

# FPT UNIVERSITY

## Capstone Project Document

### Online Medical Consultant System

Group 02	
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<b>Capstone Project code</b>	OMCS

- Ho Chi Minh City, 11 August / 2014 -

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# Table of Contents

Table of Contents.....	4
List of Tables .....	9
List of Figures .....	12
Definitions, Acronyms, and Abbreviations .....	15
Part A. Introduction .....	16
1. Project Information .....	16
2. Introduction .....	16
Part B. Project Management Plan .....	17
1. Problem Definition .....	17
1.1. Name of this Capstone Project .....	17
1.2. Problem Abstract .....	17
1.3. Project Overview.....	17
2. Project organization .....	20
2.1. System Process Model .....	20
2.2. Roles and Responsibilities.....	21
2.3. Tools and Techniques .....	21
3. Project management plan.....	23
3.1. Product Backlog .....	23
3.2. Sprint Backlog .....	31
3.3. All Meeting Minutes .....	31
4. Convention Rules .....	31
Part C. System Requirements Specifications (SRS) .....	32
1. User Requirement Specification .....	32
1.1. Guest Requirement.....	32
1.2. User Requirement.....	32
1.3. Patient Requirement.....	32
1.4. Doctor Requirement .....	32
1.5. Admin Requirement.....	33
2. System Requirement Specification .....	34
2.1. Use Case Overview .....	34
2.2. Functional Requirements.....	38

3. Entity Relationship Diagram (ERD).....	78
Data Dictionary.....	79
Part D. Software Design Description (SDD) .....	80
1. Design Overview.....	80
2. System Architectural Design .....	81
3. Component Diagram .....	82
4. Detailed Description of Components.....	82
4.1. Class Diagram.....	83
4.2. Class Diagram Explanation.....	84
5. Sequence Diagram .....	89
5.1. <Guest> Login .....	89
5.2. <Guest> Register.....	90
5.3. <Patient> Comment Doctor.....	90
5.4. <Patient> Conversation .....	91
5.5. <Doctor> Request Webcam.....	92
5.6. <Patient> Upload Attachment.....	92
5.7. <Admin> Define New Medical Profile Template .....	93
5.8. <Admin> Update Medical Profile Template .....	94
5.9. <Doctor> Update Medical Profile .....	95
5.10. <Doctor> Views Medical Profile .....	96
5.11. <Patient> Update Personal Health Record.....	97
5.12. <Patient> View Medical Profile .....	98
6. User Interface Design .....	99
6.1. Homepage screen .....	99
6.2. Login screen .....	100
6.3. Register screen.....	101
6.4. Forgot password screen.....	102
6.5. Admin hospital information screen .....	103
6.6. Admin information screen .....	105
6.7. Manage users screen .....	106
6.8. Create user screen .....	107
6.9. Edit user screen.....	108

6.10. Manage doctors screen .....	109
6.11. Create doctor screen .....	110
6.12. Edit doctor screen.....	111
6.13. Manage medical profiles screen.....	113
6.14. View medical profile screen.....	114
6.15. Update medical profile screen.....	115
6.16. Manage medical profiles screen.....	116
6.17. Manage medical profile templates screen .....	117
6.18. Edit medical profile templates screen .....	118
6.19. Create medical profile template screen .....	119
6.20. Editor/update medical profile templates screen .....	119
6.21. Change password screen .....	121
6.22. Manage patient screen .....	122
6.23. Create/edit patient screen .....	123
6.24. View patient screen .....	127
6.25. Doctor comment screen .....	128
6.26. Doctor conversation screen.....	129
6.27. Doctor private mode.....	130
6.28. Doctor information screen .....	132
6.29. Patient information screen.....	133
6.30. Patient health record screen .....	135
6.31. User conversation screen .....	137
6.32. User comment/rating screen.....	138
7. Database Design.....	140
7.1. Diagram.....	140
7.2. Data dictionary.....	141
7.3. Algorithms.....	141
Part E. System Implementation & Test (SIT).....	142
1. Introduction .....	142
1.1. System Overview .....	142
1.2. Test Approach.....	142
2. Test Plan .....	143

2.1. Features to be tested.....	143
2.2. Features not to be tested .....	144
2.3. Testing Tools and Environment .....	144
3. Test cases .....	145
3.1. <User> Login .....	145
3.2. <User> Logout.....	148
3.3. <User> Register.....	148
3.4. <User> Remember me .....	152
3.5. <User> Forget password.....	152
3.6. <Patient> Edit patient information.....	153
3.7. <Patient> Edit health record.....	153
3.8. <Patient> View medical profile.....	159
3.9. <Patient> Chatting .....	159
3.10. <Patient> Attach files.....	159
3.11. <Doctor> List patients.....	159
3.12. <Doctor> Add patient .....	159
3.13. <Doctor> Edit patient .....	159
3.14. <Doctor> View patient.....	159
3.15. <Doctor> List medical profiles .....	159
3.16. <Doctor> Edit medical profile .....	160
3.17. <Doctor> Doctor chatting .....	161
3.18. <Doctor> Request webcam .....	162
3.19. <Doctor> View medical profile structure .....	162
3.20. <Admin> List doctors .....	162
3.21. <Admin> Add doctor.....	162
3.22. <Admin> Edit doctor .....	162
3.23. <Admin> List medical profile template .....	162
3.24. <Admin> Add new medical profile template.....	162
3.25. <Admin> Edit medical profile template.....	162
4. Checklists.....	162
4.1. Checklist of Layout.....	162
4.2. Other Materials.....	164

Part F. Software User Manual.....	166
1. Installation Guide .....	166
1.1. Server's requirement.....	166
1.2. Deployment at server side.....	166
2. User Guide.....	173
2.1. Login.....	173
2.2. Patient – User Info .....	174
2.3. Patient – User Health Record .....	176
2.4. Patient - View Medical Profile Sample .....	177
2.5. Patient – View Consult History .....	178
2.6. Patient – Consult Online .....	179
2.7. Doctor - Manage Patient .....	181
2.8. Doctor – Consult Online.....	183
2.9. Doctor – Private Mode.....	184
2.10. Doctor – Comment .....	185
2.11. Admin – Manage Hospital Information .....	186
2.12. Admin – Manage Users.....	187
2.13. Admin – Manage Doctors .....	188
2.14. Admin – Manage Medical Profiles.....	190
2.15. Admin – Manage Specialty Fields .....	192
2.16. Admin – Manage Medical Profile Templates .....	195
2.17. Admin - Update medical profile template .....	197
2.18. Admin – Manage Personal Information .....	198
Part G. Appendix.....	199

# List of Tables

Table 1 Hardware Requirement for Server .....	19
Table 2 Hardware Requirement for Web User .....	19
Table 3 Roles and Responsibilities .....	21
Table 4 Product Backlog.....	30
Table 5 <Guest> Login .....	40
Table 6 <Guest> Register .....	42
Table 7 <Doctor><Patient> View Medical Profile .....	43
Table 8 <Doctor><Patient> Chat.....	44
Table 9 <Doctor> Request Webcam .....	46
Table 10 < Patient> Show webcam .....	47
Table 11 <Doctor><Patient> Upload Attachment .....	49
Table 12 <Patient> View doctor online.....	50
Table 13 <Doctor> Update medical profile.....	52
Table 14 <Doctor> Create medical profile .....	53
Table 15 <Admin> Create doctor .....	55
Table 16 <Admin> Edit doctor .....	57
Table 17 <Admin> Deactivate Doctor .....	59
Table 18 <Admin> Activate doctor.....	60
Table 19 <Admin><Doctor> Create patient .....	63
Table 20 <Admin><Doctor> Edit patient .....	65
Table 21 <Patient> Comment Doctor .....	67
Table 22 <Admin> Define new medical profile template .....	70
Table 23 <Admin><Doctor><Patient> Logout.....	71
Table 24 <Doctor> Enable private mode .....	73
Table 25 <Doctor> Capture Webcam.....	75
Table 26 <Doctor> Create treatment history.....	77
Table 27 Actions HomePage .....	99
Table 28 Data fields Login Page .....	100
Table 29 Actions Login Page.....	100
Table 30 Data fields Register Page.....	101
Table 31 Actions Register Page .....	102
Table 32 Data fields Forgot Password Page .....	102
Table 33 Actions Forgot Password Page .....	102
Table 34 Data fields Admin Hospital Information Page .....	104
Table 35 Actions Admin Hospital Information Page .....	105
Table 36 Data fields Admin Information Page .....	106
Table 37 Actions Admin Information Page .....	106
Table 38 Data fields List User Page .....	107
Table 39 Actions List User Page .....	107
Table 40 Data fields Create User Page .....	108
Table 41 Actions Create User Page .....	108
Table 42 Data fields Edit User Page .....	109
Table 43 Actions Edit User Page.....	109

Table 44 Data fields List Doctor Page.....	110
Table 45 Actions List Doctor Page.....	110
Table 46 Data fields Create Doctor Page .....	111
Table 47 Actions Create Doctor Page .....	111
Table 48 Data fields Edit Doctor Page.....	112
Table 49 Actions Edit Doctor Page.....	112
Table 50 Data fields List Medical Profile Page .....	113
Table 51 Actions List Medical Profile Page .....	113
Table 52 Actions View Medical Profile Page.....	114
Table 53 Data fields Update Medical Profile Page.....	115
Table 54 Actions Update Medical Profile Page .....	116
Table 55 Data fields Manage Comment Page .....	116
Table 56 Actions Manage Comment Page .....	116
Table 57 Actions List Medical Profile Template Page .....	117
Table 58 Data fields Edit Medical Profile Template Page .....	118
Table 59 Actions Edit Medical Profile Template Page .....	118
Table 60 Data fields Create Medical Profile Template Page.....	119
Table 61 Actions Create Medical Profile Template Page .....	119
Table 62 Actions Editor/Update Medical Profile Template Page .....	121
Table 63 Data fields Change Password Page.....	121
Table 64 Actions Change Password Page.....	121
Table 65 Data fields List Patient Page .....	122
Table 66 Actions List Patient Page .....	122
Table 67 Data fields Create/Edit Patient Page .....	126
Table 68 Actions Create/Edit Patient Page .....	126
Table 69 Actions View Patient Page.....	127
Table 70 Data fields Doctor Comment Page .....	128
Table 71 Actions Doctor Comment Page .....	128
Table 72 Data fields Doctor Conversation Page.....	129
Table 73 Actions Doctor Conversation Page .....	129
Table 74 Data fields Doctor Enalbe Private.....	131
Table 75 Actions Doctor Doctor Enalbe Private.....	131
Table 76 Data fields Doctor Information Page.....	132
Table 77 Actions Doctor Information Page .....	133
Table 78 Data fields Patient Information Page .....	134
Table 79 Acitons Patient Information Page .....	135
Table 80 Data fields Patient Health Record Page .....	136
Table 81 Actions Patient Health Record Page.....	137
Table 82 Data fields User Conversation Page .....	138
Table 83 Actions User Conversation Page .....	138
Table 84 Data fields User Comment/Rating Page .....	139
Table 85 Actions User Comment/Rating Page .....	139
Table 86 Login Step .....	173
Table 87 Change Profile Image Step .....	174
Table 88 Edit Patient Info Step.....	175

Table 89 Edit Personal Health Record Step.....	176
Table 90 View Patient Sample Step .....	177
Table 91 View Medical Profile Sample Step.....	178
Table 92 View Consult History Step .....	178
Table 93 Chatting Step .....	179
Table 94 View Doctor Details Step.....	180
Table 95 Create New Patient Step .....	181
Table 96 View Patient Details Step .....	182
Table 97 Edit Patient Details Step.....	183
Table 98 Consult Online Step .....	184
Table 99 Doctor - Private Mode Step.....	185
Table 100 Comment Step.....	185
Table 101 View/Edit Hospital Information Step .....	186
Table 102 View Users Step.....	187
Table 103 Create User Step.....	188
Table 104 Edit User Step .....	188
Table 105 View Doctors Step .....	189
Table 106 Create Doctor Step.....	189
Table 107 Edit Doctor Step .....	190
Table 108 View Medical Profiles Step.....	191
Table 109 Details Medical Profile Step .....	191
Table 110 Update Medical Profile Step .....	192
Table 111 View Specialty Fields Step .....	193
Table 112 Create Parent Specialty Field Step .....	193
Table 113 Create Specialty Field Step .....	194
Table 114 Edit Parent Specialty Field Step.....	194
Table 115 Edit Specialty Field Step .....	195
Table 116 View Medical Profile Templates Step.....	195
Table 117 Create Medical Profile Template Step .....	196
Table 118 Update Medical Profile Template Name Step.....	197
Table 119 Update Medical Profile Template Step .....	198
Table 120 View/Edit Admin Information Step .....	198

# List of Figures

Figure 1 Scrum framework.....	20
Figure 2 System Use Case Overview .....	34
Figure 3 <Guest> Use Case Overview .....	35
Figure 4 <Authorized User> Use Case Overview.....	35
Figure 5 <Admin> Use Case Overview .....	36
Figure 6 <Doctor> Use Case Overview.....	37
Figure 7 <Patient> Use Case Overview .....	38
Figure 8 <Guest> Login.....	38
Figure 9 <Guest> Register .....	40
Figure 10 <Doctor><Patient> View Medical Profile.....	42
Figure 11 <Doctor><Patient> Chat.....	43
Figure 12 <Doctor> Request Webcam .....	45
Figure 13 <Patient> Show webcam.....	46
Figure 14 <Doctor>< Patient> Upload Attachment .....	48
Figure 15 <Patient> View doctor online .....	49
Figure 16 <Doctor> Update medical profile.....	51
Figure 17 <Doctor> Create medical profile.....	52
Figure 18 <Admin> Create doctor.....	54
Figure 19 <Admin> Edit doctor .....	56
Figure 20 <Admin> Deactivate Doctor .....	58
Figure 21 <Admin> Activate doctor .....	59
Figure 22 <Admin><Doctor> Create patient.....	60
Figure 23 <Admin><Doctor> Edit patient .....	63
Figure 24 <Patient> Comment Doctor .....	66
Figure 25 <Admin> Define new medical profile template .....	67
Figure 26 <Admin><Doctor><Patient> Logout .....	70
Figure 27 <Doctor> Enable private mode .....	72
Figure 28 <Doctor> Capture Webcam .....	73
Figure 29 <Doctor> Create treatment history .....	75
Figure 30 Entity Relationship Diagram.....	78
Figure 31 MVC Architecture.....	81
Figure 32: Component Diagram .....	82
Figure 33 Class Diagram .....	83
Figure 34 <Guest> Login Sequence Diagram .....	89
Figure 35 <Guest> Register Sequence Diagram.....	90
Figure 36 <Patient> Comment Dotor.....	90
Figure 37 <Patient> Conversation Sequence Diagram.....	91
Figure 38 <Doctor> Request Webcam Sequence Diagram .....	92
Figure 39 <Patient> Upload Attachment .....	92
Figure 40 <Admin> Define New Medical Profile Template.....	93
Figure 41 <Admin> Update Medical Profile Template.....	94
Figure 42 <Doctor> Update Medical Profile .....	95
Figure 43 <Doctor> Views Medical Profile.....	96

Figure 44 <Patient> Update Personal Health Record .....	97
Figure 45 <Patient> View Medical Profile Record .....	98
Figure 46 HomePage .....	99
Figure 47 Login Page .....	100
Figure 48 Register Page.....	101
Figure 49 Forgot Password Page.....	102
Figure 50 Admin Hospital Information Page.....	103
Figure 51 Admin Information Page .....	105
Figure 52 List User Page .....	106
Figure 53 Create User Page.....	107
Figure 54 Edit User Page .....	108
Figure 55 List Doctor Page .....	109
Figure 56 Create Doctor Page .....	110
Figure 57 Edit Doctor Page.....	112
Figure 58 List Medical Profile Page .....	113
Figure 59 View Medical Profile Page.....	114
Figure 60 Update Medical Profile Page.....	115
Figure 61 Manage Comment Page.....	116
Figure 62 List Medical Profile Template Page.....	117
Figure 63 Edit Medical Profile Template Page .....	118
Figure 64 Create Medical Profile Template Page.....	119
Figure 65 Editor/Update Medical Profile Template Page .....	120
Figure 66 Change Password Page .....	121
Figure 67 List Patient Page.....	122
Figure 68 Create/Edit Patient Page.....	124
Figure 69 View Patient Page .....	127
Figure 70 Doctor Comment Page .....	128
Figure 71 Doctor Conversation Page .....	129
Figure 72 Doctor Information Page.....	130
Figure 73 Doctor Information Page.....	132
Figure 74 Patient Information Page .....	133
Figure 75 Patient Health Record Page .....	135
Figure 76 User Conversation Page .....	137
Figure 77 User Comment/Rating Page.....	138
Figure 78 Database Relationship Design.....	140
Figure 79 Prepare deployment package .....	166
Figure 80 Microsoft SQL Server Management Studio.....	167
Figure 81 SQL - Full Backup .....	167
Figure 82 Connection String - 1.....	168
Figure 83 Connection String - 2.....	168
Figure 84 Connection String - 3.....	169
Figure 85 IIS Manager - 1 .....	169
Figure 86 IIS Manager - 2 .....	170
Figure 87 IIS Manager - 3 .....	171
Figure 88 IIS Manager - 4 .....	172

Figure 89 Deployment Successful .....	173
Figure 90 Login Page .....	173
Figure 91 Change Profile Image Windows .....	174
Figure 92 Edit Patient Info .....	175
Figure 93 Edit Personal Health Record .....	176
Figure 94 View Patient Sample .....	177
Figure 95 User Medical Profile Page .....	177
Figure 96 View Consult History Page .....	178
Figure 97 Consult Online Page – Chatting.....	179
Figure 98 View Doctor Details Page .....	180
Figure 99 Create New Patient Page .....	181
Figure 100 View Patient Details Page .....	182
Figure 101 Edit Patient Details Page .....	183
Figure 102 Consulting Online Page .....	183
Figure 103 Doctor - Private Mode Page.....	184
Figure 104 Message Page.....	185
Figure 105 View/Edit Hospital Information Page.....	186
Figure 106 View Users Page .....	187
Figure 107 Create User Page.....	187
Figure 108 Edit User Page .....	188
Figure 109 View Doctors Page .....	189
Figure 110 Create Doctor Page .....	189
Figure 111 Edit Doctor Page.....	190
Figure 112 View Medical Profiles Page .....	190
Figure 113 Details Medical Profile Page .....	191
Figure 114 Update Medical Profile Page.....	192
Figure 115 View Specialty Fields Page .....	192
Figure 116 Create Parent Specialty Field Page .....	193
Figure 117 Create Specialty Field Page .....	194
Figure 118 Edit Parent Specialty Field Page .....	194
Figure 119 Edit Specialty Field Page.....	194
Figure 120 View Medical Profile Templates Page.....	195
Figure 121 Create Medical Profile Template Page.....	196
Figure 122 Update Medical Profile Template Name Page.....	197
Figure 123 Update Medical Profile Template Page .....	198
Figure 124 View/Edit Admin Information Page .....	198

## **Definitions, Acronyms, and Abbreviations**

OMCS	Online Medical Consultant System
Snippet	A single unit element on the medical profile. It could be a HTML element, a table, a data field mapped to patient information or a position of system-based module.

# **Part A. Introduction**

## **1. Project Information**

- Project name: **Online Medical Consultant System**
- Project Code: **OMCS**
- Product Type: **Web Application**
- Start Date: **May 11<sup>th</sup>, 2014**
- End Date: **August, 25<sup>th</sup>, 2014**

## **2. Introduction**

With the emergence of the Internet, many systems have been built to reduce the gap between patients and doctors. They provide the convenient way by letting patient communicate face-to-face with health care providers via social media. That is successful story from many developed countries that we try to apply for Vietnam using different approaches.

Nowadays, Vietnam hospitals usually are overwhelmed<sup>[1]</sup> with patients. A lot of plans have been proposed to handle that situation<sup>[2]</sup>. Besides that, taking a medical treatment at hospitals not always a good choice due to the traveling cost, wasting time and unsafeness<sup>[3]</sup>.

Based on observation, we see that there are many cases that patients don't need to go to the hospital quite often because those can easily conduct via internet. So we want to improve the processes of medical treatment.

# Part B. Project Management Plan

## 1. Problem Definition

### 1.1. Name of this Capstone Project

The official and formal project name is “Online Medical Consultant System”. Its abbreviation is OMCS.

### 1.2. Problem Abstract

Nowadays, Vietnam hospitals hardly adapt with the high demand from the people. A lot of plans have been proposed to handle that situation<sup>[2]</sup>. Besides that, taking a medical treatment at hospitals not always a good choice due to the traveling cost, wasting time and unsafeness<sup>[3]</sup>.

Based on observation, we see that there are many cases that patients don't need to go to the hospital quite often. With the internet connection ready, the patient just stay at home and get consulted from medical expert instantly. They can also travel with high confidence thanks to the services that can assist them in getting the medical care.

### 1.3. Project Overview

#### 1.3.1. The Current System

In Vietnam, there are some websites provide medical consultant services:

- **Alobacsi** “Vì sức khỏe người Việt”  
<http://alobacsi.vn/kham-benh-online.htm>  
Users can search questions in knowledge base (nearly 100.000 questions with answers). Make question by submit the form.
- **Tuvansuckhoe24h** “Chia sẻ cùng chuyên gia”  
<http://www.tuvansuckhoe24h.com.vn/>  
Support chatting using yahoo. Ask question for consultants
- **Bacsystructuyen**  
<http://bacsystructuyen.com/>  
This website collect articles, tips related to medical from many resources.  
Users can access that information. Besides that, patients can submit question by filling the form

All above systems have many disadvantages:

- Lack of interaction between patients and doctors
- Hardly can provide high quality consulting service due to missing reliable resources (medical profile, allergy, immunization...)

- Patient cannot able to manage their own profile information, medical health record

### ***1.3.2. The Proposed System***

The main system will be a website. It's intended for used in one hospital or clinic.

The system will provide the following main features:

- *Hospital admin:*
  - Define a template for medical profile with high customization, reusable patient information and built-in components.
  - Update hospital information.
  - Manage doctors, patients, specialty fields, film types, allergy types.
  - Manage comments from patient.
- *Doctors:*
  - Manage patient information.
  - Use predefined templates to create medical profile for patient.
  - View conversation history, chat with patient.
  - Request patient to show their webcam.
  - View medical profile template.
- *Patients:*
  - Manage some basic information, health medical record.
  - View their medical profile.
  - Request doctor to get consulted, share webcam, upload attachment.

### ***1.3.3. Boundaries of the System***

- The system is intended for using in one hospital.
- The language of the system is Vietnamese.
- The complete product includes:
  - The website, for admin, doctor, patient to interactive with system.
  - All the documents, reports during the time develop the system.
- This system doesn't support yet:
  - Customize layout for medical profile templates.
  - Export medical profile.
  - Manage prescription.
  - Manage process of a hospital.
  - Tracking changes in a medical profile.
- This system not intends to replace the current medical treatment processes in hospital. It just provides the convenient and reliable ways to conduct medical consultant online, especially in re-examination.

#### **1.3.4. Development Environment**

##### **1.3.4.1. Hardware requirements**

<b>For server</b>		
<b>Windows</b>	<b>Minimum Requirements</b>	<b>Recommended</b>
<b>Internet Connection</b>	4Mbps	8 Mbps
<b>Operating System</b>	Window Server 2008	Window Server 2012
<b>Computer Processor</b>	Intel® Core 2 Duo	Intel® Core(TM) i5 CPU , M 460 @ 2.53GHz
<b>Computer Memory</b>	1GB RAM	3GB or more

Table 1 Hardware Requirement for Server

##### **For Web User**

<b>Web</b>	<b>Minimum Requirements</b>	<b>Recommended</b>
<b>Internet Connection</b>	2Mbps	4Mbps
<b>Web Browser</b>	Chrome 22	Chrome 36

Table 2 Hardware Requirement for Web User

##### **1.3.4.2. Software requirements**

- Operating System: Microsoft Windows 7
- Communication and meeting: Skype
- Source control: Google Code & TortoiseSVN
- Website Server: IIS 7 Express
- IDE: Visual Studio 2012
- DBMS: SQL Server 2008 R2
- UML design tool: StarUML 5.0

## 2. Project organization

### 2.1. System Process Model

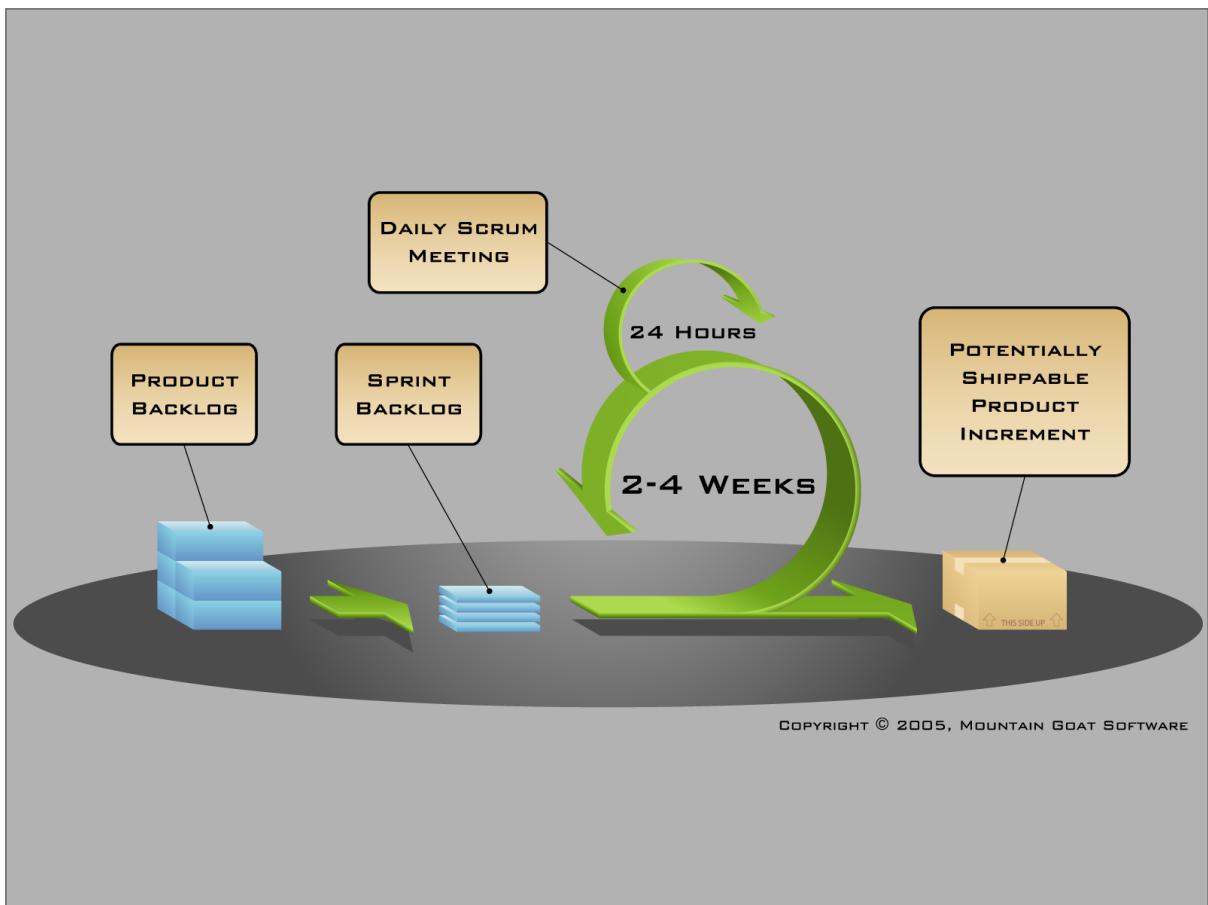


Figure 1 Scrum framework

We decided to apply SCRUM methodology in our project with many customizations:

➤ **Roles**

Teacher plays as a Product Owner and Scrum Master

Students play as Development Team

➤ **Event**

*Sprint*: each sprint is time boxed for one week. Start and end at the same date

*Meeting*:

- *Planning 1*: choose stories from product backlog and put them into sprint backlog
- *Planning 2*: not conduct due to lack of time and resources
- *Daily meeting*: conduct every evening by using Skype
- *Review meeting*: conduct at the end of sprint where PO review the work that was completed

- *Retrospective meeting*: rarely hold. To take a look back on the previous sprints and discuss to made agreement for improvement

#### ➤ Artifacts

*Product backlog*: list of requirements that are created and managed by PO.

*Sprint backlog*: list of works for the Development Team must address during the sprint<sup>[4]</sup>.

*Burndown chart*: not conduct

*Impediment*: list of difficulties that the team meets during handle tasks<sup>[5]</sup>.

## 2.2. Roles and Responsibilities

Full name	Role in Group	Responsibilities
Nguyễn Huy Hùng	Scrum Master, Product Owner	<ul style="list-style-type: none"> <li>• Ensuring the team deliver value to the business</li> <li>• Manage product backlog, prioritizes userstory</li> <li>• Facility the team</li> </ul>
Trần Nguyên Tiến Sứ	Team member	<ul style="list-style-type: none"> <li>• Tracking &amp; managing progress.</li> <li>• Designing database.</li> <li>• Analyzing requirements.</li> <li>• Planning &amp; scheduling.</li> <li>• Coding.</li> <li>• Testing.</li> <li>• Writing documents &amp; reports</li> </ul>
Trần Cao Danh	Team member	<ul style="list-style-type: none"> <li>• Analyzing requirements.</li> <li>• Designing database.</li> <li>• Coding.</li> <li>• Testing.</li> <li>• Writing documents.</li> </ul>

Table 3 Roles and Responsibilities

## 2.3. Tools and Techniques

### 2.3.1. Tools:

- IDE: Microsoft Visual Studio 2012.
- DBMS: Microsoft SQL server 2008 R2 Express: Used as the database of the system.
  - SVN: TortoiseSVN.
  - Task management: Trello (<https://trello.com/>)
  - Web browsers: Google Chrome, Firefox.
  - Web Server: Microsoft IIS 7.0

### ***2.3.2. Technologies:***

- Web framework: ASP.NET MVC 4
- Entity Framework Model First
- Front-end: Backbone.js, Underscore.js, RequireJS, HTML 5, CSS 3, AJAX, Bootstrap

### 3. Project management plan

#### 3.1. Product Backlog

No.	Category	Userstory	Description	Acceptance criteria	Delivery date	Sprint
1	Document	Report 1	As a team member, I want to have the introduction about the project so that I can understand the initial idea.	The report should follow the template from FPT University Good layout, cover all items	20 May, 2014	1
2		Report 2	As a team member, I want to have the Project Management Plan so that I can work well on the project	The report should follow the template from FPT University Good layout, cover all items	25 May, 2014	2, 3
3		Report 3	As a team member, I want to have the System Requirements Specifications	The report should follow the template from FPT University Good layout, cover all items All features are listed out and analyzed carefully	07 June, 2014	3, 4
4		Report 4	As a team member, I want to have the System Design Specifications so that I can have a good design to follow	The report should follow the template from FPT University Good layout, cover all items	17 July, 2014	4, 5, 6, 7, 8
5		Report 5	As a team member, I want to have System Implementation & Test document so that I can have full-featured and well-tested release	The report should follow the template from FPT University Good layout, cover all items	12 July, 2014	9, 10
6		Report 6	As a server administrator/end-user of OMCS, I want to have the	The report should follow the template from FPT University Good layout, cover all items	18 August, 2014	11

			user manual, so that I can easily setup infrastructure/use all basic function of the system.			
7		Team document	As a team member, I want to have some document (product backlog, sprint backlog, team wiki) created. So I can work well on OMCS	Product backlog with detail description, acceptance criteria, and delivery date Sprint backlog with split tasks with assignee		1
8	Feature	[User] Login	As a user, I want to login to the system	Login using email After login, redirect user based on their role		1, 7
9		[User] Login with remember me	As a user, I want to login automatically			1
10		[User] Logout	As a user, I want to logout			1
11		[User] Register	As a guest, I want to register new account	Only required some basic information Send email to confirm email address Use capcha to enhanced security		3
12		[User] Forget password	As a user, I want to get new password by email when I forgot it, so that I can continue to use OMCS	Send email with generated new password		9
13		[User] Edit profile information	As a user, I want to update some information (firstname, address...)	Validate required fields, number		5, 8, 10
14		[Patient] View medical profile	As a patient, I want to view my medical profile, so that I can have overview about my	List all medical profiles created for logged in patient Not allow patient to modify medical		7, 8

			diseases	profile		
15		[Patient] View linked medical profile information	As a patient, I want to extract some information (immunization, allergy) so that I can quickly have overview about them	Only show medical profile that use built-in modules (immunization, allergy) Link to medical profile that have extracted information		8
16		[Patient] Update patient information	As a patient, I want to update some information about my profile, basic health record	For user experience, use in-place editor to edit information		5
17		[Patient] Chat	As the user, I want to chat with doctor real-time So I can send message and doctor receive immediately	The behavior could be: The system list out all doctors with their status Patient can select doctor to chat with Patient can see old chat content		5, 6
18		[Patient] Show webcam	As a patient, I want to share my webcam so the information's exchange is more easier	Doctor can see the stream that patient share Doctor can see the stream in full-screen		6, 7, 8
19		[Patient] Upload attachment	As a patient, I want to attach some files, images and send to doctor	If attach files are images, display on the chat content, otherwise, let doctor download it		7
20		[Patient] View consult history	As a patient, I want to see previous chat content with doctor, so that I haven't to remember everything	List all chat content with the sent time Sort chat message by time		5
21		[Patient] View doctor online	As a patient, I want to see who is online, so that I can get quickly response	When doctor go to Conversation page, their status is shown as online for patient		

				Patient can see status real-time, do not need to refresh the page		
22		[Patient] Change profile picture	As a patient, I want to change my profile picture			11
23		[Patient] Change password	As a patient, I want to change my password	Patient have to re-enter current password Patient have to enter new password twice		
24		[Patient] Rating doctor	As a patient, I want to rate doctor for his consulting	Maximum point is 5 Doctor and other patients can see the average point of rating		9, 10
25		[Patient] Comment doctor	As a patient, I want to give my comment for doctor so that I can show my opinions/ideas	Doctor and other patients can see the comment Doctor can comment to reply		9, 10
26		[Doctor] Chat	As a doctor, I want to chat with patients so that I can help them	Doctor can see unread messages		5, 6
27		[Doctor] Request webcam	As a doctor, I want to request camera from patients when needed	Only request to one patient at the same time		6, 7, 8
28		[Doctor] Upload attachment	As a doctor, I want to upload attachment and send to patient, so useful data could be exchange	If attach files are images, display on the chat content, otherwise, let patient download it		7
29		[Doctor] Create medical profile	As a doctor, I want to create medical profile for patient, so that I can update it instantly	Doctor can choose any existing template to create One patient with have only one medical profile created from one template		9

30		[Doctor] View medical profile	As a doctor, I want to view medical profile of a patient, so that I can have overview about his diseases	Doctor can view medical profile created by other doctors		9
31		[Doctor] Update medical profile	As a doctor, I want to update medical profile created for patient			9
32		[Doctor] Create patient	As a doctor, I want to create account for patient so that new patient can use application instantly	Password of patient is sent to patient's email automatically		9
33		[Doctor] Edit patient information	As a doctor, I want to edit patient information, so that I can correct information			9
34		[Doctor] View comment/rating	As a doctor, I want to view comment/rating so that I can know feedback from patients			11
35		[Doctor] Add comment	As a doctor, I want to add new comment so that I can interact with my patients effectively			11
36		[Doctor] Search patient	As a doctor, I want to search patient so that I can increase my work performance			9
37		[Doctor] Change picture profile	As a doctor, I want to change my profile picture			11
38		[Doctor] Change password	As a doctor, I want to change my password	Doctor have to re-enter current password Doctor have to enter new password twice		

39		[Admin] View medical profile	As an admin, I want to view medical profile from all patients for management			11
40		[Admin] Create doctor	As an admin, I want to create new doctor for my hospital	Admin can edit some information during add new doctor		4, 5
41		[Admin] Edit doctor	As an admin, I want to edit information of a doctor, so that I can correct wrong information			4, 5
42		[Admin] Search doctor	As an admin, I want to search doctors so that I can increase my work performance			4, 5
43		[Admin] Deactive/Active doctor	As an admin, I want to deactivate/active doctor, so that I can operate system well	Deactive doctor cannot access to the system anymore		4, 5
44		[Admin] Create patient	As an admin, I want to create new patient			4
45		[Admin] Edit patient	As an admin, I want to edit some information of patient			4
46		[Admin] Search patient	As a admin, I want to search patient so that I can increase my work performance			4
47		[Admin] Deactive/Active patient	As an admin, I want to deactivate/active patient, so that I can operate system well	Deactive patient cannot access to the system anymore		4
48		[Admin] Define medical profile template	As an admin, I want to define new medical profile template for my hospital	Template can re-use existing information from patients Template can use some built-in modules of system		2, 3, 5, 7, 8

49		[Admin] Update medical profile template	As an admin, I want to update medical profile template, so that my template can stay update with new changes	After updating, a summary changes should be listed out		9
50		[Admin] Change picture profile	As an admin, I want to change my profile picture			11
51		[Admin] Change password	As an admin, I want to change my password	Admin have to re-enter current password Admin have to enter new password twice		11
52	Technical	Project structure	As a developer, I want to have a good project structure designed	An MVC4 web application Consider about authorization, model first implementation		1, 2, 4
53		Research	As a developer, I want to have some research about the technologies, techniques so that I can apply them into the project	Understand how it works Share with the team Think about how it integrate with the existing system.		1, 2, 5
54	Re-defend	Update document	As a developer, I want to fix some errors in Capstone Project Document	Follow some guidelines from instructors.		12
55		[Doctor] Capture webcam	As a doctor, I want to capture image from patient's webcam to create film document.	Find solution to capture image from webcam.		12
56		[Doctor] Support private mode	As a doctor, I want to have a private mode, so that I won't get notified when receive message from other patients.	In private mode, hide conversation list and provide ways to let doctor work quickly view history of treatment of patient and create new treatment.		12

57		[Doctor] Map conversation	As a doctor, I want to map conversation with treatment, so that I can share conversation with other doctors to have a higher quality of consultant.			12
58		[Doctor] Create treatment history	As a doctor, I want to create new treatment history for patient during consulting time.			12
59		[Patient] View treatment history	As a patient, I want to see my treatment history list with mapping conversion, so that I can have an overview about my health.			12

Table 4 Product Backlog

### **3.2. Sprint Backlog**

- Reference Appendix: Sprint Backlog.

### **3.3. All Meeting Minutes**

- Reference Appendix: Meeting Minutes.

## **4. Convention Rules**

C#: Using to develop website.

# Part C. System Requirements Specifications (SRS)

## 1. User Requirement Specification

**OMCS** is a website that provides the convenient way by let patient communicate face-to-face with health care provider via social media. It helps improving the processes of medical treatment.

### 1.1. Guest Requirement

To satisfy the demand of guest, system has these functions:

- **Registration:** guest need to register to become member. Username, password, email are required for registration.
- **Login:** guest can log in with email and password.

### 1.2. User Requirement

After login successful, user has these functions:

- **Update personal profile:** user has the ability to manage their profile information. He can update some basic information (name, email, birthday, address...) or change profile picture.
- **Change password:** user can change their password.

### 1.3. Patient Requirement

If user login with role patient, he can have these functions:

- **Update personal health record:** patient has their own personal health record (height, weight, life styles...) and he can update it.
- **View medical profile:** patient has ability to view their medical profile.
- **View doctor online:** patient can see doctor online status.
- **Chatting:** patient can choose doctor and send message to get consulted.
- **Upload attachment:** patient can upload files and send to doctor.
- **View treatment history:** patient can view treatment history with mapping conversation.
- **Show webcam:** patient can share their webcam for doctor.
- **Comment doctor:** patient can post comment about doctor.
- **Rating doctor:** patient can rate doctor.

### 1.4. Doctor Requirement

If user login with role doctor, he can have these functions:

- **Manage patient:** doctor can create account for patient, update patient information, search patient
- **Update medical profile:** doctor can create medical profile for patient and update information.

- **View medical profile:** doctor can view medical profile of a patient.
- **Chatting:** doctor can reply message from patient
- **Upload attachment:** doctor can upload files and send to patient.
- **Request webcam:** doctor can request patient to share their webcam.
- **View comment/rating:** doctor can view comments from patients with average rating point.
- **Reply comment:** doctor has ability to reply comment from patients.

## 1.5. Admin Requirement

If user login with role admin, he can have these functions:

- **Manage doctor:** admin can create, edit, active/de-active doctor account, search doctor.
- **Manage patient:** admin can create, edit, active/de-active patient account, search patient.
- **Define new medical profile template**
- **Update existing medical profile template**
- **Manage comment:** admin can review, delete comments.

