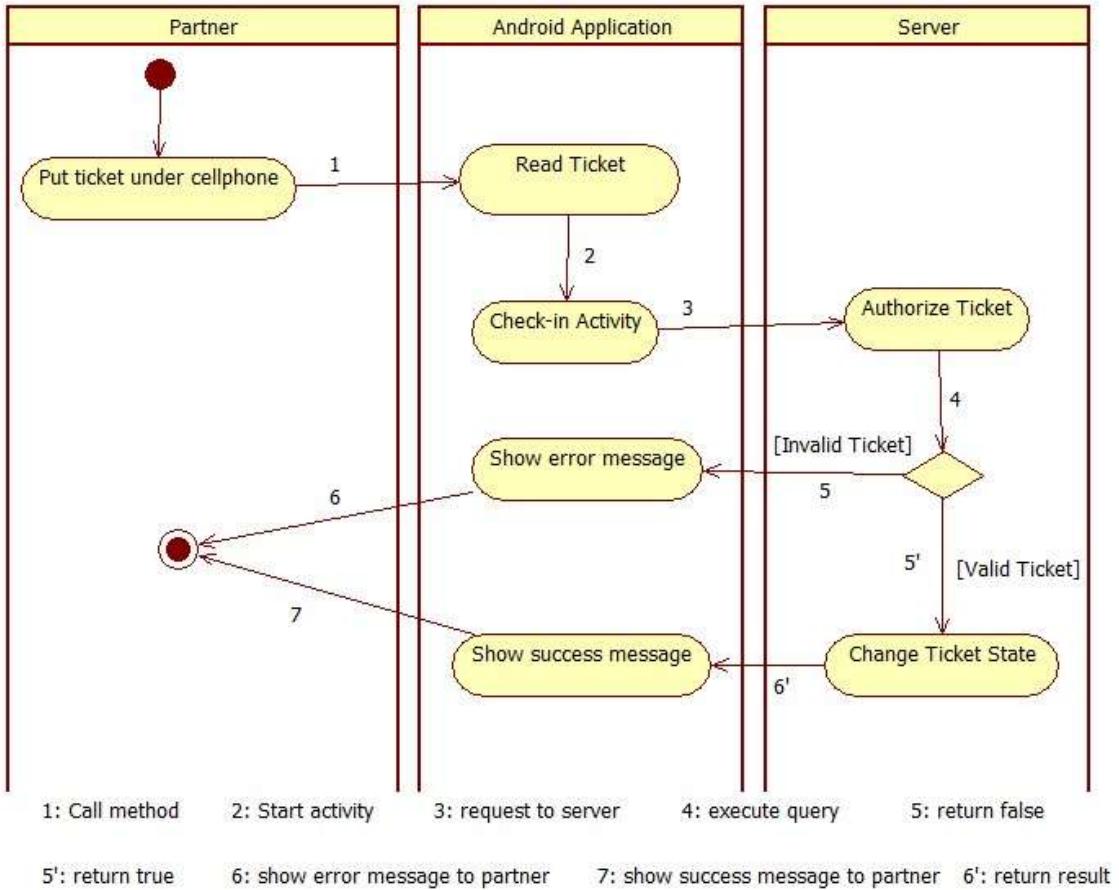


Figure 89: <Partner> Check Ticket

4.3.1.29 <Partner> View Statistic

Summary: This diagram shows how partners view statistic of an event.

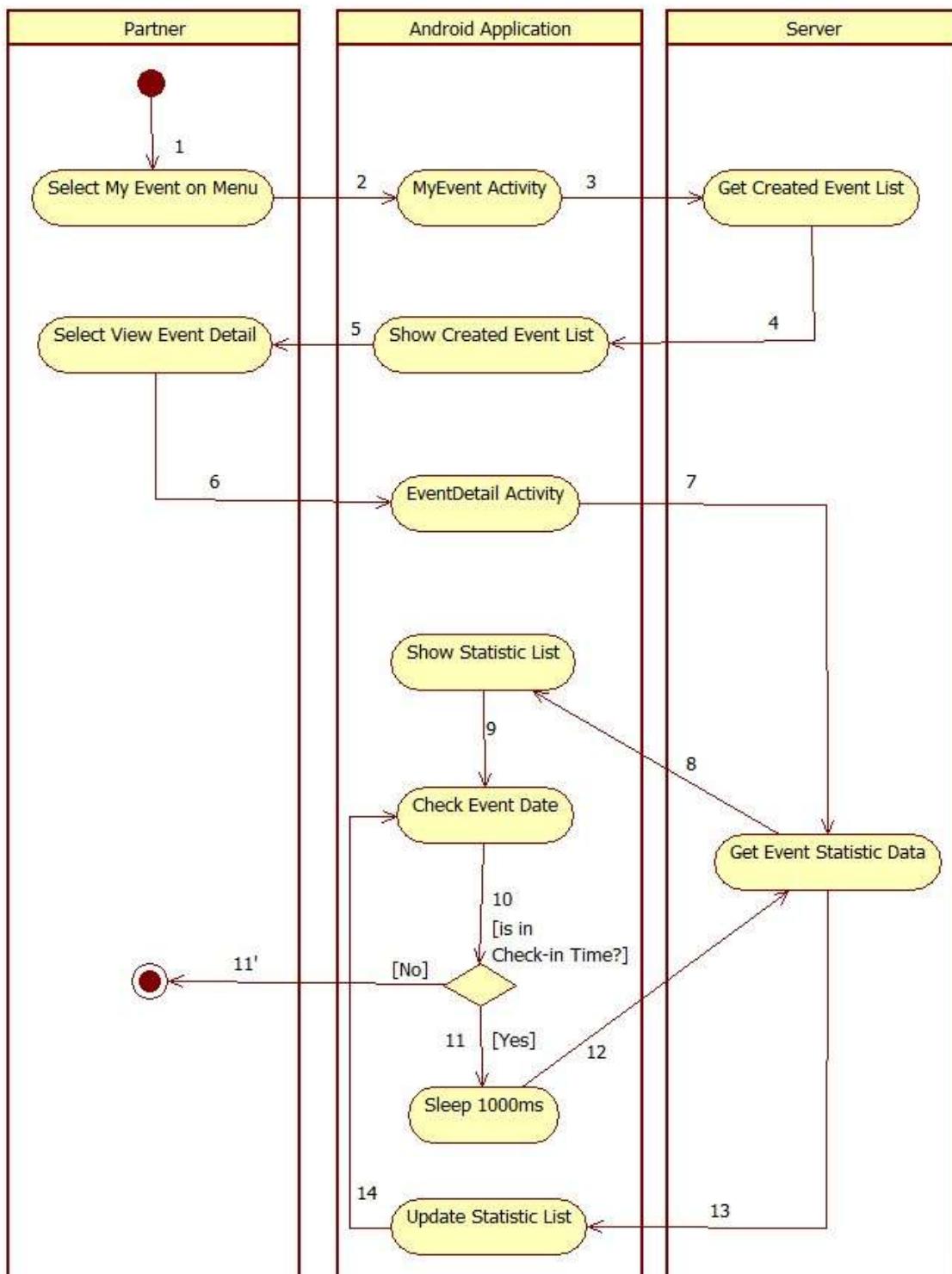


Figure 90: <Partner> View Statistic

4.3.1.30 <Partner> Reply Comment

Summary: This diagram shows how partners reply to a comment.

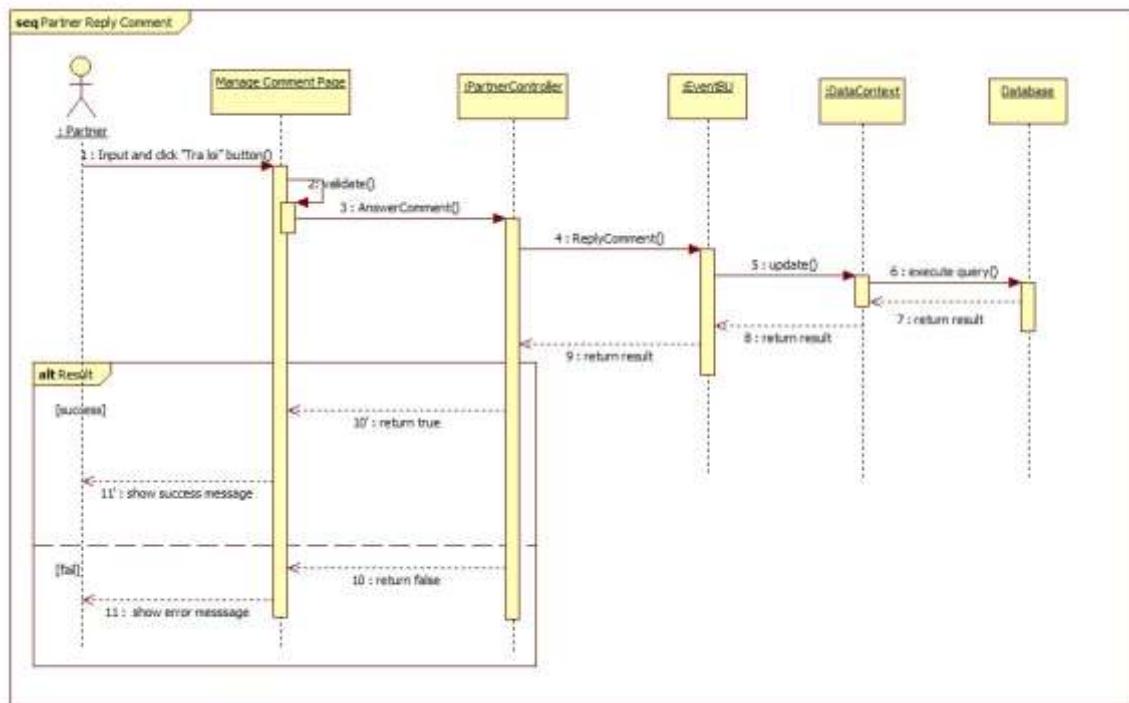


Figure 91: <Partner>Reply Comment

4.3.1.31 <Partner> Update Organization Profile

Summary: This diagram shows how partners update their organization profile.

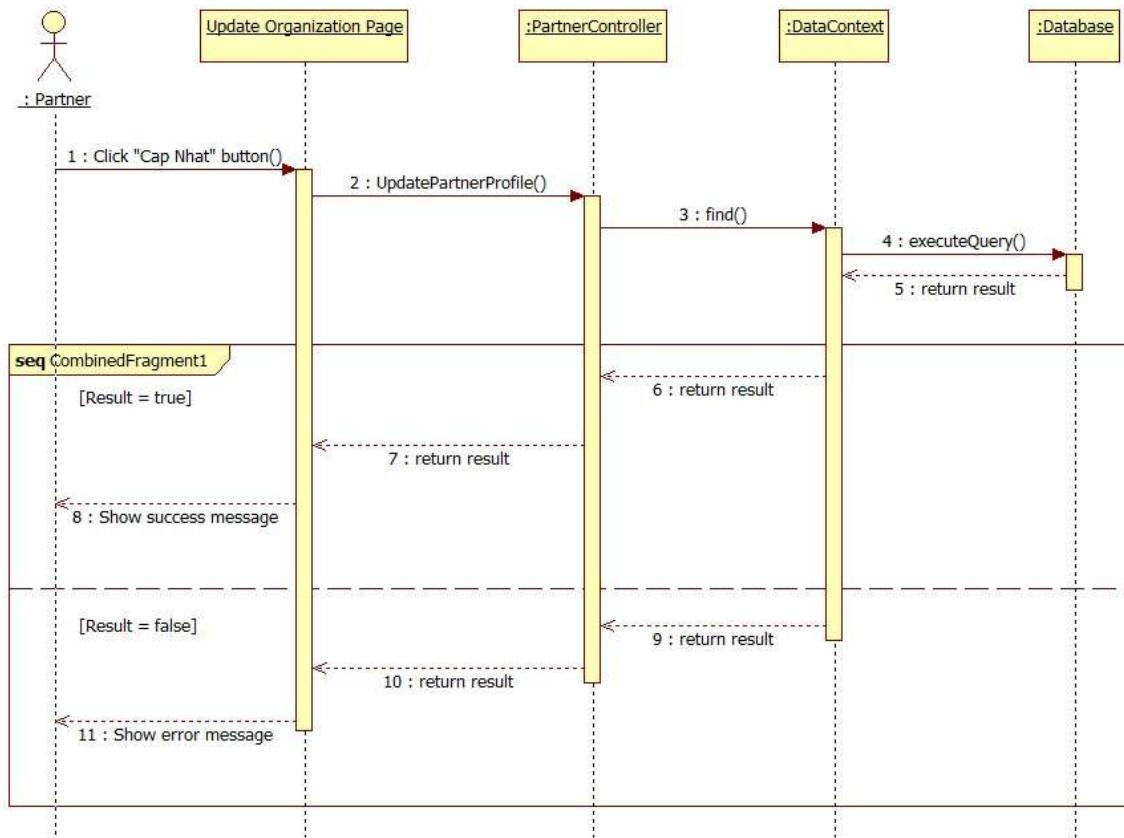


Figure 92: <Partner> Update Organization Profile

4.3.1.32 <Partner> Create Sub Access Account

Summary: This diagram shows how partners create sub access accounts.

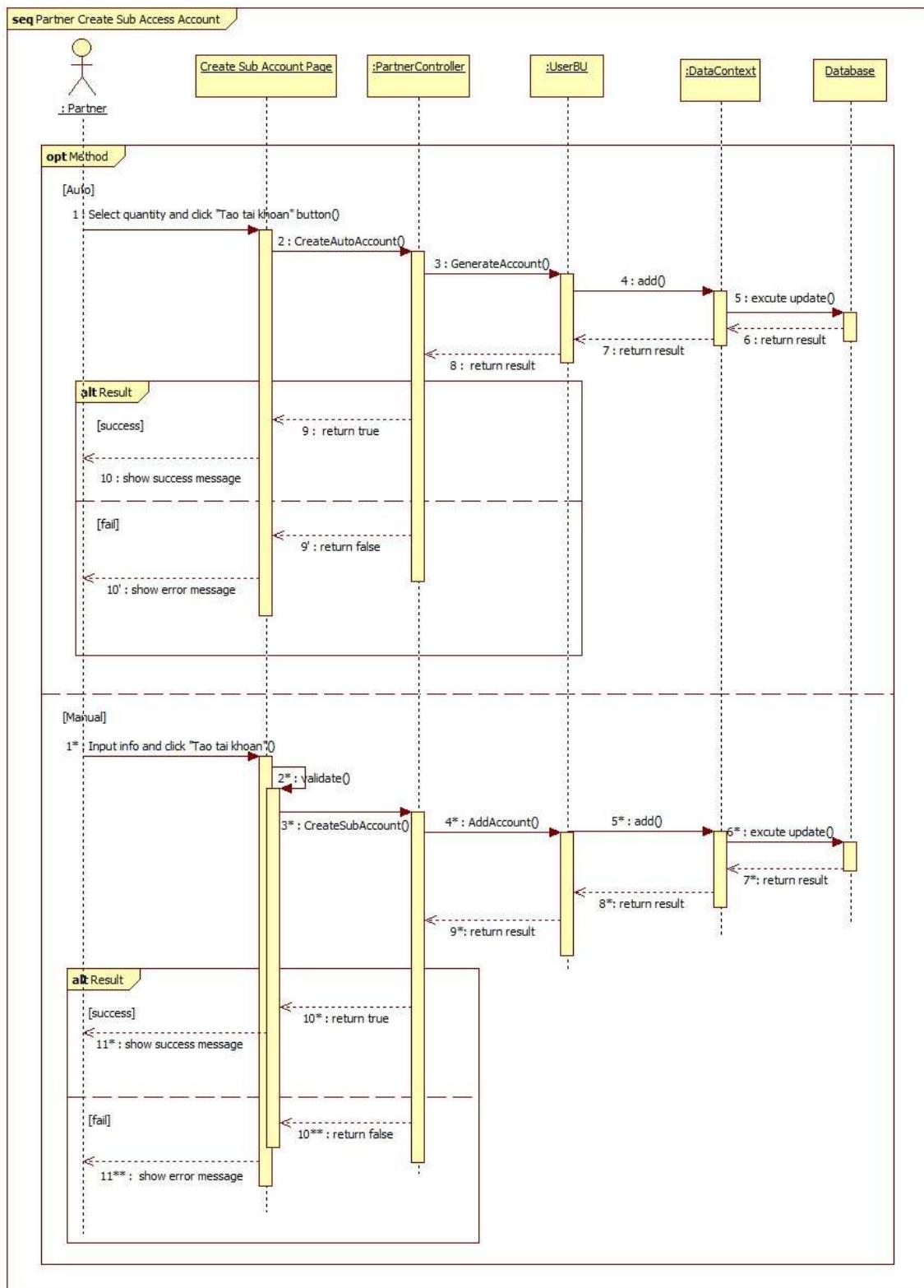


Figure 93: <Partner> Create Sub Access Account

4.3.1.33 <Staff> Approve Change

Summary: This diagram shows how staffs approve request for updating event info from partner.

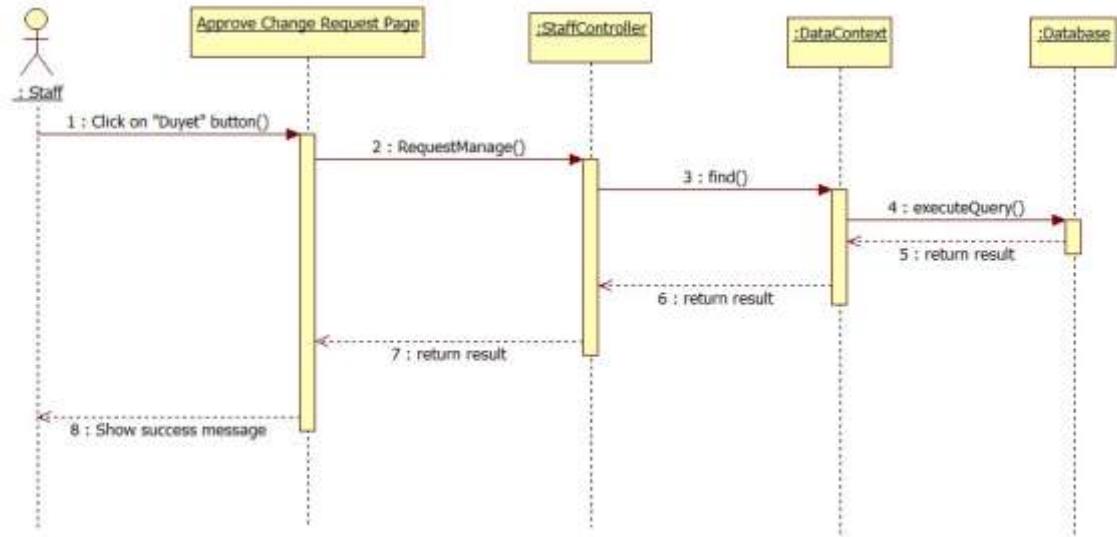


Figure 94: <Staff> Approve Change

4.3.1.34 <Staff> Activate Partner Account

Summary: This diagram shows how staffs activate partner account.

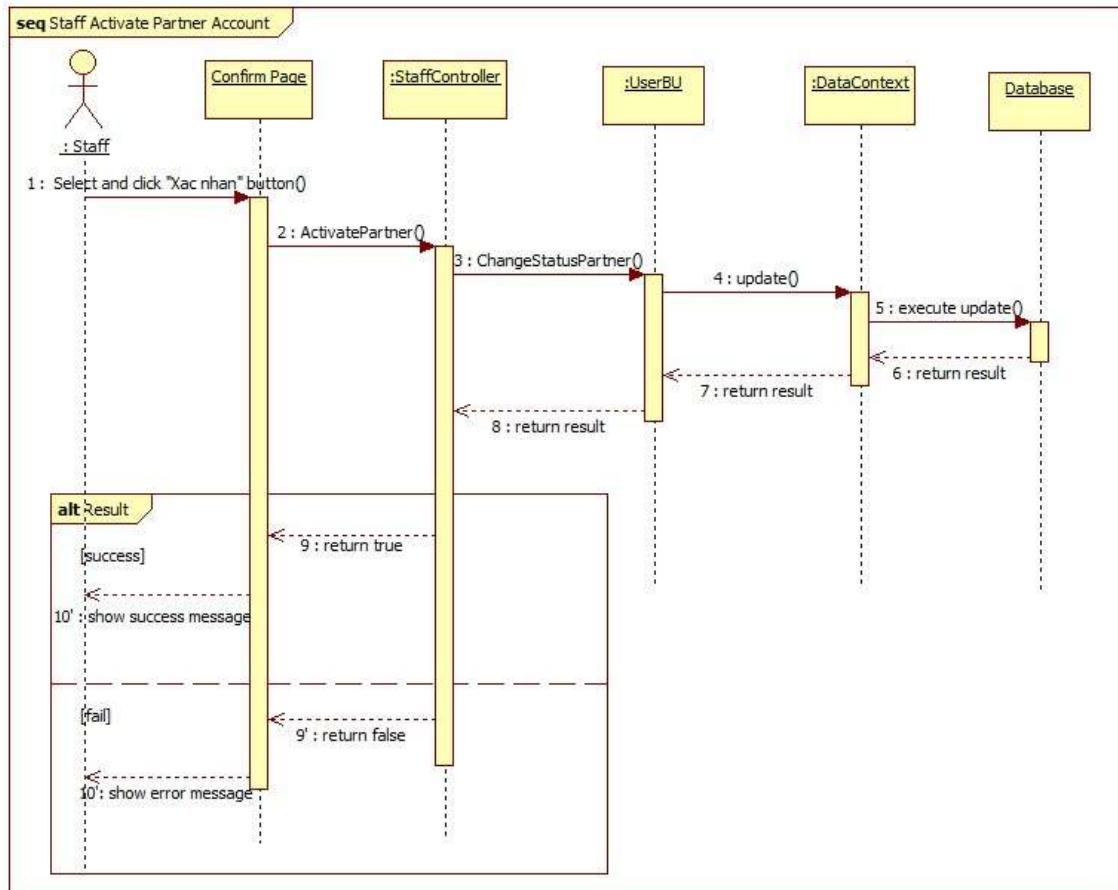


Figure 95: <Staff>Activate Partner Account

4.3.1.35 <Staff> Add New Info Value

Summary: This diagram shows how staffs add new info value into the system.

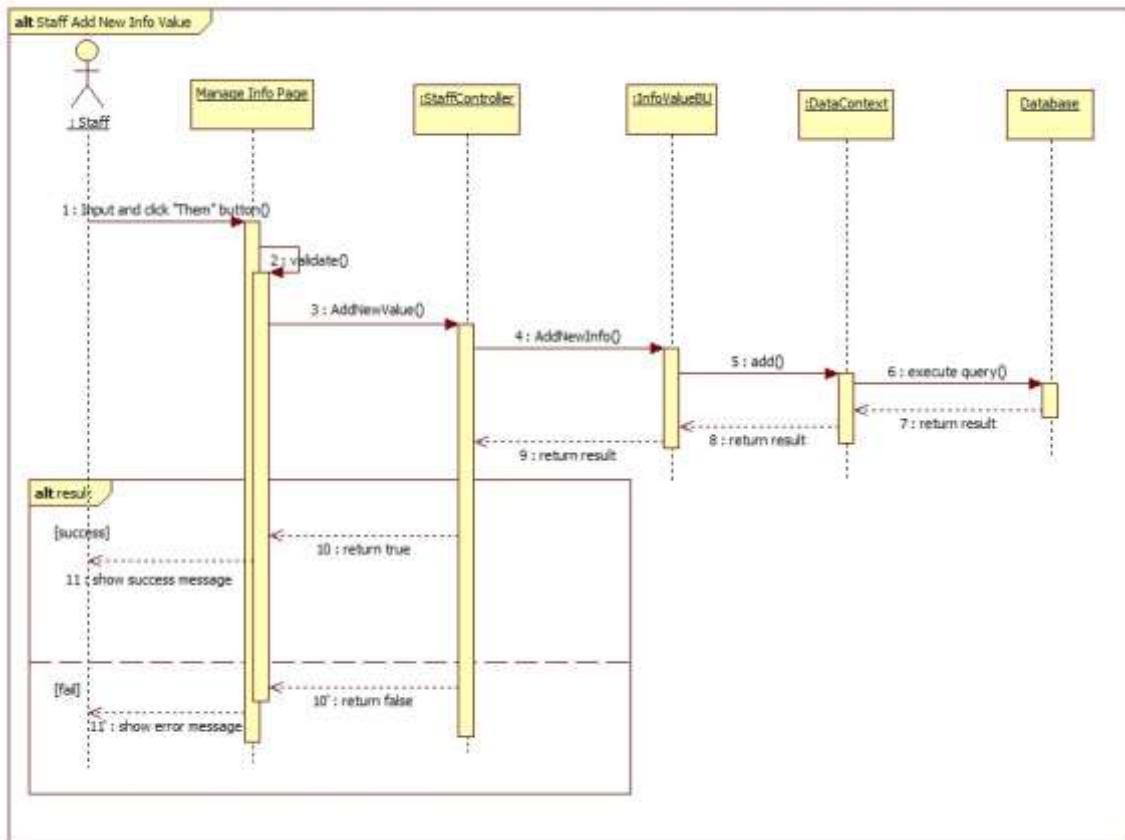


Figure 96: <Staff>Add New Info Value

4.3.1.36 <Staff> View List Info Values

Summary: This diagram shows how staffs view list of info value in the system.

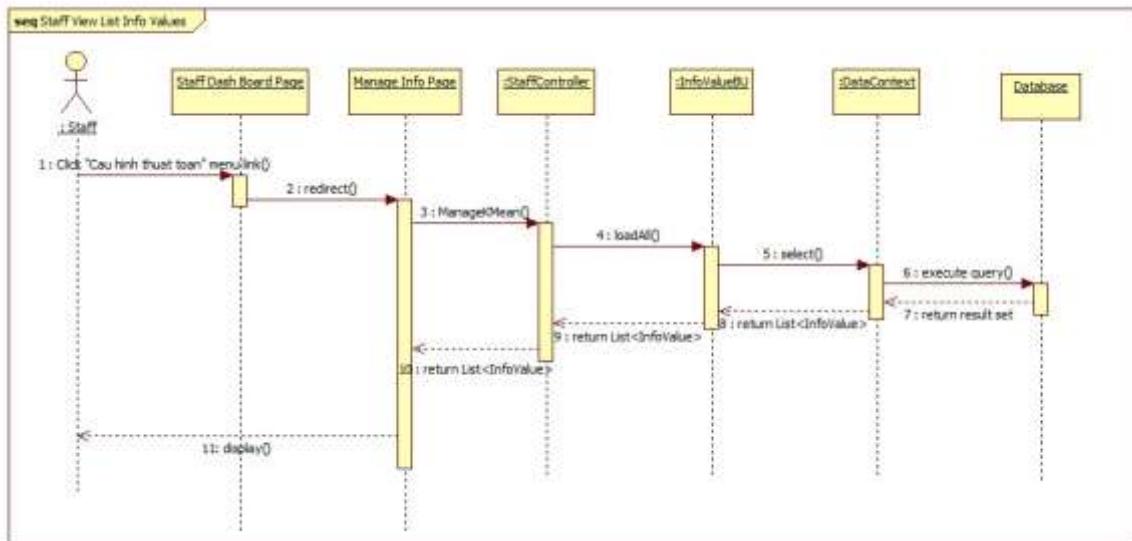


Figure 97: <Staff> View List Info Values.

4.3.1.37 <Staff> Update Info Value

Summary: This diagram shows how staffs update info value in the system.

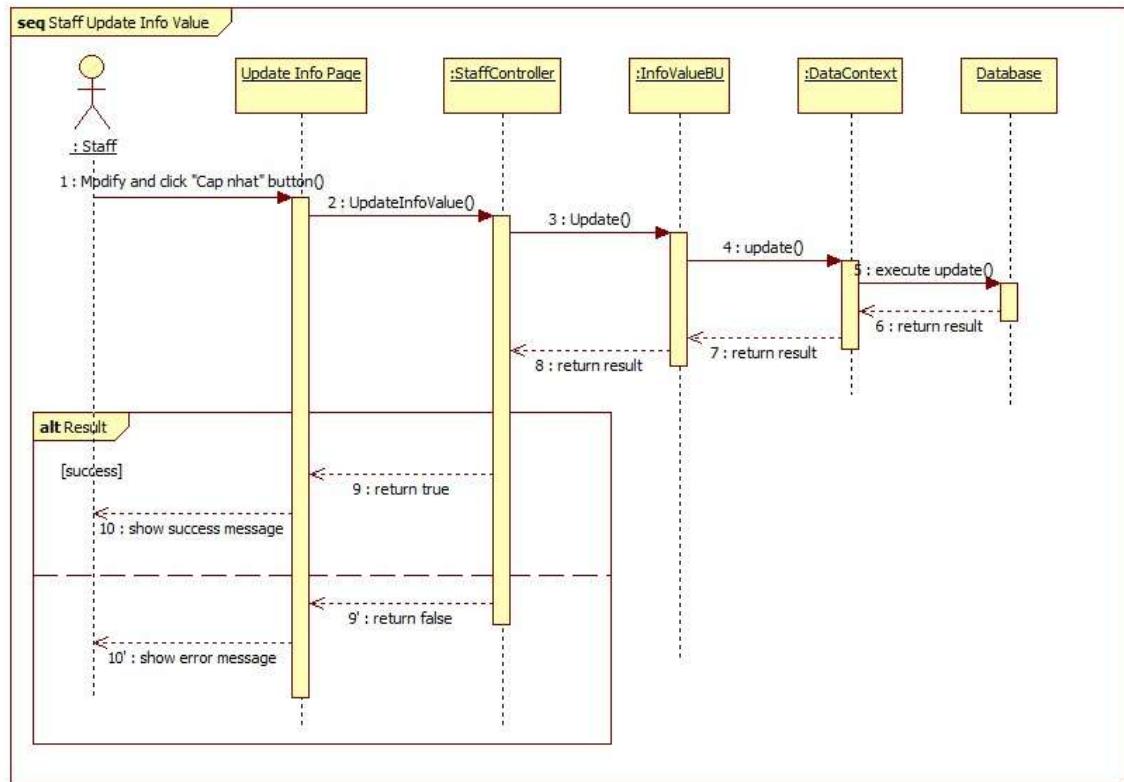


Figure 98: <Staff> Update Info Value

4.3.1.38 <Staff> Change Status

Summary: This diagram shows how staffs change state of info value in the system.

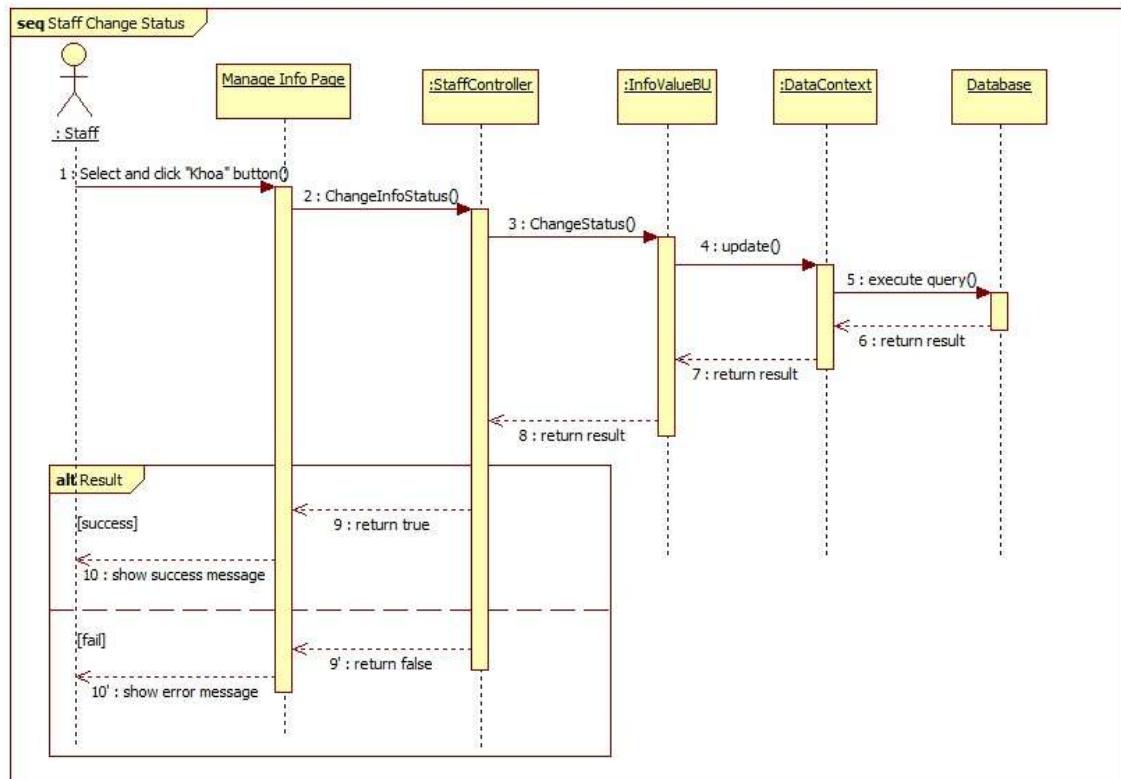


Figure 99: <Staff> Change Status

4.3.1.39 <Staff> Export Data

Summary: This diagram shows how staffs export data to excel file.

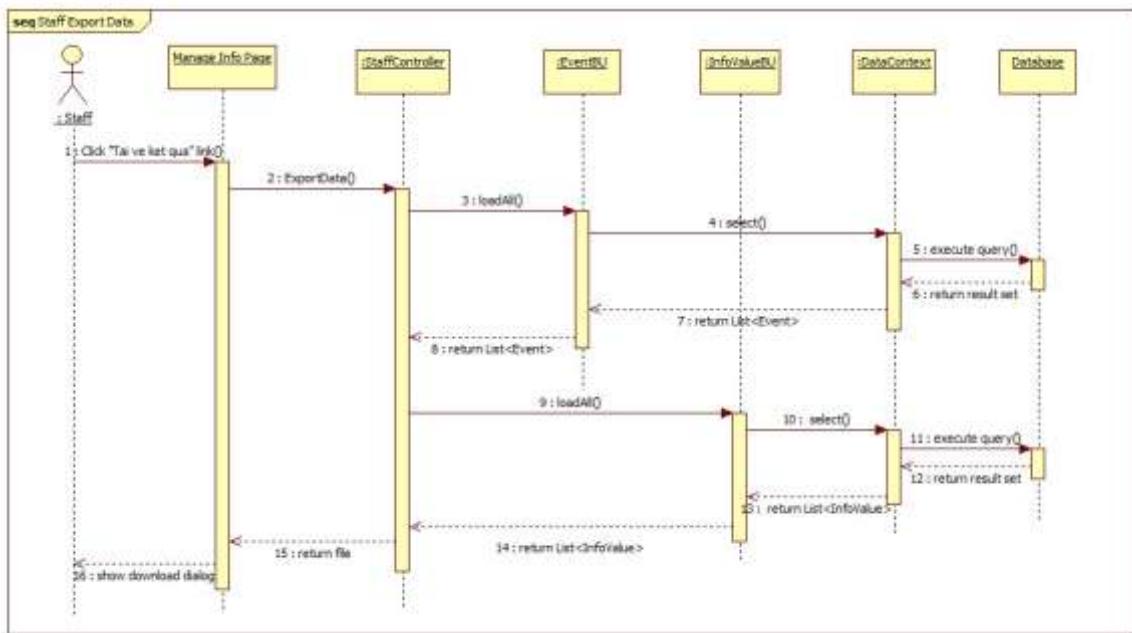


Figure 100: <Staff> Export Data

4.3.1.40 <Staff> Classify Cluster

Summary: This diagram shows how staffs cluster events into groups.

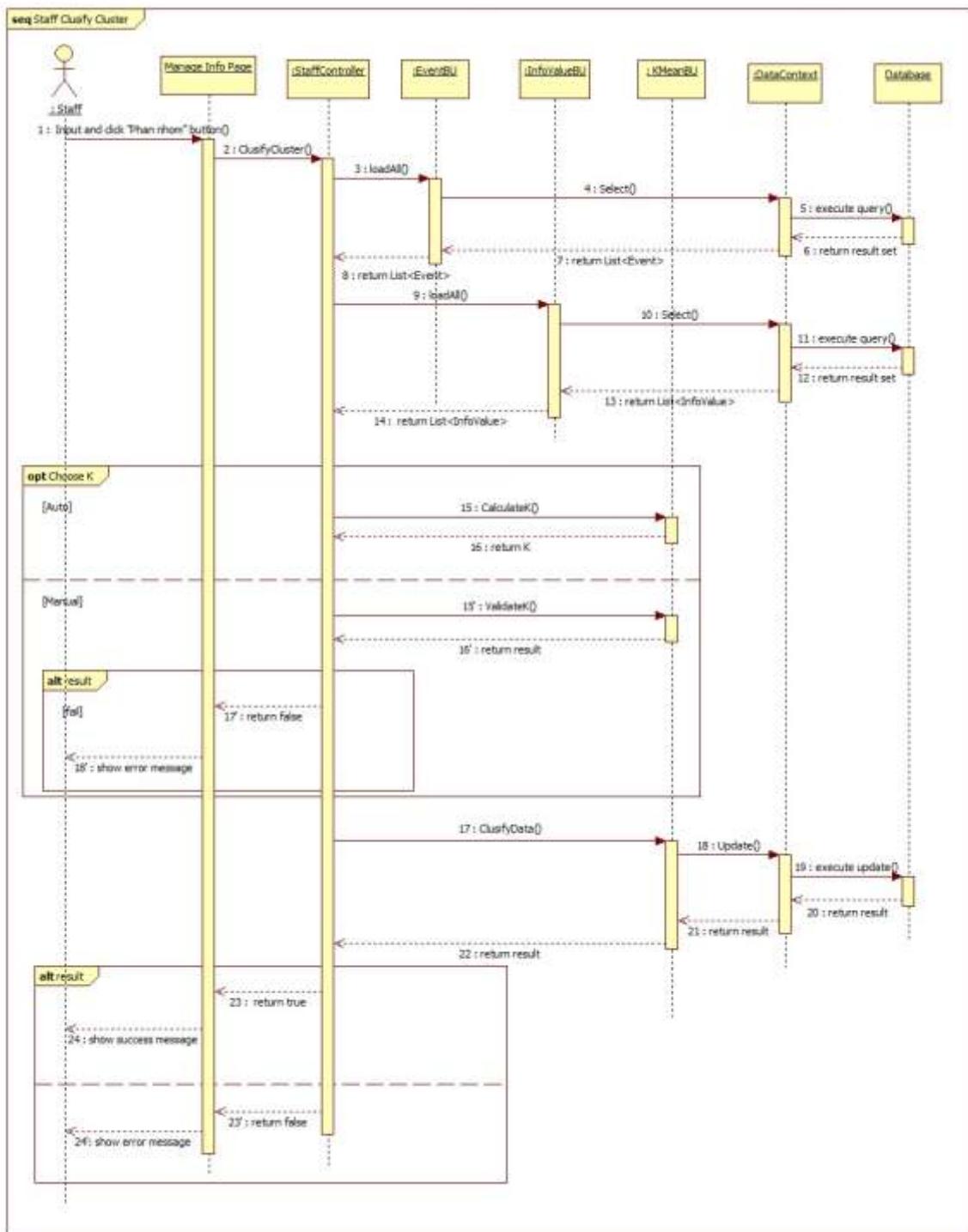


Figure 101: <Staff> Classify Cluster

4.3.1.41 <Staff> Update Exchange Rate

Summary: This diagram shows how staffs update exchange rate.

