

FPT UNIVERSITY

Capstone Project Document

Online Medical Consultant System

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Capstone Project code	OMCS

- Ho Chi Minh City, 11 August / 2014 -

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ACKNOWLEDGEMENTS

Thank you

Coming soon...

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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 11th, 2014**
- End Date: **August, 25th, 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 let patient communicate face-to-face with health care provider 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^[1] with patients. A lot of plans have been proposed to handle that situation^[2]. Besides that, taking a medical treatment at hospitals not always a good choice due to the traveling cost, wasting time and unsafeness^[3].

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

Online medical consultant services are really popular today. Lot of people love the convenience it provided. They just stay at home and get consulted from medical expert instantly, they can travel with high confidence thanks to the services that can assist them in getting the medical care. It means, with the internet connection ready, everybody might have the chance to access those services from everywhere, everywhen.

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
- **Bacsytructuyen**
<http://bacsytructuyen.com/>
This website collect articles, tips related to medical from many resources.
Users can access those 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 all created medical profiles.
 - 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 (we named it as FPT 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 currently not included for these features:
 - Exporting medical profile.
 - Managing medicine.
 - Managing process of a hospital.
- This system not intend to replace the current medical treatment processes in hospital. It just provide 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

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

Table 1 Hardware Requirement for Server

For Web User

Web	Minimum Requirements	Recommended
Internet Connection	2Mbps	4Mbps
Web Browser	Chrome 22	Chrome 36

Table 2 Hardware Requirement for Web User

1.3.4.2. Software requirements

- OS: Microsoft Windows 7.
- Skype: used for communication and meeting
- Google Code & TortoiseSVN: used for source control.
- Website Server: IIS 7 Express
- IDE: Visual Studio 2012
- DBMS: SQL Server 2008 R2
- StarUML 5.0

2. Project organization

2.1. System Process Model

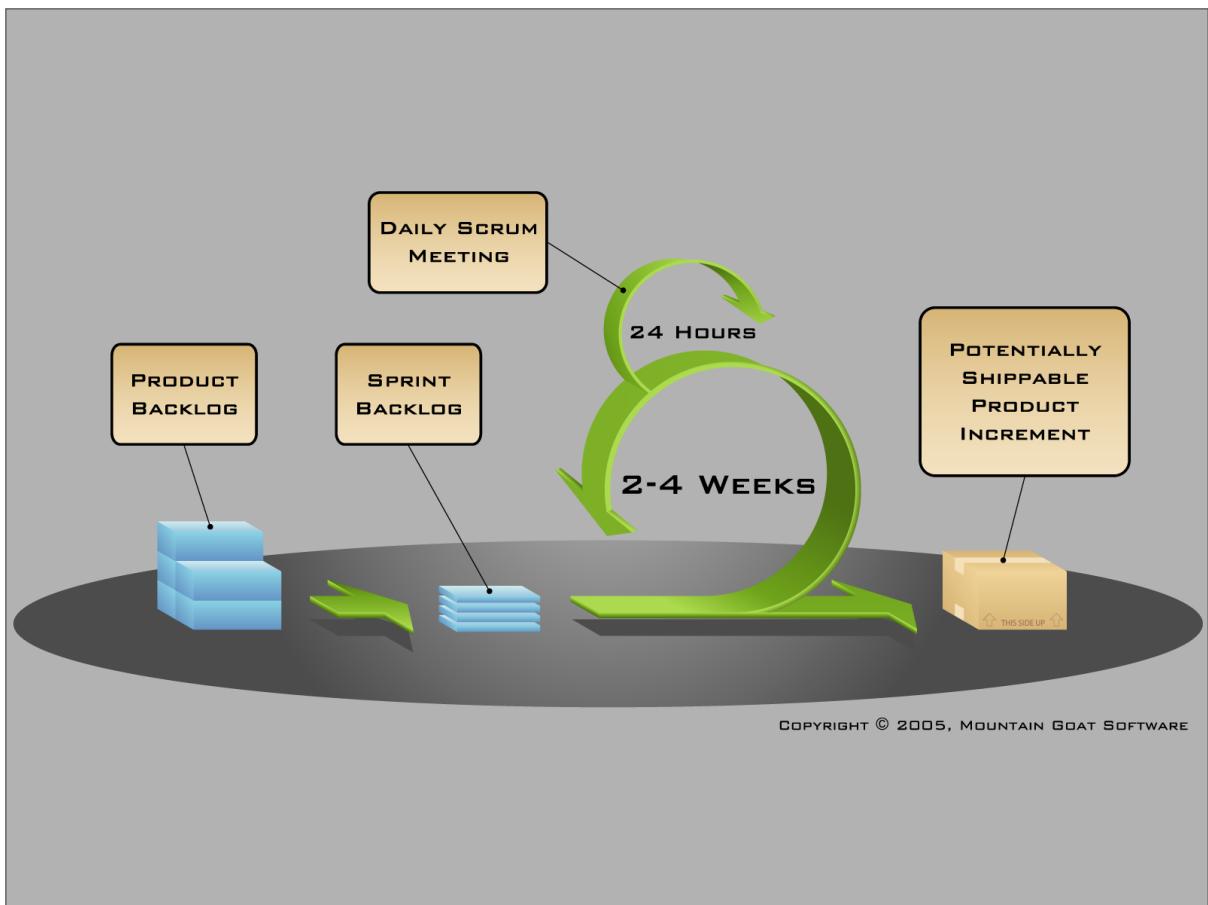


Figure 1 Scrum framework

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 timeboxed 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.

Burndown chart: not conduct

Impediment: list of difficulties that the team meet during handle tasks.

- Reference Appendix: Impediment Backlog.

2.2. Roles and Responsibilities

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

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	05 June, 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 analysed carefully	12 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	09 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	09 July, 2014	9, 10
6		Report 6		The report should follow the template from FPT University Good layout, cover all items	05 June, 2014	2, 3

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 breaked 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
9		[User] Login with remember me	As a user, I want to login automatically			
10		[User] Logout	As a user, I want to logout			
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		1
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		1
13		[User] Edit profile information	As a user, I want to update some information (firstname, address...)	Validate required fields, number		1
14		[Patient] View medical profile	As a patient, I want to view my medical profile, so that I can have overview about my diseases	List all medical profiles created for logged in patient Not allow patient to modify medical profile		
15		[Patient] View linked medical profile information	As a patient, I want to extract some information (immunization, allegy) so that	Only show medical profile that use built-in modules (immunization, allergy)		

			I can quickly have overview about them	Link to medical profile that have extracted information		
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		
17		[Patient] Chat	As the user, I want to chat with doctor realtime 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		
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		
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		
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		
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, donot need to refresh the page		
22		[Patient] Change profile picture	As a patient, I want to change my profile picture			

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		
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		
26		[Doctor] Chat	As a doctor, I want to chat with patients so that I can help them	Doctor can see unread messages		
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		
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		
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 will have only one medical profile created from one template		
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		
31		[Doctor] Update	As a doctor, I want to update			

		medical profile	medical profile created for patient			
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		
33		[Doctor] Edit patient information	As a doctor, I want to edit patient information, so that I can correct information			
34		[Doctor] View comment/rating	As a doctor, I want to view comment/rating so that I can know feedback from patients			
35		[Doctor] Add comment	As a doctor, I want to add new comment so that I can interact with my patients effectively			
36		[Doctor] Search patient	As a doctor, I want to search patient so that I can increase my work performance			
37		[Doctor] Change picture profile	As a doctor, I want to change my profile picture			
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			
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		

41		[Admin] Edit doctor	As an admin, I want to edit information of a doctor, so that I can correct wrong information			
42		[Admin] Search doctor	As an admin, I want to search doctors so that I can increase my work performance			
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		
44		[Admin] Create patient	As an admin, I want to create new patient			
45		[Admin] Edit patient	As an admin, I want to edit some information of patient			
46		[Admin] Search patient	As a admin, I want to search patient so that I can increase my work performance			
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		
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		
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		
50		[Admin] Change picture profile	As an admin, I want to change my profile picture			

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		
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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 logged in with email and password.

1.2. User Requirement

After login successful, user have these functions:

- **Update profile:** user have 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 have 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.
- **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 have 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