## 2. System Requirement Specification

### 2.1. Use Case Overview

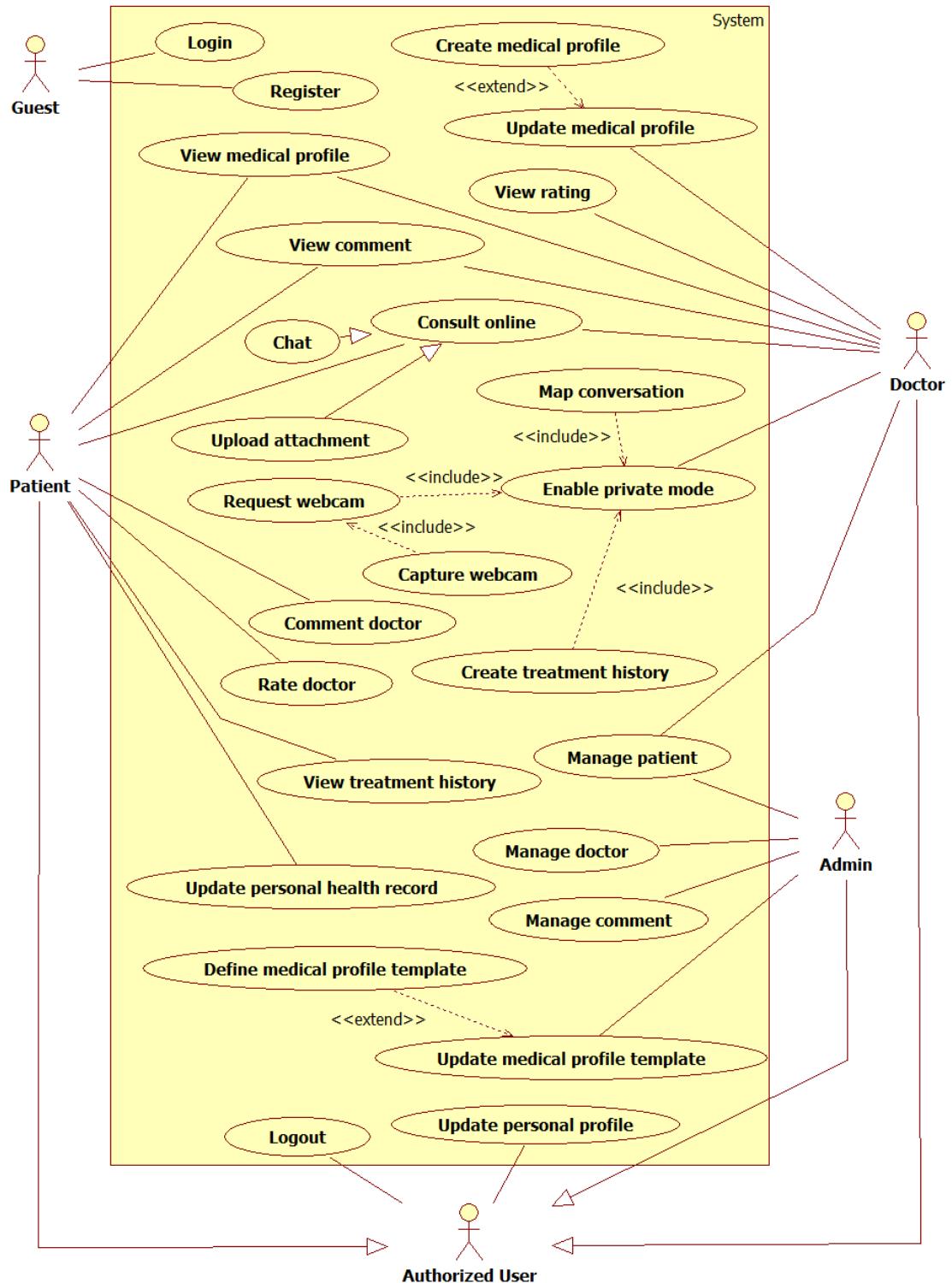


Figure 2 System Use Case Overview

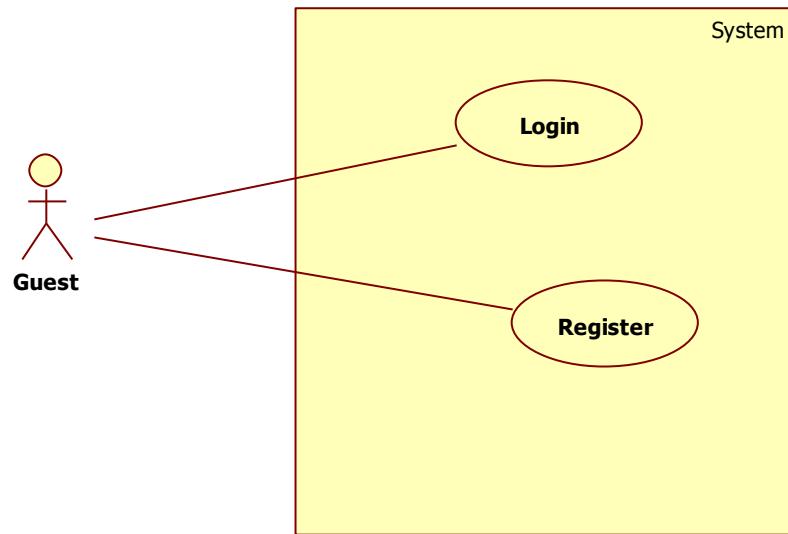


Figure 3 <Guest> Use Case Overview

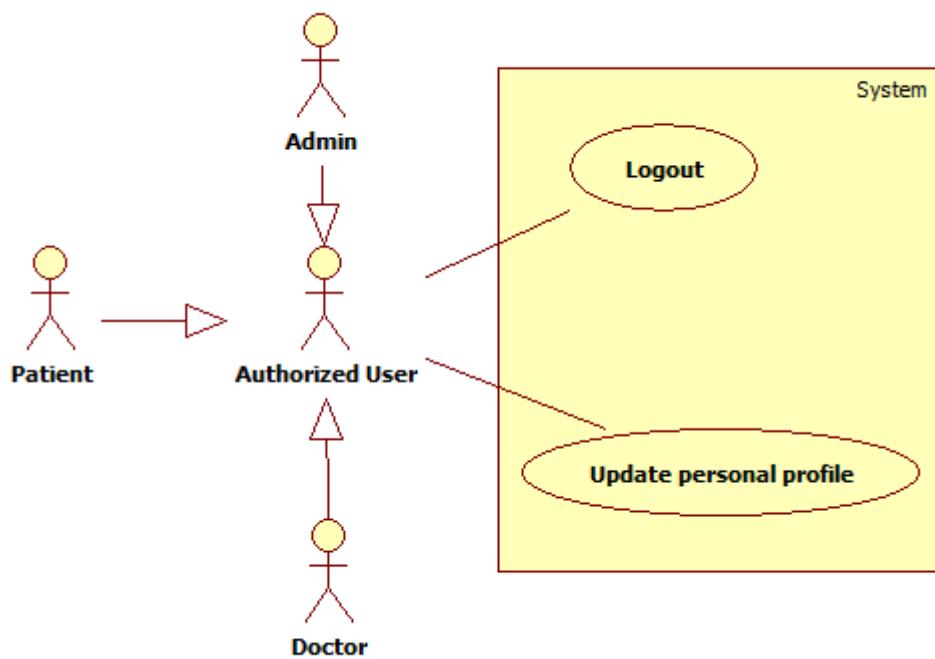


Figure 4 <Authorized User> Use Case Overview

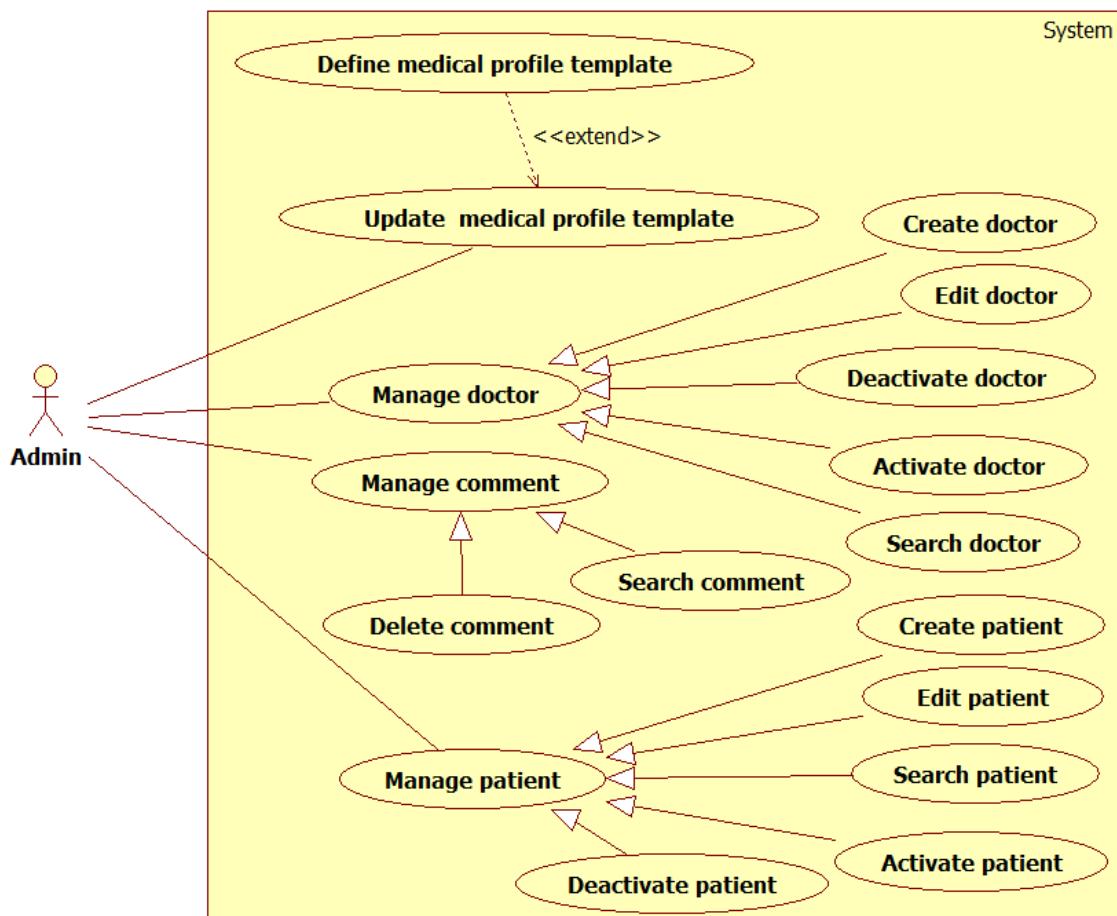


Figure 5 <Admin> Use Case Overview

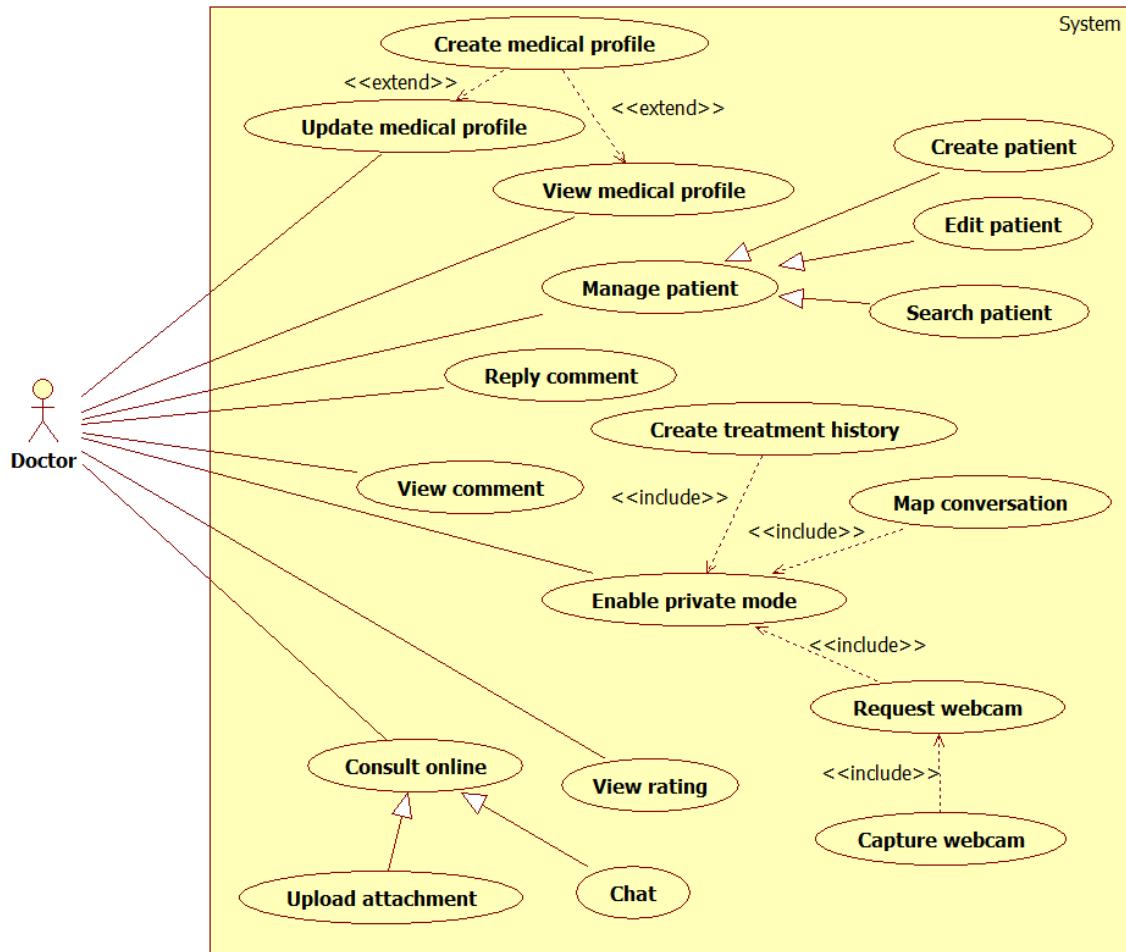


Figure 6 <Doctor> Use Case Overview

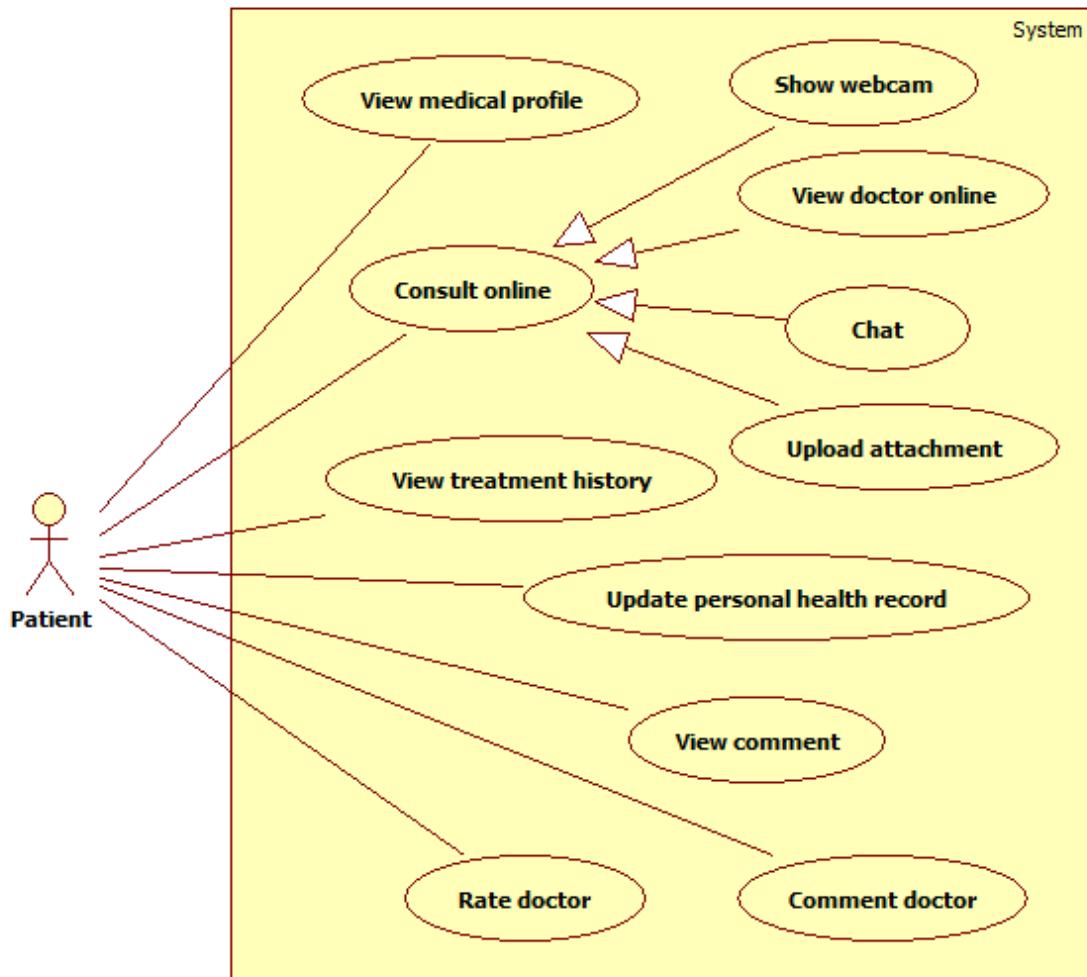


Figure 7 <Patient> Use Case Overview

## 2.2. Functional Requirements

### 2.2.1. Functional Requirement 1 - Login

#### 2.2.1.1. Use Case-1 Diagram

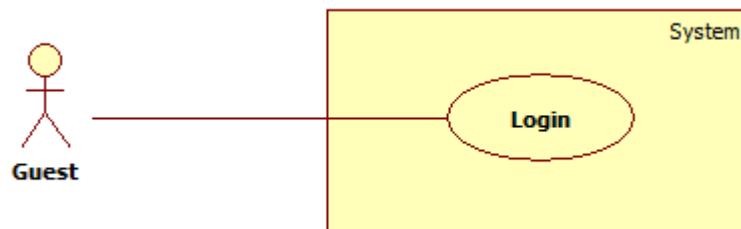


Figure 8 <Guest> Login

#### 2.2.1.1. Use Case-1 Specification

USE CASE - 1 SPECIFICATION			
Use-case No.	UC_001	Use-case Version	1.1
Use-case Name	<Guest> Login		
Author	SuTNT		
Date	29/05/2014	Priority	Normal

**Actor:**

- Guest

**Summary:** This use case allows user login into system.

**Goal:** Check user's role to use system's functions.

**Triggers:** Click on “Đăng nhập” link on homepage.

**Preconditions:**

- User has already created an account in system.
- User account in active state.

**Post-Conditions:**

- Success: member login successfully.
- Failure: System displays error message. Content of error message will specify in Exception section.

**Main Success Scenario:**

Step	Actor Action	System Response
1	Click “Đăng nhập” link on “Trang Chủ” page.	<ul style="list-style-type: none"> <li>- Redirect to “Login” page.</li> <li>- Display form to input login information:           <ul style="list-style-type: none"> <li>• Email: textbox, required</li> <li>• Mật khẩu: textbox, password box, require.</li> <li>• Đăng nhập: button.</li> </ul> </li> </ul>
2	Enters email and password into textboxes. [Alternative1]	
3	Click “Đăng nhập” button.	<ul style="list-style-type: none"> <li>- Validate email and password.</li> <li>- Redirect to page follow user's role.</li> </ul>

**Alternative Scenario:**

No	Actor Action	System Response
1	Clicks on “Tù chối” button.	<ul style="list-style-type: none"> <li>- Navigate back to homepage.</li> </ul>

**Exception:**

No	Actor Action	System Response

1	When user fills wrong email or password.	Display a hint message “Email hoặc mật khẩu không đúng”.
2	Email or password is blank.	Show message: “Vui lòng điền vào trường này”.

**Relationship:** N/A

**Business Rules:**

- Only active account can log in successfully. User can active account by using active link sent by email at the time registration or contacting with administrator.
- When login successfully, logged user will be navigated by their role to quickly do their jobs.
- Passwords stored in database are encrypted using MD5 message-digest algorithm.

Table 5 <Guest> Login

### 2.2.2. Functional Requirement 2 - Register

#### 2.2.2.1. Use Case-2 Diagram

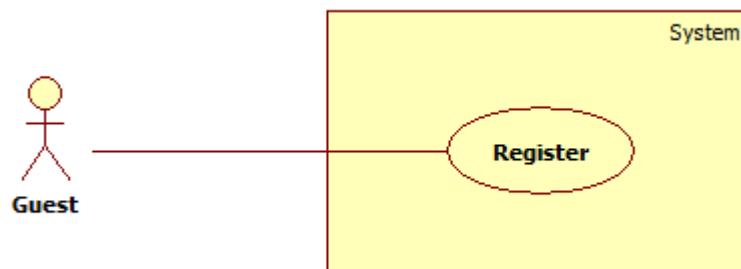


Figure 9 <Guest> Register

#### 2.2.2.2. Use Case-2 Specification

USE CASE - 2 SPECIFICATION			
Use-case No.	UC_002	Use-case Version	1.1
Use-case Name	<Guest> Register		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> <li>Guest</li> </ul>		
Summary:	User uses this function to register into system.		
Goal:	Help guest to create an account on website.		
Triggers:	Click on “Đăng ký” link to “Register” page.		

**Preconditions:** N/A.

**Post-conditions:**

- Success: New user account is created.
- Failure: Show message error.

**Main Success Scenario:**

Step	Actor Action	System Response
1	Guest clicks on “Đăng ký” link.	<ul style="list-style-type: none"> <li>- Display “Đăng ký” page with a register form which includes:           <ul style="list-style-type: none"> <li>+ Địa chỉ email: textbox, max length: 50, require.</li> <li>+ Họ: textbox, max length: 50, require.</li> <li>+ Tên: textbox, max length: 50, require.</li> <li>+ Mật khẩu: textbox, password box, min length: 6, max length: 32, require.</li> <li>+ Xác nhận mật khẩu: textbox, password box, min length: 6, max length: 32, require.</li> <li>+ Recaptcha: image.</li> <li>+ Đăng ký: button.</li> <li>+ Trở về: button.</li> </ul> </li> </ul>
2	Guest enters required information, then clicks on “Đăng ký” button.	<ul style="list-style-type: none"> <li>- Validate the inputted information. [Exception 1, 2, 3, 4, 5, 6, 7]</li> <li>- Create new user account. Show success message.</li> </ul>

**Alternative Scenario:** N/A

**Exception:**

No	ActorAction	System Response
1	When user fills email not correct format	Display message “Email không đúng định dạng”.
2	When user fills exist email	Display message “Địa chỉ email đã tồn tại”.
3	Mandatory field which have a mark “*” is empty	Display message “Bạn cần nhập giá trị này”.
4	When user fills password is more than 32 characters or less than 6 characters	Display message “Độ dài trong khoảng từ 6 đến 32 kí tự”.
5	When user fills re-password not match password	Display message “Xác nhập mật khẩu không trùng khớp”.
6	Captcha is empty	Display message “Mã captcha không được để trống”.
7	Captcha not match captcha picture	Display message “Mã captcha không trùng khớp”.

**Relationship:** N/A

**Business Rules:**

- Each created account must be in active state when insert to database and has role

“patient”.

- When user registered an account, system will send email to user’s email with link to activate. If patient click link then redirect to page follow user role “patient”.
- Email format: [character@character.character](mailto:character@character.character)

Table 6 <Guest> Register

### 2.2.3. Functional Requirement 3 - View Medical Profile

#### 2.2.3.1. Use Case-3 Diagram

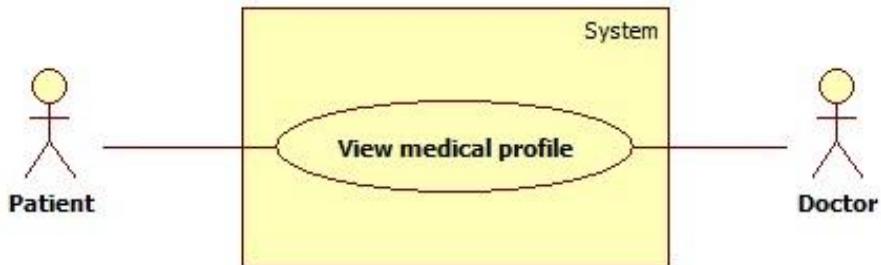


Figure 10 <Doctor><Patient> View Medical Profile

#### 2.2.3.2. Use Case-3 Specification

USE CASE - 3 SPECIFICATION						
Use-case No.	UC_003	Use-case Version	1.1			
Use-case Name	<Doctor><Patient> View Medical Profile					
Author	DanhTC					
Date	29/05/2014	Priority	Normal			
Actor:	<ul style="list-style-type: none"> <li>Patient</li> <li>Doctor</li> </ul>					
Summary:	This use case is about viewing medical profile for a patient.					
Goal:	View detail of a medical profile.					
Triggers:	Patient clicks on “Xem chi tiết” button on “MedicalProfile” page.					
Preconditions:	<ul style="list-style-type: none"> <li>User must log in with role “Patient” or “Doctor”.</li> <li>Patient consulted with doctor.</li> </ul>					
Post-Conditions:	<ul style="list-style-type: none"> <li>Success: Show medical profile.</li> <li>Failure: System displays error message. Content of error message will specify in Exception section.</li> </ul>					
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	User clicks on “Xem chi tiết” button.	Redirect into “Detail” page to shows medical profile details.
<b>Alternative Scenario:</b> N/A		
<b>Exception:</b>		
No	Actor Action	System Response
1	Medical profile is broken.	Display message “Hồ sơ bệnh án bị lỗi.”
<b>Relationship:</b> N/A		
<b>Business Rules:</b>		
<ul style="list-style-type: none"> <li>Patient has one or more medical profile.</li> <li>Medical profile template fields are arranged vertically.</li> <li>Medical profile information stored in JSON. Medical profile can include values such as:               <ul style="list-style-type: none"> <li>“Lịch sử bệnh án”, “Hồ sơ phim”, “Dị ứng”, “Tiêm chủng” are built-in modules in system.</li> <li>“Khu vực”, “Ô nhập liệu”, “Kiểu ngày tháng”, “Đoạn nhập liệu”, and other components are highly-customized HTML elements.</li> <li>“Họ và tên”, “Giới tính”, “Ngày sinh” and other components are derived from patient information. User can change the way those fields displayed and the way mapping work.</li> </ul> </li> </ul>		

Table 7 <Doctor><Patient> View Medical Profile

#### 2.2.4. Functional Requirement 4 – Chat

##### 2.2.4.1. Use Case-4 Diagram

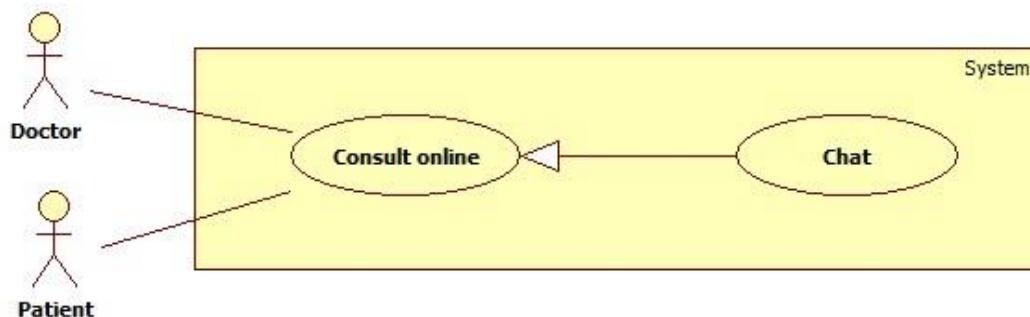


Figure 11 <Doctor><Patient> Chat

##### 2.2.4.2. Use Case-4 Specification

USE CASE - 4 SPECIFICATION			
Use-case No.	UC_004	Use-case Version	1.1
Use-case Name	<Doctor><Patient> Chat		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:			

- Doctor
- Patient

**Summary:** This use case is about chatting between doctor and patient.

**Goal:** User can send message to each other.

**Triggers:**

- Doctor is on “DoctorConversation” page and patient is on “UserConversation” page.
- User input to text-box and clicks on “Gửi” button to send message.

**Preconditions:**

- User must log in with role “Doctor” or “Patient”.

**Post-Conditions:**

- Success: Send and receive message successfully.
- Failure: System displays error message. Content of error message will specify in Exception section.

**Main Success Scenario:**

Step	Actor Action	System Response
1	User inputs message to text-box and clicks on “Gửi” button.	Conversation content insert into database and message is send to chat partner and display that message for him/her with format: Lastname+Firstname – Date – Content.

**Alternative Scenario:** N/A

**Exception:**

No	Actor Action	System Response
1	Consult is broken.	Display message “Không thể gửi tin nhắn.”

**Relationship:** Consult online

**Business Rules:**

- Conversation content stored into database and if patient has consulted with doctor then previous conversation content show in chat page.
- Doctor chat only one patient at a time.
- Conversation content stored:
  - If this is firsttime consult between doctor and patient then create a conversation with fields: PatientId, DoctorId, DateConsult, LastContentFromDoctor, LastContentFromPatient, IsDoctorRead and IsPatientRead.
  - After conversation is created then create a conversation details between doctor and patient with fields: ConversationId, UserId, Content, Attachment if user upload attachment, IsRead and CreatedDate.
  - If doctor and patient consulted then update conversation and insert conversation details follow conversation id.

Table 8 <Doctor><Patient> Chat

### 2.2.5. Functional Requirement 5 – Request Webcam

### 2.2.5.1. Use Case-5 Diagram

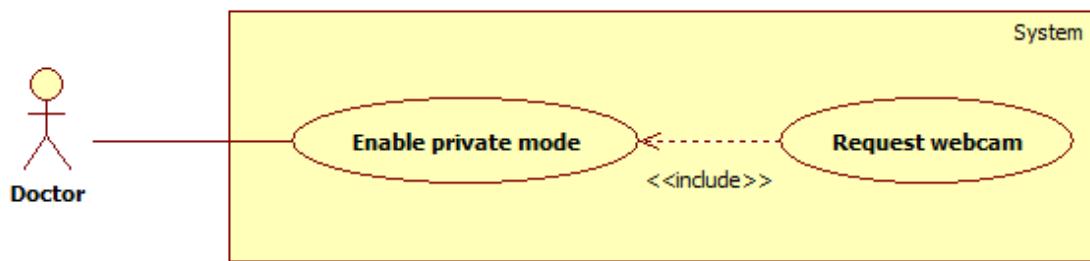


Figure 12 <Doctor> Request Webcam

### 2.2.5.2. Use Case-5 Specification

USE CASE - 5 SPECIFICATION									
Use-case No.	UC_005	Use-case Version	1.1						
Use-case Name	<Doctor> Request Webcam								
Author	SuTNT								
Date	29/05/2014	Priority	Normal						
<b>Actor:</b>	<ul style="list-style-type: none"> <li>• Doctor</li> <li>• Patient</li> </ul>								
<b>Summary:</b>	This use case allows doctor to request patient's webcam when chatting.								
<b>Goal:</b>	Doctor can see the video stream from patient's webcam.								
<b>Triggers:</b>	<ul style="list-style-type: none"> <li>• User clicks on “Yêu cầu Webcam...” button on chat page.</li> </ul>								
<b>Preconditions:</b>	<ul style="list-style-type: none"> <li>• User must log in with role “Doctor”.</li> <li>• “Tư vấn riêng” mode is enabled.</li> <li>• Patient is still online.</li> <li>• Patient has a webcam which work properly.</li> </ul>								
<b>Post-Conditions:</b>	<ul style="list-style-type: none"> <li>• Success: Doctor can see the patient’s webcam stream.</li> <li>• Failure: System displays error message.</li> </ul>								
<b>Main Success Scenario:</b>	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Doctor clicks on “Yêu cầu Webcam...” button. [Exception 1]</td><td>Send a message to a patient “Bạn nhận được yêu cầu xem webcam từ bác sĩ:.... Bạn có muốn chia sẻ webcam?.” with</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	Doctor clicks on “Yêu cầu Webcam...” button. [Exception 1]	Send a message to a patient “Bạn nhận được yêu cầu xem webcam từ bác sĩ:.... Bạn có muốn chia sẻ webcam?.” with
Step	Actor Action	System Response							
1	Doctor clicks on “Yêu cầu Webcam...” button. [Exception 1]	Send a message to a patient “Bạn nhận được yêu cầu xem webcam từ bác sĩ:.... Bạn có muốn chia sẻ webcam?.” with							

		two buttons: “Đồng ý” and “BỎ qua”.
2	Patient click on “Đồng ý” button [Alternative 1]	Streaming video to doctor.

**Alternative Scenario:**

No	Actor Action	System Response
1	Patient clicks on “Từ chối” button.	Show message “Yêu cầu xem webcam bị từ chối”.

**Exception:**

No	Actor Action	System Response
1	Patient is offline	Display message “Bệnh nhân ... không ở chế độ Online”.

**Relationship:** <Doctor> Enable private mode

**Business Rules:**

- To request webcam, doctor has to enable “Tư vấn riêng” mode first.
- Doctor can only request one patient’s webcam at the time.

Table 9 <Doctor> Request Webcam

### 2.2.6. Functional Requirement 6 – Show Webcam

#### 2.2.6.1. Use Case-6 Diagram

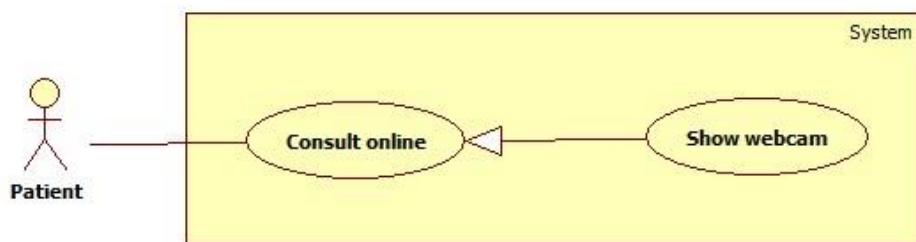


Figure 13 <Patient> Show webcam

#### 2.2.6.2. Use Case-6 Specification

USE CASE - 6 SPECIFICATION			
<b>Use-case No.</b>	UC_006	<b>Use-case Version</b>	1.1
<b>Use-case Name</b>	<Patient> Show Webcam		
<b>Author</b>	SuTNT		
<b>Date</b>	29/05/2014	<b>Priority</b>	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>• Patient</li> </ul>		

**Summary:** This use case is about Showing webcam when chatting.

**Goal:** Doctor can see video stream from patient's webcam.

**Triggers:**

- User clicks on “Đồng ý” button in popup “Bạn nhận được yêu cầu xem webcam từ bác sĩ:.... Bạn có muốn chia sẻ webcam?.”.

**Preconditions:**

- User must log in with role “Patient”.
- Use case UC\_005 (<Doctor> Request Webcam) must be executed first.

**Post-Conditions:**

- Success: Show webcam successfully.
- Failure: System displays error message.

**Main Success Scenario:**

Step	Actor Action	System Response
1	User clicks on “Đồng ý” button on “Bạn nhận được yêu cầu xem webcam từ bác sĩ:.... Bạn có muốn chia sẻ webcam?.” pop-up. [Alternative 1]	<ul style="list-style-type: none"> <li>- Request browser to use media's capture device (camera, microphone)</li> </ul>
2	User clicks on “Đồng ý” button on pop-up “OMCS muốn sử dụng máy ảnh của bạn” [Alternative 2]	<ul style="list-style-type: none"> <li>- Attach camera stream into user's screen.</li> <li>- Transmit camera stream to doctor.</li> </ul>

**Alternative Scenario:**

No	Actor Action	System Response
1	User clicks on “Từ chối” button.	<ul style="list-style-type: none"> <li>- Send message “Yêu cầu bị từ chối” to doctor.</li> </ul>
2	User clicks on “Từ chối” button.	<ul style="list-style-type: none"> <li>- Do nothing</li> </ul>

**Exception:** N/A

**Relationship:** Consult online

**Business Rules:**

- User need to have webcam connected properly with computer. If they have a microphone, the sound will be transmitted also.
- Video, audio are transferred using WebRTC by establishing a Peer to Peer connection.
- System's server doesn't know about the stream transmitted from patient.

Table 10 < Patient> Show webcam

### 2.2.7. Functional Requirement 7 – Upload Attachment

### 2.2.7.1. Use Case-7 Diagram

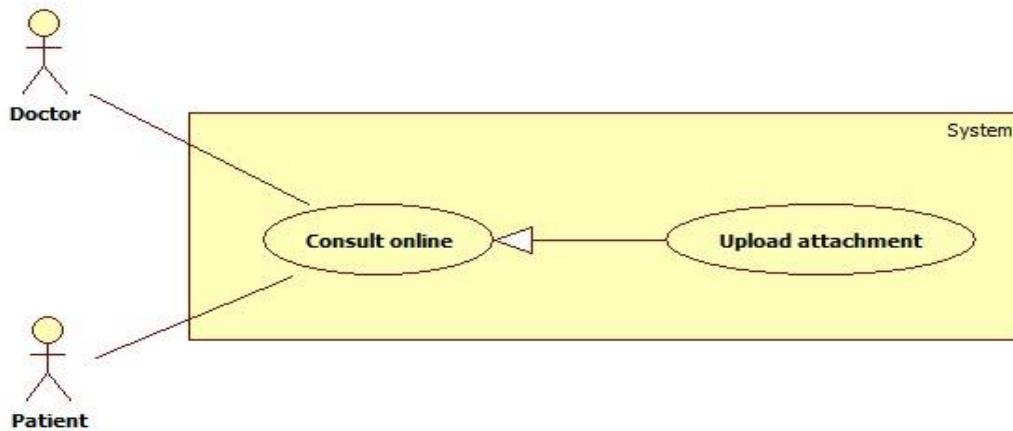


Figure 14 <Doctor>< Patient> Upload Attachment

### 2.2.7.2. Use Case-7 Specification

USE CASE - 7 SPECIFICATION			
Use-case No.	UC_007	Use-case Version	1.1
Use-case Name	<Patient><Doctor> Upload Attachment		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>• Patient</li> <li>• Doctor</li> </ul>		
<b>Summary:</b>	This use case is about Uploading attachment for user when chatting.		
<b>Goal:</b>	User can upload attachment when chatting.		
<b>Triggers:</b>	User clicks on “Gửi tập tin đính kèm” button on chat page.		
<b>Preconditions:</b>	<ul style="list-style-type: none"> <li>• User must log in with role “Patient” or “Doctor”.</li> </ul>		
<b>Post-Conditions:</b>	<ul style="list-style-type: none"> <li>• Success: Upload attachment successfully.</li> <li>• Failure: System displays error message. Content of error message will specify in Exception section.</li> </ul>		
<b>Main Success Scenario:</b>			
Step	Actor Action	System Response	
1	User clicks on “Gửi tập tin đính kèm” button on page.	Show “Open” window. This window will help user access to the file that user want to attach.	
2	User chooses the file and clicks “Open”		

	button. [Alternative 1]	Send file to store in system. [Exception 1, 2] If attached file is image, show it into chat content. Otherwise, give a link to the doctor or patient for downloading.
--	-------------------------	--

**Alternative Scenario:**

No	Actor Action	System Response
1	User clicks on "Cancel" button	Back to chat page and no file is attached

**Exception:**

No	Actor Action	System Response
1	File size is larger than specified file.	Display message "Tập tin lớn hơn quy định. Vui lòng chọn tập tin phù hợp với yêu cầu"
2	File not correct format	Display message "Tập tin không đúng định dạng"

**Relationship:** Consult Online

**Business Rules:**

- Image file can be showed directly on chat content.
- File attachment will be show a link to download on chat content.
- Image upload must have file types: jpg, png, jpeg, gif, JPEG.
- File attachment maximum 4mb.
- File attachment store in folder on server.
- Store file name of file attachment in database.

Table 11 <Doctor><Patient> Upload Attachment

### 2.2.8. Functional Requirement 8 – View Doctor Online

#### 2.2.8.1. Use Case-8 Diagram

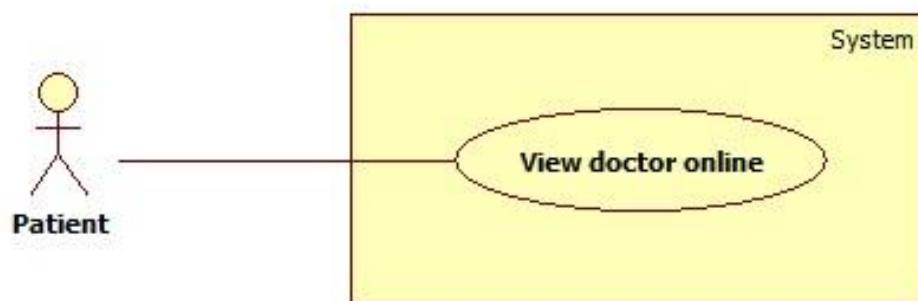


Figure 15 <Patient> View doctor online

#### 2.2.8.2. Use Case-8 Specification

USE CASE - 9 SPECIFICATION			
Use-case No.	UC_008	Use-case Version	1.1
Use-case Name	<Patient> View doctor online		

<b>Author</b>	SuTNT				
<b>Date</b>	29/05/2014	<b>Priority</b>	Normal		
<b>Actor:</b>					
<ul style="list-style-type: none"> <li>• Patient</li> </ul> <b>Summary:</b> This use case is about viewing doctor online's status for a patient. <b>Goal:</b> Patient can view doctor online's status. <b>Triggers:</b> Patient goes to "Tư vấn trực tuyến" page. <b>Preconditions:</b> <ul style="list-style-type: none"> <li>• User must log in with role "Patient".</li> </ul> <b>Post-Conditions:</b> <ul style="list-style-type: none"> <li>• Success: Online doctors appear in the list with online icon.</li> <li>• Failure: System displays error message. Content of error message will specify in Exception section.</li> </ul>					
<b>Main Success Scenario:</b>					
<b>Step</b>	<b>Actor Action</b>	<b>System Response</b>			
1	User clicks on "Tư vấn trực tuyến" link. [Alternative 1, 2] [Exception 1]	<ul style="list-style-type: none"> <li>- Show the list of doctor.</li> <li>- Online doctor will have online icon.</li> </ul>			
<b>Alternative Scenario:</b>					
<b>No</b>	<b>Actor Action</b>	<b>System Response</b>			
1	Doctor not online.	<ul style="list-style-type: none"> <li>- Status doctor will have offline icon.</li> </ul>			
2	Doctor enable private mode	<ul style="list-style-type: none"> <li>- Status doctor will have busy icon.</li> </ul>			
<b>Exception:</b> N/A					
<b>Relationship:</b> Consult Online					
<b>Business Rules:</b>					
<ul style="list-style-type: none"> <li>- When doctor go to "Tư Vấn Trực Tuyến". Doctor status is online and update instantly for all online patients.</li> <li>- When doctor enable private mode. Doctor status become busy and update instantly for all online patients.</li> <li>- When doctor close page "Tư Vấn Trực Tuyến". Doctor status become offline and update instantly for all online patients.</li> </ul>					

Table 12 <Patient> View doctor online

### 2.2.9. Functional Requirement 9 – Update medical profile

### 2.2.9.1. Use Case-9 Diagram

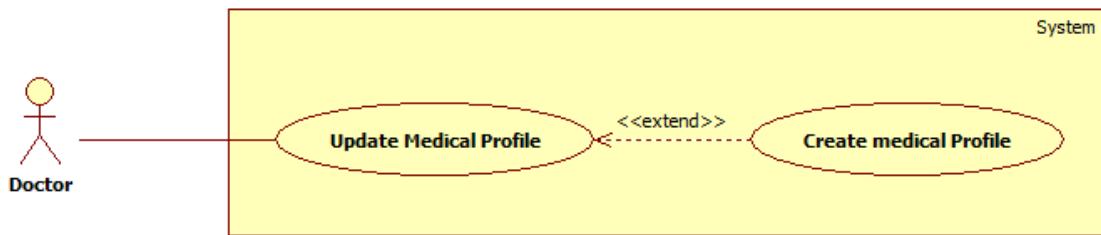


Figure 16 <Doctor> Update medical profile

### 2.2.9.2. Use Case-9 Specification

USE CASE – 9 SPECIFICATION			
Use-case No.	UC_09	Use-case Version	1.1
Use-case Name	<Doctor> Update medical profile		
Author	DanhTC		
Date	30/05/2014	Priority	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>• Doctor</li> </ul>		
<b>Summary:</b>	This use case is doctor update medical profile.		
<b>Goal:</b>	Doctor can update medical profile.		
<b>Triggers:</b>	Doctor clicks on “Cập nhật” button on “DoctorMedicalProfile” page.		
<b>Preconditions:</b>	<ul style="list-style-type: none"> <li>• User must be logged - in as “Doctor”.</li> <li>• Doctor consulted with patient.</li> <li>• Medical Profile is created by doctor.</li> </ul>		
<b>Post-Conditions:</b>	<ul style="list-style-type: none"> <li>• Success: A medical profile is updated in the system.</li> <li>• Failure: The doctor is presented with an error message.</li> </ul>		
<b>Main Success Scenario:</b>			
Step	Actor Action	System Response	
1	User logged – in as “Doctor” and clicks on “Cập nhật” button on “DoctorMedicalProfile” page.	<ul style="list-style-type: none"> <li>- Display “UpdateMedicalProfile” page with patient’s fields has been added to doctor can edit and update.</li> </ul>	
2	Input suitable fields want to update and click on “Cập nhật” button.	<ul style="list-style-type: none"> <li>- Validate input data. [Exception 2]</li> <li>- Medical profile is updated into database.</li> </ul>	

		- Display message: “Cập nhật thành công”.
--	--	---

**Alternative Scenario:**

**Exception:**

No	Actor Action	System Response
1	Medical profile is broken	Display message “Không thể cập nhật hồ sơ bệnh án”
2	Mandatory field which have a mark “*” is empty	Display message “Bạn cần nhập giá trị này”

**Relationship:** Create medical profile

**Business Rules:**

- Doctor can update all medical profile created.
- All information stored in JSON. Medical profile have value what created by doctor such as:
  - + “Lịch sử bệnh án”, “Hồ sơ phim”, “Đi ứng”, “Tiêm chủng” are built-in modules in system.
  - + “Khu vực”, “Ô nhập liệu”, “Kiểu ngày tháng”, “Đoạn nhập liệu”, and other components are highly-customized HTML elements.
  - + “Họ và tên”, “Giới tính”, “Ngày sinh” and other components are derived from patient information. User can change the way those fields displayed and the way mapping work.

Table 13 <Doctor> Update medical profile

### 2.2.10. Functional Requirement 10 – Create medical profile

#### 2.2.10.1. Use Case-10 Diagram

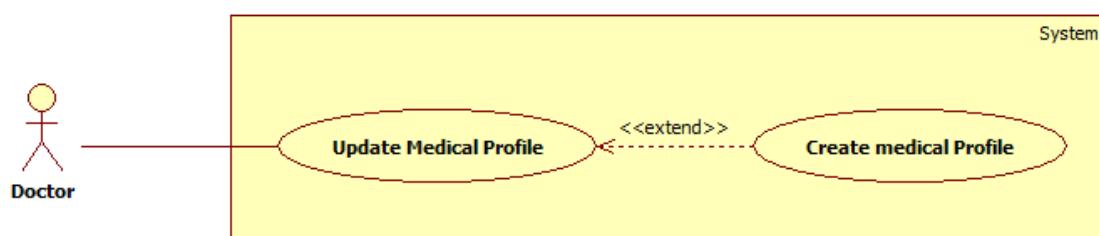


Figure 17 <Doctor> Create medical profile

#### 2.2.10.2. Use Case-10 Specification

USE CASE – 9 SPECIFICATION			
Use-case No.	UC_10	Use-case Version	1.1
Use-case Name	<Doctor> Create medical profile		
Author	DanhTC		
Date	30/05/2014	Priority	Normal
Actor:			

- Doctor

**Summary:** This use case is doctor create medical profile.

**Goal:** Doctor can create medical profile.

**Triggers:** Doctor clicks on “Tạo hồ sơ bệnh án” button on “DoctorMedicalProfile” page.

**Preconditions:**

- User must be logged - in as “Doctor”.
- Doctor consulted with patient.

**Post-Conditions:**

- Success: A medical profile is created in the system.
- Failure: The doctor is presented with an error message.

**Main Success Scenario:**

Step	Actor Action	System Response
1	User chose a patient to view.	- Display “DoctorUser” page with select filed with medical profiles created and button “Tạo mẫu hồ sơ bệnh án”.
2	User chose a medical profile and click on “Tạo hồ sơ bệnh án”	<ul style="list-style-type: none"> <li>- Medical profile is created into database with value created by admin. [Exception 1]</li> <li>- Display message: “Tạo hồ sơ bệnh án thành công”.</li> </ul>

**Alternative Scenario:**

**Exception:**

No	Actor Action	System Response
1	Medical profile is broken	Display message “Không thể tạo hồ sơ bệnh án”

**Relationship:** N/A

**Business Rules:**

- Doctor have just been applied a medical profile/ a patient.
- Medical profile stored database with custom snippet, custom value, custom fields correlative medical profile template created by admin.
- All information stored in JSON. Medical profile template have fields created by admin such as:
  - + “Lịch sử bệnh án”, “Hồ sơ phim”, “Đi ứng”, “Tiêm chủng” are built-in modules in system.
  - + “Khu vực”, “Ô nhập liệu”, “Kiểu ngày tháng”, “Đoạn nhập liệu”, and other components are highly-customized HTML elements.
  - + “Họ và tên”, “Giới tính”, “Ngày sinh” and other components are derived from patient information. User can change the way those fields displayed and the way mapping work.

Table 14 <Doctor> Create medical profile

### 2.2.11. Functional Requirement 11 – Create Doctor

### 2.2.11.1. Use Case-11 Diagram

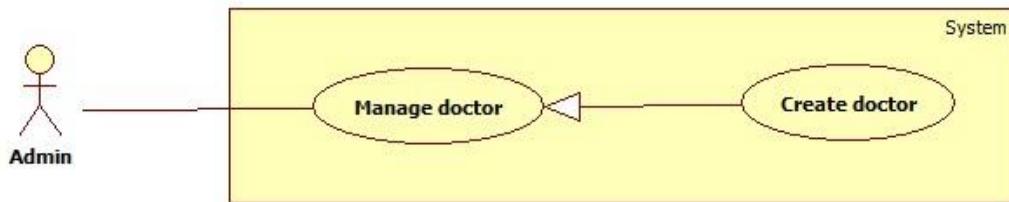


Figure 18 <Admin> Create doctor

### 2.2.11.2. Use Case-11 Specification

USE CASE - 10 SPECIFICATION			
Use-case No.	UC_011	Use-case Version	1.1
Use-case Name	<Admin> Create Doctor		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>• Admin</li> </ul>		
<b>Summary:</b>	This use case allows admin can create new doctor.		
<b>Goal:</b>	Help admin to create new doctor account.		
<b>Trigger:</b>	Click on “Tạo Mới” button on “AdminDoctor” page.		
<b>Precondition:</b>	<ul style="list-style-type: none"> <li>• Login to system with role Administrator.</li> </ul>		
<b>Post-condition:</b>	<ul style="list-style-type: none"> <li>• Success: New doctor is inserted into database.</li> <li>• Failure: System displays error message. Content of error message will specify in Exception section.</li> </ul>		
<b>Main Success Scenario:</b>			
Step	Actor Action	System Response	
1	User clicks on “Tạo Mới” button on “AdminDoctor” page. [Exception 6]	<ul style="list-style-type: none"> <li>- Open “Tạo mới bác sĩ” pop-up page.</li> <li>- Display input fields:           <ul style="list-style-type: none"> <li>+ Email: textbox, max length: 50, require.</li> <li>+ Họ: textbox, max length: 50, require.</li> <li>+ Tên: textbox, max length: 50, require.</li> <li>+ Giới tính: drop-down list, raw source: “Nam”, “Nữ”, default value: “Nam”, require.</li> </ul> </li> </ul>	

		<ul style="list-style-type: none"> <li>+ Chuyên môn: drop-down list, raw source is loaded by specialty table, default value: first value in specialty table, require.</li> <li>+ Ngày sinh: date picker, require.</li> <li>+ Số điện thoại: textbox, min length: 8, max length: 12, require.</li> <li>+ Địa chỉ thường trú: textbox, require.</li> <li>+ Địa chỉ tạm trú: textbox</li> <li>+ Lưu: button.</li> <li>+ BỎ qua: button.</li> </ul>
2	Admin fill all mandatory fields, then clicks on “Lưu” button. [Alternative 1]	<ul style="list-style-type: none"> <li>- Validate input data.</li> <li>- Insert new user account to the database. Show success message.</li> <li>- Redirect to “AdminDoctor” page.</li> </ul>

**Alternative Scenario:**

No	Actor Action	System Response
1	User clicks on “BỎ Qua” button	Close “Tạo Mới” pop-up page.

**Exception:**

No	Actor Action	System Response
1	When user fills length of phone is not in range.	Display message “Độ dài trong khoảng 8 đến 12 ký tự”.
2	When user fills Email, Họ, Tên over max length.	Display message “Độ dài tối đa 50 ký tự”.
3	When user fills email not correct format.	Display message “Email không đúng định dạng”.
4	When user fills exist email.	Display message “Địa chỉ email đã tồn tại”.
5	Mandatory field which have a mark “*” is empty.	Display message “Bạn cần nhập giá trị này”.
6	Page load error	Display an message “Hệ thống hiện tại đang bảo trì”.

**Relationship:** Manage Doctor

**Business Rules:**

- Each created account must be inactive state when insert to database and has role “doctor”.
- Email format: [character@character.character](mailto:character@character.character)
- Phone number must be format is number.
- Password is generated by system.
- Password is sent to doctor email automatically.