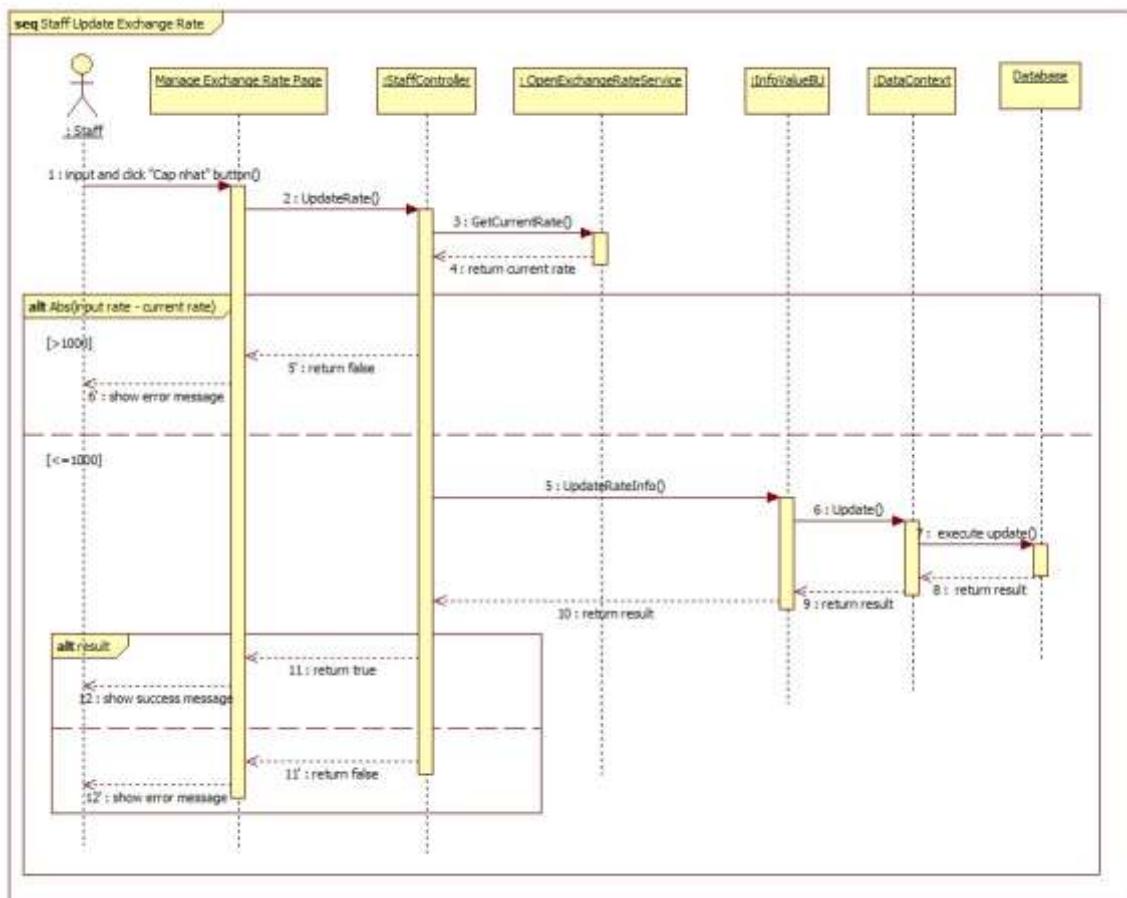


Figure 102: <Staff> Update Exchange Rate

4.3.1.42 <Staff> Change First Time Password

Summary: This diagram shows how staffs change his/her first time password.

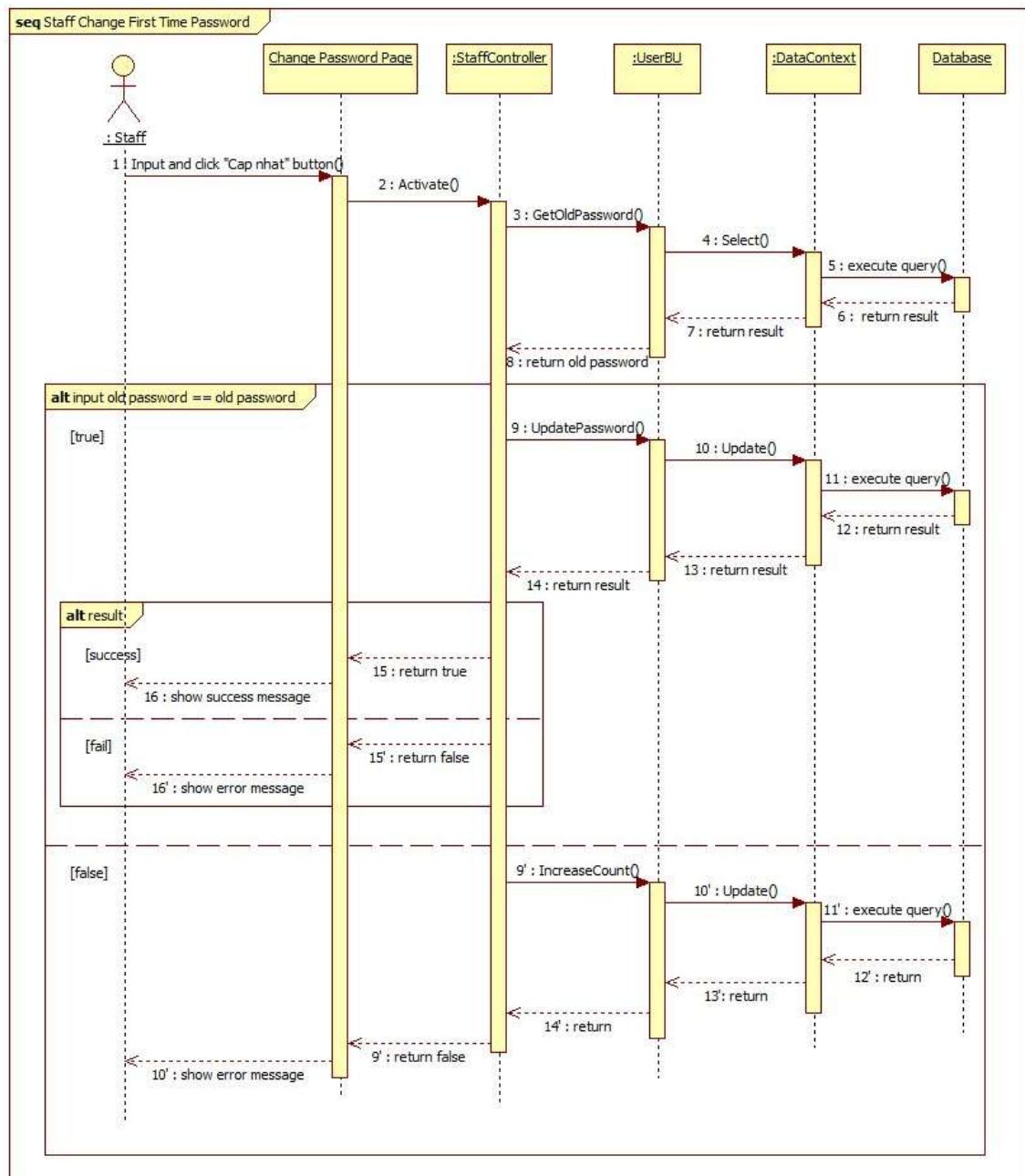


Figure 103: <Staff> Change First Time Password

4.3.1.43 <Guest> Search Event

Summary: This diagram shows how guests search events.

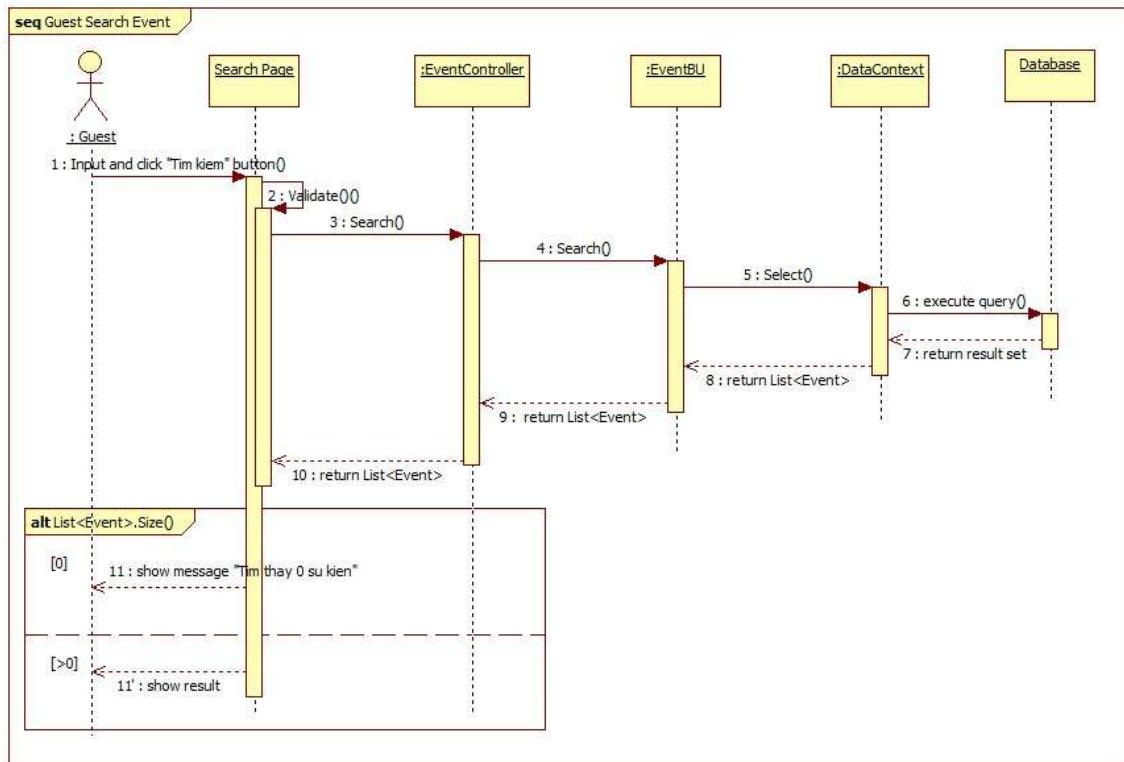


Figure 104: <Guest> Search Event

4.3.1.44 <Guest> View Event Detail

Summary: This diagram shows how guests view event's detail.

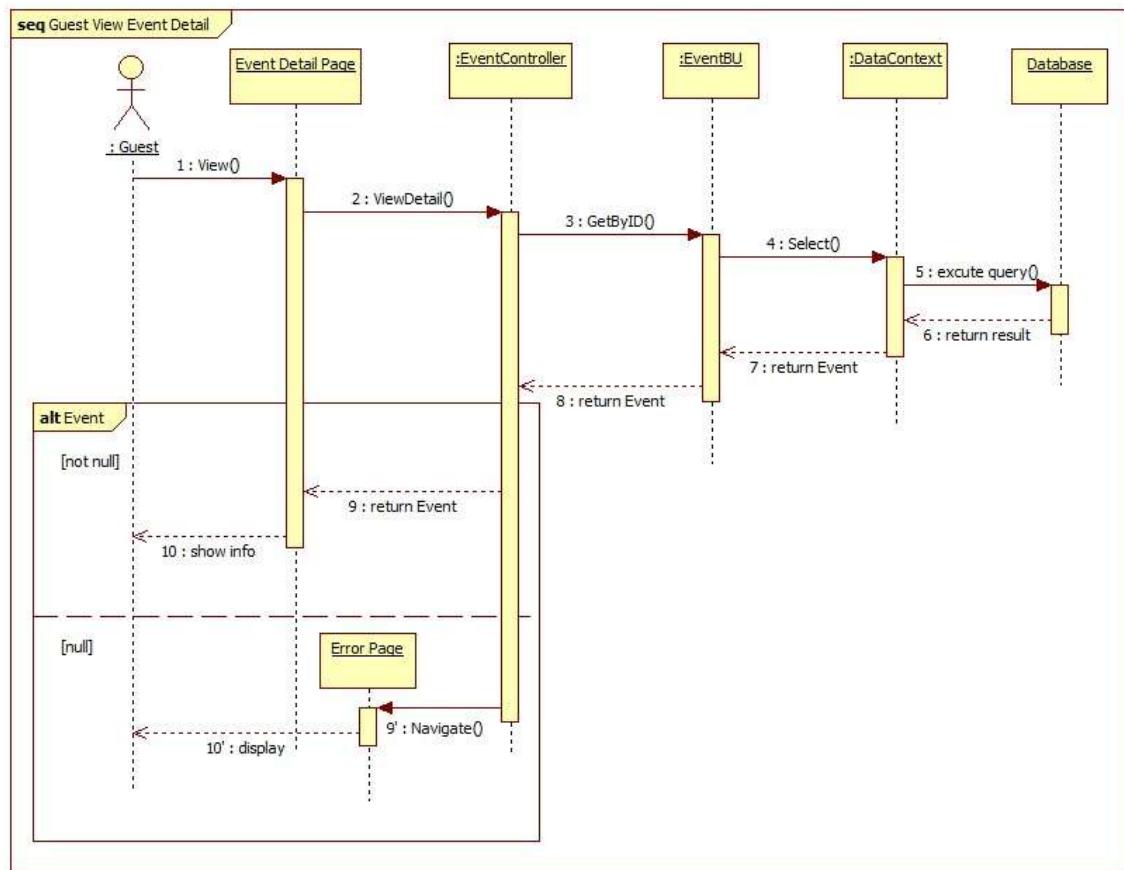


Figure 105: <Guest> View Event Detail

4.3.1.45 <Guest> Register

Summary: This diagram shows how guests register an account.

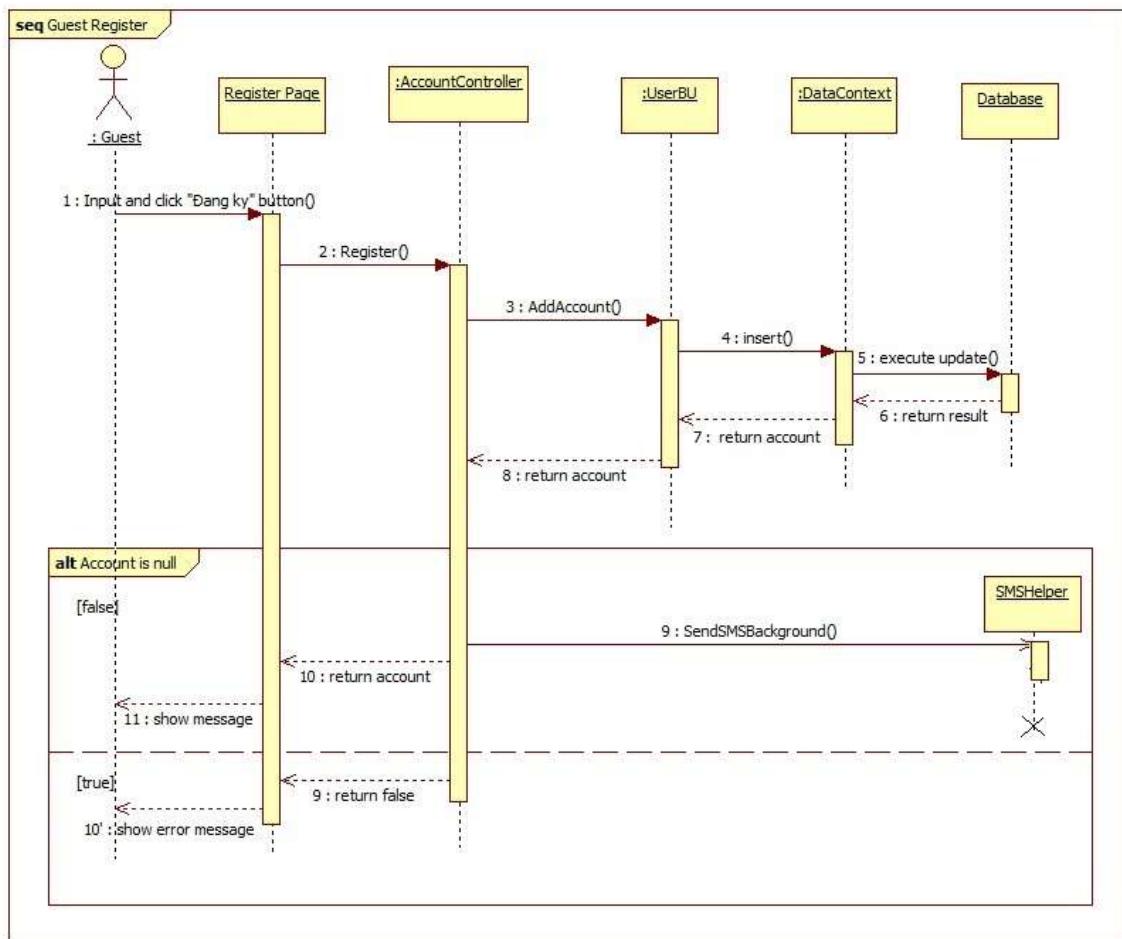


Figure 106: <Guest> Register

4.3.1.46 <Guest> Login

Summary: This diagram shows how guests login into the system.

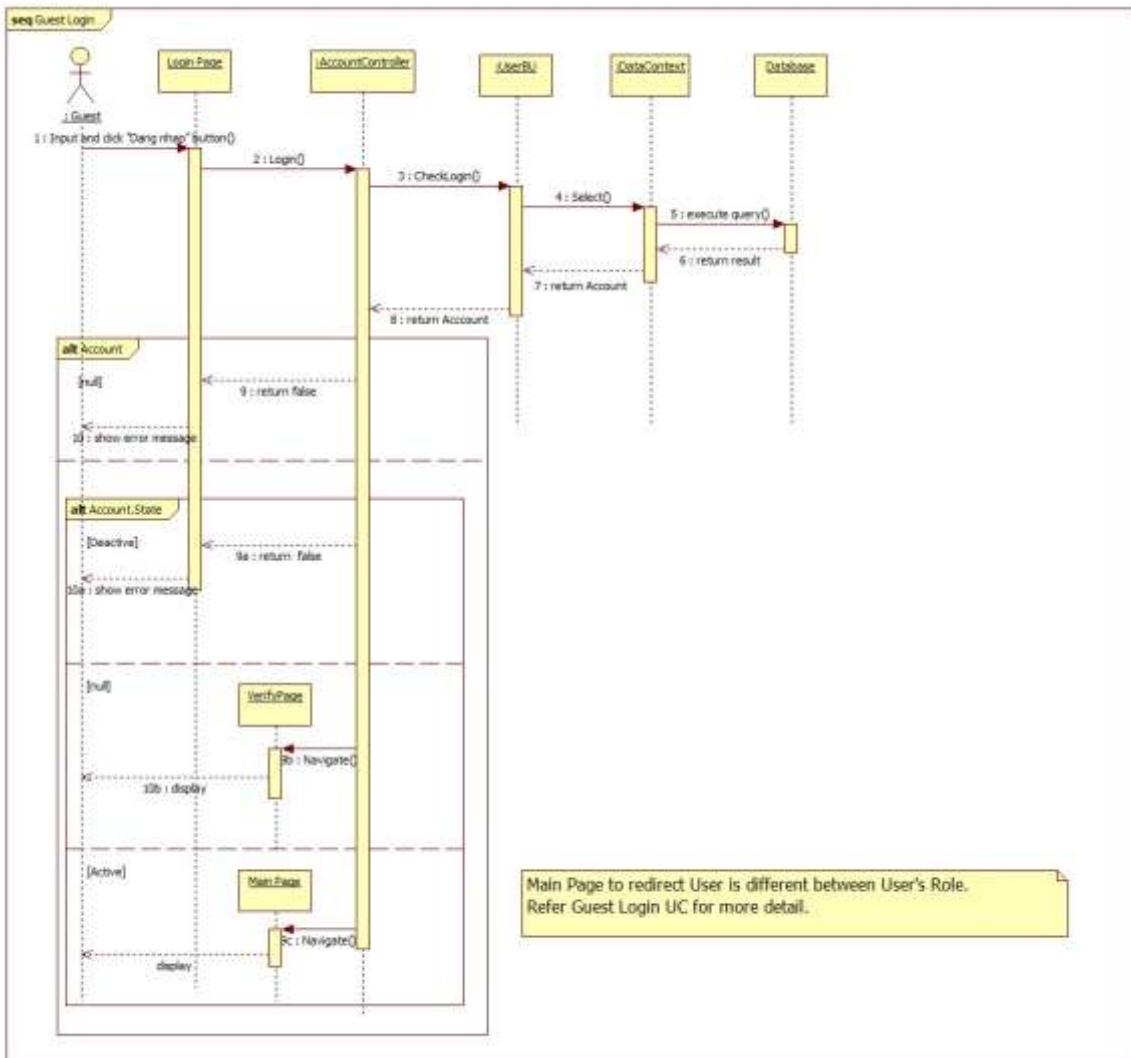


Figure 107: <Guest> Login

4.3.1.47 <Admin> Create Staff Account

Summary: This diagram shows how admin create staff's accounts.

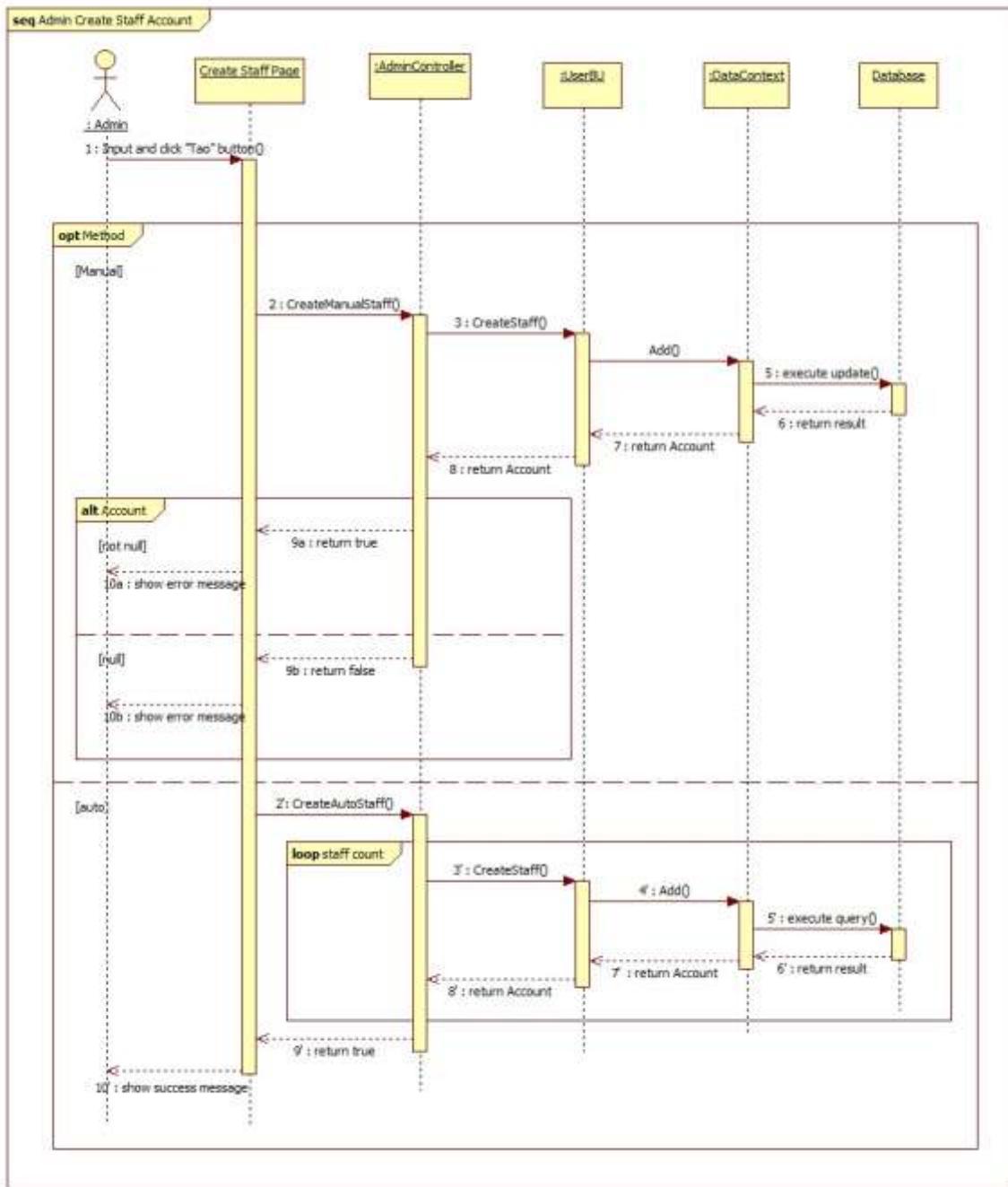


Figure 108: <Admin> Create Staff Account

4.3.1.48 <Admin> Change Account Status

Summary: This diagram shows how admin change status of an account.

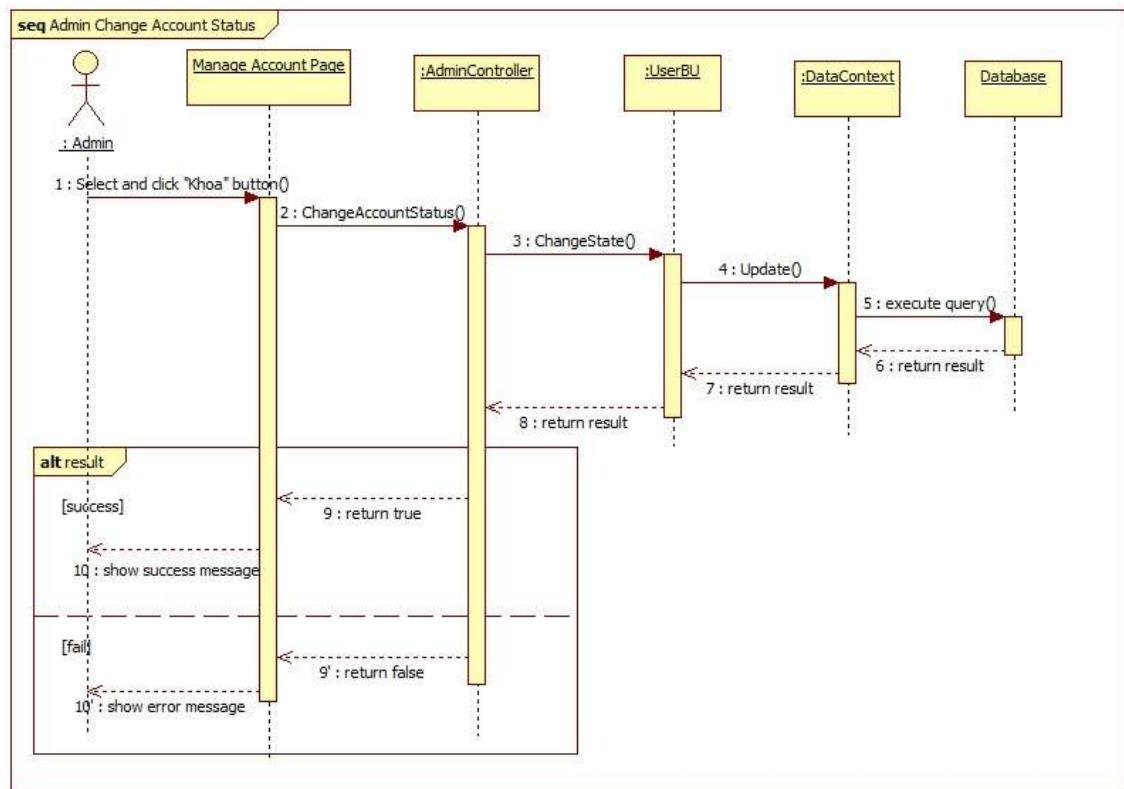


Figure 109: <Admin> Change Account Status

4.3.1.49 <Authenticated User> Log Out

Summary: This diagram shows how authenticated users log out of the system.

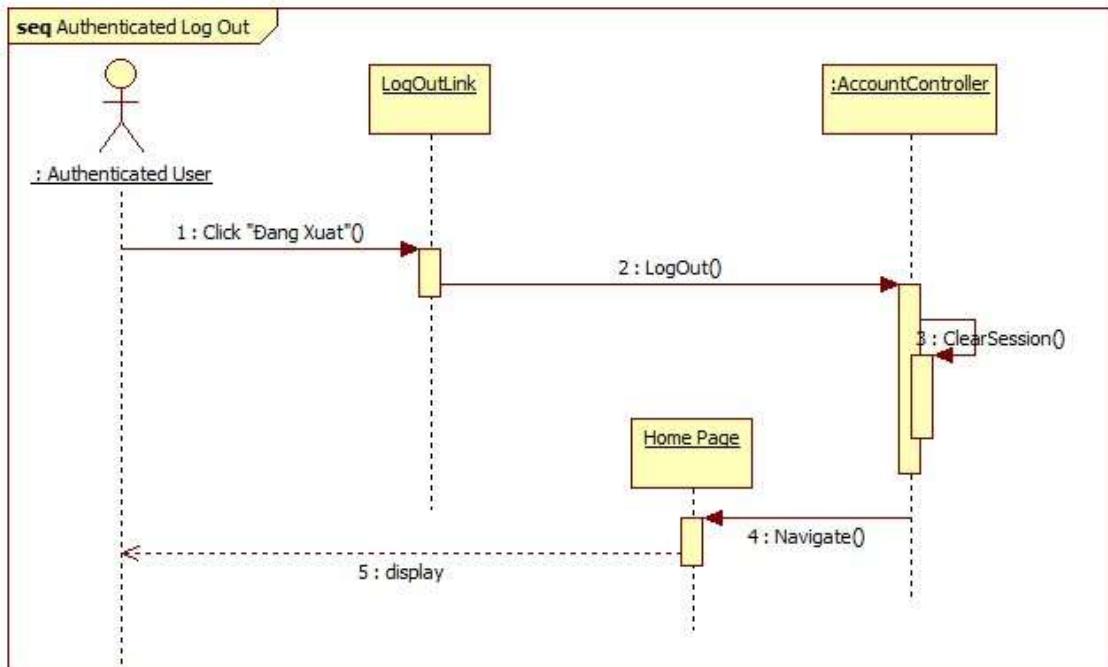


Figure 110: <Authenticated User>Log Out

5. User Interface Design

5.1 Guest Interface Design

5.1.1 Intro Page



Figure 111: Intro Page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Slide	Slide about website	No	No	Slide	N/A	N/A

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
2	Member register	Click to go to register page for member	No	Transfer to register page.
3	Partner register	Click to go to register page for partner	No	Transfer to register page.
4	Login	Click to go to login page	No	Transfer to login page.
5	Home page	Click to go to home page	No	Transfer to home page.

5.1.2 Guest Home Page

The screenshot shows the Guest Home Page of the M-Services Capstone Project. The page has a light blue header with the project logo and navigation links: Trang Chủ, DANH MỤC, SỰ KIỆN NỔI BẬT, and CHÍNH SÁCH. Below the header is a search bar with fields for Tên sự kiện, Tên nhà tài trợ, Từ khóa, and Ngày. The main content area displays three event cards: 'Khóa học Nhật Bản', 'Canvas & Wine at VieSpace Art Studio', and 'Code Health Talk'. At the bottom, there's a section for 'MẠNG XÃ HỘI' with links to various social media platforms.

Figure 112: Guest Home Page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Menu	Navigation bar	No	No	Menu bar	N/A	N/A
2	Categories	Categories menu	No	No	Expandable menu	N/A	N/A
3	Search	Search event	No	No	Form	N/A	N/A
5	Tab menu	Tab paging menu	No	No	Tab	N/A	N/A

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
4	Buy Ticket	Click to go to event detail	No	Transfer to event detail page.

5.1.3 Login

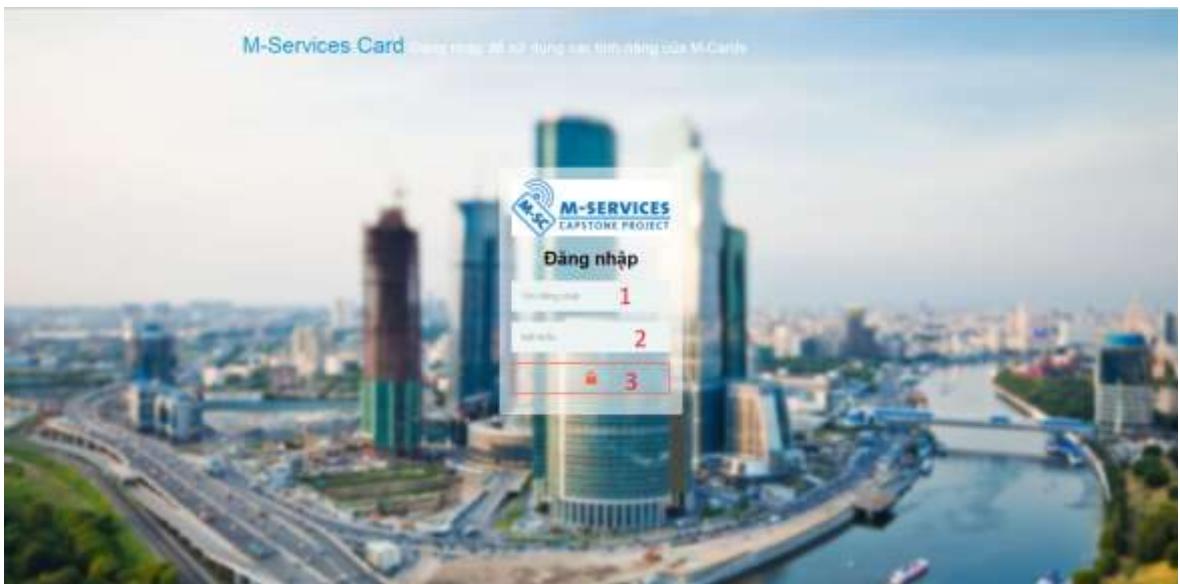


Figure 113: Login

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Username	Fill user name	No	Yes	Textbox	String	N/A
2	Password	Fill password	No	Yes	Password	String	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
3	Signin	Log-in into the system	N/A	Transfer to home page

5.1.4 Register

The screenshot shows the registration page of the M-Services mobile application. The page has a light blue header with the M-Services logo and a navigation bar with tabs: Trang Chủ, Gửi tin nhắn, Liên hệ, Chính sách, and Đăng ký. Below the header is a section titled "HƯỚNG DẪN THÀNH VIỆN" (How to register). The registration form is divided into several sections:

- Tài khoản:**
 - Tên đăng nhập: (1)
 - Mật khẩu: (2)
 - Xác nhận mật khẩu: (3)
 - Hình ảnh: (4)
 - Giới tính: Nữ / Nam (5)
- Thông tin cá nhân để chứng minh tài khoản:**
 - Họ tên: (6)
 - Quốc tịch: (8)
 - Nationality: (7)
 - Giới tính: Nữ / Nam (9)
 - Nghề nghiệp: Nhân viên (10)
 - Địa chỉ: (11)
 - Đảng bộ: Cộng sản (12)
 - Đơn vị: (13)
 - Thông tin khác: (14)
- Đóng:** Tôi đồng ý với các điều khoản và điều kiện của ứng dụng (15)
- Thao tác:** (16)

At the bottom of the page, there is a "M-Services CARD" section with icons for Home delivery, Home service, Home office, and Home office. There is also a "Chia sẻ bài viết này" (Share this post) button.

Figure 114: Register Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Username	Fill user name	No	Yes	Textbox	String	N/A
2	Password	Fill password.	No	Yes	Password	String	N/A
3	Re-Password	Fill password again.	No	Yes	Password	String	N/A

4	Email	Fill email.	No	Yes	Textbox	String	N/A
5	User Avatar	Image file picker.	No	Yes	File Picker	String	N/A
6	User full name	Fill user full name.	No	Yes	Textbox	String	N/A
7	Birthday	Pick a date.	No	No	Datetime picker	String	N/A
8	Gender	Choose a gender	No	Yes	Radio button	String	N/A
9	Phone number	Fill user's phone number.	No	Yes	Textbox	String	N/A
10	Job	Fill user's job.	No	No	Textbox	String	N/A
11	Position	Fill user's position.	No	No	Textbox	String	N/A
12	Company	Fill company name.	No	No	Textbox	String	N/A
13	Address	Fill address.	No	No	Textbox	String	N/A
14	Others information	Fill others information.	No	No	Textbox	String	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
15	Register	Click to send information to register.	N/A	Transfer to register success page.
16	Clear	Click to clear form above.	N/A	Form cleared.