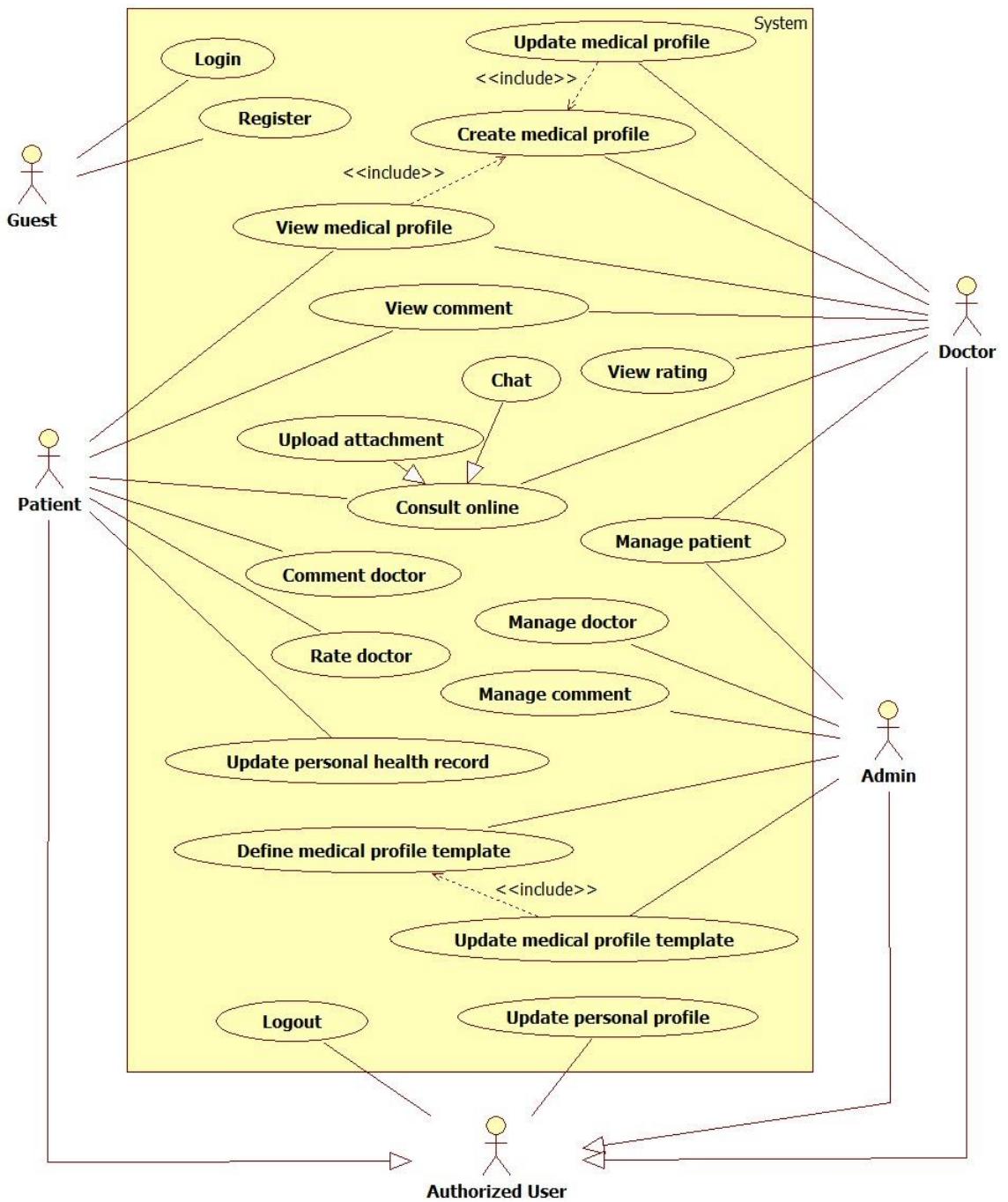


Figure 2 System Use Case Overview

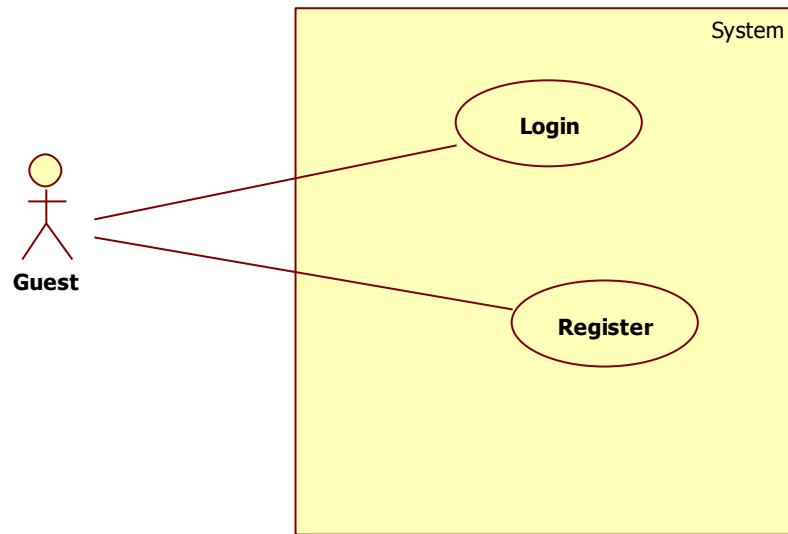


Figure 3 <Guest> Use Case Overview

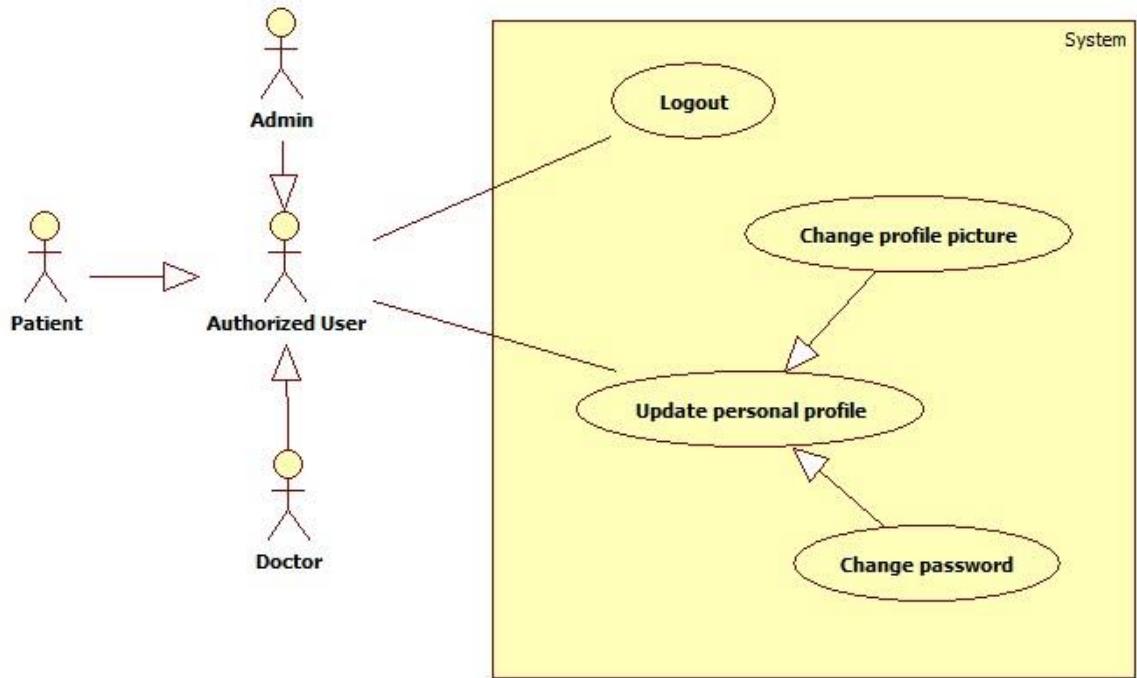


Figure 4 <Authorized User> Use Case Overview

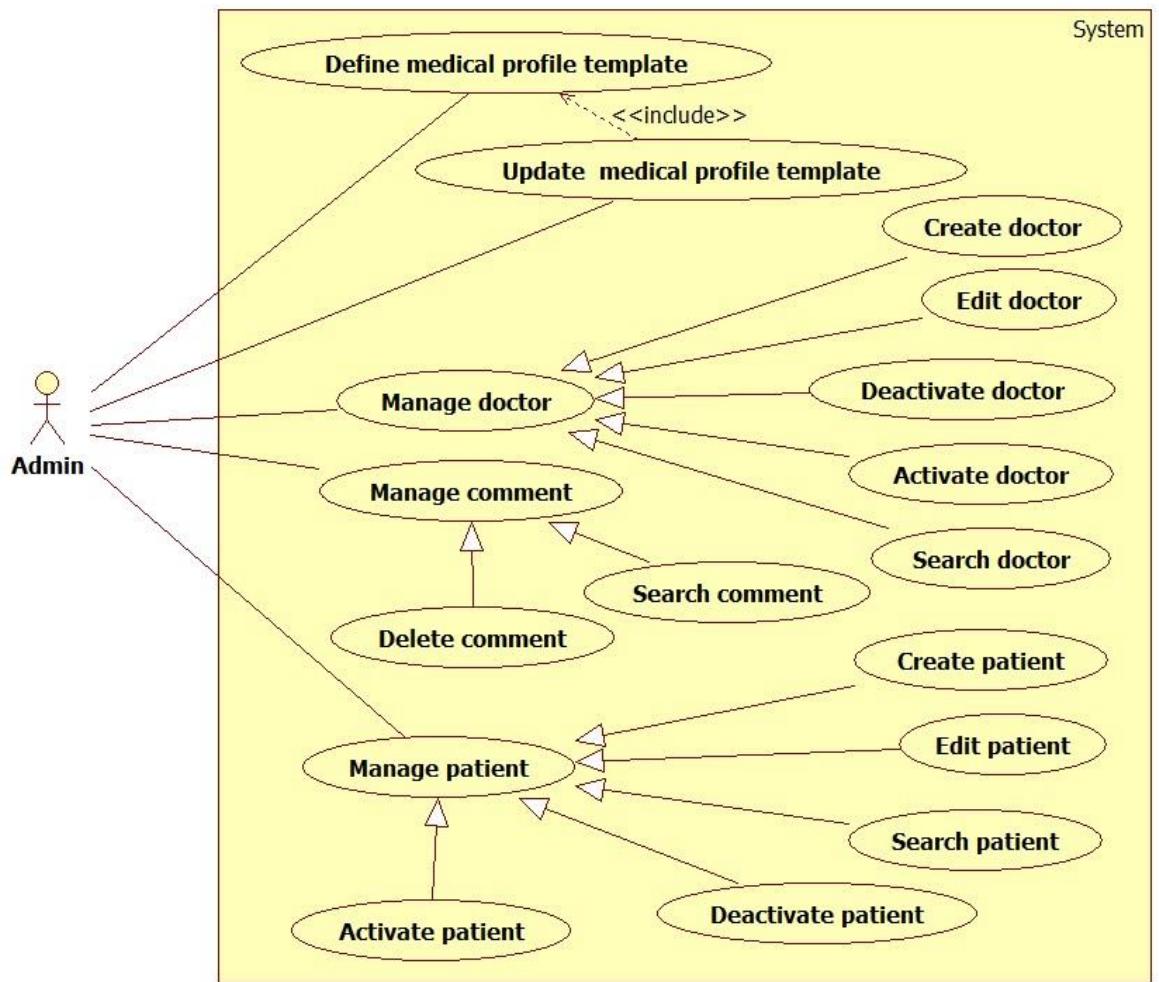


Figure 5 <Admin> Use Case Overview

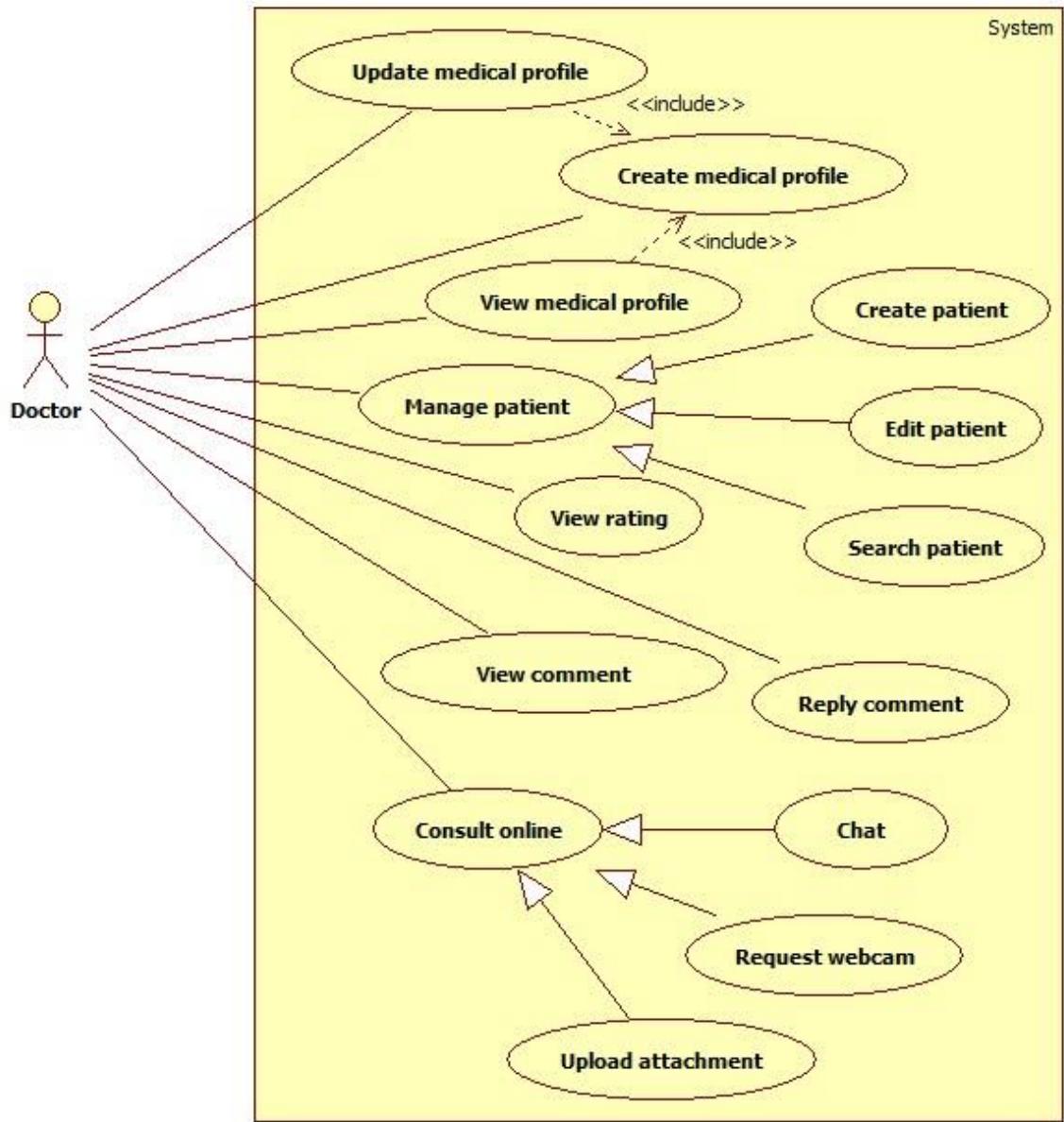


Figure 6 <Doctor> Use Case Overview

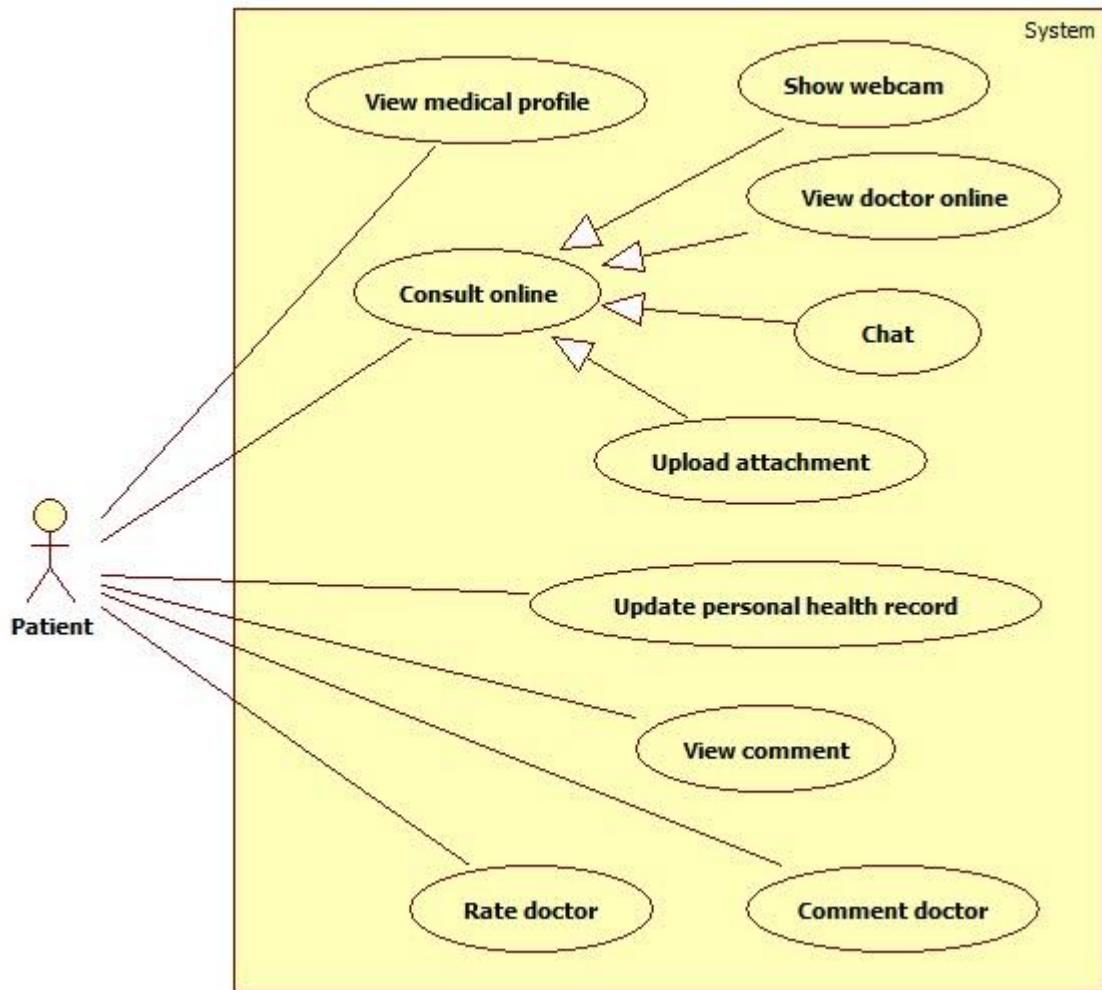


Figure 7 <Patient> Use Case Overview

2.2. Functional Requirements

2.2.1. Functional Requirement 1 - Login

2.2.1.1. Use Case-1 Diagram

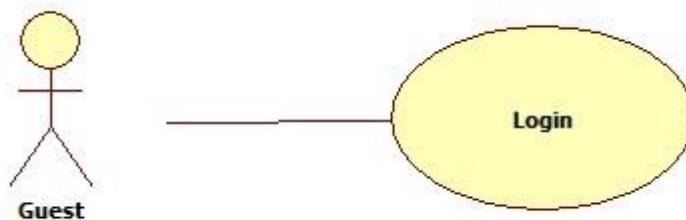


Figure 8 <Guest> Login

2.2.1.1.1. Use Case-1 Specification

USE CASE - 1 SPECIFICATION

Use-case No.	UC_001	Use-case Version	1.0
Use-case Name	<Guest> Login		
Author	SuTNT		
Date	29/05/2014	Priority	Normal

Actor:

- Guest

Summary: Logging into system

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

Triggers: Click on “Đăng nhập” link to log in

Preconditions:

- Page is loaded successfully.
- Users are in “Login” page.

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"> - Redirect to “Login” page. - Display form to input login information: <ul style="list-style-type: none"> • Email [input] • Mật khẩu [input] • Đăng nhập [button]
2	User input email and password.	
3	User clicks on “Đăng nhập” button.	<ul style="list-style-type: none"> - Validate email and password. - Redirect to page follow user's role.

Alternative Scenario: N/A

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”.
3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”

Relationship: N/A

Business Rules:

- Each patient, doctor, admin has an account.

- Only active account can log in.

Table 5 <Guest> Login

2.2.2. Functional Requirement 2 - Register

2.2.2.1. Use Case-2 Diagram

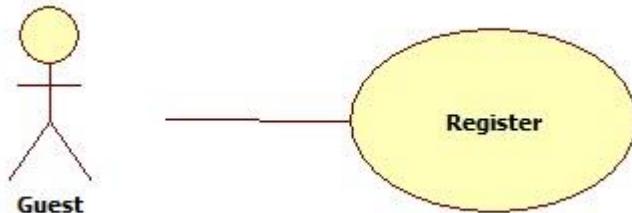


Figure 9 <Guest> Register

2.2.2.2. Use Case-2 Specification

USE CASE - 2 SPECIFICATION			
Use-case No.	UC_002	Use-case Version	1.0
Use-case Name	<Guest> Register		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> Guest 		
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:	<ul style="list-style-type: none"> Page is loaded successfully Register page will be shown 		
Post-conditions:	<ul style="list-style-type: none"> Guest become member of website 		
Main Success Scenario:			
Step	Actor Action	System Response	
1	User clicks on “Đăng ký” link on homepage	<ul style="list-style-type: none"> - Display “Đăng ký” page. - Display a form to input registration information. 	
2	User fills all mandatory fields.		
3	User clicks on “Đăng ký” button.		

		<ul style="list-style-type: none"> - Validate the inputted information. - Insert into database.
--	--	---

Alternative Scenario: N/A

Exception:

No	ActorAction	System Response
1	“Email”, “Họ”, “Tên”, “Mật khẩu”, “Xác nhận mật khẩu” text-box is empty	Display message: “Bạn cần nhập giá trị này”.
2	When user fills email not correct format	Display message “Email không đúng định dạng”.
3	When user fills exist email	Display message “Địa chỉ email đã tồn tại”.
4	Mandatory field which have a mark “*” is empty	Display message “Bạn cần nhập giá trị này”.
5	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”.
6	When user fills re-password not match password	Display message “Xác nhập mật khẩu không trùng khớp”.
7	Captcha is empty	“Mã captcha không được để trống”.
8	Captcha not match captcha picture	“Mã captcha không trùng khớp”.

Relationship: N/A

Business Rules:

- Each created account must be inactive and has role “patient”.
- Each created account will be active when users active theirs account through email.

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	1.0
Use-case Name	<Doctor><Patient> View Medical Profile		
Author	SuTNT		
Date	29/05/2014	Priority	Normal

Actor:		
<ul style="list-style-type: none"> • Patient • Doctor 		
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"> • User must log in with role “Patient” or “Doctor”. 		
Post-Conditions:		
<ul style="list-style-type: none"> • Page load successfully. 		
Main Success Scenario:		
Step	Actor Action	System Response
1	User clicks on “Xem chi tiết” button.	Redirect into “Detail” page to shows medical profile details.
Alternative Scenario: N/A		
Exception:		
No	Actor Action	System Response
1	Medical profile is broken.	Display message “Hồ sơ bệnh án bị lỗi.”
3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
Relationship: N/A		
Business Rules: N/A		

Table 7 <Doctor><Admin> View Medical Profile

2.2.4. Functional Requirement 4 – Chat

2.2.4.1. Use Case-4 Diagram

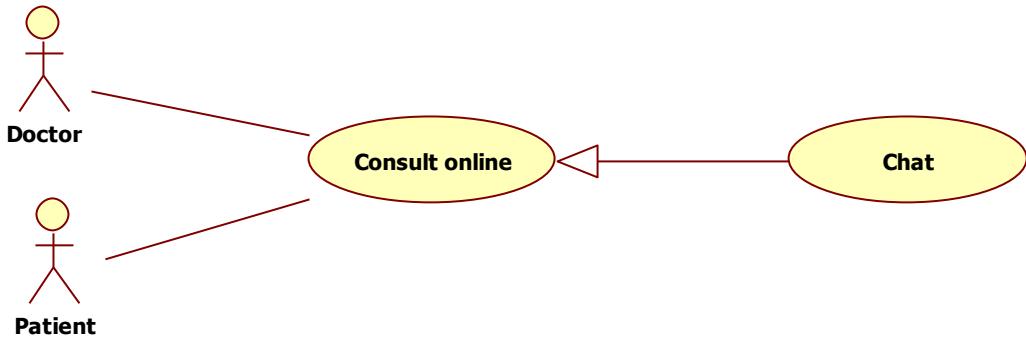


Figure 11 <Doctor><Patient> Chat

2.2.4.2. Use Case-4 Specification

USE CASE - 4 SPECIFICATION			
Use-case No.	UC_004	Use-case Version	1.0

Use-case Name	<Doctor><Patient> Chat														
Author	DanhTC														
Date	29/05/2014	Priority	Normal												
<p>Actor:</p> <ul style="list-style-type: none"> • Doctor • Patient <p>Summary: This use case is about chatting between doctor and patient.</p> <p>Goal: User can send message to each other.</p> <p>Triggers:</p> <ul style="list-style-type: none"> • Doctor is on “DoctorConversation” page and patient is on “UserConversation” page. • User input to text-box and clicks on “Gửi” button to send message. <p>Preconditions:</p> <ul style="list-style-type: none"> • User must log in with role “Doctor” or “Patient”. • User is on chat page. <p>Post-Conditions:</p> <ul style="list-style-type: none"> • Success: Send and receive message successfully. • Failure: System displays error message. Content of error message will specify in Exception section. <p>Main Success Scenario:</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 inputs message to text-box and clicks on “Gửi” button.</td><td>Send message to chat partner and display that message for him/her.</td></tr> </tbody> </table> <p>Alternative Scenario: N/A</p> <p>Exception:</p> <table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>3</td><td>Internet connection has problem</td><td>Display message “Kết nối mạng bị lỗi. Xin thử lại”</td></tr> </tbody> </table> <p>Relationship: Consult online</p> <p>Business Rules: N/A</p>				Step	Actor Action	System Response	1	User inputs message to text-box and clicks on “Gửi” button.	Send message to chat partner and display that message for him/her.	No	Actor Action	System Response	3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
Step	Actor Action	System Response													
1	User inputs message to text-box and clicks on “Gửi” button.	Send message to chat partner and display that message for him/her.													
No	Actor Action	System Response													
3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”													

Table 8 <Doctor><Patient> Chat

2.2.5. Functional Requirement 5 – Request Webcam

2.2.5.1. Use Case-5 Diagram

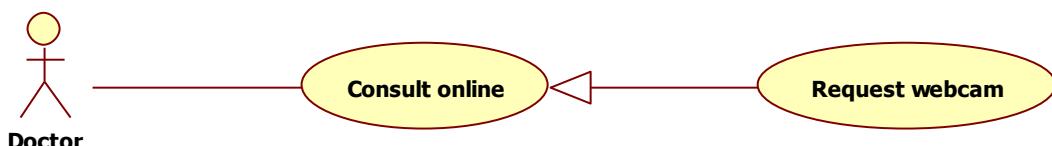


Figure 12 <Doctor> Request Webcam

2.2.5.2. Use Case-5 Specification

USE CASE - 5 SPECIFICATION									
Use-case No.	UC_005	Use-case Version	1.0						
Use-case Name	<Doctor> Request Webcam								
Author	SuTNT								
Date	29/05/2014	Priority	Normal						
Actor:	<ul style="list-style-type: none"> • Doctor 								
Summary:	This use case is about Requesting webcam when chatting.								
Goal:	Doctor can request showing webcam from patient.								
Triggers:	<ul style="list-style-type: none"> • User clicks on “Xem webcam” button on chat page. 								
Preconditions:	<ul style="list-style-type: none"> • User must log in with role “Doctor”. • User is on chat page. 								
Post-Conditions:	<ul style="list-style-type: none"> • Success: Send request successfully. • Failure: System displays error message. Content of error message will specify in Exception section. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Xem webcam” button.</td><td>Display message “Bạn đã gửi yêu cầu xem webcam bệnh nhân...” on “Doctor” Page.</td></tr> </tbody> </table>			Step	Actor Action	System Response	1	User clicks on “Xem webcam” button.	Display message “Bạn đã gửi yêu cầu xem webcam bệnh nhân...” on “Doctor” Page.
Step	Actor Action	System Response							
1	User clicks on “Xem webcam” button.	Display message “Bạn đã gửi yêu cầu xem webcam bệnh nhân...” on “Doctor” Page.							
Alternative Scenario:	N/A								
Exception:	<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>3</td><td>Internet connection has problem</td><td>Display message “Kết nối mạng bị lỗi. Xin thử lại”</td></tr> </tbody> </table>			No	Actor Action	System Response	3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
No	Actor Action	System Response							
3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”							
Relationship:	Consult online								
Business Rules:	<ul style="list-style-type: none"> • User can't send the next request when patient doesn't answer. 								

Table 9 <Doctor> Request Webcam

2.2.6. Functional Requirement 6 – Show Webcam

2.2.6.1. Use Case-6 Diagram

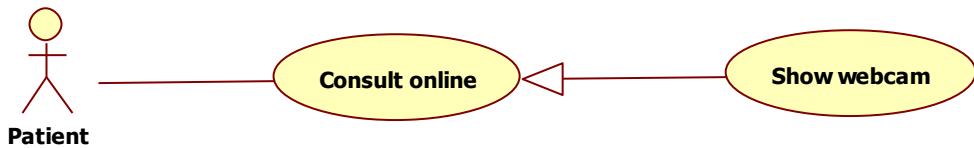


Figure 13 < Patient> Show webcam

2.2.6.2. Use Case-6 Specification

USE CASE - 6 SPECIFICATION									
Use-case No.	UC_006	Use-case Version	1.0						
Use-case Name	<Patient> Show Webcam								
Author	DanhTC								
Date	29/05/2014	Priority	Normal						
Actor:	<ul style="list-style-type: none"> Patient 								
Summary:	This use case is about Showing webcam when chatting.								
Goal:	User can show webcam.								
Triggers:	<ul style="list-style-type: none"> User receives request “Xem webcam” from doctor on “UserConversation” page. User clicks on “Đồng ý” button and allows open webcam on website. 								
Preconditions:	<ul style="list-style-type: none"> User must log in with role “Patient”. Receive a request “Xem webcam”. 								
Post-Conditions:	<ul style="list-style-type: none"> Success: Show webcam successfully. Failure: System displays error message. Content of error message will specify in Exception section. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Đồng” button on “Yêu cầu xem webcam” pop-up page. [Alternative 1]</td><td> <ul style="list-style-type: none"> Display user’s webcam. Send webcam to doctor. </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	User clicks on “Đồng” button on “Yêu cầu xem webcam” pop-up page. [Alternative 1]	<ul style="list-style-type: none"> Display user’s webcam. Send webcam to doctor.
Step	Actor Action	System Response							
1	User clicks on “Đồng” button on “Yêu cầu xem webcam” pop-up page. [Alternative 1]	<ul style="list-style-type: none"> Display user’s webcam. Send webcam to doctor. 							
Alternative Scenario:	<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Từ chối” button.</td><td>Send message “Yêu cầu bị từ chối” to</td></tr> </tbody> </table>			No	Actor Action	System Response	1	User clicks on “Từ chối” button.	Send message “Yêu cầu bị từ chối” to
No	Actor Action	System Response							
1	User clicks on “Từ chối” button.	Send message “Yêu cầu bị từ chối” to							

		doctor.
Exception:		
No	Actor Action	System Response
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
2	Webcam was not found.	Display message “Không tìm thấy webcam từ máy bệnh nhân”.
Relationship: Consult online		
Business Rules:		
<ul style="list-style-type: none"> Patient has webcam. 		

Table 10 < Patient> Show webcam

2.2.7. Functional Requirement 7 – Upload Attachment

2.2.7.1. Use Case-7 Diagram

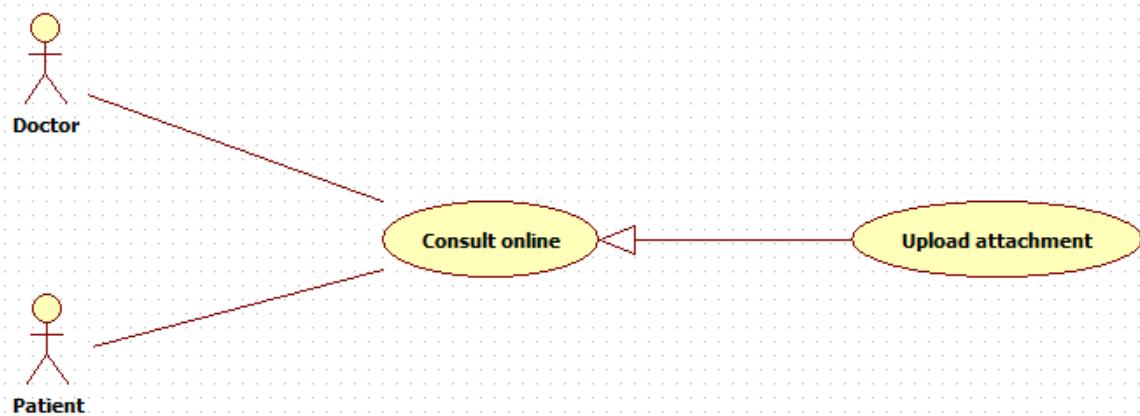


Figure 14 <Doctor>< Patient> Upload Attachment

2.2.7.2. Use Case-7 Specification

USE CASE - 7 SPECIFICATION			
Use-case No.	UC_007	Use-case Version	1.0
Use-case Name	<Patient><Doctor> Upload Attachment		
Author	SUTNT		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> Patient Doctor 		
Summary:	This use case is about Uploading attachment for user when chatting.		
Goal:	User can upload attachment when chatting.		
Triggers:	User clicks on “Gửi tập tin” button on chat page.		

Preconditions:

- User must log in with role “Patient” or “Doctor”.
- User is on chat page.

Post-Conditions:

- Success: Upload attachment 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 clicks on “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. 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”

Relationship: Consult Online**Business Rules:**

- Image file can be showed directly on chat window.