Table 15 <Admin> Create doctor

### 2.2.12. Functional Requirement 12 – Edit Doctor

### 2.2.12.1. Use Case-12 Diagram

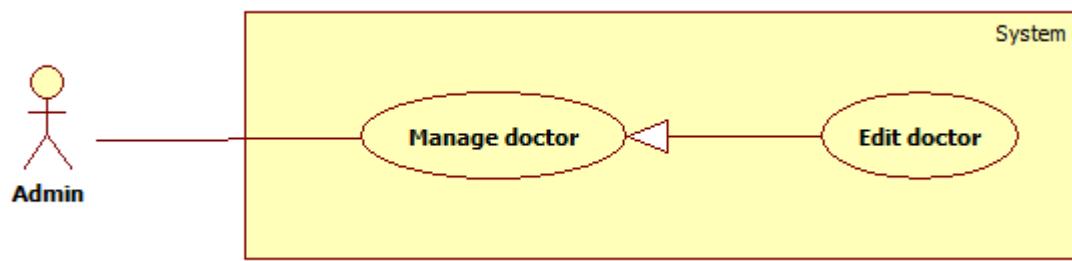


Figure 19 <Admin> Edit doctor

### 2.2.12.2. Use Case-12 Specification

USE CASE - 11 SPECIFICATION			
Use-case No.	UC_012	Use-case Version	1.1
Use-case Name	<Admin> Edit Doctor		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>Admin</li> </ul>		
<b>Summary:</b>	This use case allows admin can edit doctor information.		
<b>Goal:</b>	Help admin to edit doctor account.		
<b>Trigger:</b>	Click on “Cập Nhật” button on “AdminDoctor” page.		
<b>Precondition:</b>	<ul style="list-style-type: none"> <li>Users have already logged in with role “admin”.</li> </ul>		
<b>Post-condition:</b>	<ul style="list-style-type: none"> <li>Success: Doctor’s information is updated in database.</li> <li>Failure: System displays error message. Content of error message will specify in Exception section.</li> </ul>		
<b>Main Success Scenario:</b>			
Step	Actor Action	System Response	
1	User clicks on “Cập Nhật” button on “AdminDoctor” page. [Exception 1]	<ul style="list-style-type: none"> <li>- Open “Cập nhật” pop-up page.</li> <li>- Display input fields with value is created by admin:           <ul style="list-style-type: none"> <li>+ Email: textbox, max length: 50, require.</li> <li>+ Họ: textbox, max length: 50, require.</li> <li>+ Tên: textbox, max length: 50, require.</li> <li>+ Giới tính: drop-down list, raw source:</li> </ul> </li> </ul>	

		<p>“Nam”, “Nữ”, require.</p> <p>+ Chuyên môn: drop-down list, raw source is loaded by specialty table, require.</p> <p>+ Ngày sinh: date picker, require.</p> <p>+ Số điện thoại: textbox, min length: 8, max length: 12, require.</p> <p>+ Địa chỉ thường trú: textbox, require.</p> <p>+ Địa chỉ tạm trú: textbox</p> <p>+ Lưu: button.</p> <p>+ BỎ qua: button.</p>
2	User fills all mandatory fields, then clicks on “Lưu” button. [Alternative 1] [Exception 2]	<ul style="list-style-type: none"> <li>- Validate input data.[Exception 3, 4, 5, 6]</li> <li>- Update doctor account into database. Show success message.</li> <li>- Redirect to “AdminDoctor” page.</li> </ul>

#### Alternative Scenario:

No	Actor Action	System Response
1	User clicks on “BỎ Qua” button	Close “Cập nhật” pop-up page.

#### Exception:

No	Actor Action	System Response
1	Page load error	Display an message “Hệ thống hiện tại đang bảo trì”.
2	Fail to update in database	Display message “Có lỗi xảy ra. Vui lòng thử lại”.
3	When user fills length of phone is not in range.	Display message “Độ dài trong khoảng 8 đến 12 ký tự”.
4	When user fills Họ, Tên over max length.	Display message “Độ dài tối đa 50 ký tự”.
5	When user fills exist email.	Display message “Địa chỉ email đã tồn tại”.
6	Mandatory field which have a mark “*” is empty.	Display message “Bạn cần nhập giá trị này”.

#### Relationship: Manage Doctor

#### Business Rules:

- Email, password will be hidden.
- Email format: [character@character.character](mailto:character@character.character)
- Phone number must be format is number.

Table 16 <Admin> Edit doctor

### 2.2.13. Functional Requirement 13 – Deactivate Doctor

#### 2.2.13.1. Use Case-13 Diagram

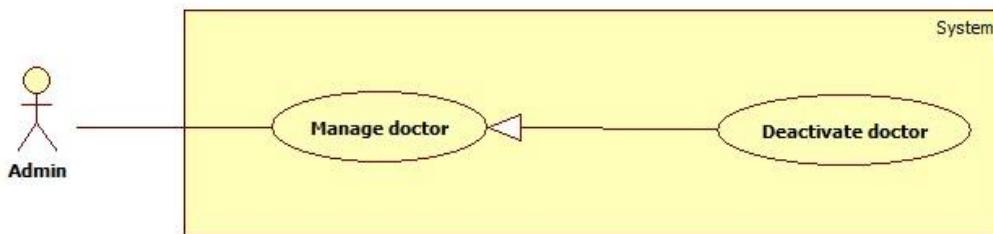


Figure 20 <Admin> Deactivate Doctor

#### 2.2.13.2. Use Case-13 Specification

USE CASE - 13 SPECIFICATION					
Use-case No.	UC_013	Use-case Version	1.1		
Use-case Name	<Admin> Deactivate Doctor				
Author	DanhTC				
Date	29/05/2014	Priority	Normal		
<b>Actor:</b> Admin					
<b>Summary:</b> This use case is about deactivating doctor account.					
<b>Goal:</b> Help admin to deactivating a doctor account.					
<b>Trigger:</b> Click on “Vô Hiệu” button corresponding with each doctor account in the doctor account list of “AdminDoctor” page.					
<b>Precondition:</b>					
• Users have already logged in with role “admin”.					
<b>Post-condition:</b>					
• Success: The doctor account is deactivated and can't log in. • Failure: System displays error message. Content of error message will specify in Exception section.					
<b>Main Success Scenario:</b>					
Step	Actor Action	System Response			
1	Click on “Vô Hiệu” button [Exception 1]	<ul style="list-style-type: none"> <li>- The corresponding doctor account change to “Bị Khóa” status.</li> <li>- “Vô Hiệu” button change to “Kích Hoạt” button.</li> </ul>			
<b>Alternative Scenario:</b> N/A					
<b>Exception:</b>					
No	Actor Action	System Response			
1	Page load error	Display an message “Hệ thống hiện tại đang			

	bảo trì”.
<b>Relationship:</b> Manage Doctor	
<b>Business Rules:</b>	
<ul style="list-style-type: none"> <li>• Admin can't deactivate account of themselves or other admins.</li> <li>• Admin can deactivate an account activate, patient/doctor will be become deactivate and can't logging into system.</li> </ul>	

Table 17 <Admin> Deactivate Doctor

### 2.2.14. Functional Requirement 14 – Activate Doctor

#### 2.2.14.1. Use Case-14 Diagram

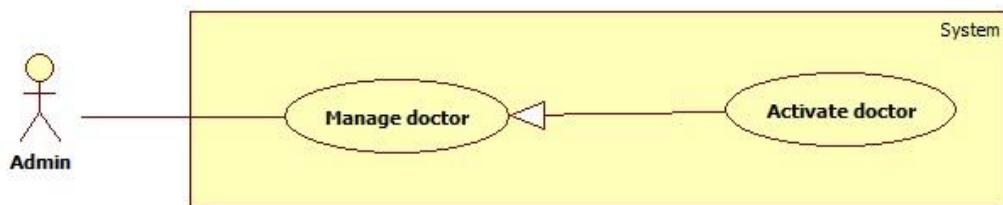


Figure 21 <Admin> Activate doctor

#### 2.2.14.2. Use Case-14 Specification

USE CASE - 15 SPECIFICATION									
Use-case No.	UC_015	Use-case Version	1.1						
Use-case Name	<Admin> Activate Doctor								
Author	SuTNT								
Date	29/05/2014	Priority	Normal						
<b>Actor:</b> Admin <b>Summary:</b> This use case allows admin activate doctor account. <b>Goal:</b> Admin can active a deactivate account. <b>Trigger:</b> Click on “Kích Hoạt” button corresponding with each doctor account in the doctor account list of “AdminDoctor” page. <b>Precondition:</b> <ul style="list-style-type: none"> <li>• Users have already logged in with role “admin”.</li> </ul> <b>Post-condition:</b> <ul style="list-style-type: none"> <li>• Success: The doctor account is activated and can log in.</li> <li>• Failure: System displays error message. Content of error message will specify in Exception section.</li> </ul> <b>Main Success Scenario:</b> <table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Click on “Kích Hoạt” button</td><td>- The corresponding doctor account</td></tr> </tbody> </table>				Step	Actor Action	System Response	1	Click on “Kích Hoạt” button	- The corresponding doctor account
Step	Actor Action	System Response							
1	Click on “Kích Hoạt” button	- The corresponding doctor account							

		<p>change to “Hoạt Động” status.</p> <ul style="list-style-type: none"> <li>- “Kích Hoạt” button change to “Vô Hiệu” button.</li> </ul>
<b>Alternative Scenario:</b> N/A		
<b>Exception:</b>		
No	Actor Action	System Response
1	Cannot active doctor's account	<ul style="list-style-type: none"> <li>- Display error message: “Không thể kích hoạt tài khoản này.”</li> </ul>

**Relationship:** Manage Doctor

**Business Rules:**

- Account can have two statuses: Active/Deactive.
- When active doctor's account, doctor can log in successfully into system. Otherwise, they are blocked from using system.
- When status is changed, it affects immediately.

Table 18 <Admin> Activate doctor

### 2.2.15. Functional Requirement 15 – Create Patient

#### 2.2.15.1. Use Case-15 Diagram

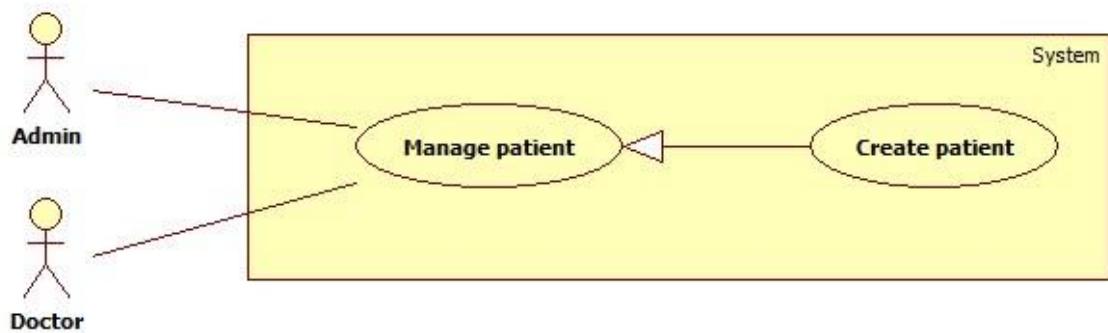


Figure 22 <Admin><Doctor> Create patient

#### 2.2.15.2. Use Case-15 Specification

USE CASE - 16 SPECIFICATION			
<b>Use-case No.</b>	UC_015	<b>Use-case Version</b>	1.1
<b>Use-case Name</b>	<Admin><Doctor> Create Patient		
<b>Author</b>	DanhTC		
<b>Date</b>	29/05/2014	<b>Priority</b>	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>• Admin</li> </ul>		

- Doctor

**Summary:** This use case allows admin/doctor can create new patient.

**Goal:** Help admin/doctor to create new patient account.

**Trigger:** Click on “Tạo Mới” button on “Quản lý bệnh nhân” navigation.

**Precondition:**

- Users have already logged in with role “admin” or “doctor”.

**Post-condition:**

- Success: New patient is inserted into database.
- Failure: System displays error message. Content of error message will specify in Exception section.

**Main Success Scenario:**

Step	Actor Action	System Response
1	User clicks on “Tạo Mới” button on “Quản lý bệnh nhân” navigation. [Exception 1]	<ul style="list-style-type: none"> <li>- Open “Tạo mới bệnh nhân” pop-up page.</li> <li>- Display a form with 4 tabs:           <ul style="list-style-type: none"> <li>“Thông tin cơ bản” tab:               <ul style="list-style-type: none"> <li>+ Email: textbox, max length: 50, require.</li> <li>+ Họ: textbox, max length: 50, require.</li> <li>+ Tên: textbox, max length: 50, require.</li> <li>+ Giới tính: drop-down list, raw source: “Nam”, “Nữ”, default value: “Nam”, require.</li> <li>+ Ngày sinh: date picker, require.</li> <li>+ Số điện thoại: textbox, min length: 8, max length: 12, require.</li> <li>+ Địa chỉ thường trú: textbox, require.</li> <li>+ Địa chỉ tạm trú: textbox.</li> </ul> </li> <li>“Thông tin bệnh nhân” tab:               <ul style="list-style-type: none"> <li>+ Dân tộc: drop-down list, raw source: 54 ethnicities of Vietnam, default value: “Kinh”.</li> <li>+ Quốc tịch: drop-down list, raw source: “Việt Nam”, “Hoa Kì”, “Đài Loan”, “Khác” default value: “Việt Nam”.</li> <li>+ Công việc: textbox.</li> <li>+ Nơi làm việc: textbox.</li> <li>+ Mã số thẻ bảo hiểm y tế: textbox.</li> <li>+ Ngày cấp: date picker.</li> <li>+ Ngày hết hạn: date picker.</li> </ul> </li> <li>“Thông tin người liên lạc” tab:               <ul style="list-style-type: none"> <li>+ Người liên lạc: textbox.</li> <li>+ Địa chỉ người liên lạc: textbox.</li> <li>+ Số điện thoại người liên lạc: textbox, min length: 8, max length: 12.</li> </ul> </li> <li>“Sức khỏe cá nhân” tab:</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>+ Chiều Cao (cm): textbox</li> <li>+ Cân nặng (kg): textbox</li> <li>+ Màu tóc: textbox</li> <li>+ Màu mắt: textbox</li> <li>+ Nhóm máu: textbox</li> <li>+ Lượng đồ uống có cồn (lít) hàng tuần: textbox</li> <li>+ Số năm uống: textbox</li> <li>+ Lượng thuốc hút (gói) hàng tuần: textbox</li> <li>+ Số năm hút: textbox</li> <li>+ Tên loại thể thao: textbox</li> <li>+ Thời gian tham gia (giờ) hàng tuần: textbox</li> <li>+ Tham gia khác (Yoga, Thiền định, ....): textbox</li> <li>+ Thời gian tham gia (giờ) hàng tuần: textbox</li> <li>+ Lưu: button.</li> <li>+ Trở về: button.</li> </ul>
2	User fills all mandatory fields, then click on “Lưu” button. [Alternative 1]	<ul style="list-style-type: none"> <li>- Validate input data. [Exception 2, 3, 4, 5, 6]</li> <li>- Insert new user account to the database. Show success message.</li> <li>- Redirect to “AdminPatient” page.</li> </ul>

#### Alternative Scenario:

No	Actor Action	System Response
1	User clicks on “Bỏ Qua” button	Close “Tạo Mới” pop-up page.

#### Exception:

No	Actor Action	System Response
1	Page load error	Display an message “Hệ thống hiện tại đang bảo trì”.
2	When user fills length of phone is not in range.	Display message “Độ dài trong khoảng 8 đến 12 ký tự”.
3	When user fills Email, Họ, Tên over max length.	Display message “Độ dài tối đa 50 ký tự”.
4	When user fills email not correct format.	Display message “Email không đúng định dạng”.
5	When user fills exist email.	Display message “Địa chỉ email đã tồn tại”.
6	Mandatory field which have a mark “*” is empty.	Display message “Bạn cần nhập giá trị này”.

**Relationship:** Manage Patient

#### Business Rules:

- Each created account must be inactive state when insert to database and has role “patient”.
- Email format: [character@character.character](mailto:character@character.character)

- Phone number, height, weight must be format is number.
- Password is generated by system.
- Password is sent to doctor email automatically.

Table 19 <Admin><Doctor> Create patient

### 2.2.16. Functional Requirement 16 – Edit Patient

#### 2.2.16.1. Use Case-16 Diagram

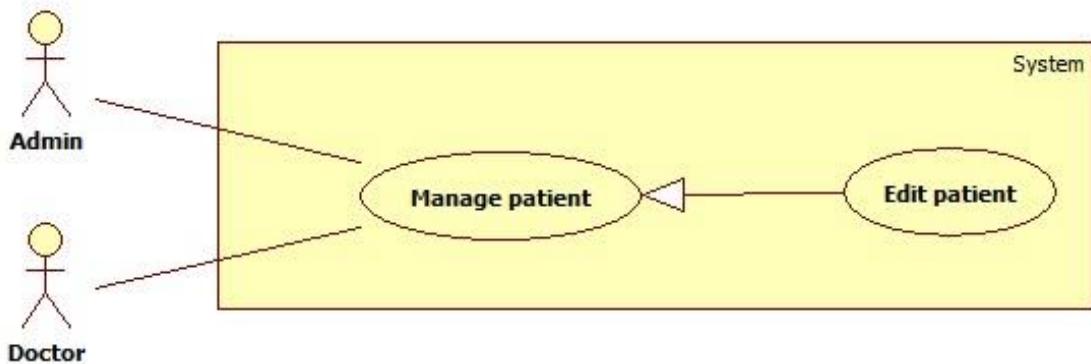


Figure 23 <Admin><Doctor> Edit patient

#### 2.2.16.2. Use Case-16 Specification

USE CASE - 16 SPECIFICATION			
Use-case No.	UC_016	Use-case Version	1.1
Use-case Name	<Admin><Doctor> Edit Patient		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> <li>• Admin</li> <li>• Doctor</li> </ul>		
Summary:	This use case allows admin/doctor can edit patient information.		
Goal:	Help admin/doctor to edit patient account.		
Trigger:	Click on “Cập Nhật” button on “Quản lý bệnh nhân” navigation.		
Precondition:	<ul style="list-style-type: none"> <li>• Users have already logged in with role “admin” or “doctor”.</li> <li>• Patient is created by admin or doctor.</li> </ul>		
Post-condition:	<ul style="list-style-type: none"> <li>• Success: Patient’s information is updated in database.</li> <li>• Failure: System displays error message. Content of error message will specify in Exception section.</li> </ul>		
Main Success Scenario:			

Step	Actor Action	System Response
1	User clicks on “Cập Nhật” button on “Quản lý bệnh nhân” navigation. [Exception 1]	<ul style="list-style-type: none"> <li>- Open “Cập nhật” pop-up page.</li> <li>- Display a form with 4 tabs contains value are created by admin/doctor:</li> <li>“Thông tin cơ bản” tab:           <ul style="list-style-type: none"> <li>+ Email: textbox, max length: 50, require.</li> <li>+ Họ: textbox, max length: 50, require.</li> <li>+ Tên: textbox, max length: 50, require.</li> <li>+ Giới tính: drop-down list, raw source: “Nam”, “Nữ”, default value: “Nam”, require.</li> <li>+ Ngày sinh: date picker, require.</li> <li>+ Số điện thoại: textbox, min length: 8, max length: 12, require.</li> <li>+ Địa chỉ thường trú: textbox, require.</li> <li>+ Địa chỉ tạm trú: textbox.</li> </ul> </li> <li>“Thông tin bệnh nhân” tab:           <ul style="list-style-type: none"> <li>+ Dân tộc: drop-down list, raw source: 54 ethnicities of Vietnam, default value: “Kinh”.</li> <li>+ Quốc tịch: drop-down list, raw source: “Việt Nam”, “Hoa Ki”, “Đài Loan”, “Khác” default value: “Việt Nam”.</li> <li>+ Công việc: textbox.</li> <li>+ Nơi làm việc: textbox.</li> <li>+ Mã số thẻ bảo hiểm y tế: textbox.</li> <li>+ Ngày cấp: date picker.</li> <li>+ Ngày hết hạn: date picker.</li> </ul> </li> <li>“Thông tin người liên lạc” tab:           <ul style="list-style-type: none"> <li>+ Người liên lạc: textbox.</li> <li>+ Địa chỉ người liên lạc: textbox.</li> <li>+ Số điện thoại người liên lạc: textbox, min length: 8, max length: 12.</li> </ul> </li> <li>“Sức khỏe cá nhân” tab:           <ul style="list-style-type: none"> <li>+ Chiều Cao (cm): textbox</li> <li>+ Cân nặng (kg): textbox</li> <li>+ Màu tóc: textbox</li> <li>+ Màu mắt: textbox</li> <li>+ Nhóm máu: textbox</li> <li>+ Lượng đồ uống có cồn (lít) hàng tuần: textbox</li> <li>+ Số năm uống: textbox</li> <li>+ Lượng thuốc hút (gói) hàng tuần: textbox</li> <li>+ Số năm hút: textbox</li> <li>+ Tên loại thể thao: textbox</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>+ Thời gian tham gia (giờ) hằng tuần: textbox</li> <li>+ Tham gia khác (Yoga, Thiền định, ....): textbox</li> <li>+ Thời gian tham gia (giờ) hằng tuần: textbox</li> <li>+ Lưu: button.</li> <li>+ Trở về: button.</li> </ul>
2	User fills all mandatory fields, then clicks on “Lưu” button. [Alternative 1]	<ul style="list-style-type: none"> <li>- Validate input data. [Exception 2, 3, 4, 5, 6].</li> <li>- Update patient account into database. Show success message.</li> <li>- Redirect to “AdminPatient” page.</li> </ul>

**Alternative Scenario:**

No	Actor Action	System Response
1	User clicks on “Bỏ Qua” button	Close “Cập nhật” pop-up page.

**Exception:**

No	Actor Action	System Response
1	Page load error	Display informed message “Hệ thống hiện tại đang bảo trì”.
2	When user fills length of phone is not in range.	Display message “Độ dài trong khoảng 8 đến 12 ký tự”.
3	When user fills Email, Họ, Tên over max length.	Display message “Độ dài tối đa 50 ký tự”.
4	When user fills email not correct format.	Display message “Email không đúng định dạng”.
5	When user fills exist email.	Display message “Địa chỉ email đã tồn tại”.
6	Mandatory field which have a mark “*” is empty.	Display message “Bạn cần nhập giá trị này”.

**Relationship:** Manage Patient

**Business Rules:**

- Email, password, date of birth is hidden.
- Firstname, Lastname is forbidden.
- Phone number, height, weight must be format is number.

Table 20 <Admin><Doctor> Edit patient

### 2.2.17. Functional Requirement 17 – Comment Doctor

### 2.2.17.1. Use Case-17 Diagram

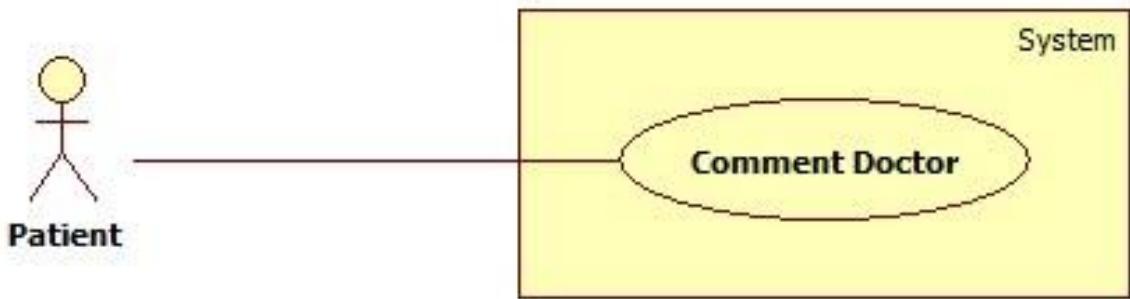


Figure 24 <Patient> Comment Doctor

### 2.2.17.2. Use Case-17 Specification

USE CASE - 19 SPECIFICATION			
Use-case No.	UC_017	Use-case Version	1.1
Use-case Name	<Patient> Comment Doctor		
Author	SuTNT		
Date	29/05/2014	Priority	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>Patient</li> </ul>		
<b>Summary:</b>	This use case allows patient comment on doctor.		
<b>Goal:</b>	Patient can comment doctor.		
<b>Trigger:</b>	User want to comment for a specific doctor.		
<b>Precondition:</b>	<ul style="list-style-type: none"> <li>User must log in with role "Patient".</li> </ul>		
<b>Post-condition:</b>	<ul style="list-style-type: none"> <li>Success: Comment added for doctor successful.</li> <li>Failure: Nothing is inserted. System displays error message.</li> </ul>		
<b>Main Success Scenario:</b>			
Step	Actor Action	System Response	
1	User choose a doctor	<ul style="list-style-type: none"> <li>Show quick rating panel:           <ul style="list-style-type: none"> <li>The average point of selected doctor.</li> <li>Number of patients does rating.</li> <li>Button "Xem chi tiết".</li> </ul> </li> </ul>	
2	User click on "Xem chi tiết" button.	<ul style="list-style-type: none"> <li>Show "Comment" popup:           <ul style="list-style-type: none"> <li>List out some basic information about selected doctor: name,</li> </ul> </li> </ul>	

		specialty... + Bình luận: textbox, required. + Gửi: button. + Close: button.
3	User input “Bình luận” textbox	
4	User click on “Gửi” button. [Alternative 1], [Exception 1]	- Save comment to database. - Show comment with patient's fullname.
<b>Alternative Scenario:</b>		
No	Actor Action	System Response
1	User click on “Close” button.	- Clear input data - Close popup
<b>Exception:</b>		
No	Actor Action	SystemResponse
1	“Bình luận” is blanked.	Show error message: “Không được để trống trường này”
<b>Relationship:</b> N/A		
<b>Business Rules:</b>		
<ul style="list-style-type: none"> <li>Comments are sorted descend by created time.</li> <li>Comments are organized into pages (4 comments for each page).</li> <li>Comments are saved into database and those can be managed by admin.</li> <li>Doctor can see comments from patients and can reply them.</li> </ul>		

Table 21 <Patient> Comment Doctor

### 2.2.18. Functional Requirement 18 – Define New Medical Profile Template

#### 2.2.18.1. Use Case-18 Diagram

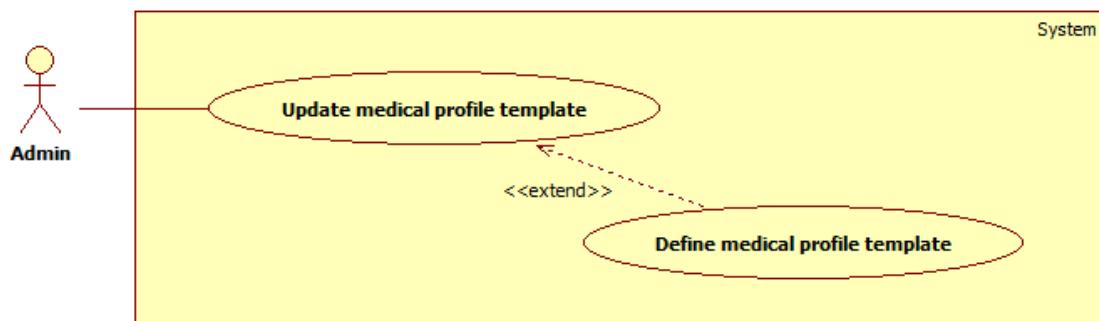


Figure 25 <Admin> Define new medical profile template

#### 2.2.18.2. Use Case-18 Specification

#### USE CASE - 20 SPECIFICATION

<b>Use-case No.</b>	UC_18	<b>Use-case Version</b>	1.1
<b>Use-case Name</b>	<Admin> Define New Medical Profile Template		
<b>Author</b>	SuTNT		
<b>Date</b>	29/05/2014	<b>Priority</b>	Normal
<b>Actor:</b> <ul style="list-style-type: none"> <li>• Admin</li> </ul> <b>Summary:</b> This use case help admin to define new medical profile template. <b>Goal:</b> User can define new medical profile template. <b>Trigger:</b> Click on “Thêm mẫu hồ sơ mới” button on “Quản lý mẫu hồ sơ” page to define new medical profile template. <b>Precondition:</b> <ul style="list-style-type: none"> <li>• User must log in with role “Admin”.</li> </ul> <b>Post-condition:</b> <ul style="list-style-type: none"> <li>• Success: New medical profile template created successful.</li> <li>• Failure: System displays error message.</li> </ul> <b>Main Success Scenario:</b>			
<b>Step</b>	<b>Actor Actin</b>	<b>System Response</b>	
1	Click on “Thêm mẫu hồ sơ mới” button on “Quản lý mẫu” page. [Alternative1]	Open “Thêm mẫu hồ sơ” pop-up page. <ul style="list-style-type: none"> <li>- Tên mẫu hồ sơ: textbox, require.</li> <li>- Lưu: button.</li> <li>- Bỏ qua: button.</li> </ul>	
2	User fills all mandatory fields.		
3	User clicks on “Lưu” button.	<ul style="list-style-type: none"> <li>- Insert template in database.</li> <li>- Redirect to “Tạo mẫu hồ sơ” page with 3 tab.</li> </ul> <p>“Phân vùng” tab:</p> <ul style="list-style-type: none"> <li>+ Khu vực</li> <li>+ Lịch sử bệnh án</li> <li>+ Hồ sơ phim</li> <li>+ Dị ứng</li> <li>+ Tiêm chủng</li> </ul> <p>“Tùy chỉnh” tab:</p> <ul style="list-style-type: none"> <li>+ Xây dựng bảng</li> <li>+ Ô nhập liệu</li> <li>+ Kiểu ngày tháng</li> <li>+ Đoạn nhập liệu</li> <li>+ Tùy chọn đơn 1 hàng dọc</li> <li>+ Tùy chọn đơn hàng ngang</li> <li>+ Tùy chọn kép hàng dọc</li> <li>+ Tùy chọn kép hàng ngang</li> </ul>	

		<ul style="list-style-type: none"> <li>+ Tùy chọn đơn</li> <li>+ Tùy chọn kép</li> <li>“Có sẵn” tab contains 3 legends:</li> <li>“Thông tin cá nhân”: <ul style="list-style-type: none"> <li>+ Họ và tên:</li> <li>+ Giới tính:</li> <li>+ Ngày sinh:</li> <li>+ Tuổi:</li> <li>+ Số điện thoại:</li> <li>+ Địa chỉ thường trú:</li> <li>+ Địa chỉ tạm trú:</li> </ul> </li> <li>“Thông tin bệnh nhân”: <ul style="list-style-type: none"> <li>+ Dân tộc:</li> <li>+ Quốc tịch:</li> <li>+ Công việc:</li> <li>+ Nơi làm việc:</li> <li>+ Người liên lạc:</li> <li>+ Địa chỉ người liên lạc:</li> <li>+ Số điện thoại người liên lạc:</li> <li>+ Mã số thẻ bảo hiểm y tế:</li> <li>+ Ngày cấp:</li> <li>+ Ngày hết hạn:</li> </ul> </li> <li>“Sức khỏe cơ bản”: with value mapping patient. <ul style="list-style-type: none"> <li>+ Chiều Cao (cm):</li> <li>+ Cân nặng (kg):</li> <li>+ Màu tóc:</li> <li>+ Màu mắt:</li> <li>+ Nhóm máu:</li> <li>+ Lượng đồ uống có cồn (lít) hàng tuần:</li> <li>+ Số năm uống:</li> <li>+ Lượng thuốc hút (gói) hàng tuần:</li> <li>+ Số năm hút:</li> <li>+ Tên loại thể thao:</li> <li>+ Thời gian tham gia (giờ) hàng tuần:</li> <li>+ Tham gia khác (Yoga, Thiền định, ....):</li> <li>+ Thời gian tham gia (giờ) hàng tuần:</li> </ul> </li> <li>- The left footer contains 1 button: “Lưu”.</li> </ul>
4	User drag fields into “Mẫu hồ sơ” editor area.	Fields will be inserted into the position that user drag into.
5	Users click on “Lưu” button.	<ul style="list-style-type: none"> <li>- Insert medical profile template into database.</li> <li>- Display message “Mẫu hồ sơ đã được</li> </ul>

		cập nhật thành công”.
<b>Alternative Scenario:</b>		
No	Actor Action	System Response
1	User clicks on “Bỏ Qua” button.	Close “MedicalProfileTemplate” pop-up page.
<b>Exception:</b>		
No	Actor Action	System Response
1	Mandatory field which have a mark “*” is empty	Display message “Bạn cần nhập giá trị này”.
<b>Relationship:</b> N/A		
<b>Business Rules:</b>		
<ul style="list-style-type: none"> <li>Medical profile template fields are arranged vertically.</li> <li>User can customize detail of an element by click on it: detail will be shown by popup. All information stored in JSON.</li> <li>“Lịch sử bệnh án”, “Hồ sơ phim”, “Dị ứng”, “Tiêm chủng” are built-in modules in system.</li> <li>“Khu vực”, “Ô nhập liệu”, “Kiểu ngày tháng”, “Đoạn nhập liệu”, and other components in 2<sup>nd</sup> tab are highly-customized HTML elements.</li> <li>“Họ và tên”, “Giới tính”, “Ngày sinh” and other components in 3<sup>rd</sup> tab are derived from patient information. User can change the way those fields displayed and the way mapping work.</li> </ul>		

Table 22 <Admin> Define new medical profile template

### 2.2.19. Functional Requirement 19 – Logout

#### 2.2.19.1. Use Case-19 Diagram

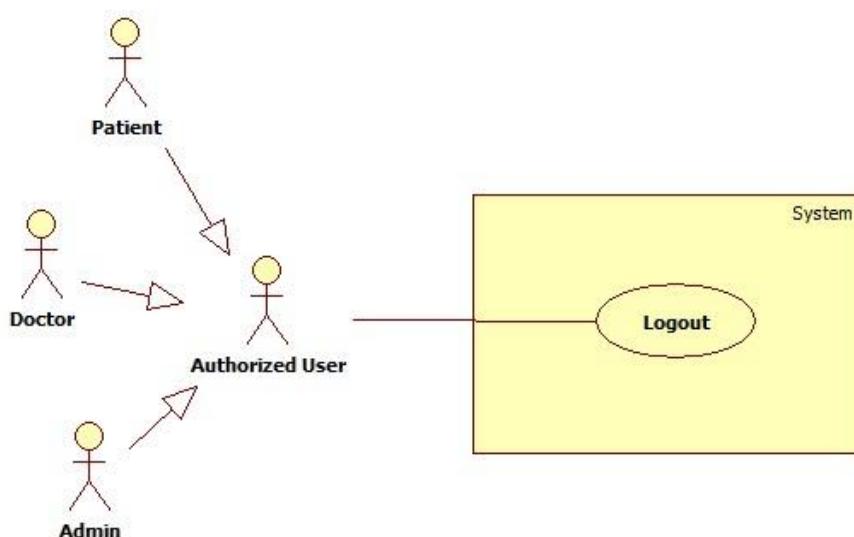


Figure 26 <Admin><Doctor><Patient> Logout

#### 2.2.19.2. Use Case-19 Specification

USE CASE - 21 SPECIFICATION			
Use-case No.	UC_19	Use-case Version	1.1

<b>Use-case Name</b>	<Admin><Doctor><Patient> Logout								
<b>Author</b>	SUTNT								
<b>Date</b>	29/05/2014	<b>Priority</b>	Normal						
<p><b>Actor:</b></p> <ul style="list-style-type: none"> <li>• Admin</li> <li>• Doctor</li> <li>• Patient</li> </ul> <p><b>Summary:</b></p> <ul style="list-style-type: none"> <li>• This use case allows user to log out of the system</li> </ul> <p><b>Goal:</b></p> <ul style="list-style-type: none"> <li>• User logs out of the system. User's current session is destroyed.</li> </ul> <p><b>Triggers:</b></p> <ul style="list-style-type: none"> <li>• Click on “Đăng xuất” button on navigation menu.</li> </ul> <p><b>Preconditions:</b></p> <ul style="list-style-type: none"> <li>• User must log in with role “Patient”, “Doctor” or “Admin”.</li> </ul> <p><b>Post-Conditions:</b></p> <ul style="list-style-type: none"> <li>• Success: User's session is destroyed. User log out successfully.</li> <li>• Failure: System displays error message. Content of error message will specify in Exception section.</li> </ul> <p><b>Main Success Scenario:</b></p> <table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Đăng xuất” link on navigation menu.</td><td>Destroy user's session. Redirect to home page.</td></tr> </tbody> </table> <p><b>Alternative Scenario:</b> N/A.</p> <p><b>Exception:</b> N/A.</p> <p><b>Relationship:</b> N/A</p> <p><b>Business Rules:</b> N/A</p>				Step	Actor Action	System Response	1	User clicks on “Đăng xuất” link on navigation menu.	Destroy user's session. Redirect to home page.
Step	Actor Action	System Response							
1	User clicks on “Đăng xuất” link on navigation menu.	Destroy user's session. Redirect to home page.							

Table 23 <Admin><Doctor><Patient> Logout

### 2.2.20. Functional Requirement 20 – Enable private mode

#### 2.2.20.1. Use Case-20 Diagram

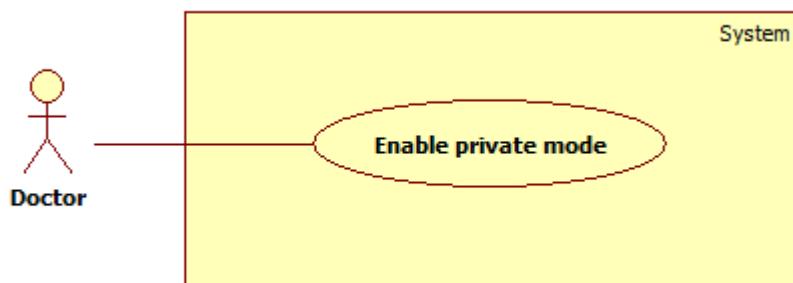


Figure 27 <Doctor> Enable private mode

### 2.2.20.2. Use Case-20 Specification

USE CASE - 22 SPECIFICATION			
Use-case No.	UC_020	Use-case Version	1.0
Use-case Name	<Doctor> Enable private mode		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>• Doctor</li> </ul>		
<b>Summary:</b>	<ul style="list-style-type: none"> <li>• This use case allows doctor to enable private mode when chatting with patient.</li> </ul>		
<b>Goal:</b>	<ul style="list-style-type: none"> <li>• Doctor can have the private consultant mode.</li> </ul>		
<b>Triggers:</b>	<ul style="list-style-type: none"> <li>• User clicks on “Tư vấn riêng...” switch button on chat page.</li> </ul>		
<b>Preconditions:</b>	<ul style="list-style-type: none"> <li>• User must log in with role “Doctor”.</li> <li>• User is in conversation with a specify patient.</li> </ul>		
<b>Post-Conditions:</b>	<ul style="list-style-type: none"> <li>• Success: Doctor’s status is changed to busy, patient detail panel is shown.</li> <li>• Failure: System displays error message.</li> </ul>		
<b>Main Success Scenario:</b>			
Step	Actor Action	System Response	
1	User clicks on “Tư vấn riêng...” switch button on chat page.	<ul style="list-style-type: none"> <li>- Hide “Lịch sử tư vấn” panel</li> <li>- Doctor status is changed to busy and update to all online patient.</li> <li>- Show “Chi tiết bệnh nhân” panel:           <ul style="list-style-type: none"> <li>+ Xem chi tiết: button</li> <li>+ Dị ứng: button</li> <li>+ Lịch sử tiêm chủng: button</li> <li>+ Yêu cầu webcam...: button</li> <li>+ Lịch sử khám bệnh: collapsible pane, show latest treatment history</li> <li>+ Xem chi tiết: button, show detail treatment history</li> <li>+ Chính sửa: button, update treatment history information</li> <li>+ Liên kết hội thoại: button</li> </ul> </li> </ul>	

		+ Xóa: button, delete treatment history + Quay lại: button, view previous treatment history + Tiếp tục: button, view next treatment history + Khám bệnh: collapsible pane, add new treatment						
<b>Alternative Scenario:</b> N/A								
<b>Exception:</b>								
<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Cannot switch to private mode</td><td>Display error message “Có lỗi xảy ra trong quá trình chuyển chế độ Tư vấn riêng”.</td></tr> </tbody> </table>			No	Actor Action	System Response	1	Cannot switch to private mode	Display error message “Có lỗi xảy ra trong quá trình chuyển chế độ Tư vấn riêng”.
No	Actor Action	System Response						
1	Cannot switch to private mode	Display error message “Có lỗi xảy ra trong quá trình chuyển chế độ Tư vấn riêng”.						
<b>Relationship:</b> N/A								
<b>Business Rules:</b>								
<ul style="list-style-type: none"> <li>In private mode, doctor only serves one patient at the same time.</li> <li>All data about user detail is loaded dynamically when doctor change to private mode.</li> <li>All online patients will get updated about doctor status when doctor change to private mode.</li> <li>Treatment history is shown with the button that link with a medical profile or a tag name “Khám bệnh tự do” if it not belong to any medical profile.</li> </ul>								

Table 24 <Doctor> Enable private mode

### 2.2.21. Functional Requirement 21 – Capture Webcam

#### 2.2.21.1. Use Case-21 Diagram

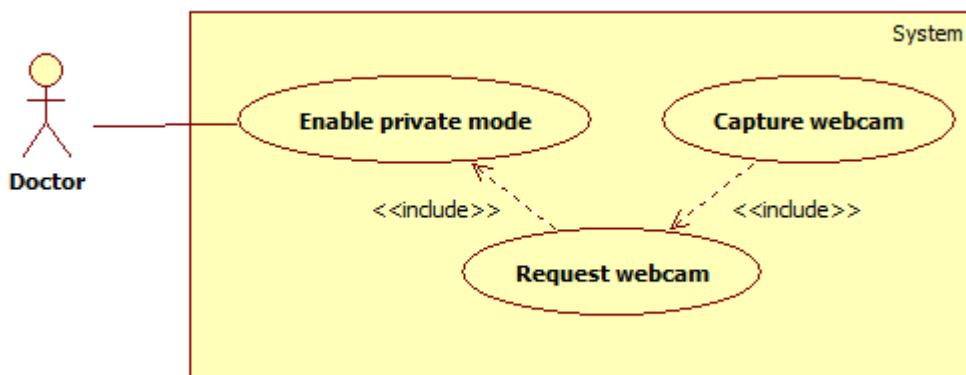


Figure 28 <Doctor> Capture Webcam

#### 2.2.21.2. Use Case-21 Specification

USE CASE - 23 SPECIFICATION			
Use-case No.	UC_021	Use-case Version	1.0
Use-case Name	<Doctor> Capture webcam		

<b>Author</b>	SuTNT		
<b>Date</b>	17/09/2014	<b>Priority</b>	Normal

**Actor:**

- Doctor

**Summary:** This use case allows doctor to capture webcam and create film document.

**Goal:** Doctor can create film document based on webcam.

**Triggers:**

- User clicks on “Chụp hình ảnh...” button on chat page.

**Preconditions:**

- User must log in with role “Doctor”.
- Use case “<Doctor> Request Webcam” must be executed first.

**Post-Conditions:**

- Success: Film document created successfully using image from patient’s webcam.
- Failure: System displays error message.

**Main Success Scenario:**

Step	Actor Action	System Response
1	User clicks on “Chụp hình ảnh...” button on chat page.	Popup “Thêm Hồ Sơ ảnh” is shown: + Hồ sơ bệnh án: dropdown list, source from database + Ngày khám: dropdown list, source from database, required + Loại phim: dropdown list, source from database, default value (Webcam) + Mô tả: textarea, min length: 1, max length: 1000, required + Kết luận: textarea, min length: 1, max length: 1000, required + Lưu: button + Bỏ qua: button
2	Input fields [Exception 1]	
3	Click on “Lưu” button [Alternative 1]	Film document will be added successfully and show message: “Hồ sơ ảnh đã được lưu thành công!”

**Alternative Scenario:**

No	Actor Action	System Response
1	Click on “BỎqua” button	- Close popup. - Reset all fields to default value.

**Exception:**

No	Actor Action	System Response
----	--------------	-----------------

1	Mandatory field which have a mark "*" is empty	Display message "Bạn cần nhập giá trị này".
<b>Relationship:</b> <Doctor> Request Webcam		
<b>Business Rules:</b>		
<ul style="list-style-type: none"> <li>This use case need "&lt;Doctor&gt; Request Webcam" use case executed first to capture the current stream.</li> <li>A film document can belong to a Medical Profile or a Treatment History.</li> </ul>		

Table 25 <Doctor> Capture Webcam

### 2.2.22. Functional Requirement 22 – Create treatment history

#### 2.2.22.1. Use Case-22 Diagram

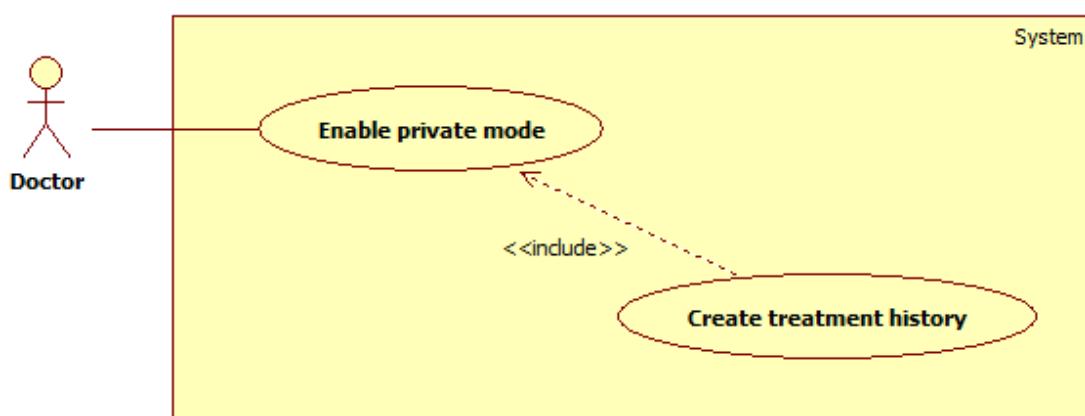


Figure 29 <Doctor> Create treatment history

#### 2.2.22.2. Use Case-22 Specification

USE CASE - 24 SPECIFICATION			
Use-case No.	UC_022	Use-case Version	1.0
Use-case Name	<Doctor> Create treatment history		
Author	SuTNT		
Date	17/09/2014	Priority	Normal
<b>Actor:</b>	<ul style="list-style-type: none"> <li>Doctor</li> </ul>		
<b>Summary:</b>	<ul style="list-style-type: none"> <li>This use case allows doctor create treatment history when chatting with patient.</li> </ul>		
<b>Goal:</b>	<ul style="list-style-type: none"> <li>Doctor can create a treatment history for patient.</li> </ul>		
<b>Triggers:</b>			

- User clicks on “Khám bệnh” collapsible pane on chat page.

**Preconditions:**

- User must log in with role “Doctor”.
- “Tư vấn riêng” is enabled.

**Post-Conditions:**

- Success: A new treatment history added successful to database.
- Failure: System displays error message.

**Main Success Scenario:**

Step	Actor Action	System Response
1	User clicks on “Khám bệnh” collapsible pane on chat page.	<p>Show form with information:</p> <ul style="list-style-type: none"> <li>+ Ngày phát bệnh: datepicker</li> <li>+ Hồ sơ bệnh án: dropdown list, source from database.</li> <li>+ Triệu chứng: textarea, min length: 1, max length: 1000, required</li> <li>+ Chẩn đoán: textarea, min length: 1, max length: 1000, required</li> <li>+ Phương pháp điều trị: textarea, min length: 1, max length: 1000</li> <li>+ Tình trạng điều trị: textarea, min length: 1, max length: 1000</li> <li>+ Ghi chú: textarea, min length: 1, max length: 1000</li> <li>+ Lưu lượt khám bệnh: button</li> <li>+ Tạo lại từ đầu: button</li> </ul>
2	Input fields [Exception 1]	
	Click on “Lưu” button [Alternative 1]	Treatment History will be added successfully and show message: “Lượt khám bệnh lưu thành công!”

**Alternative Scenario:**

No	Actor Action	System Response
1	Click on “Tạo lại từ đầu” button	- Reset all fields to default value.

**Exception:**

No	Actor Action	System Resonse
1	Mandatory field which have a mark “*” is empty	- Display message “Bạn cần nhập giá trị này”.

**Relationship:** <Doctor> Enable private mode

**Business Rules:**

- Doctor can create a treatment belong to a medical profile or not. If not, it becomes

“Khám bệnh tự do”.

- After a new treatment created successfully, user can add film document, map conversation for that treatment.