5.1.5 Event Detail

CHI TIẾT SỰ KIỆN

Thời gian: 13/9/2014 2:30:00 PM
Địa điểm: VinSpace Art Studio 04-06 Lê Văn Miến, Thảo Điền, Quận 2
Hồ Chí Minh

Vé thường: 150.000 VNĐ

Số lượng: 1 / 150 vé

Thanh toán: 150.000 VNĐ

Vui lòng nhập số điện thoại:

Mua vé

Nhà tổ chức: Công ty Hangover
Lĩnh vực: Công nghệ thông tin
Hướng tới: Mọi lứa tuổi
Kỹ năng: Chuyên môn

HOT

Canvas & Wine at VinSpace Art Studio

Thời gian: 13/9/2014 2:30:00 PM

Địa điểm: VinSpace Art Studio 04-06 Lê Văn Miến, Thảo Điền, Quận 2
Hồ Chí Minh

Vé thường: 150.000 VNĐ

Giá vé: 150.000 VNĐ

Số lượng: 1 / 150 vé

Thanh toán: 150.000 VNĐ

Vui lòng nhập số điện thoại:

Mua vé

Bạn có thể mua tối đa 4 vé

THÔNG TIN CHI TIẾT BÌNH LUẬN NHÀ TỔ CHỨC

5

CÔNG TY HANGOVER | 11/2/2014 12:00:00 AM

Canvas and Wine is a Social Event where you will paint and sample fine wines in the company of friends, and with the help of an Instructor. This is a fun, creative class for all, no matter your painting level! With a brush in one hand and a glass of wine in the other, this is the perfect way to get creative. First we will have a brief introduction about the wines of the night, -always one red, one white- and then after having heard about them, and enjoyed tasting them too, we will start the creativity! Then, the instructor will explain the topic of the day and will carry out a short demo. And the best bit, you can take your masterpiece home at the end of the evening! Let's brush, splash and smear the paint onto the canvas and create your own masterpiece!



Khoa học Nhật Bản



Code Health Talk

6

12/8/2014 2:30:00 PM

Xem ngay

12/9/2014 2:30:00 PM

Xem ngay

Figure 115: Guest event detail

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Ticket range	List of ticket range	No	Yes	Dropdown list	String	N/A
2	Quantity	Fill quantity	No	Yes	Textbox	String	N/A
3	Phone number	Buyer's phone number	No	Yes	Textbox	String	N/A
5	Event information Tabs	Event information	No	No	Tab	String	N/A
6	Suggestion List	List of suggested events	No	No	Slider	String	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
4	Buy ticket	Click to go to paypal page to pay money for the ticket.	N/A	Transfer to Paypal page.

5.1.6 Search Page

The screenshot shows a search interface with the following fields and controls:

- Tên sự kiện**: A text input field labeled "Tên sự kiện" with a red box numbered 1.
- Tên nhà tổ chức**: A text input field labeled "Tên nhà tổ chức" with a red box numbered 2.
- Từ ngày**: A date input field labeled "mm/dd/yyyy" with a red box numbered 3.
- Đến ngày**: A date input field labeled "mm/dd/yyyy" with a red box numbered 4.
- Sự kiện đã diễn ra**: A checkbox labeled "Sự kiện đã diễn ra" with a red box numbered 5.
- Xóa**: A button labeled "Xóa" with a red box numbered 7.
- Tìm kiếm**: A green button labeled "Tìm kiếm" with a red box numbered 6.

Figure 116: Search Page

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Event name	Fill event name	No	Yes	Textbox	String	N/A
2	Event's Organization	Fill event's organization	No	Yes	Textbox	String	N/A
3	From date	Select start date to search	No	Yes	Datetime picker	String	N/A
4	To date	Select end date to search	No	Yes	Datetime picker	String	N/A
5	Include ended event	Select to show result includes ended events	No	No	Checkbox	String	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
6	Search	Click to search events with information above	N/A	Transfer to search result page.
7	Clear	Click to clear input data above	N/A	N/A

5.2 Member Interface Design

5.2.1 Event Android Application

5.2.1.1 Login

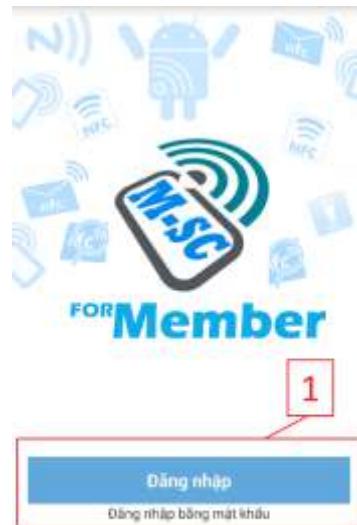


Figure 117: Member Login

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Login to the application	Tab on to log in to the application	N/A	Transfer to Login Sign-in screen.

5.2.1.2 Sign-in



Figure 118: Member Sign-in

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Username	“Tên đăng nhập”	No	Yes	Text field	String	N/A
2	Password	“Mật khẩu”	No	Yes	Password	String	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
3	“Đăng nhập”	Log-in into the system	N/A	Transfer to home page.

5.2.1.3 Menu



Figure 119: Menu

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Search	Tab to search event	N/A	Transfer to “Tìm kiếm” screen after fill in search textbox and tab search.
2	Home screen	Tab to go to home screen	N/A	Transfer to “Trang chủ” screen.
3	My Event Screen	Tab to go to My Event Screen	N/A	Transfer to “SỰ KIỆN CỦA TÔI” screen.
4	Settings screen	Tab to go to settings screen	N/A	Transfer to “Thiết lập” screen.
5	Help screen	Tab to go to help screen	N/A	Transfer to “Trợ giúp” screen.
6	About us screen	Tab to go to About us screen	N/A	Transfer to “Thông tin” screen.

5.2.1.4 Member's Booked Events



Figure 120: Member's Booked Events

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
3	Search	Tab to search event	N/A	Transfer to “Tìm kiếm” screen after fill in search textbox and tab search.
1	Event info	Tab to go to Event Info screen	N/A	Transfer to “Chi tiết sự kiện” screen.
2	Write ticket	Tab to go to Write ticket screen	N/A	Transfer to “Ghi vé” screen.

5.2.1.5 Write Ticket



Figure 121: Member Write Ticket

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Refresh	Tab to refresh the ticket list	N/A	Refresh the ticket list.
2	Write ticket	Tab to show write ticket popup	N/A	"Ghi vé" popup shown.
3	Delete	Tab to delete wrote ticket	N/A	Ticket deleted if it not checked in.



Figure 122: Member Write Ticket

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Checkbox	Check to write the ticket separately	N/A	Dropdown list enabled.
2	Number of ticket	Show quantity of the ticket member can write	N/A	N/A
3	Write ticket	Tab to write ticket with chosen quantity	N/A	Dialog dismiss.

5.2.2 Contact Android Application

5.2.2.1 Sign-in



Figure 123: Sign-in Contact Android Application

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Username	Fill Username	No	Yes	Textbox	String	20
2	Password	Fill Password	No	Yes	Textbox	String	20

Buttons/Action bar

No	Function	Description	Validation	Outcome
3	Login	Login-in into the system	No	Navigate to View Friend List screen.

5.2.2.2 View Friend List



Figure 124: Friend List

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	Update Friend Contact	Update information for friendship contact	No	Navigate to Update Friend Contact screen.
2	Save to Phone	save a contact from MSSC list to your cellphone	No	Navigate to Save To Phone screen.
3	Remove Contact	Remove a contact from friend list	No	Navigate to Remove Contact screen.
4	Contact Detail	View detail of a contact in friend list	No	Navigate to View Detail Contact screen.

5.2.2.3 Menu Contact

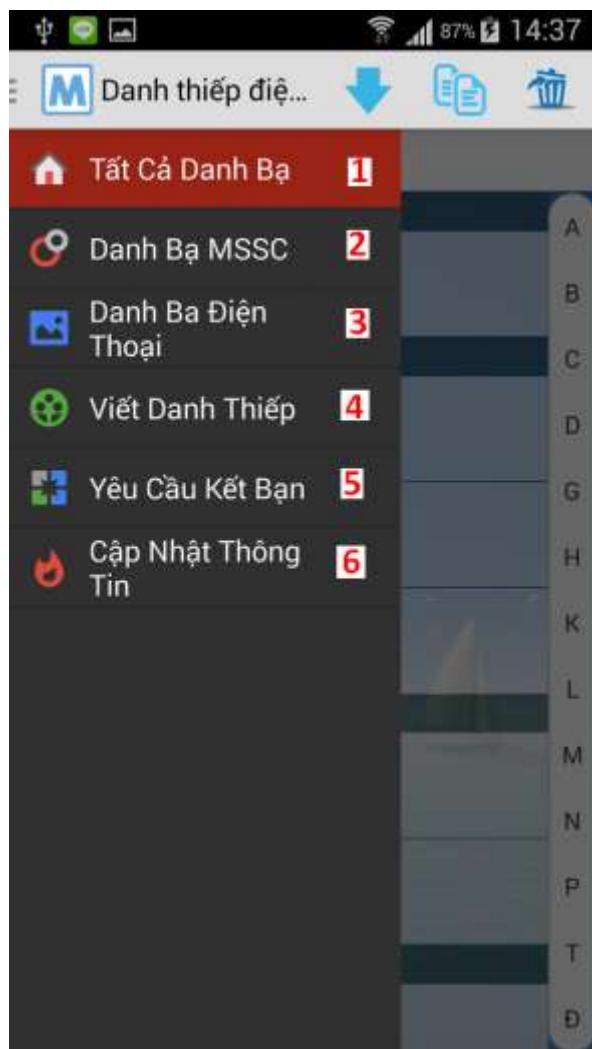


Figure 125: Menu Contact

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	View List Friend Contact	View list of contacts	No	Navigate to View Friend List screen.
2	View List MSSC Contact	View list of MSSC contacts	No	Navigate to View MSSC Friend List screen.
3	View List Android Contact	View list of Android contacts	No	Navigate to View Android Friend List screen.
4	View Write Contact	View Write Contact screen	No	Navigate to Write Contact screen.
5	View List Friend Request	View list of Friend request	No	Navigate to View List Friend Request screen.
6	View Update Profile	View Update Profile screen	No	Navigate to View List Friend Request screen.

5.2.2.4 Update Contact

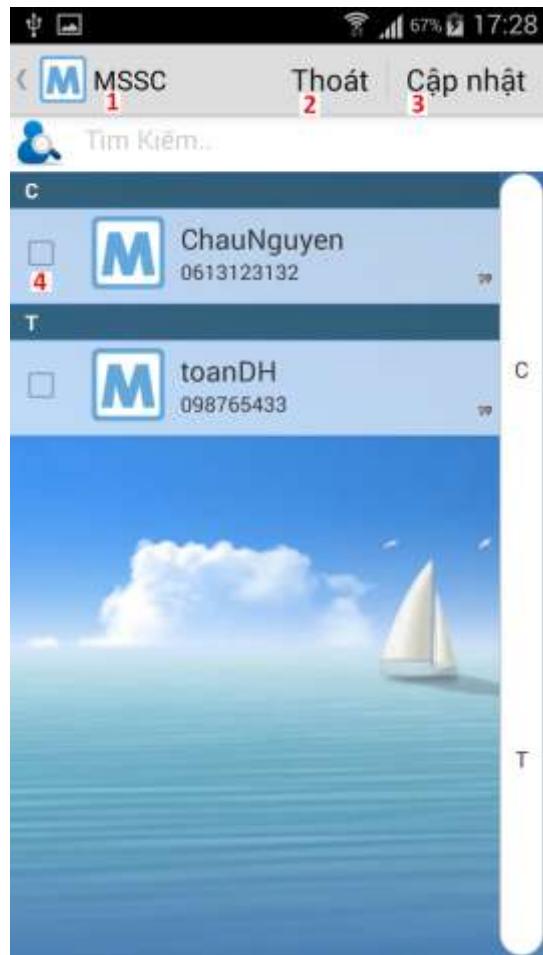


Figure 126: Update Contact

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Lenght
4	Contact	Checkbox add contact to update list	No	No	Checkbox	String	N/A

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	View List Contact Friend	View list of contacts	No	Navigate to View Friend List screen.
2	Exit Update Contact	View list of contacts	No	Navigate to View Friend List screen
3	Update	Update information of	No	Show success message.

	contact	contacts that is checked		
--	---------	--------------------------	--	--

5.2.2.5 Save To Phone

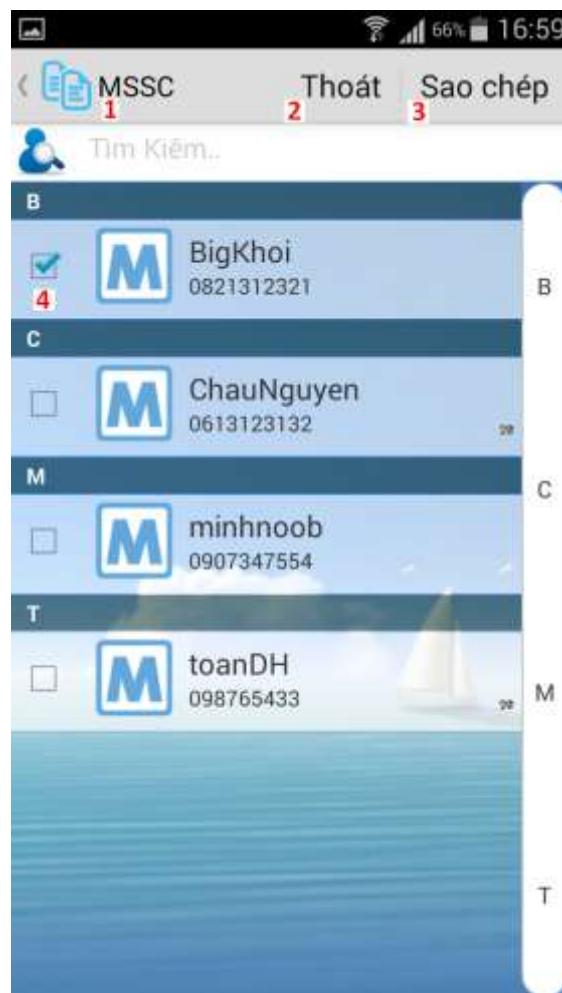


Figure 127: Save To Phone

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
4	Contact	Checkbox add contact to copy list	No	No	Checkbox	String	N/A

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	View List Contact Friend	View list of contacts.	No	Navigate to View Friend List screen.
2	Exit Copy Contact	View list of contacts.	No	Navigate to View Friend List screen.
3	Copy Contact	Copy to phone list of contacts that is checked.	No	Show success message.

5.2.2.6 Remove Contact



Figure 128: Remove Contact

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
4	Contact	Checkbox add contact to remove list.	No	No	Checkbox	String	N/A

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	View List Contact Friend	View list of contacts.	No	Navigate to View Friend List screen.
2	Exit Remove Contact	View list of contacts.	No	Navigate to View Friend List screen.
3	Remove Contact	Remove contacts that is checked.	No	Show success message.

5.2.2.7 Write Contact



Figure 129: Write Contact

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
2	cbAll	Check box Check all	No	No	Checkbox	String	N/A
3	cbCompany	Check box Check Company	No	No	Checkbox	String	50
4	cbAddress	Check box Check Address	No	No	Checkbox	String	80
5	cbJob	Check box	No	No	Checkbox	String	30

		Check Job					
6	CbEmail	Check box Check Email	No	No	Checkbox	String	50

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	View Update Profile	View Update Profile screen.	No	Navigate to Update Profile screen.
7	Write contact	Write contact information to NFC card.	No	Show success message.

5.2.2.8 Update Profile



Figure 130: Update Profile

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Full name	Fill Full name	No	Yes	Textbox	String	50
2	Company	Fill Company	No	No	Textbox	String	50
3	Address	Fill Address	No	No	Textbox	String	80

4	Job	Fill Job	No	No	Textbox	String	30
5	Email	Fill Email	No	No	Textbox	String	50

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	Back To Write Card screen	View Write Card screen.	No	Navigate to Write Card screen.
2	Exit Update Profile screen	View Write Card screen.	No	Navigate to Write Card screen.
3	Update Profile	Update Profile.	No	Navigate to Write Card screen.

5.2.2.9 List Friend Request



Figure 131: List Friend Request

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	Accept Friendship Request	Accept friendship request.	No	Show success message, reload Friendship Request screen.
2	Cancel Friendship Request	Cancel friendship request.	No	Show success message, reload Friendship Request screen.

5.2.2.10 View Detail Contact



Figure 132: Detail Contact

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	Back To Friend List	View list of contacts.	No	Navigate to View Friend List screen.
2	Send Request friendship	Send request friendship.	No	Show success message.
3	View Update Alias	View Update Alias screen.	No	Navigate to Update Alias screen.
4	Communicate contact	Show Dialog to Call Phone or send message.	No	Dialog call phone or send message show.



**Figure 133: Detail Friendship Contact
Buttons/Action bar**

No	Function	Description	Validation	Outcome
1	Back To Friend List	View list of contacts.	No	Navigate to View Friend List screen.
2	Remove friendship	Remove friendship.	No	Show success message.
3	View Update Alias	View Update alias screen.	No	Navigate to Update Alias screen.
4	Communicate contact	Show Dialog to Call Phone or send message.	No	Dialog call phone or send message show.

5.2.2.11 Update Alias



Figure 134: Update Alias

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
4	Alias	Fill Alias	No	Yes	Textbox	String	30

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	Back To Detail Contact	View Detail Contact.	No	Navigate to Detail Contact screen.
2	Exit Update Alias	View Detail Contact.	No	Navigate to Detail Contact screen.
3	Update Alias	Update alias.	No	Show success message Navigate to Detail Contact screen.

5.2.2.12 Communicate Contact



Figure 135: Communicate contact

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	Call Phone	Call phone	No	Call phone
2	Send Message	Send message	No	Navigate to Send message screen

5.2.2.13 Read Contact



Figure 136: Read New Contact

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
4	Alias	Fill Alias	No	Yes	Textbox	String	30

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	Back To Detail Contact	View Detail Contact.	No	Navigate to Detail Contact screen.
3	Add contact	Add contact.	No	Show success message.



Figure 137: Read Exist Contact

Buttons/Action bar

No	Function	Description	Validation	Outcome
1	Back To Detail Contact	View Detail Contact.	No	Navigate to Detail Contact screen.
3	Update Information	Update information.	No	Show success message.

5.2.3 Member Web Interface Design

5.2.3.1 List Contact

Tên liên lạc	Số điện thoại	Chi tiết	Hủy bạn bè	Xóa liên lạc
tanroot	0967076214	1	3	2
Trần Phúc Thủ	09234500876	1	3	4
Lương Quốc Trung	0167765443	1	3	5
Mạnh Quang Tuyền	01674109684	1	3	4
Châu Chiểu Nguyên	0963617806	1	3	4
Huỳnh Minh Khôi	0988445444	1	3	4
Nguyễn Quốc Mạnh	0963611370	1	3	4

Figure 138: List Contact

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Detail Contact	View Detail Contact.	No	Show detail contact in popup.
2	Remove Contact	Remove contact.	No	Show success message.
3	Send request friendship	Send request friendship.	No	Show success message.
4	Cancel pending request friendship	Cancel pending request friendship.	No	Show success message.
5	Remove friendship	Remove friendship.	No	Show success message.

5.2.3.2 Detail Contact

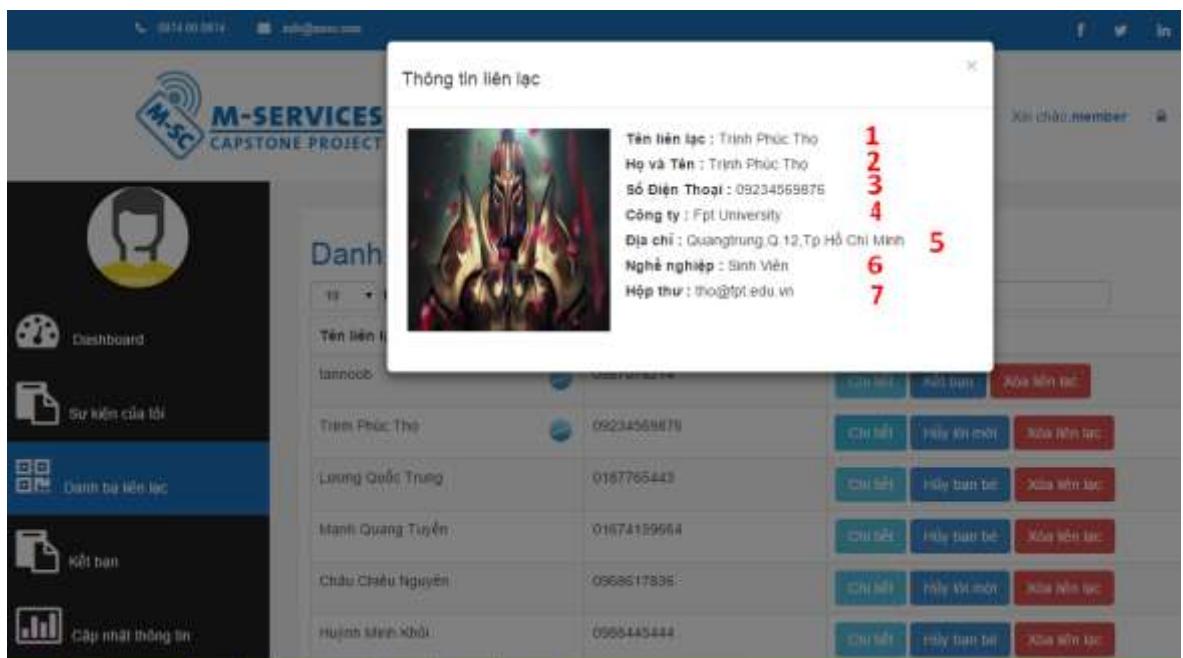


Figure 139: Detail Contact

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Alias	Show alias	Yes	No	label	String	30
2	FullName	Show full name	Yes	No	label	String	50
3	PhoneNumber	Show phone number	Yes	No	label	String	12
4	Company	Show company	Yes	No	label	String	50
5	Address	Show address	Yes	No	label	String	80
6	Job	Show job	Yes	No	label	String	30
7	Email	Show email	Yes	No	label	String	50

5.2.3.3 List Friend Request

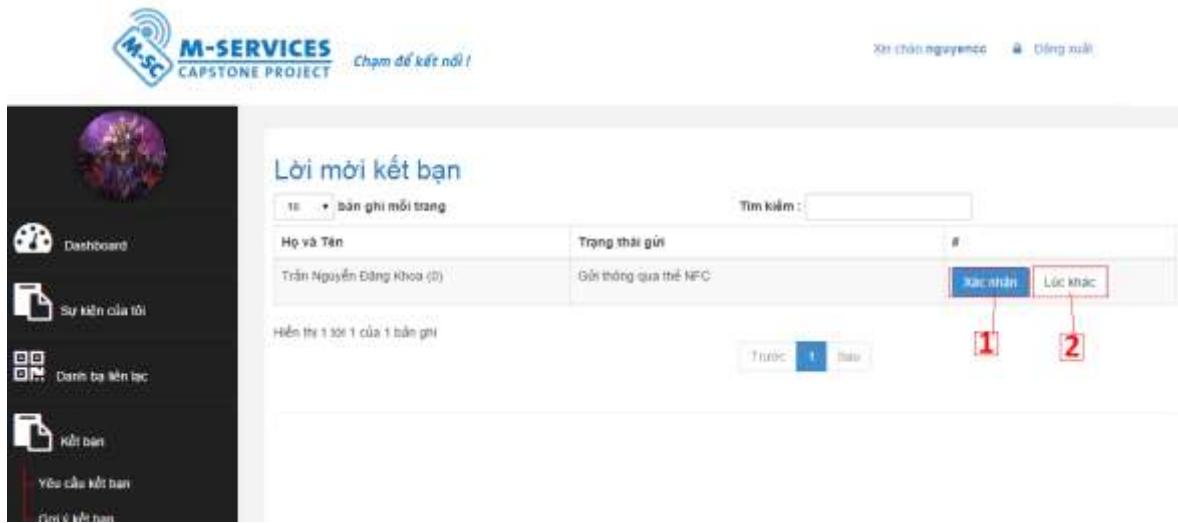


Figure 140: List Friend Request

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Accept friend request	Accept friend request.	No	Show success message.
2	Cancel friend request	Cancel friend request.	No	Show success message.

5.2.3.4 Update Profile

Figure 141: Update Profile

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	FullName	Fill full name	No	Yes	input	String	50
2	Avatar	Choose image	No	No	input	String	100
3	Gender	Choose gender	No	Yes	Radio button	Boolean	N/A
4	Birthdate	Fill birthdate	No	No	Date/time picker	Datetime	N/A
5	Email	Fill email	No	Yes	input	String	50
6	Job	Fill job	No	No	input	String	30
7	Title	Fill title	No	No	input	String	30
8	Company	Fill company	No	No	input	String	50
9	Address	Fill address	No	No	input	String	80
10	Description	Fill description	No	No	input	String	200

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Update profile	Update profile.	No	Show success message.
2	Clear field	Clear field.	No	Clear all field.

5.2.3.5 View Booked Event

Tên sự kiện	Loại vé	Số lượng	Sóng tiền	Ngày mua	#
COMEBEAT HOUSE TO THE WORLD	Vé thường	4	800.000 VNĐ	11/03/2014 13:46:10 PM	Vé đã giàm 1
COME PARTY - AGE OF TOMORROW	Vé VIP	3	150.000 VNĐ	11/03/2014 9:12:54 PM	Vé đã giàm
Saigon Bencamp Party	Vé thường	1	100.000 VNĐ	11/03/2014 2:47:15 PM	Vé đã giàm
Saigon Bencamp Party	Vé thường	1	100.000 VNĐ	11/03/2014 2:57:37 PM	Vé đã giàm
Saigon Bencamp Party	Vé thường	1	100.000 VNĐ	11/03/2014 2:59:22 PM	Vé đã giàm
Saigon Bencamp Party	Vé thường	1	100.000 VNĐ	11/03/2014 3:02:32 PM	Vé đã giàm
Saigon Bencamp Party	Vé thường	1	100.000 VNĐ	11/03/2014 3:04:30 PM	Vé đã giàm
Tennis Training	Vé thường	4	800.000 VNĐ	11/03/2014 1:45:27 PM	Vé đã giàm

Hiển thị 1 tới 6 của 6 bản ghi

Trước | Sau

Figure 142: View Booked Event

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
2	Search	Fill to search event in the list	No	No	Textbox	String	50

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Ticket detail	Show ticket check in detail	No	Show popup which contains list of ticket created.

5.2.3.6 Manage Wishlist

The screenshot shows a web application interface titled 'Danh sách yêu thích' (Wishlist). It displays a list of events with columns for 'Tên sự kiện' (Event Name), 'Ngày tạo' (Created Date), and 'Thao tác' (Actions). Each event entry includes a red 'X' button for deletion and a red 'Sửa' (Edit) button. The list includes entries like 'Cánh đồng Tím' (2 items) and 'Khuôn mặt Nhật Bản'. At the bottom, there are navigation buttons for 'Trang' (Page) and 'Sau' (Next).

Figure 143: Manage Wishlist

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Delete	Click to delete event from wishlist.	No	Event deleted from list.
2	Event detail	Click to go to event detail page.	No	Transfer to event detail page.

5.2.3.7 Comment

The screenshot shows a 'Comment' section with tabs for 'THÔNG TIN CHI TIẾT', 'BÌNH LUẬN' (selected), and 'NHÀ TỔ CHỨC'. Below the tabs is a large input field containing the number '1'. Below the input field is a blue button labeled 'Gửi bình luận' (Post comment) with the number '2'. To the left of the button is a user icon. Below the button is a timestamp 'member - 12/7/2014 1:15:23 PM'. At the bottom, a message states 'Đây là 1 comment của member vào sự kiện'.

Figure 144: Comment

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Comment	Fill to comment	No	No	Textbox	String	200

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Send comment	Click to send comment	Yes	Post comment

5.3 Partner Interface Design

5.3.1 Partner Android Application

5.3.1.1 Partner Check-in

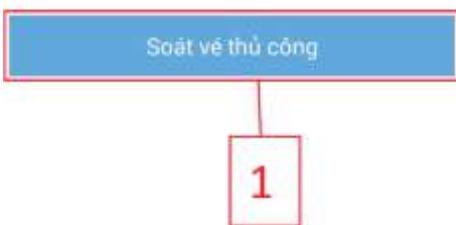


Figure 145: Partner Check-in

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Manual Check-in ticket	Check ticket by code and phone number.	N/A	Show "Soát vé thủ công" pop-up.

5.3.1.2 Partner Check-in Success



Figure 146: Partner Check-in Success

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Manual Check-in ticket	Check ticket by code and phone number.	N/A	Show “Soát vé thủ công” pop-up.
2	Return the ticket	Tab to return the ticket state to not check-in.	N/A	Show message dialog “Hoàn vé thành công”.

5.3.1.3 Manual Check-in



Figure 147: Manual Check-in

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Phone number	“Số điện thoại”	No	Yes	Text field	String	N/A
2	Code	“Code”	No	Yes	Text field	String	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
3	Check ticket	Check ticket by phone and code.	N/A	N/A
4	Return to check-in screen	Dismiss dialog.	N/A	Dialog dismiss.

5.3.1.4 View Statistic



Figure 148: View Statistic

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
3	Check ticket	Tab to go to check-in ticket screen.	N/A	Transfer to Check ticket screen.

5.3.1.5 In-day Events Tab



Figure 149: In-day Event Tab

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Future events	Show list of future events.	N/A	Change to “Sắp diễn ra” tab.
2	Search	Tab to go to search screen.	N/A	Transfer to “Tìm kiếm” screen.
3	Ended events	Show list of ended events.	N/A	Change to “Đã kết thúc” tab.
4	In-day events	Show list of today events.	N/A	Change to “Trong ngày” tab.
5	Refresh link	Tab on to refresh the list.	N/A	Refresh the list.
6	Check in ticket	Tab to go to Check in screen.	N/A	Transfer to “Soát vé” screen.
7	Event information	Tab to go to Event detail screen.	N/A	Transfer to “Thông tin sự kiện” screen.

5.3.1.6 Future Events Tab



Figure 150: Future Events tab

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Future events	Show list of future events.	N/A	Change to “Sắp diễn ra” tab.
2	Search	Tab to go to search screen.	N/A	Transfer to “Tìm kiếm” screen.
3	Ended events	Show list of ended events.	N/A	Change to “Đã kết thúc” tab.
4	In-day events	Show list of today events.	N/A	Change to “Trong ngày” tab.
5	Refresh link	Tab on to refresh the list.	N/A	Refresh the list.
6	Event detail	Tab to go to Event detail.	N/A	Transfer to “Thông tin sự kiện” screen.

5.3.1.7 Ended Events Tab



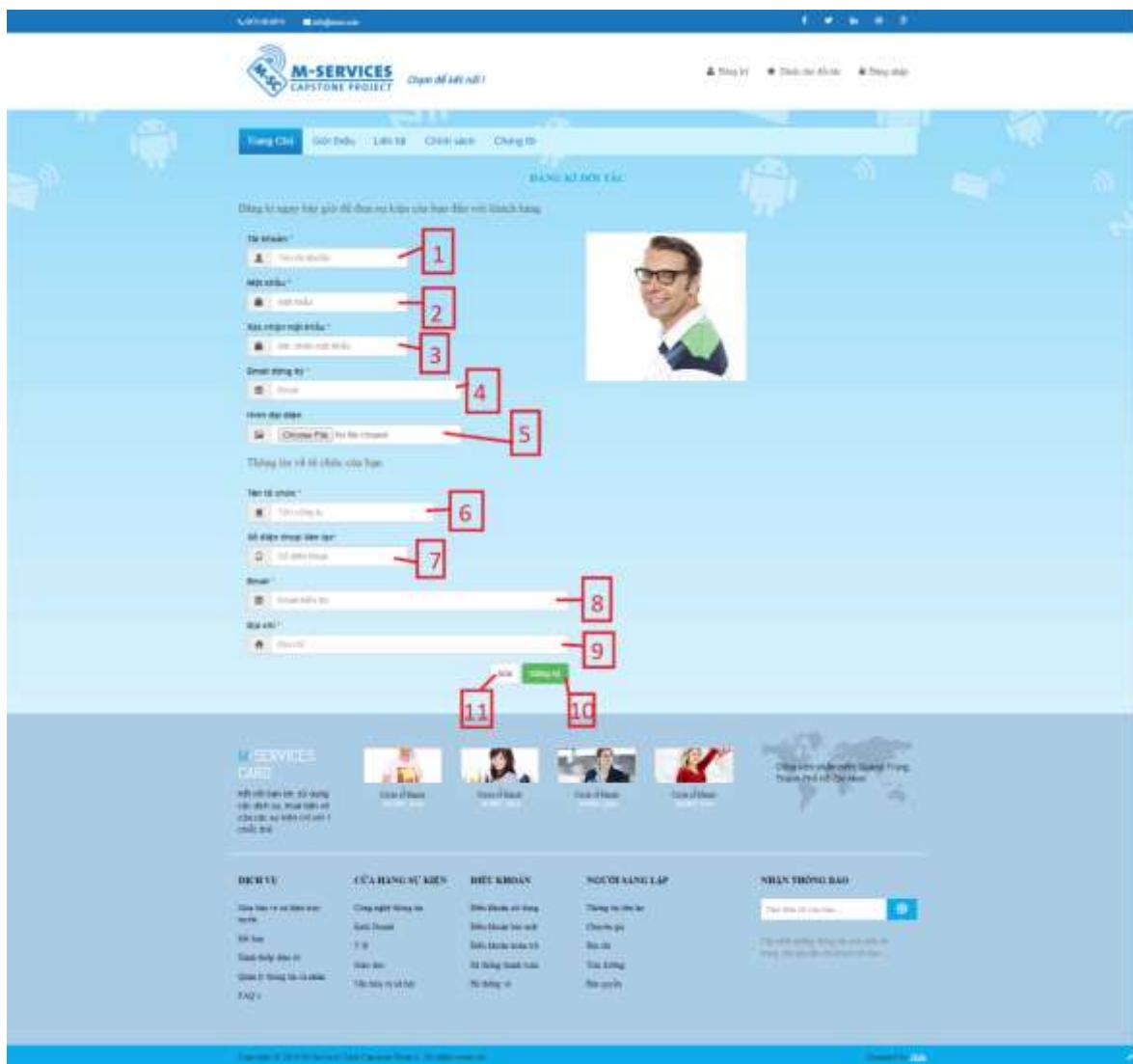
Figure 151: Ended Events Tab

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	Future events	Show list of future events.	N/A	Change to “Sắp diễn ra” tab.
2	Search	Tab to go to search screen.	N/A	Transfer to “Tìm kiếm” screen
3	Ended events	Show list of ended events.	N/A	Change to “Đã kết thúc” tab.
4	In-day events	Show list of today events.	N/A	Change to “Trong ngày” tab.
5	Event detail	Tab to go to Event detail.	N/A	Transfer to “Thông tin sự kiện” screen.

5.3.2 Partner Web Interface Design

5.3.2.1 Register



**Figure 152: Partner Register
Fields**

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Username	Fill user name	No	Yes	Textbox	String	N/A
2	Password	Fill password.	No	Yes	Password	String	N/A
3	Re-Password	Fill password again.	No	Yes	Password	String	N/A
4	Register Email	Fill email for register.	No	Yes	Textbox	String	N/A
5	User Avatar	Image file picker.	No	Yes	File Picker	String	N/A
6	Organization name	Fill organization name.	No	Yes	Textbox	String	N/A

7	Phone number	Fill phone number	No	Yes	Textbox	String	N/A
8	Display email	Fill email for display	No	Yes	Textbox	String	N/A
9	Organization address	Fill organization address	No	Yes	Textbox	String	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
10	Register	Click to send information to register.	N/A	Transfer to register success page.
11	Clear	Click to clear form above.	N/A	Form cleared.

5.3.2.2 View Created Event

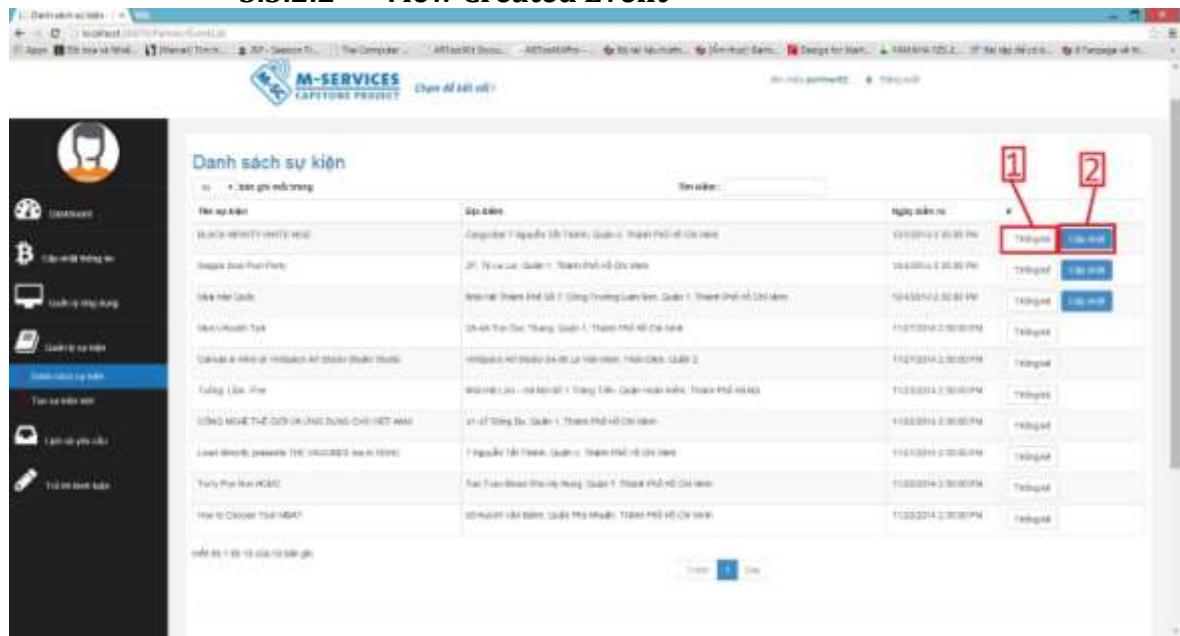


Figure 153: View Created Event

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	View Statistic	Click to view event statistic.	N/A	Open popup to event statistic.
2	Send Request to change event info	Click to make a request to change event info.	N/A	Open popup to change event info.