Table 11 <Doctor>< Patient> Upload Attachment

2.2.8. Functional Requirement 8 – View Consulting History**2.2.8.1. Use Case-8 Diagram**

Figure 15< Patient> View consult history

2.2.8.2. Case-8 Specification**USE CASE - 8 SPECIFICATION**

Use-case No.	UC_008	Use-case Version	1.0																					
Use-case Name	<Patient> View Consulting History																							
Author	DanhTC																							
Date	29/05/2014	Priority	Normal																					
Actor: <ul style="list-style-type: none"> Patient Summary: This use case is about Showing consulting history. Goal: User can view consulting history. Triggers: User clicks on “Lịch sử tư vấn” link. Preconditions: <ul style="list-style-type: none"> User must log in with role “Patient”. Post-Conditions: <ul style="list-style-type: none"> Success: Consulting history is show successfully. Failure: System displays error message. Content of error message will specify in Exception section. Main Success Scenario:																								
<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Lịch sử tư vấn” link.</td><td> <ul style="list-style-type: none"> Redirect to “Lịch sử tư vấn” page. System will show a list of conversation as a grid and order by consulted date. </td></tr> <tr> <td>2</td><td>User chooses the conversation and clicks on “Xem lược sử” button.</td><td> <ul style="list-style-type: none"> Open “Lược sử” pop-up page. [Alternative 1] Display conversation between doctor and patient from consulted date. </td></tr> </tbody> </table> Alternative Scenario: <table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Bỏ qua” button</td><td>Close “Lược sử” pop-up page.</td></tr> </tbody> </table> Exception: <table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Internet connection has problem</td><td>Display message “Kết nối mạng bị lỗi. Xin thử lại”</td></tr> </tbody> </table> Relationship: Consult Online Business Rules: N/A				Step	Actor Action	System Response	1	User clicks on “Lịch sử tư vấn” link.	<ul style="list-style-type: none"> Redirect to “Lịch sử tư vấn” page. System will show a list of conversation as a grid and order by consulted date. 	2	User chooses the conversation and clicks on “Xem lược sử” button.	<ul style="list-style-type: none"> Open “Lược sử” pop-up page. [Alternative 1] Display conversation between doctor and patient from consulted date. 	No	Actor Action	System Response	1	User clicks on “Bỏ qua” button	Close “Lược sử” pop-up page.	No	Actor Action	System Response	1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
Step	Actor Action	System Response																						
1	User clicks on “Lịch sử tư vấn” link.	<ul style="list-style-type: none"> Redirect to “Lịch sử tư vấn” page. System will show a list of conversation as a grid and order by consulted date. 																						
2	User chooses the conversation and clicks on “Xem lược sử” button.	<ul style="list-style-type: none"> Open “Lược sử” pop-up page. [Alternative 1] Display conversation between doctor and patient from consulted date. 																						
No	Actor Action	System Response																						
1	User clicks on “Bỏ qua” button	Close “Lược sử” pop-up page.																						
No	Actor Action	System Response																						
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”																						

Table 12 < Patient> View consult history

2.2.9. Functional Requirement 9 – View Doctor Online

2.2.9.1. Use Case-9 Diagram

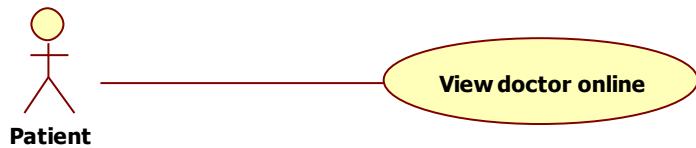


Figure 16 < Patient> View doctor online

2.2.9.2. Use Case-9 Specification

USE CASE - 9 SPECIFICATION									
Use-case No.	UC_009	Use-case Version	1.0						
Use-case Name	<Patient> View doctor online								
Author	SutNT								
Date	29/05/2014	Priority	Normal						
Actor:	<ul style="list-style-type: none"> Patient 								
Summary:	This use case is about viewing doctor online for a patient.								
Goal:	Patient can view doctor online.								
Triggers:	Patient goes to “Tư vấn trực tuyến” page and online doctor will have online icon.								
Preconditions:	<ul style="list-style-type: none"> Page load successfully. User must log in with role “Patient”. 								
Post-Conditions:	<ul style="list-style-type: none"> Success: Online doctors appear in the list with online icon. Failure: System displays error message. Content of error message will specify in Exception section. 								
Main Success Scenario:	<table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Tư vấn trực tuyến” link.</td><td> <ul style="list-style-type: none"> Show the list of doctor and doctors will be grouped by specialty. Online doctor will have online icon. </td></tr> </tbody> </table>			Step	Actor Action	System Response	1	User clicks on “Tư vấn trực tuyến” link.	<ul style="list-style-type: none"> Show the list of doctor and doctors will be grouped by specialty. Online doctor will have online icon.
Step	Actor Action	System Response							
1	User clicks on “Tư vấn trực tuyến” link.	<ul style="list-style-type: none"> Show the list of doctor and doctors will be grouped by specialty. Online doctor will have online icon. 							
Alternative Scenario:	N/A								
Exception:	<table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>3</td><td>Internet connection has problem</td><td>Display message “Kết nối mạng bị lỗi. Xin thử lại”</td></tr> </tbody> </table>			No	Actor Action	System Response	3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
No	Actor Action	System Response							
3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”							

Relationship: Consult Online

Business Rules:

- When doctor go to “Tư Vấn Trực Tuyến”. Doctor status is online and update instantly for patients.
- When doctor close page “Tư Vấn Trực Tuyến”. Doctor status become offline and update instantly for patients.

Table 13 < Patient> View doctor online

2.2.10. Functional Requirement 10 – Update medical profile

2.2.10.1. Use Case-10 Diagram

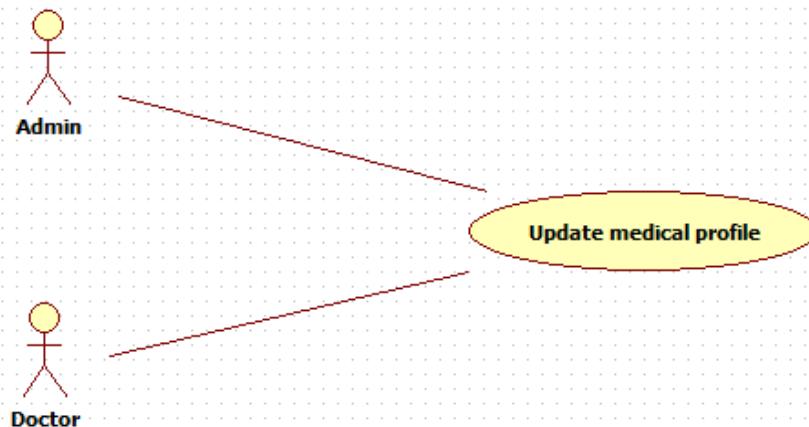


Figure 17 <Doctor>< Admin> Update medical profile

2.2.10.2. Case-10 Specification

USE CASE - 10 SPECIFICATION			
Use-case No.	UC_010	Use-case Version	1.0
Use-case Name	<Doctor><Admin> Update medical profile		
Author	DanhTC		
Date	30/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none">• Doctor• Admin		
Summary:	This use case is doctor update medical profile.		
Goal:	Doctor can update medical profile.		
Triggers:	Doctor clicks on “Cập nhật” button on “DoctorMedicalProfile” page.		
Preconditions:	User must be logged - in as “Doctor”.		
Post-Conditions:			

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

Main Success Scenario:

Step	Actor Action	System Response
1	User logged – in as “Doctor” and clicks on “Cập nhật” button on “DoctorMedicalProfile” page.	Display “UpdateMedicalProfile” page with patient’s fields has been added to doctor can edit and update.
2	Input suitable fields want to update and click on “Cập nhật” button.	<ul style="list-style-type: none"> - Validate input data. - Display message: “Cập nhật thành công”.

Alternative Scenario:

No	Actor Action	System Response
1	Exit criteria from main flow: 4 validate input data fails	Exit criteria from main flow: 4 validate input data fails.

Exception:

No	Actor Action	System Response
3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”

Relationship: N/A

Business Rules: N/A

Table 14 <Doctor>< Admin> Update 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 - 11 SPECIFICATION			
Use-case No.	UC_011	Use-case Version	1.0
Use-case Name	<Admin> Create Doctor		

Author	SuTNT				
Date	29/05/2014	Priority	Normal		
Actor:					
<ul style="list-style-type: none"> • Admin 					
Summary: This use case allows admin can create new doctor.					
Goal: Help admin to create new doctor account.					
Trigger: Click on “Tạo Mới” button on “AdminDoctor” page.					
Precondition:					
<ul style="list-style-type: none"> • Page is loaded successfully. • Users have already logged in with role “admin”. 					
Post-condition:					
<ul style="list-style-type: none"> • Success: New doctor 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 “AdminDoctor” page.	<ul style="list-style-type: none"> - Open “Tạo mới bác sĩ” pop-up page. - Display input fields. 			
2	User fills all mandatory fields.				
	User clicks on “Lưu” button. [Alternative 1]	<ul style="list-style-type: none"> - Validate input data. - Redirect to “AdminDoctor” page. 			
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	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”			
Relationship: Manage Doctor					
Business Rules:					
<ul style="list-style-type: none"> • Created account is active and has role “Doctor”. 					

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 - 13 SPECIFICATION			
Use-case No.	UC_012	Use-case Version	1.0
Use-case Name	<Admin> Edit Doctor		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> Admin 		
Summary:	This use case allows admin can edit doctor information.		
Goal:	Help admin to edit doctor account.		
Trigger:	Click on “Cập Nhật” button on “AdminDoctor” page.		
Precondition:	<ul style="list-style-type: none"> Page is loaded successfully. Users have already logged in with role “admin”. 		
Post-condition:	<ul style="list-style-type: none"> Success: Doctor’s information is updated in 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 “Cập Nhật” button on “AdminDoctor” page.	<ul style="list-style-type: none"> - Open “Cập nhật” pop-up page. - Display input fields. 	
2	User fills all mandatory fields.		
3	User clicks on “Lưu” button. [Alternative 1]	<ul style="list-style-type: none"> - Validate input data. - Redirect to “AdminDoctor” page. 	
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	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
2	When session timeout.	Display an informed message “Thời gian thực thi của bạn đã hết. Vui lòng đăng nhập lại”.
3	Fail to update in database	Display message “Có lỗi xảy ra. Vui lòng thử lại”.
Relationship: Manage Doctor		
Business Rules:		
<ul style="list-style-type: none"> • Username is forbidden. 		

Table 16 <Admin> Edit doctor

2.2.13. Functional Requirement 13 – Search Doctor

2.2.13.1. Use Case-13 Diagram



Figure 20 <Admin> Search doctor

2.2.13.2. Use Case-13 Specification

USE CASE - 13 SPECIFICATION			
Use-case No.	UC_013	Use-case Version	1.0
Use-case Name	<Admin> Search Doctor		
Author	SutNT		
Date	29/05/2014	Priority	Normal
Actor: <ul style="list-style-type: none"> • Admin Summary: This use case allows admin can search doctor. Goal: Help admin to search doctor account. Trigger: <ul style="list-style-type: none"> • In search screen, user inputs email/full name of doctor then they search all doctor with relative email/full name which they inputted. The searching results will show a list of doctor which follow doctor account' created date. 			

- User input to a blank text-box then clicks on “Tìm Kiếm” button.

Precondition:

- Page is loaded successfully.
- Users have already logged in with role “admin”.

Post-condition:

- Success: Show search results which include a list of doctor.
- 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 the doctor's email/full name into text-box.	
2	User clicks on “Tìm Kiếm” button.	<ul style="list-style-type: none"> - System will show a list of doctor as a grid and order by doctor account's created date. [Alternative 1] - A doctor will show in a line as a record with these information: <ul style="list-style-type: none"> • First column is email. • Second column is full name. • Third column is status. • Fourth column is created date. • Fifth column has 2 buttons: “Cập Nhật” and “Vô Hiệu/Kích Hoạt”.

Alternative Scenario:

No	Actor Action	System Response
1	No record found.	Display no record.

Exception:

No	Actor Action	System Response
3	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”

Relationship: Manage Doctor

Business Rules:

- Search by doctor's email/full name, using containing text search.

Table 17<Admin> Search doctor

2.2.14. Functional Requirement 14 – Deactivate Doctor

2.2.14.1. Use Case-14 Diagram

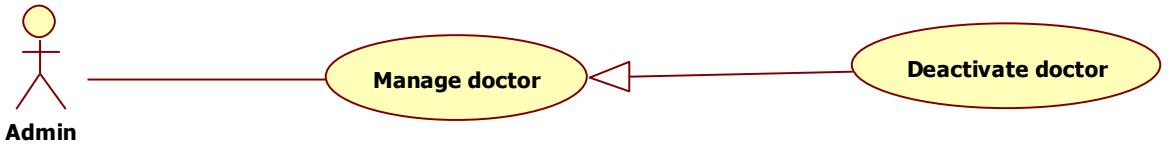


Figure 21 <Admin> Deactivate Doctor

2.2.14.2. Use Case-14 Specification

USE CASE - 14 SPECIFICATION					
Use-case No.	UC_014	Use-case Version	1.0		
Use-case Name	<Admin> Deactivate Doctor				
Author	DanhTC				
Date	29/05/2014	Priority	Normal		
Actor: Admin					
Summary: This use case is about deactivating doctor account.					
Goal: Help admin to deactivating a doctor account.					
Trigger: Click on “Vô Hiệu” button corresponding with each doctor account in the doctor account list of “AdminDoctor” page.					
Precondition:					
<ul style="list-style-type: none"> • “AdminDoctor” page is loaded successfully. • Users have already logged in with role “admin”. 					
Post-condition:					
<ul style="list-style-type: none"> • 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. 					
Main Success Scenario:					
Step	Actor Action	System Response			
1	Click on “Vô Hiệu” button	<ul style="list-style-type: none"> - The corresponding doctor account change to “Bị Khóa” status. - “Vô Hiệu” button change to “Kích Hoạt” button. 			
Alternative Scenario: N/A					
Exception:					
No	Actor Action	System Response			
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”			
2	When session timeout.	Display an informed message “Thời gian			

	thực thi của bạn đã hết. Vui lòng đăng nhập lại”.
--	---

Relationship: Manage Doctor

Business Rules:

- Admin can't activate/deactivate account of themselves or other admins.

Table 18 <Admin> Deactivate Doctor

2.2.15. Functional Requirement 15 – Activate Doctor

2.2.15.1. Use Case-15 Diagram

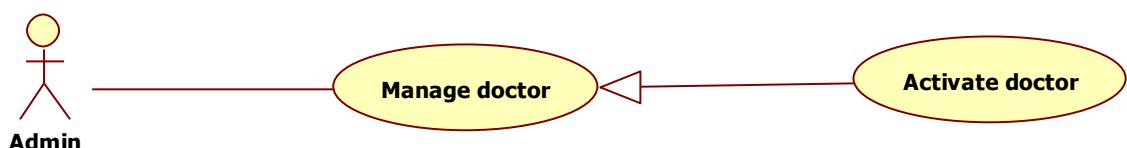


Figure 22 <Admin> Activate doctor

2.2.15.2. Use Case-14 Specification

USE CASE - 14 SPECIFICATION			
Use-case No.	UC_015	Use-case Version	1.0
Use-case Name	<Admin> Activate Doctor		
Author	SuTNT		
Date	29/05/2014	Priority	Normal
Actor: Admin			
Summary:	This use case is about activating doctor account.		
Goal:	Help admin to activating a doctor account.		
Trigger:	Click on “Kích Hoạt” button corresponding with each doctor account in the doctor account list of “AdminDoctor” page.		
Precondition:	<ul style="list-style-type: none"> “AdminDoctor” page is loaded successfully. Users have already logged in with role “admin”. 		
Post-condition:	<ul style="list-style-type: none"> Success: The doctor account is activated and can log in. Failure: System displays error message. Content of error message will specify in Exception section. 		
Main Success Scenario:			
Step	Actor Action	System Response	

1	Click on “Kích Hoạt” button	<ul style="list-style-type: none"> - The corresponding doctor account change to “Hoạt Động” status. - “Kích Hoạt” button change to “Vô Hiệu” button.
---	-----------------------------	--

Alternative Scenario: N/A

Exception:

No	Actor Action	System Response
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”

Relationship: Manage Doctor

Business Rules:

- Admin can't activate/deactivate account of themselves or other admins.

Table 19 <Admin> Activate doctor

2.2.16. Functional Requirement 16 – Create Patient

2.2.16.1. Use Case-16 Diagram

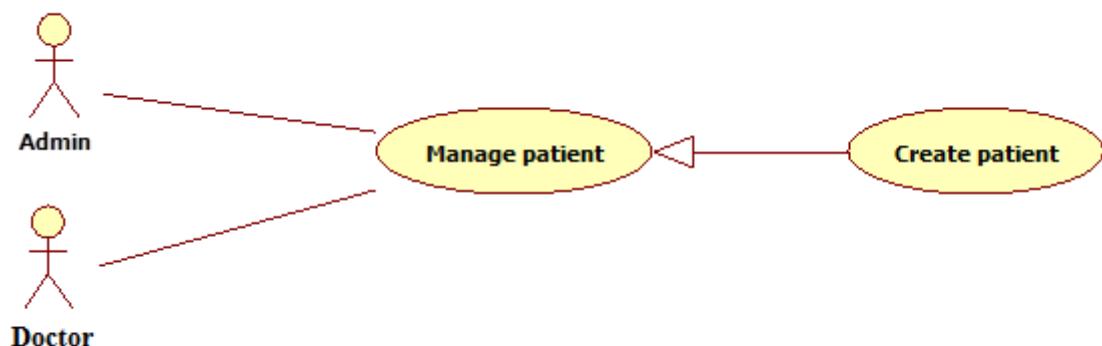


Figure 23 <Admin><Doctor> Create patient

2.2.16.2. Case-16 Specification

USE CASE - 13 SPECIFICATION			
Use-case No.	UC_013	Use-case Version	1.0
Use-case Name	<Admin><Doctor> Create Patient		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:			
<ul style="list-style-type: none"> • Admin • 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:

- Page is loaded successfully.
- 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.	<ul style="list-style-type: none"> - Open “Tạo mới bệnh nhân” pop-up page. - Display input fields.
2	User fills all mandatory fields.	
3	User clicks on “Lưu” button. [Alternative 1]	<ul style="list-style-type: none"> - Validate input data. - Redirect to “Index” page.

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	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”

Relationship: Manage Patient

Business Rules:

- Created account is active and has role “Patient”.

Table 20 <Admin><Doctor> Create patient

2.2.17. Functional Requirement 17 – Edit Patient

2.2.17.1. Use Case-17 Diagram

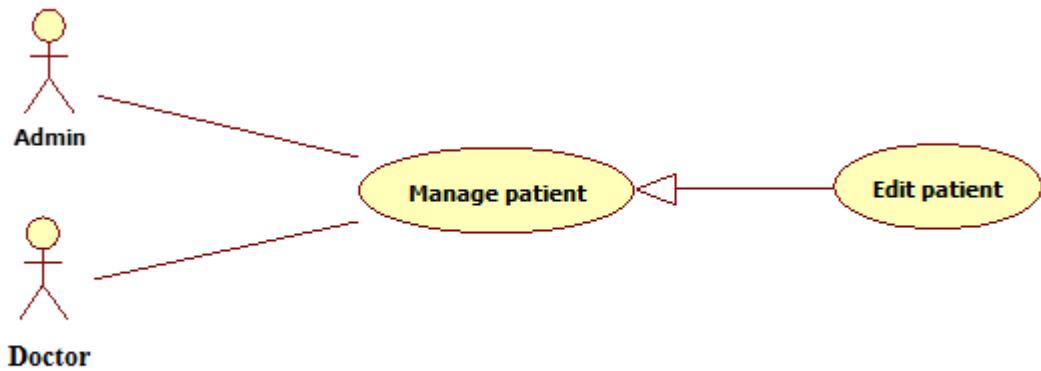


Figure 24 <Admin><Doctor> Edit patient

2.2.17.2. Use Case-17 Specification

USE CASE - 13 SPECIFICATION			
Use-case No.	UC_017	Use-case Version	1.0
Use-case Name	<Admin><Doctor> Edit Patient		
Author	SuTNT		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> • Admin • Doctor 		
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"> • Page is loaded successfully. • Users have already logged in with role “admin” or “doctor”. 		
Post-condition:	<ul style="list-style-type: none"> • Success: Patient’s information is updated in 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 “Cập Nhật” button on “Quản lý bệnh nhân” navigation.	<ul style="list-style-type: none"> - Open “Cập nhật” pop-up page. 	

		- Display input fields.
2	User fills all mandatory fields.	
3	User clicks on “Lưu” button. [Alternative 1]	<ul style="list-style-type: none"> - Validate input data. - Redirect to “Index” page.

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	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”

Relationship: Manage Patient

Business Rules:

- Email is forbidden.
- Password is forbidden.