Table 26 <Doctor> Create treatment history

### 3. Entity Relationship Diagram (ERD)

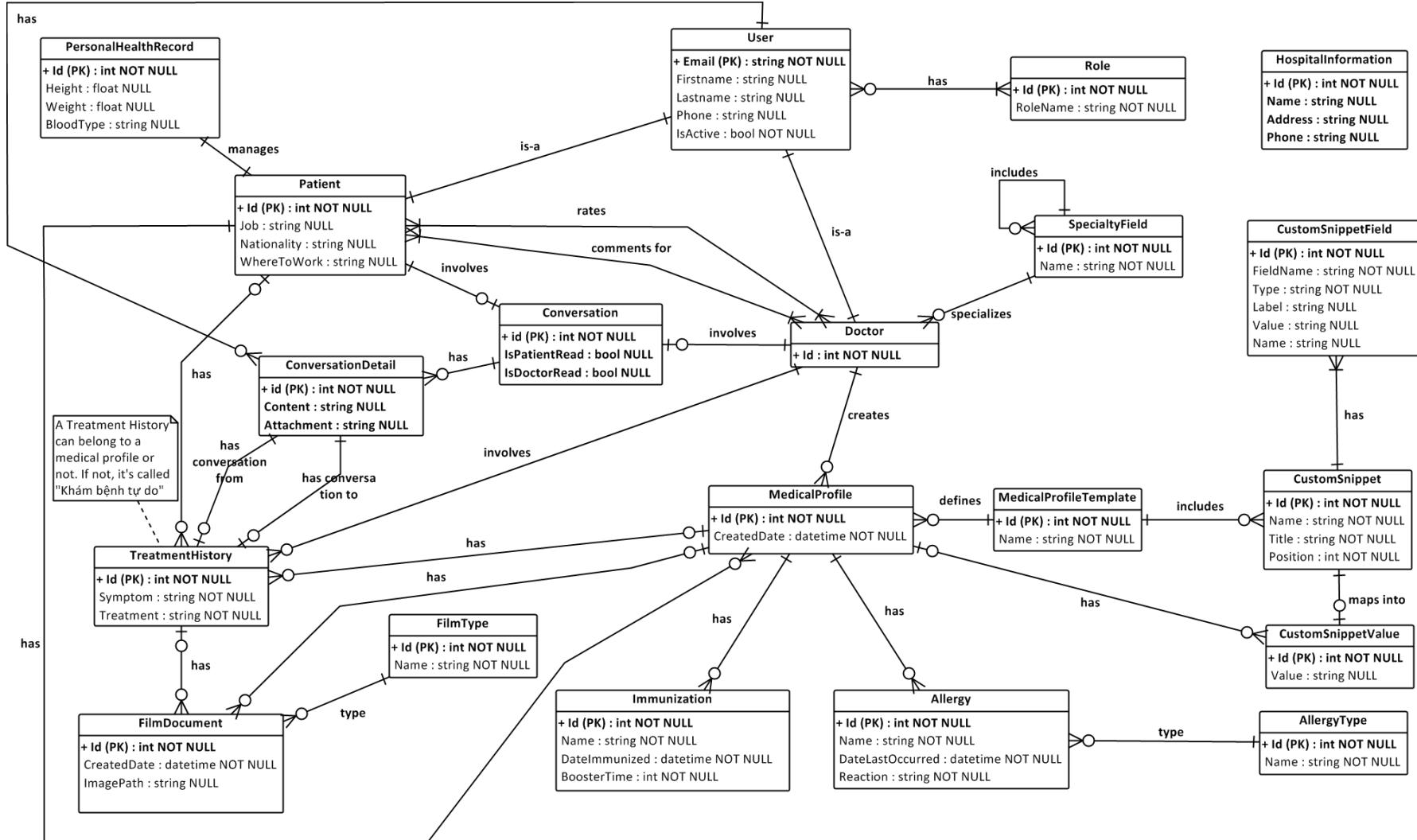


Figure 30 Entity Relationship Diagram

## Data Dictionary

Entity Data dictionary: describe content of all entities	
Entity Name	Description
User	Describe account of user of system. User can be: admin, patient, doctor...
Role	Describe role of user.
Doctor	Describe all doctors in system.
Patient	Describe all patients in system. Each patient maintain their own personal health record.
SpecialtyField	Manage specialty field of doctor. Currently, each doctor can be assigned to one specialty field.
HospitalInformation	Describe all detail information of a hospital.
PersonalHealthRecord	Describe some information about basic health of a patient.
MedicalProfileTemplate	Describe all medical profile template of hospital. They are managed by system admin.
CustomSnippet	Describe information to construct medical profile template
CustomSnippetField	Describe metadata for one CustomSnippet to easily visualize it.
CustomSnippetValue	Describe the value of a snippet that can be used for medical profile.
Immunization	Describe all immunizations that are belonged to medical profile.
Allergy	Describe all allergies that are belonged to medical profile.
AllergyType	Describe all type of allergy (Môi trường, Thực ăn, ...)
MedicalProfile	Describe all medical profile that are defined by a medical profile template and are used for one patient.
TreatmentHistory	Describe all histories of treatment that are belonged to medical profile.
FilmDocument	Describe all film documents that are belonged to medical profile or treatment history.
FilmType	Describe all type of film document (X-Quang, Nội soi,...)
Conversation	Describe conversation between doctor and patient.
ConversationDetail	Describe all conversation in system.

## **Part D. Software Design Description (SDD)**

### **1. Design Overview**

- This document describes the technical and user interface design of OMCS 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.
- 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.

## 2. System Architectural Design

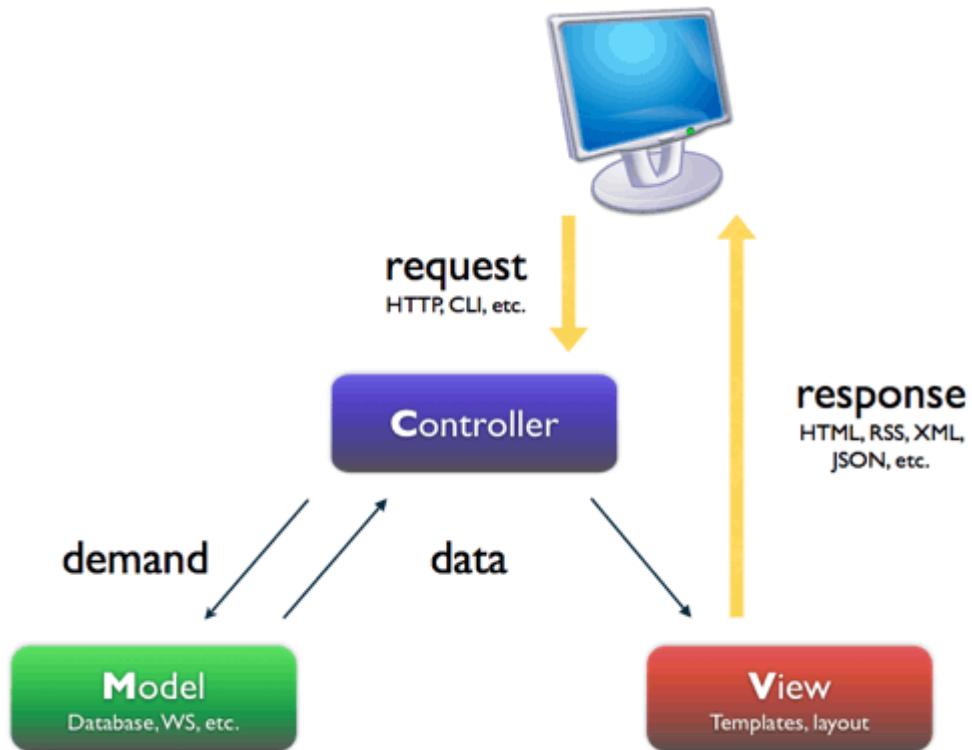


Figure 31 MVC Architecture

(<http://smist08.wordpress.com/tag/mvc/>)

**The Model** is the part of the application that handles the logic for the application data. Often model objects retrieve data (and store data) from a database.

**The 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 Controller** is the part of the application that handles user interaction. Typically controllers read data from a view, control user input, and send input data to the model.

([http://www.w3schools.com/aspnet/mvc\\_intro.asp](http://www.w3schools.com/aspnet/mvc_intro.asp))

### 3. Component Diagram

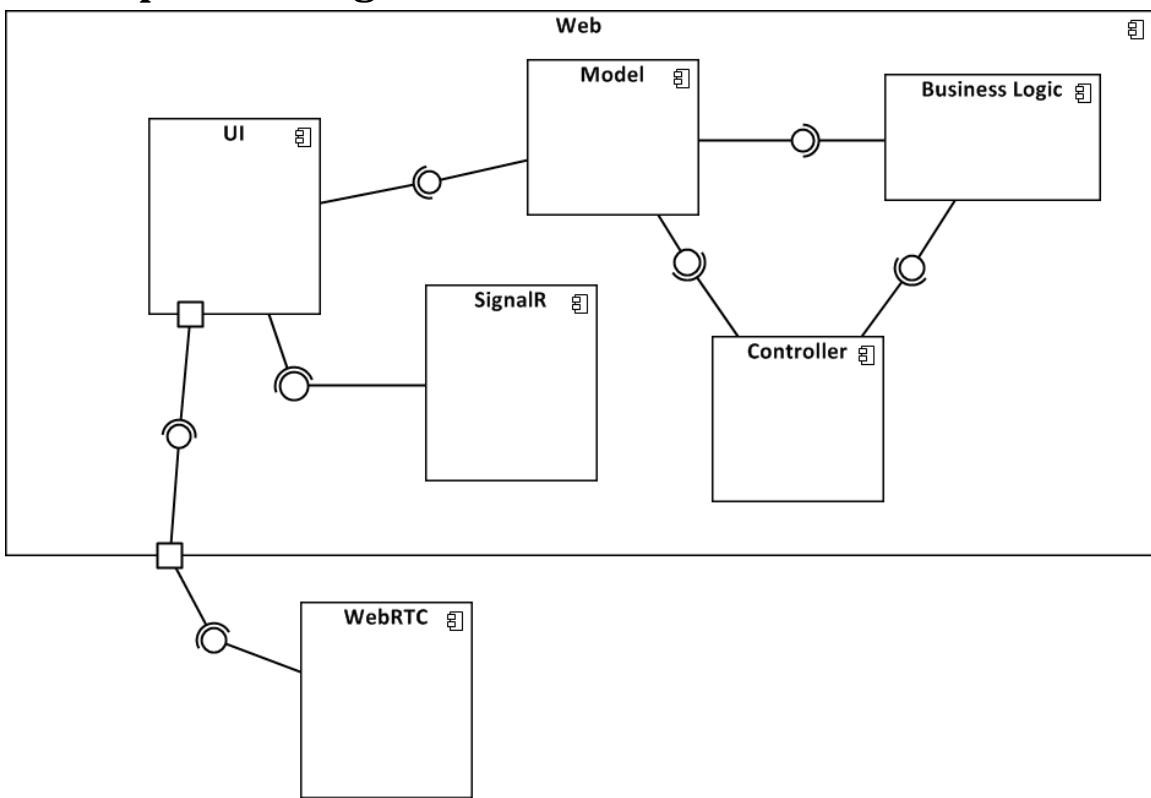


Figure 32: Component Diagram

### 4. Detailed Description of Components

## 4.1. Class Diagram

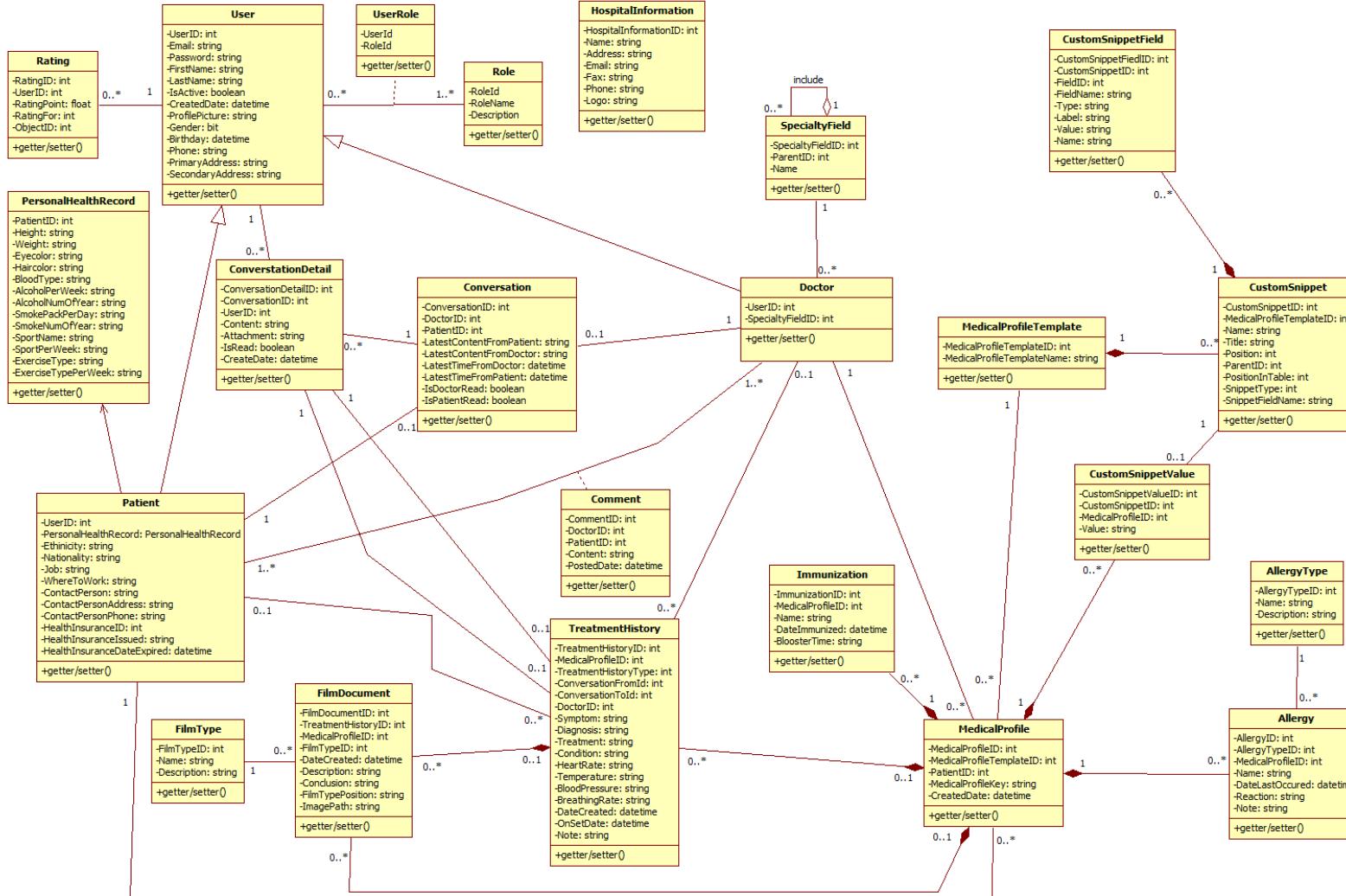


Figure 33 Class Diagram

## 4.2. Class Diagram Explanation

### 4.2.1. User Model

Attribute Name	Type	Visibility	Description
UserID	int	public	ID of the user
Email	string	public	Email of the user
Password	string	public	Password of the user
FirstName	string	public	First name of the user
LastName	string	public	Last name of the user
IsActive	boolean	public	Condition of the user's account
CreatedDate	datetime	public	Created date of the user's account
ProfilePicture	string	public	Profile picture name of the user
Gender	string	public	Gender of the user
Birthday	datetime	public	Birthday of the user
Phone	string	public	Phone of the user
PrimaryAddress	string	public	Primary address of the user
SecondaryAddress	string	public	Secondary address of the user

### 4.2.2. SpecialtyField Model

Attribute Name	Type	Visibility	Description
SpecialtyFieldID	int	public	ID of the specialty field
ParentID	int	public	Parent id of the specialty field
Name	string	public	Name of the specialty field

### 4.2.3. HospitalInformation Model

Attribute Name	Type	Visibility	Description
HospitalInformationID	int	public	ID of the hospital
Name	string	public	Name of the hospital
Address	string	public	Address of the hospital
Email	string	public	Email of the hospital
Fax	string	public	Fax of the hospital
Phone	string	public	Phone of the hospital
Logo	string	public	Logo of the hospital

### 4.2.4. FilmType Model

Field Name	Type	Visibility	Description
FilmTypeID	int	public	ID of the film type
Name	string	public	Name of the film type
Description	string	public	Description of the film type

### 4.2.5. FilmDocument Model

Field Name	Type	Visibility	Description
FilmDocumentID	int	public	ID of the film document
TreatmentHistoryID	int	public	ID of the treatment history
MedicalProfileID	int	public	ID of the medical profile
FilmTypeID	int	public	ID of the film type

DateCreated	datetime	public	Date created of the film document
Description	string	public	Position of the film type
Conclusion	string	public	Path of the image
FilmTypePosition	string	public	Position of the film type
ImagePath	string	public	Path of the image

#### 4.2.6. *CustomSnippetValue Model*

Field Name	Type	Visibility	Description
CustomSnippetValueID	int	public	ID of the custom snippet value
CustomSnippetID	int	public	ID of the custom snippet
MedicalProfileID	int	public	ID of the medical profile
Value	string	public	Value of the custom snippet

#### 4.2.7. *TreatmentHistory Model*

Field Name	Type	Visibility	Description
TreatmentHistoryID	int	public	ID of the treatment history
MedicalProfileID	int	public	ID of the medical profile
TreatmentHistoryType	int	public	ID of the treatment history type
ConversationFromId	int	Public	Id of from conversation
ConversationTold	int	Public	Id of to conversation
DoctorID	int	public	ID of the doctor
Symptom	string	public	Symptom of the treatment history
Diagnosis	string	public	Diagnosis of the treatment history
Treatment	string	public	Treatment of the treatment history
Condition	string	public	Condition of the treatment history
HeartRate	string	public	Heart rate of the treatment history
Temperature	string	public	Temperature of the treatment history
BloodPressure	string	public	Blood pressure of the treatment history
BreathingRate	string	public	Breathing rate of the treatment history
DateCreated	datetime	public	Created date of the treatment history
OnSetDate	datetime	public	Set date of the treatment history
Note	string	public	Note of the treatment history

#### 4.2.8. *Doctor Model*

Field Name	Type	Visibility	Description
UserID	int	public	ID of the user
SpecialtyFieldID	int	public	ID of the specialty field

#### 4.2.9. *ConversationDetail Model*

Field Name	Type	Visibility	Description
ConversationDetailID	int	public	ID of the conversation detail
ConversationID	int	public	ID of the conversation
UserID	int	public	ID of the user
Content	string	public	Content of the conversation detail
Attachment	string	public	Attachment of the conversation detail

IsRead	bit	public	Conversation detail is read
CreatedDate	datetime	public	Created date of the conversation detail

#### 4.2.10. CustomSnippet Model

Field Name	Type	Visibility	Description
CustomSnippetID	int	public	ID of the custom snippet
MedicalProfileTemplateID	int	public	ID of the medical profile template
Name	string	public	Name of the custom snippet
Title	string	public	Title of the custom snippet
Position	int	public	Position of the custom snippet
ParentId	int	public	Parent id of the custom snippet
PositionInTable	int	public	Position in table of the custom snippet
SnippetType	int	public	Snippet type of the custom snippet
SnippetFieldName	string	public	Name of the snippet field

#### 4.2.11. MedicalProfileTemplate Model

Field Name	Type	Visibility	Description
MedicalProfileTemplateID	int	Public	ID of the medical profile template
MedicalProfileTemplateName	string	Public	Name of the medical profile template

#### 4.2.12. MedicalProfile Model

Field Name	Type	Visibility	Description
MedicalProfileID	int	public	ID of the medical profile
MedicalProfileTemplateID	int	public	ID of the medical profile template
ParentID	int	public	Parent id of the medical profile
MedicalProfileKey	string	public	Key of the medical profile
CreatedDate	datetime	public	Created date of the medical profile

#### 4.2.13. Conversation Model

Field Name	Type	Visibility	Description
ConversationID	int	public	ID of the conversation
PatientID	int	public	ID of the patient
DoctorID	int	public	ID of the doctor
LatestContentFromPatient	string	public	Latest content from patient of the conversation
LatestContentFromDoctor	string	public	Latest content from doctor of the conversation
LatestTimeFromDoctor	datetime	public	Latest time from doctor of the conversation
LatestTimeFromPatient	datetime	public	Latest time from patient of the conversation
IsDoctorRead	bit	public	Doctor is read
IsPatientRead	bit	public	Patient is read

#### **4.2.14. Comment Model**

Field Name	Type	Visibility	Description
CommentID	int	public	ID of the comment
PatientID	int	public	ID of the patient
DoctorID	int	public	ID of the doctor
Content	string	public	Content of the comment
PostedDate	datetime	public	Posted date of the comment

#### **4.2.15. CustomSnippetField Model**

Field Name	Type	Visibility	Description
CustomSnippetFieldID	int	public	ID of the custom snippet field
CustomSnippetID	int	public	ID of the custom snippet
FieldID	int	public	ID of the field
FieldName	string	public	Field name of the custom snippet field
Type	string	public	Type of the custom snippet field
Label	string	public	Label of the custom snippet field
Value	string	public	Value of the custom snippet field
Name	string	public	Name of the custom snippet field

#### **4.2.16. Rating Model**

Field Name	Type	Visibility	Description
RatingID	int	public	ID of the rating
UserId	int	public	ID of the user
RatingPoint	float	public	Point of the rating
RatingFor	int	public	Rating for of the rating
ObjectId	int	public	ID object of the rating

#### **4.2.17. Allergy Model**

Field Name	Type	Visibility	Description
AllergyID	int	public	ID of the allergy
MedicalProfileID	int	public	ID of the medical profile
AllergyTypeID	datetime	public	ID of the allergy type
Name	string	public	Name of the allergy
DateLastOccurred	datetime	public	Last occurred date of the allergy
Reaction	string	public	Reaction of the allergy
Note	string	public	Note of the allergy

#### **4.2.18. Immunization Model**

Field Name	Type	Visibility	Description
ImmunizationId	int	public	ID of the immunization
MedicalProfileID	int	public	ID of the medical profile
Name	string	public	Name of the immunization
DateImmunized	datetime	public	Immunized date
BoosterTime	int	public	Booster time

#### **4.2.19. PersonalHealthRecord Model**

Field Name	Type	Visibility	Description
PatientId	int	public	ID of the patient
Height	float	public	Height of the patient
Weight	float	public	Weight of the patient
EyeColor	string	public	Eye color of the patient
HairColor	string	public	Hair color of the patient
BloodType	string	public	Blood type of the patient
AlcoholPerWeek	float	public	Alcohol per week of the patient
AlcoholNumOfYear	int	public	Alcohol number of year of the patient
IsBeer	bit	public	Is beer of the patient
SmokePackPerWeek	float	public	Smoke pack per week of the patient
SmokeNumOfYear	int	public	Smoke number of year of the patient
SportName	string	public	Sport name of the patient
SportPerWeek	string	public	Sport per week of the patient
ExerciseType	string	public	Exercise type of the patient
ExercisePerWeek	Int	public	Exercise per week of the patient

#### **4.2.20. AllergyType Model**

Field Name	Type	Visibility	Description
AllergyTypeID	int	public	ID of the allergy type
Name	float	public	Name of the allergy type
Description	float	public	Description of the allergy type

#### **4.2.21. Patient Model**

Field Name	Type	Visibility	Description
UserID	int	Public	ID of the user
Ethnicity	string	Public	Ethnicity of the patient
Nationality	string	Public	Nationality of the patient
Job	string	Public	Job of the patient
WhereToWork	string	Public	Where to work of the patient
ContactPerson	string	Public	Contact person of the patient
ContactPersonAddress	string	Public	Contact person address of the patient
ContactPersonPhone	string	Public	Contact person phone of the patient
HealthInsuranceId	int	Public	Health insurance id of the patient
HealthInsuranceIssued	datetime	Public	Health insurance issued of the patient
HealthInsuranceDateExpired	datetime	Public	Health insurance date expired of the patient

#### **4.2.22. Role Model**

Field Name	Type	Visibility	Description
RoleID	int	public	ID of the role
RoleName	string	public	Name of the role

Description	string	public	Description of the role
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#### 4.2.23. UserRole Model

Field Name	Type	Visibility	Description
UserID	int	public	ID of the user
RoleID	int	public	ID of the role