5.3.2.3 Create New Event

Figure 154: Create New Event

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Eventname	Event name	No	Yes	Textbox	String	50
2	Street	Event address	No	Yes	Textbox	String	80
3	Province	Event city	No	Yes	Dropdown list	String	N/A
4	Avatar	Event poster	No	Yes	File input	String	N/A
5	Eventdate	Event date and time	No	Yes	Datetime picker	Datetime	N/A
6	Sector	Event Sector	No	Yes	Dropdown list	String	N/A
7	Kind	Event Kind	No	Yes	Dropdown list	String	N/A
8	Target Age	Event Target age	No	Yes	Dropdown list	String	N/A
9	Description	Event description	No	No	Textbox	String	N/A
10	Ticket Type	Ticket Range Type	No	Yes	Textbox	String	30
11	Ticket	Ticket Range	No	Yes	Textbox	String	100

	description	Description					
12	Ticket Quantity	Ticket Range Quantity	No	Yes	Textbox	Positive Integer	N/A
13	Ticket Price	Ticket Range Price	No	Yes	Textbox	Positive Integer	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
14	Delete Ticket Range	Click to delete a ticket range.	N/A	N/A
15	Create Event	Click to create new event.	N/A	N/A
16	Clear	Click to clear all input data.	N/A	N/A
17	Add new ticket range	Click to add ticket range.	N/A	N/A

5.3.2.4 Request Change

Cập nhật thông tin sự kiện ×

Mô tả 1

Lĩnh vực 2

Kỹ năng 3

Độ tuổi 4

Moi lứa tuổi 5

6 Hủy Cập nhật

Figure 155: Request Change

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Description	Event description	No	No	Textbox	String	100

2	Sector	Event Sector	No	Yes	Dropdown list	String	N/A
3	Kind	Event Kind	No	Yes	Dropdown list	String	N/A
4	Target Age	Event Target age	No	Yes	Dropdown list	String	N/A

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
5	Send request	Click to send request.	N/A	Close popup
6	Close	Click to close popup.	N/A	Close popup

5.4 Staff Interface Design

5.4.1 Approve Change

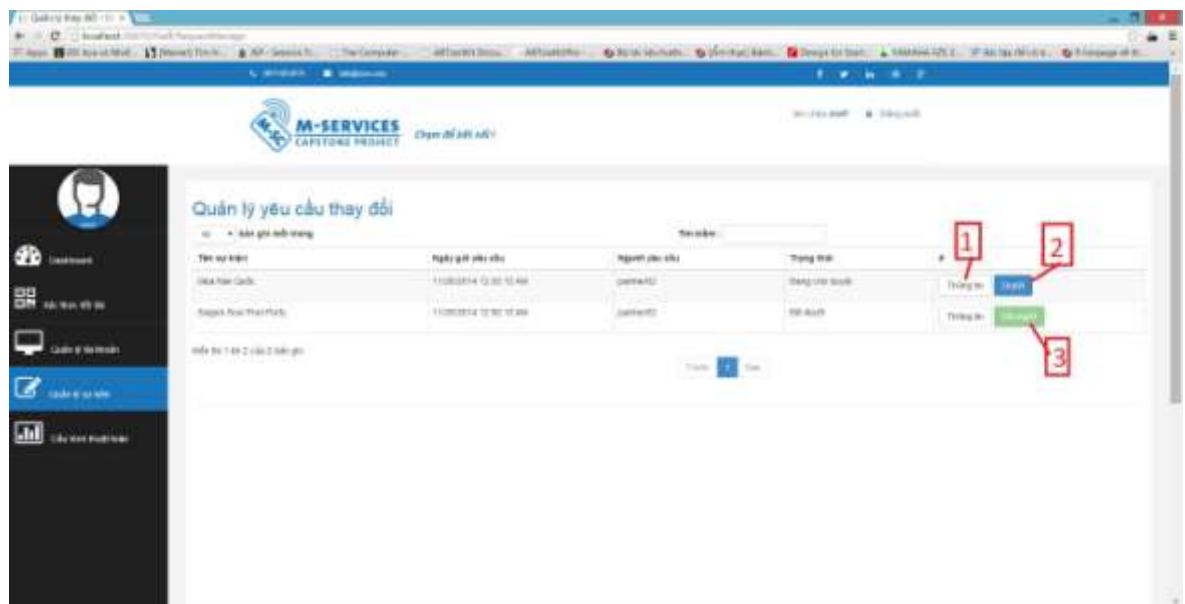


Figure 156: Approve Change

Buttons/Hyperlinks

No	Function	Description	Validation	Outcome
1	View Changed Request Info	Click to view request information.	N/A	Open popup to view request info
2	Approve request	Click to approve request from partner.	N/A	N/A
3	Request Approved	Show that request approved and unclickable.	N/A	N/A

5.4.2 Manage Algorithm

5.4.2.1 Manage Info Values

The screenshot shows a software interface for managing info values in a K-Means clustering context. At the top, there are tabs for 'Quản lý giá trị phân loại' (Manage info values) and 'Xử lý với K' (Process with K). Below these are buttons for 'Nhóm' (Group) [1], 'Tên phân loại' (Info value name) [2], 'Điểm số' (Score) [3], and 'Thêm' (Add) [6]. A red box labeled '7' highlights the 'Lĩnh vực' (Category) tab in the sidebar. The main area displays a table with columns: 'Tên phân loại' (Info value name), 'Trạng thái' (Status), and 'Điểm số' (Score). The table contains five rows with data: Công nghệ thông tin (Information technology), Điện thoại (Mobile phone), Mô hình (Model), Kinh doanh (Business), and Số liệu (Data). To the right of the table is a sidebar with tabs for 'Block' [4], 'Update' [5], and 'Add New' [6]. A red box labeled '7' also covers the 'Add New' tab.

Figure 157: Manage info value

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Group	Select group to add new.	No	Yes	Dropdown list	String	N/A
2	Info value's name	Fill name of info value.	No	Yes	Textbox	String	N/A
3	Value	Fill the value of Info value.	No	Yes	Textbox	String	N/A
7	Info value group tab	Groups of info value are shown by tabs	No	No	Tab	String	N/A

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
4	Block	Click to block selected Info value	No	Info value blocked.
5	Update Info Value	Click to update value of Info Value	No	Show a popup to update info value.
6	Add new info value	Click to add new info value with data inputted.	No	New Info Value added to the list.

5.4.2.2 Update Info Value

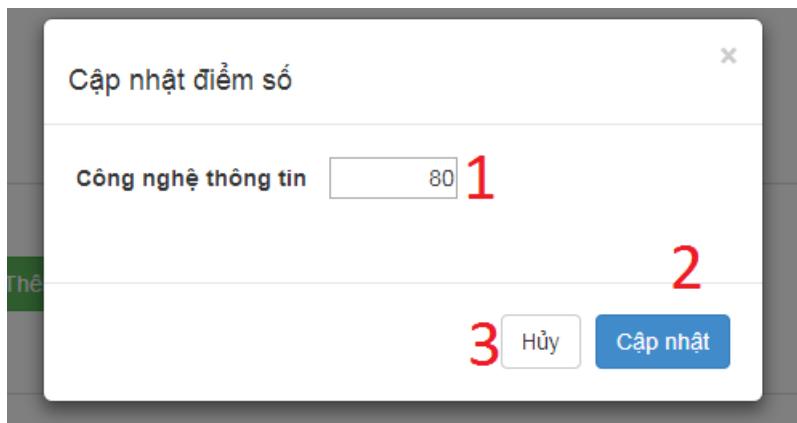


Figure 158: Update info value

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	New value	Fill new value for info value	No	Yes	Textbox	String	N/A

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Update	Click to update info value	No	Info value updated, popup dismiss.
5	Cancel	Click to close popup	No	Popup closed.

5.4.2.3 Clustering Events

Select automatically by system

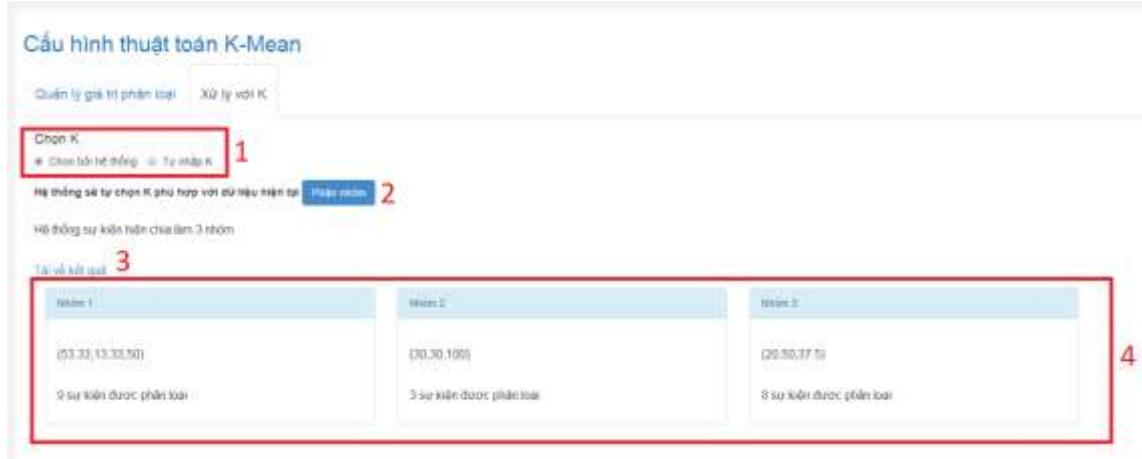


Figure 159: Select automatically by system

Fields

No	Field Name	Description	Read	Mandatory	Control	Data	Length
----	------------	-------------	------	-----------	---------	------	--------

			only		Type	Type	
1	Select cluster type	Select how event clustered.	No	Yes	Radio buttons	String	N/A
4	Cluster result	Show the result after clustering.	No	No	Text	String	N/A

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
2	Cluster	Click to start cluster by system.	No	Clustering result shown below.
3	Download cluster result	Click to download cluster result.	No	An excel file downloaded.

Select manually by Staff

Figure 160: Select manually by system

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Input group for clustering	Fill number of groups for clustering	No	Yes	Textbox	String	N/A

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
2	Cluster	Click to start cluster by system.	No	Clustering result shown below.
3	Download cluster result	Click to download cluster result.	No	An excel file downloaded.

5.4.3 Confirm Partner

Danh sách chờ kích hoạt						
Tài khoản	Tổ chức	Địa chỉ	Thông tin liên lạc	Ngày đăng kí		Acknowledged
minhnt23	FPT University	Quang Trung, Số 100	(0123456789) minhnt23@gmail.com	12/7/2014 1:36 PM		Acknowledge 1
Hết trang 1/100/10 của 10 bản ghi						
					Trước	Sau

Figure 161: Confirm partner

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Confirm	Click to confirm partner.	No	Partner account confirmed.

5.5 Admin Interface Design

5.5.1 Manage Account

Danh sách tài khoản						
Tên đăng nhập	Vai trò	Ngày tạo	Ngày kích hoạt	Trạng thái		
quan1	Thành viên	11/2/2014 10:19:35 PM	11/2/2014 10:19:35 PM	Đang hoạt động	Xóa 1	
huynhlong	Thành viên	11/3/2014 10:08:20 AM	11/3/2014 11:01:54 AM	Đang hoạt động	Xóa	
thanhNT	Thành viên	11/3/2014 12:04:19 PM	11/3/2014 12:04:49 PM	Đang hoạt động	Xóa	
khoahtao	Thành viên	11/3/2014 11:11:27 AM	11/3/2014 11:12:20 AM	Đang hoạt động	Xóa	
ediphi	Thành viên	11/3/2014 10:36:39 AM	11/3/2014 10:36:39 AM	Đang hoạt động	Xóa	
member	Thành viên	11/3/2014 10:19:39 PM	11/3/2014 10:19:39 PM	Đang hoạt động	Xóa	
mempro	Thành viên	11/3/2014 10:47:15 AM	11/3/2014 10:48:00 AM	Đang hoạt động	Xóa	
nguyenvt	Thành viên	11/3/2014 10:51:07 AM	11/3/2014 10:51:40 AM	Đang hoạt động	Xóa	
phithem	Đỗ thi	11/3/2014 10:19:39 PM	11/3/2014 10:19:39 PM	Đang hoạt động	Xóa	
partner01	Đỗ thi	11/17/2014 7:27:33 AM	11/17/2014 7:28:25 AM	Đang hoạt động	Xóa	
Hết trang 1/100/10 của 10 bản ghi						
					Trước	Sau

Figure 162: Manage Account

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
1	Deactivate/Activate Account	Click to change state of account from activate to deactivate and vice versa.	No	Change state of selected account.

5.5.2 Create New Staff Account

Tạo tài khoản nhân viên

Tài khoản *

 1

Email *

 2

Họ Tên *

 3

Số điện thoại *

 4

Vai trò

 5

Xóa 7 Tạo tài khoản 6

Figure 163: Create new staff account

Fields

No	Field Name	Description	Read only	Mandatory	Control Type	Data Type	Length
1	Username	Fill username for staff account	No	Yes	Textbox	String	N/A
2	Email	Fill staff's email	No	Yes	Textbox	String	N/A
3	Staff's name	Fill staff's name	No	Yes	Textbox	String	N/A
4	Staff's phone number	Fill staff's phone number	No	Yes	Textbox	String	N/A
5	Position	Fill position	No	No	Textbox	String	N/A

Buttons/ Hyperlinks

No	Function	Description	Validation	Outcome
2	Create	Click to create new staff account	No	New staff account created.
3	Clear	Click to clear all data filled	No	All data cleared.

6. Database Design

6.1 Logical Diagram

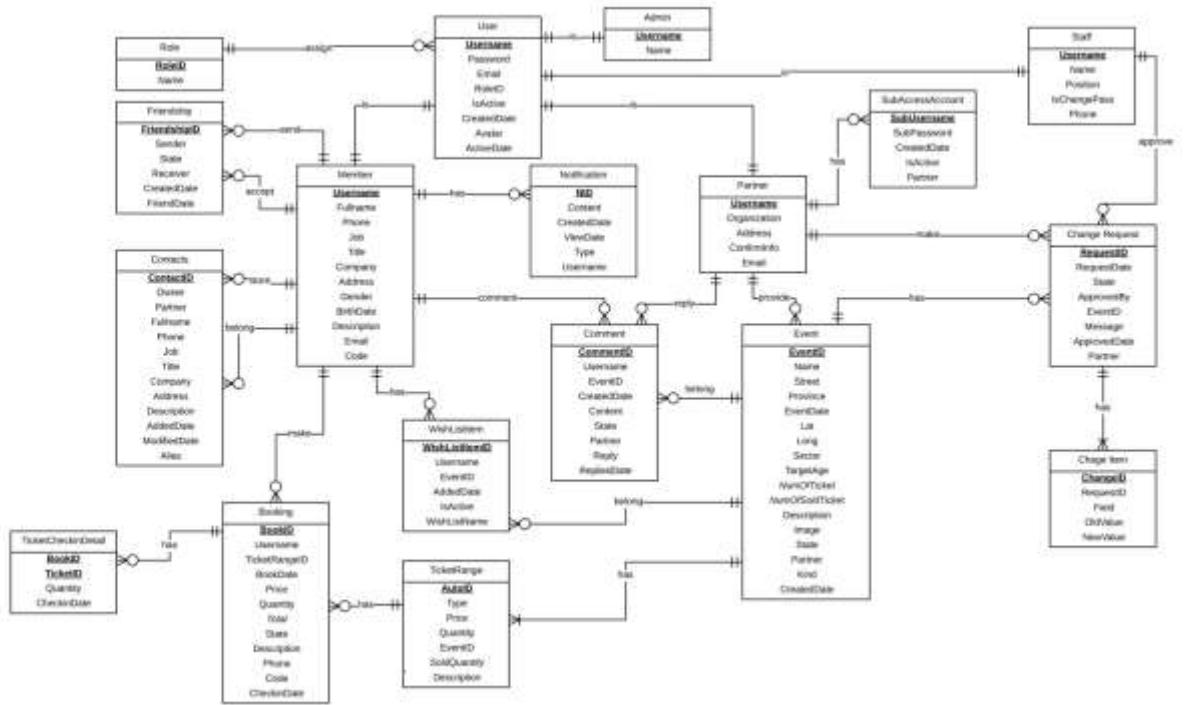


Figure 164: Logical Diagram

6.2 Data Dictionary

Entity Data dictionary: describe content of all entities

Entity Name	Description
Role	Describe all roles in the system.
User	Describe all users in the system.
Admin	Describe all admins profiles in the system.
Member	Describe all member profiles in the system.
Staff	Describe all staff profiles in the system.
Partner	Describe all partner profiles in the system.
Sub Access Account	Describe all sub accounts of each partner in the system.
Notification	Describe all system notifications for members.
Event	Describe all events in the system.
Change Request	Describe all change requests by partners in the system.
Change Item	Describe all change items in change request.
Comment	Describe all comments in the system.
Ticket Range	Describe all ticket ranges of each event in the system.
Booking	Describe all bookings made by members in the system.
Ticket Check-in Detail	Describe all ticket check-in details of each booking in the system.
Friendship	Describe all friendships between members in the system.
Contact	Describe all contacts of members in the system.
Wish List Item	Describe all wish list items of members in the system.

Table 11: Entity Data Dictionary

Entity name	Attributes	Description	Domain	Null
-------------	------------	-------------	--------	------

Role	RoleID {PK}	Unique identifier of role, auto increment.	int	No
	Name	Role name.	varchar(20)	No
User	Username {PK}	Unique identifier of user.	varchar(20)	No
	Password	User's password.	varchar(20)	No
	Email	Registered email.	varchar(50)	No
	RoleID {FK}	Foreign key, role identifier.	int	No
	IsActive	User's status.	bit	Yes
	CreatedDate	Created date.	datetime	No
	Avatar	Picture url.	varchar(100)	Yes
	ActiveDate	Activated date.	datetime	Yes
Member	Username {PK} {FK}	Unique identifier of member. Foreign key, user identifier.	varchar(20)	No
	Fullscreen	Member's full name.	nvarchar(50)	No
	Phone	Cell phone number.	varchar(12)	No
	Job	Member's job.	nvarchar(30)	Yes
	Title	Title.	nvarchar(30)	Yes
	Company	Member's company.	nvarchar(50)	Yes
	Address	Address.	nvarchar(80)	Yes
	Gender	Gender.	bit	Yes
	BirthDate	Day of birth.	date	Yes
	Description	Other description.	nvarchar(200)	Yes
	Email	Contact email.	varchar(50)	Yes
Admin Staff	Code	Secret code.	varchar(10)	Yes
	Username {PK} {FK}	Unique identifier of admin. Foreign key, user identifier.	varchar(20)	No
	Name	Admin's name.	nvarchar(50)	No
	Username {PK} {FK}	Unique identifier of staff. Foreign key, user identifier.	varchar(20)	No
	Name	Staff's name.	nvarchar(50)	No
	Position	Staff's position.	nvarchar(30)	Yes
	IsChangePass	Flag for changing password.	bit	Yes
Partner	Phone	Staff's cell phone	varchar(12)	No
	Username {PK} {FK}	Unique identifier of partner. Foreign key, user identifier.	varchar(20)	No
	Organization	Company name.	nvarchar(80)	No
	Address	Company address.	nvarchar(80)	No
	ConfirmInfo	Confirm note.	nvarchar(200)	No
Friendship	Email	Partner email.	varchar(50)	No
	FriendshipID {PK}	Unique identifier of friendship.	int	No
	Sender {FK}	Foreign key, member that	varchar(20)	No

		makes the request.		
	State	Friendship's state.	varchar(10)	Yes
	Receiver {FK}	Foreign key, member that receives the request	varchar(20)	No
	CreatedDate	Created date.	datetime	No
	FriendDate	Friendship accepted date.	datetime	Yes
Contact	ContactID {PK}	Unique identifier of contact.	int	No
	Owner {FK}	Foreign key, member that owns the contact.	varchar(20)	No
	Partner {FK}	Foreign key, member that the contact belongs to.	varchar(20)	No
	Fullscreen	Contact's full name.	nvarchar(50)	No
	Phone	Contact's phone number.	varchar(12)	No
	Job	Contact's job.	nvarchar(30)	Yes
	Title	Title.	nvarchar(30)	Yes
	Company	Company name.	nvarchar(50)	Yes
	Address	Address.	nvarchar(80)	Yes
	Description	Other description.	nvarchar(200)	Yes
	AddedDate	Added date.	datetime	Yes
	ModifiedDate	Modified date.	datetime	Yes
	Alias	Alias name.	nvarchar(30)	Yes
Notification	NID {PK}	Unique identifier of notification.	int	No
	Content	Notification content.	nvarchar(200)	No
	CreatedDate	Created date.	datetime	No
	ViewDate	Viewed date.	datetime	Yes
	Type	Notification type.	varchar(20)	No
	Username {FK}	Foreign key, member that receives notification.	varchar(20)	No
Sub Access Account	SubUsername {PK}	Unique identifier of sub account.	varchar(30)	No
	SubPassword	Sub account password.	varchar(20)	No
	CreatedDate	Created date.	datetime	No
	IsActive	Status.	bit	Yes
	Partner {FK}	Foreign key, partner that creates sub accounts.	varchar(20)	No
Event	EventID {PK}	Unique identifier of event.	int	No
	Name	Event's name.	nvarchar(50)	No
	Street	Street address.	nvarchar(80)	No
	Province	Province.	nvarchar(20)	No
	EventDate	Event happen date.	datetime	No
	Lat	Latitude.	float	Yes
	Long	Longitude.	float	Yes
	Sector	Sector.	nvarchar(30)	No
	TargetAge	Target Age.	nvarchar(30)	No
	NumOfTicket	Total number of tickets.	int	No
	NumOfSoldTicke	Total number of sold	int	Yes

	t	tickets.		
	Description	Event's description	ntext	No
	Image	Image link url.	varchar(80)	No
	State	Event's state.	varchar(10)	Yes
	Partner {FK}	Foreign key, partner that creates event.	varchar(20)	No
	Kind	Kind.	nvarchar(40)	No
	CreatedDate	Created date.	datetime	No
Change Request	RequestID {PK}	Unique identifier of change request.	int	No
	RequestDate	The date the request made.	datetime	No
	State	Request's state.	varchar(10)	Yes
	ApprovedBy {FK}	Foreign key, staff who approves the request.	varchar(20)	Yes
	EventID	Foreign key, event that requested to change	int	No
	Message	Staff 's note	nvarchar(200)	Yes
	ApprovedDate	Approved date.	datetime	Yes
Change Item	ChangeID {PK}	Unique identifier of change item.	int	No
	RequestID {FK}	Foreign key, the request that change items belong to.	int	No
	Field	Change field.	nvarchar(20)	No
	OldValue	Old value.	nvarchar(max)	No
	NewValue	New value.	nvarchar(max)	No
Comment	CommentID {PK}	Unique identifier of comment.	int	No
	Username {FK}	Foreign key, member who commented.	varchar(20)	No
	EventID {FK}	Foreign key, event that being commented.	int	No
	CreateDate	Created date.	datetime	No
	Content	Comment's content.	nvarchar(200)	No
	Partner	Foreign key, partner who replies to comment.	varchar(20)	Yes
	Reply	Reply's content	nvarchar(200)	Yes
	RepliedDate	Replied date.	datetime	Yes
	State	State.	varchar(10)	Yes
Wish List Item	WishListItemId {PK}	Unique identifier of wish list item.	int	No
	Username {FK}	Foreign key, member that own the list.	varchar(20)	No
	EventID {FK}	Foreign key, event that belong to wish list.	int	No

	AddedDate	Added date.	datetime	No
	IsActive	Item's state.	bit	Yes
Ticket Range	AutoID {PK}	Unique identifier of ticket range.	int	No
	Type	Ticket range's name.	nvarchar(30)	No
	Price	Ticket range's price.	int	No
	Quantity	Ticket range's quantity.	int	No
	EventID {FK}	Foreign key, event that ticket range belongs to.	int	No
	SoldQuantity	Total number of sold ticket.	int	Yes
	Description	Ticket range's information.	nvarchar(100)	Yes
Booking	BookID {PK}	Unique identifier of booking	int	No
	Username {FK}	Foreign key, member that made booking.	varchar(20)	No
	TicketRangeID {FK}	Foreign key, ticket range that booking made on.	int	No
	BookDate	Booking date.	datetime	No
	Price	Ticket range's price.	int	No
	Quantity	Number of booking ticket.	int	No
	Total	Total money of booking.	int	No
	State	Booking's state.	varchar(10)	Yes
	Description	Note.	nvarchar(200)	Yes
	Phone	Cell phone number.	varchar(12)	No
	Code	Secret code.	varchar(6)	No
	CheckinDate	Checked-in date.	datetime	Yes
Ticket Checkin Detail	BookID {PK,FK}	Unique identifier of booking. Foreign key, booking.	int	No
	TicketID {PK}	Unique identifier of ticket.	int	No
	Quantity	Number of attendance.	int	No
	CheckinDate	Checked-in date.	datetime	Yes

Table 12: Detail Data Dictionary

* Business integrity constraint:

- Each user can only be in one single role and has his/her single profile. (If “member” is a username exist in Account and Member, it can't exist in Admin, Staff or Partner)
- Partner can only reply to comments belongs to events that created by himself/herself.
- Partner can only request to change information of events that created by himself/herself.

7. Algorithms

7.1 K-Means Algorithm

7.1.1 Definition

K-Means algorithm is a method of vector quantization, which is popular for cluster analysis in data mining. K-Means clustering aims to partition n observations into k clusters in which each observation belongs to the cluster with the nearest mean, serving as a prototype of the cluster.

7.1.2 Define Problem

Each event has three info values about sector, age, kind. These values have been assigned when partner create the event. Staff is in charge of managing these values. In order to suggest events to user, the collection of events need to be clustered into smaller group based on correlative of these values.

7.1.3 Solution

To solve this problem, we use K-Means algorithm to cluster events. Each event can be considered as a point in 3 dimensions space.

- First we do the digitizing process to convert an event into a point:
For each text value of sector, age, and kind, there are corrects
ponding numeric value in table InfoValue.
- Second we try to find the number of cluster (K):
 - o Using rule of thumb: $K = \sqrt{\frac{N}{2}}$ Where N is the count of
distinct points.
 - o Manually input by staff since it is a semi-supervised learning.
- Third begin algorithm process to cluster events into K group, store
result in database.

7.1.4 Complexity

In total, the complexity of this algorithm is $O(n * k * I * d)$

- n : number of points
- k : number of cluster
- I : number of iteration
- d : number of attributes (3)

7.1.5 Flowchart

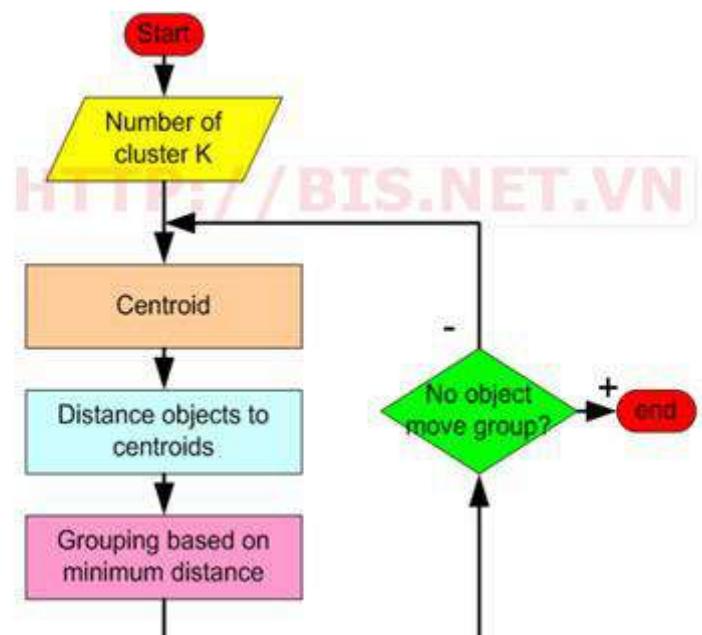


Figure 165: K-Means algorithm flow chart

7.2 Event suggestion

7.2.1 Define Problem

Given a collection of events that has been assigned into similar group, how can we suggest user appropriate events.

7.2.2 Solution

For guest, when guest views an event, we know the group that the event belongs to. We will suggest maximum 3 available events in that group that will soon happen (order by event date ascending).

For member, when member views an event, we will calculate the most buy group (the group member often buy ticket) and suggest maximum 3 available events in that group that will soon happen (order by event date ascending).

7.2.3 Complexity

In case of member, the process of finding most buy group is to find the most appearance of an element in an array: $O(n^2)$ which n is the number of bookings from member.

7.3 PayPal Express Checkout

7.3.1 Definition

PayPal is an online payment gateway that supports various methods to integrate payment into ecommerce website. In our project, we are using the Express Checkout method.

Express Checkout is the most flexible PayPal integration solution. The user is redirected to PayPal just for authentication and confirmation that he/she wants to pay for your services, and after that, everything is done on your website.

7.3.2 Process

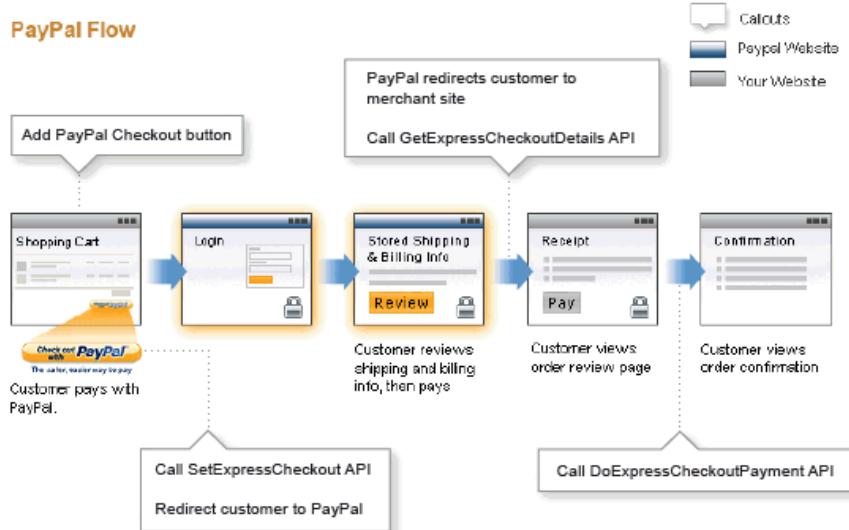


Figure 166: PayPal Express Check Out method

7.4 Friend Graph Suggestion

7.4.1 Definition

Friend graph suggestion is based on graph theory suggest users someone they may know by suggest them friends of their friends. In this graph, each user is a node and two nodes are connected if they are friends.

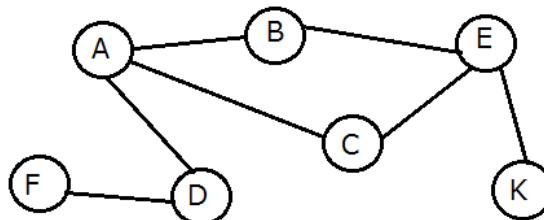
7.4.2 Process

When user registers on our website, we create a node represent for that user.

When user makes friendship with other user, we create an edge to connect these two represented nodes.

When user needs suggestion, we suggest them people that are friend with their friend but not with them. They most likely know that people as if they have most friend know that people.

For example: user A has friend with B, C and D. User E has friend with B, C. User F has friend with D.



The system will suggest user A about E (2 common friends), F (1 common friend). The list is ordered by number of common friends descending.

7.4.3 Solution

Our system use graph database Neo4j to handle graph processing feature.

We maintain the relational data and graph database similarity structures (user, friendship) in a semantic way.

Then instead of building graph in memory, we write cypher query and let Neo4j do the job.

7.5 Sync Contact

7.5.1 Definition

When member adds or removes contacts in MSSC mobile application or MSSC web, conflicting data can happen between server database and SQLite database.

7.5.2 Define Problem

Information of contact is storing on server database and SQLite database so conflict can occur since these database is disconnected with each other in offline mode (No internet connection). We need to implement a sync process to synchronize data between mobile and server.

7.5.3 Solution

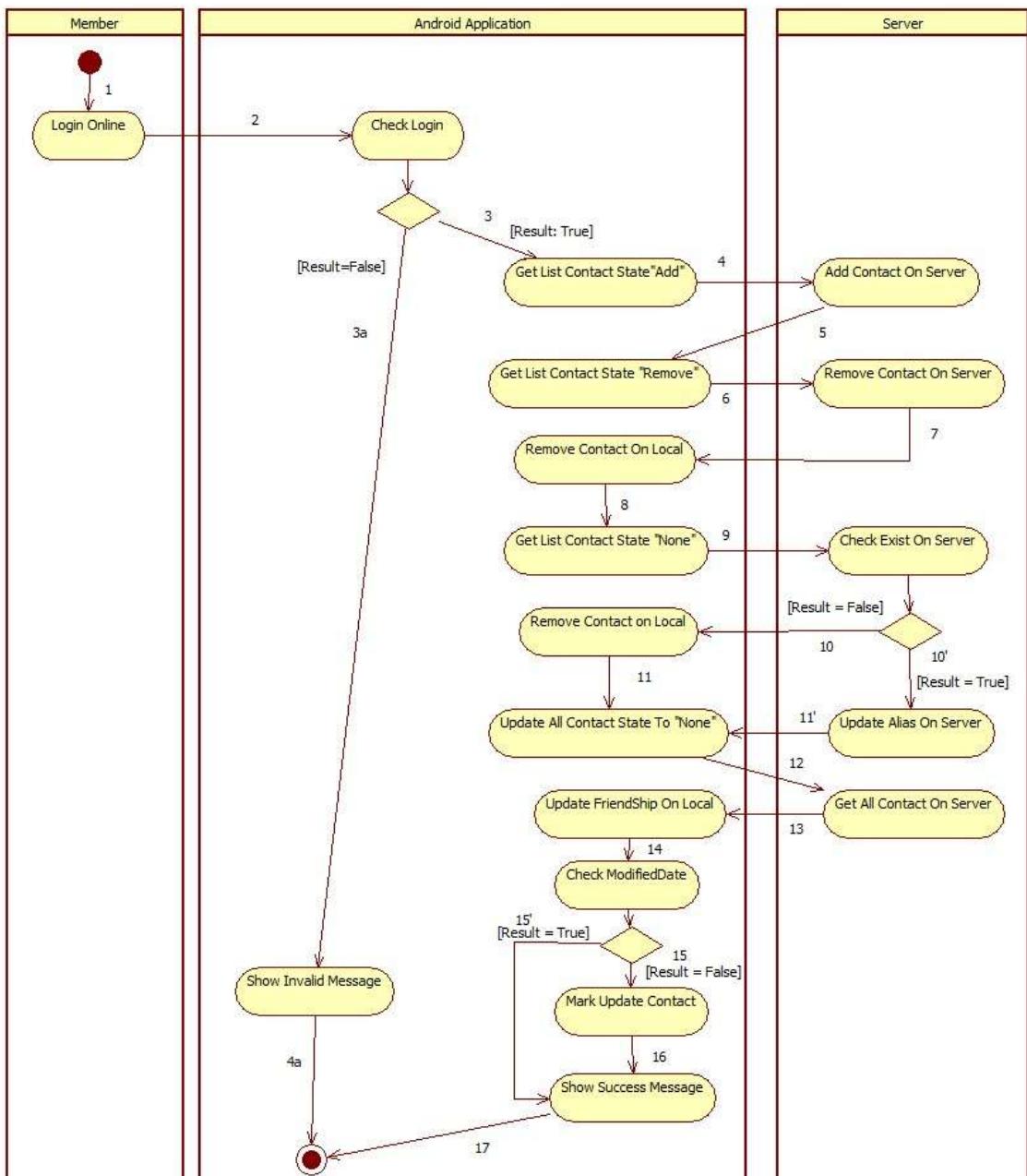
To sync contact, the system runs following these steps:

- First phase: sync from phone to server.
 - + System gets contacts which have state “add” in SQLite database.
 - Check contacts exist on server.
 - If contact doesn’t exist, add to server.
 - If contact exists, delete contact in SQLite database.
 - Change all contact state = “add” to “none”.
 - + System gets all contact state = “remove”.
 - Check contacts exist on server or not.
 - If contact exists, delete contact on server.
 - Delete contacts on SQLite database.
 - + System gets contacts which have state “none” in SQLite database.
 - Check contacts exist on server.
 - If contact doesn’t exist, delete contact on SQLite database.
- Second phase: sync from server to phone.
 - + System gets all contact in server.
 - Check contacts exist on SQLite database or not.
 - If contact doesn’t exist, add to SQLite database.
 - If exist, check modified date.
 - If modified date different, change update status to “true”.

7.5.4 Complexity

In total, the complexity of this algorithm is N^2 .

7.5.5 Activity Diagram



- | | | | | | |
|-----------------------------------|----------------------|--|---|-------------------------------|------------|
| 1: Start | 2: Call checkLogin() | 3: return true, call getListContactState() | 3a: Show invalid message | 4: Send request api | 4a: Finish |
| 5: Call getListContactState() | | 6: Send request api | 7: Call removeLocalContact() | 8: Call getListContactState() | |
| 9: Send request api | | 10: return true, Call updateAlias() | 10': return false, removeLocalContact() | 11: Call updateState() | |
| 11': Call updateState() | | 12: Send request api | 13: Call updateFriendship() | 14: Call checkModifiedDate() | |
| 15: return false, isUpdate = true | | 15': Show success message | 16: Show success message | 17: Finish | |

7.6 Writing/Reading Contact Card

7.6.1 NFC Definition

Near Field Communication (NFC) is a set of short-range wireless technologies, typically requiring a distance of 4cm or less to initiate a

connection. NFC allows you to share small payloads of data between an NFC tag and an Android-powered device.

NFC tags come in a wide array of technologies and can also have data written to them in many different ways. Android has the most support for the NDEF standard, which is defined by the NFC Forum.