Table 21 <Admin><Doctor> Edit patient

2.2.18. Functional Requirement 18 – Search Patient

2.2.18.1. Use Case-18 Diagram

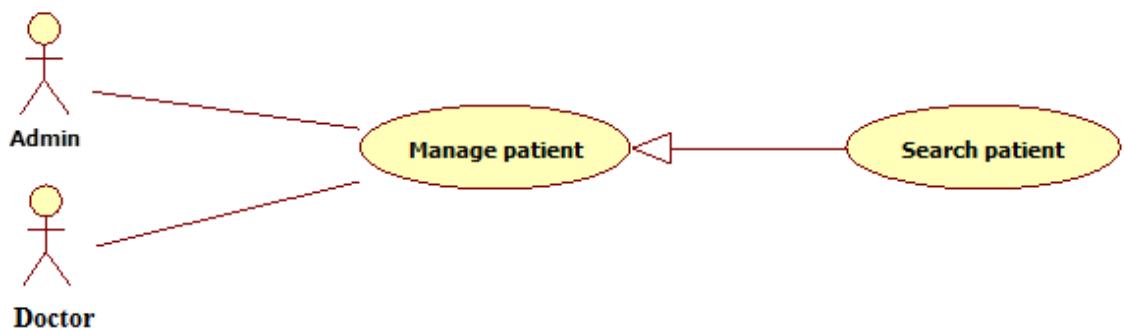


Figure 25 <Admin><Doctor> Search patient

2.2.18.2. Use Case-18 Specification

USE CASE - 13 SPECIFICATION			
Use-case No.	UC_018	Use-case Version	1.0
Use-case Name	<Admin><Doctor> Search Patient		
Author	DanhTC		
Date	29/05/2014	Priority	Normal

Actor:		
<ul style="list-style-type: none"> • Admin • Doctor 		
Summary: This use case allows admin/doctor can search patient.		
Goal: Help admin/doctor to search patient account.		
Trigger:		
<ul style="list-style-type: none"> • In search screen, user inputs email/full name of patient then they search all patient with relative email/full name which they inputted. The searching results will show a list of patient which follow patient account' created date. • User input to a blank text-box then clicks on “Tìm Kiếm” button. 		
Precondition:		
<ul style="list-style-type: none"> • Page is loaded successfully. • Users have already logged in with role “admin” or “doctor”. 		
Post-condition:		
<ul style="list-style-type: none"> • Success: Show search results which include a list of patient. • 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 the patient's email/full name into text-box.	
2	User clicks on “Tìm Kiếm” button.	<ul style="list-style-type: none"> - System will show a list of patient as a grid and order by patient account's created date. [Alternative 1] - A patient will show in a line as a record with these information: <ul style="list-style-type: none"> • First column is email. • Second column is full name. • Third column is status. • Fourth column is created date. • Fifth column has 2 buttons: “Cập Nhật” and “Vô Hiệu/Kích Hoạt”.
Alternative Scenario:		
No	Actor Action	System Response
1	No record found.	Display no record.
Exception:		
No	Actor Action	System Response
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
Relationship: Manage Patient		
Business Rules:		
<ul style="list-style-type: none"> • Search by patient's email/full name, using containing text search. 		

Table 22 <Admin><Doctor> Search patient

2.2.19. Functional Requirement 19 – Deactivate Patient

2.2.19.1. Use Case-19 Diagram

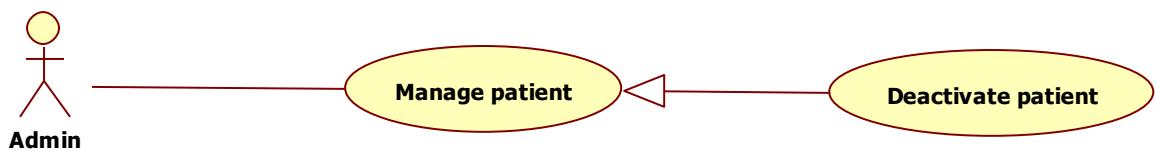


Figure 26 <Admin> Deactivate patient

2.2.19.2. Use Case-19 Specification

USE CASE - 14 SPECIFICATION			
Use-case No.	UC_014	Use-case Version	1.0
Use-case Name	<Admin> Deactivate Patient		
Author	SUTNT		
Date	29/05/2014	Priority	Normal
Actor:			
• Admin			
Summary: This use case is about deactivating patient account.			
Goal: Help admin to deactivating a patient account.			
Trigger: Click on “Vô Hiệu” button corresponding with each patient account in the patient account list of “Quản lý bệnh nhân” navigation.			
Precondition:			
• “Index” page is loaded successfully. • Users have already logged in with role “admin”.			
Post-condition:			
• Success: The patient account is deactivated and can't log in. • Failure: System displays error message. Content of error message will specify in Exception section.			
Main Success Scenario:			
Step	Actor Action	System Response	
1	Click on “Vô Hiệu” button	<ul style="list-style-type: none"> - The corresponding patient account change to “Bị Khóa” status. - “Vô Hiệu” button change to “Kích Hoạt” 	

		button.
Alternative Scenario: N/A		
Exception:		
No	Actor Action	System Response
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
2	When session timeout.	Display an informed message “Thời gian thực thi của bạn đã hết. Vui lòng đăng nhập lại”.

Relationship: Manage Patient

Business Rules:

- Admin can't activate/deactivate account of themselves or other admins.

Table 23 <Admin> Deactivate patient

2.2.20. Functional Requirement 20 – Activate Patient

2.2.20.1. Use Case-20 Diagram



Figure 27 <Admin> Activate patient

2.2.20.2. Use Case-20 Specification

USE CASE - 14 SPECIFICATION			
Use-case No.	UC_20	Use-case Version	1.0
Use-case Name	<Admin> Activate Patient		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> • Admin 		
Summary:	This use case is about activating patient account.		
Goal:	Help admin to activating a patient account.		
Trigger:	Click on “Kích Hoạt” button corresponding with each patient account in the patient account list of “Quản lý bệnh nhân” navigation.		
Precondition:	<ul style="list-style-type: none"> • “Index” page is loaded successfully. 		

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

Post-condition:

- Success: The patient account is activated and can log in.
- Failure: System displays error message. Content of error message will specify in Exception section.

Main Success Scenario:

Step	Actor Action	System Response
1	Click on “Kích Hoạt” button	<ul style="list-style-type: none"> - The corresponding patient account change to “Hoạt Động” status. - “Kích Hoạt” button change to “Vô Hiệu” button.

Alternative Scenario: N/A

Exception:

No	Actor Action	System Response
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
2	When session timeout.	Display an informed message “Thời gian thực thi của bạn đã hết. Vui lòng đăng nhập lại”.

Relationship: Manage Patient

Business Rules:

- Admin can't activate/deactivate account of themselves or other admins.

Table 24 <Admin> Activate patient

2.2.21. Functional Requirement 21 – Update Medical Profile Template

2.2.21.1. Use Case-21 Diagram

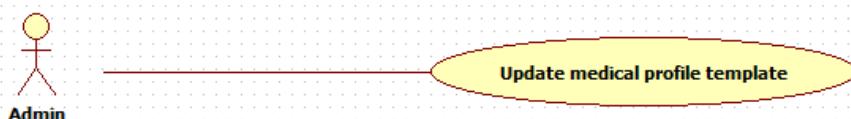


Figure 28 <Admin> Update medical profile template

2.2.21.2. Use Case-21 Specification

USE CASE - 15 SPECIFICATION

Use-case No.	UC_021	Use-case Version	1.0

Use-case Name	<Admin> Change Medical Profile Layout				
Author	SuTNT				
Date	29/05/2014	Priority	Normal		
Actor: Admin					
Summary: This use case is about change medical profile layout.					
Goal: Help admin to change or update medical profile template.					
Trigger: Click on “Sửa cấu trúc” bệnh nhân on “AdminMedicalProfile” page.					
Precondition:					
<ul style="list-style-type: none"> • Page is loaded successfully. • Users have already logged in with role “admin”. 					
Post-condition:					
<ul style="list-style-type: none"> • Success: Medical profile template updated. • Failure: System displays error message. Content of error message will specify in Exception section. 					
Main Success Scenario:					
Step	Actor Action	System Response			
1	Click on “Sửa cấu trúc” button	Show medical profile template is created.			
2	Drag in or drag out fields.	Add fields or remove fields.			
3	Click on “Cập nhật” button	Display message: “Cập nhật thành công”			
Alternative Scenario: N/A					
Exception:					
No	Actor Action	System Response			
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”			
Relationship: N/A					
Business Rules: N/A					

Table 25 <Admin> Update medical profile template

2.2.22. Functional Requirement 22 – Change Picture Profile

2.2.22.1. Use Case-22 Diagram

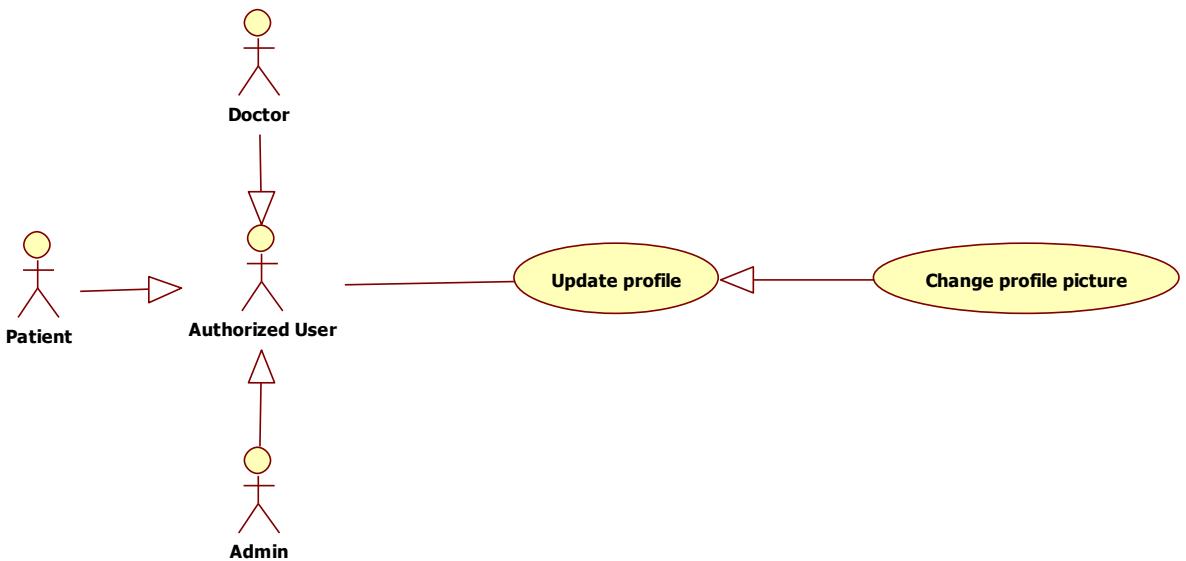


Figure 29<Admin><Doctor><Patient> Change picture profile

2.2.22.2. Use Case-22 Specification

USE CASE - 22 SPECIFICATION			
Use-case No.	UC_022	Use-case Version	1.0
Use-case Name	<Admin><Doctor><Patient> Change Picture Profile		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> • Admin • Patient • Doctor 		
Summary:	This use case is about change medical profile picture		
Goal:	Help user to change their medical profile picture		
Trigger:	Click on profile picture in “Index” page and select “Cập nhật ảnh đại diện” to change medical profile picture.		
Precondition:	<ul style="list-style-type: none"> • Page is loaded successfully. • Users have already logged in. 		
Post-condition:	<ul style="list-style-type: none"> • Success: User's medical profile picture changed. • Failure: System displays error message. Content of error message will specify in Exception section. 		

Main Success Scenario:

Step	Actor Action	System Response
1	Click on “Cập nhật ảnh đại diện” button on index page and select picture.	Display a “change profile” picture box.
2	Select a template profile picture or upload owner’s picture.	
3	User clicks on “Cập nhật” button.	<ul style="list-style-type: none"> - Validate input data. - Save to database - Display new profile picture

Alternative Scenario: N/A

Exception:

No	Actor Action	System Response
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
2	When session timeout.	Display an informed message “Thời gian thực thi của bạn đã hết. Vui lòng đăng nhập lại.”
3	File size is larger than permission size.	Display message “Kích cỡ file lớn hơn quy định.”

Relationship: Update Profile

Business Rules: N/A

Table 26 <Admin><Doctor><Patient> Change picture profile

2.2.23. Functional Requirement 23 – Change Password

2.2.23.1. Use Case-23 Diagram

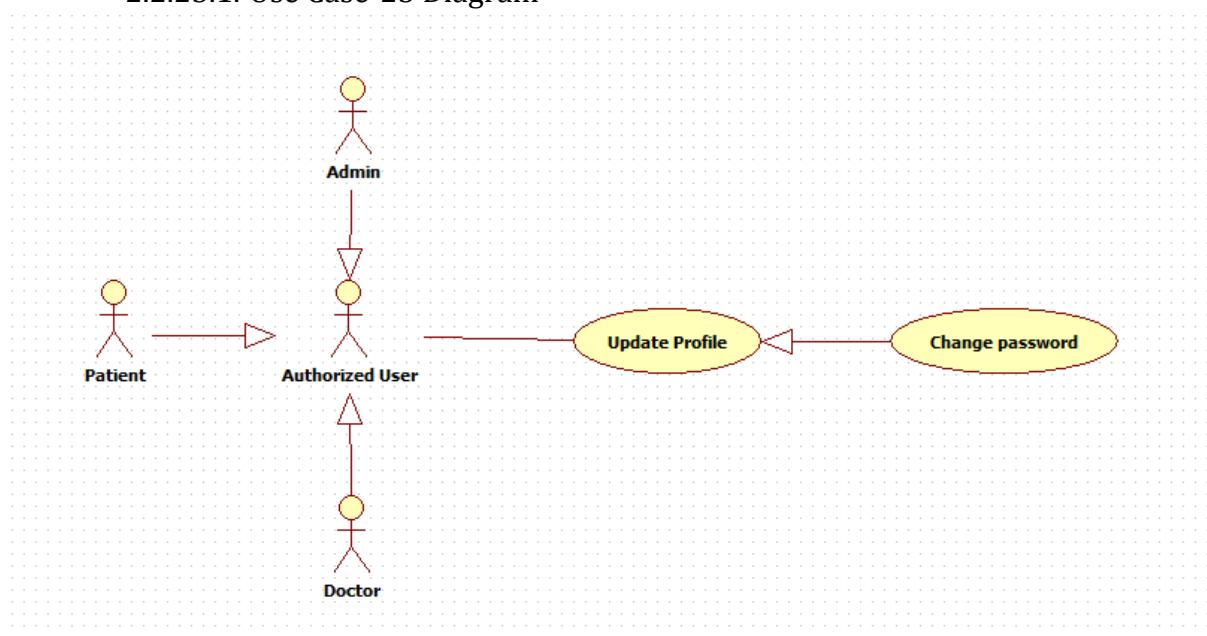


Figure 30 <Admin><Doctor><Patient> Change password

2.2.23.2. Use Case-23 Specification

USE CASE - 17 SPECIFICATION			
Use-case No.	UC_017	Use-case Version	1.0
Use-case Name	<Admin><Doctor><Patient> Change Password		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> • Admin • Patient • Doctor. 		
Summary:	This use case is about changing password for user.		
Goal:	User can change their password.		
Trigger:	Click on “Đổi mật khẩu” button on “Index” page to change password.		
Precondition:	<ul style="list-style-type: none"> • Page is loaded successfully. • Users have already logged in. 		
Post-condition:	<ul style="list-style-type: none"> • Success: User’s password changed. • 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 “Đổi mật khẩu” link on profile page. [Alternative1]	Open “Đổi mật khẩu” pop-up page.	
2	User fills all mandatory fields.		
3	User clicks on “Đồng ý” button. [Alternative 1]	<ul style="list-style-type: none"> - Validate the inputted information - Update user in database. - Show message “Bạn đã thay đổi mật khẩu thành công”. 	
Alternative Scenario:			
No	Actor Action	System Response	
1	User clicks on “Bỏ Qua” button.	Close “Đổi mật khẩu” pop-up page.	
Exception:			
No	Actor Action	System Response	
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”	
2	When session timeout.	Display an informed message “Thời gian	

		thực thi của bạn đã hết. Vui lòng đăng nhập lại."
Relationship: Update Profile		
Business Rules: N/A		

Table 27 <Admin><Doctor><Patient> Change password

2.2.24. Functional Requirement 24 – Define New Medical Profile Template

2.2.24.1. Use Case-24 Diagram

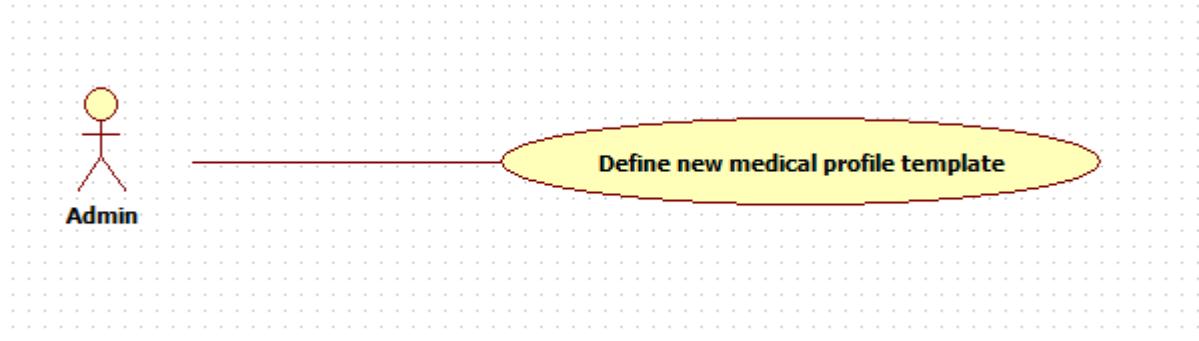


Figure 31 <Admin> Define new medical profile template

2.2.24.2. Use Case-24 Specification

USE CASE - 17 SPECIFICATION			
Use-case No.	UC_024	Use-case Version	1.0
Use-case Name	<Admin> Define New Medical Profile Template		
Author	DanhTC		
Date	29/05/2014	Priority	Normal
Actor:	<ul style="list-style-type: none"> Admin 		
Summary:	This use case is about define new medical profile template.		
Goal:	User can define new medical profile template.		
Trigger:	Click on “Thêm mẫu hồ sơ mới” button on “Quản lý mẫu” page to define new medical profile template.		
Precondition:	<ul style="list-style-type: none"> Page is loaded successfully. Users have already logged in. 		
Post-condition:	<ul style="list-style-type: none"> Success: Define new medical profile template. Failure: System displays error message. Content of error message will specify in Exception section. 		
Main Success Scenario:			
Ste	Actor Action	System Response	

p		
1	Click on “Thêm mẫu hồ sơ mới” button on “Quản lý mẫu” page. [Alternative1]	Open “Thêm mẫu hồ sơ” pop-up page.
2	User fills all mandatory fields.	
3	User clicks on “Tiếp tục” button. [Alternative 1]	<ul style="list-style-type: none"> - Validate the inputted information - Insert template in database. - Redirect to “Tạo mẫu hồ sơ” page.
4	User drag fields want to create into “Mẫu hồ sơ”.	Fields will fix follow user drag in.
5	Users click on “Lưu” button.	Display message “Mẫu hồ sơ đã được cập nhật thành công”.

Alternative Scenario:

No	Actor Action	System Response
1	User clicks on “Bỏ Qua” button.	Close “Thêm mẫu hồ sơ” pop-up page.

Exception:

No	Actor Action	System Response
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
2	When session timeout.	Display an informed message “Thời gian thực thi của bạn đã hết. Vui lòng đăng nhập lại.”