## 5. Sequence Diagram

### 5.1. <Guest> Login

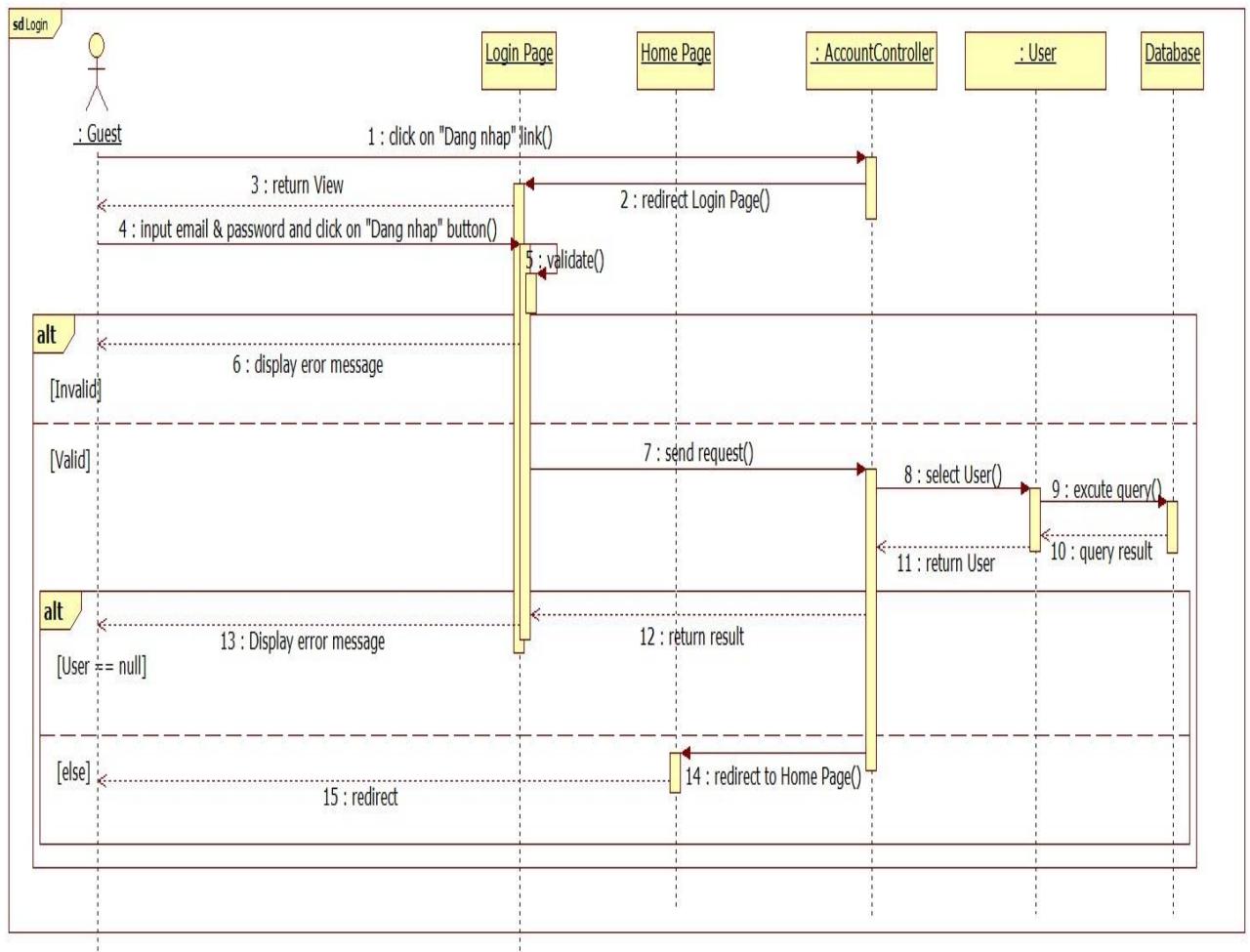


Figure 34 <Guest> Login Sequence Diagram

## 5.2. <Guest> Register

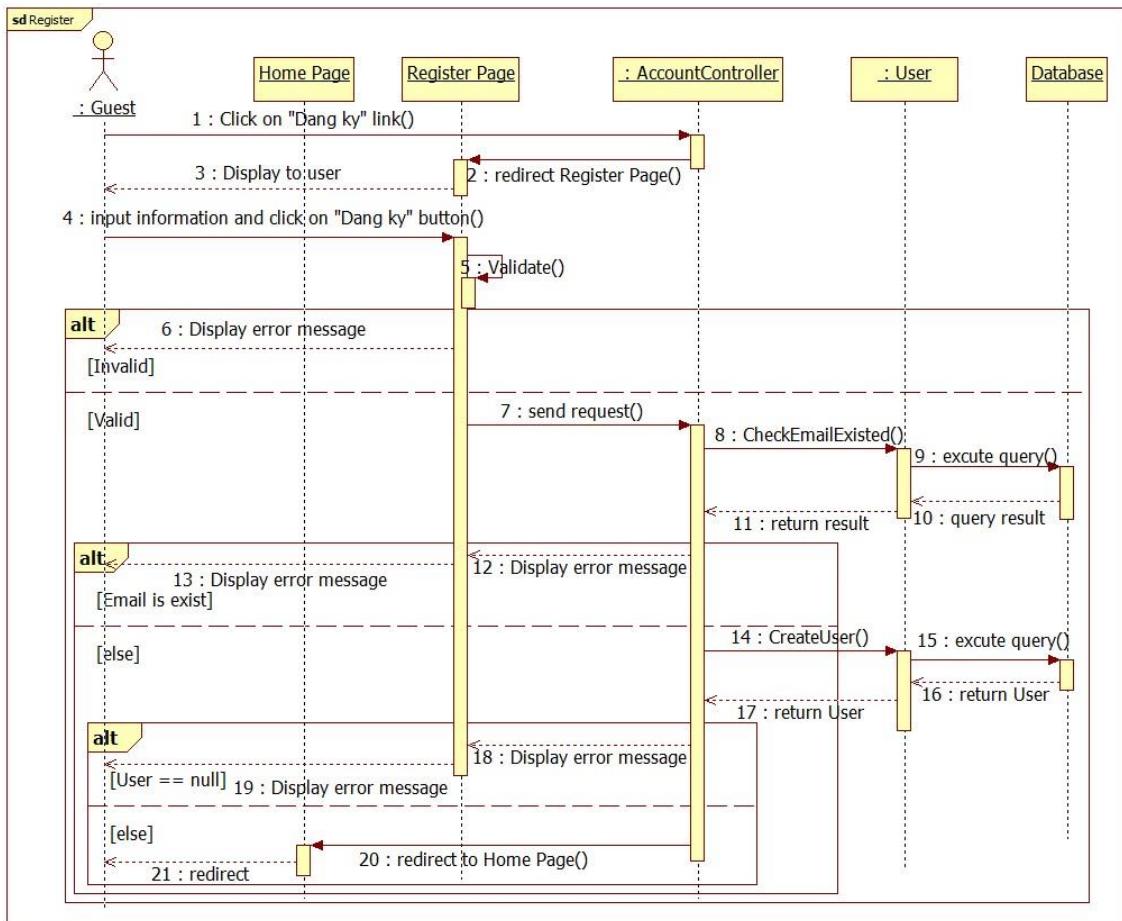


Figure 35 <Guest> Register Sequence Diagram

## 5.3. <Patient> Comment Doctor

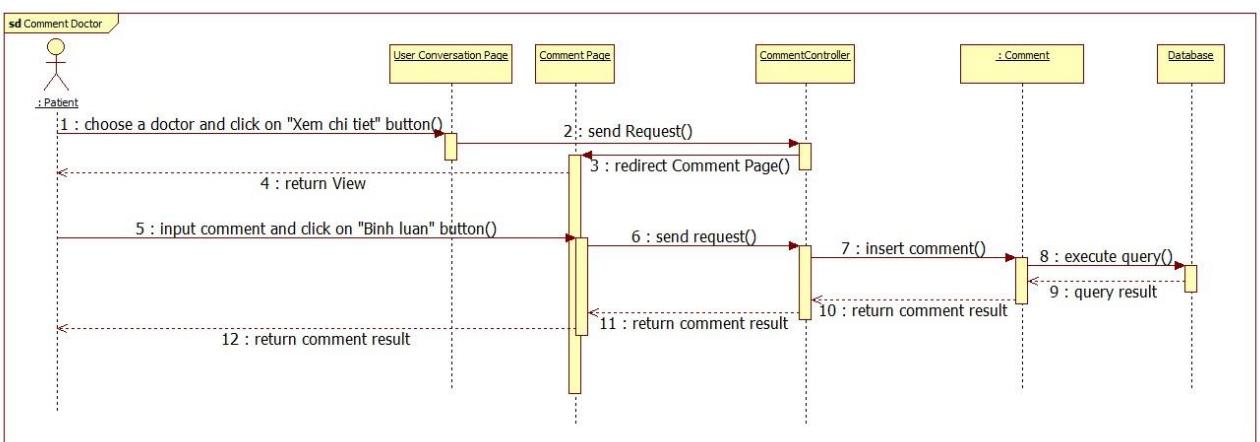


Figure 36 <Patient> Comment Doctor

## 5.4. <Patient> Conversation

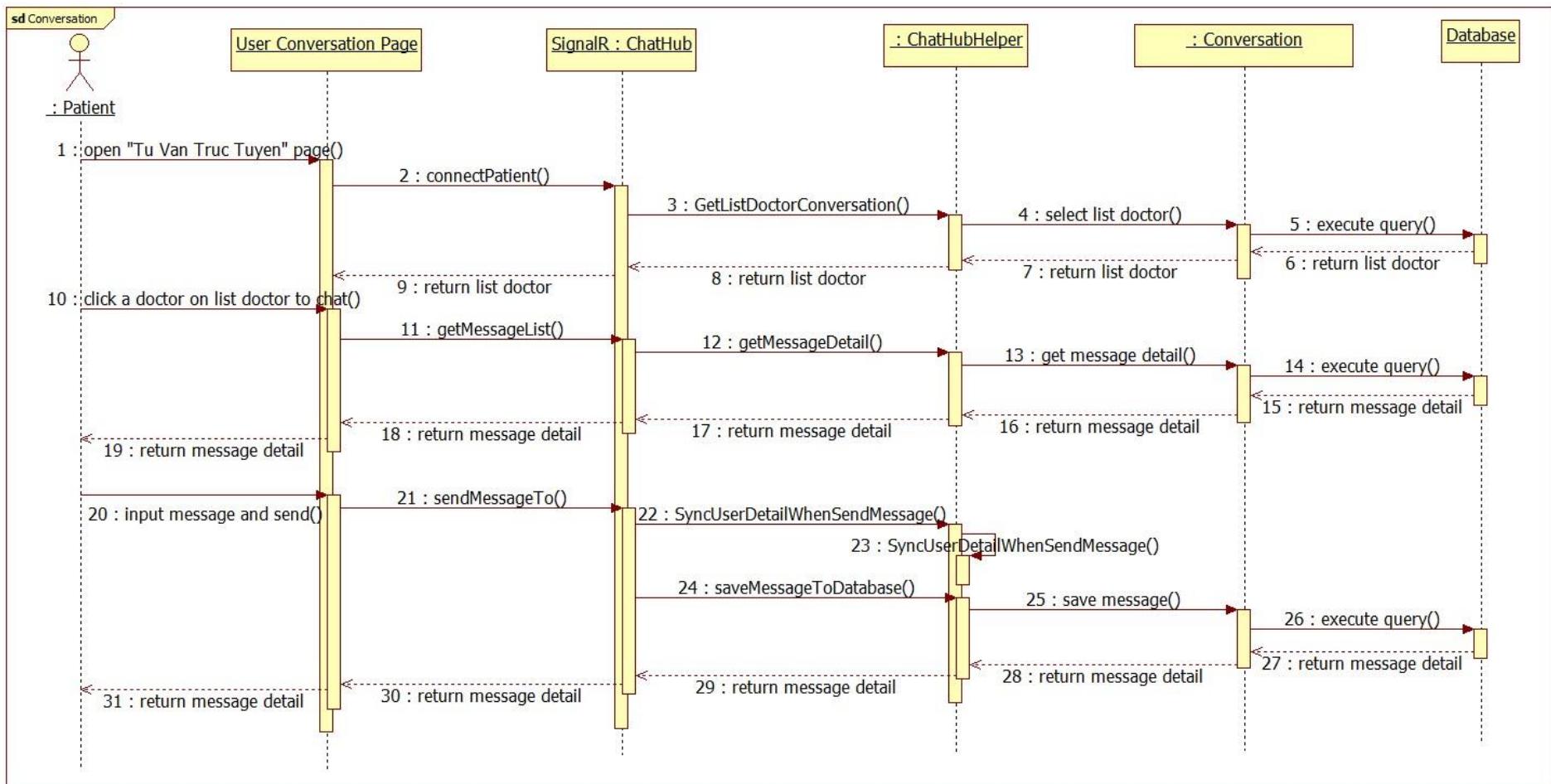


Figure 37 <Patient> Conversation Sequence Diagram

## 5.5. <Doctor> Request Webcam

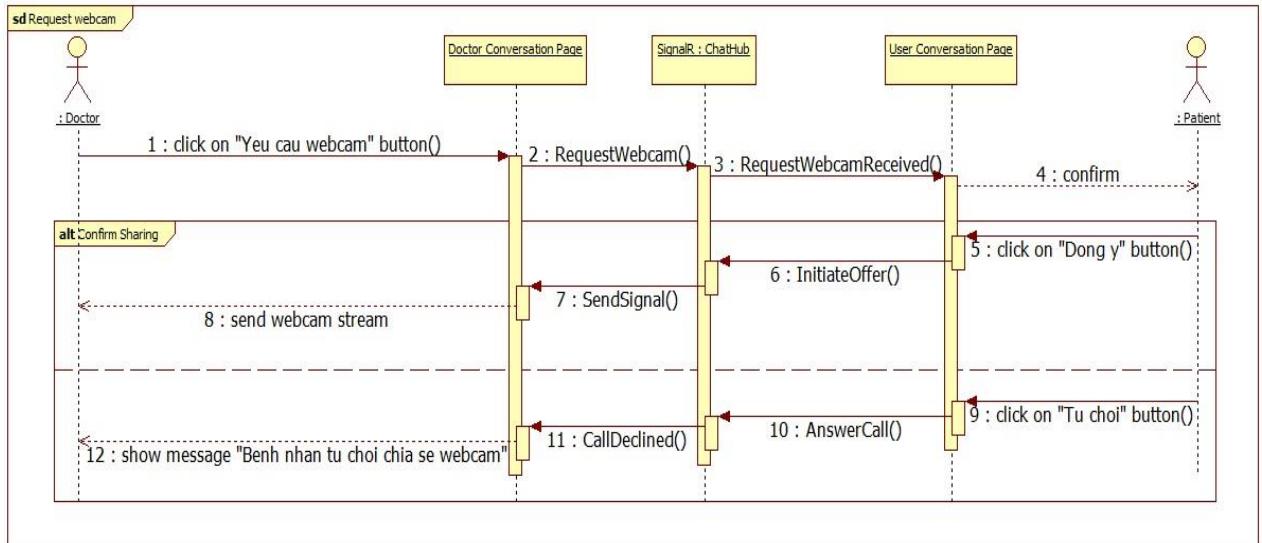


Figure 38 <Doctor> Request Webcam Sequence Diagram

## 5.6. <Patient> Upload Attachment

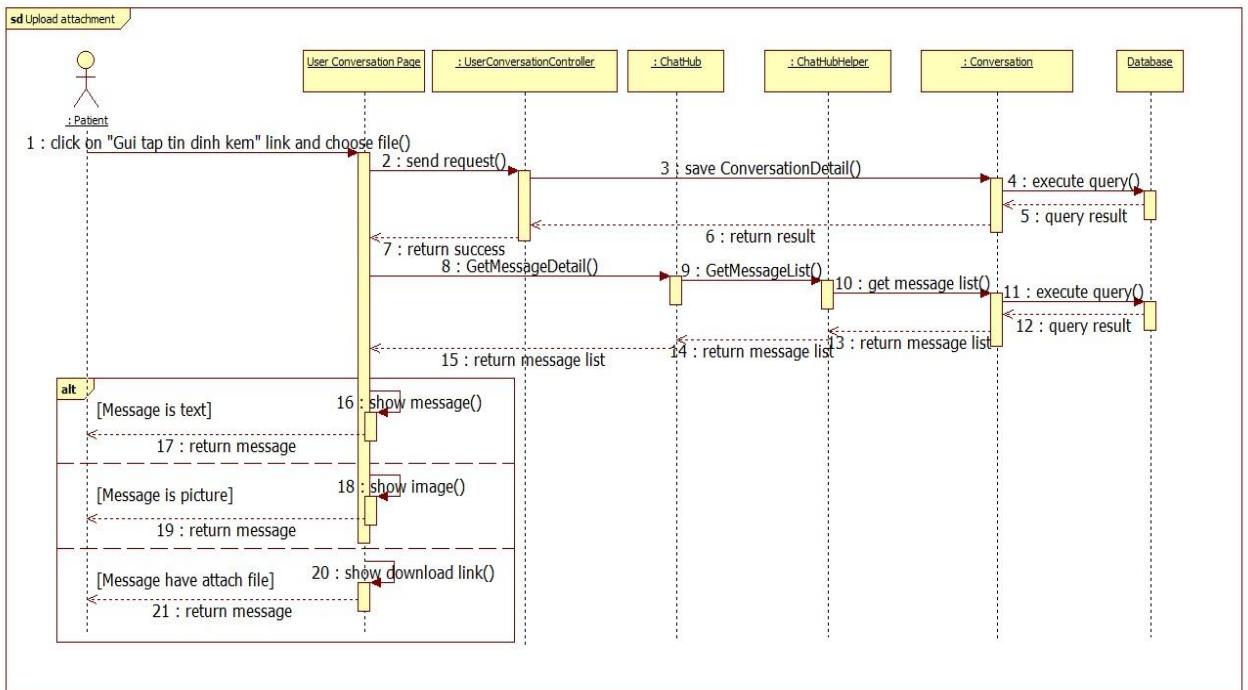


Figure 39 <Patient> Upload Attachment

## 5.7. <Admin> Define New Medical Profile Template

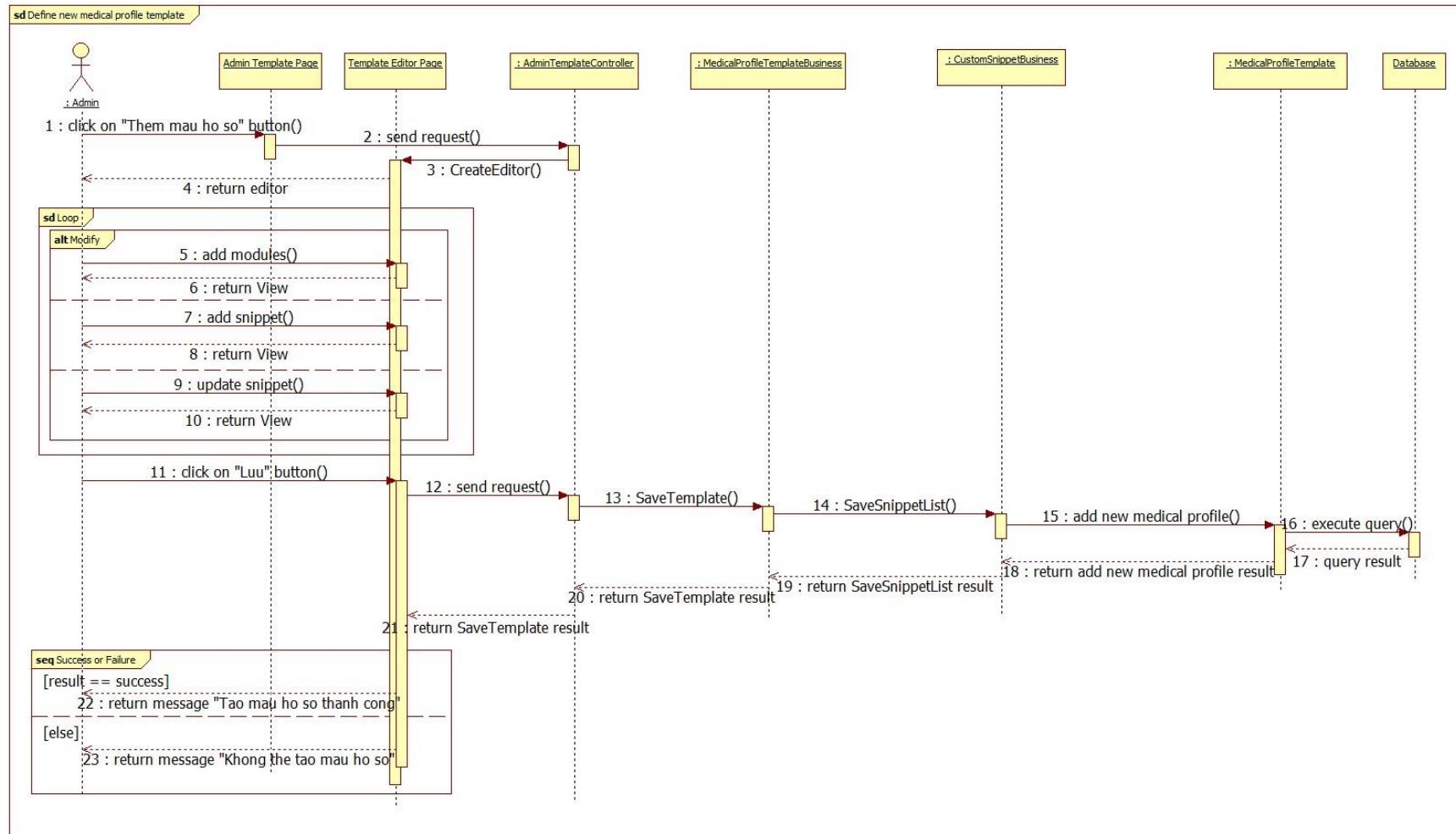


Figure 40 <Admin> Define New Medical Profile Template

## 5.8. <Admin> Update Medical Profile Template

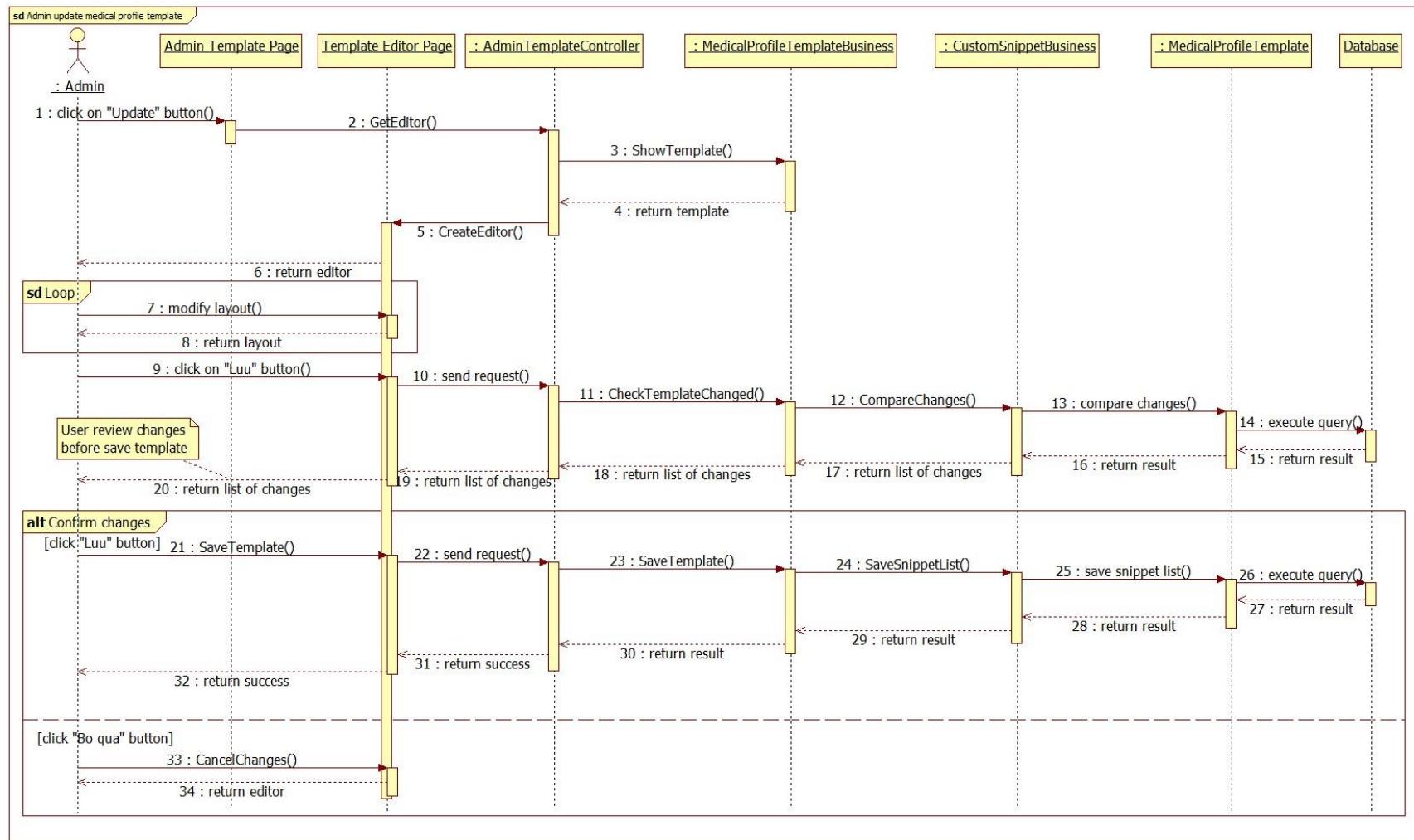


Figure 41 <Admin> Update Medical Profile Template

## 5.9. <Doctor> Update Medical Profile

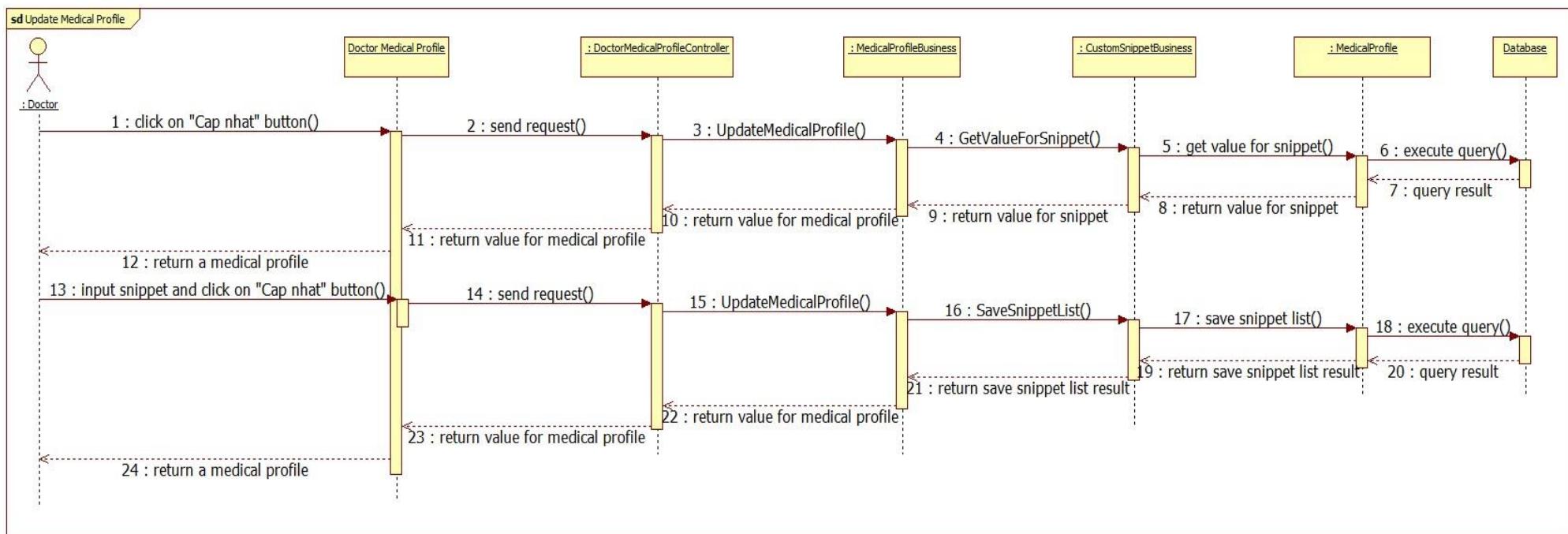


Figure 42 <Doctor> Update Medical Profile

## 5.10. <Doctor> Views Medical Profile

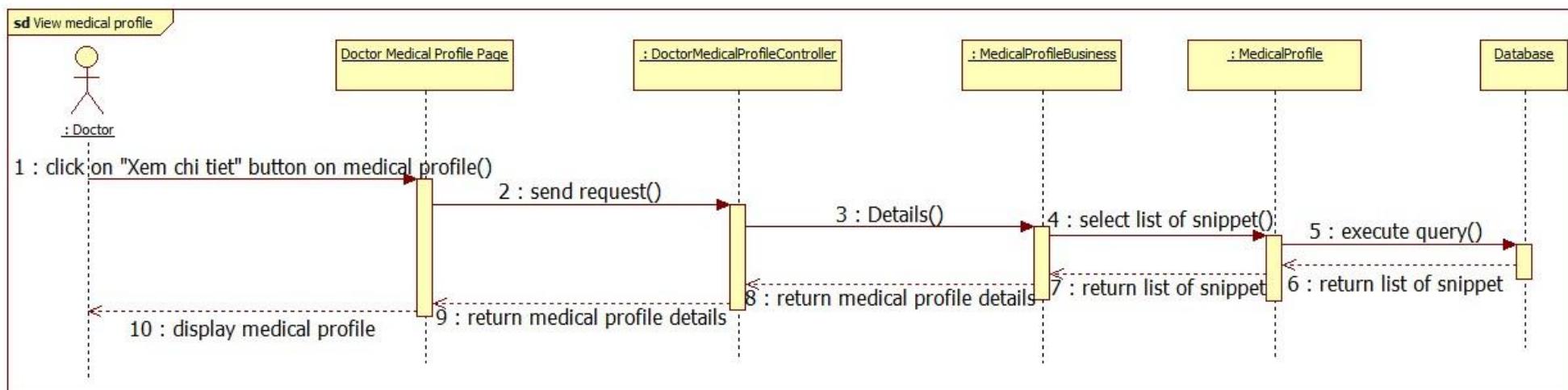


Figure 43 <Doctor> Views Medical Profile

## 5.11. <Patient> Update Personal Health Record

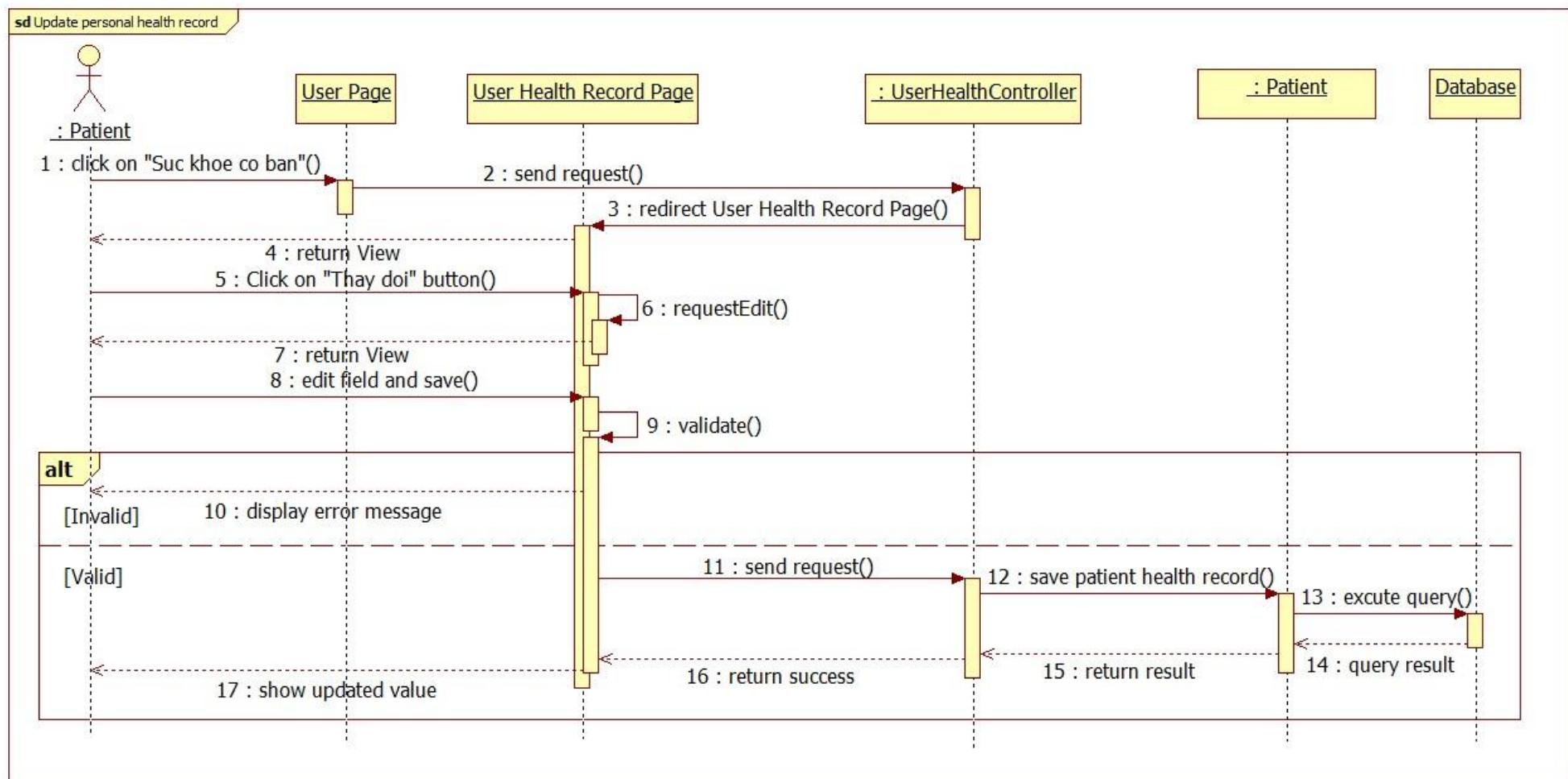


Figure 44 <Patient> Update Personal Health Record

## 5.12. <Patient> View Medical Profile

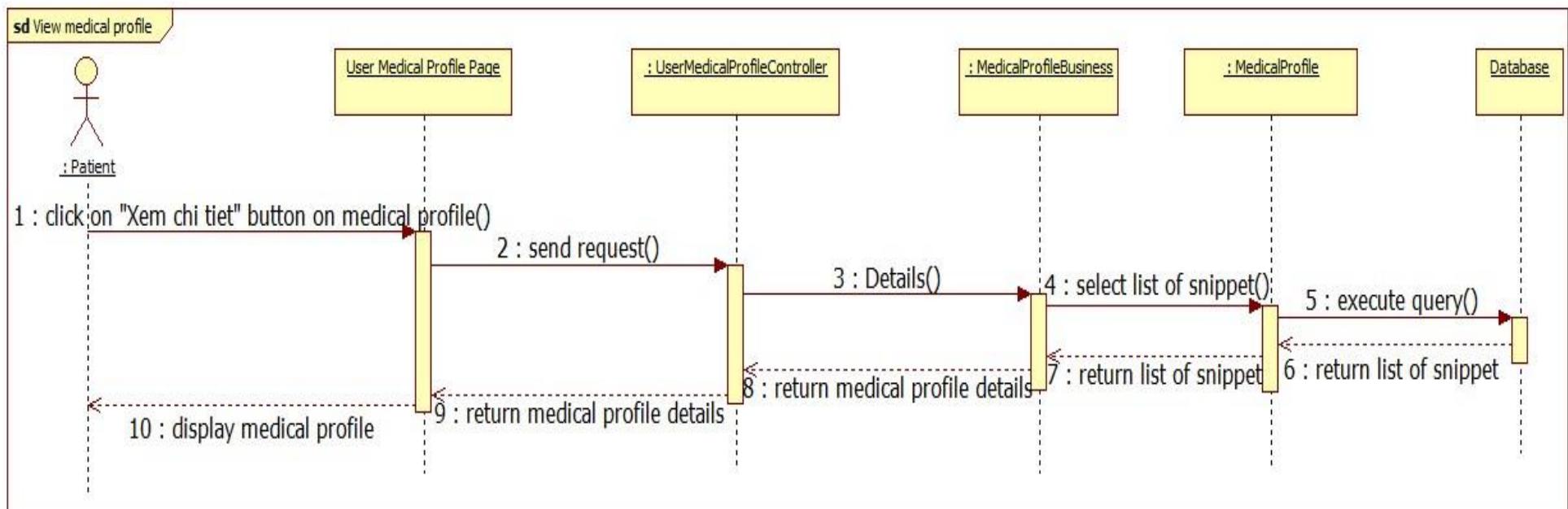


Figure 45 <Patient> View Medical Profile Record

## 6. User Interface Design

### 6.1. Homepage screen

#### 6.1.1. Screen Images



Figure 46 HomePage

#### 6.1.2. Objects and Actions

##### 6.1.2.1. Actions

Field No	Field name	Type	Action	Description	Validation
1	Đăng nhập	Link	On click	Forward to "Login" page	
2	Đăng kí	Link	On click	Forward to "Register" page	

Table 27 Actions HomePage

## 6.2. Login screen

### 6.2.1. Screen image

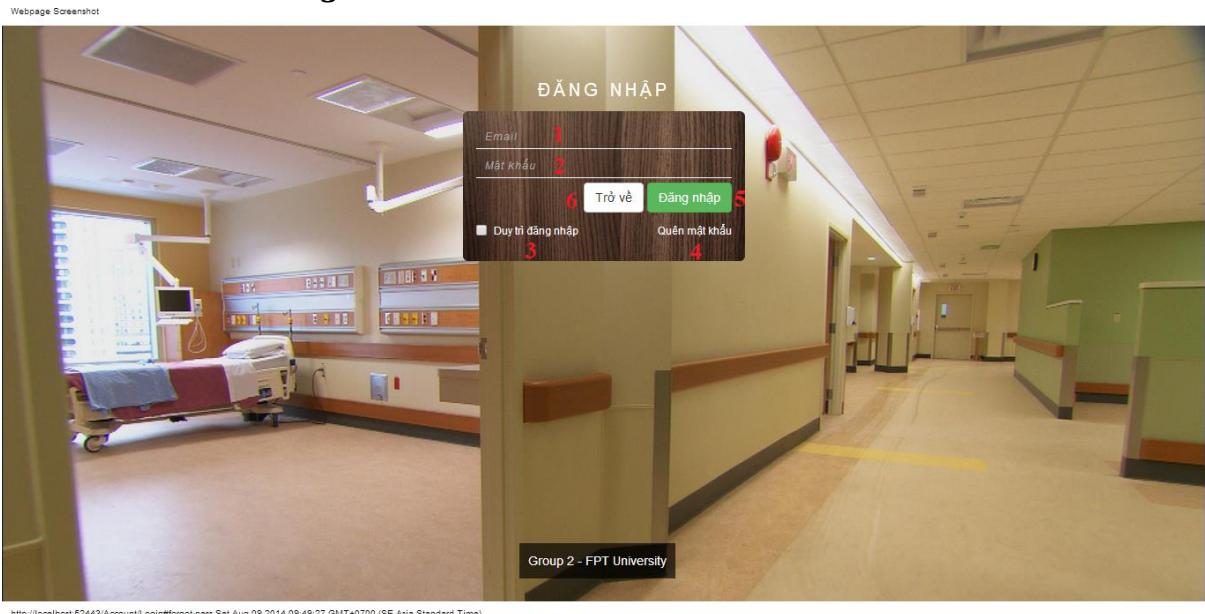


Figure 47 Login Page

### 6.2.2. Objects and Actions

#### 6.2.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Email	Textbox	Yes	String		Contain user's email to login
2	Mật khẩu	Textbox	Yes	String		Contain user's password to login
3	Duy trì đăng nhập	Checkbox	No	Boolean		Check to remember user to login again

Table 28 Data fields Login Page

#### 6.2.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
4	Quên mật khẩu	Link	On click	Forward to popup "ForgotPassword".	
5	Đăng nhập	Button	On click	Forward to page follow user's role.	Email and password not empty
6	Trở về	Button	On click	Cancel the login. Back to previous page.	

Table 29 Actions Login Page

## 6.3. Register screen

### 6.3.1. Screen image

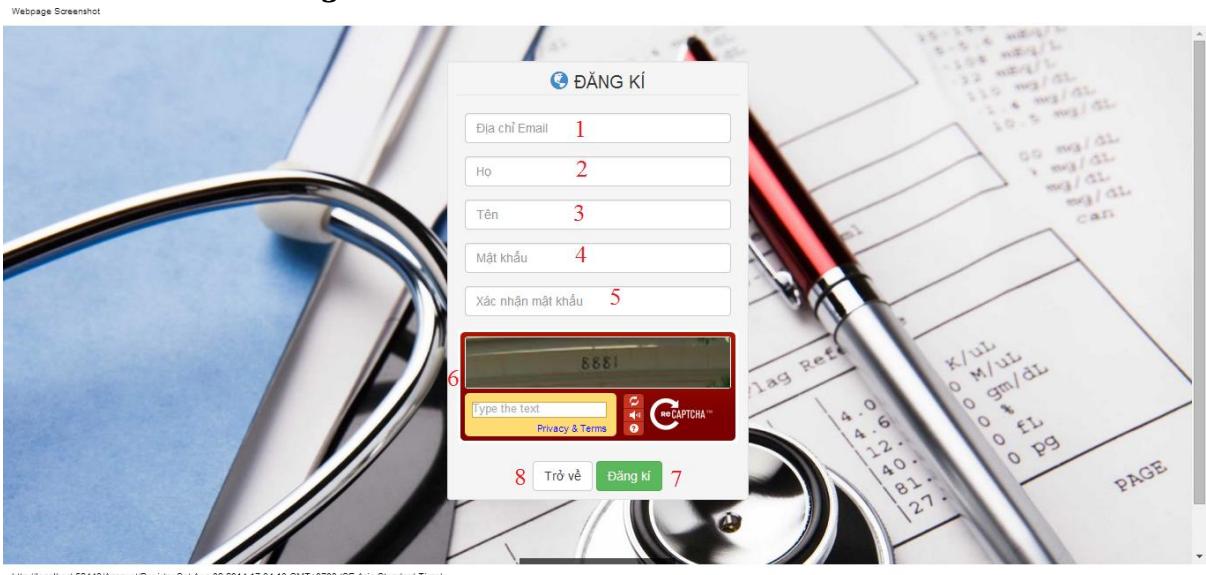


Figure 48 Register Page

### 6.3.2. Objects and Actions

#### 6.3.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Địa chỉ Email	Textbox	Yes	String	50	Contain user's email to login
2	Họ	Textbox	Yes	String	25	Contain user's last name
3	Tên	Textbox	Yes	String	25	Contain user's first name
4	Mật khẩu	Textbox	Yes	String	25	Contain user's password to login
5	Xác nhận mật khẩu	Textbox	Yes	String	25	Contain the confirm password
6	Retype Image	Textbox	Yes	String		Contain the verifying captcha

Table 30 Data fields Register Page

#### 6.3.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
7	Đăng kí	Button	On click	Submit inputted data to server	Inputted data must be valid
8	Trở về	Button	On click	Cancel the registration. Back to previous page	

Table 31 Actions Register Page

## 6.4. Forgot password screen

### 6.4.1. Screen image

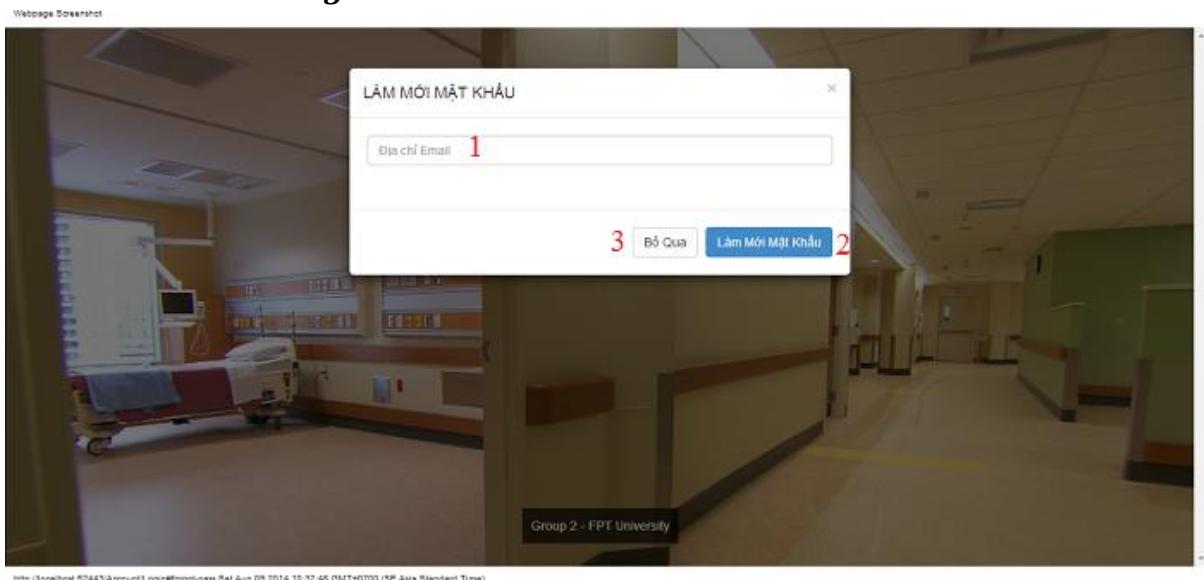


Figure 49 Forgot Password Page

### 6.4.2. Objects and Actions

#### 6.4.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Địa chỉ Email	Textbox	Yes	String		Contain user's email to reset password

Table 32 Data fields Forgot Password Page

#### 6.4.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
2	Làm mới mật khẩu	Button	On click	Submit inputted data to server	Inputted data must be valid
3	BỎ QUA	Button	On click	Dismiss model. Back to login page	

Table 33 Actions Forgot Password Page

## 6.5. Admin hospital information screen

### 6.5.1. Screen image

Webpage Screenshot

Admin 1

Thông tin bệnh viện 15

Quản lý người dùng 16

Quản lý bác sĩ 17

Quản lý Chuyên Khoa 18

Quản lý Hồ sơ bệnh án 19

Quản lý Bình luận 20

Mẫu hồ sơ 21

Quản lý thể loại phim ảnh 22

Quản lý thể loại ứng dụng 23

Thông tin bệnh viện

Ngày 14 tháng 8 năm 2014 – Giờ: 09:41:43

Chọn tệp 4

Thay đổi 5

Đăng xuất 6

Tên bệnh viện	Bệnh Viện 7
Địa chỉ	Địa chỉ 8
Điện thoại	098765432 9
Fax	083456789 10
Email	bv@gmail.com 11

Đội ngũ bác sĩ: 5 thành viên

Tên bác sĩ	Chuyên môn
Doctor 1	Nhi Khoa
Nguyễn Văn A	Nhi Khoa
Tôn Thất Tùng	Nhi Khoa
Hồ Đắc Di	Nhi Khoa
Đặng Văn Ngữ	Nội khoa

Xem thêm.... 12

Khoa khám bệnh: 15 khoa

Tên khoa
Ngoại khoa
Nội khoa
Nhi Khoa
Ngoại tim mạch
Ngoại lồng ngực
Ngoại tiêu hóa
Phẫu thuật mắt
Ngoại tổng quát
Ngoại thần kinh
Phẫu thuật miệng & hàm mặt
Chấn thương chỉnh hình
Đi ứng
Miễn dịch học
Nội tim mạch
Phẫu thuật

Hồ sơ bệnh án: 3 đang áp dụng

Mã bệnh án	Tên bệnh án	Bệnh nhân
OMCS.0000001.01	Bệnh Án Mẫu	Tran Su
OMCS.0000001.02	Bệnh Án Mẫu	Tran Su
OMCS.0000001.03	Bệnh Án Mẫu	Tran Su

Xem thêm.... 13

Xem thêm.... 14

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http://localhost:52443/AdminInformationHospital Thu Aug 14 2014 09:41:50 GMT+0700 (SE Asia Standard Time)

Figure 50 Admin Hospital Information Page

### 6.5.2. Objects and Actions

#### 6.5.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
7	Tên bệnh viện	Textbox	Yes	String	50	Contain hospital's name
8	Địa chỉ	Textbox	Yes	String	50	Contain hospital's address
9	Điện thoại	Textbox	Yes	String	12	Contain hospital's phone
10	Fax	Textbox	Yes	String	12	Contain hospital's fax
11	Email	Textbox	Yes	String	50	Contain hospital's email

Table 34 Data fields Admin Hospital Information Page

#### 6.5.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
1		DDL	On click	List “Thông tin cá nhân” and “Đăng xuất”	
2	Thông tin cá nhân	Link	On click	Forward to “AdminInformation” page	
3	Đăng xuất	Link	On click	Back to login page	
4	Chọn tệp	File	On click	Submit inputted file to server	
5	0	Checkbox	On click	Click “0” to view table hospital information	
6	I	Checkbox	On click	Click “I” to edit table data hospital information	
12	Xem thêm...	Link	On click	Forward to “AdminDoctor” page	
13	Xem thêm...	Link	On click	Forward to “AdminMedicalProfile” page	
14	Xem thêm...	Link	On click	Forward to “AdminSpecialtyField” page	
15	Thông tin bệnh viện	Link	On click	Forward to “AdminInformationHospital” page	
16	Quản lý người dùng	Link	On click	Forward to “AdminUser” page	
17	Quản lý bác sĩ	Link	On click	Forward to “AdminDoctor” page	
18	Quản lý chuyên khoa	Link	On click	Forward to “AdminSpecialtyField” page	
19	Quản lý hồ	Link	On	Forward to	

	sơ bệnh án		click	"AdminMedicalProfile" page	
20	Quản lý bình luận	Link	On click	Forward to "AdminComment" page	
21	Mẫu hồ sơ	Link	On click	Forward to "AdminTemplate" page	
22	Quản lý thể loại phim ảnh	Link	On click	Forward to "FilmType" page	
23	Quản lý thể loại dị ứng	Link	On click	Forward to "AllergyType" page	

Table 35 Actions Admin Hospital Information Page

## 6.6. Admin information screen

### 6.6.1. Screen image

Webpage Screenshot

Admin

Thông tin Admin

	Họ và tên	Trần Cao Danh	3
Mật khẩu	<input type="button" value="Thay đổi mật khẩu"/>	4	
Giới tính	Nam	5	
Ngày sinh	10/10/1992	6	
Số điện thoại	0987654321	7	
Địa chỉ thường trú	An Giang	8	
Địa chỉ tạm trú	Quận 12	9	

Thay đổi 1 2

Ảnh đại diện

10

SELECT FILES

http://localhost:52443/AdminInformation Sat Aug 09 2014 09:56:35 GMT+0700 (SE Asia Standard Time)

Figure 51 Admin Information Page

### 6.6.2. Objects and Actions

#### 6.6.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
3	Họ và tên	Textbox	Yes	String	50	Contain user's full name
5	Giới tính	List	Yes	String	50	Contain user's gender
6	Ngày sinh	Textbox	Yes	Date	12	Contain user's birthday
7	Số điện	Textbox	Yes	String	12	Contain user's

	thoại					phone
8	Địa chỉ thường trú	Textbox	Yes	String	50	Contain user's primary address
9	Địa chỉ tạm trú	Textbox	No	String	50	Contain user's secondary address

Table 36 Data fields Admin Information Page

#### 6.6.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
1	0	Check box	On click	Click "0" to view table admin information	
2	I	Check box	On click	Click "I" to edit table data admin information	
4	Thay đổi mật khẩu	Button	On click	Forward to popup "ChangePassword"	
10	Chọn tệp	File	On click	Submit inputted file to server	

Table 37 Actions Admin Information Page

### 6.7. Manage users screen

#### 6.7.1. Screen image

Webpage Screenshot

Email	Tên đầy đủ	Tình trạng	Ngày tạo	Thao Tác
caodanh@gmail.com	Trần Cao Danh	Hoạt Động	03-08-2014	<span style="color: blue;">edit</span> <span style="color: red;">delete</span>
linhnguyen@gmail.com	Nguyễn Nhật Linh	Hoạt Động	03-08-2014	<span style="color: blue;">edit</span> <span style="color: red;">delete</span>
nguonnguyen@gmail.com	Nguyễn Hồng Ngọc Nguồn	Hoạt Động	03-08-2014	<span style="color: blue;">edit</span> <span style="color: red;">delete</span>
nhannguyen@gmail.com	Nguyễn Toàn Nhân	Hoạt Động	03-08-2014	<span style="color: blue;">edit</span> <span style="color: red;">delete</span>
trannguyentiensu@gmail.com	Tran Su	Hoạt Động	03-08-2014	<span style="color: blue;">edit</span> <span style="color: red;">delete</span>
tuanmai@gmail.com	Mai Anh Tuấn	Hoạt Động	03-08-2014	<span style="color: blue;">edit</span> <span style="color: red;">delete</span>

Figure 52 List User Page

#### 6.7.2. Objects and Actions

##### 6.7.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Search	Textbox	No	String	50	Contain search

						condition to find some user account
--	--	--	--	--	--	-------------------------------------

Table 38 Data fields List User Page

#### 6.7.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
2	Tìm	Button	On click	Send inputted search condition to server	
3	Cập nhật	Button	On click	Forward to popup "Edit"	
4	Vô hiệu/Kích hoạt	Link	On click	Deactivate user or Activate user	
5	Tạo mới	Button	On click	Forward to popup "Create"	

Table 39 Actions List User Page

## 6.8. Create user screen

### 6.8.1. Screen image

Webpage Screenshot

Ngày tạo	Thao Tác
09-08-2014	[Edit] [Delete]
09-08-2014	[Edit] [Delete]
03-08-2014	[Edit] [Delete]

Figure 53 Create User Page

### 6.8.2. Objects and Actions

#### 6.8.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Email	Textbox	Yes	String	50	Contain user's email
2	Họ	Textbox	Yes	String	50	Contain user's last name

3	Tên	Textbox	Yes	String	50	Contain user's first name
4	Giới tính	Textbox	Yes	String		Contain user's gender
5	Ngày sinh	Textbox	Yes	Date		Contain user's birthday
6	Số điện thoại	Textbox	Yes	String	12	Contain user's phone
7	Địa chỉ thường trú	Textbox	Yes	String	50	Contain user's primary address
8	Địa chỉ tạm trú	Textbox	No	String	50	Contain user's secondary address

Table 40 Data fields Create User Page

#### 6.8.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
9	Lưu	Button	On click	Submit inputted data to server	Inputted data must be valid
10	Bỏ qua	Button	On click	Dismiss popup	

Table 41 Actions Create User Page

### 6.9. Edit user screen

#### 6.9.1. Screen image

Webpage Screenshot

The screenshot shows a user interface for editing a user profile. The main window is titled "Cập Nhật" and displays a user record for "Nguyễn Nhật Linh". The profile picture placeholder is a blue person icon. The form fields are as follows:

- Họ (\*): Nguyễn Nhật 1
- Tên (\*): Linh 2
- Giới tính (\*): Nam 3
- Số điện thoại (\*): 0933056722 4
- Địa chỉ thường trú (\*): Quảng Ngãi 5
- Địa chỉ tạm trú: Quận 12 6

At the bottom right, there are two buttons: "Bỏ Qua" 8 and "Lưu" 7. To the right of the main window, there is a sidebar titled "Thao Tác" (Actions) with several icons.

Figure 54 Edit User Page

## 6.9.2. Objects and Actions

### 6.9.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Họ	Textbox	Yes	String	50	Contain user's last name
2	Tên	Textbox	Yes	String	50	Contain user's first name
3	Giới tính	Textbox	Yes	String		Contain user's gender
4	Số điện thoại	Textbox	Yes	String	12	Contain user's phone
5	Địa chỉ thường trú	Textbox	Yes	String	50	Contain user's primary address
6	Địa chỉ tạm trú	Textbox	No	String	50	Contain user's secondary address

Table 42 Data fields Edit User Page

### 6.9.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
7	Lưu	Button	On click	Submit inputted data to server	Inputted data must be valid
8	Bỏ qua	Button	On click	Dismiss popup	

Table 43 Actions Edit User Page

## 6.10. Manage doctors screen

### 6.10.1. Screen image

Email	Tên đầy đủ	Chuyên môn	Tình trạng	Ngày tạo	Thao Tác
dangvanngu@gmail.com	Đặng Văn Ngữ	Nội khoa	Hoạt Động	09-08-2014	4
doctor1@ymail.com	Doctor 1	Nhi Khoa	Hoạt Động	01-08-2014	
tonthattung@gmail.com	Tôn Thất Tùng	Nhi Khoa	Hoạt Động	01-08-2014	
tonthattung@gmail.com	Hồ Đức Di	Nhi Khoa	Hoạt Động	01-08-2014	
vana@gmail.com	Nguyễn Văn A	Nhi Khoa	Hoạt Động	09-08-2014	

Figure 55 List Doctor Page

## 6.10.2. Objects and Actions

### 6.10.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Search	Textbox	No	String	50	Contain search condition to find some user account

Table 44 Data fields List Doctor Page

### 6.10.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
2	Tìm	Button	On click	Send inputted search condition to server	
3	Cập nhật	Button	On click	Forward to popup "Edit"	
4	Vô hiệu/Kích hoạt	Link	On click	Deactivate user or Activate user	
5	Tạo mới	Button	On click	Forward to popup "Create"	

Table 45 Actions List Doctor Page

## 6.11. Create doctor screen

### 6.11.1. Screen image

Webpage Screenshot

Ngày tạo	Thao Tác
09-08-2014	[Edit] [Delete]
01-08-2014	[Edit] [Delete]
01-08-2014	[Edit] [Delete]
01-08-2014	[Edit] [Delete]
09-08-2014	[Edit] [Delete]

Figure 56 Create Doctor Page

### 6.11.2. Objects and Actions

#### 6.11.2.1. Data fields

Field	Field	Type	Mandatory	Data	Max	Description
-------	-------	------	-----------	------	-----	-------------

No	name			type	length	
1	Email	Textbox	Yes	String	50	Contain user's email
2	Họ	Textbox	Yes	String	50	Contain user's last name
3	Tên	Textbox	Yes	String	50	Contain user's first name
4	Giới tính	Textbox	Yes	String		Contain user's gender
5	Chuyên môn	DDL	Yes	String		Contain user's specialty field
6	Ngày sinh	Textbox	Yes	Date		Contain user's birthday
7	Số điện thoại	Textbox	Yes	String	12	Contain user's phone
8	Địa chỉ thường trú	Textbox	Yes	String	50	Contain user's primary address
9	Địa chỉ tạm trú	Textbox	No	String	50	Contain user's secondary address

Table 46 Data fields Create Doctor Page

#### 6.11.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
9	Lưu	Button	On click	Submit inputted data to server	
10	Bỏ qua	Button	On click	Dismiss popup	

Table 47 Actions Create Doctor Page

## 6.12. Edit doctor screen

### 6.12.1. Screen image

Webpage Screenshot

The screenshot shows a modal window titled "Cập Nhật" (Update) with a placeholder "Nguyễn Văn A". Inside the modal, there is a circular placeholder image labeled "Ảnh đại diện". Below the image, there are seven input fields with validation numbers: 1 (Họ), 2 (Tên), 3 (Giới tính), 4 (Chuyên môn), 5 (Số điện thoại), 6 (Địa chỉ thường trú), and 7 (Địa chỉ tạm trú). At the bottom of the modal are two buttons: "BỎ QUÁ" (Cancel) and "LƯU" (Save). The background of the page shows a sidebar with various administrative links.

Figure 57 Edit Doctor Page

### 6.12.2. Objects and Actions

#### 6.12.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Họ	Textbox	Yes	String	50	Contain user's last name
2	Tên	Textbox	Yes	String	50	Contain user's first name
3	Giới tính	Textbox	Yes	String		Contain user's gender
4	Chuyên môn	DDL	Yes	String		Contain user's specialty field
5	Số điện thoại	Textbox	Yes	String	12	Contain user's phone
6	Địa chỉ thường trú	Textbox	Yes	String	50	Contain user's primary address
7	Địa chỉ tạm trú	Textbox	No	String	50	Contain user's secondary address

Table 48 Data fields Edit Doctor Page

#### 6.12.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
7	Lưu	Button	On click	Submit inputted data to server	Inputted data must be valid
8	Bỏ qua	Button	On click	Dismiss popup	

Table 49 Actions Edit Doctor Page

## 6.13. Manage medical profiles screen

### 6.13.1. Screen image

Webpage Screenshot

Admin

Thông tin bệnh viện

Quản lý người dùng

Quản lý bác sĩ

Quản lý Chuyên Khoa

Quản lý Hồ sơ bệnh án

Quản lý Bình luận

Mẫu hồ sơ

Quản lý thể loại phim ảnh

Quản lý thể loại ứng dụng

Quản Lý Bệnh Án

Mã hồ sơ bệnh án	Bệnh án	Tên bệnh nhân	Email	Ngày tạo	Thao Tác
OMCS.0000001.01	Bệnh Án Mẫu	Tran Su	trannguyentiensu@gmail.com	03/08/2014 22:37:16	<span>1</span> <span>2</span> <span>3</span> <span>4</span> <span>5</span>
OMCS.0000001.02	Bệnh Án Mẫu	Tran Su	trannguyentiensu@gmail.com	25/07/2014 00:00:00	<span>3</span> <span>4</span> <span>5</span>
OMCS.0000001.03	Bệnh Án Mẫu	Tran Su	trannguyentiensu@gmail.com	30/07/2014 00:00:00	<span>3</span> <span>4</span> <span>5</span>

http://localhost:52442/AdminMedicalProfile Sat Aug 09 2014 20:15:09 GMT+0700 (SE Asia Standard Time)

Figure 58 List Medical Profile Page

### 6.13.2. Objects and Actions

#### 6.13.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Search	Textbox	No	String	50	Contain search condition to find some medical profile

Table 50 Data fields List Medical Profile Page

#### 6.13.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
2	Tìm	Button	On click	Send inputted search condition to server	
3	Xem chi tiết	Button	On click	Forward to "Details" page	
4	Cập nhật	Link	On click	Forward to "UpdateMedicalProfile" page	
5	Xóa	Button	On click	Delete a medical profile	

Table 51 Actions List Medical Profile Page

## 6.14. View medical profile screen

### 6.14.1. Screen image

The screenshot shows a web-based application interface for managing medical profiles. On the left, a sidebar menu lists various administrative functions: Thông tin bệnh viện, Quản lý người dùng, Quản lý bác sĩ, Quản lý Chuyên Khoa, Quản lý Hồ sơ bệnh án, Quản lý Bình luận, Mẫu hồ sơ, Quản lý thể loại phim ảnh, and Quản lý thể loại ứng dụng. The main content area is titled 'Bệnh Án Mẫu' (Sample Case) and displays a case for 'Tran Su'. The case details include: Họ và tên (Name): Tran Su; Giới tính (Gender): Nữ; Công việc (Occupation): Lập trình viên; Dân tộc (Ethnicity): Kinh; Địa chỉ (Address): Thôn 1, xã Cù Ebur, Buôn Ma Thuột; Vào viện (Admission Date): 09/06/2014. Below this, under 'Chuyên môn' (Specialty), there is a section for 'Khó thở' (Difficulty Breathing) with a detailed description of symptoms: 'Bệnh khởi 3 ngày trước nhập viện với triệu chứng : hắt hơi, sổ mũi, ho khan từng cơn ( 8 – 10 cơn /ngày, # 30s/cơn). Khó thở, khó khé khó khạc đờm , khạc được thì dễ thở. Sốt nhẹ,mỏi khó, mệt mỏi nhiều, đau nhức vai gáy, sau đó khó thở hai thi , nhiều hơn ở thi thở ra. Khó thở liên tục, tăng khi vận động thể lực, có những cơn kích phát ngồi dậy dễ thở hơn. Ở nhà có dùng thuốc ( medisolume 4mg, tocemuc 200mg, theophillin 100mg, midirel 20mg, thở khí dung), nhưng không đỡ khó thở nên xin nhập viện điều trị. Vào khoa với tình trạng: Tỉnh tiếp xúc tốt. Da niêm hồng Khó thở độ 3 Co kéo khoang gian sườn Phổi ran rít, ran ngay hai phế trường, rải rác ran âm Tim đều Bụng mềm, gan lách không sờ đung. Dấu hiệu sinh tồn : M: 80 lần/ phút T: 370 C HA: 160/90mmhg NT: 24/lp'.

Figure 59 View Medical Profile Page

### 6.14.2. Objects and Actions

#### 6.14.2.1. Actions

Field No	Field name	Type	Action	Description	Validation
1	Cập nhật	Link	On click	Forward to "UpdateMedicalProfile" page	

Table 52 Actions View Medical Profile Page

## 6.15. Update medical profile screen

### 6.15.1. Screen image

Cập nhật hồ sơ bệnh án

Bệnh Án Mẫu

The screenshot shows a medical profile update form. At the top left is a blue button labeled 'Cập nhật' with a red number '1'. Below it is a link 'Hành chính'. The main area contains patient information: Họ và tên (Tran Su), Giới tính (Nữ), Công việc (Lập trình viên), Dân tộc (Kinh), Địa chỉ (Thôn 1, xã CuEbur, Buôn Ma Thuột). A date input field shows 'Vào viện \*' with the value '09/06/2014'. The 'Chuyên môn' section includes a dropdown for 'Lí do vào viện \*' with 'Khó thở' selected (labeled '2'). The 'Bệnh sử' section contains a large text area with a scroll bar, describing symptoms like shortness of breath, coughing, and chest pain (labeled '3').

Figure 60 Update Medical Profile Page

### 6.15.2. Objects and Actions

#### 6.15.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
2	Lí do vào viện	Textbox	Yes	String		Contain input follow medical profile template
3	Bệnh sử	Textbox	Yes	String		Contain input follow medical profile template

Table 53 Data fields Update Medical Profile Page

#### 6.15.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
1	Cập nhật	Link	On click	Submit inputted data to server	

Table 54 Actions Update Medical Profile Page

## 6.16. Manage medical profiles screen

### 6.16.1. Screen image

Webpage Screenshot

Admin

Thông tin bệnh viện  
Quản lý người dùng  
Quản lý bác sĩ  
Quản lý Chuyên Khoa  
Quản lý Hồ sơ bệnh án  
Quản lý Bình luận  
Mẫu hồ sơ  
Quản lý thể loại phim ảnh  
Quản lý thể loại ứng dụng

Quản Lý Bình luận

Bệnh nhân bình luận	Nội dung	Bác sĩ	Ngày bình luận	Thao tác
Trần Cao Danh	a	Doctor 1	01/01/2014 00:00:00	<span style="color: red;">x</span> <span style="color: red;">3</span>
Mai Anh Tuấn	b	Nguyễn Văn A	01/01/2014 00:00:00	<span style="color: red;">x</span>
Nguyễn Hồng Ngọc Nguồn	c	Tôn Thất Tùng	01/01/2014 00:00:00	<span style="color: red;">x</span>
Tran Su	Bác sĩ thật hay	Doctor 1	11/11/2014 00:00:00	<span style="color: red;">x</span>

1

http://localhost:52443/AdminComment Sat Aug 09 2014 20:46:58 GMT+0700 (SE Asia Standard Time)

Figure 61 Manage Comment Page

### 6.16.2. Objects and Actions

#### 6.16.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Search	Textbox	No	String	50	Contain search condition to find some user account

Table 55 Data fields Manage Comment Page

#### 6.16.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
2	Tìm	Button	On click	Send inputted search condition to server	
3	Xóa	Button	On click	Delete a comment	

Table 56 Actions Manage Comment Page

## 6.17. Manage medical profile templates screen

### 6.17.1. Screen image

Webpage Screenshot

Admin

Thông tin bệnh viện

Quản lý người dùng

Quản lý bác sĩ

Quản lý Chuyên Khoa

Quản lý Hồ sơ bệnh án

Quản lý Bình luận

Mẫu hồ sơ

Quản lý thể loại phim ảnh

Quản lý thể loại ứng dụng

Mẫu Hồ Sơ Bệnh Án

Thêm Mẫu Hồ Sơ Mới 4

Tên mẫu hồ sơ

Bệnh Ám Mẫu

Bệnh Ám Ngoài Da - BV Da Liễu

Bệnh Ám Truyền Nhiễm

Bệnh Ám Nội Khoa

Thao tác

Sửa cấu trúc 1

Sửa 2

Xóa 3

http://localhost:52443/AdminTemplate Sat Aug 09 2014 10:42:27 GMT+0700 (SE Asia Standard Time)

Figure 62 List Medical Profile Template Page

### 6.17.2. Objects and Actions

#### 6.17.2.1. Actions

Field No	Field name	Type	Action	Description	Validation
1	Sửa cấu trúc	Button	On click	Forward to “Editor” page	
2	Sửa	Button	On click	Forward to popup “Edit”	
3	Xóa	Button	On click	Delete a medical profile template	
4	Thêm mẫu hồ sơ mới	Button	On click	Forward to popup “Create”	

Table 57 Actions List Medical Profile Template Page

## 6.18. Edit medical profile templates screen

### 6.18.1. Screen image

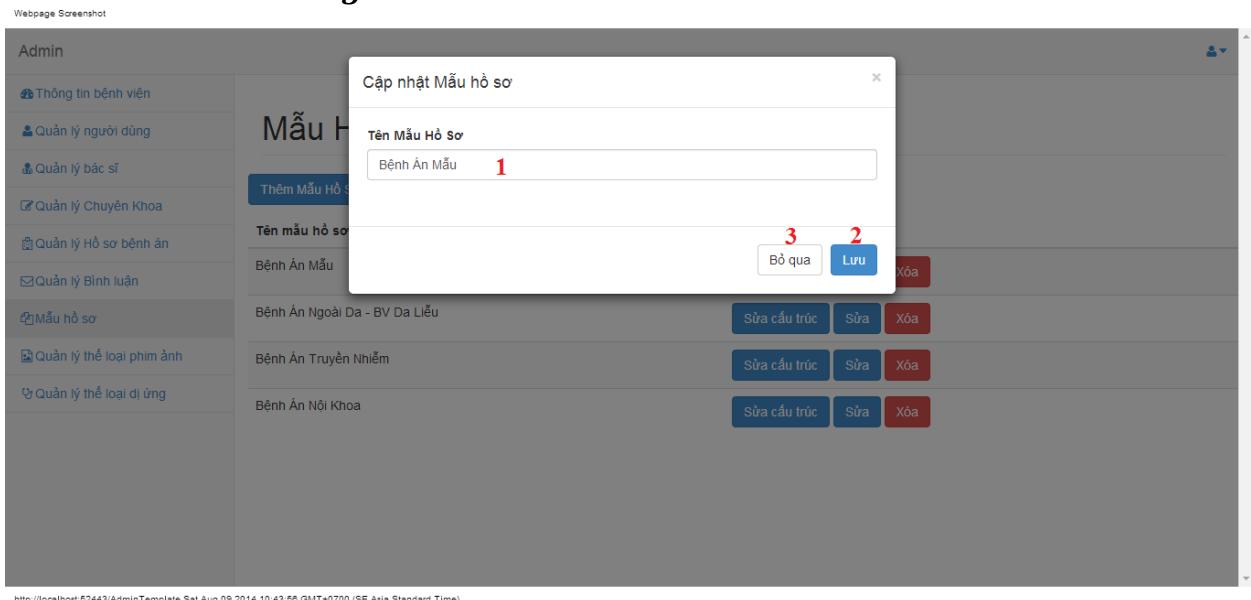


Figure 63 Edit Medical Profile Template Page

### 6.18.2. Objects and Actions

#### 6.18.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Tên mẫu hồ sơ	Textbox	Yes	String	50	Contain name medical profile

Table 58 Data fields Edit Medical Profile Template Page

#### 6.18.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
9	Lưu	Button	On click	Submit inputted data to server	Inputted data must be valid
10	BỎqua	Button	On click	Dismiss popup	

Table 59 Actions Edit Medical Profile Template Page

## 6.19. Create medical profile template screen

### 6.19.1. Screen image

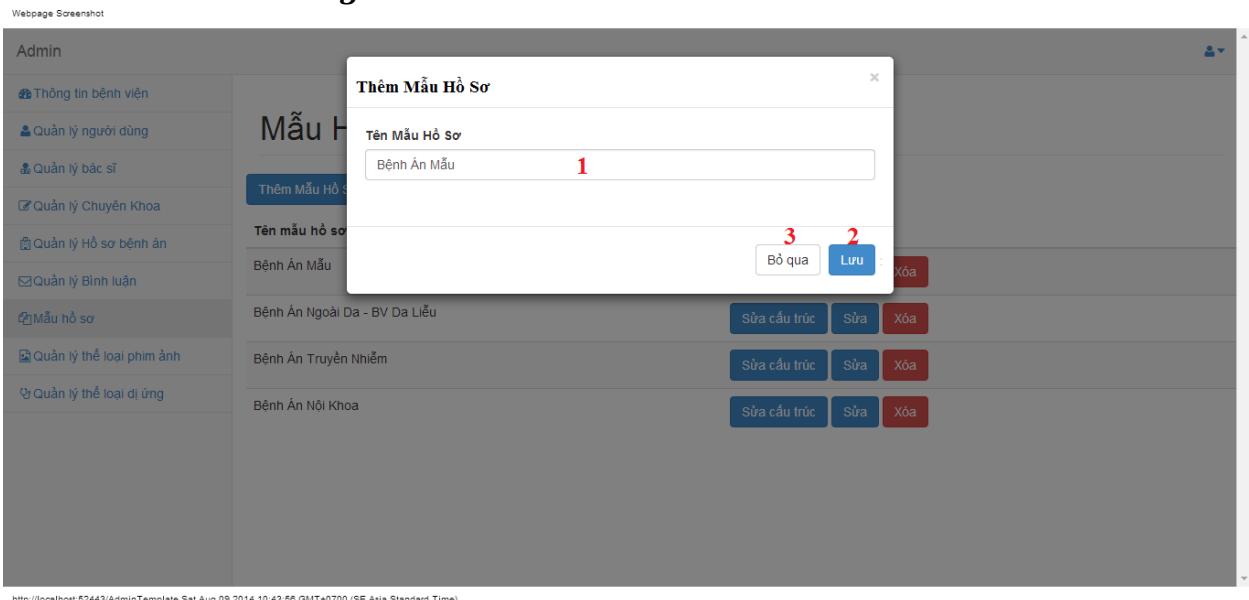


Figure 64 Create Medical Profile Template Page

### 6.19.2. Objects and Actions

#### 6.19.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Tên mẫu hồ sơ	Textbox	Yes	String	50	Contain name medical profile

Table 60 Data fields Create Medical Profile Template Page

#### 6.19.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
9	Lưu	Button	On click	Submit inputted data to server	Inputted data must be valid
10	BỎ QUÁ	Button	On click	Dismiss popup	

Table 61 Actions Create Medical Profile Template Page

## 6.20. Editor/update medical profile templates screen

### 6.20.1. Screen image

Webpage Screenshot

Xây dựng hồ sơ bệnh án

### Mẫu hồ sơ Bệnh Án Mẫu

**Bệnh nhân**

Họ và tên	*** Giá trị động ***
Giới tính	*** Giá trị động ***
Ngày sinh	*** Giá trị động ***
Số điện thoại	*** Giá trị động ***
Địa chỉ thường trú	*** Giá trị động ***
Địa chỉ tạm trú	*** Giá trị động ***

**4** Lưu **5** Trở về

**Các đối tượng**

- 1** Phân vùng **Tùy chỉnh** **Có sẵn**
- Khu vực
- Lịch sử khám bệnh
- Hồ sơ phim
- Dị ứng
- Tiêm chủng

- 2** Phân vùng **Tùy chỉnh** **Có sẵn**
- Xây dựng bảng
- Ô nhập liệu
- Kiểu ngày tháng
- Đoạn nhập liệu
- Tùy chọn đơn 1 hàng dọc
- Tùy chọn đơn hàng ngang
- Tùy chọn kép hàng dọc
- Tùy chọn kép hàng ngang
- Tùy chọn đơn

- 3** Phân vùng **Tùy chỉnh** **Có sẵn**
- Thông tin cá nhân
- Họ và tên
- Giới tính
- Ngày sinh
- Tuổi
- Số điện thoại
- Địa chỉ thường trú
- Địa chỉ tạm trú
- Thông tin bệnh nhân

http://localhost:52443/AdminTemplate/Editor/6 Sat Aug 09 2014 21:13:42 GMT+0700 (SE Asia Standard Time)

Figure 65 Editor/Update Medical Profile Template Page

### 6.20.2. Objects and Actions

#### 6.20.2.1. Actions

Field No	Field name	Type	Action	Description	Validation
1	Phân vùng	Link	On click	Drag data to create/update medical profile template	
2	Tùy chỉnh	Link	On click	Dismiss popup	
3	Có sẵn	Link	On click	Drag data to create/update medical profile template	

4	Lưu	Button	On click	Submit inputted data to server	
5	Trở về	Button	On click	Back to previous page	

Table 62 Actions Editor/Update Medical Profile Template Page

## 6.21. Change password screen

### 6.21.1. Screen image

The screenshot shows a form titled "Thay đổi mật khẩu". It contains three text input fields labeled "Mật khẩu hiện tại" (1), "Mật khẩu mới" (2), and "Xác nhận mật khẩu" (3). At the bottom, there are two buttons: "Trở về" (5) and a blue button "Cập nhật mật khẩu" (4).