NDEF (NFC Data Exchange Format) is a light-weight binary format, used to encapsulate typed data. NDEF defines messages and records. An NDEF Record contains typed data, such as MIME-type media, a URI, or a custom application payload. An NDEF Message is a container for one or more NDEF Records.

7.6.2 Writing Contact Card

We use NDEF Format type MIME and vCard Format (v2.1) to write a contact card.

vCard is a file format standard for electronic business cards. It can contain name, address, phone numbers, e-mail, job title...

Here is the format of vCard, using to write contact card:

```
BEGIN:VCARD
VERSION:2.1
N:Gump
ORG:Bubba Gump Shrimp Co.
TITLE:Shrimp Man
TEL;WORK;VOICE: (111) 555-1212
ADR;WORK:100 Waters Edge;Baytown;LA;30314;United States of America
EMAIL;PREF;INTERNET:forrestgump@example.com
KEY:UserID
END:VCARD
```

- N: full name.
- ORG: company
- Title: job title.
- TEL;WORK;VOICE: phone number
- ADR;WORK: address
- EMAIL: email
- KEY: UserID

7.6.3 Reading Contact Card

Using vCard format, Contact Card can read by any android smart phone (support NFC) without using any Android application.

Contact includes full name, phone, company, job, email, and address will be added to Android Mobile.

Using MSSC Application, it will do the same thing. But it will also get the special key (UserID) which is using to identify the user in order to

implement these features: send friend request, unfriend, update contact.

7.7 Writing/Reading Event Ticket

7.7.1 Writing Event Ticket

Before writing data into NFC card, application will call an API to insert new record about the ticket into database, then return response which contain the ticket id.

The format of an event ticket which will be written into NFC Card is [Booking ID]-[Ticket ID].

The type of NDEF is Well known Text.

7.7.2 Reading Event Ticket For Check-in

When an NFC Card detected, if it contains data which match ticket's format, application will split it into 2 parts for booking id and ticket id. Booking id is used to find the event this ticket belongs to. Ticket id is used for check the ticket state. If the booking id and ticket id are valid, the ticket check-in time will be recorded and can't be used to check-in anymore.

E. System Implementation & Test

1. Introduction

1.1 Overview

This section provides in detail all necessary information about implementation information and testing procedure of MSSC includes test plans, test cases, test result and risks estimations.

1.2 Test Approach

- Goal: To test the whole system based on the core workflow.
- Method: System Testing, Black-box Testing.

2. Database Relationship Diagram

2.1 Physical Diagram

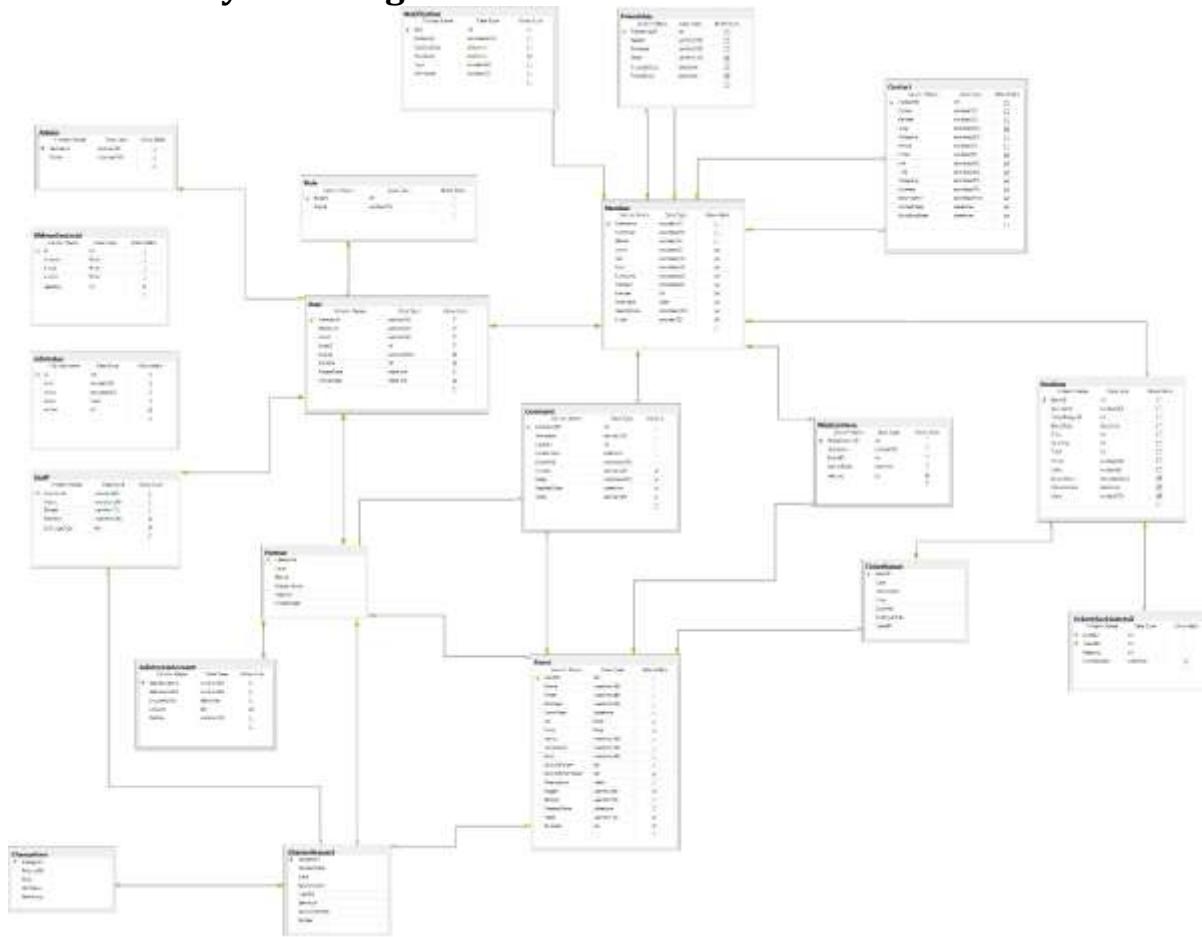


Figure 167: Physical Database Diagram

2.2 Data Dictionary

Data dictionary: describe content of all tables	
Entity Name	Description
Role	Describe all roles in the system
User	Describe all users in the system.
Admin	Describe all admins profiles in the system.
Member	Describe all member profiles in the system.
Staff	Describe all staff profiles in the system.
Partner	Describe all partner profiles in the system.
Sub Access Account	Describe all sub accounts of each partner in the system
Notification	Describe all system notifications for members.
Event	Describe all events in the system
Change Request	Describe all change requests by partners in the system
Change Item	Describe all change items in change request
Comment	Describe all comments in the system
Ticket Range	Describe all ticket ranges of each event in the system
Booking	Describe all bookings made by members in the system
Ticket Checkin Detail	Describe all ticket check-in details of each booking in the system.
Friendship	Describe all friendships between members in the system
Contact	Describe all contacts of members in the system
Wish List Item	Describe all wish list items of members in the system
KMeanCentroid	Describe all centroids from K-Mean algorithms in the system
InfoValue	Describe all digitize values in the system

Table 13: Data Dictionary

Entity name	Attributes	Description	Domain	Null
Role	RoleID {PK}	Unique identifier of role, auto increment.	int	No
	Name	Role name.	varchar(20)	No
User	Username {PK}	Unique identifier of user.	varchar(20)	No
	Password	User's password.	varchar(20)	No
	Email	Registered email.	varchar(50)	No
	RoleID {FK}	Foreign key, role identifier.	int	No
	IsActive	User's status.	bit	Yes
	CreatedDate	Created date.	datetime	No
	Avatar	Picture url.	varchar(100)	Yes
	ActiveDate	Activated date.	datetime	Yes
Member	Username {PK} {FK}	Unique identifier of member. Foreign key, user identifier.	varchar(20)	No
	Fullname	Member's full name.	nvarchar(50)	No
	Phone	Cell phone number.	varchar(12)	No
	Job	Member's job.	nvarchar(30)	Yes
	Title	Title.	nvarchar(30)	Yes
	Company	Member's company.	nvarchar(50)	Yes
	Address	Address.	nvarchar(80)	Yes
	Gender	Gender.	bit	Yes
	BirthDate	Day of birth.	date	Yes
	Description	Other description.	nvarchar(200)	Yes
	Email	Contact email.	varchar(50)	Yes
	Code	Secret code.	varchar(10)	Yes
Admin Staff	Username {PK} {FK}	Unique identifier of admin. Foreign key, user identifier.	varchar(20)	No
	Name	Admin's name.	nvarchar(50)	No
	Username {PK} {FK}	Unique identifier of staff. Foreign key, user identifier.	varchar(20)	No
	Name	Staff's name.	nvarchar(50)	No
	Position	Staff's position.	nvarchar(30)	Yes
	IsChangePass	Flag for changing password.	bit	Yes
	Phone	Staff's cell phone	varchar(12)	No
Partner	Username {PK} {FK}	Unique identifier of partner. Foreign key, user identifier.	varchar(20)	No
	Organization	Company name.	nvarchar(80)	No
	Address	Company address.	nvarchar(80)	No
	ConfirmInfo	Confirm note.	nvarchar(200)	No
	Email	Partner email.	varchar(50)	No
Friendship	FriendshipID {PK}	Unique identifier of friendship.	int	No

	Sender {FK}	Foreign key, member that makes the request.	varchar(20)	No
	State	Friendship's state.	varchar(10)	Yes
	Receiver {FK}	Foreign key, member that receives the request	varchar(20)	No
	CreatedDate	Created date.	datetime	No
	FriendDate	Friendship accepted date.	datetime	Yes
Contact	ContactID {PK}	Unique identifier of contact.	int	No
	Owner {FK}	Foreign key, member that owns the contact.	varchar(20)	No
	Partner {FK}	Foreign key, member that the contact belongs to.	varchar(20)	No
	Fullscreen	Contact's full name.	nvarchar(50)	No
	Phone	Contact's phone number.	varchar(12)	No
	Job	Contact's job.	nvarchar(30)	Yes
	Title	Title.	nvarchar(30)	Yes
	Company	Company name.	nvarchar(50)	Yes
	Address	Address.	nvarchar(80)	Yes
	Description	Other description.	nvarchar(200)	Yes
	AddedDate	Added date.	datetime	Yes
	ModifiedDate	Modified date.	datetime	Yes
	Alias	Alias name.	nvarchar(30)	Yes
Notification	NID {PK}	Unique identifier of notification.	int	No
	Content	Notification content.	nvarchar(200)	No
	CreatedDate	Created date.	datetime	No
	ViewDate	Viewed date.	datetime	Yes
	Type	Notification type.	varchar(20)	No
	Username {FK}	Foreign key, member that receives notification.	varchar(20)	No
Sub Access Account	SubUsername {PK}	Unique identifier of sub account.	varchar(30)	No
	SubPassword	Sub account password.	varchar(20)	No
	CreatedDate	Created date.	datetime	No
	IsActive	Status.	bit	Yes
	Partner {FK}	Foreign key, partner that creates sub accounts.	varchar(20)	No
Event	EventID {PK}	Unique identifier of event.	int	No
	Name	Event's name.	nvarchar(50)	No
	Street	Street address.	nvarchar(80)	No
	Province	Province.	nvarchar(20)	No
	EventDate	The date that event happen.	datetime	No
	Lat	Latitude.	float	Yes

	Long	Longitude.	float	Yes
	Sector	Sector.	nvarchar(30)	No
	TargetAge	Target Age.	nvarchar(30)	No
	NumOfTicket	Total number of tickets.	int	No
	NumOfSoldTicket	Total number of sold tickets.	int	Yes
	Description	Event's description	ntext	No
	Image	Image link url.	varchar(80)	No
	State	Event's state.	varchar(10)	Yes
	Partner {FK}	Foreign key, partner that creates event.	varchar(20)	No
	Kind	Kind.	nvarchar(40)	No
	CreatedDate	Created date.	datetime	No
Change Request	RequestID {PK}	Unique identifier of change request.	int	No
	RequestDate	The date the request made.	datetime	No
	State	Request's state.	varchar(10)	Yes
	ApprovedBy {FK}	Foreign key, staff who approves the request.	varchar(20)	Yes
	EventID	Foreign key, event that requested to change	int	No
	Message	Staff's note	nvarchar(200)	Yes
	ApprovedDate	Approved date.	datetime	Yes
	Partner {FK}	Foreign key, partner who made the request.	varchar(20)	No
Change Item	ChangeID {PK}	Unique identifier of change item.	int	No
	RequestID {FK}	Foreign key, the request that change items belong to.	int	No
	Field	Change field.	nvarchar(20)	No
	OldValue	Old value.	nvarchar(max)	No
	NewValue	New value.	nvarchar(max)	No
Comment	CommentID {PK}	Unique identifier of comment.	int	No
	Username {FK}	Foreign key, member who commented.	varchar(20)	No
	EventID {FK}	Foreign key, event that being commented.	int	No
	CreateDate	Created date.	datetime	No
	Content	Comment's content.	nvarchar(200)	No
	Partner	Foreign key, partner who replies to comment.	varchar(20)	Yes
	Reply	Reply's content	nvarchar(200)	Yes
	RepliedDate	Replied date.	datetime	Yes
	State	State.	varchar(10)	Yes
Wish List Item	WishListItemId	Unique identifier of wish	int	No

	{PK}	list item.		
	Username {FK}	Foreign key, member that own the list.	varchar(20)	No
	EventID {FK}	Foreign key, event that belong to wish list.	int	No
	AddedDate	Added date.	datetime	No
	IsActive	Item's state.	bit	Yes
Ticket Range	AutoID {PK}	Unique identifier of ticket range.	int	No
	Type	Ticket range's name.	nvarchar(30)	No
	Price	Ticket range's price.	int	No
	Quantity	Ticket range's quantity.	int	No
	EventID {FK}	Foreign key, event that ticket range belongs to.	int	No
	SoldQuantity	Total number of sold ticket.	int	Yes
	Description	Ticket range's information.	nvarchar(100)	Yes
Booking	BookID {PK}	Unique identifier of booking	int	No
	Username {FK}	Foreign key, member that made booking.	varchar(20)	No
	TicketRangeID {FK}	Foreign key, ticket range that booking made on.	int	No
	BookDate	Booking date.	datetime	No
	Price	Ticket range's price.	int	No
	Quantity	Number of booking ticket.	int	No
	Total	Total money of booking.	int	No
	State	Booking's state.	nvarchar(10)	Yes
	Description	Note.	nvarchar(200)	Yes
	Phone	Cell phone number.	varchar(12)	No
	Code	Secret code.	varchar(6)	No
Ticket Checkin Detail	CheckinDate	Checked-in date.	datetime	Yes
	BookID {PK,FK}	Unique identifier of booking. Foreign key, booking.	int	No
	TicketID {PK}	Unique identifier of ticket.	int	No
	Quantity	Number of attendance.	int	No
	CheckinDate	Checked-in date.	datetime	Yes
KMean Centroid	id {PK}	Unique identifier of centroid, auto increment.	int	No
	k_sector	Value of sector	float	No
	k_age	Value of age	float	No
	k_kind	Value of kind	float	No
	quantity	Number of events that are in clusters	int	Yes

InfoValue	id {PK}	Unique identifier of information value	int	No
	info	Group information	varchar(10)	No
	name	Information label	nvarchar(50)	No
	score	Information value	float	No
	active	Status	bit	Yes

Table 14: Attribute Data Dictionary

3. Performance Measures

3.1 Clustering Performance

- Clustering is performed by running K Mean Algorithm which has complexity of : $O(n * k * I * d)$
 - n : number of points
 - k : number of cluster
 - I : number of iteration
 - d : number of attributes (3)

Clustering take almost the time of process that we can ignore the time needed to load data from database, digitalize data.

The speed of clustering will vary and increase dramatically when n increase. The purpose of this project is not about optimizing K-Mean Algorithm so it is accepted to let the process run till it completes.

Moreover, the clustering is designed to run by staff, wait time is acceptable.

3.2 Suggestion Algorithm Performance

- The complexity of suggestion algorithm is $O(n^2)$ – find the most occurrence element in group.
- In general, the speed of suggestion algorithm should less than 1 minute.

4. Test Plan

The purpose of this section is to verify and ensure that MSSC meets its design specification and other requirements from user. The following part will describe which features to be tested and which will not.

4.1 Features to be tested

We will test the entire system based on the following core workflow (Reference: [Figure 168, 169, 170: Core Workflow](#)).

Based on the workflow, all following features will be tested, which can include one or more functions. These features will be focused and tested thoroughly during the test phase.

- Guest: search event, book event, and payment.
- Member: write ticket, cancel ticket, write contact, and update profile, read contact, and friendship management.
- Partner: create event, check ticket, and view statistic.
- Staff: approve changes, manage info values, cluster events, and export data.

4.2 Features not to be tested

- Register, login, logout, view home page.
- Comment, reply comment, wish list, creates sub access account, request change, active partner.
- Manage user.

5. System Testing Test Case

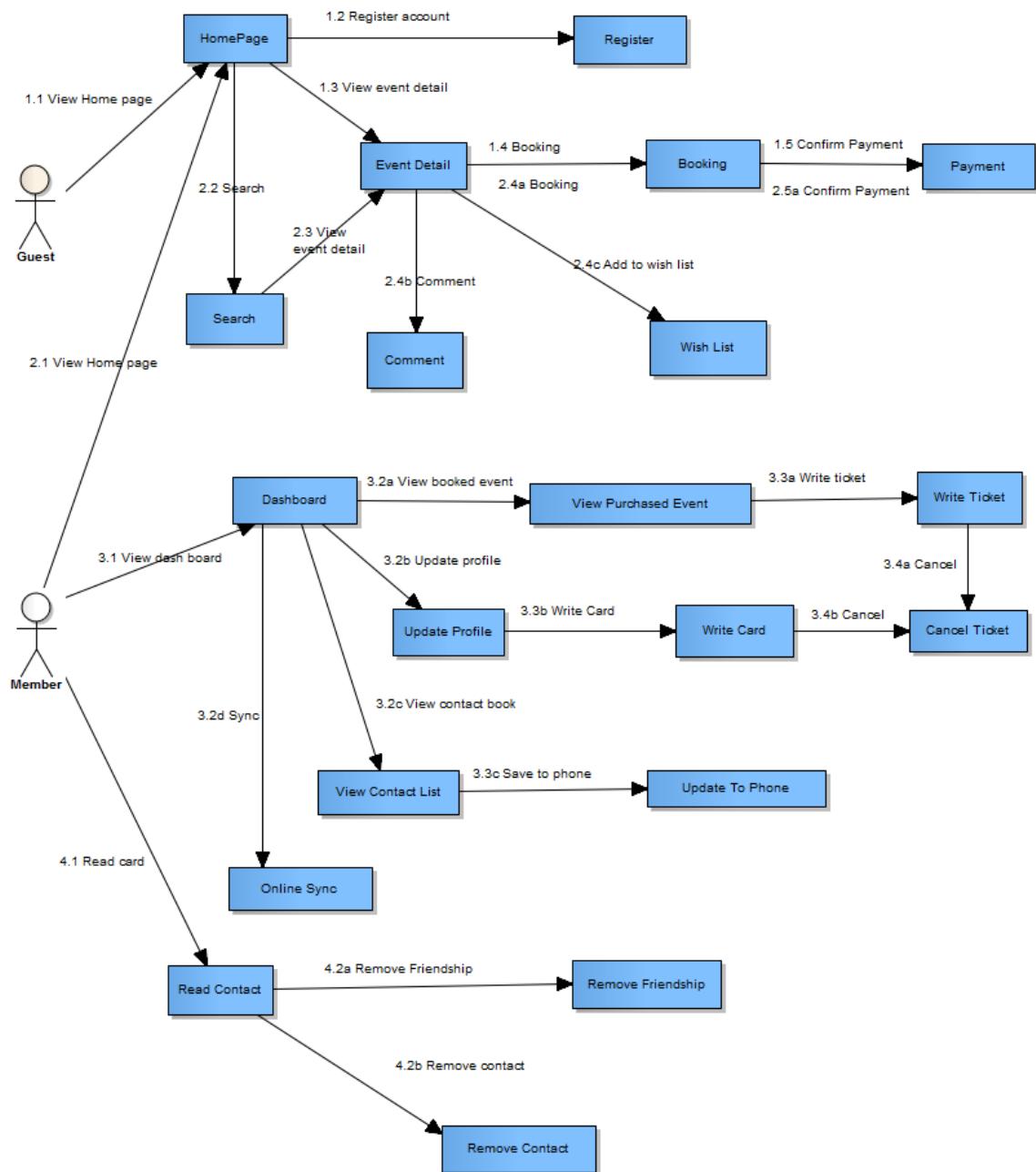


Figure 168: Guest, Member Core Flow

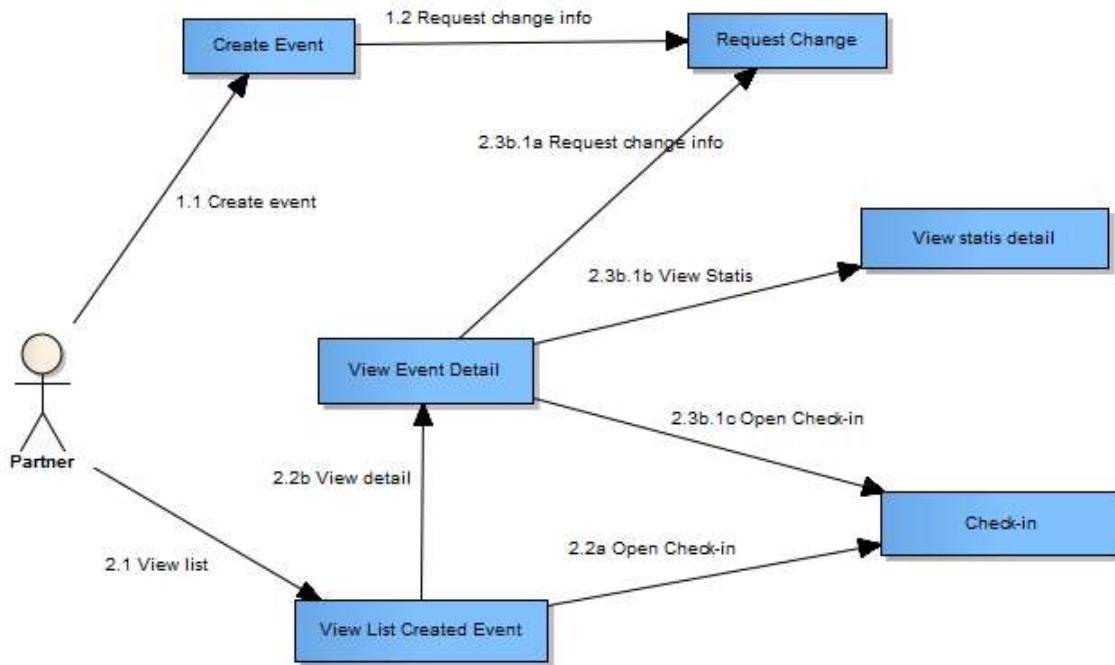


Figure 169: Partner Core Flow

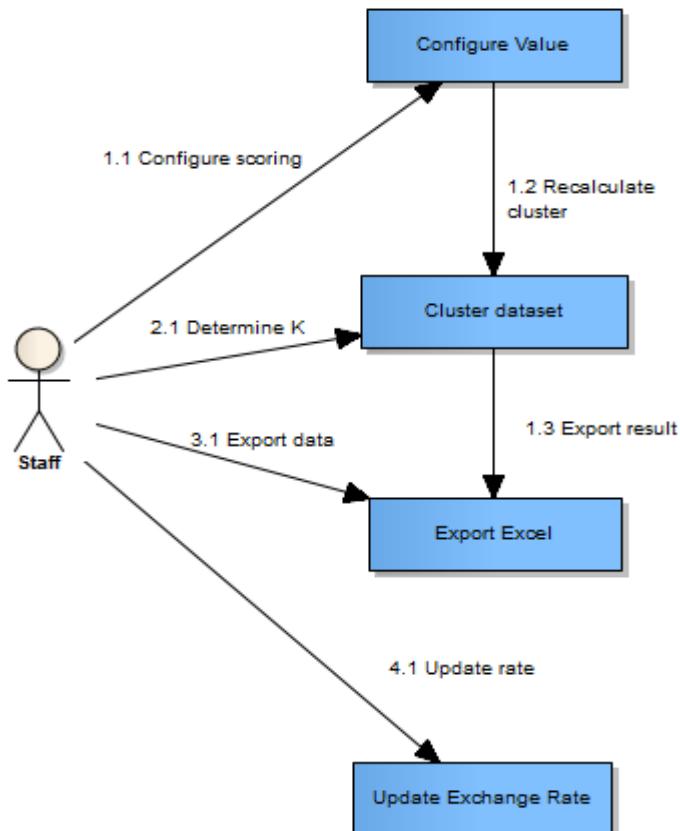


Figure 170: Staff Core Flow

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5.1 Guest Test Case

5.1.1 Search Event

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
SE01	Guest searches events with start date after end date	1- Guest opens home page and input search conditions: + From date : "01/01/2015" + To date : "01/01/2013" 2- Guest clicks "Tìm kiếm" button.	- After step 2, show error message: "Ngày không hợp lệ".	N/A	Passed	14/11/2014	
SE02	Guest searches events with valid search condition and search result is	1- Guest opens home page and input search conditions: + From date : "01/01/2015" + To date : "01/11/2015" 2- Guest clicks "Tìm kiếm" button.	- After step 2, navigate to search result page with	N/A	Passed	14/11/2014	Use Test Data base: DBT 2014

	empty		display message “Tìm thấy 0 sự kiện”.				
SE03	Guest searches events with valid search condition and search result is not empty.	1- Guest opens home page and input search conditions: + From date : “01/01/2014” + To date : “31/12/2014” Now is “30/06/2014” 2- Guest clicks “Tìm kiếm” button.	- After step 2, navigate to search result page with display message “Tìm thấy 12 sự kiện” and list of event in paging (12 events per page).	N/A	Passed	14/11/2014	Use Test Data base: DBT 2014
SE04	Guest searches events with valid search condition, include happened events, and search result is not empty.	1- Guest opens home page and input search conditions: + From date : “01/01/2014” + To date : “31/12/2015” + Check “Sự kiện đã diễn ra” Now is “30/06/2014” 2- Guest clicks “Tìm kiếm” button.	- After step 2, navigate to search result page with display message “Tìm thấy 24 sự kiện” and list of event in paging (12 events per page).	N/A	Passed	14/11/2014	Use Test Data base: DBT 2014

5.1.2 Book Event

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
BE01	Guest books event with ticket quantity bigger than 4.	1- Guest open event “Event 12” detail page. 2- Guest choices “Vé thường”. 3 – Guest inputs quantity: 5	- After step 3, show error message: “Vượt quá số lượng cho phép”.	PA02	Passed	14/11/2014	Use Test Data base : DBT 2014
BE02	Guest books event with ticket quantity is 0.	1- Guest open event “Event 12” detail page. 2- Guest choices “Vé thường”. 3 – Guest inputs quantity: 0.	- After step 3, show error message: “Số lượng vé muốn mua không thể là 0”.	PA02	Passed	14/11/2014	Use Test Data base : DBT 2014
BE03	Guest books event with empty	1- Guest open event “Event 12” detail page. 2 – Guest click “Mua vé”	- After step 2, show error	PA02	Passed	14/11/2014	Use Test Data base

	phone field.	button.	message: “Bạn phải nhập số điện thoại di động”.				: DBT 201 4
BE04	Guest books event successfully.	1-- Guest open event “Event 12” detail page. 2- Guest choices “Vé thường”. 3 – Guest inputs quantity: 3. 4 – Guest click “Mua vé” button. 5 – Guest inputs PayPal account and clicks “Continue”. 6 – Guest clicks “Thanh toán” button.	<ul style="list-style-type: none"> - After step 4, redirect to PayPal page with billing order on the left and login panel on the right. - After step 5, redirect back to booking page. Ticket quantity is decreased by 3. - After step 6, booking state is ready for check-in. 	PA02	Passed	14/11/2014	Use Test Data base : DBT 201 4

BE05	Guest books event but cancel payment.	<p>1-- Guest open event “Event 12” detail page.</p> <p>2- Guest choices “Vé thường”.</p> <p>3 – Guest inputs quantity: 3.</p> <p>4 – Guest click “Mua vé” button.</p> <p>5 – Guest inputs PayPal account and clicks “Continue”.</p> <p>6 – Guest clicks “Hủy” button.</p>	<p>- After step 4, redirect to PayPal page with billing order on the left and login panel on the right.</p> <p>- After step 5, redirect back to booking page. Ticket quantity is decreased by 3.</p> <p>- After step 6, booking state is reverted. Ticket quantity is increased by 3.</p>	N/A	Passed	14/11/2014	Use Test Data base : DBT 2014
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5.1.3 Payment

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
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PA01	Guest account balance is less than billing.	<p>1- On booking page, guest clicks “Thanh toán” button to buy 1 “Vé VIP” ticket of “Event 12” (1000USD). Guest’s PayPal account balance is 500USD.</p>	- After step 1, redirect to “Bad Funding” page of PayPal system.	N/A	Passed	14/11/2014	Use Test Data base: DBT 2014
PA02	Guest account balance is more than billing.	<p>1- On booking page, guest clicks “Thanh toán” button to buy 1 “Vé VIP” ticket (1000USD). Guest’s PayPal account balance is 1500USD.</p>	- After step 1, redirect to order page with display purchased item information.	N/A	Passed	14/11/2014	Use Test Data base: DBT 2014

5.2 Member Test Case

5.2.1 Write Ticket

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
WT01	Member writes ticket without	1 – Member logins into the application.	- After step 1, go to “Quản lý sự kiện” page.	N/A	Passed	14/11/2014	N/A

	put the NFC card under the cellphone.	<p>2 – Member tabs on “Trang chủ” to show left navigation bar.</p> <p>3 – Member tabs on “Sự kiện của tôi” menu item.</p> <p>4 – Member selects an event that have “Ghi vé” button then tab on “Ghi vé” button.</p> <p>5 – Member tabs on “Ghi vé” button.</p>	<p>- After step 2, show left navigation menu.</p> <p>-After step 3, go to “Sự kiện của tôi” screen with booked event list.</p> <p>- After step 4, go to “Ghi vé” screen with ticket detail, “Ghi vé” button and list of ticket which is written.</p> <p>- After step 5, show error dialog: “KHÔNG TÌM THẤY TAG”.</p>				
WT02	Member write ticket by putting the NFC card under the cellphone and write full-ticket.	<p>1 – Member logins into the application.</p> <p>2 – Member tabs on “Trang chủ” to show left navigation bar.</p>	<p>- After step 1, go to “Quản lý sự kiện” page.</p> <p>- After step 2, show left navigation menu.</p>	N/A	Passed	14/11/2014	Full-ticket is the one that have

		<p>3 – Member tabs on “Sự kiện của tôi” menu item.</p> <p>4 – Member selects event that have “Ghi vé” button then tab on that.</p> <p>5 – Member puts NFC card under the cell phone.</p> <p>6 – Member tabs on “Ghi vé” button on the dialog</p>	<p>-After step 3, Go to “Sự kiện của tôi” screen with booked event list.</p> <p>- After step 4, go to “Ghi vé” screen with ticket detail, “Ghi vé” button and list of ticket which is written.</p> <p>- After step 5, show ticket dialog.</p> <p>- After step 6, ticket dialog dismiss and show message dialog with text: “Ghi vé thành công”.</p>				quantity equal booking's quantity.
WT03	Member write ticket by putting the NFC card under the cellphone and	<p>1 – Member logins into the application.</p> <p>2 – Member tabs on “Trang chủ” to show left</p>	<p>- After step 1, go to “Quản lý sự kiện” page.</p> <p>- After step 2, show left</p>	N/A	Passed	14/11/2014	separated - ticket is

	<p>write separated-ticket.</p>	<p>navigation bar</p> <p>3 – Member tabs on “Sự kiện của tôi” menu item.</p> <p>4 – Member selects event that have “Ghi vé” button then tab on that.</p> <p>5 – Member puts NFC card under the cell phone.</p> <p>6 – Member checks the checkbox and chooses ticket quantity to write</p> <p>7 – Member tabs on “Ghi vé” button on the dialog</p>	<p>navigation menu.</p> <ul style="list-style-type: none"> -After step 3, go to “Sự kiện của tôi” screen with booked event list. - After step 4, Go to “Ghi vé” screen with ticket detail, “Ghi vé” button and list of ticket which is written. - After step 5, show ticket dialog. - After step 7, ticket dialog dismiss, show message dialog with text: “Ghi vé thành công”. 				<p>the one that have quantity equal 1 at least and lower than booking's quantity</p>
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WT04	Member write ticket when written tickets have total quantity equal booking's quantity	<p>1 – Member logins into the application.</p> <p>2 – Member tabs on “Trang chủ” to show left navigation bar.</p> <p>3 – Member tabs on “Sự kiện của tôi” menu item.</p> <p>4 – Member selects event that have “Ghi vé” button then tab on that.</p> <p>5 – Member puts NFC card under the cell</p>	<ul style="list-style-type: none"> - After step 1, go to “Quản lý sự kiện” page. - After step 2, show left navigation menu. -After step 3, go to “Sự kiện của tôi” screen with booked event list. - After step 4, go to “Ghi vé” screen with ticket detail, “Ghi vé” button and list of ticket which is written. - After step 5, show ticket 	N/A	Passed	14/11/2014	N/A

		<p>phone.</p> <p>6 – Member tabs on “Ghi vé” button on the dialog</p>	<p>dialog.</p> <ul style="list-style-type: none"> - After step 6, ticket dialog dismiss and show error dialog with text: “Vé đã ghi đủ số lượng, không thể ghi thêm”. 				
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5.2.2 Cancel Ticket

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
DT01	Member deletes a written ticket.	<p>1 – Member logins into the application.</p> <p>2 – Member tabs on “Trang chủ” to show left navigation bar</p>	<ul style="list-style-type: none"> - After step 1, go to “Quản lý sự kiện” page. - After step 2, show left navigation menu. 	N/A	Passed	14/11/2014	Use Test Data base: DBT2014

		<p>3 – Member tabs on “Sự kiện của tôi” menu item.</p> <p>4 – Member selects event that have “Ghi vé” button then tab on that.</p> <p>5 – Member selects written ticket and tab on “Xóa” button.</p>	<p>-After step 3, go to “Sự kiện của tôi” screen with booked event list.</p> <p>- After step 4, go to “Ghi vé” screen with ticket detail, “Ghi vé” button and list of ticket which is written.</p> <p>- After step 5, ticket on the list will disappear and show message dialog with text: “Xóa vé thành công”.</p>				
DT02	Member deletes checked in ticket.	<p>1 – Member logins into the application.</p> <p>2 – Member tabs on</p>	<p>- After step 1, Go to “Quản lý sự kiện” page.</p> <p>- After step 2, show left</p>	N/A	Passed	14/11/2011 4	Use Test Data base: DBT2

		<p>“Trang chủ” to show left navigation bar.</p> <p>3 – Member tabs on “Sự kiện của tôi” menu item.</p> <p>4 – Member selects event that have “Ghi vé” button then tab on that.</p> <p>5 – Member selects written ticket and tab on “Xóa” button.</p>	<p>navigation menu.</p> <p>-After step 3, go to “Sự kiện của tôi” screen with booked event list.</p> <p>- After step 4, go to “Ghi vé” screen with ticket detail, “Ghi vé” button and list of ticket which is written.</p> <p>- After step 5, ticket on the list will disappear and show message dialog with text: “Vé đã được soát, không thể xóa”.</p>				014
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5.2.3 Log In

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
LI01	Member logins online with correct username, password, and cellphone has internet connection.	1 – On the start screen of mobile, Member touches “Đăng nhập trực tuyến” button. 2 – Member inputs username “huydn”, password “huydn”.	- After step 1, show login online screen. - After step 2, show list contact screen in online state.	N/A	Passed	14/11/20 14	Use Test Data base: DBT2 014
LI02	Member logins online with wrong username and cellphone has internet connection.	1 – On the start screen of mobile, Member touches “Đăng nhập trực tuyến” button. 2 – Member inputs username “huy”, password “huydn”.	- After step 1, show login online screen. - After step 2, show message: “Tên đăng nhập hoặc mật khẩu không tồn tại”.	N/A	Passed	14/11/20 14	Use Test Data base: DBT2 014
LI03	Member logins online with wrong password and cellphone has internet connection.	1 – On the start screen of mobile, Member touches “Đăng nhập trực tuyến” button. 2 – Member inputs username “huydn”, password “huy”.	- After step 1, show login online screen. - After step 2, show message: “Tên đăng nhập hoặc mật khẩu không tồn tại”.	N/A	Passed	14/11/20 14	Use Test Data base: DBT2 014

LI04	Member logins online with correct username, password, and cellphone doesn't have internet connection.	1 – On the start screen of mobile, Member touches “Đăng nhập trực tuyến” button. 2 – Member inputs username “huydn”, password “huydn”	- After step 1, show login online screen. - After step 2, show message: “Không có liên kết mạng, đăng nhập ngoại tuyến”.	N/A	Passed	14/11/2014	Use Test Data base: DBT2 014
LI05	Member logins online with correct username, password of new account which is different from current local account on cellphone and cellphone has internet connection.	1 – On the Start Screen of mobile, Member touches “Đăng nhập trực tuyến” button. 2 – Member inputs username “tannh”, password “tannh”.	- After step 1, show login online screen. - After step 2, dialog is shown which includes: message “Bạn sẽ mất toàn bộ dữ liệu của tài khoản cũ”, “Chấp nhận” button and “Hủy bỏ” button.	N/A	Passed	14/11/2014	Use Test Data base: DBT2 014
LI06	Member logins offline with correct username, password of current local account on cellphone.	1 – On the start screen of mobile, Member touches “Đăng nhập ngoại tuyến” button. 2 – Member inputs username “huydn”, password “huydn”.	- After step 1, show login offline screen. - After step 2, show list contact screen in offline state.	N/A	Passed	14/11/2014	N/A