Relationship: Define new medical profile

Business Rules: N/A

Table 28 <Admin> Define new medical profile template

2.2.25. Functional Requirement 25 – Logout

2.2.25.1. Use Case-25 Diagram

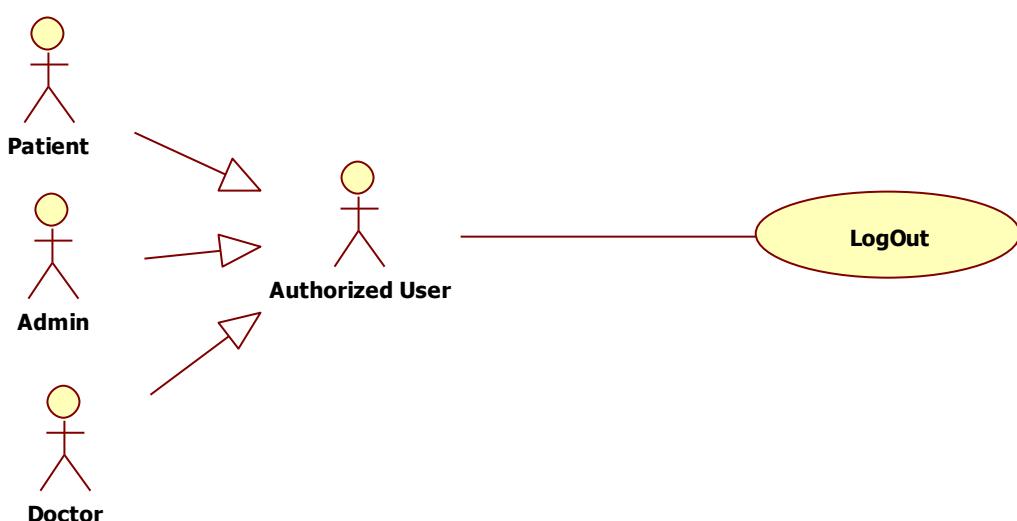


Figure 32 <Admin><Doctor><Patient> Logout

2.2.25.2. Use Case-25 Specification

USE CASE - 18 SPECIFICATION																					
Use-case No.	UC_025	Use-case Version	1.0																		
Use-case Name	<Admin><Doctor><Patient> Logout																				
Author	SuTNT																				
Date	29/05/2014	Priority	Normal																		
Actor: Admin, patient, doctor Summary: Log out system Goal: Help user to log out their account. Triggers: Click on “Đăng xuất” to log out Preconditions: <ul style="list-style-type: none"> • Page is loaded successfully. • Users have already logged in. Post-Conditions: <ul style="list-style-type: none"> • Success: users log out successfully. • Failure: System displays error message. Content of error message will specify in Exception section. Main Success Scenario: <table border="1"> <thead> <tr> <th>Step</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Đăng xuất” link on main page.</td><td>Logout user, redirect to Home page, logout successfully.</td></tr> </tbody> </table> Alternative Scenario: <table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>User clicks on “Không” button</td><td>Close confirm box.</td></tr> </tbody> </table> Exception: <table border="1"> <thead> <tr> <th>No</th><th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1</td><td>Internet connection has problem</td><td>Display message “Kết nối mạng bị lỗi. Xin thử lại”</td></tr> </tbody> </table> Relationship: Login Business Rules: N/A				Step	Actor Action	System Response	1	User clicks on “Đăng xuất” link on main page.	Logout user, redirect to Home page, logout successfully.	No	Actor Action	System Response	1	User clicks on “Không” button	Close confirm box.	No	Actor Action	System Response	1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”
Step	Actor Action	System Response																			
1	User clicks on “Đăng xuất” link on main page.	Logout user, redirect to Home page, logout successfully.																			
No	Actor Action	System Response																			
1	User clicks on “Không” button	Close confirm box.																			
No	Actor Action	System Response																			
1	Internet connection has problem	Display message “Kết nối mạng bị lỗi. Xin thử lại”																			

Table 29 <Admin><Doctor><Patient> Logout

3. Entity Relationship Diagram (ERD)

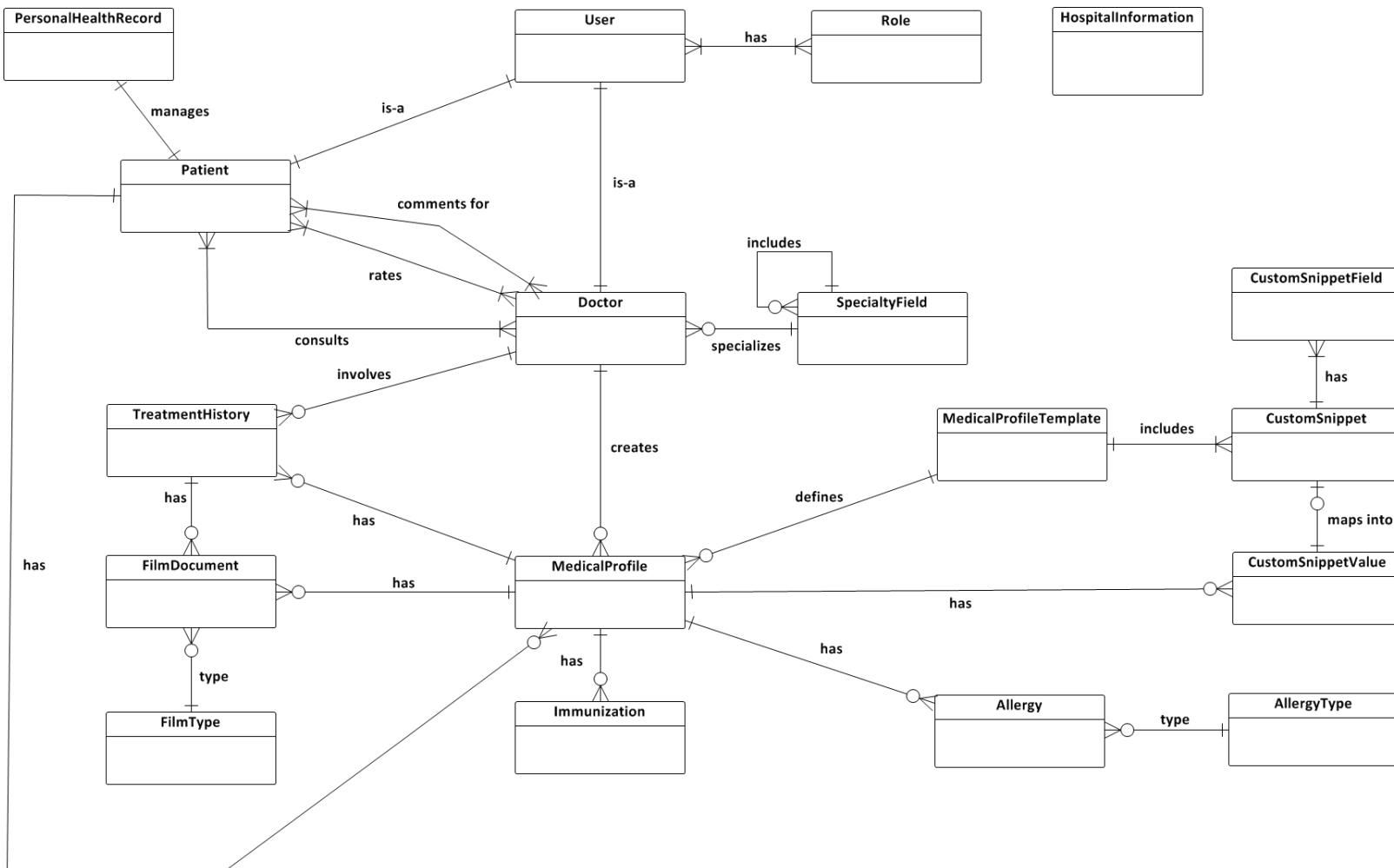


Figure 33 Entity Relationship Diagram

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 allergy 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,...)

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

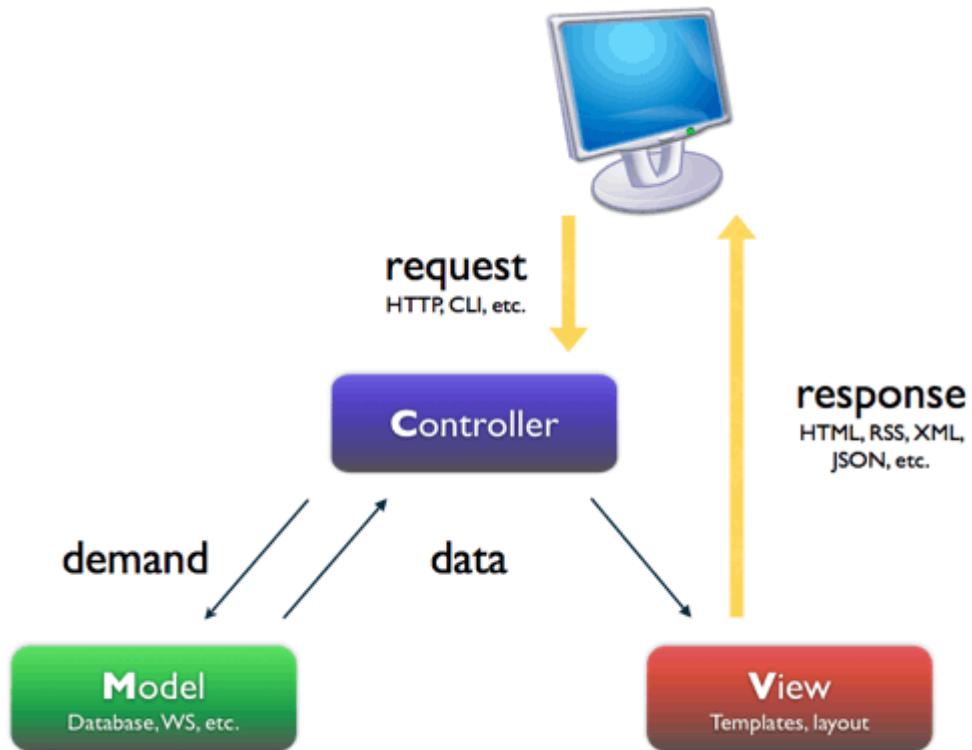


Figure 34 MVC Architecture

(<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)

3. Component Diagram

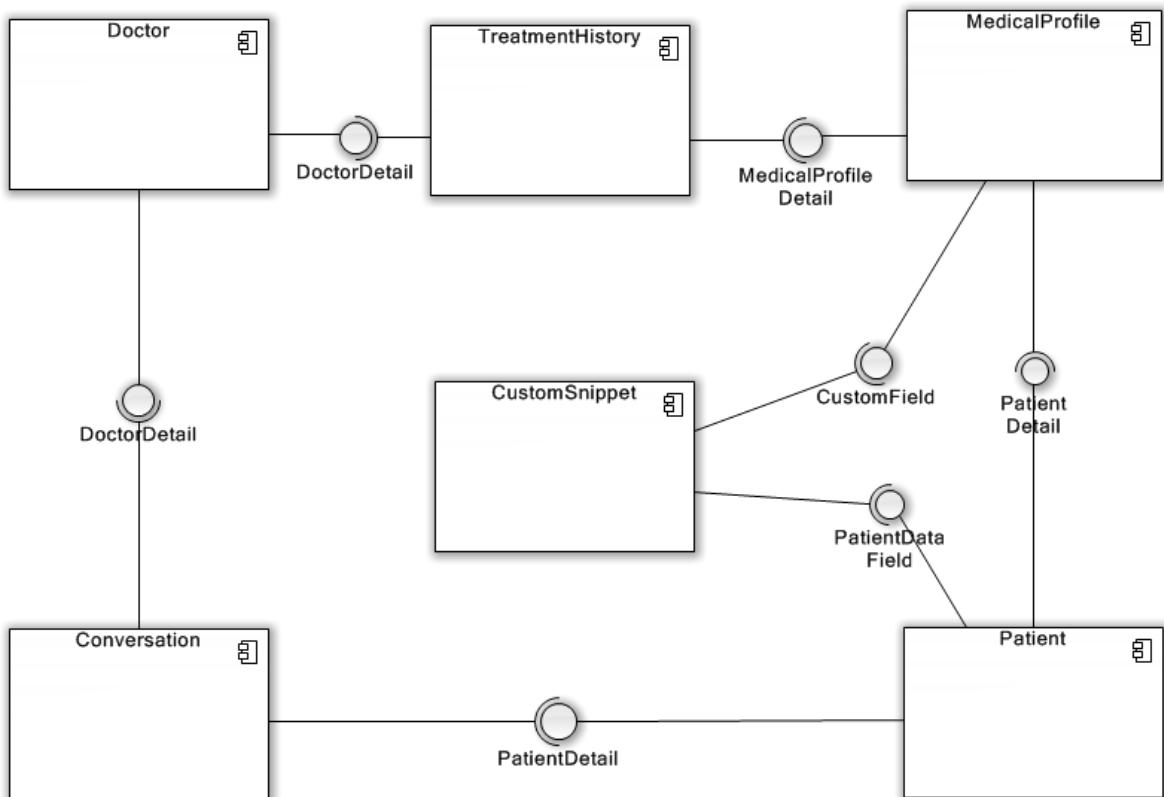


Figure 35: Component Diagram

4. Detailed Description of Components

4.1. Class Diagram

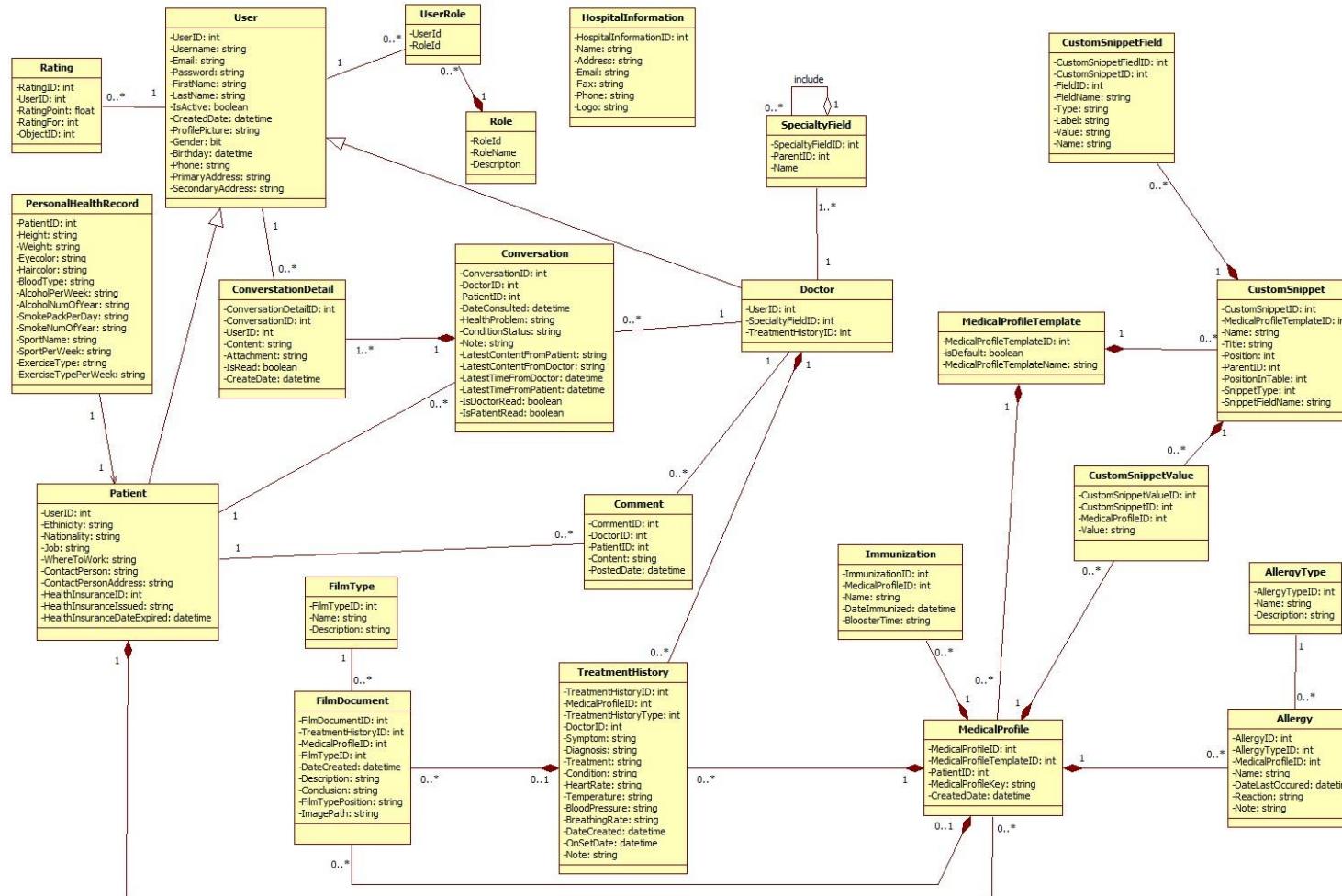


Figure 36 Class Diagram

4.2. Class Diagram Explanation

4.2.1. User Model

Attribute Name	Type	Visibility	Description
UserID	int	public	ID of the user
Username	string	public	User name 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
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
TreatmentHistoryID	int	public	ID of the treatment history

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
IsDefault	string	public	Medical profile template is default
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
DateCreated	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
DateConsulted	datetime	public	Consulted date of the conversation
HealthProblem	string	public	Health problem of the conversation
Note	string	public	Note of the conversation
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