Figure 66 Change Password Page

### 6.21.2. Objects and Actions

#### 6.21.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Mật khẩu hiện tại	Textbox	Yes	String	50	Contain user's password
2	Mật khẩu mới	Textbox	Yes	String	50	Contain user's new password
3	Xác nhận mật khẩu	Textbox	Yes	String	50	Contain user's re-password

Table 63 Data fields Change Password Page

#### 6.21.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
9	Cập nhật mật khẩu	Button	On click	Submit inputted data to server	Inputted data must be valid
10	Bỏ qua	Button	On click	Dismiss popup	

Table 64 Actions Change Password Page

## 6.22. Manage patient screen

### 6.22.1. Screen image

Bác Sĩ: Doctor 1

Quản Lý Bệnh Nhân

Tạo Mới 5

Tên đăng nhập	Tên đầy đủ	Số Điện Thoại	Ngày tạo	Thao Tác
caodanh@gmail.com	Trần Cao Danh	0933056722	09-08-2014	<span>4</span> <span>1</span> <span>2</span>
linhnguyen@gmail.com	Nguyễn Nhật Linh	0933056722	09-08-2014	<span>1</span> <span>2</span>
nguonguyen@gmail.com	Nguyễn Hồng Ngọc Nguồn	0933056722	03-08-2014	<span>1</span> <span>2</span>
nhannguyen@gmail.com	Nguyễn Toàn Nhân	0933056722	03-08-2014	<span>1</span> <span>2</span>
trannguyentiensu@gmail.com	Tran Su	0933056722	03-08-2014	<span>1</span> <span>2</span>
tuanmai@gmail.com	Mai Anh Tuấn	0933056722	03-08-2014	<span>1</span> <span>2</span>

1

http://localhost:52443/Doctor/User/Sat Aug 09 2014 10:54:05 GMT+0700 (SE Asia Standard Time)

Figure 67 List Patient Page

### 6.22.2. Objects and Actions

#### 6.22.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Search	Textbox	No	String	50	Contain search condition to find some user account

Table 65 Data fields List Patient Page

#### 6.22.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
2	Tìm	Button	On click	Send inputted search condition to server	
3	Cập nhật	Button	On click	Forward to popup "Edit"	
4	Xem chi tiết	Link	On click	Forward to popup "View"	
5	Tạo mới	Button	On click	Forward to popup "Create"	

Table 66 Actions List Patient Page

## 6.23. Create/edit patient screen

### 6.23.1. Screen image

Thông tin cơ bản	Email (*)	1
Thông tin bệnh nhân	Họ (*)	2
Thông tin người liên lạc	Tên (*)	3
Sức khỏe cá nhân	Giới tính (*)	Nam 4
	Ngày sinh (*)	dd/mm/yyyy 5
	Số điện thoại (*)	6
	Địa chỉ thường trú	7
	Địa chỉ tạm trú	8
Thông tin cơ bản	Dân tộc	Kinh 9
Thông tin bệnh nhân	Quốc tịch	Việt Nam 10
Thông tin người liên lạc	Công việc	11
Sức khỏe cá nhân	Nơi làm việc	12
	Mã số thẻ bảo hiểm y tế	13
	Ngày cấp	dd/mm/yyyy 14
	Ngày hết hạn	dd/mm/yyyy 15
Thông tin cơ bản	Người liên lạc	16
Thông tin bệnh nhân	Địa chỉ người liên lạc	17
Thông tin người liên lạc	Số điện thoại người liên lạc	18
Sức khỏe cá nhân		

Thông tin cơ bản	Chiều Cao (cm) (*)	19
Thông tin bệnh nhân	Cân Nặng (kg) (*)	20
Thông tin người liên lạc	Màu Mắt	21
Sức khỏe cá nhân	Màu Tóc	22
	Nhóm Máu	23
	Lượng đồ uống có cồn (lít) hằng tuần (*)	24
	Số năm uống (*)	25
	Lượng thuốc hút (gói) hằng tuần (*)	26
	Số năm hút (*)	27
	Tên loại thể thao	28
	Thời lượng tham gia (giờ) hằng tuần (*)	29
	Tham gia khác (Yoga, Thiền định,...)	30
	Thời lượng tham gia (giờ) hằng tuần (*)	31

33 Bỏ qua Lưu 32

Figure 68 Create/Edit Patient Page

### 6.23.2. Objects and Actions

#### 6.23.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Email	Textbox	Yes	String	50	Contain user's email
2	Họ	Textbox	Yes	String	50	Contain user's last name
3	Tên	Textbox	Yes	String	50	Contain user's first name
4	Giới tính	Textbox	Yes	String		Contain user's gender
5	Ngày sinh	Textbox	Yes	Date		Contain user's birthday
6	Số điện thoại	Textbox	Yes	String	12	Contain user's phone
7	Địa chỉ thường	Textbox	Yes	String	50	Contain user's primary address

	trú					
8	Địa chỉ tạm trú	Textbox	No	String	50	Contain user's secondary address
9	Dân tộc	DDL	No	String	50	Contain user's ethnicity
10	Quốc tịch	DDL	No	String	50	Contain user's nationality
11	Công việc	Textbox	No	String	50	Contain user's job
12	Nơi làm việc	Textbox	No	String	50	Contain user's where to work
13	Mã số thẻ bảo hiểm y tế	Textbox	No	String	50	Contain user's health insurance id
14	Ngày cấp	Textbox	No	Date	50	Contain user's health insurance issued
15	Ngày hết hạn	Textbox	No	Date	50	Contain user's health insurance date expired
16	Người liên lạc	Textbox	No	String	50	Contain user's contact person
17	Địa chỉ người liên lạc	Textbox	No	String	50	Contain user's contact person address
18	Số điện thoại người liên lạc	Textbox	No	String	50	Contain user's contact person phone
19	Chiều cao	Textbox	No	String	50	Contain user's height
20	Cân nặng	Textbox	No	String	50	Contain user's weight
21	Màu mắt	Textbox	No	String	50	Contain user's eye color
22	Màu tóc	Textbox	No	String	50	Contain user's hair color
23	Nhóm máu	Textbox	No	String	50	Contain user's blood type
24	Lượng đồ uống có cồn hàng tuần	Textbox	No	String	50	Contain user's alcohol per week
25	Số năm uống	Textbox	No	String	50	Contain user's alcohol number of year
26	Lượng thuốc hút	Textbox	No	String	50	Contain user's smoke per week

	hàng tuần					
27	Số năm hút	Textbox	No	String	50	Contain user's smoke number of year
28	Tên loại thể thao	Textbox	No	String	50	Contain user's sport name
29	Thời lượng tham gia hằng tuần	Textbox	No	String	50	Contain user's sport per week
30	Tham gia khác	Textbox	No	String	50	Contain user's exercise type
31	Thời lượng tham gia hằng tuần	Textbox	No	String	50	Contain user's exercise per week

Table 67 Data fields Create/Edit Patient Page

#### 6.23.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
32	Lưu	Button	On click	Submit inputted data to server	Inputted data must be valid
33	Bỏ qua	Button	On click	Dismiss model	

Table 68 Actions Create/Edit Patient Page

## 6.24. View patient screen

### 6.24.1. Screen image

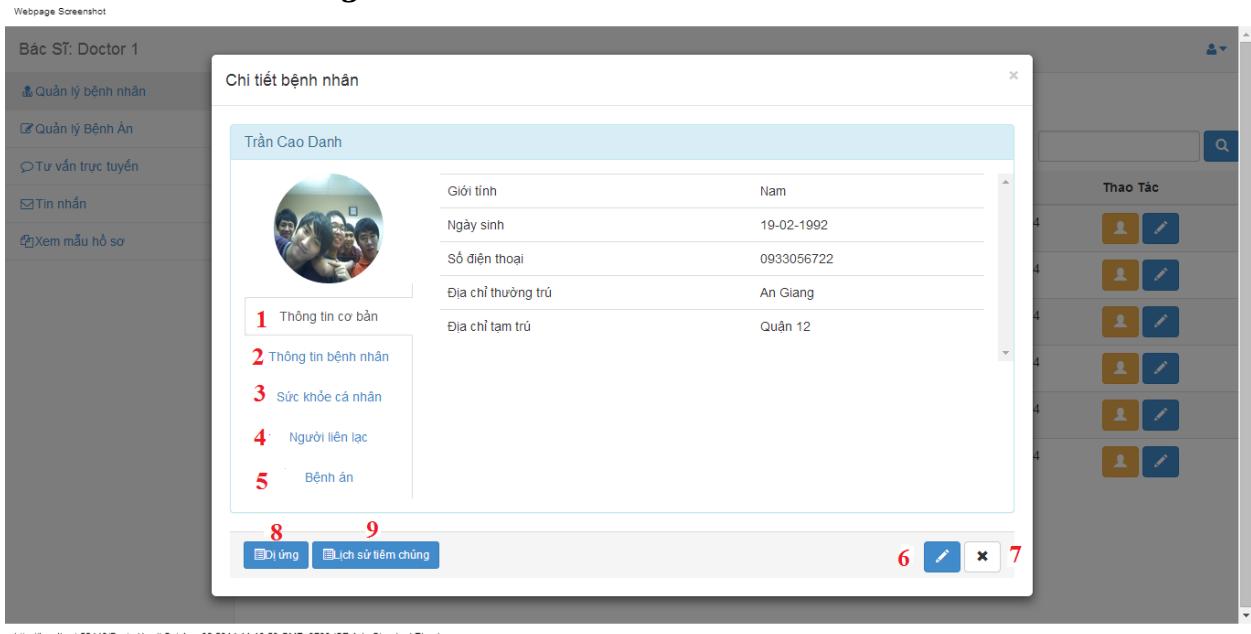


Figure 69 View Patient Page

### 6.24.2. Objects and Actions

#### 6.24.2.1. Actions

Field No	Field name	Type	Action	Description	Validation
1	Thông tin cơ bản	Link	On click	Contain user's basic information.	
2	Thông tin bệnh nhân	Link	On click	Contain patient's information.	
3	Sức khỏe cá nhân	Link	On click	Contain user's health record	
4	Người liên lạc	Link	On click	Contain user's contact person information	
5	Bệnh án	Link	On click	Add/Edit medical profile for patient	
6	Cập nhật	Button	On click	Forward to popup "EditPatient"	
7	Bỏ qua	Button	On click	Dismiss modal	
8	Dị ứng	Button	On click	Forward to popup "Allergy"	
9	Lịch sử tiêm chủng	Button	On click	Forward to popup "Immunization"	

Table 69 Actions View Patient Page

## 6.25. Doctor comment screen

### 6.25.1. Screen image

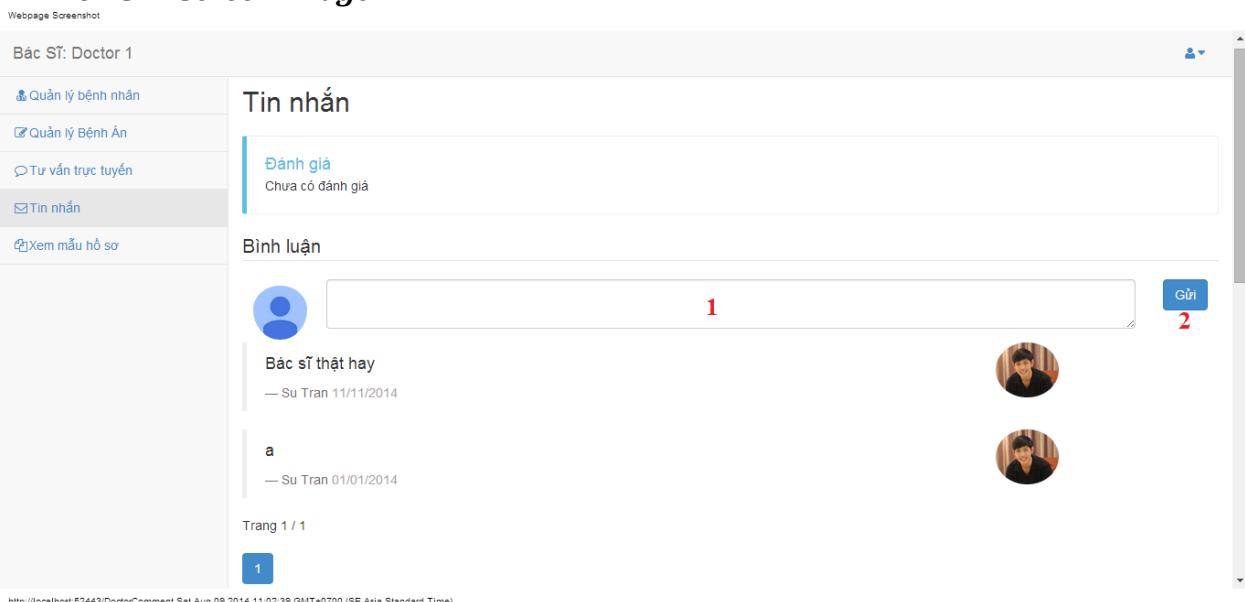


Figure 70 Doctor Comment Page

### 6.25.2. Objects and Actions

#### 6.25.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Bình luận	Textbox	No	String		Comment of doctor

Table 70 Data fields Doctor Comment Page

#### 6.25.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
2	Gửi	Button	On click	Summit inputted data to server	

Table 71 Actions Doctor Comment Page

## 6.26. Doctor conversation screen

### 6.26.1. Screen image

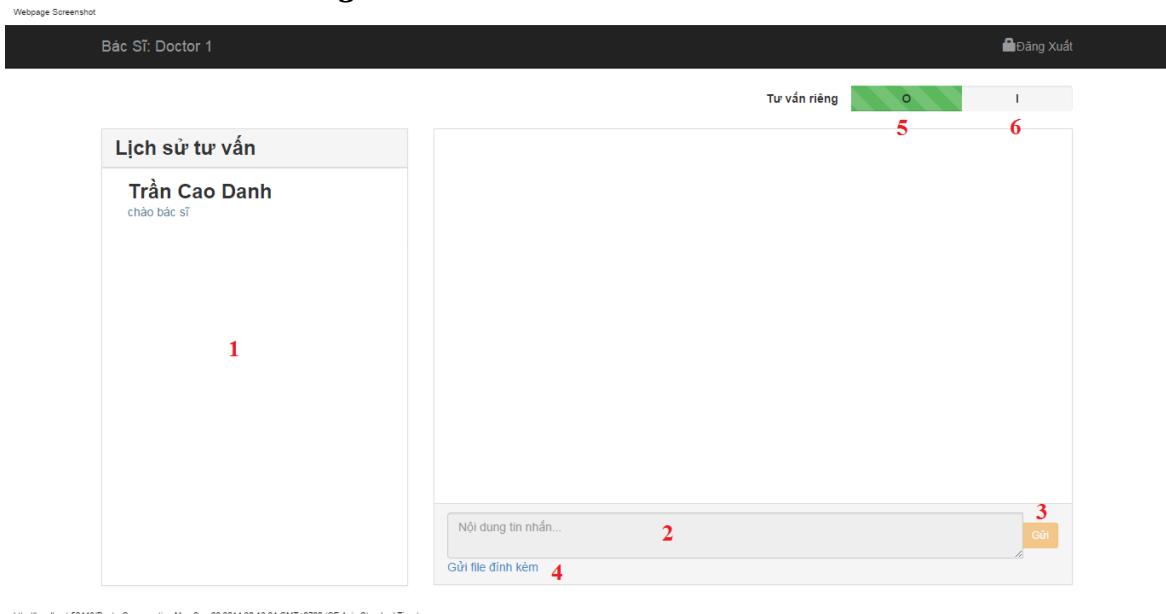


Figure 71 Doctor Conversation Page

### 6.26.2. Objects and Actions

#### 6.26.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
2	Nội dung tin nhắn	Textbox	No	String		Contain user's content conversation

Table 72 Data fields Doctor Conversation Page

#### 6.26.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
1	Lịch sử tư vấn	Link	On click	Click on a patient to chat	
3	Gửi	Button	On click	Submit inputted data to server	
4	Gửi file đính kèm	Link	On click	Submit inputted file to server	
5	0	Check box	On click	Disable private mode	
6	I	Check box	On click	Enable private mode	

Table 73 Actions Doctor Conversation Page

## 6.27. Doctor private mode

### 6.27.1. Screen image

Webpage Screenshot

The screenshot shows a medical consultation interface. At the top, it says "Bác Sĩ: Doctor 1". On the right, there are buttons for "Đăng Xuất" (Logout) and a progress bar labeled "Tư vấn riêng" (Private Consultation). The main area has a sidebar with a patient profile for "Trần Cao Danh" (Laptop programmer - 22 years old) and icons for search (1), print (2), download (3), and delete (4). Below this is a "Lịch sử khám bệnh" (Medical History) section with a date picker (18/09/2014) and dropdowns for "Khám bệnh tự do" (5), "Ngày phát bệnh" (6), "Chẩn đoán: a" (7), and "Tình trạng điều trị" (8). A "Khám bệnh" section follows with a date range (9-10) and a dropdown for "Hồ sơ bệnh án" (11). The main form includes fields for "Ngày phát bệnh" (12), "Triệu chứng" (13), "Chẩn đoán" (14), "Phương pháp điều trị" (15), "Tình trạng điều trị" (16), and "Ghi chú" (17). At the bottom are three buttons (18) and a "Gửi" (Send) button (19). To the right, a message box shows a message from "Trần Cao Danh" at 08:40:54: "chào bác sĩ" (Hello doctor). A red box highlights the message input field (20) and the "Gửi file đính kèm" (Send attached file) button (22). A red number "21" is placed near the "Gửi" button.

Figure 72 Doctor Information Page

### 6.27.2. Objects and Actions

#### 6.27.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
11	Hồ sơ bệnh án	Dropdownlist	No	String		Contain patient's medical profile
12	Ngày phát bệnh	Datetime picker	No	Date		Contain patient's onset date
13	Triệu chứng	Textbox	Yes	String		Contain patient symptom
14	Chẩn đoán	Textbox	Yes	String		Contain patient's diagnosis

15	Phương pháp điều trị	Textbox	No	String		Contain patient's treatment
16	Tình trạng điều trị	Textbox	No	String		Contain patient's condition
17	Ghi chú	Textbox	No	String		Contain note treatment history
20	Nội dung tin nhắn	Textbox	No	String		Contain user's content conversation

Table 74 Data fields Doctor Enalbe Private

#### 6.27.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
1	Xem chi tiết	Button	On click	View patient's information	
2	Dị ứng	Button	On click	View patient's allergy	
3	Tiêm chủng	Button	On click	View patient's immunization	
4	Yêu cầu webcam	Button	On click	Request patient's webcam	
5	Xem chi tiết	Button	On click	View treatment history or medical profile information	
6	Chỉnh sửa	Button	On click	Edit treatment history	
7	Liên kết hộp thoại	Button	On click	Mapping conversation with treatment history	
8	Xóa	Button	On click	Delete treatment history	
9	Tiếp tục	Button	On click	Next treatment history	
10	Quay lại	Button	On click	Previous treatment history	
21	Gửi	Button	On click	Submit inputted data to server	
22	Gửi file đính kèm	File	On click	Submit inputted file to server	

Table 75 Actions Doctor Doctor Enalbe Private

## 6.28. Doctor information screen

### 6.28.1. Screen image

Thông tin bác sĩ

The screenshot shows a user interface for managing doctor information. At the top right is a toolbar with three icons: a red '1' (likely for edit), a grey '0' (likely for view), and a green '2' (likely for delete). Below the toolbar is a section for profile picture, labeled 'Ảnh đại diện', with a placeholder image of a person at a desk and a 'SELECT FILES' button. To the right is a table with the following data:

Họ và tên	Trần Cao Danh <span style="color:red">3</span>
Mật khẩu	<span style="background-color: #007bff; color: white; padding: 2px 10px;">Thay đổi mật khẩu</span> <span style="color:red">4</span>
Giới tính	Nam <span style="color:red">5</span>
Ngày sinh	10/10/1992 <span style="color:red">6</span>
Số điện thoại	0987654321 <span style="color:red">7</span>
Địa chỉ thường trú	An Giang <span style="color:red">8</span>
Địa chỉ tạm trú	Quận 12 <span style="color:red">9</span>

Figure 73 Doctor Information Page

### 6.28.2. Objects and Actions

#### 6.28.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
3	Họ và tên	Textbox	Yes	String	50	Contain user's full name
5	Giới tính	List	Yes	String	50	Contain user's gender
6	Ngày sinh	Textbox	Yes	Date	12	Contain user's birthday
7	Số điện thoại	Textbox	Yes	String	12	Contain user's phone
8	Địa chỉ thường trú	Textbox	Yes	String	50	Contain user's primary address
9	Địa chỉ tạm trú	Textbox	No	String	50	Contain user's secondary address

Table 76 Data fields Doctor Information Page

#### 6.28.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
1	0	Check box	On click	Click "0" to view table admin information	
2	I	Check box	On click	Click "I" to edit table data admin information	
4	Thay đổi mật	Button	On click	Forward to popup "ChangePassword"	

	khẩu				
10	Chọn tệp	File	On click	Submit inputted file to server	

Table 77 Actions Doctor Information Page

## 6.29. Patient information screen

### 6.29.1. Screen image

Webpage Screenshot

Xin chào: Trần Cao Danh  
Thông tin Người dùng

Ảnh đại diện	Họ và tên	Trần Cao Danh <b>5</b>
	Mật khẩu	<a href="#">Thay đổi mật khẩu</a> <b>6</b>
<a href="#">Chọn tệp</a> <b>12</b>	Giới tính	Nam <b>7</b>
	Ngày sinh	19/02/1992 <b>8</b>
	Số điện thoại	0933056722 <b>9</b>
	Địa chỉ thường trú	Tiền giang <b>10</b>
	Địa chỉ tạm trú	Quận 12 <b>11</b>

Dân tộc	Kinh <b>13</b>
Quốc tịch	Việt Nam <b>14</b>
Công việc	Lập trình viên <b>15</b>
Nơi làm việc	FPT Software <b>16</b>
Người liên lạc	Mỹ Linh <b>17</b>
Địa chỉ người liên lạc	1 Lý Thường Kiệt <b>18</b>
Số điện thoại người liên lạc	0978123454 <b>19</b>
Mã số thẻ bảo hiểm y tế	234234VSD <b>20</b>
Ngày cấp	01/01/2013 <b>21</b>
Ngày hết hạn	01/01/2014 <b>22</b>

Copyright Group 2 - FPT University - 2014  
http://localhost:52443/UserInfo Sat Aug 09 2014 23:10:26 GMT+0700 (SE Asia Standard Time)

Figure 74 Patient Information Page

### 6.29.2. Objects and Actions

#### 6.29.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
5	Họ Tên	Textbox	Yes	String	50	Contain user's full name
7	Giới tính	Textbox	Yes	String		Contain user's gender
8	Ngày sinh	Textbox	Yes	Date		Contain user's

						birthday
9	Số điện thoại	Textbox	Yes	String	12	Contain user's phone
10	Địa chỉ thường trú	Textbox	Yes	String	50	Contain user's primary address
11	Địa chỉ tạm trú	Textbox	No	String	50	Contain user's secondary address
13	Dân tộc	DDL	No	String	50	Contain user's ethnicity
14	Quốc tịch	DDL	No	String	50	Contain user's nationality
15	Công việc	Textbox	No	String	50	Contain user's job
16	Nơi làm việc	Textbox	No	String	50	Contain user's where to work
20	Mã số thẻ bảo hiểm y tế	Textbox	No	String	50	Contain user's health insurance id
21	Ngày cấp	Textbox	No	Date	50	Contain user's health insurance issued
22	Ngày hết hạn	Textbox	No	Date	50	Contain user's health insurance date expired
17	Người liên lạc	Textbox	No	String	50	Contain user's contact person
18	Địa chỉ người liên lạc	Textbox	No	String	50	Contain user's contact person address
19	Số điện thoại người liên lạc	Textbox	No	String	50	Contain user's contact person phone

Table 78 Data fields Patient Information Page

#### 6.29.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
1	0	Checkbox	On click	Click "0" to view table admin information	
2	1	Checkbox	On click	Click "1" to edit table data admin information	
3	0	Checkbox	On click	Click "0" to not next value after 300 second	
4	1	Checkbox	On click	Click "1" to next value after 300 second	

6	Thay đổi mật khẩu	Button	On click	Forward to popup "ChangePassword"	
12	Chọn tệp	File	On click	Submit inputted file to server	

Table 79 Acitons Patient Information Page

## 6.30. Patient health record screen

### 6.30.1. Screen image

The screenshot shows a patient's profile page with the following sections:

- Header:** Includes navigation icons for 'Thông Tin Chung' (General Information), 'Sức Khỏe Cơ Bản' (Basic Health), 'Hồ Sơ Bệnh Án' (Medical Record), 'Lược Sử Tư Vấn' (Consultation History), 'Tư Vấn Online' (Online Consultation), and 'Đăng Xuất' (Logout).
- Personal Information:** Displays 'Xin Chào: Trần Cao Danh'.
- Physical Statistics:** Shows height (170 cm), weight (70.5 kg), eye color (Đen), hair color (Đen), blood type (B), weekly water intake (1.2 liters), daily water intake (1 liter), weekly exercise (Đá banh), participation in sports (Thời lượng tham gia (giờ) hàng tuần), and other activities (Tham gia khác: Yoga, Thiền định,...).
- Medication History:** Shows a table for 'Dị ứng' (Allergies) with a search bar for 'Bệnh án: Bệnh Án Mẫu' (Condition: Sample Disease) and a result count of 18. The table includes columns for 'Loại dị ứng' (Type of allergy), 'Tên' (Name), 'Mô tả' (Description), 'Ngày bị dị ứng gần nhất' (Last day of allergy), 'Phản ứng' (Reaction), and 'Ghi chú' (Notes). An entry for 'Thuốc' (Medicine) is listed as 'Thuốc kháng sinh' (Antibiotic) with a note 'Dị ứng với các loại thuốc' (Allergic to various types of drugs).
- Vaccination History:** Shows a table for 'Lịch sử tiêm chủng' (Vaccination History) with a search bar for 'Bệnh án: Bệnh Án Mẫu' (Condition: Sample Disease) and a result count of 19. The table includes columns for 'Loại tiêm chủng' (Type of vaccination), 'Ngày tiêm chủng' (Date of vaccination), and 'Số lần tiêm chủng' (Number of vaccinations). An entry for 'Sởi' (Measles) is listed with the date 15/03/1992 and a count of 1.

At the bottom, it says 'Copyright Group 2 - FPT University - 2014' and the URL 'http://localhost:52443/UserHealthRecord Sat Aug 09 2014 12:28:04 GMT+0700 (SE Asia Standard Time)'.

Figure 75 Patient Health Record Page

### 6.30.2. Objects and Actions

#### 6.30.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
5	Chiều cao	Textbox	No	String	50	Contain user's height
6	Cân nặng	Textbox	No	String	50	Contain user's weight
7	Màu mắt	Textbox	No	String	50	Contain user's eye color
8	Màu tóc	Textbox	No	String	50	Contain user's hair color
9	Nhóm máu	Textbox	No	String	50	Contain user's blood type
10	Lượng đồ uống có cồn hàng tuần	Textbox	No	String	50	Contain user's alcohol per week
11	Số năm uống	Textbox	No	String	50	Contain user's alcohol number of year
12	Lượng thuốc hút hàng tuần	Textbox	No	String	50	Contain user's smoke per week
13	Số năm hút	Textbox	No	String	50	Contain user's smoke number of year
14	Tên loại thể thao	Textbox	No	String	50	Contain user's sport name
15	Thời lượng tham gia hàng tuần	Textbox	No	String	50	Contain user's sport per week
16	Tham gia khác	Textbox	No	String	50	Contain user's exercise type
17	Thời lượng tham gia hàng tuần	Textbox	No	String	50	Contain user's exercise per week

Table 80 Data fields Patient Health Record Page

#### 6.30.2.2. Actions

Field	Field	Type	Action	Description	Validation
-------	-------	------	--------	-------------	------------

No	name				
1	0	Check box	On click	Click “0” to view table admin information	
2	I	Check box	On click	Click “I” to edit table data admin information	
3	O	Check box	On click	Click “O” to not next value after 300 second	
4	I	Check box	On click	Click “0” to next value after 300 second	
18	Bệnh án mẫu	Button	On click	Forward to “Details” medical profile page	
19	Bệnh án mẫu	Button	On click	Forward to “Details” medical profile page	

Table 81 Actions Patient Health Record Page

### 6.31. User conversation screen

#### 6.31.1. Screen image

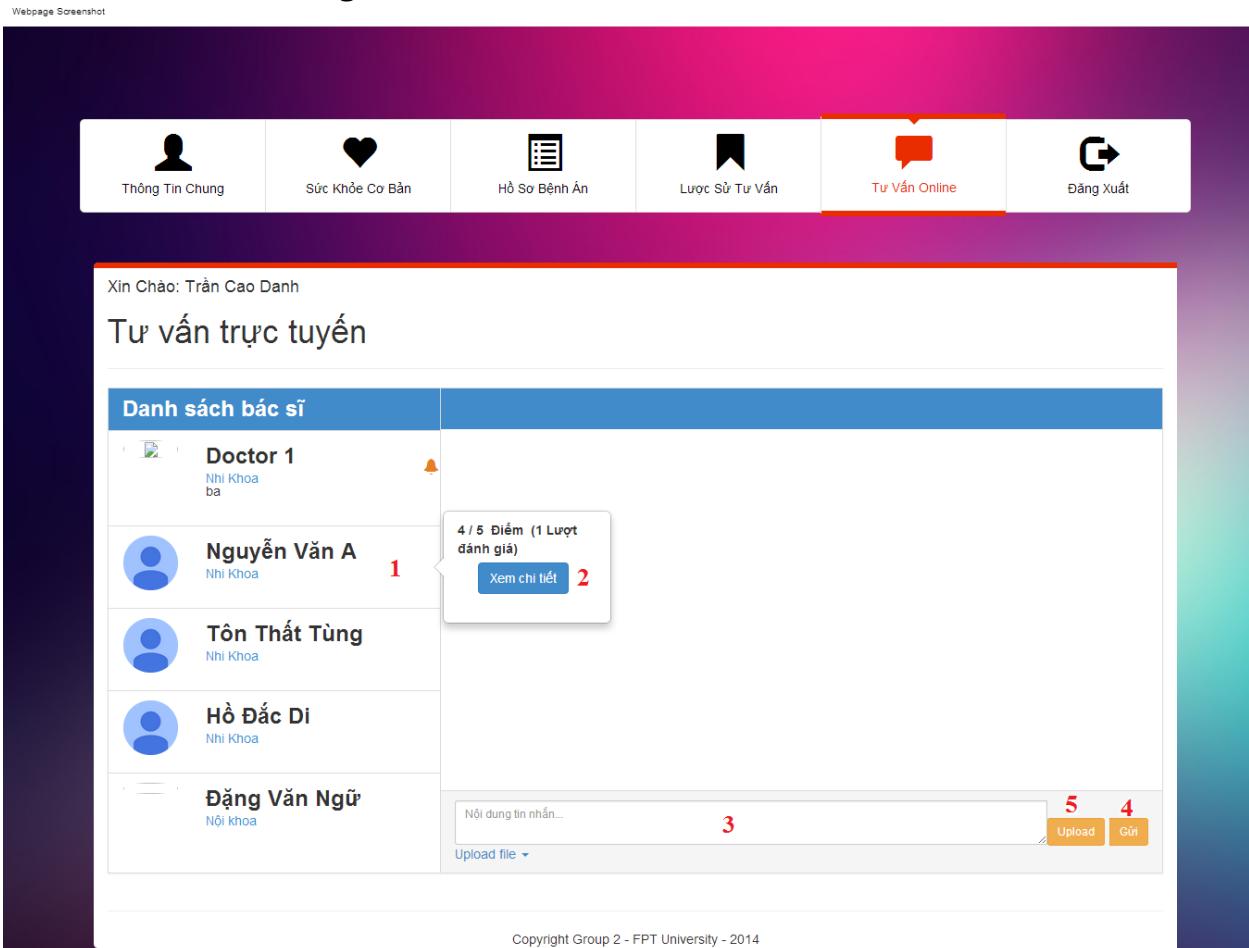


Figure 76 User Conversation Page

### 6.31.2. Objects and Actions

#### 6.31.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
3	Nội dung tin nhắn	Textbox	No	String		Contain user's content conversation

Table 82 Data fields User Conversation Page

#### 6.31.2.2. Actions

Field No	Field name	Type	Action	Description	Validation
1	Danh sách bác sĩ	Link	On click	Click on a doctor to chat	
2	Xem chi tiết	Button	On click	Forward to "Comment" page	
4	Gửi	Button	On click	Submit inputted data to server	
5	Upload	File	On click	Submit inputted file to server	

Table 83 Actions User Conversation Page

## 6.32. User comment/rating screen

### 6.32.1. Screen image

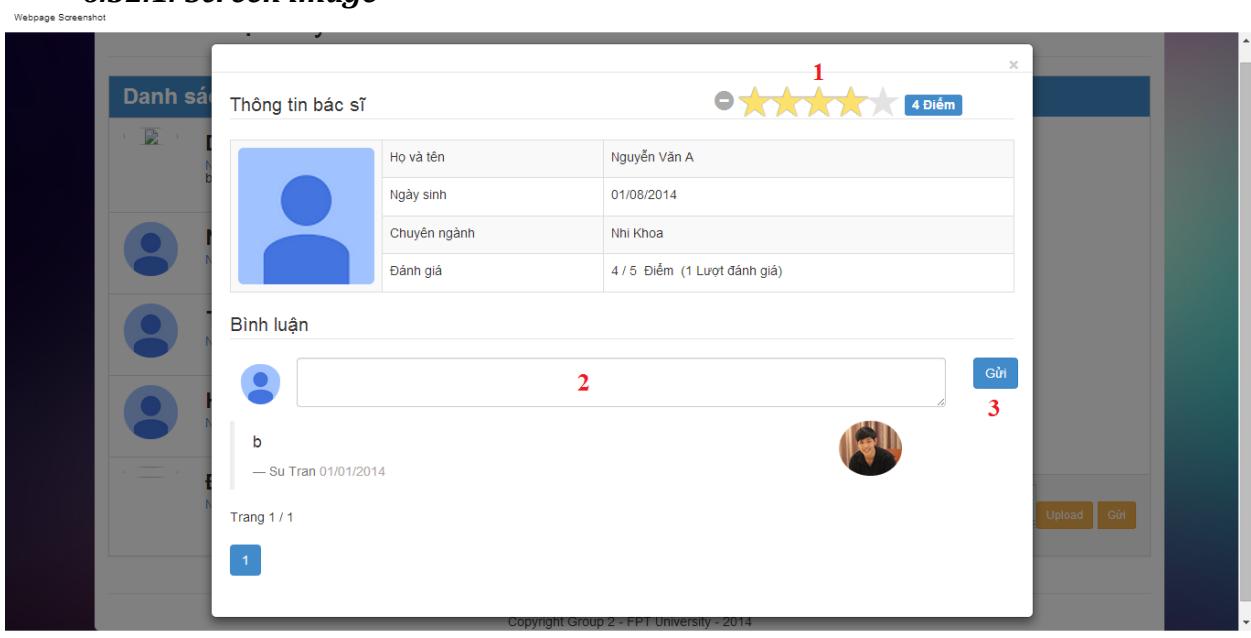


Figure 77 User Comment/Rating Page

### **6.32.2. Objects and Actions**

#### **6.32.2.1. Data fields**

<b>Field No</b>	<b>Field name</b>	<b>Type</b>	<b>Mandatory</b>	<b>Data type</b>	<b>Max length</b>	<b>Description</b>
2	Bình luận	Textbox	No	String		Comment of user

Table 84 Data fields User Comment/Rating Page

#### **6.32.2.2. Actions**

<b>Field No</b>	<b>Field name</b>	<b>Type</b>	<b>Action</b>	<b>Description</b>	<b>Validation</b>
1	Điểm	Button	On click	Summit inputted rate to server	
3	Gửi	Button	On click	Summit inputted data to server	

Table 85 Actions User Comment/Rating Page

## 7. Database Design

### 7.1. Diagram

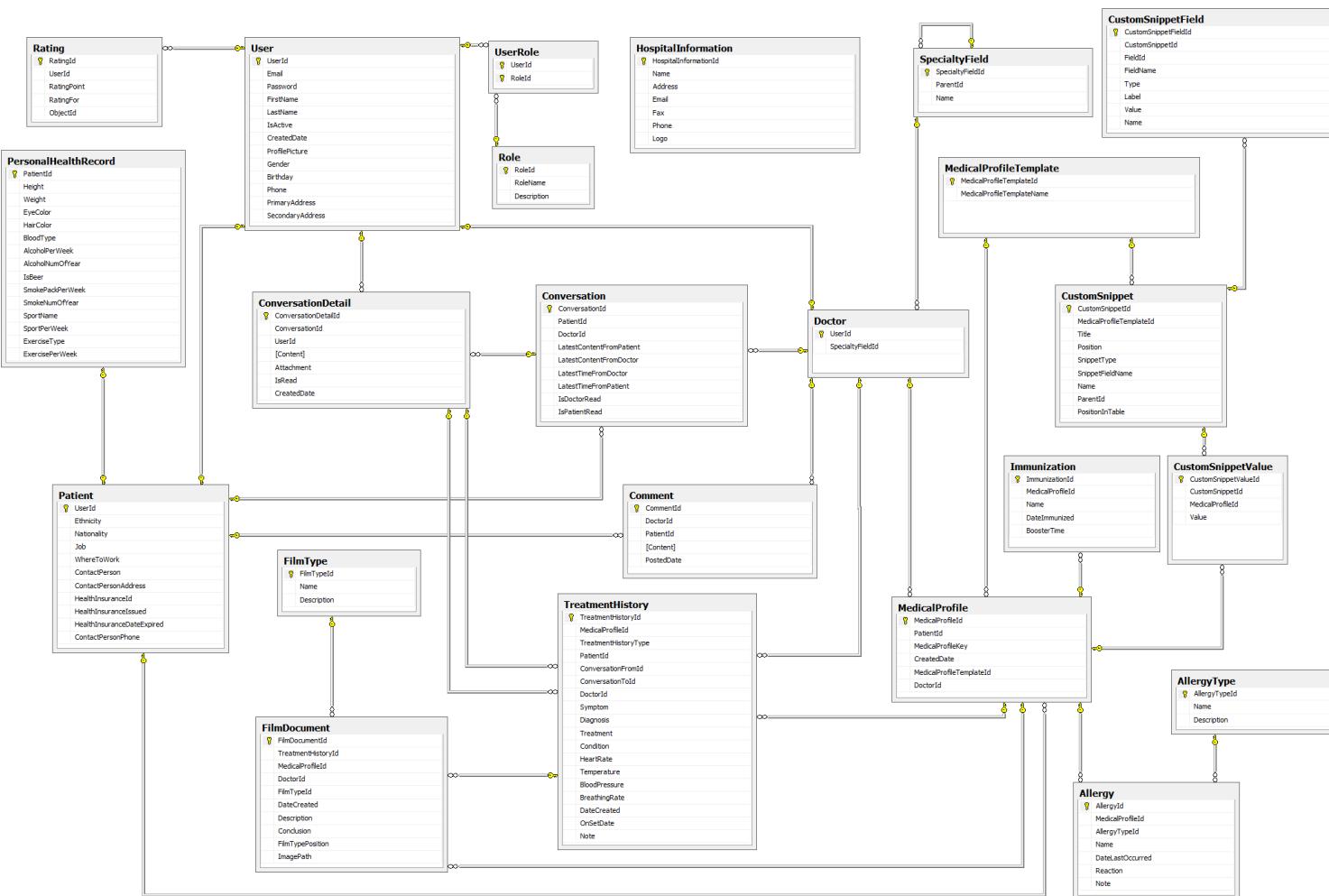


Figure 78 Database Relationship Design

## 7.2. Data dictionary

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

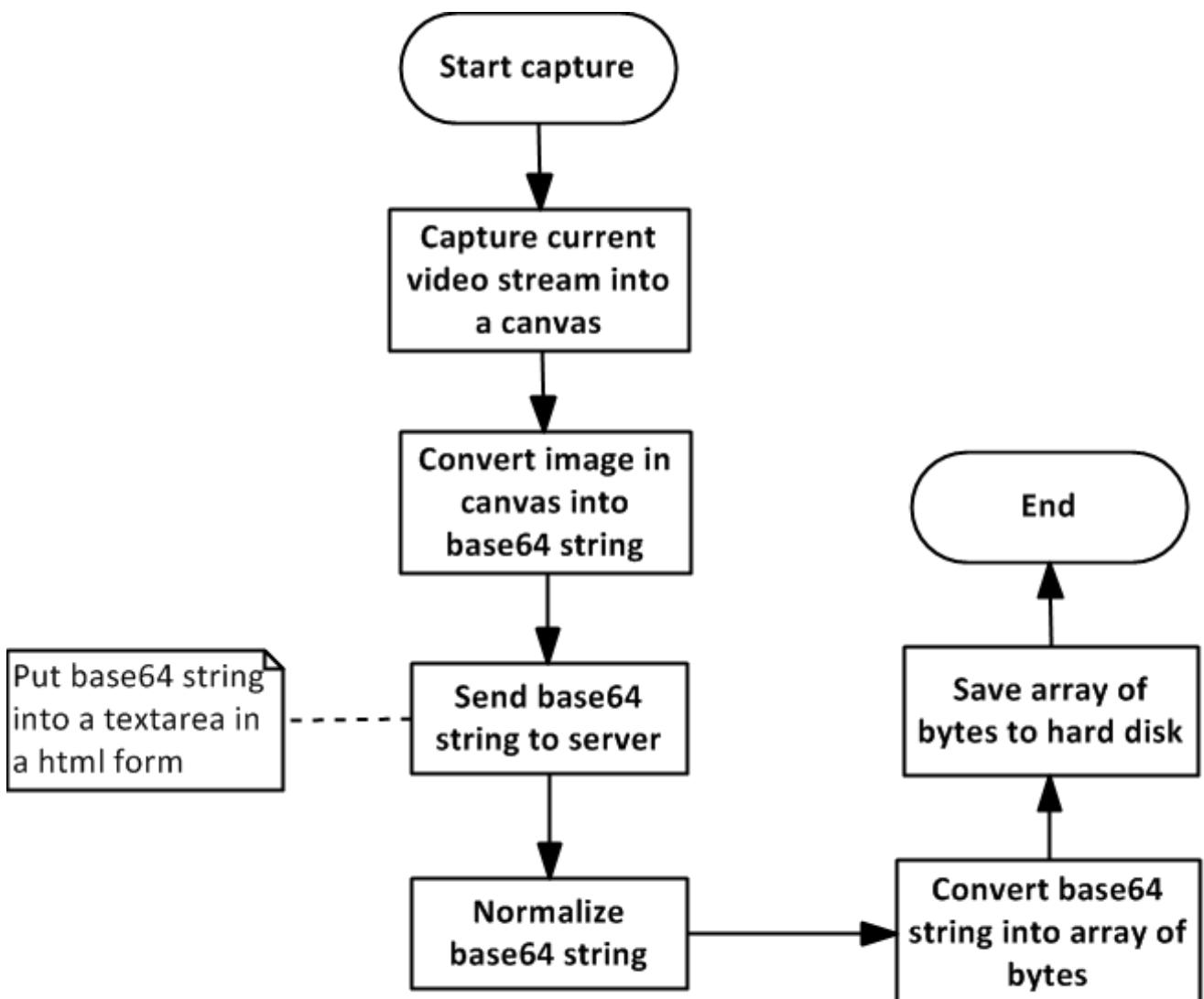
## 7.3. Algorithms

### 7.3.1. Capture webcam

**Problem:** video sharing from patient's webcam to doctor is peer-to-peer media streaming using WebRTC library. How server can capture image from patient's webcam?