LI07	Member logins offline with wrong username, password.	1 – On the Start Screen of mobile, Member touches “Đăng nhập ngoại tuyến” button. 2 – Member inputs username “huydn”, password “huy”.	- After step 1, show login offline screen. - After step 2, show message: “Tên liên lạc hoặc mật khẩu không tồn tại”	N/A	Passed	14/11/2014	N/A
LI08	Member logins offline with correct username, password of an account which is different from current local account on cellphone.	1 – On the start screen of mobile, Member touches “Đăng nhập ngoại tuyến” button. 2 – Member inputs username “tannh”, password “tannh”.	- After step 1, show login offline screen. - After step 2, show message: “Tên liên lạc hoặc mật khẩu không tồn tại”.	N/A	Passed	14/11/2014	N/A

5.2.4 Menu

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
M01	In online state, Member touches MSSC image on the left of action bar to show menu list.	1- Member touches MSSC image on the left of action bar.	- After step 1, show list of menu include: + “Tất Cả Danh Bạ” + “Danh bạ MSSC” + “Danh Bạ Điện Thoại” + “Viết Danh thiếp” + “Lời Mời Kết Bạn”	LI01	Passed	14/11/2014	N/A

M02	In online state, Member touches “Tất Cả Danh Bạ” on the menu list.	1 – Member touches “Tất Cả Danh Bạ” on the menu list.	- After step 1, show “Tất Cả danh Bạ” screen.	LI01 M01	Passed	14/11/2014	Use Test Database: DBT2 014
M03	In online state, Member touches “Danh Bạ MSSC” on the menu list.	1 –Member touches “Danh Bạ MSSC” on the menu list.	- After step 1, show “Danh Bạ MSSC” screen.	LI01 M01	Passed	14/11/2014	N/A
M04	In online state, Member touches “Danh Bạ Điện Thoại” on the menu list.	1 – Member touches “Danh Bạ Điện Thoại” on the menu list.	- After step 1, show “Danh Bạ Điện Thoại” screen.	LI01 M01	Passed	14/11/2014	N/A
M05	In online state, Member touches “Viết Danh Thiếp” on the menu list.	1 – Touch “Viết Danh Thiếp” on the menu list.	- After step 1, show “Viết Danh Thiếp” screen.	LI01 M01	Passed	14/11/2014	N/A
M06	In online state, Member touches “Lời Mời Kết Bạn” on the menu list.	1 – Touch “Lời Mời Kết Bạn” on the menu list.	- After step 1, show “Lời Mời Kết Bạn” screen.	LI01 M01	Passed	14/11/2014	N/A
M07	In offline state,	1- Touch MSSC image	- After step 1, show list of menu	LI06	Passed	14/11/2014	N/A

	Member touches MSSC image on the left of action bar to view the menu list.	on the left of action bar.	include: + “Tất Cả Danh Bạ” + “Danh bạ MSSC” + “Danh Bạ Điện Thoại” + “Viết Danh thiếp” + “Lời Mời Kết Bạn”				
M08	In offline state, Member touches “Tất Cả Danh Bạ” on the menu list.	1 – Touch “Tất Cả Danh Bạ” on the menu list.	- After step 1, show “Tất Cả danh Bạ” screen.	LI06 M01	Passed	14/11/2014	N/A
M09	In offline state, Member touches “Danh Bạ MSSC” on the menu list.	1 – Touch “Danh Bạ MSSC” on the menu list.	- After step 1, show “Danh Bạ MSSC” screen.	LI06 M01	Passed	14/11/2014	N/A
M10	In offline state, Member touches “Danh Bạ Điện Thoại” on the menu list.	1 – Touch “Danh Bạ Điện Thoại” on the menu list.	- After step 1, show “Danh Bạ Điện Thoại” screen.	LI06 M01	Passed	14/11/2014	N/A
M11	In offline state, Member touches “Viết Danh Thiếp” on the menu list.	1 – Touch “Viết Danh Thiếp” on the menu list.	- After step 1, show “Viết Danh Thiếp” screen.	LI01 M01	Passed	14/11/2014	N/A
M12	In offline state, Member	1 – Touch “Lời Mời Kết Bạn” on the menu	- After step 1, show “Lời Mời Kết Bạn” screen.	LI06 M01	Passed	14/11/2014	N/A

	touches “Lời Mời Kết Bạn” on the menu list.						
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5.2.5 View Detail contact

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
VDC01	In online state, Member views detail of an Android contact.	1 – Member touches on a contact in list contact which has “Android” image.	- After step 1, show detail of contact includes: + phone number, + full name, + company, + address, + job, + email	LI01	Passed	14/11/2014	Use Test Database: DBT2014
VDC02	In online state, Member views detail of an MSSC contact, which is having friendship.	1 – Member touches on a contact in list contact which has “MSSC” image on the left and small “Friendship” image on the right.	- After step 1, show detail of contact includes: + phone number, + full name, + company, + address, + job, + email, + “Unfriend” button, + “Edit alias” button.	LI01	Passed	14/11/2014	Use Test Database: DBT2014
VDC	In online state,	1 – Member touches	- After step 1, show detail of	LI01	Passed	14/11/2014	Use

03	Member views detail of an MSSC contact, which is having a pending request friendship.	on a contact in list contact which has "MSSC" image.	contact includes: + phone number, + full name, + company, + address, + job, + email, + "Cancel Request Friend" button, + "Edit alias" button.				Test Database: DBT2 014
VDC 04	In online state, Member views detail of an MSSC contact, which has no pending request friendship or friendship.	1 – Member touches on a contact in list contact which has "MSSC" image.	- After step 1, show detail of contact includes: + phone number, + full name, + company, + address, + job, + email, + "Send Request Friend" button, + "Edit alias" button.	LI01	Passed	14/11/2014	Use Test Database: DBT2 014
VDC 05	In offline state, Member views detail of an Android contact.	1 – Member touches on a contact in list contact which has "Android" image.	- After step 1, show detail of contact includes: + phone number, + full name, + company, + address, + job, + email,	LI06	Passed	14/11/2014	N/A

VDC 06	In offline state, Member views detail of an MSSC contact, Which is having friendship.	1 – Member touches on a contact in list contact which has “MSSC” image on the left and small “Friendship” image on the right.	- After step 1, show Detail of contact include: + phone number, + full name, + company, + address, + job, + email, + “Unfriend” button + “Edit alias” button.	LI06	Passed	14/11/2014	N/A
VDC 07	In offline state, Member views detail of an MSSC contact, Which is having a pending request friendship.	1 – Member touches on a contact in list contact which has “MSSC” image.	- After step 1, show detail of contact includes: + phone number, + full name, + company, + address, + job, + email, + “Cancel Request Friend” button, + “Edit alias” button.	LI06	Passed	14/11/2014	N/A
VDC 08	In Offline state, Member views detail of an MSSC contact, Which doesn't have pending	1 – Member touches on a contact in list contact which has “MSSC” image.	- After step 1, show detail of contact include: + phone number, + full name, + company, + address, + job,	LI06	Passed	14/11/2014	N/A

	request friendship or friendship.		+ email, + “Send Request Friend” button, + “Edit alias” button.				
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5.2.6 Update contact

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
UC01	In online state, Member updates a friendship contact.	<p>1 – Member touches “Update Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.</p> <p>2- Member checks checkbox of contact “tannh”.</p> <p>3- Member touches “Cập nhật” button on action bar.</p> <p>4 – Member touches “Chấp nhận” button.</p>	<p>- After step 1, show list of update contacts and each contact includes checkbox, alias and phone number.</p> <p>- After step 3, dialog is shown which includes: message “Thay đổi thông tin cá nhân”, “Chấp nhận” button and “Thoát” button</p> <p>- After step 4, contact “tannh” is updated information and</p>	LI01	Passed	14/11/2014	Use Test Database: DBT2 014

			removes from list out update contact, “update” image on contact is removed.				
UC 02	In online state, Member updates friendship contacts.	1 – Member touches “Update Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen. 2- Check checkbox of contact “tannh” and contact “tuyenmq”. 3- Touch “Cập nhật” button on action bar. 4 – Touch “Chấp nhận” button.	- After step 1, show list of update contacts and with each contact includes checkbox, alias and phone number. - After step 3, dialog is shown which includes: message “Thay đổi thông tin cá nhân”, “Chấp nhận” button and “Thoát” button - After step 4, contact “tannh” and “tuyenmq” are updated information and remove from list update contact, “update” image on contact is removed.	LI01	Passed	14/11/2014	Use Test Database: DBT2 014
UC 03	In online state, Member updates a contact in	1 – Member touches a contact “tanh” with “update” image on it to view detail.	- After step 1, show detail of contact.	LI01	Passed	14/11/2014	Use Test Database:

	detail contact screen.	<p>2- Member touches “Update” button on action bar.</p> <p>3- Member touches “Chấp nhận”.</p>	<ul style="list-style-type: none"> - After step 2, dialog is shown which includes: message “Thay đổi thông tin cá nhân”, “Chấp nhận” button and “Thoát” button - After step 3, contact “tannh” is updated information, remove from list out update contact, “update” image on contact is removed. 				DBT2 014
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5.2.7 Save To Phone

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
SC 01	In online state, Member copies a contact to cellphone.	<p>1 – Member touches “Copy Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.</p> <p>2- Member checks checkbox of contact “tannh”.</p> <p>3- Member touches</p>	<ul style="list-style-type: none"> - After step 1, show list of copy contacts and each contact includes: checkbox, alias and phone number. - After step 3, dialog is shown 	LI01	Passed	14/11/2014	Use Test Database: DBT2 014

		<p>“Sao chép” button on action bar.</p> <p>4 – Member touches “chấp nhận” button.</p>	<p>which includes: “Chấp nhận” button and “Thoát” button.</p> <p>- After step 4, contact “tannh” is copied to cellphone contact, remove from list copy contact and show success message.</p>				
SC 02	In online state, Member copies many contact to cellphone contact.	<p>1 – Member touches “Copy Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.</p> <p>2- Check checkbox of contact “tannh” and “tuyenmq”.</p> <p>3- Member touches “Sao chép” button on action bar.</p> <p>4 – Member touches “chấp nhận” button.</p>	<p>- After step 1, show list of copy contacts and with each contact includes: checkbox, alias and phone number.</p> <p>- After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button.</p> <p>- After step 4, contact “tannh” and “tuyenmq” are copied to cellphone contact and remove from list copy contact and show success message.</p>	LI01	Passed	14/11/2014	Use Test Database: DBT2 014
SC	In offline state,	1 – Member touches	- After step 1, show List of copy	LI06	Passed	14/11/2014	N/A

03	Member copies a contact to cellphone contact.	<p>“Copy Contact” image on action bar of “Tắt Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.</p> <p>2- Member checks checkbox of contact “tannh”.</p> <p>3- Member touches “Sao chép” button on action bar.</p> <p>4 - Member touches “chấp nhận” button.</p>	<p>contacts and with each contact include checkbox, alias and phone number</p> <p>- After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button.</p> <p>- After step 4, contact “tannh” is copied to cellphone contact, remove from copy contact list and show success message.</p>				
SC04	In Offline state, Member copies many contact to cellphone contact.	<p>1 – Member touches “Copy Contact” image on action bar of “Tắt Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.</p> <p>2- Member checks checkbox of contact “tannh” and</p>	<p>- After step 1, show List of copy contact and with each contact includes: checkbox, alias and phone number.</p>	LI06	Passed	14/11/2014	N/A

		<p>“tuyenmq”.</p> <p>3- Member touches “Sao chép” button on action bar.</p> <p>4 - Member touches “chấp nhận” button.</p>	<ul style="list-style-type: none"> - After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 4, contact “tannh” and “tuyenmq” are copied to cellphone contact and remove from list copy contact and show success message. 				
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5.2.8 Remove Contact

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
CC 01	In online state, Member removes a MSSC contact in Remove contact list.	<p>1 – Member touches “Remove Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.</p> <p>2- Member checks checkbox of a MSSC contact “tannh”.</p>	<ul style="list-style-type: none"> - After step 1, show list of contacts which includes checkbox, alias and phone number on each contact. 	LI01	Passed	14/11/2014	Use Test Database: DBT2 014

		<p>3- Member touches “Xóa” button on action bar.</p> <p>4 - Member touches “chấp nhận” button</p>	<ul style="list-style-type: none"> - After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 4, contact “tannh” is removed from list contact and show success message. 				
CC 02	In online state, Member removes an Android contact in Remove contact list.	<p>1 – Member touches “Remove Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.</p> <p>2- Member checks checkbox of an Android contact “Mum”.</p> <p>3- Member touches “Xóa” button on action bar.</p> <p>4 - Member touches “chấp nhận” button.</p>	<ul style="list-style-type: none"> - After step 1, show list of contacts with each contact includes: checkbox, alias and phone number. - After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 4, contact “Mum” is removed from list contact and show success message. 	LI01	Passed	14/11/2014	Use Test Database: DBT2 014
CC	In online state,	1 – Member touches	- After step 1, show list of contacts	LI01	Passed	14/11/2014	Use

03	Member removes MSSC and Android contacts in Remove contact list.	<p>“Remove Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.</p> <p>2- Member checks checkbox of a MSSC contact “tannh” and an Android contact “Mum”.</p> <p>3- Member touches “Xóa” button on action bar.</p> <p>4 - Member touches “chấp nhận” button.</p>	<p>with each contact includes checkbox, alias and phone number.</p> <p>- After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button.</p> <p>- After step 4, contact “tannh” and “Mum” are removed from list of contact and show success message.</p>				Test Database: DBT2 014
CC 04	In online state, Member removes a MSSC contact in “Tất Cả Danh Bạ” screen.	<p>1 – Member holds a MSSC contact “tannh” on “Tất Cả Danh Bạ” screen.</p> <p>2- Member touches “Xóa Danh Bạ”.</p>	<p>- After step 1, dialog is shown which include: “Gọi Điện”, “Nhắn Tin”, “Xóa Liên Lạc”.</p> <p>- After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button.</p>	LI01	Passed	14/11/2014	Use Test Database: DBT2 014

		3 - Touch “chấp nhận” button.	- After step 3, contact “tannh” is removed from list contact and show success message.				
CC 05	In online state, Member removes an Android contact in “Tất Cả Danh Bạ” screen.	1 – Member holds an Android contact “Mum” on “Tất Cả Danh Bạ” screen. 2- Member touches “Xóa Danh Bạ”. 3 - Touch “chấp nhận” button.	- After step 1, dialog is shown which includes: “Gọi Điện”, “Nhắn Tin”, “Xóa Liên Lạc”. - After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 3, contact “Mum” is removed from list of contacts and show success message.	LI01	Passed	14/11/2014	Use Test Database: DBT2 014
CC06	In online state, Member removes an Android contact in “Danh Bạ Điện thoại” screen.	1 – Hold a Android contact on “Danh Bạ Điện Thoại” screen. 2- Member touches “Xóa Danh Bạ ”. 3 - Member touches “Chấp nhận” button.	- After step 1, dialog is shown which includes: “Gọi Điện”, “Nhắn Tin”, “Xóa Liên Lạc”. - After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 3, contact “tannh” is removed from list contact and show success message.	LI01	Passed	14/11/2014	Use Test Database: DBT2 014
CC07	In online state, Member	1 – Member holds a MSSC contact “tannh”	- After step 1, dialog is shown which includes: “Gọi Điện”, “Nhắn	LI01	Passed	14/11/2014	Use Test

	removes a MSSC contact in “Danh BẠ MSSC” screen.	on “Danh BẠ MSSC” screen. 2- Member touches “Xóa Danh BẠ”. 3 - Member touches “Chấp nhận” button.	Tin”, “Xóa Liên Lạc”. - After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 3, contact “tannh” is removed from list of contacts and show success message.				Database: DBT2 014
CC 08	In offline state, Member removes a MSSC contact in Remove contact list.	1 – Member touches “Remove Contact” image on action bar of “Tất Cả Danh BẠ” screen or “Danh BẠ MSSC” screen or “Danh BẠ Điện Thoại” screen. 2- Member checks checkbox of a MSSC contact “tannh”. 3- Member touches “Xóa” button on action bar. 4 - Member touches “chấp nhận” button	- After step 1, show list of contacts with each contact includes: checkbox, alias and phone number. - After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 4, contact “tannh” is removed from list contact and show success message.	LI06	Passed	14/11/2014	N/A

CC 09	In offline state, Member removes an Android contact in Remove contact list.	1 – Member touches “Remove Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen. 2- Member checks checkbox of an Android contact “Mum”. 3- Member touches “Xóa” button on action bar. 4 - Member touches “chấp nhận” button.	- After step 1, show list of contacts with each contact includes: checkbox, alias and phone number. - After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 4, contact “Mum” is removed from list contact and show success message.	LI06	Passed	14/11/2014	N/A
CC 10	In offline state, Member removes MSSC and Android contact in Remove contact list.	1 – Member touches “Remove Contact” image on action bar of “Tất Cả Danh Bạ” screen or “Danh Bạ MSSC” screen or “Danh Bạ Điện Thoại” screen.	- After step 1, show list of contacts which includes checkbox, alias and phone number on each contact	LI06	Passed	14/11/2014	N/A

		<p>2- Member checks checkbox of a MSSC contact “tannh” and an Android contact “Mum”.</p> <p>3- Member touches “Xóa” button on action bar.</p> <p>4 - Member touches “chấp nhận” button.</p>	<ul style="list-style-type: none"> - After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 4, contact “tannh” and “Mum” are removed from list of contact and show success message. 				
CC 11	In offline state, Member removes a MSSC contact in “Tất Cả Danh Bạ” screen.	<p>1 – Member holds a MSSC contact “tannh” on “Tất Cả Danh Bạ” screen.</p> <p>2- Member touches “Xóa Danh Bạ”.</p> <p>3 - Touch “chấp nhận” button.</p>	<ul style="list-style-type: none"> - After step 1, dialog is shown which includes: “Gọi Điện”, “Nhắn Tin”, “Xóa Liên Lạc”. - After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 3, contact “tannh” is removed from list contact and show success message. 	LI06	Passed	14/11/2014	N/A
CC 12	In offline state, Member	1 – Member holds an Android contact	- After step 1, dialog is shown which includes: “Gọi Điện”, “Nhắn	LI01	Passed	14/11/2014	N/A

	removes an Android contact in “Tất Cả Danh Bạ” screen.	“Mum” on “Tất Cả Danh Bạ” screen. 2- Member touches “Xóa Danh Bạ”. 3 - Touch “chấp nhận” button.	Tin”, “Xóa Liên Lạc”. - After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 3, contact “Mum” is removed from list of contacts and show success message.				
CC13	In offline state, Member removes an Android contact in “Danh Bạ Điện thoại” screen.	1 – Hold an Android contact on “Danh Bạ Điện Thoại” screen. 2- Member touches “Xóa Danh Bạ”. 3 - Member touches “chấp nhận” button.	- After step 1, dialog is shown which includes: “Gọi Điện”, “Nhắn Tin”, “Xóa Liên Lạc”. - After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 3, contact “tannh” is removed from list contacts and show success message.	LI06	Passed	14/11/2014	N/A
CC14	In offline state, Member removes a MSSC contact in “Danh Bạ MSSC” screen.	1 – Member holds a MSSC contact “tannh” on “Danh Bạ MSSC” screen. 2- Member touches “Xóa Danh Bạ”.	- After step 1, dialog is shown which includes: “Gọi Điện”, “Nhắn Tin”, “Xóa Liên Lạc” - After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button.	LI06	Passed	14/11/2014	N/A

		3 - Member touches “chấp nhận” button.	- After step 3, contact “tannh” is removed from list of contacts and show success message.				
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5.2.9 Write Contact

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
WC 01	In online state, Member writes contact to NFC card with full information.	1- Member checks checkbox “Chọn tất cả”. 2 – Member puts NFC card near cellphone. 3 – Member touches “Viết danh thiếp” button.	- After step 1, show data size. - After step 2, show NFC card’s data size. - After step 3, show message “Danh thiếp đã được ghi thành công”.	LI01 M05	Passed	14/11/2014	Use Test Database: DBT2 014
WC 02	In online state, Member writes contact to NFC card with only required information.	1 – Member puts NFC card near cellphone. 2 – Member touches “Viết danh thiếp” button	- After step 1, show NFC card’s data size. - After step 2, show message “Danh thiếp đã được ghi thành công”.	LI01 M05	Passed	14/11/2014	Use Test Database: DBT2 014
WC 03	In online state, Member writes contact to NFC card	1- Member checks checkbox “Địa chỉ”, “Nghề nghiệp”.	- After step 1, show data size.	LI01 M05	Passed	14/11/2014	Use Test Database:

	with some optional information.	2 – Member puts NFC card near cellphone. 3 – Member touches “Viết danh thiếp” button.	- After step 2, show NFC card’s data size. - After step 3, show message “Danh thiếp đã được ghi thành công”.				DBT2 014
WC 04	In offline state, Member writes contact to NFC card with full information.	1- Member checks checkbox “Chọn tất cả” 2 – Member puts NFC card near cellphone. 3 – Member touches “Viết danh thiếp” button.	- After step 1, show data size - After step 2, show NFC card’s data size. - After step 3, show message: “Danh thiếp đã được ghi thành công”.	LI06 M11	Passed	14/11/2014	N/A
WC 05	In offline state, Member writes contact to NFC card with only required information.	1 – Member puts NFC card near cellphone. 2 – Member touches “Viết danh thiếp” button.	- After step 1, show NFC card’s data size. - After step 2, show message: “Danh thiếp đã được ghi thành công”.	LI06 M11	Passed	14/11/2014	N/A
WC 06	In offline state, Member writes contact to NFC card with some optional information.	1- Member checks checkbox “Địa chỉ”, “Nghề nghiệp”. 2 – Member puts NFC card near cellphone. 3 – Member touches	- After step 1, show data size. - After step 2, show NFC card’s data size. - After step 3, show message:	LI06 M11	Passed	14/11/2014	N/A

		“Viết danh thiếp” button.	“Danh thiếp đã được ghi thành công”.				
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5.2.10 Update profile

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
UP 01	In online state, Member updates profile with input all new information.	1- Member touches “Edit” image on action bar. 2 -Member inputs all new information for full name, address, company, job, email. 3 -Member touches “Lưu” button on action bar. 4 – Member touches “Chấp nhận” button on action bar.	<ul style="list-style-type: none"> - After step 1, show update profile screen. - After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 4, profile is updated. 	LI01 M05	Passed	14/11/2014	Use Test Database: DBT2 014
UP 02	In online state, Member updates profile with empty	1- Member touches “Edit” image on action bar. 2 – Input nothing for	<ul style="list-style-type: none"> - After step 1, show update profile screen. - After step 3, dialog is shown which includes: message “Cần nhập họ và tên”. 	LI01 M05	Passed	14/11/2014	Use Test Database: DBT2

	information.	full name, address, company, job, email. 3 – Member touches “Lưu” button on action bar					014
UP 03	In online state, update profile with input only full name.	1- Member touches “Edit” image on action bar. 2 – Input “huydn” for full name and empty for address, company, job, email. 3 – Member touches “Lưu” button on action bar 4 – Member touches “Chấp nhận” button on action bar	- After step 1, show update profile screen. - After step 3, dialog is shown which includes: “Chấp nhận” button and “Thoát” button. - After step 4, profile is updated.	LI01 M05	Passed	14/11/2014	Use Test Database: DBT2 014
UP 04	In online state, update profile without changing information.	1- Member touches “Edit” image on action bar. 2 – Member touches “Lưu” button on action bar.	- After step 1, show update profile screen. - After step 2, dialog is shown which includes: “Chấp nhận” button and “Thoát” button.	LI01 M05	Passed	14/11/2014	Use Test Database: DBT2 014

		3 – Member touches “Chấp nhận” button on action bar.	- After step 3, profile is updated.				
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5.2.11 Approve Friend Request

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
AFR 01	In online state, Member accepts a friend request which is existed in contact list and up to date information.	1- Member touches “Chấp nhận” button of contact “tannh” in Friend Request List.	- After step 1, contact “tannh” is removed from Friend Request list. “Friendship” image is shown on contact.	LI01 M06	Passed	14/11/2014	Use Test Database: DBT2 014
AFR 02	In online state, Member accepts a friend request which is existed in contact list and outdated information.	1- Member touches “Chấp nhận” button of contact “tannh” in Friend Request List.	- After step 1, contact “tannh” is removed from Friend Request List. “Friendship” image and “update” image are shown on contact.	LI01 M06	Passed	14/11/2014	Use Test Database: DBT2 014
AFR 03	In online state, Member	1- Member touches “Chấp nhận” button of	- After step 1, contact “tannh” is removed from Friend Request List	LI01 M06	Passed	14/11/2014	Use Test

	accepts a friend request which is not existed in contact list.	contact "tannh" in Friend Request List.	and adds to contact list.				Datab ase: DBT2 014
AFR 04	In online state, Member cancels a friend request which is not existed in contact list.	1- Member touches "Lúc khác" button of contact "tannh" in Friend Request List.	- After step 1, contact "tannh" is removed from Friend Request List.	LI01 M06	Passed	14/11/2014	Use Test Datab ase: DBT2 014

5.2.12 Send Friend Request

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
SFR 01	In online state, send friend request for a MSSC contact.	1- Member touches "send request" button on action bar. 2 – Member touches "Chấp nhận".	- After step 1, dialog is shown which includes: "Chấp nhận" button and "Hủy" button. - Show message: "Đã gửi lời mời kết bạn".	LI01 VDC06	Passed	14/11/2014	Use Test Datab ase: DBT2 014
SFR 02	In online state, send friend request for an MSSC contact which	1- Member touches "send request" button on action bar. 2 – Member touches	- After step 1, dialog is shown which includes: "Chấp nhận" button and "Hủy" button. - Show message: "Đã trở thành	LI01 VDC06	Passed	14/11/2014	Use Test Datab ase: DBT2

	is in request friend list.	"Chấp nhận".	bạn bè".				014
SFR 01	In offline state, send friend request for a MSSC contact.	1- Member touches "send request" button on action bar. 2 – Member touches "Chấp nhận".	- After step 1, dialog is shown which includes: "Chấp nhận" button and "Hủy" button. - Show message: "Không có kết nối mạng".	LI06 VDC08	Passed	14/11/2014	N/A
SFR 02	In offline state, send friend request for a MSSC contact which is in request friend list.	1- Member touches "send request" button on action bar. 2 – Member touches "Chấp nhận".	- After step 1, dialog is shown which includes: "Chấp nhận" button and "Hủy" button. - Show message: "Không có kết nối mạng".	LI06 VDC08	Passed	14/11/2014	N/A

5.2.13 Cancel Pending Request

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
CPR 01	In online state, Member cancels pending request for an MSSC contact.	1- Member touches "cancel pending request" button on action bar. 2 – Member touches "Chấp nhận".	- After step 1, dialog is shown which includes: "Chấp nhận" button and "Hủy" button. - Show message: "Đã hủy lời mời kết bạn".	LI01 VDC03	Passed	14/11/2014	Use Test Data base : DBT 201 4
CPR	In offline	1- Member touches	- After step 1, dialog is shown	LI06	Passed	14/11/2014	N/A

02	state, Member cancels pending request for a MSSC contact.	“cancel pending request” button on action bar. 2 – Member touches “Chấp nhận”.	which includes: “Chấp nhận” button and “Hủy” button. - Show message: “Đã hủy lời mời kết bạn”.	VDC07				
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5.2.14 Remove Friendship

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
RF 01	In online state, Member removes friendship of a MSSC contact.	1- Member touches “remove friendship” button on action bar. 2 – Member touches “chấp nhận”.	- After step 1, dialog is shown which includes: “Chấp nhận” button and “Hủy” button. - After step 2, show message: “Đã hủy liên kết bạn bè”.	LI01 VDC02	Passed	14/11/2014	Use Test Data base : DBT 2014
RF 02	In offline state, Member removes friendship of a MSSC contact.	1- Member touches “remove friendship” button on action bar. 2 – Member touches “chấp nhận”.	- After step 1, dialog is shown which includes: “Chấp nhận” button and “Hủy” button. - Show message: “Đã hủy liên kết bạn bè”.	LI06 VDC06	Passed	14/11/2014	

5.2.15 Read Contact

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
RC 01	In online state, Member reads a MSSC contact which is new contact.	1 – Member puts NFC card near cellphone.	- After step 1, show “Add Contact” screen includes: alias, full name, phone, address, company, job, “add” button.	LI01	Passed	14/11/2014	Use Test Data base: DBT 2014
RC 02	In online state, Member reads a MSSC contact which is existed in contact list and information different from local information.	1 – Put NFC card near cellphone.	- After step 1, show “Add Contact” screen includes: alias, full name, phone, address, company, job, “update” button.	LI01	Passed	14/11/2014	Use Test Data base: DBT 2014
RC 03	In online state, Member reads a MSSC contact which is existed in contact list and information same as local	1 – Member puts NFC card near cellphone	- After step 1, show “Add Contact” screen includes: alias, full name, phone, address, company, job,	LI01	Passed	14/11/2014	Use Test Data base: DBT 2014

	information							
RC 04	In online state, Member adds new contact.	1 – Member touches “Add” button. 2- Member touches “Không Kết bạn” button.	- After step 1, dialog “Thêm liên lạc” is shown which includes: “Kết Bạn” button, “Không Kết Bạn” button. - After step 2, show message: “Đã thêm vào danh bạ”.	LI01 RC01	Passed	14/11/2014	Use Test Data base: DBT 2014	
RC 05	In online state, Member adds new and sends request friend	1 – Member touches “Add” button. 2- Member touches “Kết bạn” button.	- After step 1, dialog “Thêm liên lạc” is shown which includes: “Kết Bạn” button, “Không Kết Bạn” button. - After step 2, show message: “Đã gửi lời mời kết bạn”.	LI01 RC01	Passed	14/11/2014	Use Test Data base: DBT 2014	
RC 06	In online state, Member update contact information from NFC card.	1 – Member touches “Update” button. 2- Member touches “Chấp nhận” button.	- After step 1, dialog “Thêm liên lạc” is shown which includes: “Kết Bạn” button, “Không Kết Bạn” button. - After step 2, show message: “Đã cập nhật mới.”	LI01 RC02	Passed	14/11/2014	Use Test Data base: DBT 2014	
RC 07	In offline state, Member reads a MSSC contact which	1 – Member puts NFC card near cellphone.	- After step 1, show “Add Contact” screen includes: alias, full name, phone, address, company, job, “add” button.	LI06	Passed	14/11/2014	N/A	

	is new contact						
RC 08	In offline state, Member reads a MSSC contact which is existed in contact list and information different from local information	1 – Member puts NFC card near cellphone.	- After step 1, show “Add Contact” screen includes: alias, full name, phone, address, company, job, “update” button.	LI06	Passed	14/11/2014	N/A
RC 09	In offline state, Member reads a MSSC contact which is existed in contact list and information same as local information.	1 – Member puts NFC card near cellphone.	- After step 1, show “Add Contact” screen includes: alias, full name, phone, address, company, and job.	LI06	Passed	14/11/2014	N/A
RC 10	In offline state, Member adds new contact.	1 – Member touches “Add” button. 2- Member touches “Không Kết bạn” button.	- After step 1, dialog “Thêm liên lạc” is shown which includes: “Kết Bạn” button, “Không Kết Bạn” button. - After step 2, show message: “Đã thêm vào danh bạ”.	LI06 RC01	Passed	14/11/2014	N/A

RC 11	In offline state, Member adds new and sends request friend.	1 – Member touches “Add” button. 2- Member touches “Kết bạn” button.	- After step 1, dialog “Thêm liên lạc” is shown which includes: “Kết Bạn” button, “Không Kết Bạn” button. - After step 2, show message “Đã gửi lời mời kết bạn”.	LI06 RC01	Passed	14/11/2014	N/A
RC 12	In offline state, Member updates contact information from NFC card.	1 – Member touches “Update” button. 2- Member touches “Chấp nhận” button.	- After step 1, dialog “Thêm liên lạc” is shown which includes: “Kết Bạn” button, “Không Kết Bạn” button. - After step 2, show message: “Đã cập nhật mới”.	LI06 RC02	Passed	14/11/2014	N/A

5.2.16 Update Alias

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
UA 01	In online state, Member updates alias of MSSC contact.	1- Member touches “edit” button on action bar. 2 – Member inputs new alias. 3- Member touches “Lưu” button.	- After step 1, show “Edit Alias” screen. - After step 3, alias is updated, show detail screen.	LI01 VDC02	Passed	14/11/2014	Use Test Data base: DBT2 014

UA 02	In online state, Member updates alias of MSSC contact and input nothing for alias.	1- Member touches “edit” button on action bar. 2 – Member inputs nothing for alias. 3- Member touches “Lưu” button.	- After step 1, show “Edit Alias” screen. - After step 3, show message: “Thông tin liên lạc được cập nhật”.	LI01 VDC02	Passed	14/11/2014	Use Test Data base: DBT2 014
UA 03	In offline state, Member updates alias of MSSC contact.	1- Member touches “edit” button on action bar. 2 –Member inputs new alias. 3- Member touches “Lưu” button.	- After step 1, show “Edit Alias” screen. - After step 3, alias is updated, and show detail screen.	LI06 VDC06	Passed	14/11/2014	N/A
UA 04	In offline state, Member updates alias of MSSC contact and input nothing for alias.	1- Member touches “edit” button on action bar. 2 – Member inputs nothing for alias. 3- Member touches “Lưu” button.	- After step 1, show “Edit Alias” screen. - After step 3, show message: “Nhập thông tin cho tên liên lạc”.	LI06 VDC06	Passed	14/11/2014	N/A

5.3 Partner Test Case

5.3.1 Check Ticket On Mobile Application

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
CT01	Partner puts the valid ticket under cellphone without choosing specific event.	1 – On login screen, partner logins. 2 – On main screen, partner put the ticket under cellphone.	- After step 1, go to “Trang chủ” screen. - After step 2, go to “Soát vé” screen with “OK” icon and “Hoàn vé” button.	N/A	Passed	14/11/2014	Use Test Database: DBT2014
CT02	Partner checks ticket by select specific check in-able event with valid ticket	1 –Partner tabs on “Trang chủ”. 2 – Partner tabs on “Sự kiện của tôi” menu item 3 – Partner chooses an event then tab on “Soát vé” button.	- After step 1, left-side navigation bar shown. - After step 2, go to “Sự kiện của tôi” screen. - After step 3, go to “Soát vé” screen. - After step 4, show	N/A	Passed	14/11/2014	Use Test Database: DBT2014

		4 – Partner puts the valid ticket under cellphone	"OK" icon, "Hoàn vé" button and ticket info.				
CT03	Partner puts invalid ticket under cellphone without choosing specific event.	1 – On login screen, partner logins. 2 – On main screen, partner puts the ticket under cellphone.	- After step 1, go to "Trang chủ" screen. - After step 2, show error Dialog: "KHÔNG PHẢI VÉ CỦA SỰ KIỆN HOẶC VÉ KHÔNG HỢP LÊ"	N/A	Passed	14/11/2014	Use Test Database: DBT2014
CT04	Partner puts valid ticket but the event is not in check-in time under cellphone without choosing specific event.	1 – On login screen, partner logins. 2 – On main screen, partner puts the ticket under cellphone.	- After step 1, go to "Trang chủ" screen. - After step 2, show error dialog: "CHƯA ĐẾN GIỜ SOÁT VÉ, VUI LÒNG THỬ LẠI SAU!"	N/A	Passed	14/11/2014	Use Test Database: DBT2014
CT05	Partner puts valid ticket but the event date is not in	1 – On Login Screen, partner do	- After step 1, go to	N/A	Passed	14/11/2014	Use Test Database:

	day under cellphone without choosing specific event.	login 2 – On main screen, partner puts the ticket under cellphone.	"Trang chủ" screen - After step 2, show error dialog: "SỰ KIỆN ĐÃ KẾT THÚC, KHÔNG THỂ SOÁT VÉ"				DBT2014
CT06	Partner checks ticket by select specific event with invalid ticket.	1 – Partner tabs on "Trang chủ". 2 – Partner tabs on "Sự kiện của tôi" menu item. 3 – Partner chooses an event then tab on "Soát vé" button. 4 – Partner puts the valid ticket under cellphone.	- After step 1, left-side navigation bar shown. - After step 2, go to "Sự kiện của tôi" screen. - After step 3, go to "Soát vé" screen. - After step 4, show error dialog: "Vé không tồn tại! Vui lòng kiểm tra lại"	N/A	Passed	14/11/2014	Use Test Database: DBT2014
CT07	Partner checks ticket by select specific event with invalid ticket.	1 – Partner tabs on "Trang chủ". 2 – Partner tabs on "Sự kiện của	- After step 1, left-side navigation bar shown. - After step 2, go to "Sự kiện của tôi"	N/A	Passed	14/11/2014	Use Test Database: DBT2014

		<p>tôi” menu item.</p> <p>3 – Partner chooses an event then tab on “Soát vé” button.</p> <p>4 – Partner puts the valid ticket under cellphone.</p>	<p>screen.</p> <ul style="list-style-type: none"> - After step 3, go to “Soát vé” screen. - After step 4, show error dialog: “Không phải vé của sự kiện này!” 			
CT08	Partner checks ticket by select specific event with checked-in ticket	<p>1 – Partner tabs on “Trang chủ”.</p> <p>2 – Partner tabs on “Sự kiện của tôi” menu item.</p> <p>3 – Partner chooses an event then tab on “Soát vé” button.</p> <p>4 – Partner puts the valid ticket under cellphone.</p>	<ul style="list-style-type: none"> - After step 1, left-side navigation bar shown. - After step 2, go to “Sự kiện của tôi” screen. - After step 3, go to “Soát vé” screen. - After step 4, show error dialog “Vé đã 	N/A	Passed	14/11/2014 Use Test Database: DBT2014

			được sử dụng rồi!"				
CT09	Partner checks ticket by select specific event with invalid ticket's quantity.	1 – Partner tabs on “Trang chủ”. 2 – Partner tabs on “Sự kiện của tôi” menu item. 3 – Partner chooses an event then tab on “Soát vé” button. 4 – Partner puts the valid ticket under cellphone.	After step 1, left-side navigation bar shown. - After step 2, go to “Sự kiện của tôi” screen. - After step 3, go to “Soát vé” screen. - After step 4, show error dialog “Vé chưa số lượng không hợp lệ!”	N/A	Passed	14/11/2014	Use Test Database: DBT2014
CT10	Partner checks ticket by select specific check in-able event with deleted ticket	1 – Partner tabs on “Trang chủ”. 2 – Partner tabs on “Sự kiện của tôi” menu item. 3 – Partner chooses an event	- After step 1, left-side navigation bar shown. - After step 2, go to “Sự kiện của tôi” screen.	N/A	Passed	14/11/2014	Use Test Database: DBT2014