Datelnmmunized	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

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

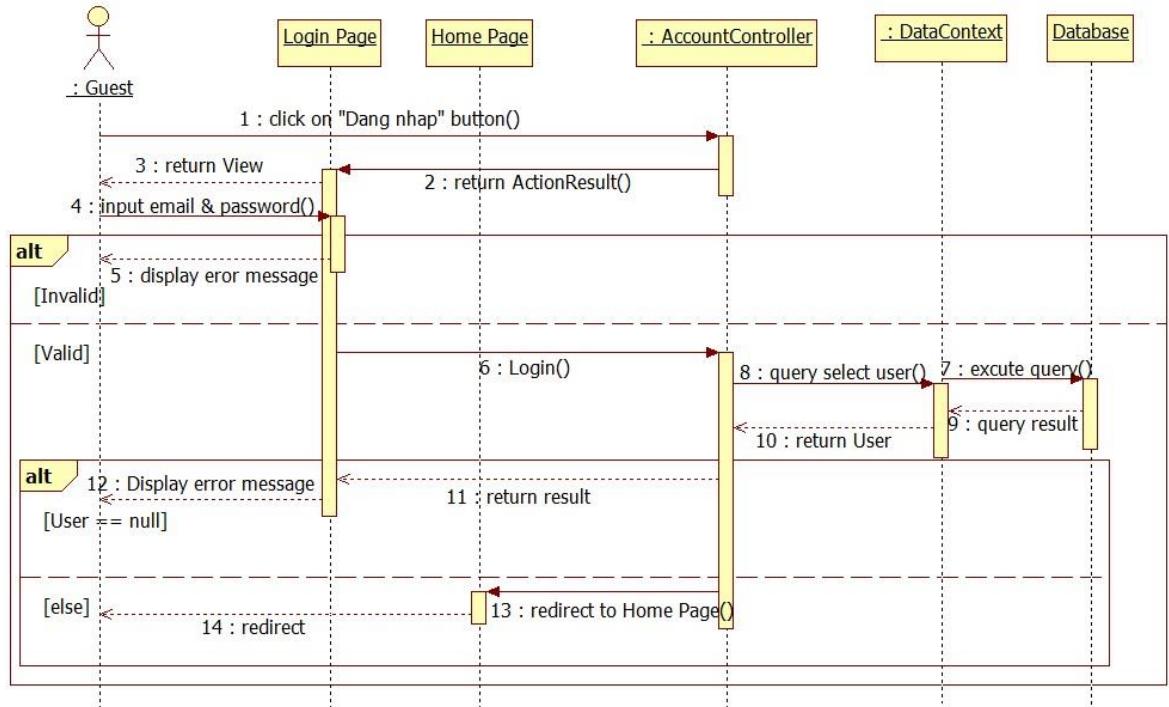


Figure 37 <Guest> Login Sequence Diagram

5.2. <Guest> Register

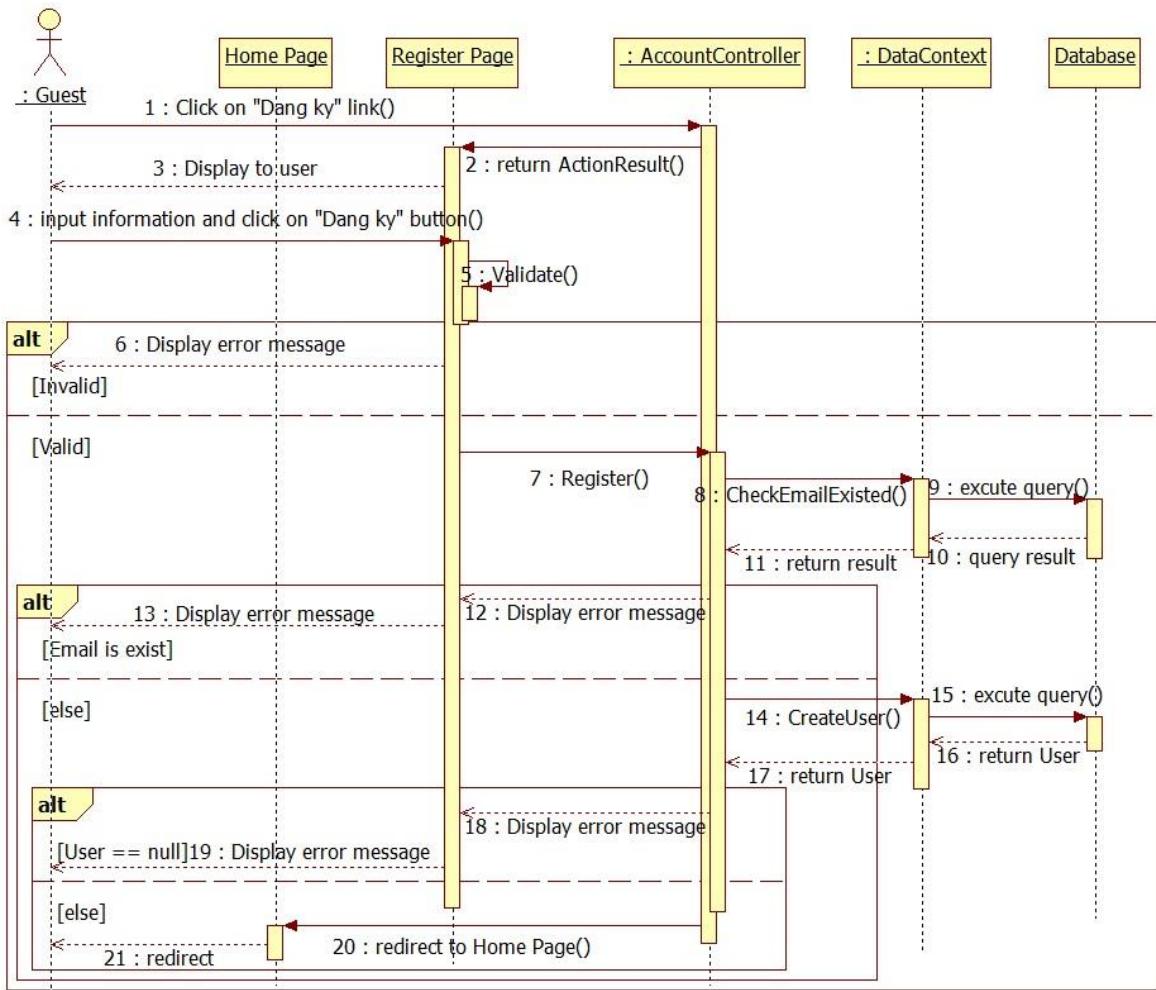


Figure 38 <Guest> Register Sequence Diagram

5.3. <Authorized User> Change Password

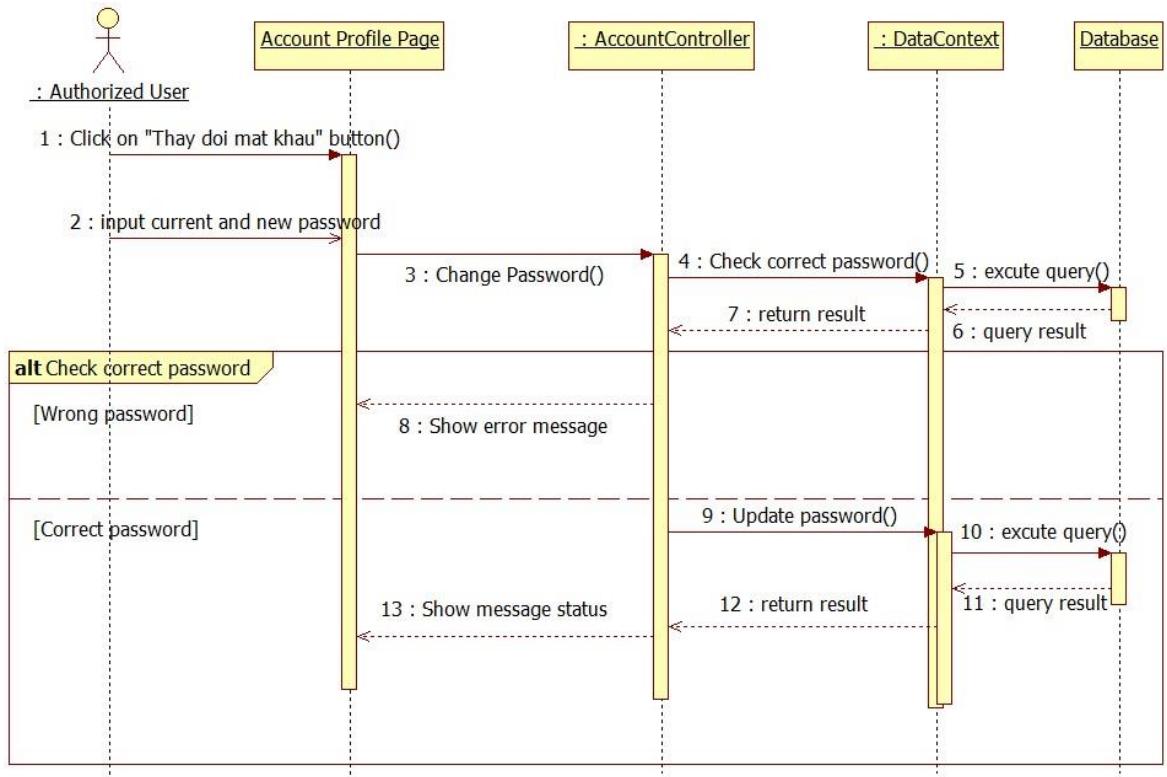


Figure 39 <Authorized User> Change Password Sequence Diagram

5.4. <Authorized User> Change Profile Picture

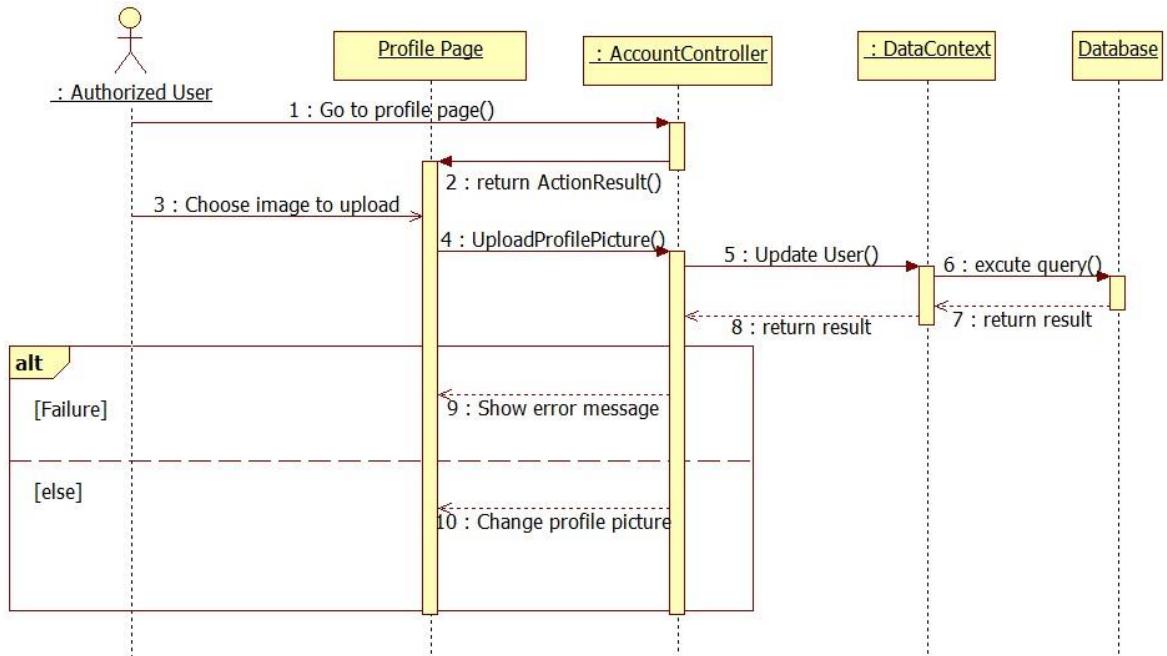


Figure 40 <Authorized User> Change Profile Picture Sequence Diagram

5.5. <Patient> Conversation

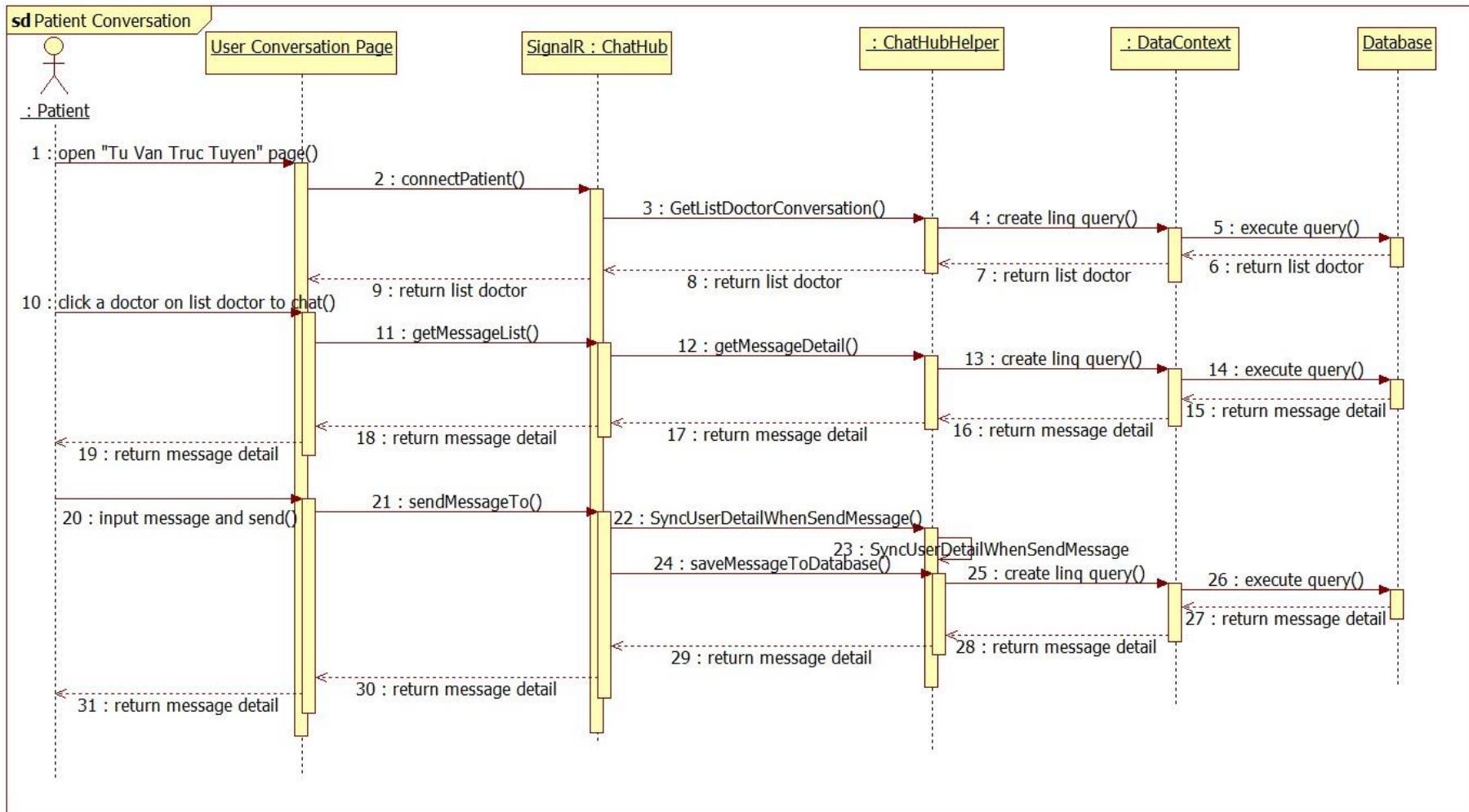


Figure 41 <Patient> Conversation Sequence Diagram

5.6. <Doctor> Request Webcam

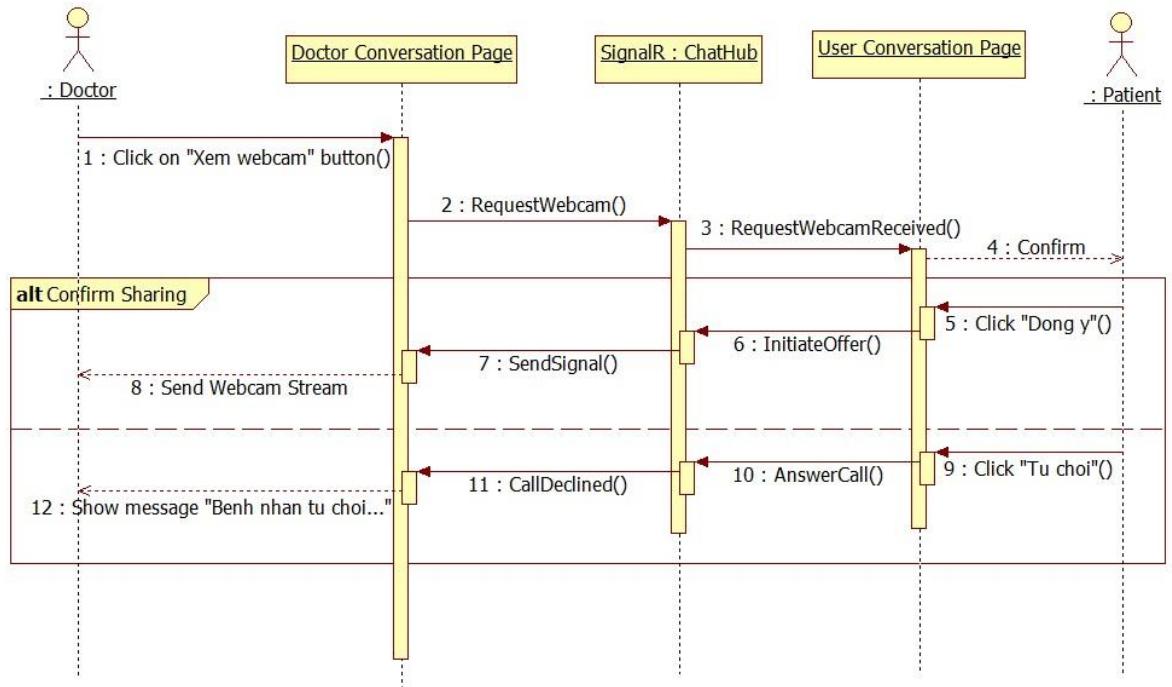


Figure 42 <Doctor> Request Webcam Sequence Diagram

5.7. <Patient> Upload Attachment

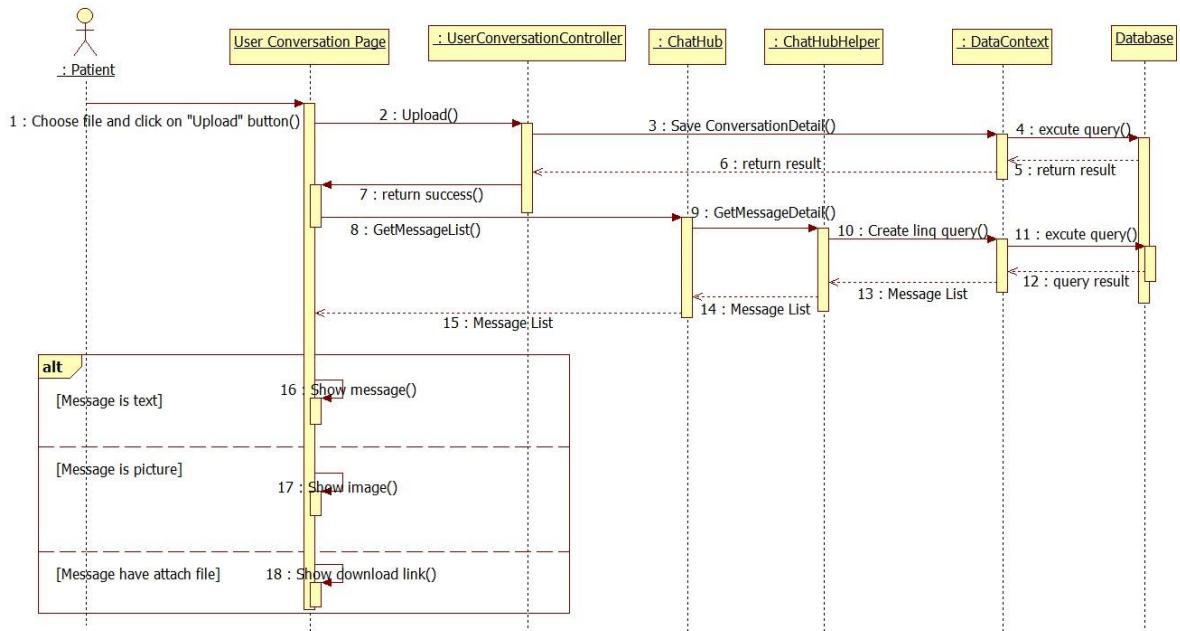


Figure 43 <Patient> Upload Attachment

5.8. <Admin> Define New Medical Profile Template

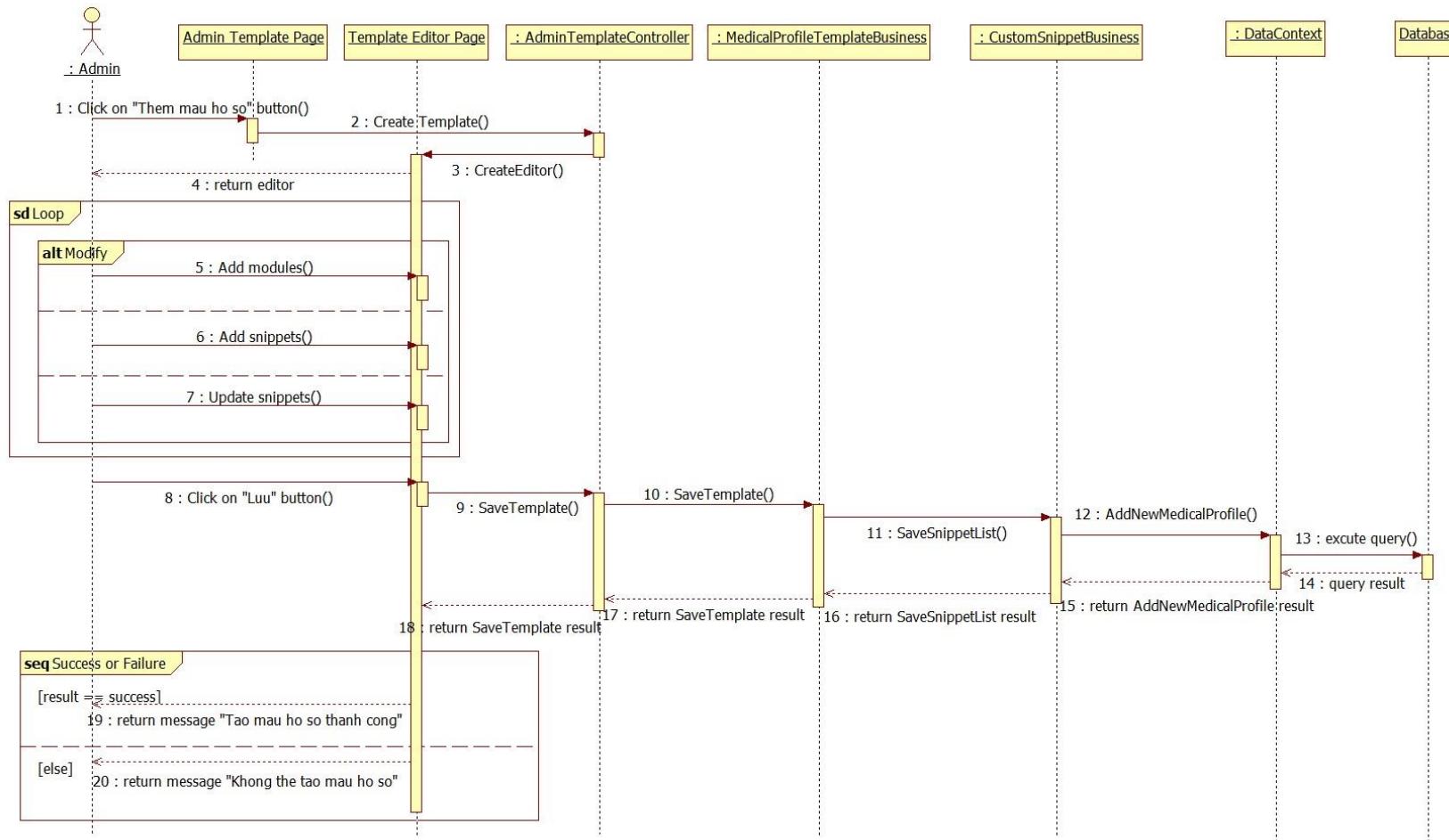


Figure 44 <Admin> Define New Medical Profile Template

5.9. <Admin> Update Medical Profile Template

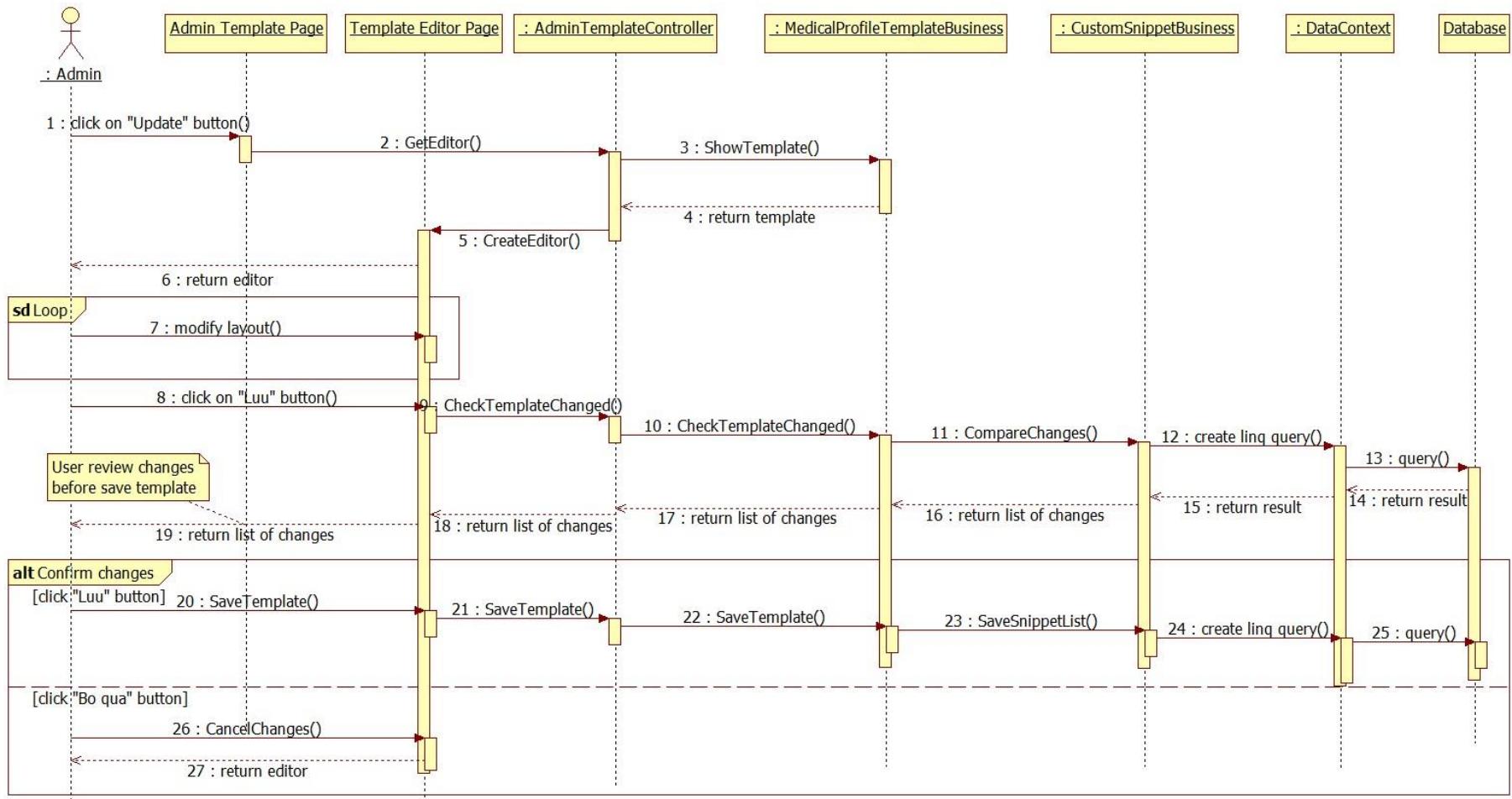