**Solution:** using HTML5 that provide us the ability to access system's underlying hardware capabilities.

Flowchart:



# **Part E. System Implementation & Test (SIT)**

## **1. Introduction**

### **1.1. System Overview**

The system is implemented using MVC architecture and comprises of three parts. The first one is used by the hospital admin to build medical profile templates, manage users. Second part is used by doctors to create medical profile for patients, update patient's information. The last one is for patients to view their medical profiles, update information, get consulted.

### **1.2. Test Approach**

Testing approach defines the scope and goals of testing phase. It describes the strategy for the test, what will be test and what will not, the method used for testing and how many resources are required to perform the test.

Method: System Testing, Black-box Testing.

## **2. Test Plan**

### **2.1. Features to be tested**

**2.1.1. <User> Login**

**2.1.2. <User> Logout**

**2.1.3. <User> Register**

**2.1.4. <User> Remember me**

**2.1.5. <User> Forget password**

**2.1.6. <Patient> Edit patient information**

**2.1.7. <Patient> Edit health record**

**2.1.8. <Patient> View medical profile**

**2.1.9. <Patient> Chatting**

**2.1.10. <Patient> Attach files**

**2.1.11. <Doctor> List patients**

**2.1.12. <Doctor> Add patient**

**2.1.13. <Doctor> Edit patient**

**2.1.14. <Doctor> View patient**

**2.1.15. <Doctor> List medical profiles**

**2.1.16. <Doctor> Edit medical profile**

**2.1.17. <Doctor> Doctor chatting**

**2.1.18. <Doctor> Request webcam**

**2.1.19. <Doctor> View medical profile structure**

**2.1.20. <Admin> List doctors**

**2.1.21. <Admin> Add doctor**

**2.1.22. <Admin> Edit doctor**

**2.1.23. <Admin> List medical profile template**

**2.1.24. <Admin> Add new medical profile template**

**2.1.25. <Admin> Edit medical profile template**

## **2.2. Features not to be tested**

**2.2.1. <User> Homepage's navigation**

**2.2.2. <User> 404 page**

**2.2.3. <User> Access Denied page**

**2.2.4. <Admin> Edit hospital information**

**2.2.5. <Admin> List patients**

**2.2.6. <Admin> Add patient**

**2.2.7. <Admin> Edit patient**

**2.2.8. <Admin> List specialty fields**

**2.2.9. <Admin> Edit specialty field**

**2.2.10. <Admin> Add specialty field**

**2.2.11. <Admin> List film types**

**2.2.12. <Admin> Add film type**

**2.2.13. <Admin> Edit film type**

**2.2.14. <Admin> List allergy type**

**2.2.15. <Admin> Add allergy type**

**2.2.16. <Admin> Edit allergy type**

## **2.3. Testing Tools and Environment**

- IIS Express Server (this server comes with Visual Studio 2012)
- Google Chrome 36.0
- Mozilla Firefox 30.0

### 3. Test cases

#### 3.1. <User> Login

##### 3.1.1. Purpose

##### 3.1.2. Inputs

Username	Password	Role
Admin	123456	Admin
Doctor1	123456	Doctor
Sutran	123456	User

ID	Test Case Description	Pre-Conditions	Test Case Procedure	Expected Output	Result	Test Date	Note
	<User> Login.						
	Steps 1. Go to Home index page 2. Click on “Đăng Nhập” anchor link						

[UL-01]	Test Login Page		Go to website homepage. Click on “Đăng Nhập” link	[Login] page is displayed. The content includes: Email (textbox) Password (textbox) “Đăng Nhập” button	Pass	07/24/2014	SuTNT
[UL-02]	Test Login Validation Blank Field	User stayed at “Login” Page.	Go to [Login] page. Don't input information. Click on “Đăng Nhập” button	Error message will be displayed:	Pass	07/24/2014	SuTNT
[UL-03]	Test Login As Admin Role Successfully	User stayed at “Login” Page.	Go to [Login] page Input “admin” for username field. Input “123456” for password field. Click on “Đăng Nhập” button.	Login successfully. [Admin Home] page will be shown.	Pass	07/24/2014	SuTNT

[UL-04]	Test Login As Doctor Successfully	User stayed at “Login” Page.	Go to [Login] page  Input “doctor1” for username field.  Input “123456” for password field.  Click on “Đăng Nhập” button.	Login successfully.  [Doctor] page will be shown.	Pass	07/24/2014	SuTNT
[UL-05]	Test Login As Patient Successfully	User stayed at “Login” Page.	Go to [Login] page  Input “surtran” for username field.  Input “123456” for password field.  Click on “Đăng Nhập” button.	Login successfully.  [Patient] page will be shown.	Pass	07/24/2014	SuTNT
[UL-06]	Test Login with wrong email	User stayed at “Login” Page.	Go to [Login] page.  Input “xvdsf” for email field.  Input “123456” for password field.  Click on “Đăng Nhập”	Error message will be displayed:  “Email hoặc mật khẩu không đúng.”	Pass	07/24/2014	SuTNT

			button.				
[UL-07]	Test Login with wrong password	User stayed at “Login” Page.	Go to [Login] page. Input “sutran@gmail.com” for username field. Input “asd123” for password field. Click on “Đăng Nhập” button.	Error message will be displayed: “Email hoặc mật khẩu không đúng.”	Pass	07/24/2014	SuTNT

### 3.2. <User> Logout

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### 3.3. <User> Register

ID	Test Case Description	Pre-Conditions	Test Case Procedure	Expected Output	Result	Test Date	Note
	<User> Register.						
	Steps						

<p>1. Go to Home index page</p> <p>2. Click on “Đăng Kí” anchor link</p>							
[UR-01]	Test Register Page	User stayed at “Register” Page.	Go to website homepage. Click on “Đăng kí” link	[Register] page is displayed. The content includes:  Email (textbox)  Lastname (textbox)  Firstname (textbox)  Password (textbox)  Re-Password (textbox)  Captcha (ReCaptcha)  “Đăng Kí” button	Pass	07/28/2014	DanhTC
[UR-02]	Test Register Validation Blank Field	User stayed at “Register” Page.	Go to [Register] page. Don't input information. Click on “Đăng kí” button	Error message will be displayed:  “Bạn cần nhập giá trị này”	Pass	07/28/2014	DanhTC

[UR-03]	Test Register Validation with Email existed	User stayed at “Register” Page.	Go to [Register] page. Input email exsited. Click on “Đăng kí” button	Error message will be displayed: “Địa chỉ email đã được đăng kí”	Pass	07/28/2014	DanhTC
[UR-04]	Test Register Validation with Lastname and Firstname maximum 50 characters	User stayed at “Register” Page.	Go to [Register] page. Input lastname and firstname over 50 characters. Click on “Đăng kí” button	Error message will be displayed: “Độ dài không được quá 50 ký tự”	Pass	07/28/2014	DanhTC
[UR-05]	Test Register Validation with Password and Re-Password maximum 32 characters and minimum 6 characters	User stayed at “Register” Page.	Go to [Register] page Input Password and Re-Password over 32 characters or less than 6 characters.	Error message will be displayed: “Độ dài trong khoảng 6 đến 32 ký tự”	Pass	07/28/2014	DanhTC

[UR-06]	Test Register Validation with Re-Password not match Password	User stayed at “Register” Page.	Go to [Register] page Input Re-Password dont match Password.	Error message will be displayed: “Xác nhận mật khẩu không trùng khớp”	Pass	07/28/2014	DanhTC
[UR-07]	Test Register Validation with don't input recaptcha	User stayed at “Register” Page.	Go to [Register] page Don't input recaptcha.	Error message will be displayed: “Mã captcha không được để trống”	Pass	07/28/2014	DanhTC
[UR-08]	Test Register Validation with input not match recaptcha	User stayed at “Register” Page.	Go to [Register] page Input recaptcha not match.	Error message will be displayed: “Mã captcha không trùng khớp”	Pass	07/28/2014	DanhTC
[UR-09]	Test Register successfully	User stayed at “Register” Page.	Go to [Register] page. Input: “danhtran@yahoo.com” for email field. “Trần” for lastname field.	Return to index homepage	Pass	07/28/2014	DanhTC

			<p>“Danh” for firstname field.</p> <p>“123456” for password field.</p> <p>“123456” for re-password field.</p> <p>“204” for recaptcha</p> <p>Click on “Đăng Kí” button.</p>				
[UR - 10]	Test system to send mail to announce change password successfully.	Register successfully.	Go to email is registered and check inbox new mail to see mail announce successfully.	Content mail: <p>“Chào mừng bạn đến với OMCS - Hệ thống tư vấn y khoa trực tuyến  Vui lòng nhấn vào đường dẫn bên dưới để kích hoạt”</p>	Pass	07/28/2014	DanhTC

### 3.4. <User> Remember me

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### 3.5. <User> Forget password

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.6. <Patient> Edit patient information**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.7. <Patient> Edit health record**

#### ***3.7.1. Purpose***

#### ***3.7.2. Inputs***

Email	Password	Role
trannguyentiensu@gmail.com	123456	User

ID	Test Case Description	Pre-Conditions	Test Case Procedure	Expected Output	Result	Test Date	Note
<Patient> Edit health record.							
Steps 1. Go to Home index page 2. Click on “Đăng Nhập” anchor link 3. Input email and password correct 3. Click on “Sức Khỏe Cá Nhân” tab in navigation.							

[PEH-01]	Test UserHealthRecord Page	Login successfully with role "Patient"	Click on "Sức KhỎe Cá Nhân" tab in navigation.	<p>UserInfo page is displayed. The content includes table and two fieldset:</p> <p>"Sức khỏe cá nhân" table with values is created:</p> <ul style="list-style-type: none"> <li>+ Chiều Cao (cm): .....</li> <li>+ Cân nặng (kg): .....</li> <li>+ Màu tóc: .....</li> <li>+ Màu mắt: .....</li> <li>+ Nhóm máu: .....</li> <li>+ Lượng đồ uống có cồn (lít) hàng tuần: .....</li> <li>+ Số năm uống: .....</li> <li>+ Lượng thuốc hút (gói) hàng tuần: .....</li> <li>+ Số năm hút: .....</li> <li>+ Tên loại thể thao: .....</li> <li>+ Thời gian tham gia (giờ) hàng tuần: .....</li> </ul>	Pass	07/28/2014	DanhTC
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				<p>+ Tham gia khác (Yoga, Thiền định, ....): .....</p> <p>+ Thời gian tham gia (giờ) hàng tuần: .....</p> <p>“Đi ứng” and “Lịch sử tiêm chủng” fieldsets.</p>			
[PEH-02]	Test “Thay đổi” button	Login successfully with role “Patient”. User stayed at “UserHealth Record” Page.	Click “Bật” on “Thay đổi”	<p>The content includes table with fields to user edit:</p> <p>+ Chiều Cao (cm): .....</p> <p>+ Cân nặng (kg): .....</p> <p>+ Màu tóc: .....</p> <p>+ Màu mắt: .....</p> <p>+ Nhóm máu: .....</p> <p>+ Lượng đồ uống có cồn (lít) hàng tuần: .....</p> <p>+ Số năm uống: .....</p> <p>+ Lượng thuốc hút (gói) hàng tuần: .....</p>	Pass	07/28/2014	DanhTC

				<p>+ Số năm hút: .....</p> <p>+ Tên loại thể thao: .....</p> <p>+ Thời gian tham gia (giờ) hằng tuần: .....</p> <p>+ Tham gia khác (Yoga, Thiền định, ....): .....</p> <p>+ Thời gian tham gia (giờ) hằng tuần: .....</p>			
[PEH-03]	Test fields to edit Validation Blank Field	<p>Login successfully with role “Patient”.</p> <p>User stayed at “UserHealth Record” Page.</p> <p>Click “Bật” on “Thay đổi” button.</p>	<p>Don't input information.</p> <p>Click on “v” button.</p>	<p>Error message will be displayed:</p> <p>“Bạn cần nhập giá trị này”</p>	Pass	07/28/2014	DanhTC

[PEH -04]	Test “Chiều Cao (cm)”, “Cân nặng (kg)”, “Lượng đồ uống có cồn (lít) hàng tuần”, “Số năm uống”, “Lượng thuốc hút (gói) hàng tuần”, “Số năm hút”, “Thời gian tham gia (giờ) hàng tuần”, “Thời gian tham gia (giờ)” fields to edit Validation must be numbers	Login successfully with role “Patient”. User stayed at “UserHealth Record” Page. Click “Bật” on “Thay đổi” button.	Input “Chiều Cao (cm)”, “Cân nặng (kg)”, “Lượng đồ uống có cồn (lít) hàng tuần”, “Số năm uống”, “Lượng thuốc hút (gói) hàng tuần”, “Số năm hút”, “Thời gian tham gia (giờ) hàng tuần”, “Thời gian tham gia (giờ)” by characters. Click on “v” button.	Error message will be displayed: “Vui lòng nhập số!”	Pass	07/28/2014	DanhTC
[PE-05]	Test edit fields successfully	Login successfully with role	Input fields such as: + Chiều Cao (cm): 180 + Chiều Cao (cm): 180	+ Chiều Cao (cm): 180 + Cân nặng (kg): 77	Pass	07/28/2014	DanhTC

		<p>"Patient".</p> <p>User stayed at "UserHealth Record" Page.</p> <p>Click "Bật" on "Thay đổi" button</p>	<ul style="list-style-type: none"> <li>+ Cân nặng (kg): 77</li> <li>+ Màu tóc: Đen</li> <li>+ Màu mắt: Đen</li> <li>+ Nhóm máu: B</li> <li>+ Lượng đồ uống có cồn (lít) hàng tuần: 0</li> <li>+ Số năm uống: 0</li> <li>+ Lượng thuốc hút (gói) hàng tuần: 0</li> <li>+ Số năm hút: 0</li> <li>+ Tên loại thể thao: Bóng đá</li> <li>+ Thời gian tham gia (giờ) hàng tuần: 5</li> <li>+ Tham gia khác (Yoga, Thiền định, ....): Không</li> <li>+ Thời gian tham gia (giờ) hàng tuần: 0</li> </ul> <p>Click on "v" button.</p>	<ul style="list-style-type: none"> <li>+ Màu tóc: Đen</li> <li>+ Màu mắt: Đen</li> <li>+ Nhóm máu: B</li> <li>+ Lượng đồ uống có cồn (lít) hàng tuần: 0</li> <li>+ Số năm uống: 0</li> <li>+ Lượng thuốc hút (gói) hàng tuần: 0</li> <li>+ Số năm hút: 0</li> <li>+ Tên loại thể thao: Bóng đá</li> <li>+ Thời gian tham gia (giờ) hàng tuần: 5</li> <li>+ Tham gia khác (Yoga, Thiền định, ....): Không</li> <li>+ Thời gian tham gia (giờ) hàng tuần: 0</li> </ul>		
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### **3.8. <Patient> View medical profile**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.9. <Patient> Chatting**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.10. <Patient> Attach files**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.11. <Doctor> List patients**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.12. <Doctor> Add patient**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.13. <Doctor> Edit patient**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.14. <Doctor> View patient**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.15. <Doctor> List medical profiles**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### 3.16. <Doctor> Edit medical profile

#### 3.16.1. Purpose

#### 3.16.2. Inputs

Email	Password	Role
doctor1@gmail.com	123456	Doctor

ID	Test Case Description	Pre-Conditions	Test Case Procedure	Expected Output	Result	Test Date	Note
<Doctor> Edit medical profiles.							
Steps 1. Go to Home index page 2. Click on “Đăng Nhập” anchor link 3. Input email and password correct 3. Click on “Quản lý bệnh án” tab. 4. Click on “Cập nhật” button.							
[DEM-01]	Test UpdateMedicalProfile Page	Login successfully with role	Click on “Cập nhật” button.	Show medical profile is created by admin and doctor can edit medical profile to	Pass	07/28/2014	DanhTC

		<p>“Doctor”.</p> <p>User stayed at “DoctorMedicalProfile” Page.</p>		suitable with patients.			
[DLM-02]	Test “Cập nhật” button.	<p>Login successfully with role “Doctor”.</p> <p>User stayed at “DoctorMedicalProfile” Page.</p> <p>Click on “Cập nhật” button.</p>	Click on “Cập nhật” button.	“Cập nhật thành công”	Pass	07/28/2014	DanhTC

### 3.17. <Doctor> Doctor chatting

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.18. <Doctor> Request webcam**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.19. <Doctor> View medical profile structure**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.20. <Admin> List doctors**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.21. <Admin> Add doctor**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.22. <Admin> Edit doctor**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.23. <Admin> List medical profile template**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.24. <Admin> Add new medical profile template**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

### **3.25. <Admin> Edit medical profile template**

Reference to CD: <Root of CD>\Document\Report\Report Full - Group 2.docx

## **4. Checklists**

### **4.1. Checklist of Layout**

Questions	Yes	No	N/A
-----------	-----	----	-----

1	Is the layout appear the same when using Chrome, Firefox and Internet Explorer 8 (or higher)?	X		
2	Are all buttons have blue or green color?	X		
3	Are all required fields have an asterisk to indicate they are required?	X		
4	Can the text be read easily using a regular laptop?	X		
5	Is form label stands still when validating message appears?	X		
6	Should front-end layout stretched when browser is resized?		X	
7	Should back-end layout stretched when browser is resized?	X		
8	Does sidebar in back-end layout change when user navigate to another page?		X	
9	Are all the fields prompts spelt correctly?	X		
10	Is all user inputs captured in upper case or lower case consistently?	X		
11	Are currency in the site in Vietnamese format	X		
12	Are all messages in the system translated to Vietnamese	X		

#### *4.1.1. Checklist of Authorization*

Questions		Yes	No	N/A
1	Does error message appears when user is redirected from a zone that required login?	X		
2	Is the user required to fix entries which have failed validation tests?	X		
3	Have any fields got multiple validation rules and if so are all rules being applied?	X		
5	Do all mandatory fields require user input?	X		

#### *4.1.2. Checklist of Data Field Validation*

Questions		Yes	No	N/A
1	Assure that emails with hyphen (-) and sub-domain (.com.vn) are validated correctly.	X		
2	Are identification number of individual and company validated correctly in Vietnamese format?	X		

3	Does numeric input accept alphabet character?	X	
4	Does input accept negative number?	X	

#### 4.1.3. Checklist of Submission

Questions		Yes	No	N/A
<b>TABLES AND FIGURES</b>				
1	Under all images, is there a figure?	X		
2	Are all tables referred to in text?	X		
3	Does all the table of the same type have the same width?		X	

## 4.2. Other Materials

### Appendix A: Test Log

Use Case	Pass	Fail	Not Tested	N/A	Number of test case
	97	0	0	0	97
<User> Login	7	0	0	0	7
<User> Logout	1	0	0	0	1
<User> Register	10	0	0	0	10
<User> Remember me	1	0	0	0	1
<User> Forgot password	6	0	0	0	6
<Patient> Edit patient's information	6	0	0	0	6
<Patient> Edit health record	5	0	0	0	5
<Patient> View medical profile	2	0	0	0	2
<Patient> Chatting	2	0	0	0	2
<Patient> Attachment	2	0	0	0	2
<Doctor> List patients	3	0	0	0	3

<Doctor> Edit patient	5	0	0	0	5
<Doctor> Add patient	9	0	0	0	9
<Doctor> View patients	5	0	0	0	5
<Doctor> List medical profiles	3	0	0	0	3
<Doctor> Edit medical profile	2	0	0	0	2
<Doctor> Doctor chatting	2	0	0	0	2
<Doctor> Request webcam	2	0	0	0	2
<Doctor> View medical profile structure	1	0	0	0	1
<Admin> List doctors	3	0	0	0	3
<Admin> Edit doctor	6	0	0	0	6
<Admin> Add doctor	9	0	0	0	9
<Admin> List medical profile templates	1	0	0	0	1
<Admin> Add new medical profile template	4	0	0	0	4
<Admin> Edit medical profile template	5	0	0	0	5

# Part F. Software User Manual

## 1. Installation Guide

### 1.1. Server's requirement

Windows	Minimum Requirements	Recommended
<b>Internet Connection</b>	4Mbps	8 Mbps
<b>Operating System</b>	Window Server 2008	Window Server 2012
<b>Computer Processor</b>	Intel® Core 2 Duo	Intel® Core(TM) i5 CPU , M 460 @ 2.53GHz
<b>Computer Memory</b>	1GB RAM	3GB or more
<b>Hard disk</b>	250GB	1TB
<b>SQL Server</b>	SQL Server 2008 R2	SQL Server 2008 R2

### 1.2. Deployment at server side

#### 1.2.1. Prepare deployment package

Extract the deployment package to a folder on the server.

For example: E:\deployment\OMCS

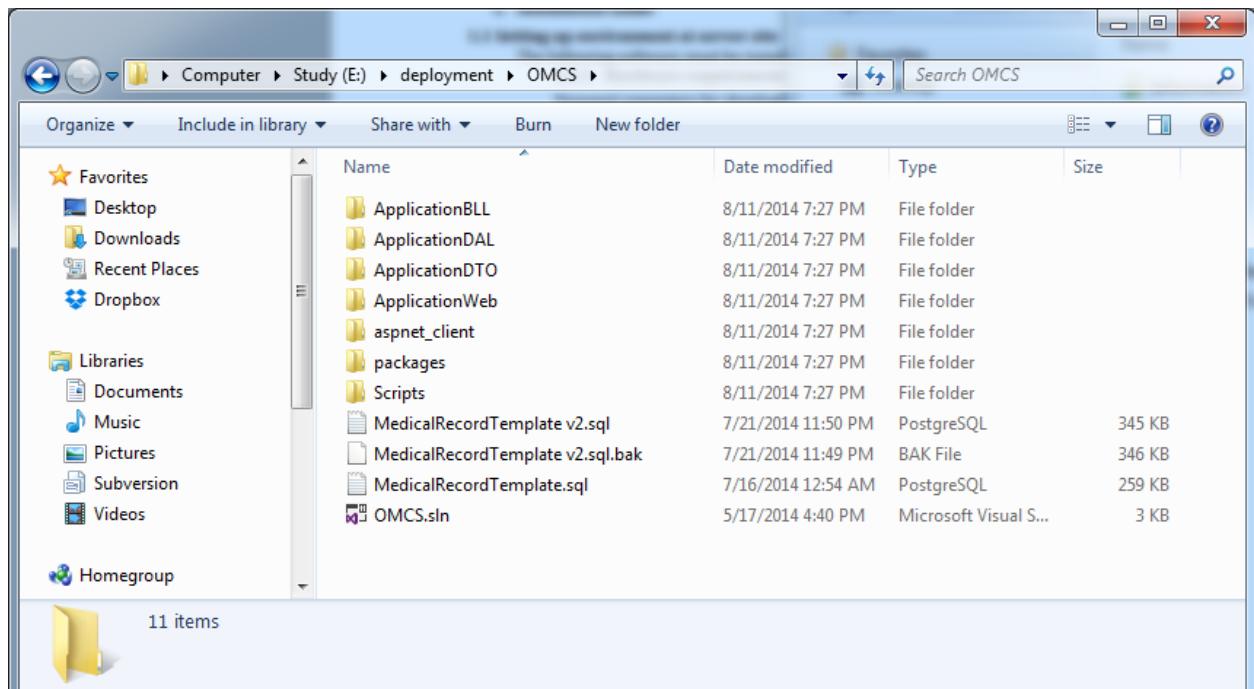


Figure 79 Prepare deployment package

### 1.2.2. Deploy database

#### 1.2.2.1. Open Microsoft SQL Server Management Studio



Figure 80 Microsoft SQL Server Management Studio

#### 1.2.2.2. Find and execute sql file

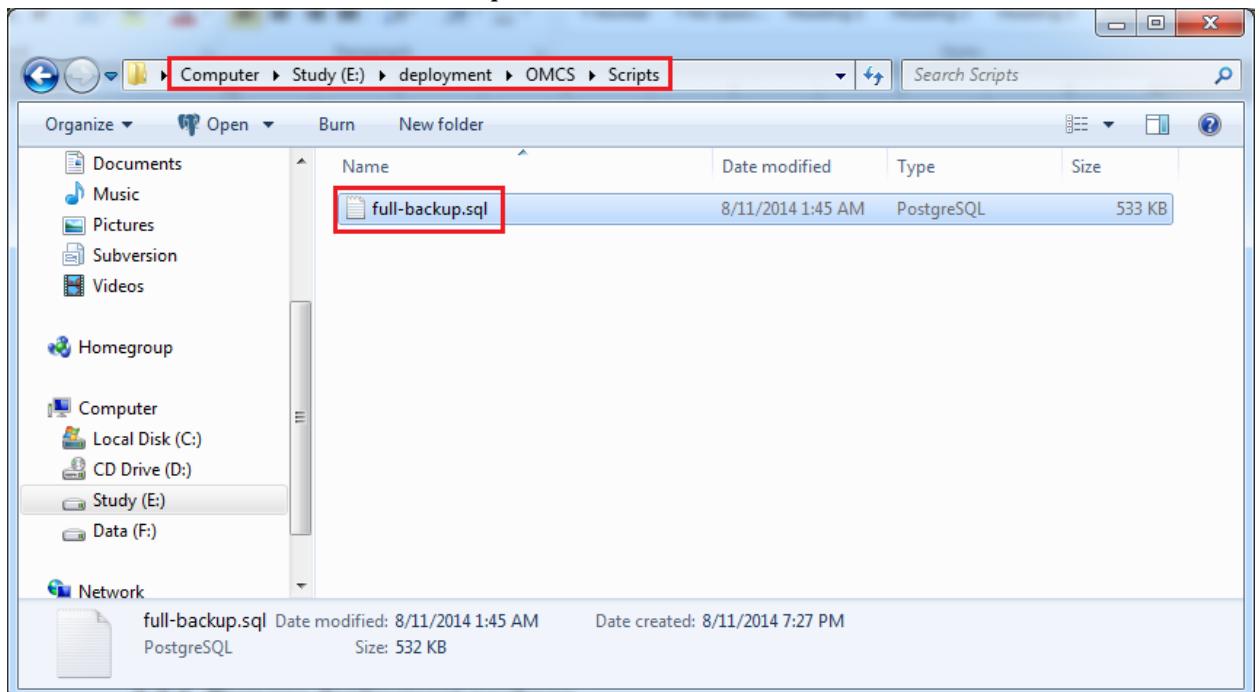


Figure 81 SQL - Full Backup

### 1.2.2.3. Configure connection string

- Find and open *Web.config* in deployment folder with a text editor

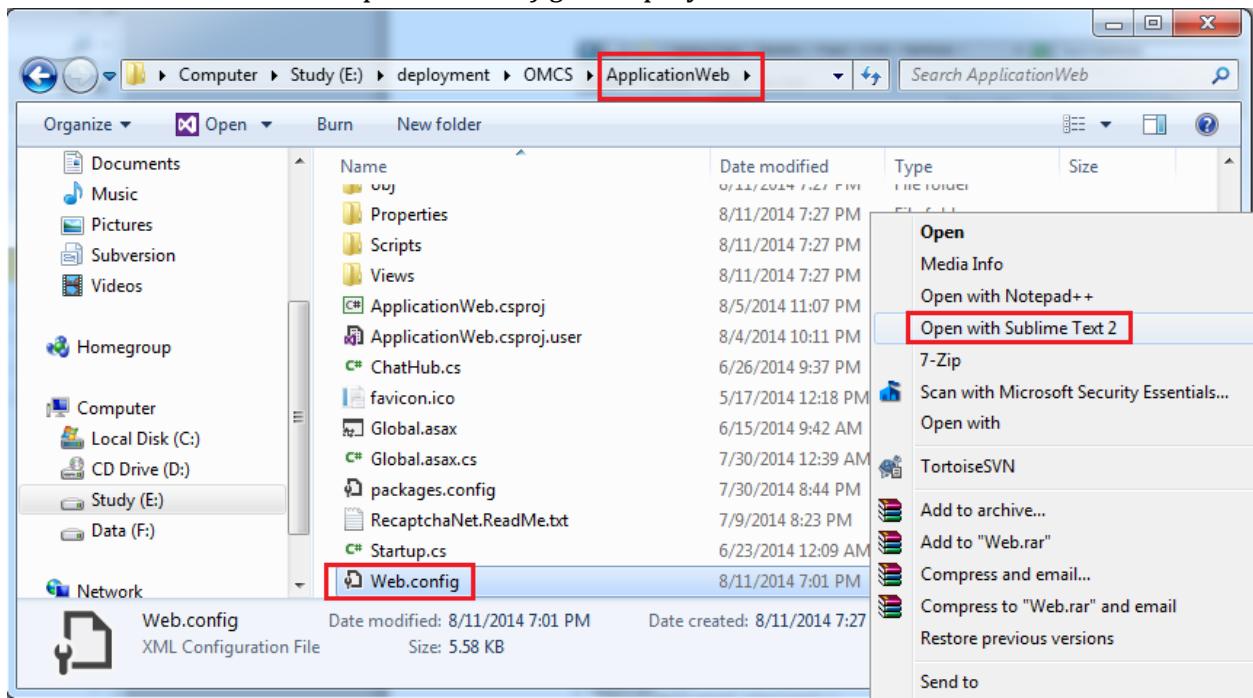


Figure 82 Connection String - 1

- Change selected text with the correct information to connect your Microsoft SQL Server

```
<?xml version="1.0" encoding="utf-8"?>
<!-- For more information on how to configure your ASP.NET application, please visit
http://go.microsoft.com/fwlink/?LinkId=169433
-->
<configuration>
<configSections>
<!-- For more information on Entity Framework configuration, visit http://go.microsoft.com/fwlink/?LinkID=237468 -->
<section name="entityFramework" type="System.Data.Entity.Internal.ConfigFile.EntityFrameworkSection, EntityFramework, Version=5.0.0.0,
Culture=neutral, PublicKeyToken=b77a5c561934e089" requirePermission="false" />
</configSections>
<connectionStrings>
<add name="DefaultConnection" connectionString="Data Source=localhost;Initial Catalog=OMCS Integrated Security=True" providerName="System.Data.SqlClient" />
</connectionStrings>
<appSettings>
<add key="webpages:Version" value="2.0.0.0" />
<add key="webpages:Enabled" value="false" />
<add key="PreserveLoginUrl" value="true" />
<add key="ClientValidationEnabled" value="true" />
<add key="UnobtrusiveJavaScriptEnabled" value="true" />
</appSettings>
```

Figure 83 Connection String - 2

- For example, you can use your account like this

```

Web.config
1  <?xml version="1.0" encoding="utf-8"?>
2  <!--
3      For more information on how to configure your ASP.NET application, please visit
4      http://go.microsoft.com/fwlink/?LinkId=169433
5      --
6  </configuration>
7  <configSections>
8      <!-- For more information on Entity Framework configuration, visit http://go.microsoft.com/fwlink/?LinkID=237468 -->
9      <section name="entityFramework" type="System.Data.Entity.Internal.ConfigFile.EntityFrameworkSection, EntityFramework, Version=5.0.0.0,
10     Culture=neutral, PublicKeyToken=b77a5c561934e089" requirePermission="false" />
11 </configSections>
12 <connectionStrings>
13     <add name="DefaultConnection" connectionString="Data Source=localhost;Initial Catalog=OMCS User Id=myUsername;Password=myPassword;" providerName="System.Data.SqlClient" />
14 </connectionStrings>
15 <appSettings>

```

Figure 84 Connection String - 3

### 1.2.3. Prepare for deployment

- Open “Internet information Services (IIS) Manager”.
- Click “Change .NET Framework Version” and change to v.4.0....



Figure 85 IIS Manager - 1

- Right click on “Sites” folder in left content, select “Add Web Site”.

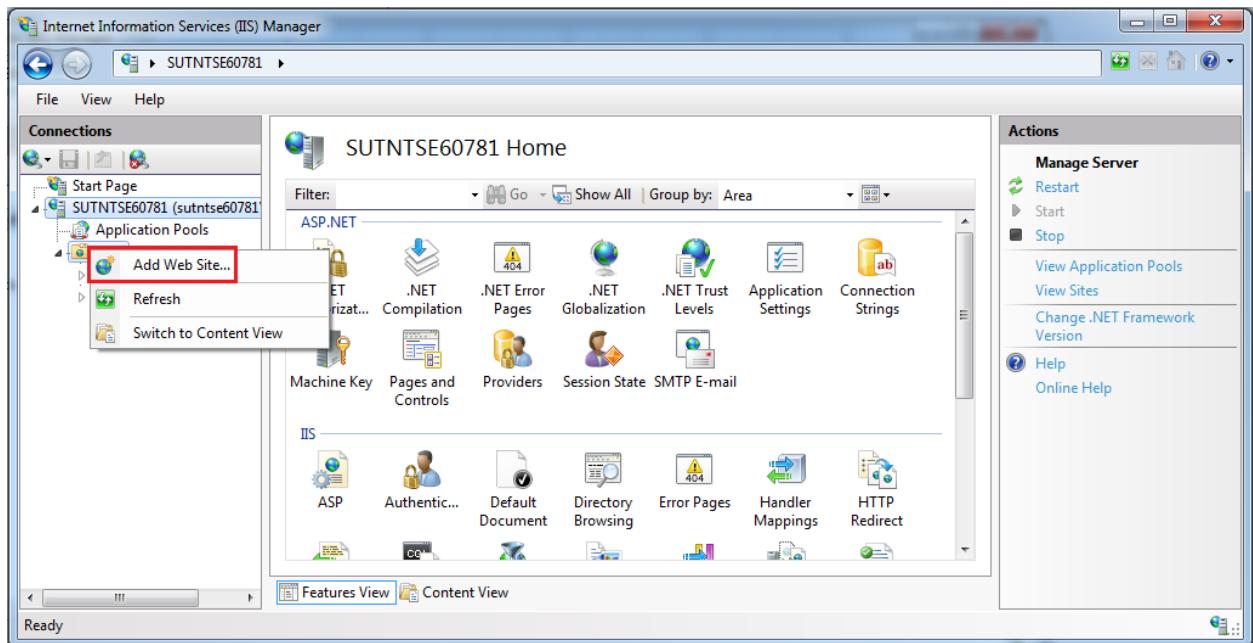


Figure 86 IIS Manager - 2

- Enter “OMCS” in the “Site name” text box.
- Click “...” button to browse to the place of the project source. In this case is “E:\deployment\OMCS”

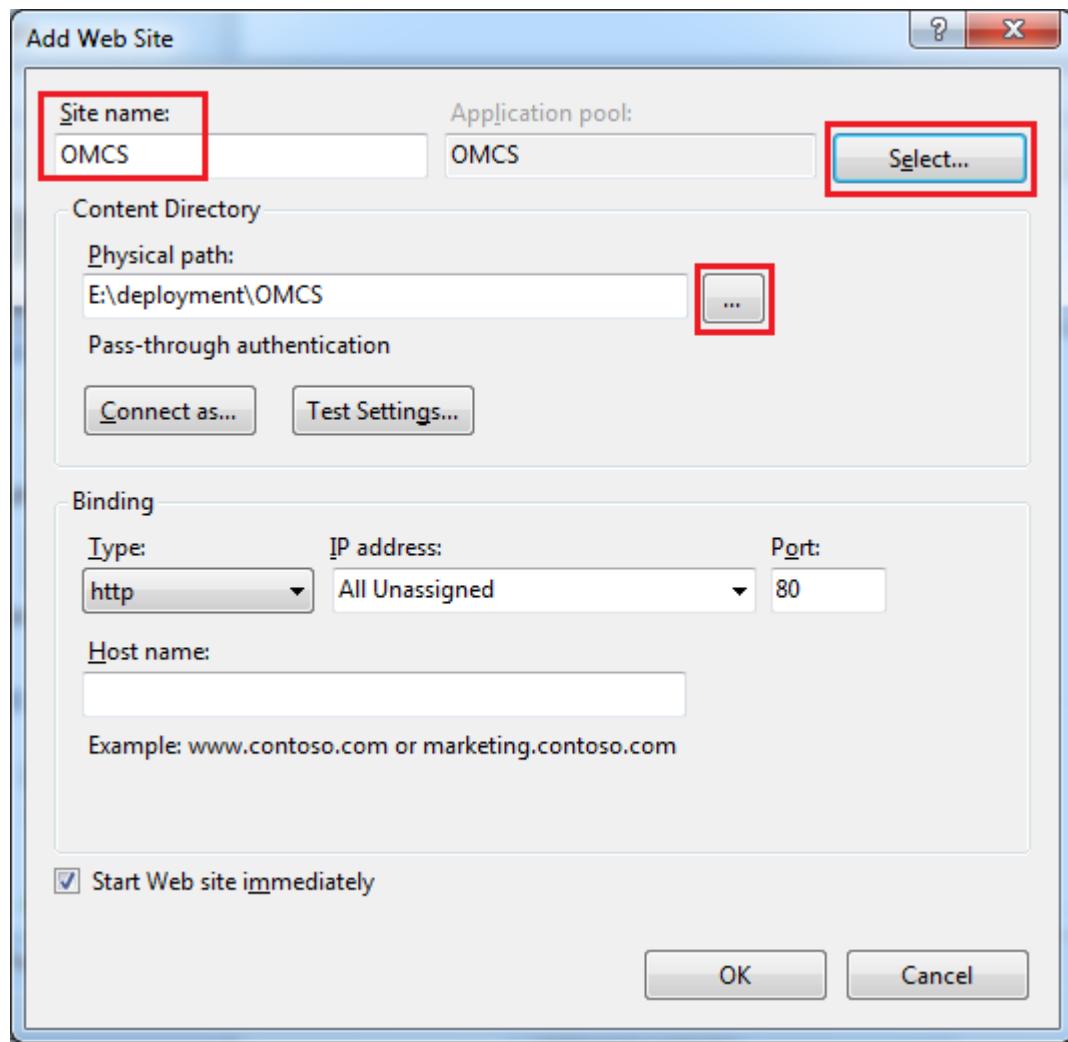


Figure 87 IIS Manager - 3

- Click “Select” button, another dialogue appears. You choose ASP.NET 4.0 in the list. Then click “OK” twice

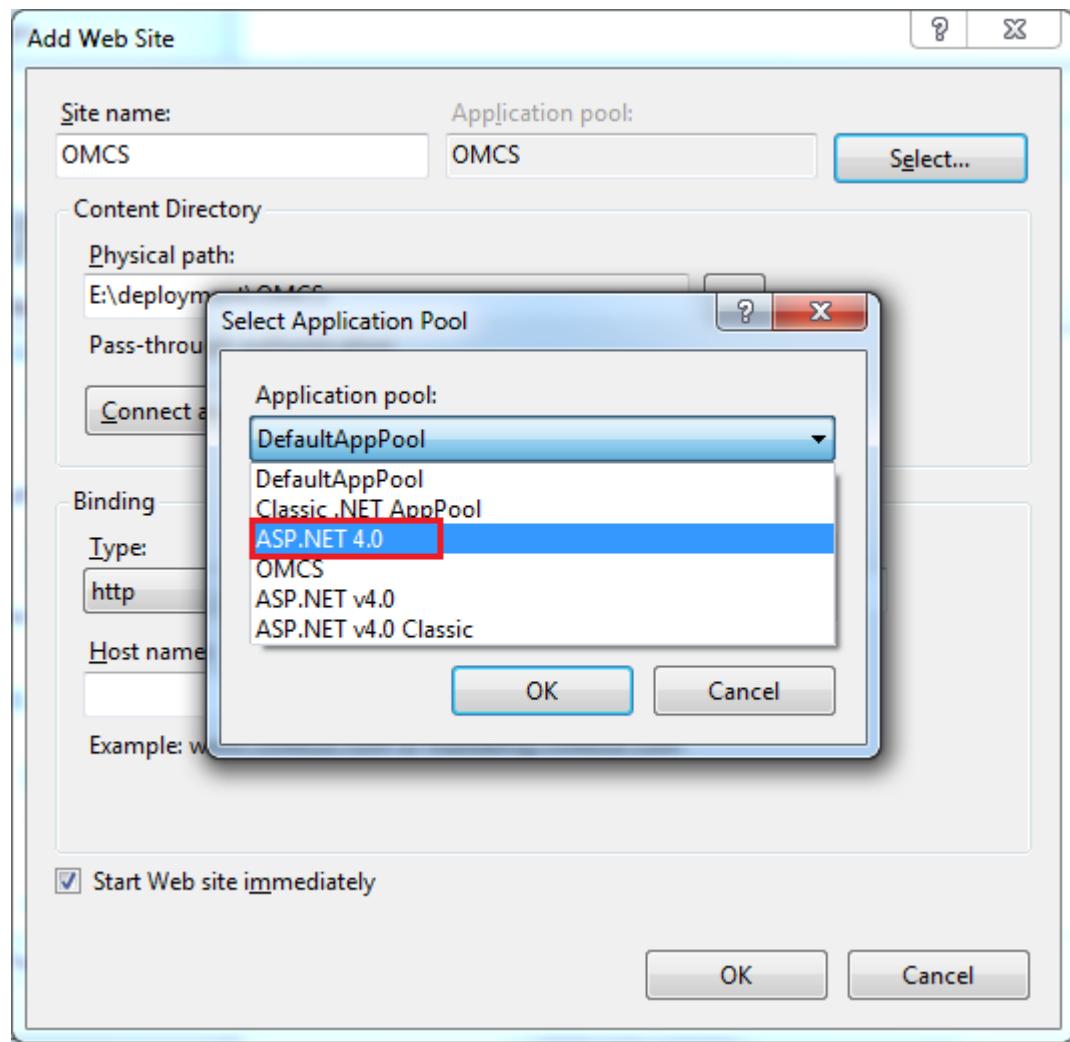


Figure 88 IIS Manager - 4

- Now, deployment is just finished. Open your favorite browser and enjoy using OMCS.

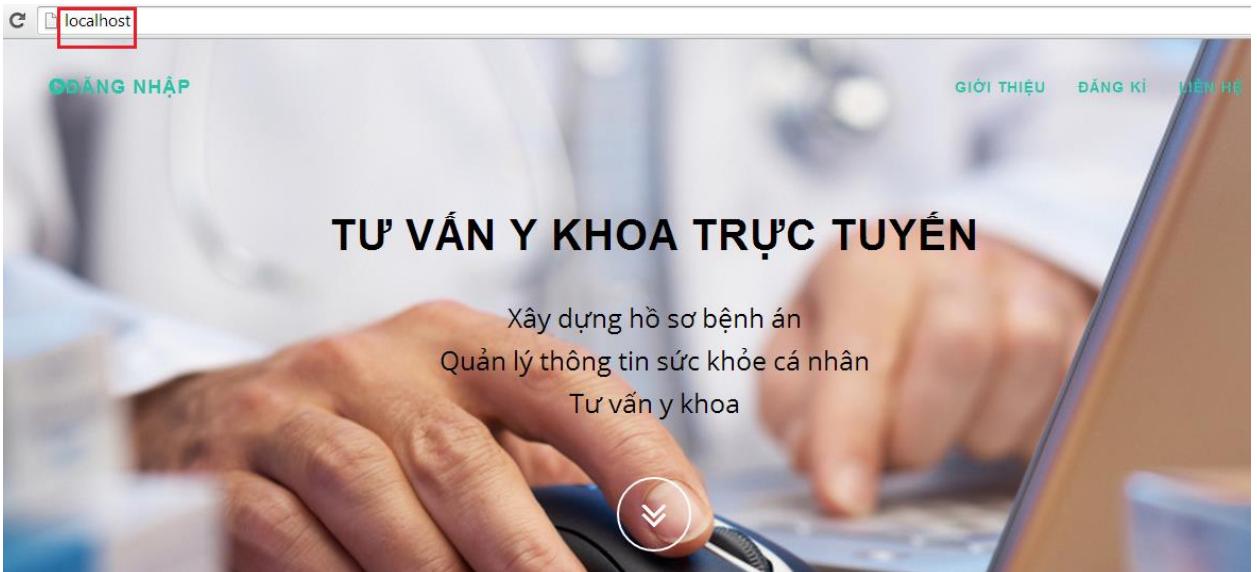


Figure 89 Deployment Successful

## 2. User Guide

### 2.1. Login

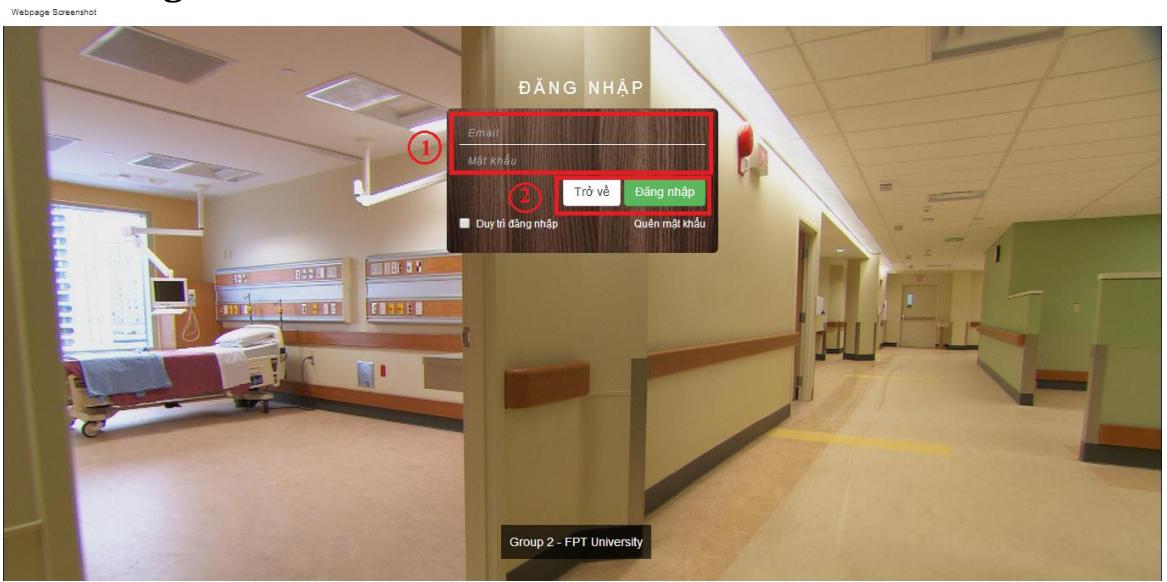


Figure 90 Login Page

Step	Description
1	Fill Email and Password (Sample admin account: Email: admin@ymail.com Password: 123456)
2	Click on “Đăng Nhập” button to login. Click on “Trở về” button to previous page.