		<p>then tab on “Soát vé” button.</p> <p>4 – Partner puts the valid ticket under cellphone.</p>	<ul style="list-style-type: none"> - After step 3, go to “Soát vé” screen. - After step 4, show error dialog “Vé không tồn tại! Vui lòng kiểm tra lại” 				
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5.3.2 Search Event On Mobile

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
SEM 01	Partner searches event	<p>1 – On the home screen, Partner tabs on “Search” icon on Action Bar.</p> <p>2 – Partner inputs name of event on search textbox.</p> <p>3 – Clicks “Search” Icon.</p>	<ul style="list-style-type: none"> - After step 1, search text box will be shown. - After step 3, Go to “Search result” screen, show results by list on ascending order. 	N/A	Passed	14/11/2014	N/A

Table 15: Search Event On Mobile Test Case

5.3.3 Request Change

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
ECE 01	Partner edit created event	<p>1 – On the dashboard screen, partner clicks on “Quản lý sự kiện” link.</p> <p>2 – Partner selects event and clicks on “Cập nhật” button at the last column.</p> <p>3 – Partner selects field to change.</p> <p>4 – Partner clicks on “Cập nhật” button of popup.</p>	<ul style="list-style-type: none"> - After step 1, Go to “Quản lý sự kiện” page. - After step 2, show update's popup on screen. -After step 4, update's popup close and show message: “Gửi yêu cầu thành công”. 	N/A	Passed	14/11/2014	Use Test Data base : DBT 2014

Table 16: Request Change Test Case

5.3.4 Create Event

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
CE01	Partner inputs event name less than minimum length.	<p>1 – On the dashboard screen, partner clicks on “Quản lý sự kiện” link.</p> <p>2 – Partner clicks on “Tạo sự kiện mới” link.</p> <p>3 – Partner inputs to Event name field lower than minimum length.</p>	-After step 3, show error message: “Tối thiểu 6 ký tự”.	N/A	Passed	14/11/2014	N/A
CE02	Event name is blank.	<p>1 – On the dashboard screen, partner clicks on “Quản lý sự kiện” link.</p> <p>2 – Partner clicks on “Tạo sự kiện mới” link.</p> <p>3 – Event name is not filled.</p>	-After step 3, show error message: “Vui lòng nhập tên sự kiện”	N/A	Passed	14/11/2014	N/A

			của bạn".				
CE02	Event place is blank.	1 – On the dashboard screen, partner clicks on “Quản lý sự kiện” link. 2 – Partner clicks on “Tạo sự kiện mới” link. 3 – “Địa điểm” is not filled.	-After step 3, show error message: “Vui lòng nhập địa chỉ của sự kiện”.	N/A	Passed	14/11/2014	N/A
CE03	“Lĩnh vực” dropdown list is not selected.	1 – On the dashboard screen, partner clicks on “Quản lý sự kiện” link. 2 – Partner clicks on “Tạo sự kiện mới” link. 3 – “Lĩnh vực” is not selected.	-After step 3, show error message: “Vui lòng chọn lĩnh vực của sự kiện”.	N/A	Passed	14/11/2014	N/A
CE04	“Kỹ năng” dropdown list	1 – On the dashboard		N/A	Passed	14/11/2014	N/A

	is not selected.	screen, partner clicks on “Quản lý sự kiện” link. 2 – Partner clicks on “Tạo sự kiện mới” link. 3 – “Kỹ năng” is not selected.	-After step 3, show error message: “Vui lòng chọn kỹ năng của sự kiện”.				
CE05	“Độ tuổi” dropdown list is not selected.	1 – On the dashboard screen, partner clicks on “Quản lý sự kiện” link. 2 – Partner clicks on “Tạo sự kiện mới” link. 3 – “Độ tuổi” is not selected.	-After step 3, show error message “Vui lòng chọn độ tuổi của sự kiện”.	N/A	Passed	14/11/2014	N/A
CE06	Partner clicks “Xóa” button when Ticket Range table have only one row	1 – On the dashboard screen, partner clicks on “Quản lý sự kiện” link. 2 – Partner clicks on		N/A	Passed	14/11/2014	N/A

		<p>“Tạo sự kiện mới” link.</p> <p>3 – Partner clicks on “Xóa” button on last row of ticket range table.</p>	<p>-After step 3, show error message “Phải có ít nhất một loại vé”.</p>				
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5.3.5 Update Organization Profile

ID	Test Case Description	Test Case Procedure	Expected output	Inter-test Case Dependence	Result	Test Date	Note
UOP01	Phone number is empty.	<p>1 – Partner logins into the website.</p> <p>2 – Partner clicks on “Cập nhật thông tin” link on menu.</p> <p>3 – Phone number textbox is empty.</p> <p>4 – Partner clicks on “Cập nhật” button.</p>	<p>- After step 2, navigate to “Cập nhật thông tin” page.</p> <p>-After step 4, show message under Phone textbox: “Bạn phải nhập số điện thoại di</p>	N/A	Passed	14/11/2014	N/A

			động”.				
UOP02	Phone number is not match phone format.	<p>1 – Partner logins into the website.</p> <p>2 – Partner clicks on “Cập nhật thông tin” link on menu.</p> <p>3 – Partner inputs invalid format phone number into Phone textbox</p> <p>4 – Partner clicks on “Cập nhật” button.</p>	<p>- After step 2, navigate to “Cập nhật thông tin” page.</p> <p>-After step 4, show message under Phone textbox: “Định dạng đi động +84XXXXXXXXXX hoặc 0XXXXXXXXX”.</p>	N/A	Passed	14/11/2014	N/A
UOP03	Email is empty.	<p>1 – Partner logins into the website.</p> <p>2 – Partner clicks on “Cập nhật thông tin” link on menu.</p> <p>3 – Email textbox is empty.</p> <p>4 – Partner clicks on</p>	<p>- After step 2, navigate to “Cập nhật thông tin” page.</p> <p>-After step 4, show message</p>	N/A	Passed	14/11/2014	N/A

		“Cập nhật” button.	under Email textbox: “Vui lòng nhập địa chỉ email của bạn”.				
UOP04	Organization is empty.	1 – Partner logins into the website. 2 – Partner clicks on “Cập nhật thông tin” link on menu. 3 – Organization textbox is empty 4 – Partner clicks on “Cập nhật” button.	<ul style="list-style-type: none"> - After step 2, navigate to “Cập nhật thông tin” page. -After step 4, show message under Organization textbox: “Vui lòng nhập tên công ty/ tổ chức”. 	N/A	Passed	14/11/2014	N/A
UOP05	Address is empty.	1 – Partner logins into the website. 2 – Partner clicks on “Cập nhật thông tin” link on menu. 3 – Address textbox is empty 4 – Partner clicks on	<ul style="list-style-type: none"> - After step 2, navigate to “Cập nhật thông tin” page. -After step 4, show message 	N/A	Passed	14/11/2014	N/A

		“Cập nhật” button. under Address textbox: “Vui lòng nhập địa chỉ”.					
UOP06	Email is in wrong format.	1 – Partner logins into the website. 2 – Partner clicks on “Cập nhật thông tin” link on menu. 3 – Partner inputs invalid format Email into Email textbox 4 – Partner clicks on “Cập nhật” button.	<ul style="list-style-type: none"> - After step 2, navigate to “Cập nhật thông tin” page <ul style="list-style-type: none"> -After step 4, show message under Email textbox: “Định dạng email không hợp lệ”. 	N/A	Passed	14/11/2014	N/A
UOP07	Phone used by other user	1 – Partner logins into the website. 2 – Partner clicks on “Cập nhật thông tin” link on menu. 3 – Partner inputs a phone number which is currently used by other	<ul style="list-style-type: none"> - After step 2, navigate to “Cập nhật thông tin” page. 	N/A	Passed	14/11/2014	N/A

		<p>user into Phone textbox</p> <p>4 – Partner clicks on “Cập nhật” button.</p>	<p>-After step 4, show message under Phone textbox: “Số điện thoại di động này đã được đăng ký”.</p>				
UOP08	Organization length is less than min length.	<p>1 – Partner logins into the website.</p> <p>2 – Partner clicks on “Cập nhật thông tin” link on menu.</p> <p>3 – Partner inputs a string with length is 5 into Organization textbox.</p> <p>4 – Partner clicks on “Cập nhật” button.</p>	<p>- After step 2, navigate to “Cập nhật thông tin” page.</p> <p>-After step 4, show message under Organization textbox: “Tối thiểu 6 ký tự”.</p>	N/A	Passed	14/11/2014	N/A
UOP09	Address length is less than min length.	<p>1 – Partner logins into the website.</p> <p>2 – Partner clicks on “Cập nhật thông tin” link</p>	<p>- After step 2, navigate to “Cập</p>	N/A	Passed	14/11/2014	N/A

	<p>on menu.</p> <p>3 – Partner input a string with length is 5 into Address textbox.</p> <p>4 – Partner clicks on “Cập nhật” button.</p>	<p>nhật thông tin” page</p> <p>-After step 4, show message under Address textbox: “Tối thiểu 6 ký tự”.</p>				
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5.4 Staff Test Case

5.4.1 Approve Change

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
AC01	Staff approves change from partner.	<p>1- Staff clicks on “Quản lý sự kiện” link on menu.</p> <p>2 – Staff selects request and clicks on “Duyệt” button.</p>	<p>- After step 1, navigate to “Quản lý sự kiện” page.</p> <p>- After step 2, change state of request in column “Trạng thái”. State of request change from “Pending” into “Approved”</p>		Passed	14/11/2014	Use Test Database: DBT2014

5.4.2 Manage Info Values

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
MIV 01	Staff views list of info values.	1- Staff clicks on “Quản lý thuật toán” link on menu.	- After step 1, navigate to “Quản lý thuật toán” page. The page contains 3 tabs: “Lĩnh vực”, “Độ tuổi”, “Kĩ năng” with 3 records per group.	N/A	Passed	14/11/2014	Use DBT 2014
MIV 02	Staff adds new info values with valid data.	1- Staff clicks on “Quản lý thuật toán” link on menu. 2 – Staff input data: + “Lĩnh vực” + “NEWNEW” + 100 Click “Thêm” button.	- After step 1, navigate to “Quản lý thuật toán” page. The page contains 3 tabs: “Lĩnh vực”, “Độ tuổi”, “Kĩ năng” with 3 records per group. - After step 2, tabs “Lĩnh vực” has new record (“NEWNEW”, 100, “Đang sử dụng”). Show message “Đã thêm thành công”	N/A	Passed	14/11/2014	Use DBT 2014
MIV 03	Staff adds new info values with invalid data.	1- Staff clicks on “Quản lý thuật toán” link on menu. 2 – Staff input data: + “Lĩnh vực” + “OLDOLD” + 100 Click “Thêm” button.	- After step 1, navigate to “Quản lý thuật toán” page. The page contains 3 tabs: “Lĩnh vực”, “Độ tuổi”, “Kĩ năng” with 3 records per group. - After step 2, show error message: “Tên đã được sử dụng”.	N/A	Passed	14/11/2014	Use DBT 2014
MIV 04	Staff adds new info values	1- Staff clicks on “Quản lý thuật toán” link on	- After step 1, navigate to “Quản lý thuật toán” page. The page contains	N/A	Passed	14/11/2014	Use DBT

	with invalid data.	menu. 2 – Staff input data: + “Lĩnh vực” + “NEWNEW” + 112 Click “Thêm” button.	3 tabs: “Lĩnh vực”, “Độ tuổi”, “Kĩ năng” with 3 records per group. - After step 2, show error message: “Lớn nhất là 100”.				2014
MIV 05	Staff adds new info values with invalid data.	1- Staff clicks on “Quản lý thuật toán” link on menu. 2 – Staff input data: + “Lĩnh vực” + “NEW” + 100 Click “Thêm” button.	- After step 1, navigate to “Quản lý thuật toán” page. The page contains 3 tabs: “Lĩnh vực”, “Độ tuổi”, “Kĩ năng” with 3 records per group. - After step 2, show error message: “Tối thiểu 6 kí tự”.	N/A	Passed	14/11/2014	Use DBT 2014

5.4.3 Cluster Events

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
CLE01	Staff cluster the system by manually input K.	1- Staff clicks on “Quản lý thuật toán” link on menu. 2 – Staff inputs K = 3 and clicks “Phân nhóm” button.	- After step 1, navigate to “Quản lý thuật toán” page. The page contains 3 tabs: “Lĩnh vực”, “Độ tuổi”, “Kĩ năng” with 3 records per group. - After step 2, events will be cluster into 3 groups. Display 3 panels contain cluster information.	N/A	Passed	14/11/2014	Use DBT 2014

CLE02	Staff cluster the system K calculated by the system.	<p>1- Staff clicks on “Quản lý thuật toán” link on menu.</p> <p>2 – Staff chooses auto calculate K and clicks “Phân nhóm” button.</p>	<ul style="list-style-type: none"> - After step 1, navigate to “Quản lý thuật toán” page. The page contains 3 tabs: “Lĩnh vực”, “Độ tuổi”, “Kĩ năng” with 3 records per group. - After step 2, events will be cluster into 2 groups. Display 2 panels contain cluster information. 	N/A	Passed	14/11/2014	Use DBT 2014
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5.4.4 Export Data

ID	Test Case Description	Test Case Procedure	Expected Output	Inter-Test Case Dependence	Result	Test Date	Note
ED01	Staff exports events into excel file format.	<p>1- Staff clicks on “Quản lý thuật toán” link on menu.</p> <p>2 – Staff clicks “Tải về kết quả” link.</p>	<ul style="list-style-type: none"> - After step 1, navigate to “Quản lý thuật toán” page. The page contains 3 tabs: “Lĩnh vực”, “Độ tuổi”, “Kĩ năng” with 3 records per group. - After step 2, export an excel file contains events data. Name of excel file is: “DataReport_YYYYMMDDHHmm” of current test time. 	N/A	Passed	14/11/2014	N/A

F. Software User's Manual

6. Installation Guide

6.1 Setting up environment at server side

The following software must be installed into the server machine:

6.1.1 Hardware requirements

Personal computers for developing with the minimum configuration:

- CPU Intel Xeon 2.0GHz.
- 2GB of RAM.
- 10GB of hard disk.
- Wi-Fi Internet (> 2Mbps).

6.1.2 Software requirements

- Web Server: Internet Information System – IIS 7.5 with MVC5 enable.
- Microsoft Windows Server 2008 R2 Enterprise (Service Pack 1 64 bit): operating system.
- .Net Framework 4.5.1
- SQL Server 2008 R2: used to create and manage the database for web application.

6.1.3 Mobile Requirement

- Android 4.4.2.

6.2 Deployment at server side

6.2.1 Prepare deployment package

- Copy the deployment package (40.8MB) to a folder on the server.
- For example: C:\mssc

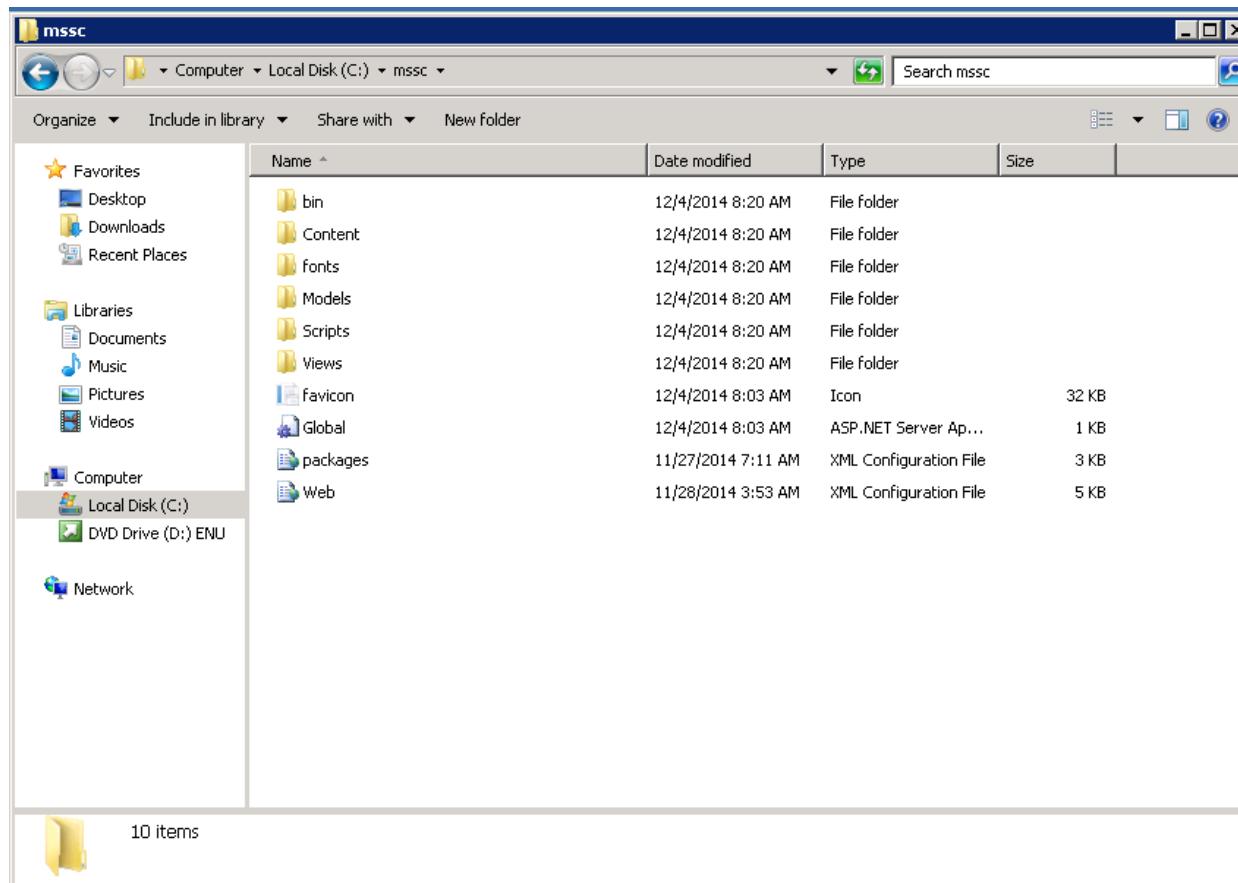


Figure 171: Prepare deployment package

6.2.2 Deploy database

- Open Microsoft SQL Server Management Studio, connect database.
- Server name: the host server IPv4 address or SQL instance name of the machine.
- Login: account that have DDL and DML authority.
- Password: password of the account.

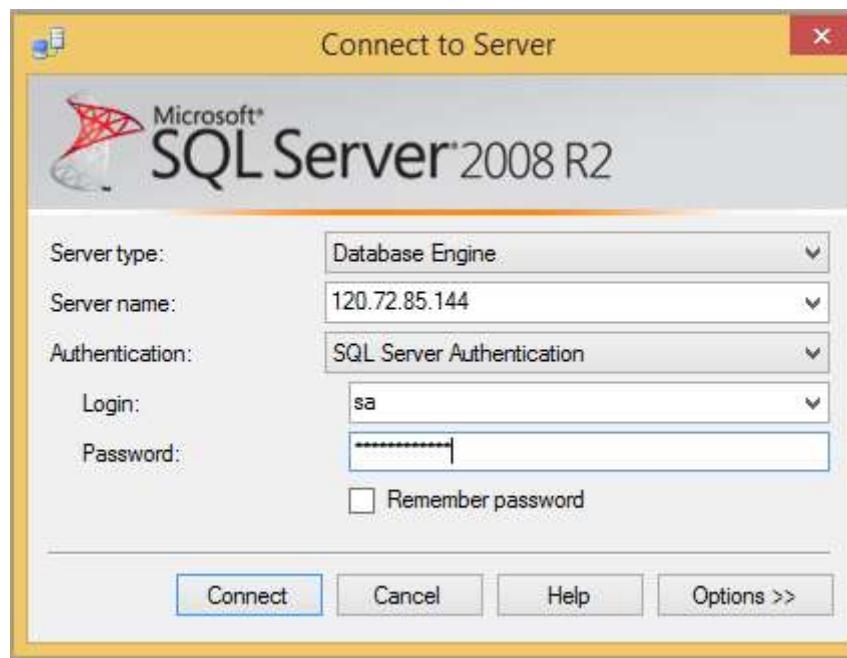


Figure 172: Connect Database

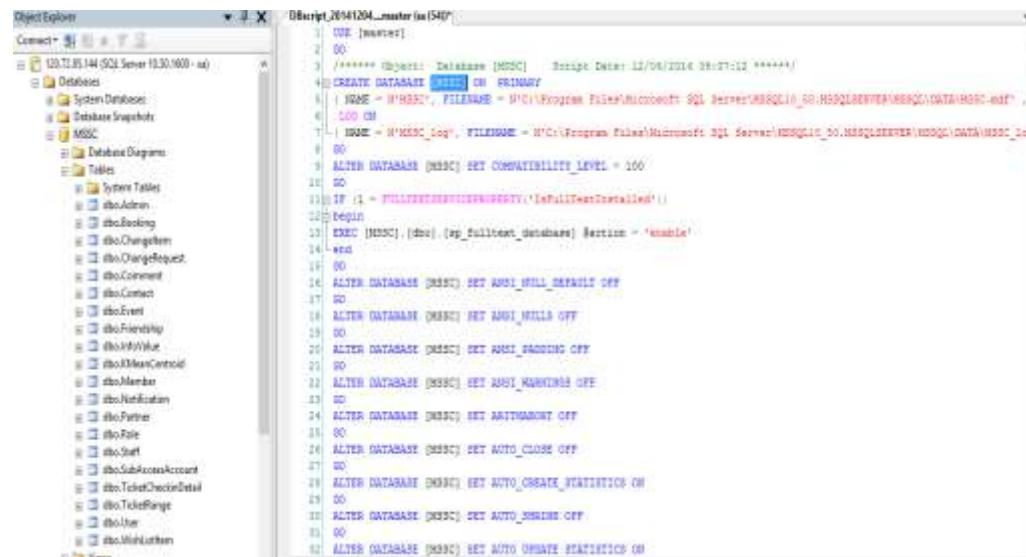
- Open DBscript.sql file.
- Go to line 5 and 7, set the correct path of SQL Management setup.

```
4: CREATE DATABASE [MSSC] ON PRIMARY
5:   ( NAME = N'MSSC', FILENAME = N'C:\Program Files\Microsoft SQL Server\MSSQL10_50.MSSQLSERVER\MSSQL\DATA\MSSC.mdf' ,
6:     LOG ON
7:   ( NAME = N'MSSC_log', FILENAME = N'C:\Program Files\Microsoft SQL Server\MSSQL10_50.MSSQLSERVER\MSSQL\DATA\MSSC_log.ldf'
8: GO
```

- Go to line 188, and set the value of admin account.

```
187 --ADMIN Password
188 INSERT [dbo].[User] ([Username], [Password], [Email], [RoleID], [Avatar], [IsActive], [CreateDate], [ActiveDate])
189
```

- Execute script file



The screenshot shows the Object Explorer window on the left and the Script window on the right. The Object Explorer displays a tree structure of databases, including System Databases, Database Snapshots, and the MSSC database, which contains several tables such as dbo.Admin, dbo.Billing, dbo.ChangeItem, dbo.ChangeRequest, dbo.Comment, dbo.Contact, dbo.Event, dbo.Friendship, dbo.IpValue, dbo.MemberCentric, dbo.Member, dbo.Notification, dbo.Partner, dbo.Role, dbo.Staff, dbo.SubAccount, dbo.TicketCheckDetail, dbo.TicketRange, dbo.User, and dbo.Workathon. The Script window contains a T-SQL script titled 'DBScript_2041204...master (in [MSD])' with various database creation and modification statements.

```

1 USE [master]
2 GO
3 /*===== Object: Database [MSSC] Script Date: 12/06/2014 08:27:12 =====*/
4 CREATE DATABASE [MSSC] ON PRIMARY
5   FILENAME = N'C:\Program Files\Microsoft SQL Server\MSSQL10_50.MSSQLSERVER\MSSQL\DATA\MSSC.mdf' ,
6   LOG FILE
7   FILENAME = N'MSSC_log', FILENAME = N'C:\Program Files\Microsoft SQL Server\MSSQL10_50.MSSQLSERVER\MSSQL\DATA\MSSC_log
8 GO
9 ALTER DATABASE [MSSC] SET COMPATIBILITY_LEVEL = 100
10 GO
11 IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled'))
12 BEGIN
13   EXEC [MSSC].[dbo].[xp_fulltext_database] @action = 'enable'
14 END
15 GO
16 ALTER DATABASE [MSSC] SET ANSI_NULL_DEFAULT OFF
17 GO
18 ALTER DATABASE [MSSC] SET ANSI_NULLS OFF
19 GO
20 ALTER DATABASE [MSSC] SET ANSI_PADDING OFF
21 GO
22 ALTER DATABASE [MSSC] SET ANSI_WARNINGS OFF
23 GO
24 ALTER DATABASE [MSSC] SET ARITHABORT OFF
25 GO
26 ALTER DATABASE [MSSC] SET AUTO_CLOSE OFF
27 GO
28 ALTER DATABASE [MSSC] SET AUTO_CREATE_STATISTICS ON
29 GO
30 ALTER DATABASE [MSSC] SET AUTO_SHRINK OFF
31 GO
32 ALTER DATABASE [MSSC] SET AUTO_UPDATE_STATISTICS ON

```

Figure 173: Deploy schema and data

- Check the existed of MSSC database (20 tables) to complete.

6.2.3 Configure Server before deploy

- Open the Internet Information System Manager.
- Change the .NET Framework version to 4.0.

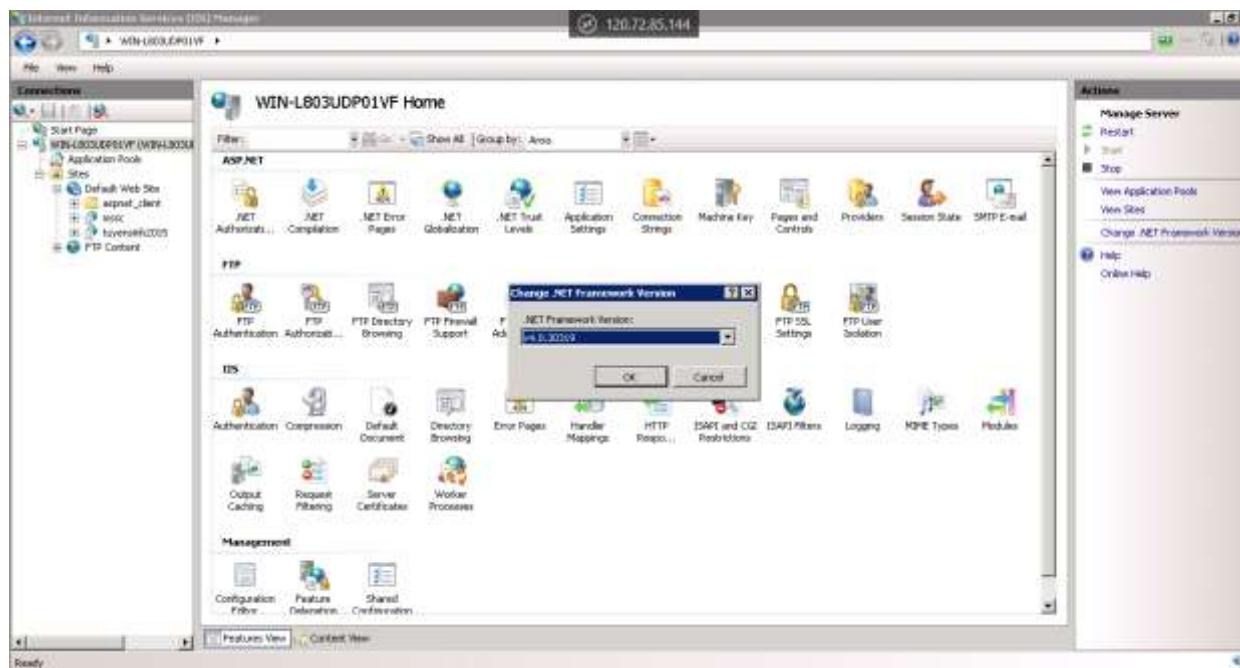


Figure 174: Configure IIS Framework Version

6.2.4 Deploy web application on server

- Change the connection string in C:\mssc\Web.config line 81.
- Replace the user id, password, data source parts with appropriate data.

```
;data source=WIN-L803UDP01VF;initial catalog=MSSC;user id=sa;password=P@ssword
```

- Right click as Sites. Choose “Add Web Site”.



Figure 175: IIS control panel

- Enter site name. Choose Application Pool as ASP.NET 4.0
- Select the path as the folder C:\mssc

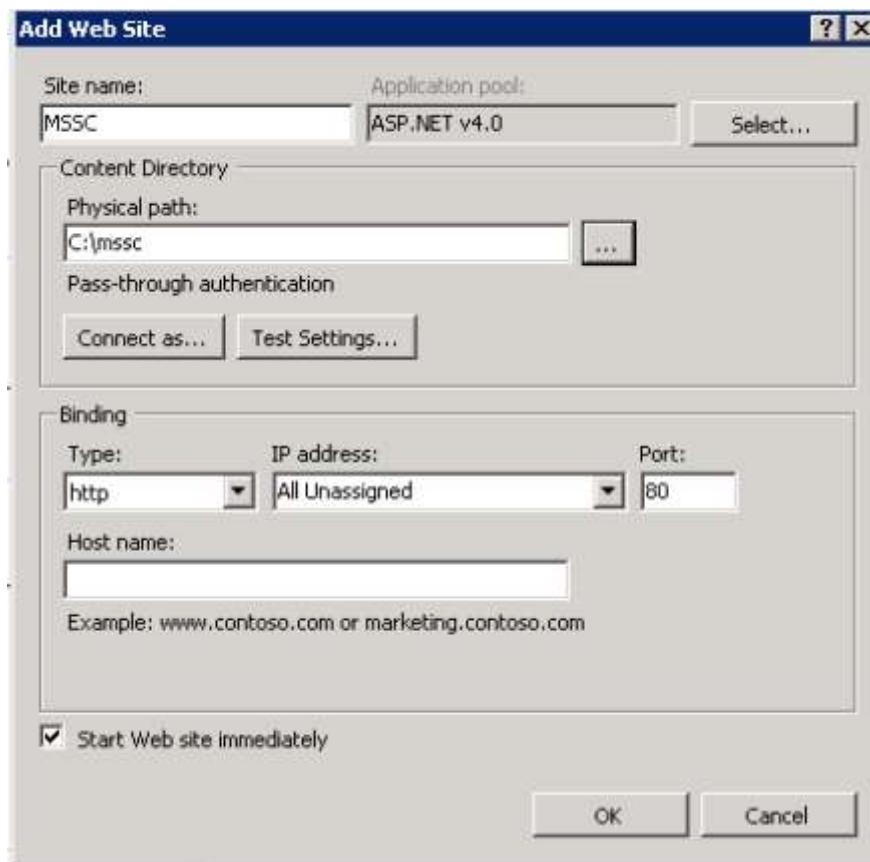
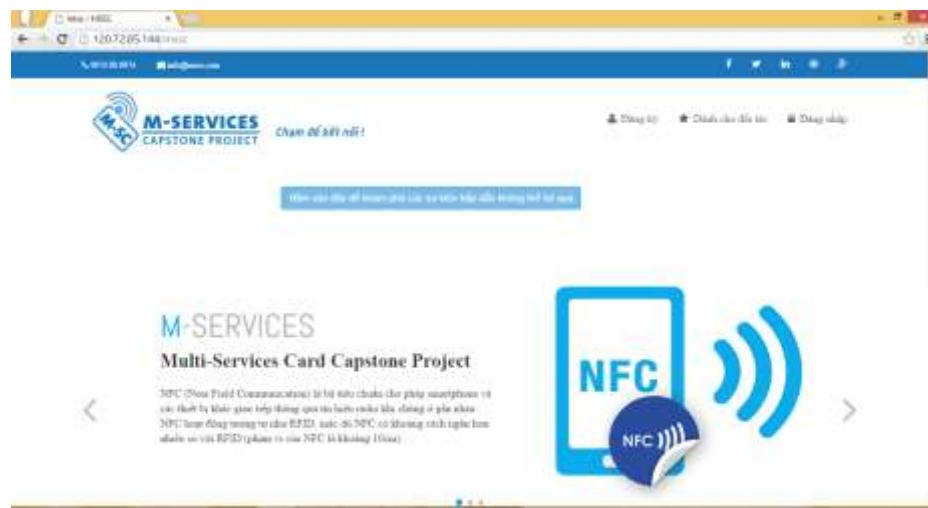


Figure 176: Add Web Site in IIS

- Press ok to finish the process
- Test localhost on server to see if deployment successful. Open <http://localhost/mssc>



- Test web on client to see if deployment successful. Open <http://120.72.85.144/mssc>



6.3 Setting up the environment at client side

6.3.1 Setting up for computer

- The client devices need to have one of the following browsers to access the website:
 - Google Chrome.
 - Firefox.

6.3.2 Setting up for Android device

- Change setting to install unknown source apk.
- Connect to the same network as the server



Figure 177: Change Settings

- Use browser and goto address <http://www.mediafire.com/download/ka1l9qh5en3sey4/SmartB.apk>, download the apk file.

Figure 178: Download app

Click Install to install the app.

Figure 179: Install App

7. User Guide

7.1 Mobile Guide

7.1.1 Contact Mobile Guide

7.1.1.1 Login

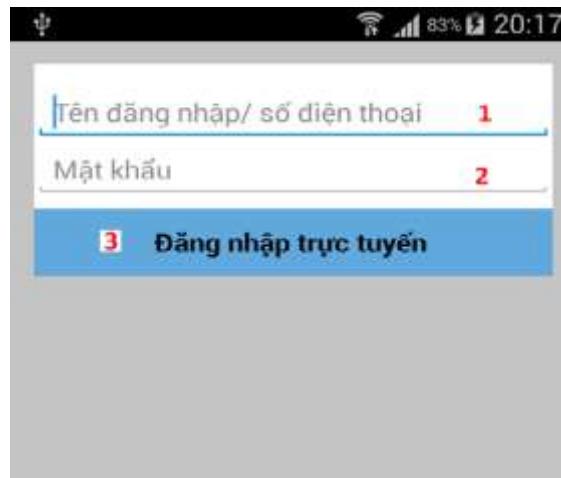


Figure 180: Login Online

Step	Description
1	Member fills “Tên đăng nhập” and “Mật khẩu”.
2	Member touches button “Đăng nhập trực tuyến” to log into system in online mode.

Table 17: Login Online



Figure 181: Login Offline

Step	Description
1	Member fills “Tên đăng nhập” and “Mật khẩu”.
2	Member touches button “Đăng nhập ngoại tuyến” log into system in offline mode.

Table 18: Login Offline

7.1.1.2 Show main menu

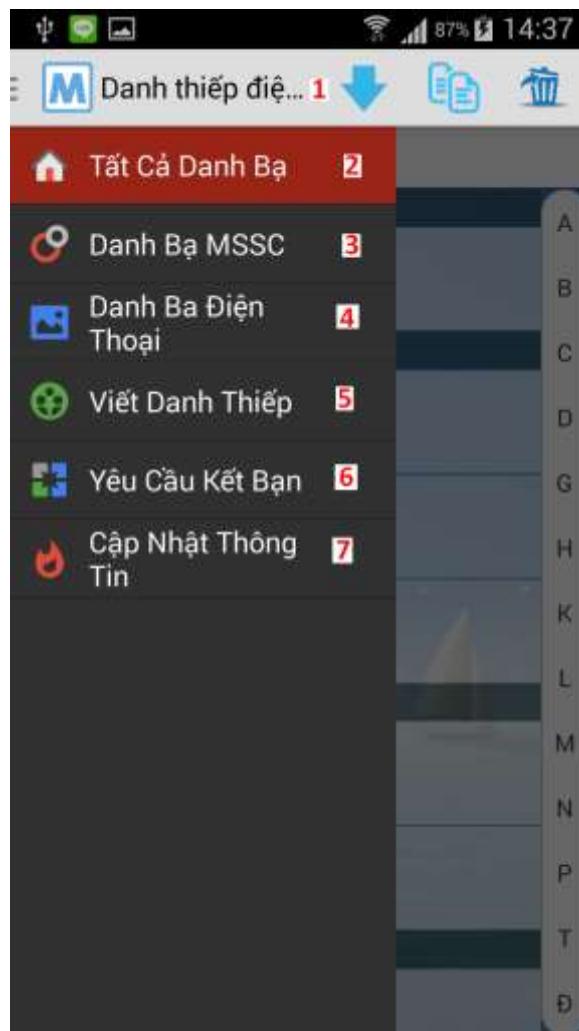


Figure 182: Main Menu

Step	Description
1	Member touches on “MSSC” to show main menu.
2	Member touches on “Tất Cả Danh Bạ” to go to “Total Contact” screen.
3	Member touches on “Danh Bạ MSSC” to go to “MSSC Contact” screen.
4	Member touches on “Danh Bạ Điện Thoại” to go to “Android Contact” screen.
5	Member touches on “Viết Danh Thiếp” to go to “Write Card” screen.
6	Member touches on “Lời Mời Kết Bạn” to go to “Request friend List” screen.
7	Member touches on “Cập Nhật Thông Tin” to go to “Update Profile” screen.

Table 19: Show Main Menu

7.1.1.3 View “Total Contact” Screen



Figure 183: Total Contact

Step	Description
1	Member touches “Update” image to go to “Update Contact” screen.
2	Member touches “Save” image to go to “Save To Phone” screen.
3	Member touches “Remove” image to go to “Remove Contact screen”
4	Member touches contact to go to “Detail Information” screen or hold it to remove a contact, make phone call or send message.