Figure 45 <Admin> Update Medical Profile Template

5.10. <Doctor> Update Medical Profile

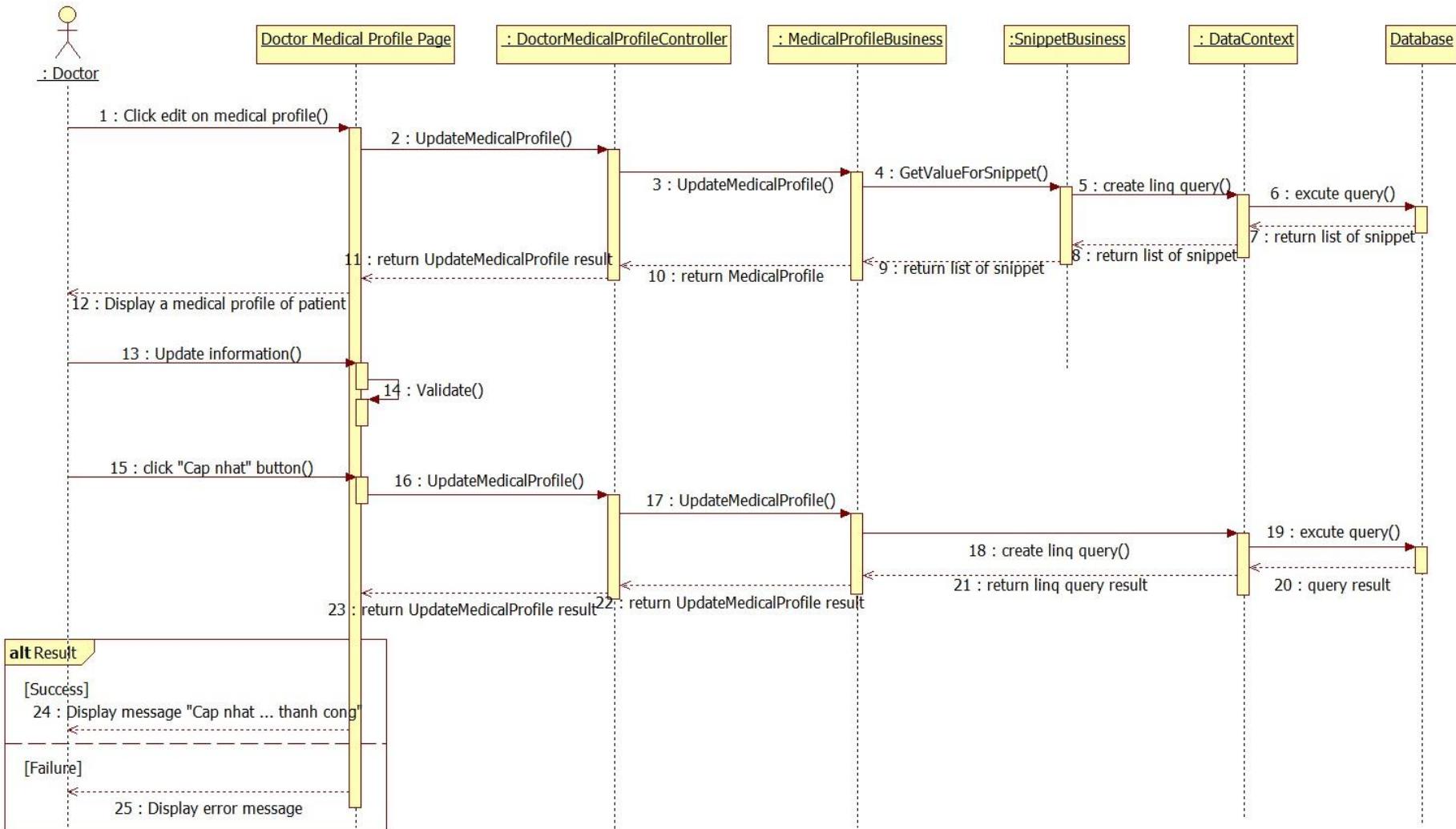


Figure 46 <Doctor> Update Medical Profile

5.11. <Doctor> Views Medical Profile

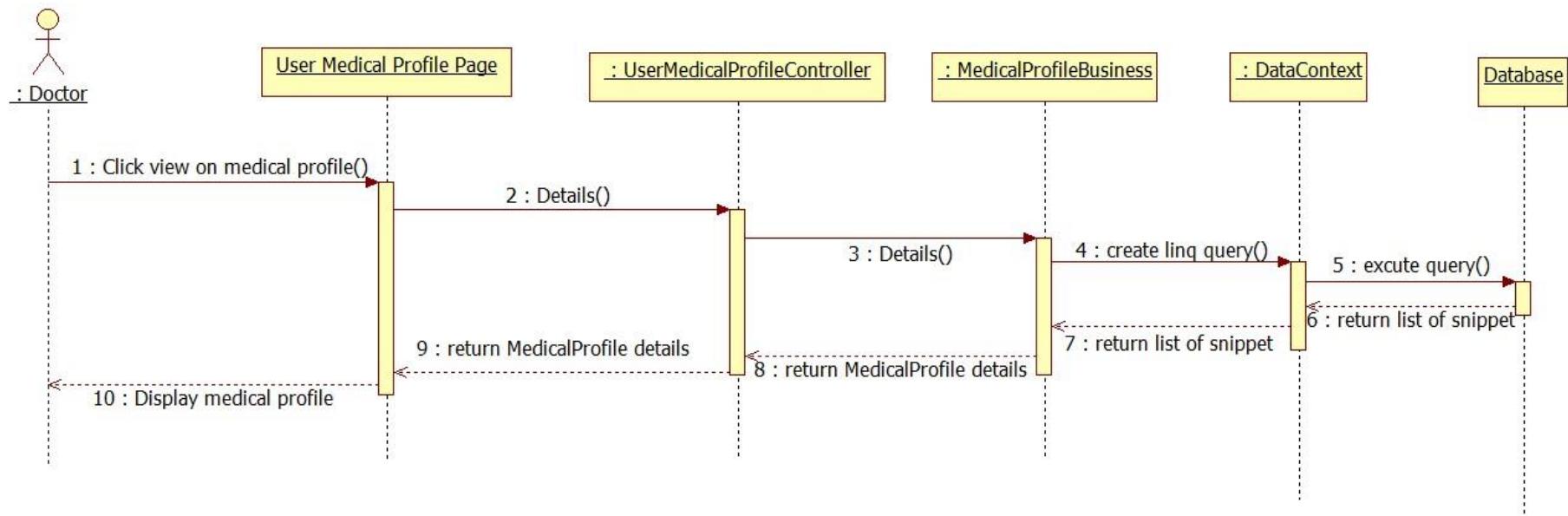


Figure 47 <Doctor> Views Medical Profile

5.12. <Patient> Update Personal Health Record

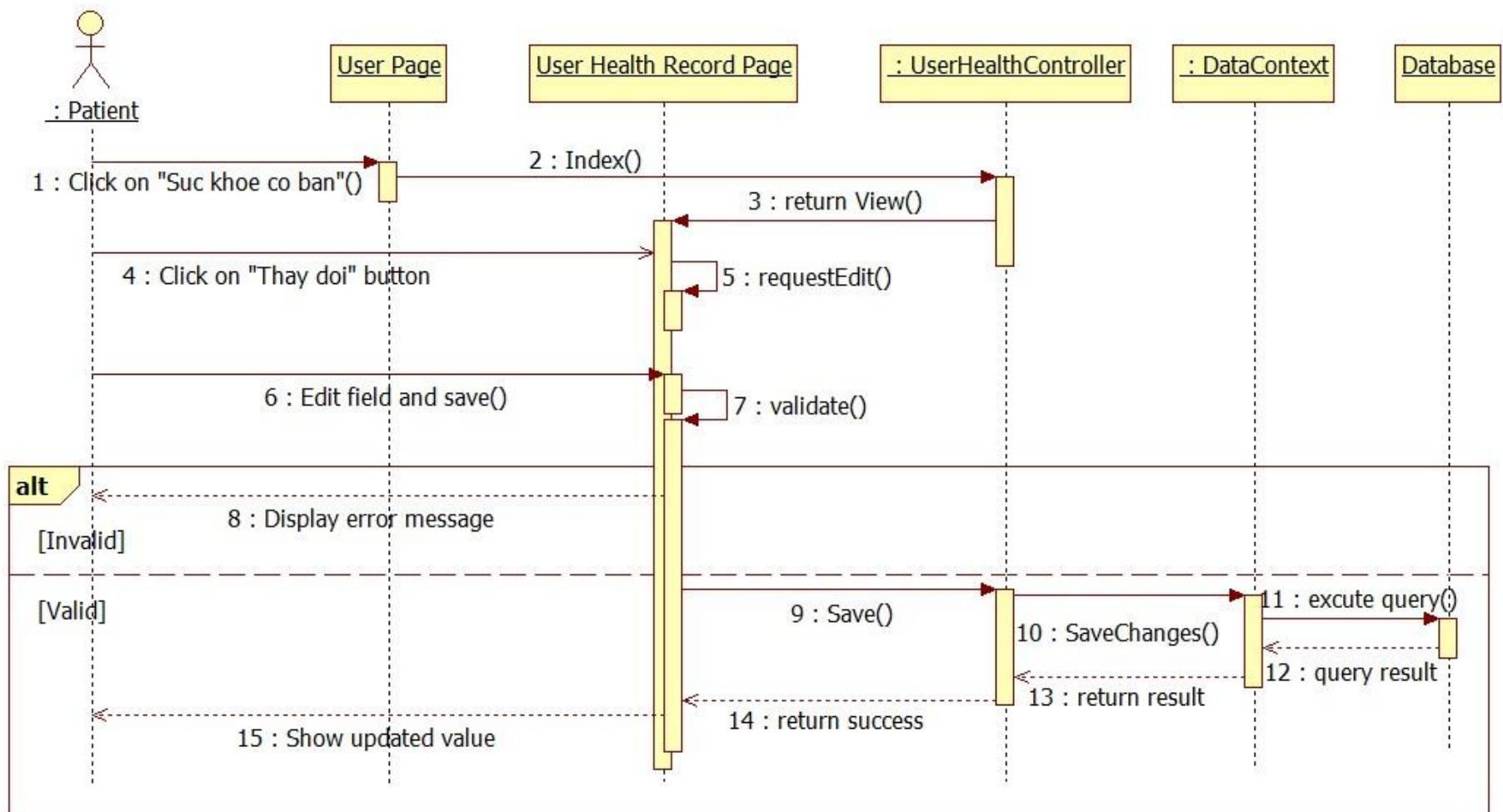


Figure 48 <Patient> Update Personal Health Record

5.13. <Patient> View Medical Profile

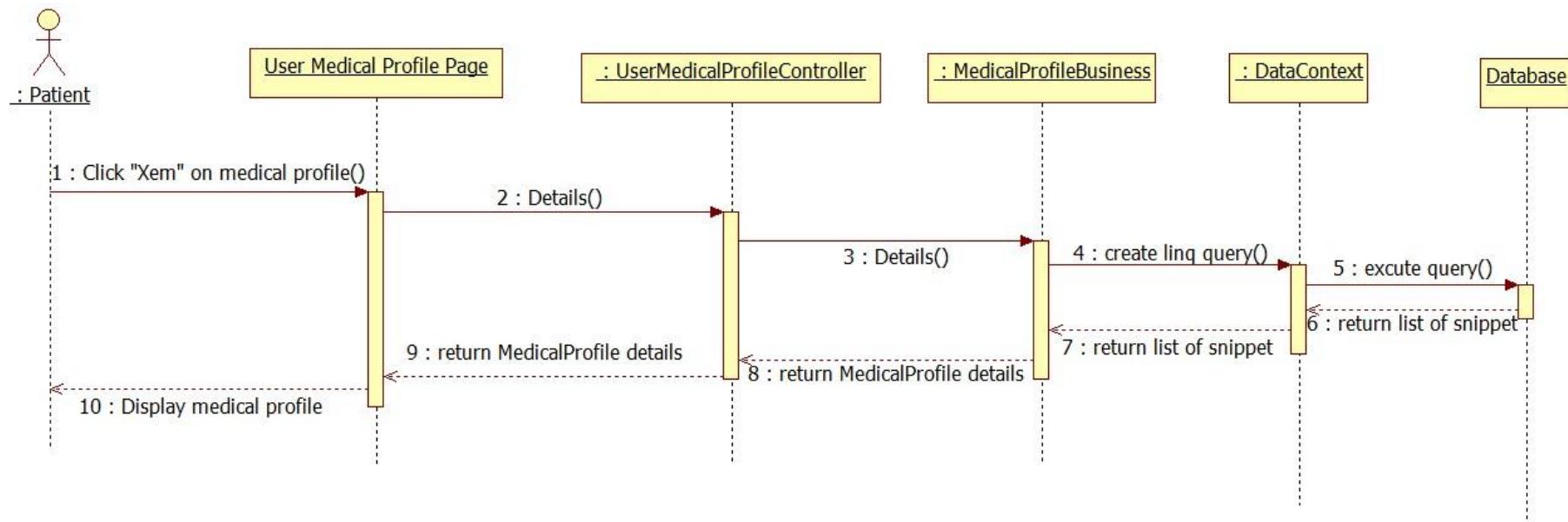


Figure 49 <Patient> View Medical Profile Record

6. User Interface Design

6.1. Homepage screen

6.1.1. Screen Images



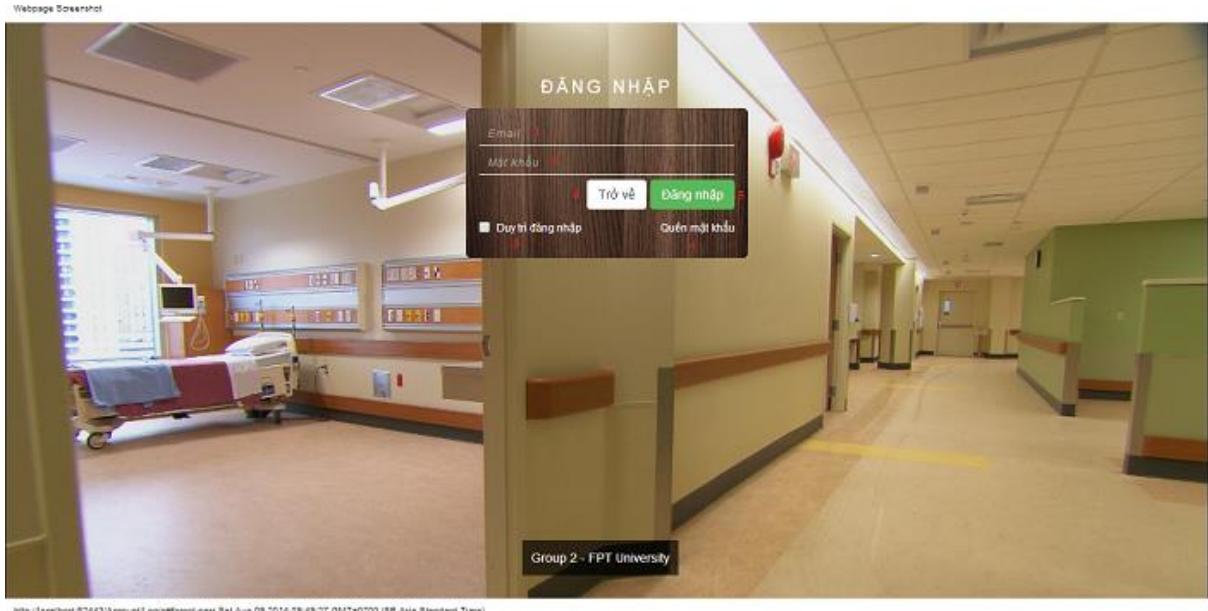
6.1.2. Objects and Actions

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	

6.2. Login screen

6.2.1. Screen image



6.2.2. Objects and Actions

6.2.2.1. Data fields

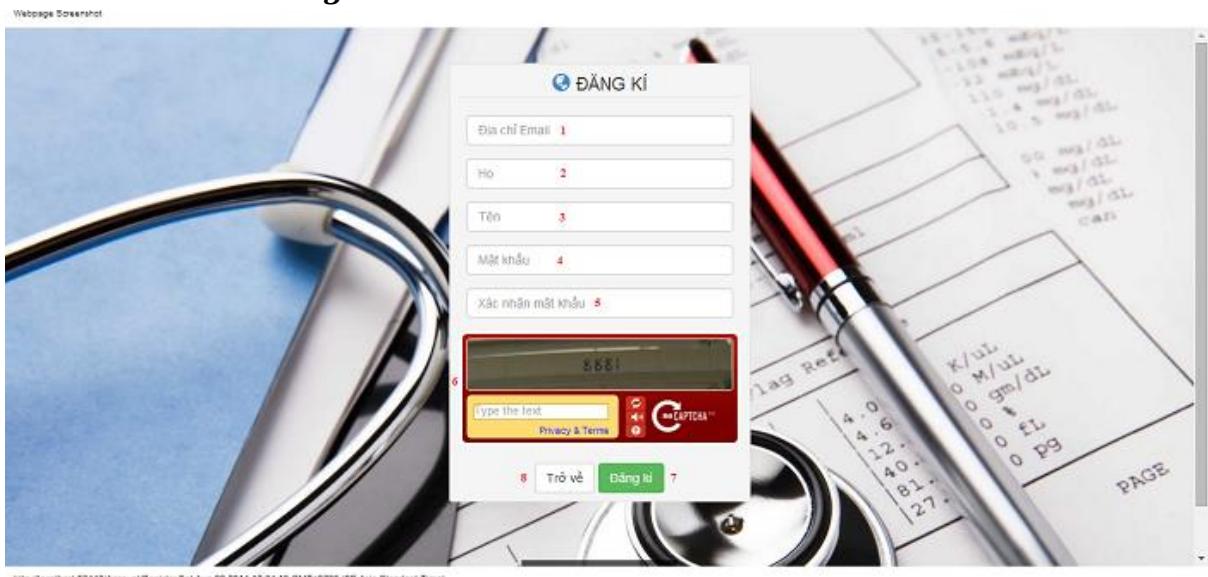
Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Email	Textbox	Yes	String		Contain user's email to login
2	Mật khẩu	Textbox	Yes	String		Contain user's password to login
3	Duy trì đăng nhập	Checkbox	No	Boolean		Check to remember user to login again

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.	