Table 86 Login Step

## 2.2. Patient – User Info

### 2.2.1. Change Profile Image

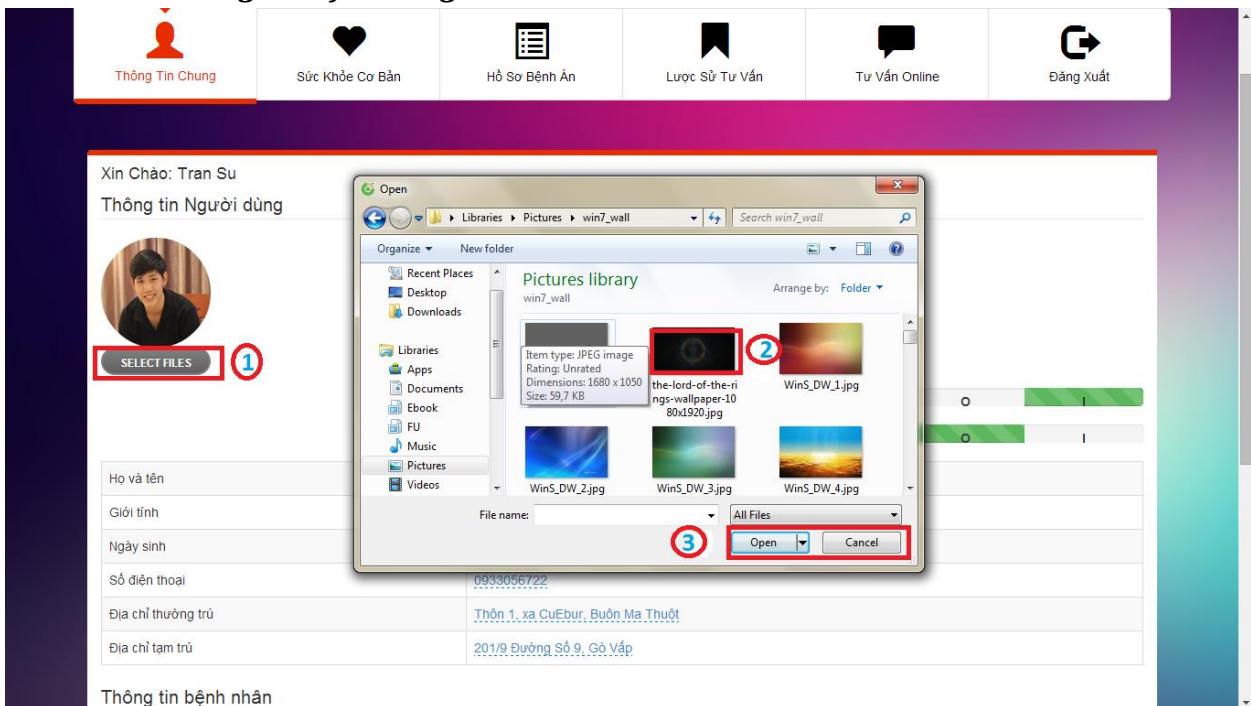


Figure 91 Change Profile Image Windows

Step	Description
1	Click on “SELECT FILES” button to open windows explorer.
2	Choose image to upload.
3	Click on “Open” button to upload the image. Click on “Cancel” button to close the windows

Table 87 Change Profile Image Step

### 2.2.2. Edit Patient Info

The screenshot shows a patient information form. At the top, there is a placeholder for a profile picture with a 'SELECT FILES' button. Below it is a table with patient details:

Họ	<input type="text" value="Tran"/> <span style="border: 1px solid red; padding: 0 2px;">(3)</span> <span style="border: 1px solid red; padding: 0 2px;">(4)</span>	<input checked="" type="checkbox"/> <span style="border: 1px solid red; padding: 0 2px;">(1)</span>
Họ và tên	Tran Suu <span style="border: 1px solid red; padding: 0 2px;">(2)</span>	
Giới tính	Nam	
Ngày sinh	19/02/1992	
Số điện thoại	0933056722	
Địa chỉ thường trú	Thôn 1, xã Cù Ebur, Buôn Ma Thuột	
Địa chỉ tạm trú	201/9 Đường Số 9, Gò Vấp	

Below this is another table for 'Thông tin bệnh nhân' (Patient Information):

Dân tộc	Kinh
Quốc tịch	Việt Nam
Công việc	Lập trình viên
Nơi làm việc	39B Trường Sơn, Tân Bình
Người liên lạc	Mỹ Linh

Red numbered circles indicate specific actions: (1) highlights the 'I' button in the top right corner; (2) highlights the 'Tran Suu' text in the first input field; (3) highlights the 'Tran' text in the first input field; and (4) highlights the checkmark/undo button in the top right corner of the input field.

Figure 92 Edit Patient Info

Step	Description
1	Click on “I” button to activate “Edit Patient Info” function.
2	Click on field that user wants to edit
3	Fill the text-box/select-box
4	Click on “✓” button to save the change. Click on “×” button to cancel.

Table 88 Edit Patient Info Step

## 2.3. Patient – User Health Record

### 2.3.1. Edit Personal Health Record

The screenshot shows a user interface for managing personal health records. At the top, there are tabs: Thông Tin Chung, Sức Khỏe Cơ Bản (highlighted in red), Hồ Sơ Bệnh Án, Lược Sử Tư Vấn, Tư Vấn Online, and Đăng Xuất. Below the tabs, a greeting 'Xin Chào: Tran Su' is displayed. A red box highlights the 'Sức khỏe cá nhân' section. Inside this section, a table lists various personal details. A modal window titled 'Chiều Cao (cm)' is open over the table, containing a text input field with '170', a checkmark button (marked with circled ④), and a cancel button (marked with circled ②). Above the modal, a toolbar has a green 'I' button highlighted with circled ①.

Sức khỏe cá nhân	Chiều Cao (cm)
Chiều Cao (cm)	170
Cân Nặng (kg)	70.5
Màu Mắt	Đen
Màu Tóc	Đen
Nhóm Máu	B
Lượng đồ uống có cồn (lít) hàng tuần	1.2
Số năm uống	4
Lượng thuốc hút (gói) hàng tuần	1
Số năm hút	2
Tên loại thể thao	Đá banh
Thời lượng tham gia (giờ) hàng tuần	4
Tham gia khác (Yoga, Thiền định,...)	Yoga
Thời lượng tham gia (giờ) hàng tuần	2

Figure 93 Edit Personal Health Record

Step	Description
1	Click on “I” button to activate “Edit Personal Health Record” function.
2	Click on field that user wants to edit
3	Fill the text-box/select-box
4	Click on “✓” button to save the change. Click on “x” button to cancel.

Table 89 Edit Personal Health Record Step

### 2.3.2. View Patient Sample

The screenshot shows a patient's medical profile. At the top, there is a table with the following data:

Nhóm Máu	B
Lượng đồ uống có cồn (lít) hàng tuần	1.2
Số nâm uống	4
Lượng thuốc hút (gói) hàng tuần	1
Số nâm hút	2
Tên loại thể thao	Đá banh
Thời lượng tham gia (giờ) hàng tuần	4
Tham gia khác (Yoga, Thiền định,...)	Yoga
Thời lượng tham gia (giờ) hàng tuần	2

Below this is a section titled "Dị ứng" (Allergies) with a table:

Loại dị ứng	Tên	Mô tả	Ngày bị dị ứng gần nhất	Phản ứng	Ghi chú
Thuốc	Thuốc kháng sinh	Dị ứng với các loại thuốc	01/01/2013	Đau bụng nhẹ	

Then comes a section titled "Lịch sử tiêm chủng" (Vaccination History) with a table:

Loại tiêm chủng	Ngày tiêm chủng	Số lần tiêm chủng
Sởi	15/03/1992	1

At the bottom left is the URL: localhost:52443/UserMedicalProfile/Details?medicalProfileId=1. At the bottom right is the copyright notice: Copyright Group 2 - FPT University - 2014.

Figure 94 View Patient Sample

Step	Description
1	Click on “Xem mẫu bệnh án” button to view the patient sample.

Table 90 View Patient Sample Step

### 2.4. Patient - View Medical Profile Sample

The screenshot shows a user's medical profile page. At the top, there is a navigation bar with icons for: Thông Tin Chung, Sức Khỏe Cơ Bản, Hồ Sơ Bệnh Án (highlighted with a red box and circled '1'), Lược Sử Tư Vấn, Tư Vấn Online, and Đăng Xuất.

The main content area displays a table titled "Hồ sơ bệnh án" (Medical Samples) with the following data:

Bệnh Án Mẫu	Ngày	Xem chi tiết
Bệnh Án Mẫu	04/08/2014	Xem chi tiết (circled '2')
Bệnh Án Mẫu	25/07/2014	Xem chi tiết
Bệnh Án Mẫu	30/07/2014	Xem chi tiết

At the bottom left is the URL: localhost:52443/UserMedicalProfile/Details?medicalProfileId=1. At the bottom right is the copyright notice: Copyright Group 2 - FPT University - 2014.

Figure 95 User Medical Profile Page

Step	Description
1	Click on “Hồ sơ bệnh án” link to go to “Hồ sơ bệnh án” page.
2	Click on “Xem chi tiết” button on “Hồ sơ bệnh án” page.

Table 91 View Medical Profile Sample Step

## 2.5. Patient - View Consult History

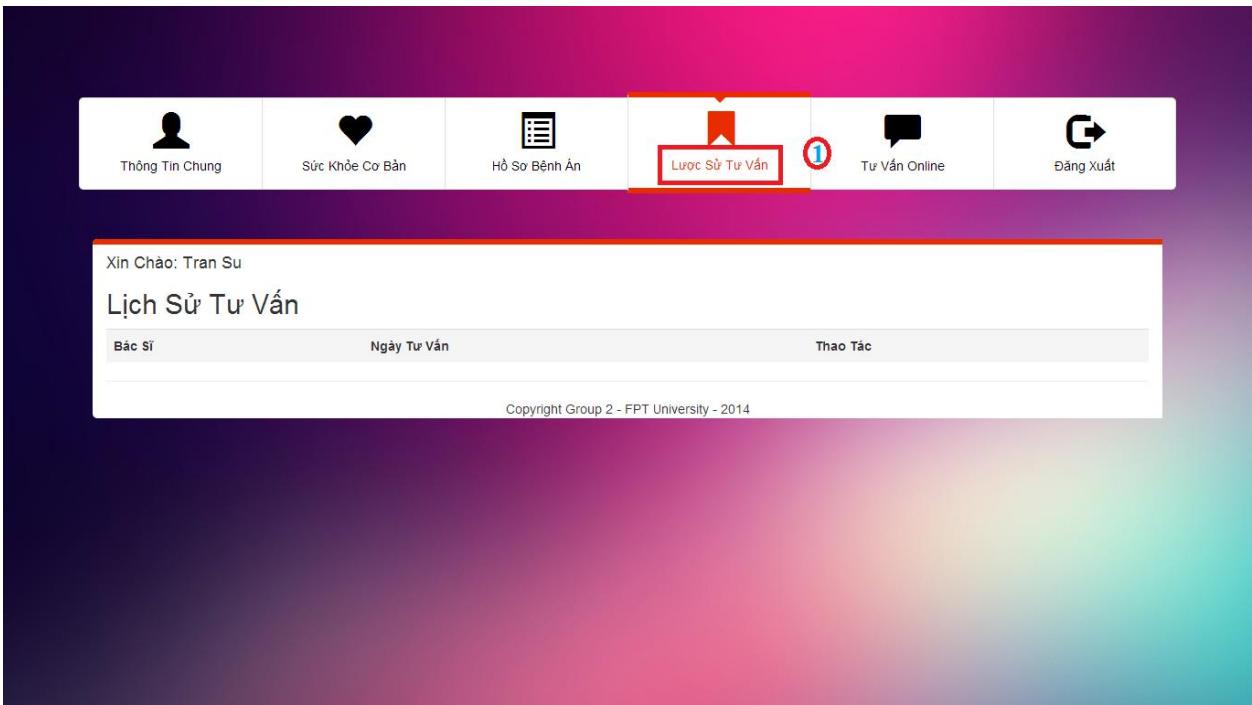


Figure 96 View Consult History Page

Step	Description
1	Click on “Lược sử tư vấn” link to view the consult history.

Table 92 View Consult History Step

## 2.6. Patient - Consult Online

### 2.6.1. Chatting

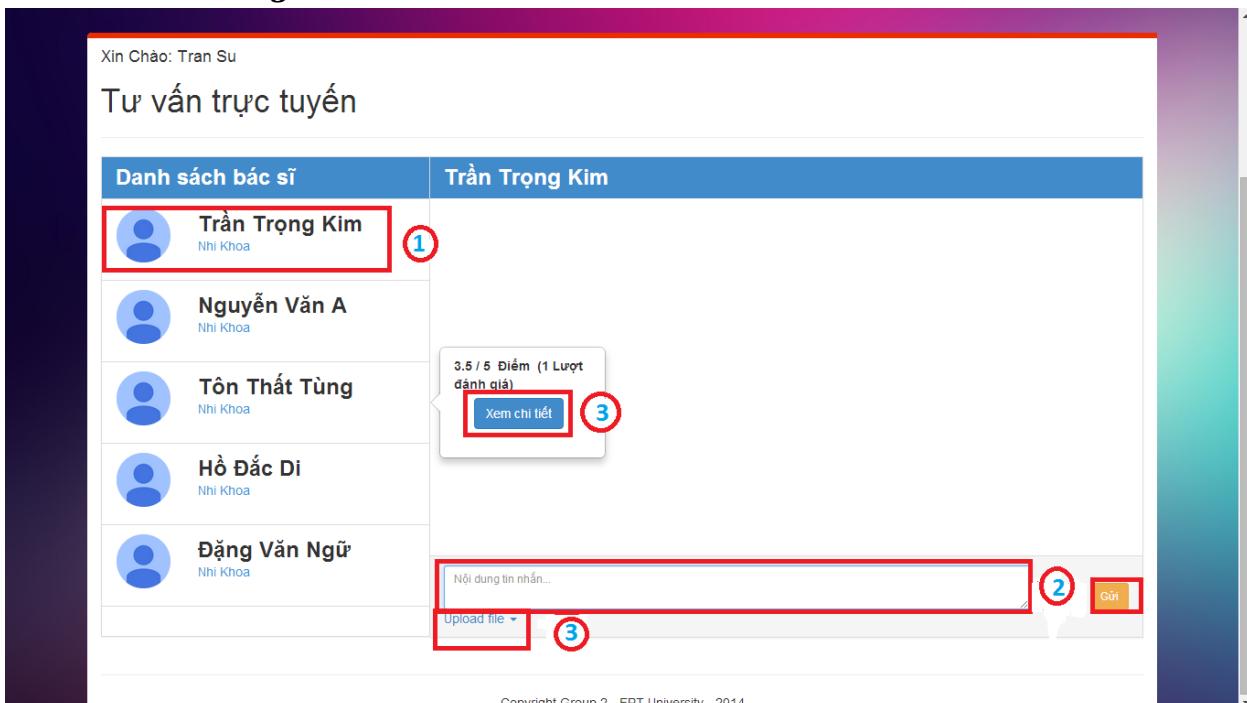


Figure 97 Consult Online Page – Chatting

Step	Description
1	Click on “Doctor name” on doctor list to choose the doctor that patient wants to chat.
2	Fill the text-area.
3	Click on “Gửi” button to send the message. Click on “Upload file” button to upload file. Click on “Xem chi tiết” to view details of doctor

Table 93 Chatting Step

### 2.6.2. View Doctor Details

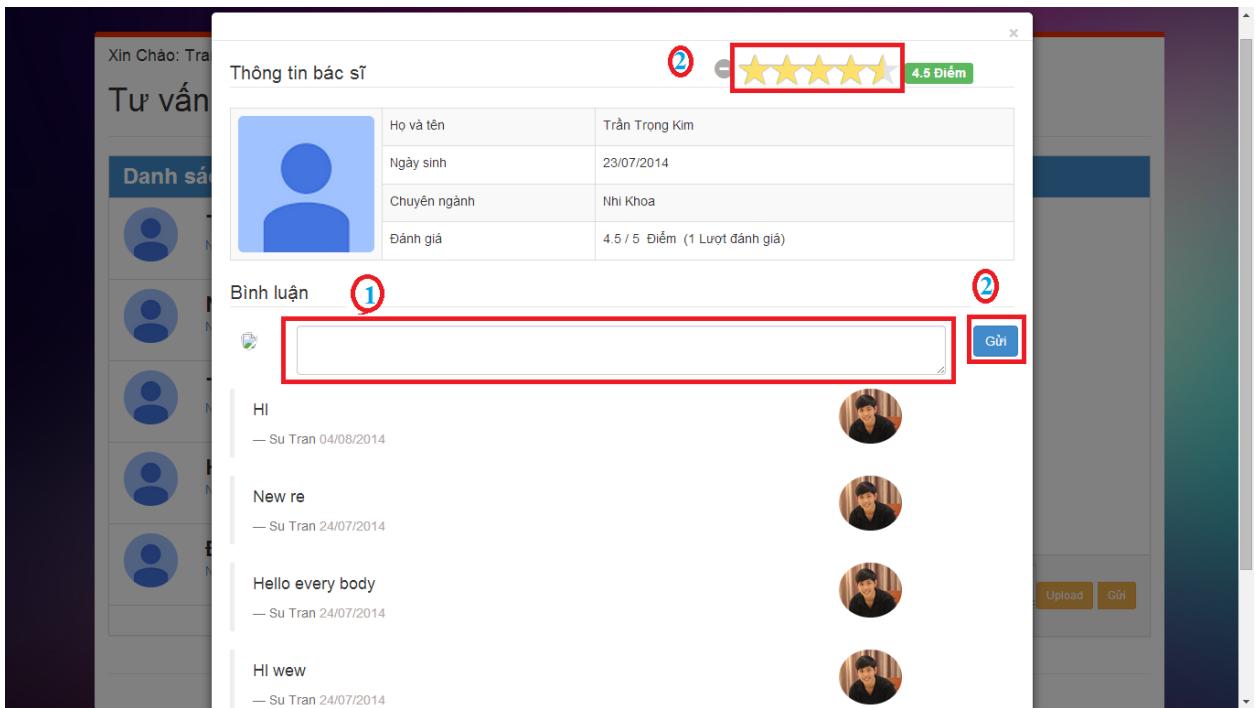


Figure 98 View Doctor Details Page

Step	Description
1	Fill the text-area.
2	Click on “Gửi” button to send the comment. Click on “Đánh giá” to rate for the doctor.

Table 94 View Doctor Details Step

## 2.7. Doctor - Manage Patient

### 2.7.1. Create New Patient

Bác Sĩ: Trần Trọng Kim

Quản lý bệnh nhân

Quản lý Bệnh Án

Tư vấn trực tuyến

Tin nhắn

Xem mẫu hồ sơ

Tạo mới bệnh nhân

Thông tin cơ bản (1)

Email (\*) (2)

Họ (\*)

Tên (\*)

Giới tính (\*)

Nam

Ngày sinh (\*)

dd/mm/yyyy

Số điện thoại (\*)

Địa chỉ thường trú

Địa chỉ tạm trú

Lưu (3)

Bỏ qua

Thao Tác

Figure 99 Create New Patient Page

Step	Description
1	Choose the tab.
2	Input the value.
3	Click on “Lưu” button to create new patient. Click on “Bỏ qua” button to cancel.

Table 95 Create New Patient Step

### 2.7.2. View Patient Details

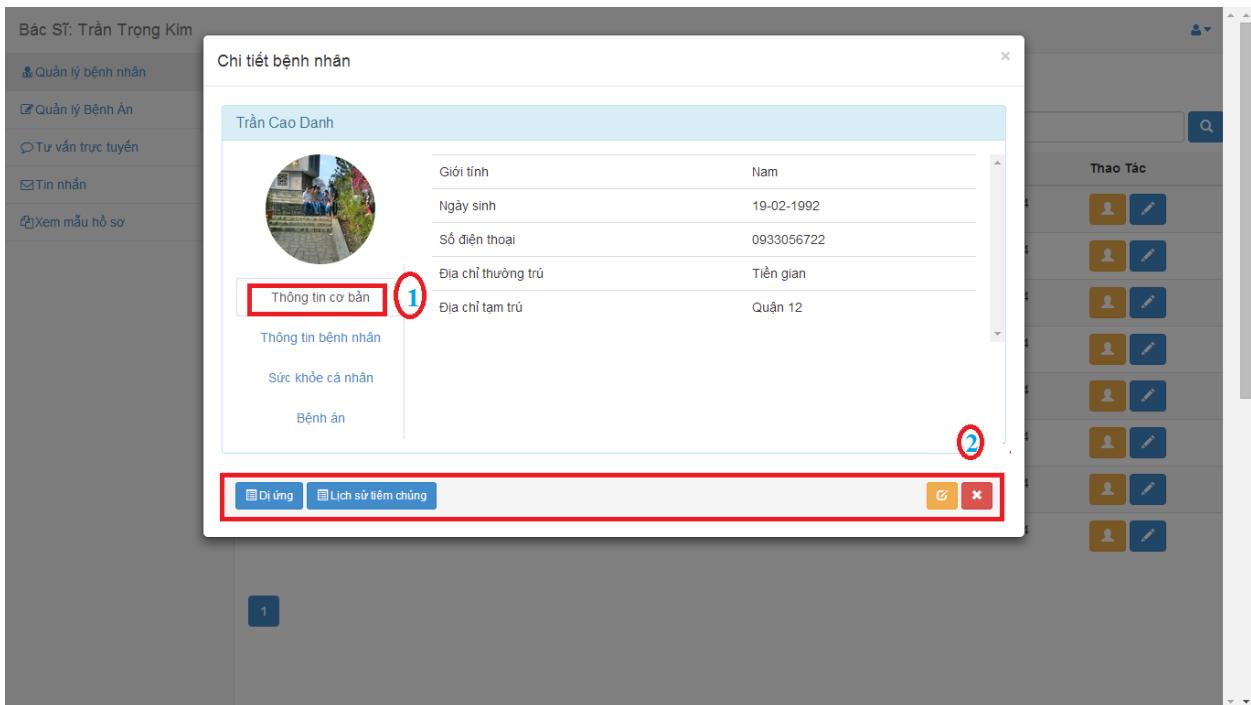


Figure 100 View Patient Details Page

Step	Description
1	Choose the tab to view
2	Click on “Dị ứng” button to view allergy history. Click on “Lịch sử tiêm chủng” button to view vaccination history. Click on “Cập nhật” button to edit patient details. Click on “BỎ QUA” button to close.

Table 96 View Patient Details Step

### 2.7.3. Edit Patient Details

Bác Sĩ: Trần Trọng Kim

Chi tiết bệnh nhân

Họ (\*)  (2)

Tên (\*)  (2)

Giới tính

Số điện thoại

Địa chỉ thường trú

Địa chỉ tạm trú

(1) Thông tin cơ bản

(3) Choose File | No f...sen

(3) Cập nhật | Bỏ qua

Figure 101 Edit Patient Details Page

Step	Description
1	Choose the tab to view
2	Input the value
3	Click on “Choose file” button to upload new profile image. Click on “Cập nhật” button to save. Click on “Bỏ qua” button to cancel.

Table 97 Edit Patient Details Step

### 2.8. Doctor – Consult Online

Bác Sĩ: Doctor 1

Đăng Xuất

Tư vấn riêng (1)

Lịch sử tư vấn

Trần Cao Danh  
chào bác sĩ

Nội dung tin nhắn... (2)

Gửi (3) (4) Gửi file đính kèm

Figure 102 Consulting Online Page

Step	Description
1	Enable/Disable private mode.
2	Fill the text-box.
3	Click on “Gửi” button to send message.
4	Click on “Gửi file đính kèm” file to send input file to patient.

Table 98 Consult Online Step

## 2.9. Doctor – Private Mode

Webpage Screenshot

The screenshot shows a medical consultation interface. On the left, there's a sidebar for 'Lịch sử khám bệnh' (Consultation History) with a date '18/09/2014' and a search bar. Below it is a form for 'Khám bệnh' (Examination) with fields for 'Hồ sơ bệnh án' (Patient Record), 'Ngày phát bệnh' (Onset Date), 'Triệu chứng' (Symptoms), 'Chẩn đoán' (Diagnosis), 'Phương pháp điều trị' (Treatment Method), 'Tình trạng điều trị' (Treatment Status), and 'Ghi chú' (Notes). On the right, a message window shows a message from 'Trần Cao Danh' at 08:40:54. The message content area is highlighted with a red box and labeled '5'. Below it is a red box containing the 'Gửi file đính kèm' (Send Attached File) button, labeled '6'. A red circle labeled '7' points to the 'Gửi' (Send) button in the message window. A red box labeled '3' covers the entire examination form. A red box labeled '4' covers the bottom right corner of the examination form, containing icons for file operations. A red box labeled '8' covers the bottom right corner of the message window, containing icons for file operations.

Figure 103 Doctor - Private Mode Page

Step	Description
1	Click on “Xem chi tiết” button to view patient’s information. Click on “Dị ứng” button to view patient’s allergy. Click on “Tiêm chủng” button to view patient’s immunization. Click on “Yêu cầu webcam” button to request patient’s webcam
2	Click on “Xem chi tiết” button to view treatment history or medical profile. Click on “Chỉnh sửa” button to edit treatment history. Click on “Liên kết hộp thoại” button to mapping conversation with treatment history. Click on “Xóa” to delete treatment history
3	Fill all text-box.
4	Click on “Lưu lược sử khám bệnh” to save treatment history. Click on “Tạo lại từ đầu” to refesh all fields.
5	Fill the text-box.
6	Click on “Gửi” button to send input data to patient.
7	Click on “Gửi file đính kèm” button to send input file to patient.
8	Click on “Tiếp tục” button to next treatment history. Click on “Gửi” button to previous treatment history.

Table 99 Doctor - Private Mode Step

## 2.10. Doctor - Comment

Bác Sĩ: Trần Trọng Kim

Quản lý bệnh nhân

Quản lý Bệnh án

Tư vấn trực tuyến

Tin nhắn

Xem mẫu hồ sơ

Tin nhắn

Đánh giá

5 sao / 4.5 Điểm

(1 Lượt đánh giá)

Bình luận

①

Gửi

②

Bác sĩ rất nhiệt tình

Su Tran 24/07/2014

Trang 1 / 1

Figure 104 Message Page

Step	Description
1	Fill the text-box.
2	Click on “Gửi” button to send comment.

Table 100 Comment Step

## 2.11. Admin – Manage Hospital Information

### 2.11.1. View/Edit hospital information

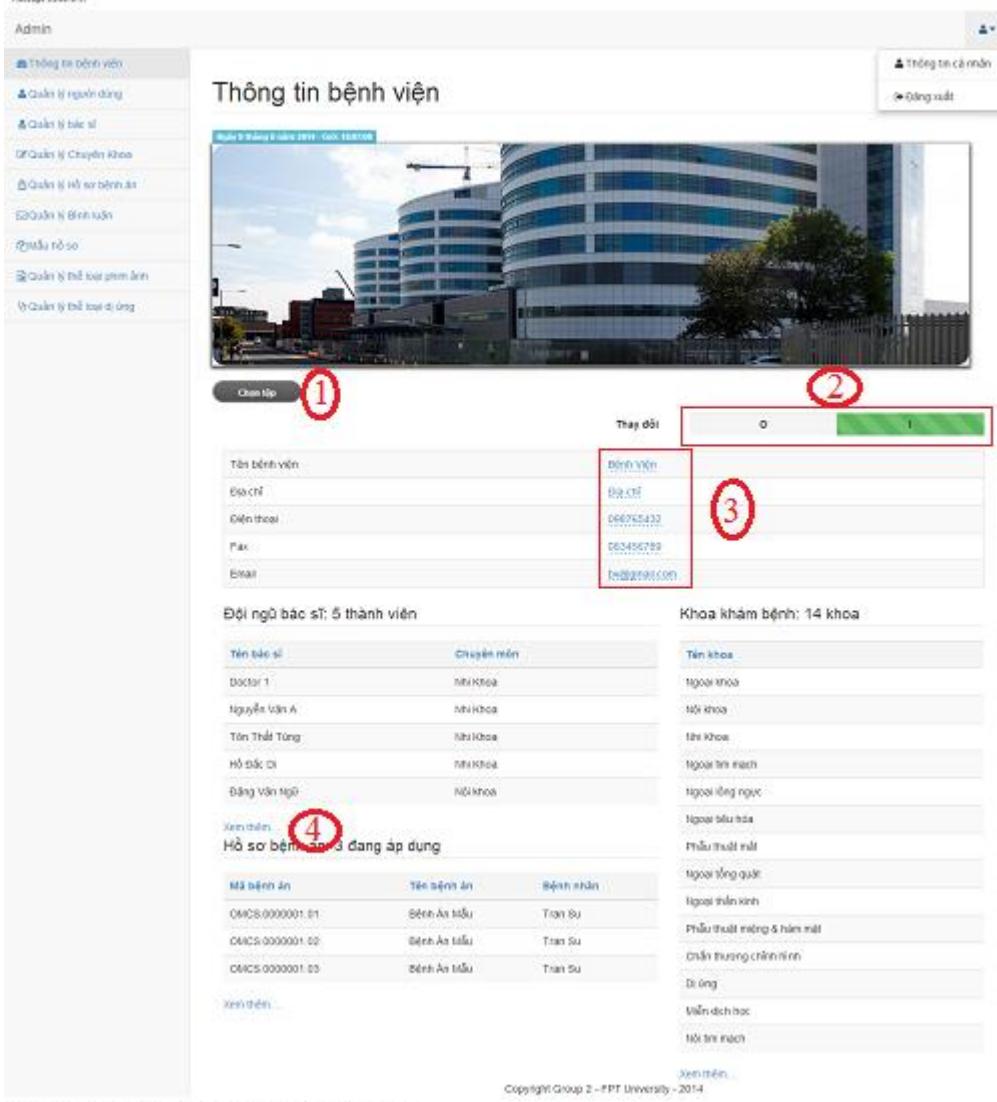


Figure 105 View/Edit Hospital Information Page

Step	Description
1	Select file to change hospital's logo
2	Click on "I" to edit hospital information or click on "O" to view hospital information
3	Fill hospital information to edit
4	Click on "Xem thêm...." to forward to other page

Table 101 View/Edit Hospital Information Step

## 2.12. Admin - Manage Users

### 2.12.1. View user list

Quản Lý Người Dùng

Email	Tên đầy đủ	Tình trạng	Ngày tạo	Thao Tác
caodanh@gmail.com	Trần Cao Danh	Hoạt Động	03-08-2014	
linhnguyen@gmail.com	Nguyễn Nhật Linh	Hoạt Động	03-08-2014	
nguonguyen@gmail.com	Nguyễn Hồng Ngọc Nguồn	Hoạt Động	03-08-2014	
nhannguyen@gmail.com	Nguyễn Toàn Nhân	Hoạt Động	03-08-2014	
trannguyentiensu@gmail.com	Tran Su	Hoạt Động	03-08-2014	
tuanmai@gmail.com	Mai Anh Tuấn	Hoạt Động	03-08-2014	

Figure 106 View Users Page

Step	Description
1	Fill user's name/email and click search button to find user
2	Click “Tạo mới” button to create a new user
3	Click edit button to edit user's details Click check button to lock or unlock user

Table 102 View Users Step

### 2.12.2. Create user

Tạo Mới

Email (*)	<input type="text"/>
Họ (*)	<input type="text"/>
Tên (*)	<input type="text"/>
Giới tính (*)	<input type="radio"/> Nam
Ngày sinh (*)	<input type="text"/> dd/mm/yyyy
Số điện thoại (*)	<input type="text"/>
Địa chỉ thường trú (*)	<input type="text"/>
Địa chỉ tạm trú	<input type="text"/>

X Bỏ Qua **Lưu**

Figure 107 Create User Page

Step	Description
1	Fill all user detail
2	Click on “Lưu” button to save user Click on “Bỏ qua” dismiss modal

Table 103 Create User Step

### 2.12.3. Edit user

Webpage Screenshot

Nguyễn Nhật Linh

Ảnh đại diện

Hộ (\*)

Tên (\*)

Giới tính (\*)

Số điện thoại (\*)

Địa chỉ thường trú (\*)

Địa chỉ tạm trú

Lưu

Bỏ Qua

Figure 108 Edit User Page

Step	Description
1	Fill all user detail to edit
2	Click on “Lưu” button to save user Click on “BỎ qua” dismiss modal

Table 104 Edit User Step

## 2.13. Admin – Manage Doctors

### 2.13.1. View doctor list

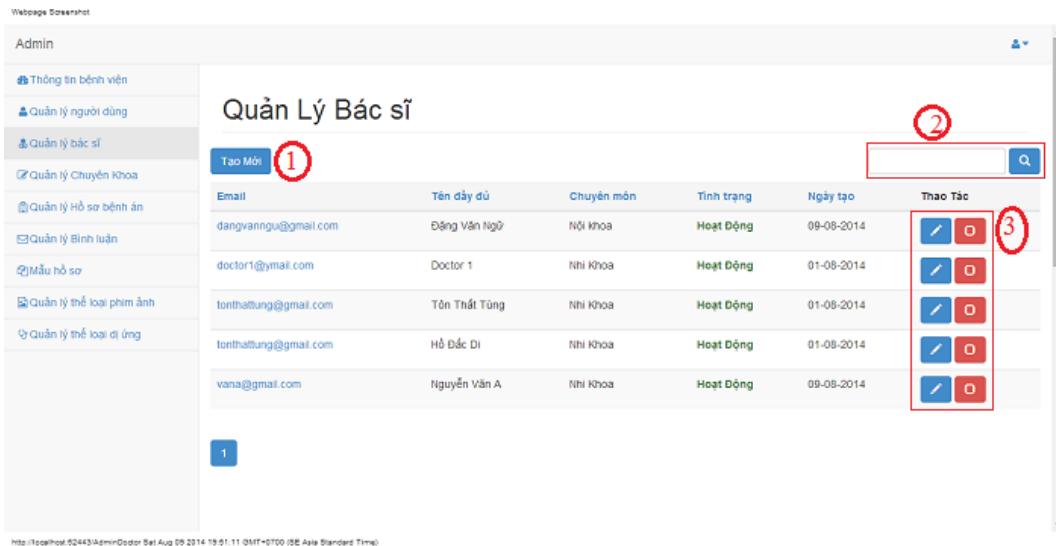


Figure 109 View Doctors Page

Step	Description
1	Fill doctor's name/email and click on search button to find user
2	Click on “Tạo mới” button to create a new doctor
3	Click on edit button to edit doctor's details Click on check button to lock or unlock doctor

Table 105 View Doctors Step

### 2.13.2. Create doctor

Figure 110 Create Doctor Page

Step	Description
1	Fill all doctor detail
2	Click on “Lưu” button to save doctor Click on “Bỏ qua” dismiss modal

Table 106 Create Doctor Step

### 2.13.3. Edit doctor

Figure 111 Edit Doctor Page

Step	Description
1	Fill all doctor detail to edit
2	Click on “Lưu” button to save doctor Click on “BỎ qua” dismiss modal

Table 107 Edit Doctor Step

## 2.14. Admin – Manage Medical Profiles

### 2.14.1. View medical profile list

Figure 112 View Medical Profiles Page

Step	Description
1	Fill medial profile name/key/patient's name and click on search button to find medical profile
2	Click on view button to view medical profile's details Click on edit button to edit medical profile's details Click on delete button to delete medical profile's details

Table 108 View Medical Profiles Step

### 2.14.2. View details a medical profile

Figure 113 Details Medical Profile Page

Step	Description
1	Click on edit button to forward to edit medical profile

Table 109 Details Medical Profile Step

### 2.14.3. Update medical profile

#### Cập nhật hồ sơ bệnh án

**Bệnh Án Mẫu**

Figure 114 Update Medical Profile Page

Step	Description
1	Click on “Cập nhật” button to save doctor
2	Fill all medical profile detail to edit

Table 110 Update Medical Profile Step

### 2.15. Admin – Manage Specialty Fields

#### 2.15.1. View specialty fields

Webpage Screenshot

Figure 115 View Specialty Fields Page

Step	Description
1	Click on “Thêm Khoa” button to create a parent specialty
2	Click on “Thêm Chuyên Khoa” button to create a specialty
3	Click on edit button to edit specialty's details Click on remove button to delete a specialty field

Table 111 View Specialty Fields Step

### 2.15.2. Create parent specialty field

Webpage Screenshot

Http://localhost:52443/Admin/SpecialtyField Mon Aug 11 2014 11:26:20 GMT+0700 (SE Asia Standard Time)

Figure 116 Create Parent Specialty Field Page

Step	Description
1	Fill all parent specialty detail
2	Click on “Lưu” button to save parent specialty Click on “BỎqua” dismiss modal

Table 112 Create Parent Specialty Field Step

### 2.15.3. Create specialty field

Webpage Screenshot

Http://localhost:52443/Admin/SpecialtyField Mon Aug 11 2014 11:26:31 GMT+0700 (SE Asia Standard Time)

Figure 117 Create Specialty Field Page

Step	Description
1	Fill all specialty detail
2	Click on “Lưu” button to save specialty Click on “Bỏ qua” dismiss modal

Table 113 Create Specialty Field Step

#### 2.15.4. Edit parent specialty field

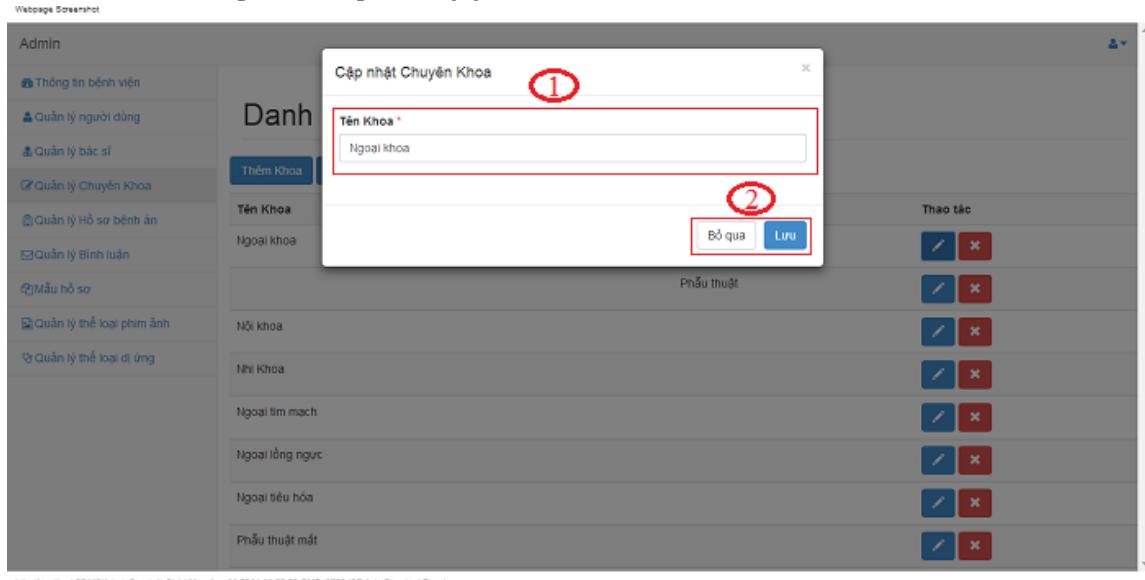


Figure 118 Edit Parent Specialty Field Page

Step	Description
1	Fill all parent specialty detail to edit
2	Click on “Lưu” button to save parent specialty Click on “BỎ qua” dismiss modal

Table 114 Edit Parent Specialty Field Step

#### 2.15.5. Edit specialty field

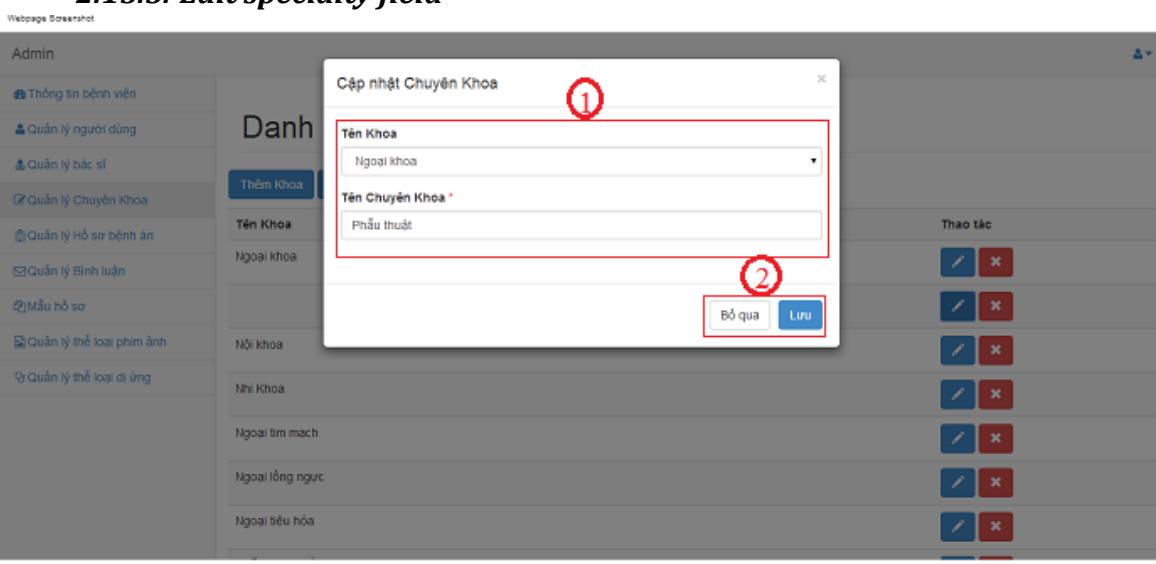


Figure 119 Edit Specialty Field Page

Step	Description
1	Fill all specialty detail to edit
2	Click on “Lưu” button to save specialty Click on “Bỏ qua” dismiss modal

Table 115 Edit Specialty Field Step

## 2.16. Admin – Manage Medical Profile Templates

### 2.16.1. View medical profile template list

Webpage Screenshot

Admin

Mẫu Hồ Sơ Bệnh Án

Thêm Mẫu Hồ Sơ Mới ①

Tên mẫu hồ sơ	Thao tác
Bệnh Án Mẫu	Sửa cấu trúc Sửa Xóa ②
Bệnh Án Ngoài Da - BV Da Liễu	Sửa cấu trúc Sửa Xóa
Bệnh Án Truyền Nhiễm	Sửa cấu trúc Sửa Xóa
Bệnh Án Nội Khoa	Sửa cấu trúc Sửa Xóa

http://localhost:52443/AdminTemplate Sat Aug 09 2014 10:42:27 GMT+0700 (SE Asia Standard Time)

Figure 120 View Medical Profile Templates Page

Step	Description
1	Click on “Thêm Mẫu Hồ Sơ Mới” button to create a medical profile template
2	Click on “Sửa cấu trúc” button to edit medical profile template Click on “Sửa” button to edit medical profile template name Click on “Xóa” button to delete a medical profile template

Table 116 View Medical Profile Templates Step

## 2.16.2. Create medical profile template

The screenshot shows a web-based administrative interface for creating a medical profile template. On the left, a sidebar lists various management modules like 'Thông tin bệnh viện', 'Quản lý người dùng', etc. The main area is titled 'Mẫu Hồ Sơ' and contains a modal window for adding a new template. The modal has fields for 'Tên Mẫu Hồ Sơ' (Step 1) and two buttons: 'Bỏ qua' and 'Tiếp tục' (Step 2). Below the modal, there's a list of existing templates: 'Bệnh Án Ngoài Da - BV Da Liễu', 'Bệnh Án Truyền Nhiễm', 'Bệnh Án Nội Khoa', and 'Bệnh Án Mẫu'. Each item has edit and delete buttons. At the bottom, a dark bar says 'Xây dựng hồ sơ bệnh án'. To the right, a separate window titled 'Mẫu hồ sơ Bệnh án' shows a large empty text area (Step 4) and a 'Lưu' (Save) button. A dropdown menu titled 'Các đối tượng' (Step 3) is open, showing tabs for 'Phân vùng', 'Tùy chỉnh' (selected), and 'Có sẵn'. Other options include 'Khu vực', 'Lịch sử khám bệnh', 'Hồ sơ phim', 'Đi ứng', and 'Tiêm chủng'.

Figure 121 Create Medical Profile Template Page

Step	Description
1	Fill medical profile template name
2	Click on “Tiếp tục” button to create medical profile template Click on “Bỏ qua” button to dismiss modal
3	Step 2 click on “Tiếp tục” button Drag value on 3 tabs: “Phân vùng”, “Tùy chỉnh” and “Có sẵn” in step 4
4	Admin drag value on tab to this
5	Click on “Lưu” button to save medical profile template Click on “Trở về” button to redirect previous page.

Table 117 Create Medical Profile Template Step

### 2.16.3. Update medical profile template name

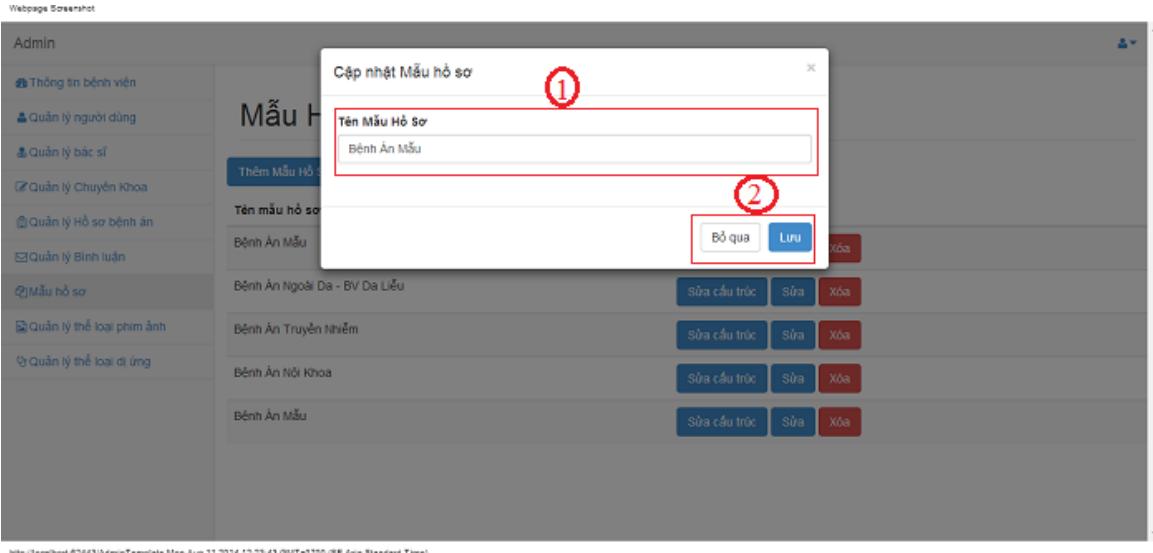


Figure 122 Update Medical Profile Template Name Page

Step	Description
1	Fill medical profile template name
2	Click on “Tiếp tục” button to edit medical profile template name Click on “Bỏ qua” button to dismiss modal

Table 118 Update Medical Profile Template Name Step

## 2.17. Admin - Update medical profile template

Figure 123 Update Medical Profile Template Page

Step	Description
1	Drag value on 3 tabs: “Phân vùng”, “Tùy chỉnh” and “Có sẵn” in step 2
2	Admin drag in or out value on tab to this
3	Click on “Lưu” button to save medical profile template Click on “Trở về” button to redirect previous page.

Table 119 Update Medical Profile Template Step

## 2.18. Admin – Manage Personal Information

### 2.18.1. View/Edit personal information

The screenshot shows the "Thông tin Admin" (Admin Information) page. On the left, a sidebar lists various admin management options. The main area displays personal information fields: Họ và tên (Name: Trần Cao Danh), Mật khẩu (Password: Thay đổi mật khẩu), Giới tính (Gender: Nam), Ngày sinh (Birth Date: 10/10/1992), Số điện thoại (Phone Number: 0987654321), Địa chỉ thường trú (Residence Address: An Giang), and Địa chỉ tạm trú (Temporary Address: Quận 12). A file upload section with a placeholder image and a "SELECT FILES" button is also present. At the top right, there are "Thay đổi" (Edit) and "I/O" buttons, with "I" being highlighted with a red circle (1). A "Thay đổi mật khẩu" (Change Password) button is highlighted with a red circle (2). A "View" button is highlighted with a red circle (3).

Figure 124 View/Edit Admin Information Page

Step	Description
1	Click on “I” to edit personal information or click on “O” to view personal information
2	Click on “Thay đổi mật khẩu” button to edit password
3	Fill personal information to edit
4	Select file to change profile picture

Table 120 View/Edit Admin Information Step

## **Part G. Appendix**

[1] <http://nld.com.vn/suc-khoe/loay-hoay-chuyen-giam-tai-benh-vien-20120315104111496.htm>

[2] <http://www.vietnamplus.vn/no-luc-giam-qua-tai-cac-benh-vien-tai-tp-ho-chi-minh/245738.vnp>

[3] <http://www.nhandan.com.vn/suckhoe/tieu-diem/item/22586202-bat-an-nhu-vao%E2%80%A6-benh-vien.html>

[4] Sprint Backlog: *Reference to CD <Root of CD>\Document\SCRUM\Sprint Backlog.xlsx*

[5] Impediment Backlog: *Reference to CD <Root of CD>\Document\SCRUM\Impediment Backlog.xlsx*

[6] Meeting Minutes: *Reference to CD <Root of CD>\Document\Report\Meeting Minutes*