Table 20: Total Contact

7.1.1.4 View Contact Detail



Figure 184: Contact Detail

Step	Description
1	Member touches on “A-Tuyen” to go to “Total Contact” screen.
2	Member touches on “Add Friend” image to send friendship request.
3	Member touches on “Update” image to update alias.
4	Member touches on phone number to make a call or send message or remove contact.

Table 21: Contact Detail

7.1.1.5 View Friend Contact Detail



Figure 185: Friend Contact Detail

Step	Description
1	Member touches on “A-Tuyen” to go to “Total Contact” screen.
2	Member touches on “Unfriend” image to remove friendship.
3	Member touches on “Update” image to update alias.
4	Member touches on phone number to make a call or send message or remove contact.

Table 22: Friend Contact Detail

7.1.1.6 Update Alias



Figure 186: Update Alias

Step	Description
1	Member inputs Alias in textbox.
2	Member touches on “Lưu” button to update alias.
3	Member touches on “Thoát” button to exit update alias screen.

Table 23: Update Alias

7.1.1.7 Communicate Contact



Figure 187: Communicate Contact

Step	Description
1	Member touches on “Gọi Điện” to make a call.
2	Member touches on “Nhắn Tin” to send message.

Table 24: Communicate Contact

7.1.1.8 Remove Contact



Figure 188: Remove Contact

Step	Description
1	Member touches on checkbox to check on contact to remove.
2	Member touches on "Xóa" to remove checked contacts.
3	Member touches on "Thoát" button to exit "Remove Contact" screen.

Table 25: Remove Contact

7.1.1.9 Save To Phone

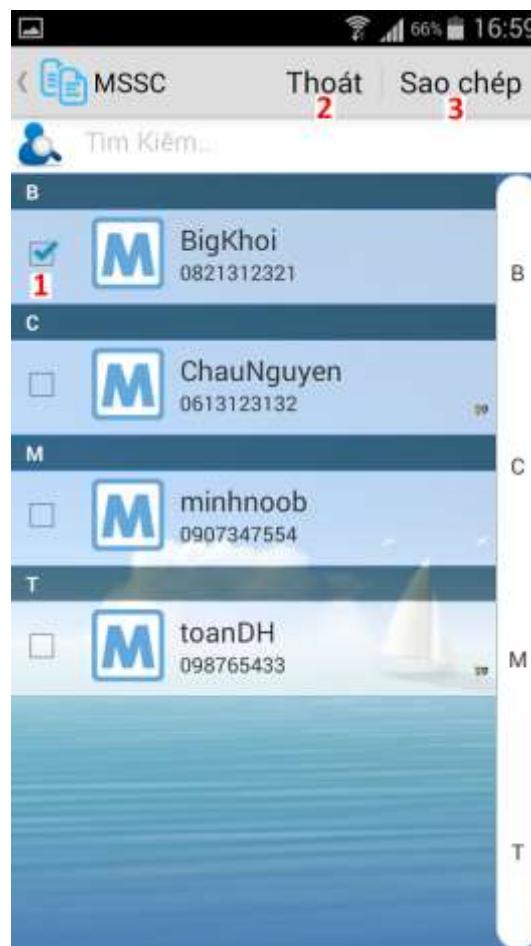


Figure 189: Save To Phone

Step	Description
1	Member touches on checkbox to check on copied contact.
2	Member touches on “Sao Chép” to copy checked contacts.
3	Member touches on “Thoát” button to exit “Save To Phone” screen.

Table 26: Save To Phone

7.1.1.10 Update Contact

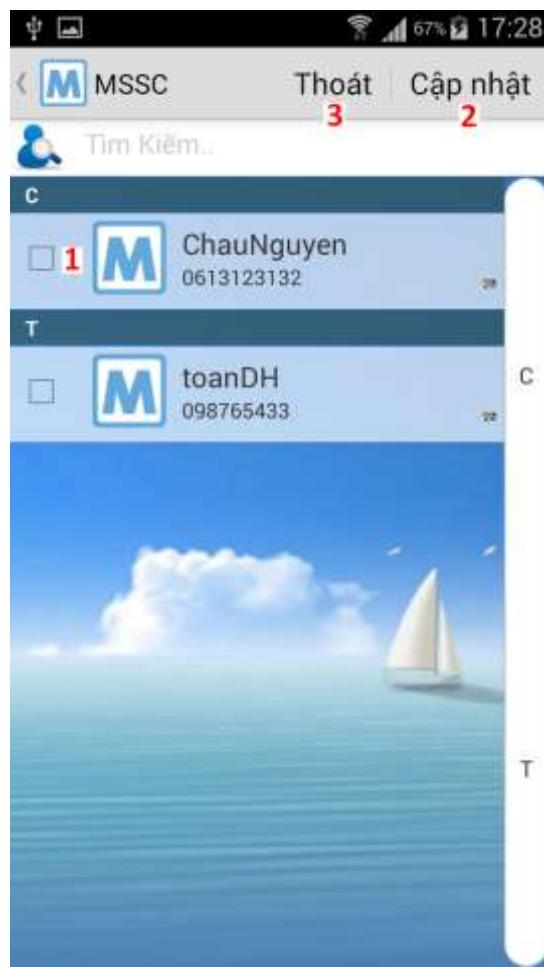


Figure 190: Update Contact

Step	Description
1	Member touches on checkbox to check on updated contact.
2	Member touches on “Sao Chép” to update checked contacts.
3	Member touches on “Thoát” button to exit “Update Contact” screen.

Table 27: Update Contact

7.1.1.11 Write Card



Figure 191: Write Card

Step	Description
1	Member touches on “Update Profile” to go to “Update Profile” screen.
2	Member touches on “Chọn tất cả” checkbox to check all the information.
3	Member touches on “Công ty” checkbox to check the information.
4	Member touches on “Địa Chỉ” checkbox to check the information.
5	Member touches on “Nghề nghiệp” checkbox to check the information.
6	Member touches on “Hộp thư” checkbox to check the information.
7	Member touches on “Viết Danh Thiếp” button to write contact to NFC Card.

Table 28: Write Card

7.1.1.12 Update Profile

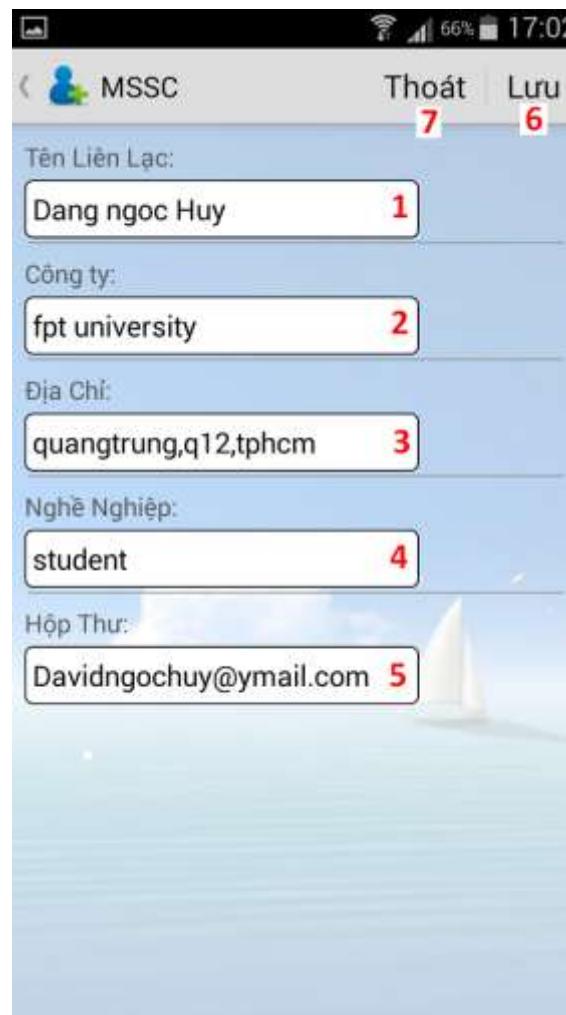


Figure 192: Update Profile

Step	Description
1	Member inputs full name in textbox.
2	Member inputs company in textbox.
3	Member inputs address in textbox.
4	Member inputs job in textbox.
5	Member inputs email in textbox.
6	Member touches on “Lưu” button to update information.
7	Member touches on “Thoát” button to exit “Update Profile” screen.

Table 29: Update Profile

7.1.1.13 Add Contact



Figure 193: Add Contact

Step	Description
1	Member inputs alias for contact.
2	Member touches on “Add” button to add new contact.

Table 30: Add Contact

7.1.1.14 Update Contact Information From NFC Card



Figure 194: Update Contact From NFC Card

Step	Description
1	Member touches on “Update” button to update information for contact from NFC card.

Table 31: Update Contact From NFC Card

7.1.1.15 Approve Friendship Request



Figure 195: Approve Friendship Request

Step	Description
1	Member touches on “Xác Nhận” button to accept friendship request.
2	Member touches on “Tù Chối” button to cancel friendship request.

Table 32: Approve Friendship Request

7.1.2 Member Event Mobile Guide

7.1.2.1 Login



Figure 196: Login Mobile

Step	Description
1	Fill “Tên đăng nhập” and “Mật khẩu”
2	Touch button “Đăng nhập”

Table 33: Login Mobile Steps

7.1.2.2 Show main menu



Figure 197: Show Main Menu

Step	Description
1	Touch on “Trang chủ” to show main menu
2	Touch on “Sự kiện của tôi” to go to booked events screen.
3	Touch on “Thiết lập” to go to setting screen.
4	Touch on “Trợ giúp” to go to help screen.
5	Touch on “Thông tin” to go to about us screen.

Table 34: Show Main Menu

7.1.2.3 View booked events



Figure 198: View Book Events

Step	Description
2	Touch on “Sự kiện của tôi” to show main menu.
3	Touch on  to go to search.
4	Touch on “Ghi vé” to go to write ticket screen.
5	Touch on “Chi tiết sự kiện” to go to event detail screen.

Table 35: View Book Events

7.1.2.4 View Booked Event Detail



Figure 199: View Booked Event Detail

Step	Description
1	Touch on "Ghi vé" to go to write ticket screen.

Table 36: View Booked Event Detail

7.1.2.5 View Ticket Detail



Figure 200: View Ticket Detail

Step	Description
1	Touch on “Q” to refresh data.
2	Touch on “Ghi vé” to write ticket
3	Touch on “Xóa” to delete wrote ticket.

Table 37: View Ticket Detail

7.1.2.6 Write Ticket

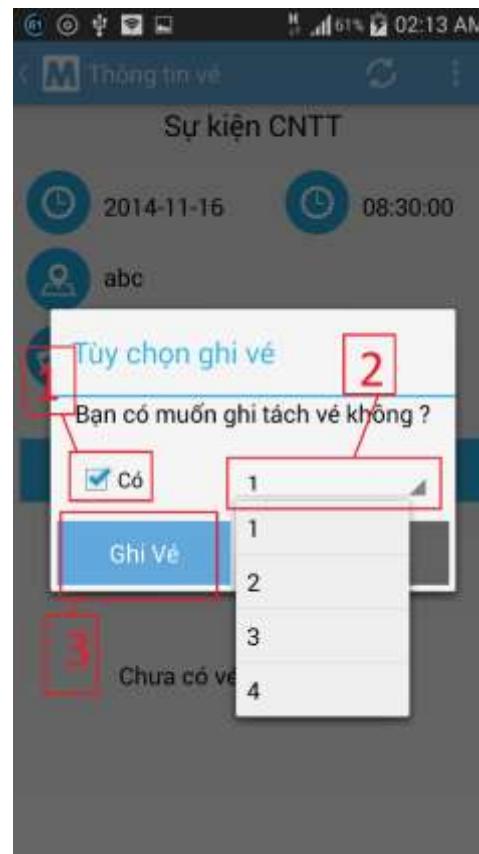


Figure 201: Write Ticket

Step	Description
1	Check the checkbox if want to write ticket separately
2	Select quantity
3	Touch on “Ghi vé” to write ticket

Table 38: Write Ticket

7.1.3 Partner Event Mobile Guide

7.1.3.1 View Created Events

View In-day events

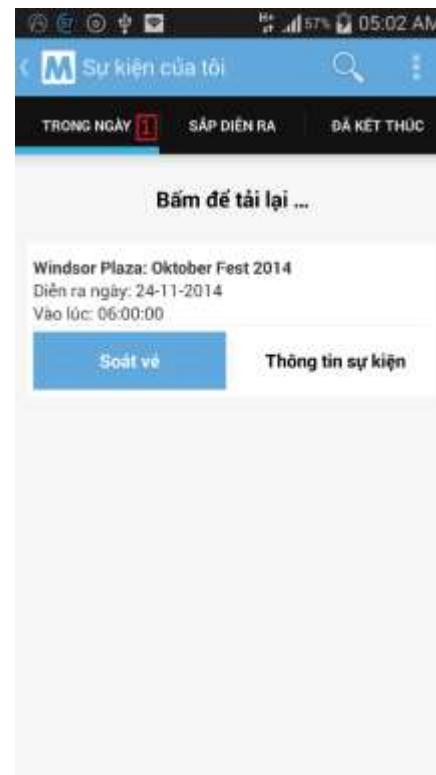


Figure 202: View In-day Events

Step	Description
1	Touch on “Trong ngày” to view in-day event list

Table 39: View In-day Events

View Future events



Figure 203: View Future Events

Step	Description
1	Touch on “Sắp diễn ra” to view future event list

Table 40: View Future Event

View ended events

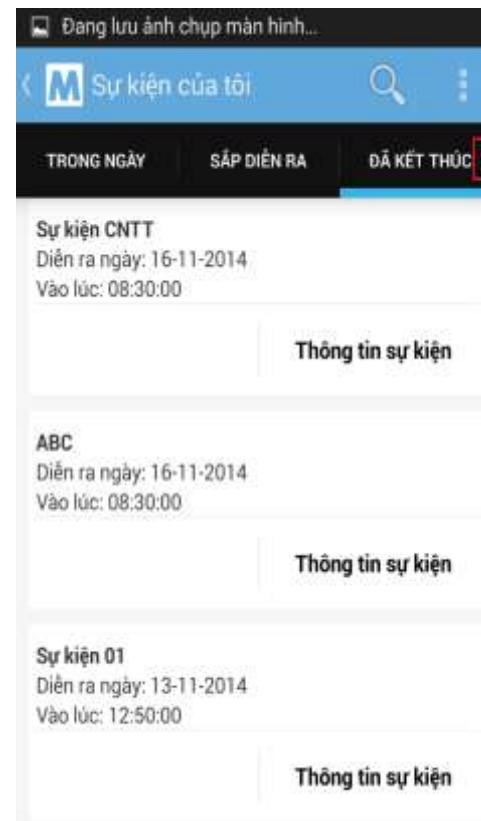


Figure 204: View Ended Events

Step	Description
1	Touch on “Đã kết thúc” to view future event list

Table 41: View Ended Events

7.1.3.2 Check Ticket



Figure 205: Check Ticket

Step	Description
1	Touch on “Soát vé thủ công” to check ticket manually.
2	Touch on “Hoàn vé” to change state of checked ticket to not check.

Table 42: Check Ticket

7.1.3.3 Manual Check-in



Figure 206: Manual Check-in

Step	Description
1	Fill in "Phone number"
2	Fill in "Code"
3	Touch on "Soát vé"
4	Touch on "Quay lại" to cancel.

Table 43: Manual Check-in

7.1.3.4 View Created Event Detail

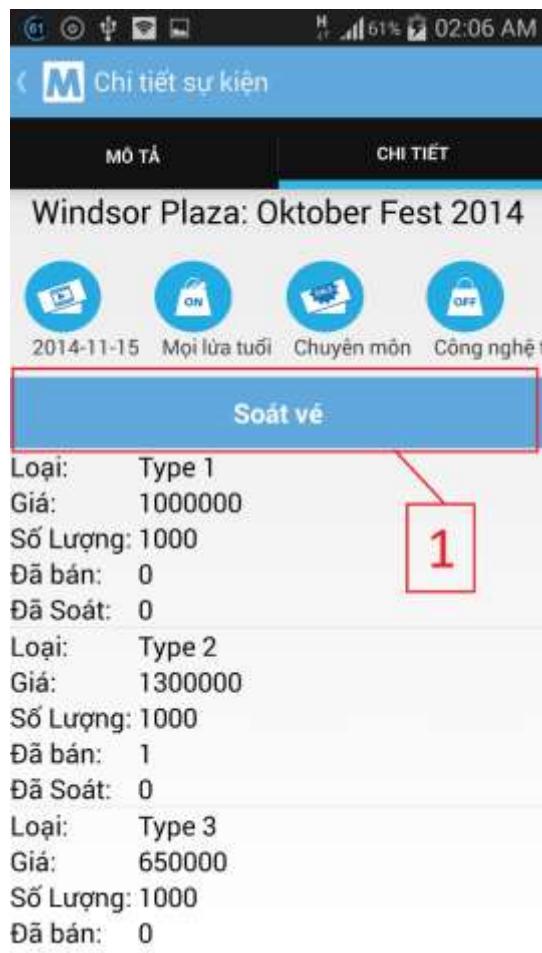


Figure 207: View Created Event Detail

Step	Description
1	Touch on “Chi tiết” to view event detail and statistic.
2	Touch on “Soát vé” if want to check ticket for event

Table 44: View Created Event Detail

7.2 Web Guide

7.2.1 Member

7.2.1.1 List Contact

Tên liên lạc	Số điện thoại	Chi tiết	Hủy bạn	Xóa liên lạc
tanoot	0967076214	1	3	2
Tran Phuc Tho	09234569875	4	5	4
Luong Quốc Trung	0167765433	5	3	5
Mạnh Quang Tuyền	01674109864	3	2	3
Chau Chiêu Nguyễn	09686117806	2	1	2
Huynh Minh Khôi	0988445444	1	2	1
Nguyễn Quốc Med	0963941370	2	1	2

Figure 208: List Contact

Step	Description
1	Member clicks “Chi tiết” button to view contact detail.
2	Member clicks “Xóa liên lạc” button to remove contact.
3	Member clicks “Kết bạn” button to send friendship request.
4	Member clicks “Hủy lời mời” button to cancel pending friendship request.
5	Member clicks “Hủy bạn bè” button to remove friendship.

Table 45: List Contact

7.2.1.2 Detail Contact

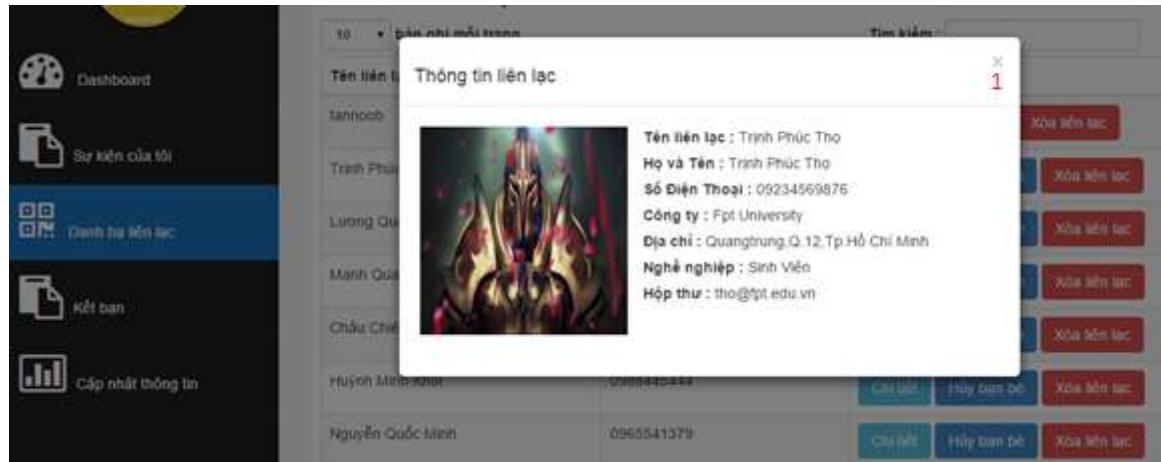


Figure 209: Detail Contact

Step	Description
1	Member clicks x to close detail contact.

Table 46: Detail Contact

7.2.1.3 List Friend Request



Figure 210: List Friend Request

Step	Description
1	Member clicks "Xác nhận" button to accept friendship request.
2	Member clicks "Lúc khác" button to cancel friendship request.

Table 47: List Friend Request

7.2.1.4 Update Profile

The screenshot shows a user interface for updating a profile. On the left is a dark sidebar with icons and labels: Dashboard, Sự kiện của tôi, Danh bạ Mật匙, Xem bài, and Cập nhật thông tin (which is highlighted in blue). The main area has a title 'Cập nhật thông tin'. It contains the following fields, each labeled with a red number:

- Họ Tên: Châu Chiểu Nguyễn (Field 1)
- Hình đại diện: Chọn tệp... Không có tệp nào được chọn (Field 2)
- Giới tính: ♂ Nam ♂ Nữ (Field 3)
- Ngày sinh: 05/05/1991 (Field 4)
- Email: nguyencoc@fit.edu.vn (Field 5)
- Nghề nghiệp: Sinh Viên (Field 6)
- Chức vụ: Sinh Viên (Field 7)
- Công ty: Fit University (Field 8)
- Địa chỉ: Quang Trung Q.12, TP. Hồ Chí Minh (Field 9)
- Mô tả của thông tin khác: (Field 10)

At the bottom are two buttons: Xóa (Field 11) and Cập nhật (Field 12).

Figure 211: Update Profile

Step	Description
1	Member fills “Họ Tên”.
2	Member clicks “Chọn tệp” and choose image.
3	Member clicks “Nam” or “Nữ” to choose gender.
4	Member clicks “Ngày sinh” and choose birthdate.
5	Member fills Email.
6	Member fills “Nghề nghiệp”.
7	Member fills “Chức vụ”.
8	Member fills “Công ty”.
9	Member fills “Địa chỉ”.
10	Member fills “Thông tin khác”.
11	Member clicks “Xóa” to clear information
12	Member clicks “Cập nhật” to update profile.

Table 48: Update Profile

7.2.2 Partner Guide

7.2.2.1 Create Event

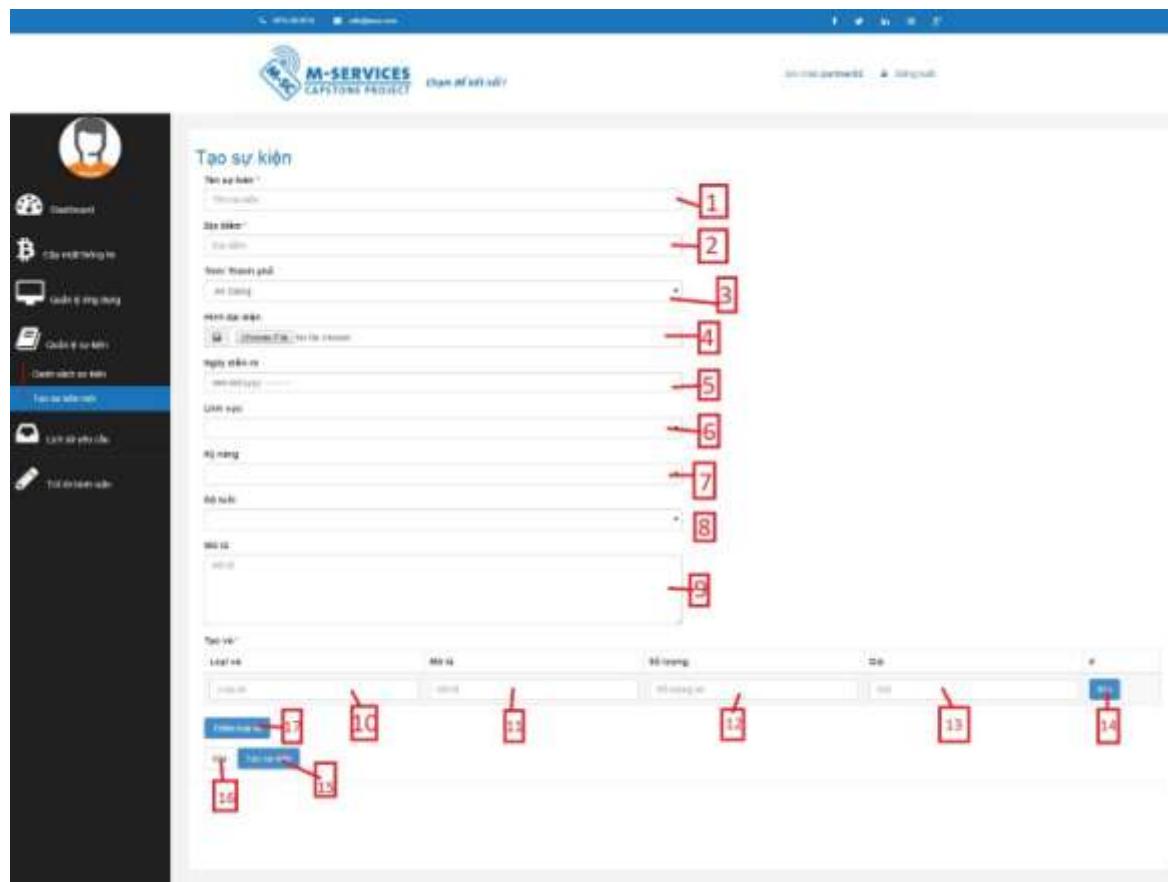


Figure 212: Created Event

Step	Description
1	Fill in “Tên sự kiện”.
2	Fill in “Địa điểm”.
3	Select a place in “Tỉnh/ Thành phố” dropdown list.
4	Select an image to upload.
5	Select date and time of event with datetime picker in “Ngày diễn ra”.
6	Select “Lĩnh vực” dropdown list.
7	Select “Kỹ năng” dropdown list.
8	Select “Độ tuổi” dropdown list.
9	Fill in “Mô tả”.
10	Fill in “Loại vé”.
11	Fill in “Mô tả” in Ticket range table.
12	Fill in “Số lượng vé”.
13	Fill in “Giá”.
14	Click “Xóa” button on ticket range’s row if want to delete it.
15	Click “Tạo sự kiện” to create new event with information above.
16	Click “Xóa” button to clear all filled data.
17	Click “Thêm loại vé” to add more ticket range.

Table 49: Create Event

7.2.2.2 View Created Event

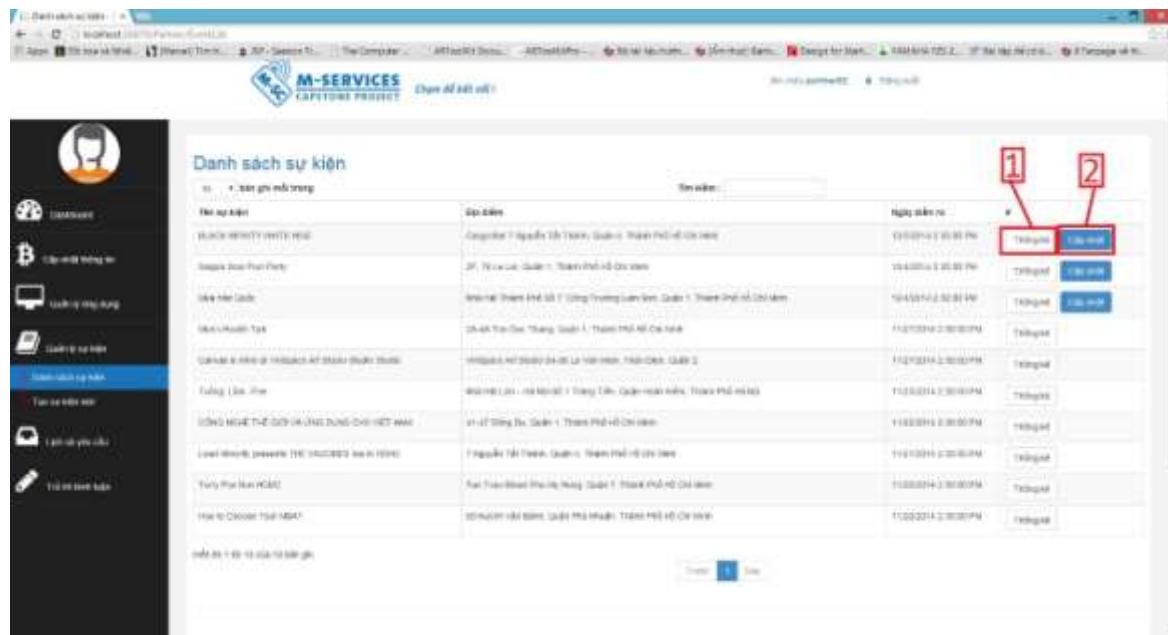


Figure 213: View Created Event

Step	Description
1	Click on “Thống kê” button to view event statistic.
2	Click on “Cập nhật” button to send a request for updating some event’s information to staffs.

Table 50: View Created Event

7.2.2.3 Request Change

Cập nhật thông tin sự kiện

Mô tả

Loud Minority is Saigon's premier live music night at Cargo Bar, which brings international headliners to Vietnam supported by emerging local talent and followed by great DJ sets. Acts the Loud Minority has hosted include The Cribs, Black Rebel Motorcycle Club, Frank Turner, Dengue Fever, Little Barrie and Japandroids

Lĩnh vực

Văn hóa

Kỹ năng

Giải trí

Độ tuổi

Mọi lứa tuổi

X

1

2

3

4

5

6

Hủy

Cập nhật

The figure shows a user interface for updating event information. It includes sections for Description (Mô tả), Category (Lĩnh vực), Skill (Kỹ năng), Age Group (Độ tuổi), and buttons for Cancel (Hủy) and Update (Cập nhật). Red numbers 1 through 6 are overlaid on the interface to highlight specific elements: 1 points to the 'Description' input field; 2 points to the 'Category' dropdown menu; 3 points to the 'Skill' dropdown menu; 4 points to the 'Age Group' dropdown menu; 5 points to the 'Update' button; and 6 points to the 'Cancel' button.

Figure 214: Request Change

Step	Description
1	Edit “Mô tả” textbox to change event’s description.
2	Select “Lĩnh vực” dropdown to change event’s sector.
3	Select “Kỹ năng” dropdown to change event’s kind.
4	Select “Độ tuổi” dropdown to change event’s target age.

Table 51: Request Change

7.2.2.4 View Statistic

The screenshot shows a modal window titled "Thống kê" (Statistics) for an event named "Saigon Soul Pool Party". The window contains a table with the following data:

Loại vé	Mô tả	Số lượng	Đã bán	Đã soát	Trạng thái
Vé thường	Vé thường ghế gỗ	150	12	5	Đang trong thời gian soát vé
Vé VIP	Vé VIP ghế đệm	50	0	0	Đang trong thời gian soát vé

At the bottom right of the modal, there is a red-bordered number "1" and a button labeled "Quay lại" (Back).

Figure 215: View Statistic

Step	Description
1	Click “Quay lại” button to dismiss popup and return to previous page.

Table 52: View Statistic

7.2.3 Staff Guide

7.2.3.1 Confirm Partner

Tên	Tên tổ chức	Địa chỉ	Thông tin liên lạc	Ngày đăng kí	Xác nhận
minh123	FPT University	Quang Trung - Gò Vấp	0123456789 minh123@gmail.com	13/7/2014 1:46 PM	Xác nhận 1

Figure 216: Confirm Partner

Step	Description
1	Click “Xác nhận” button to confirm partner.

Table 53: Confirm Partner

7.2.3.2 Approve Change Request

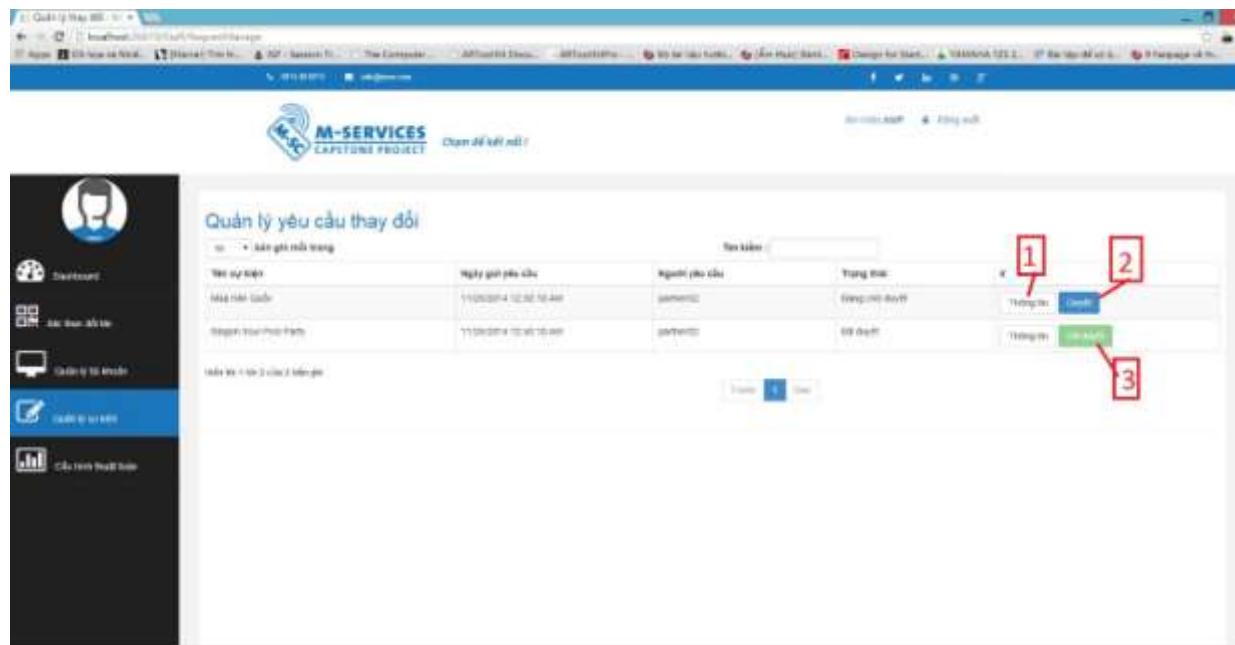


Figure 217: Approve Change Request

Step	Description
1	Click “Thông tin” button to view request detail.
2	Click “Duyệt” button to approve change request.

Table 54: Approve Change Request

7.2.3.3 Manage Algorithm

Manage Info Value

The screenshot shows a web-based application titled "Manage Info Value". At the top, there are tabs for "Quản lý giá trị phân loại" and "Xử lý với K". Below these are dropdown menus for "Nhóm", "Tên phân loại", and "Điểm số", and a "Thêm" button. There are also buttons for "Linh vực", "Tùy chỉnh", and "Hỗ trợ". A search bar labeled "Tìm kiếm:" is present.

The main area displays a table with the following data:

Tên phân loại	Trạng thái	Điểm số	Tùy chỉnh
Công nghệ thông tin	Đang sử dụng	80	Khóa Cập nhật
Giao dục	Đang sử dụng	70	Khóa Cập nhật
Khoa học	Đang sử dụng	60	Khóa Cập nhật
Kinh doanh	Đang sử dụng	50	Khóa Cập nhật
Xã hội	Đang sử dụng	40	Khóa Cập nhật

At the bottom, there is a message "Hiển thị 1/500 ở của 5 bản ghi" and navigation buttons "trước" and "sau".

Figure 218: Manage Info value

Step	Description
1	Select group to add new info value.
2	Fill name of new info value.
3	Fill value of new info value.
4	Click "Thêm" button to add new info value into select group.
5	Click "Khóa" button to deactivate selected info value.
6	Click "Cập nhật" button to update value of selected info value.

Table 55: Manage Info value

Manage K-Cluster Automatically

Cấu hình thuật toán K-Mean

Quản lý giá trị phân loại Xử lý với K.

Chọn K
 Chọn bởi hệ thống Tự nhập K

Hệ thống sẽ tự chọn K phù hợp với dữ liệu hiện tại [Phân nhóm](#)

Hệ thống sẽ tự động chia làm 3 nhóm

Tải về kết quả

Mô hình 1	Mô hình 2	Mô hình 3
(53.33, 13.33, 9)	(30, 30, 10)	(20.50, 37.5)
0 sự kiện được phân loại	3 sự kiện được phân loại	0 sự kiện được phân loại

Figure 219: Manage K-Cluster Automatically

Step	Description
1	Select “Chọn bởi hệ thống” radio button.
2	Click “Phân nhóm” button to start cluster.
3	Click “Tải về kết quả” link to download cluster result.

Table 56: Manage K-Cluster Automatically

Manage K-Cluster Manually

The screenshot shows a web-based application for managing K-Clusters. At the top, there's a header "Manage K-Cluster Manually". Below it is a section titled "Cấu hình thuật toán K-Means" with tabs "Quản lý giá trị phân loại" and "Xử lý với K". Under "Chọn K", there's a radio button for "Chọn dài nẻ nhất" and a checked radio button for "Tự động X". A text input field "Nhập K:" contains "Mới: 30000". Below this is a section titled "Hệ thống xử lý hiện chưa làm 3 nhóm". It shows three clusters: "Nhóm 1" with centroid "(53.33, 13.33, 50)" and 9 events assigned; "Nhóm 2" with centroid "(30.33, 100)" and 3 events assigned; and "Nhóm 3" with centroid "(20.50, 37.5)" and 0 events assigned.

Figure 220: Manage K-Cluster Manually

Step	Description
1	Fill number of group to run cluster.
2	Click “Phân nhóm” button to start cluster.
3	Click “Tải về kết quả” link to download cluster result.

Table 57: Manage K-Cluster Manually

7.2.3.4 Approve Change

The screenshot shows a "Change Request Management" interface. At the top, there's a header "Quản lý yêu cầu thay đổi" with a sub-header "tùy + bản ghi mới nhất". Below it is a search bar "Tìm kiếm: []". A table lists change requests with columns: Tên sự kiện, Ngày gửi yêu cầu, Người yêu cầu, Trạng thái, and #. The first row shows "Camer & Video at VinaSpace Art Studio" submitted on "12/7/2014 2:20:05 PM" by "partner01" with status "Đang chờ duyệt" and a "Thông tin" button. At the bottom, there's a note "Hiển thị 1 tới 1 của 1 bản ghi" and navigation buttons "Trước", "Sau", and "Cuối".

Figure 2215: Approve Change

Step	Description
1	Click “Thống kê” button to view request detail.
2	Click “Duyệt” button to approve request.

Table 58: Approve Change

G. Appendix

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