6.3. Register screen

6.3.1. Screen image



6.3.2. Objects and Actions

6.3.2.1. Data fields

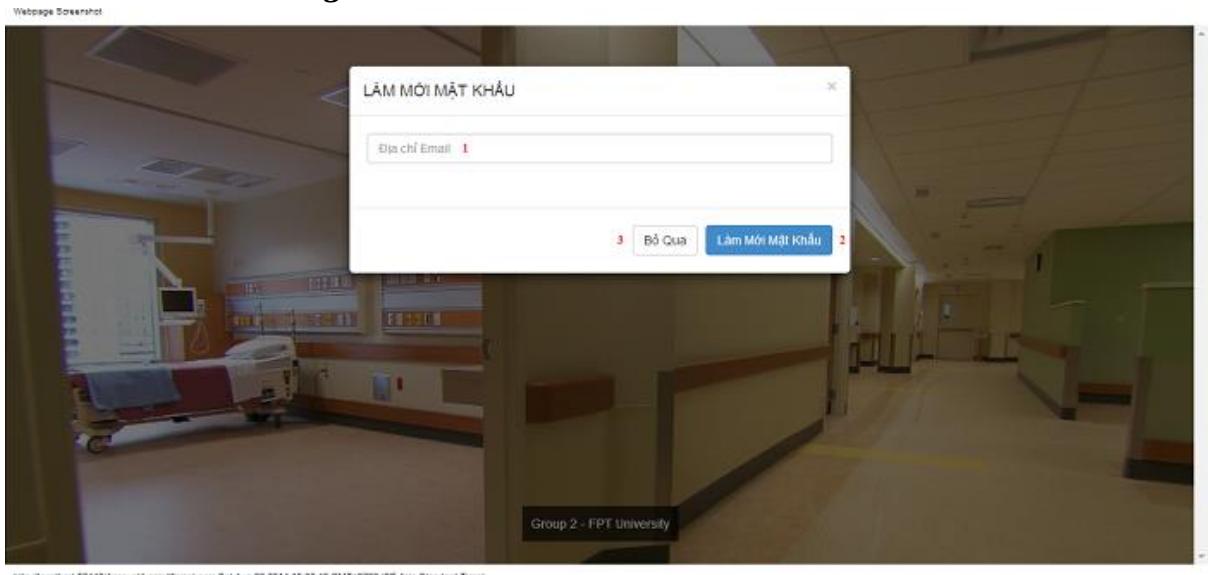
Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Địa chỉ Email	Textbox	Yes	String	50	Contain user's email to login
2	Họ	Textbox	Yes	String	25	Contain user's last name
3	Tên	Textbox	Yes	String	25	Contain user's first name
4	Mật khẩu	Textbox	Yes	String	25	Contain user's password to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

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	

6.4. Forgot password screen

6.4.1. Screen image



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

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	

6.5. Admin hospital information screen

6.5.1. Screen image

Webpage Screenshot

Admin

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 8 tháng 8 năm 2014 - Giờ 10:07:08



Chọn lọc 4

Thay đổi 5 6

Tên bệnh viện	Bệnh Viện 7
Địa chỉ	Địa chỉ 8
Điện thoại	0987654321 9
Fax	093456789 10
Email	tve@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 Đức Di	Nhi Khoa
Đặng Văn Ngữ	Nội khoa

Xem thêm... 12

Hồ sơ bệnh án: 3 đang áp dụng

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

Xem thêm... 13

Khoa khám bệnh: 14 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 thận tiết
Phẫu thuật miệng & hàm mặt
Chấn thương chỉnh hình
Đi ứng
Miễn dịch học
Nội tim mạch

Xem thêm... 14

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<http://localhost:50443/AdminInformation/Hospital> Sat Aug 09 2014 10:07:56 GMT+0700 (SE Asia Standard Time)

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

6.5.2.2. Actions

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

No	name				
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 sơ bệnh án	Link	On click	Forward to “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	

6.6. Admin information screen

6.6.1. Screen image

Webpage Screenshot

The screenshot shows a web-based application interface for managing user information. 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 "Thông tin Admin". It displays a user profile with fields for Họ và tên (Trần Cao Danh), Mật khẩu (password field), Giới tính (Nam), Ngày sinh (10/10/1992), Số điện thoại (0987654321), Địa chỉ thường trú (An Giang), and Địa chỉ tạm trú (Quận 12). There are "Thay đổi" (Change) buttons next to each field. A "SELECT FILES" button with the number 10 is located below the profile picture. At the top right, there are two buttons labeled "0" and "1". The URL at the bottom of the page is http://localhost:52443/AdminInformation Sat Aug 09 2014 09:56:35 GMT+0700 (SE Asia Standard Time).

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 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

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	

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	edit delete 4
linhnguyen@gmail.com	Nguyễn Nhật Linh	Hoạt Động	03-08-2014	edit delete
nguonguyen@gmail.com	Nguyễn Hồng Ngọc Nguồn	Hoạt Động	03-08-2014	edit delete
nhannguyen@gmail.com	Nguyễn Toàn Nhân	Hoạt Động	03-08-2014	edit delete
trannguyentiensu@gmail.com	Tran Su	Hoạt Động	03-08-2014	edit delete
tuanmai@gmail.com	Mai Anh Tuấn	Hoạt Động	03-08-2014	edit delete

1 2

http://localhost:52443/AdminUser Sat Aug 09 2014 08:57:11 GMT+0700 (SE Asia Standard Time)

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

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”	

6.8. Create user screen

6.8.1. Screen image

Webpage Screenshot

Admin

Tạo Mới

Email (*)

Họ (*)

Tên (*)

Giới tính (*)

Ngày sinh (*)

Số điện thoại (*)

Địa chỉ thường trú (*)

Địa chỉ tạm trú

Ngày tạo

Thao Tác

09-08-2014

09-08-2014

03-08-2014

03-08-2014

03-08-2014

03-08-2014

03-08-2014

Bỏ Qua

Lưu

1

2

3

Nam

dd/mm/yyyy

4

5

6

7

8

9

10

[http://localhost:52443/Admin/User Sat Aug 09 2014 10:35:14 GMT+0700 \(SE Asia Standard Time\)](http://localhost:52443/Admin/User Sat Aug 09 2014 10:35:14 GMT+0700 (SE Asia Standard Time))

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

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	
----	--------	--------	----------	---------------	--

6.9. Edit user screen

6.9.1. Screen image

Webpage Screenshot

Nguyễn Nhật Linh

Ảnh đại diện

Họ (*)

Tên (*)

Giới tính (*)

Số điện thoại (*)

Địa chỉ thường trú (*)

Địa chỉ tạm trú

BỎ QUA

Lưu

http://localhost:52443/AdminUser Sat Aug 09 2014 10:35:51 GMT+0700 (SE Asia Standard Time)

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

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	
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6.10. Manage doctors screen

6.10.1. Screen image

Webpage Screenshot

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	
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 Đắc Di	Nhi Khoa	Hoạt Động	01-08-2014	
vana@gmail.com	Nguyễn Văn A	Nhi Khoa	Hoạt Động	09-08-2014	

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

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"	

6.11. Create doctor screen

6.11.1. Screen image

Webpage Screenshot

Admin

Quản lý bác sĩ

Tạo Mới

Email

dangvanngu@gmail.com
doctor1@gmail.com
tonhattung@gmail.com
vana@gmail.com

1 2 3 4 5 6 7 8 9 10 11

Ngày tạo Thao Tác

09-08-2014
01-08-2014
01-08-2014
01-08-2014
09-08-2014

Tim Kiếm

<http://localhost:52443/AdminDoctor> Sat Aug 09 2014 10:38:17 GMT+0700 (SE Asia Standard Time)

6.11.2. Objects and Actions

6.11.2.1. 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	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

6.11.2.2. Actions

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

No					
9	Lưu	Button	On click	Submit inputted data to server	
10	BỎ qua	Button	On click	Dismiss popup	

6.12. Edit doctor screen

6.12.1. Screen image

Webpage Screenshot

The screenshot shows a web-based application interface for managing medical staff. On the left, there's a sidebar with various administrative links. The main area is a modal window titled 'Cập Nhật' (Update) showing a profile for 'Nguyễn Văn A'. The profile includes a placeholder image, a first name field ('Họ') containing 'Nguyễn Văn 1', a middle name field ('Tên') containing 'A 2', a gender dropdown ('Giới tính') set to 'Nam 3', a specialty dropdown ('Chuyên môn') set to 'Nhi Khoa 4', a phone number field ('Số điện thoại') containing '0987654321 5', an address field ('Địa chỉ thường trú') containing 'TP.HCM 6', and a secondary address field ('Địa chỉ tạm trú') containing '7'. At the bottom of the modal are buttons for 'BỎ Qua' (cancel), 'Lưu' (save), and other actions. The URL in the browser bar is http://localhost:52443/AdminDoctor Sat Aug 09 2014 10:36:51 GMT+0700 (SE Asia Standard Time).

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

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	

6.13. Manage medical profiles screen

6.13.1. Screen image

Webpage Screenshot

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	1 2 3 4 5
OMCS.0000001.02	Bệnh Án Mẫu	Tran Su	trannguyentiensu@gmail.com	25/07/2014 00:00:00	3 4 5
OMCS.0000001.03	Bệnh Án Mẫu	Tran Su	trannguyentiensu@gmail.com	30/07/2014 00:00:00	3 4 5

http://localhost:52443/AdminMedicalProfile Sat Aug 09 2014 20:15:09 GMT+0700 (SE Asia Standard Time)

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

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	Forward to	

			click	“UpdateMedicalProfile” page	
5	Xóa	Button	On click	Delete a medical profile	

6.14. View medical profile screen

6.14.1. Screen image

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	

6.15. Update medical profile screen

6.15.1. Screen image

Cập nhật hồ sơ bệnh án

Bệnh Án Mẫu

Cập nhật 1

Hành chính

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
Vào viện *	09/06/2014

Chuyên môn

Lí do vào viện * Khó thở 2

Bệnh sử

Bệnh khởi 3 ngày trước nhập viện với triệu chứng : hắt hơi, sổ mũi, ho khan từng cơn (8 – 10 cơn /ngày, # 30s/còn). Khó thở, khó khè,khó khạc đờm , khác được thi dễ thở. Sốt nhẹ, mồ hôi 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 kịch 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

Có kéo khoang gian sườn

3

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

6.15.2.2. Actions

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

6.16. Manage medical profiles screen

6.16.1. Screen image

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	X 3
Mai Anh Tuấn	b	Nguyễn Văn A	01/01/2014 00:00:00	X
Nguyễn Hồng Ngọc Nguồn	c	Tôn Thất Tùng	01/01/2014 00:00:00	X
Tran Su	Bác sĩ thật hay	Doctor 1	11/11/2014 00:00:00	X

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

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	

6.17. Manage medical profile templates screen

6.17.1. Screen image

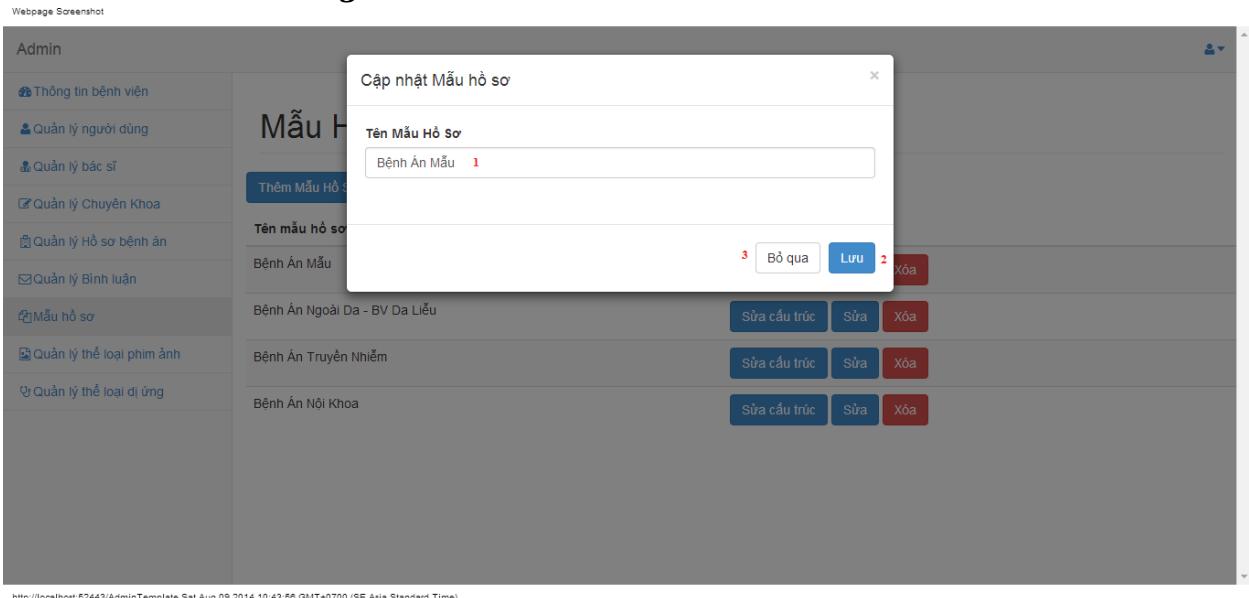
6.17.2. Objects and Actions

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"	

6.18. Edit medical profile templates screen

6.18.1. Screen image



6.18.2. Objects and Actions

6.18.2.1. Data fields

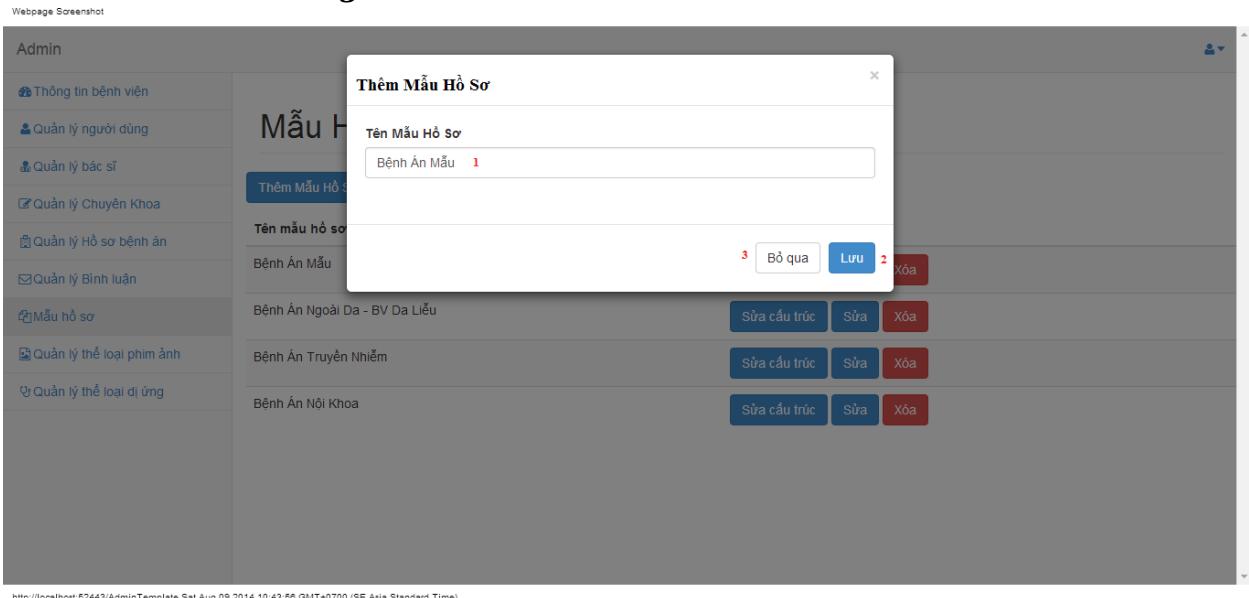
Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Tên mẫu hồ sơ	Textbox	Yes	String	50	Contain name medical profile

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	BỎ QUA	Button	On click	Dismiss popup	

6.19. Add medical profile templates screen

6.19.1. Screen image



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

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 qua	Button	On click	Dismiss popup	

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

Các đối tượng

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

Phân vùng Tùy chỉnh Có sẵn
1
Khu vực

Lịch sử khám bệnh
Hồ sơ phim
Dị ứng
Tiêm chủng

Phân vùng Tùy chỉnh Có sẵn
2
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
Tùy chọn kén

Phân vùng Tùy chỉnh Có sẵn
3
Thông tin cá nhân

Ho và tên
Giới tính
Ngày sinh
Tuổi
Số điện thoại
Địa chỉ thường trú
Địa chỉ tạm trú

Thông tin bệnh nhân

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	Submit inputted data	

			click	to server	
5	Trở về	Button	On click	Back to previous page	

6.21. Change password screen

6.21.1. Screen image

The screenshot shows a window 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 are two buttons: "Trở về" (5) and a blue button "Cập nhật mật khẩu" (4).

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

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	

6.22. Manage patient screen

6.22.1. Screen image

Webpage Screenshot

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	4 👤 📝
linhnguyen@gmail.com	Nguyễn Nhật Linh	0933056722	09-08-2014	👤 📝
nguonguyen@gmail.com	Nguyễn Hồng Ngọc Nguồn	0933056722	03-08-2014	👤 📝
nhannguyen@gmail.com	Nguyễn Toàn Nhân	0933056722	03-08-2014	👤 📝
trannguyentiensu@gmail.com	Tran Su	0933056722	03-08-2014	👤 📝
tuanmai@gmail.com	Mai Anh Tuấn	0933056722	03-08-2014	👤 📝

1

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

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

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"	

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 (lit) 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

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 trú	Textbox	Yes	String	50	Contain user's primary address

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 hàng	Textbox	No	String	50	Contain user's smoke per week

	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

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	

6.24. View patient screen

6.24.1. Screen image

Webpage Screenshot

Bác Sĩ: Doctor 1

- Quản lý bệnh nhân
- Quản lý Bệnh án
- Tư vấn trực tuyến
- Tin nhắn
- Xem mẫu hồ sơ

Chi tiết bệnh nhân

Trần Cao Danh

 1 Thông tin cơ bản 2 Thông tin bệnh nhân 3 Sức khỏe cá nhân 4 Người liên lạc 5 Bệnh án	Giới tính: Nam Ngày sinh: 19-02-1992 Số điện thoại: 0933056722 Địa chỉ thường trú: An Giang Địa chỉ tạm trú: Quận 12
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[Đóng](#) [Lịch sử kiểm chứng](#)

[6](#) [7](#)

http://localhost:52443/DoctorUser# Sat Aug 09 2014 11:18:50 GMT+0700 (SE Asia Standard Time)

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"	

6.25. Doctor comment screen

6.25.1. Screen image

Webpage Screenshot

The screenshot shows a webpage titled 'Bác Sĩ: Doctor 1'. On the left, there is a vertical navigation menu with the following items:

- Quản lý bệnh nhân
- Quản lý Bệnh Án
- Tư vấn trực tuyến
- Tin nhắn
- Xem mẫu hồ sơ

The main content area is divided into two sections:

- Tin nhắn**: This section contains a sub-section titled 'Đánh giá' which says 'Chưa có đánh giá'.
- Bình luận**: This section displays two comments:
 - A comment from 'Bác sĩ thật hay' posted on 11/11/2014.
 - A comment from 'a' posted on 01/01/2014.

At the bottom right of the main content area, there is a blue button labeled 'Gửi' with a red number '2' above it, indicating two pending messages.

Page footer: http://localhost:52443/DoctorComment Sat Aug 09 2014 11:02:39 GMT+0700 (SE Asia Standard Time)

6.25.2. Objects and Actions

6.25.2.1. Data fields

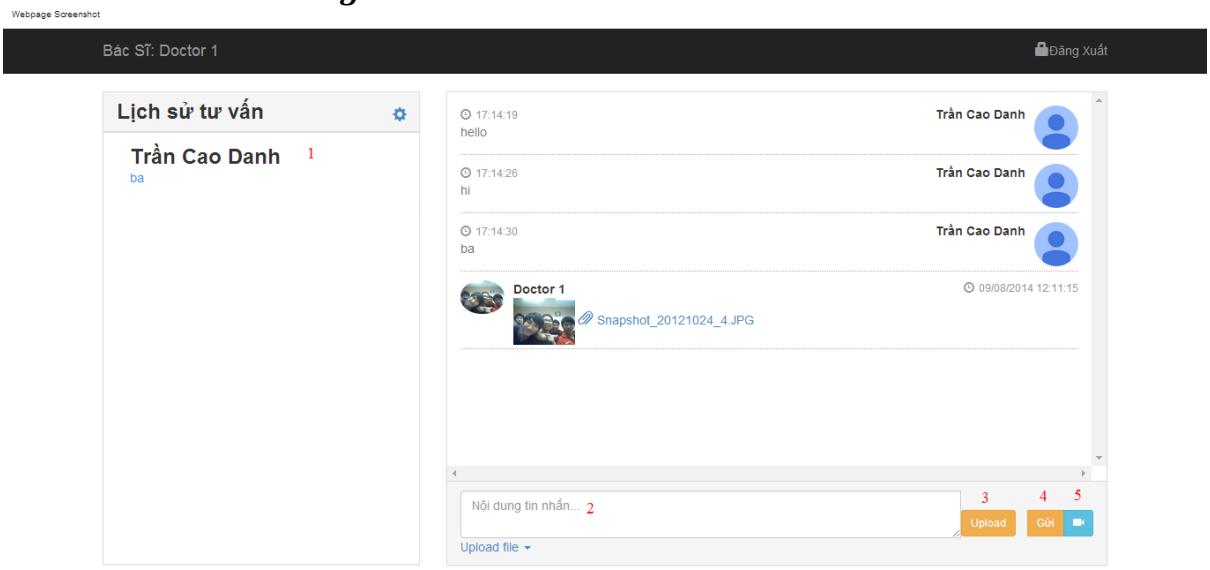
Field No	Field name	Type	Mandatory	Data type	Max length	Description
1	Bình luận	Textbox	No	String		Comment of doctor

6.25.2.2. Actions

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

6.26. Doctor conversation screen

6.26.1. Screen image



http://localhost:62443/DoctorConversation Sun Aug 10 2014 00:29:30 GMT+0700 (SE Asia Standard Time)

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

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	Upload	File	On click	Submit inputted file to server	
4	Gửi	Button	On click	Submit inputted data to server	
5	Yêu cầu xem webcam	Button	On click	Request webcam to patient	

6.27. Doctor information screen

6.27.1. Screen image

Thông tin bác sĩ

The screenshot shows a user interface for updating doctor information. On the left, there is a placeholder for a profile picture with a 'SELECT FILES' button below it. To the right, there is a table with the following data:

Ảnh đại diện	Ho và tên	Trần Cao Danh 3
	Mật khẩu	<button>Thay đổi mật khẩu</button> 4
10	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

At the top right, there is a navigation bar with three items: 'Thay đổi' (Change), '0', and '1'. Below the table, there is a green progress bar.

6.27.2. Objects and Actions

6.27.2.1. 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

6.27.2.2. 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	
4	Thay đổi mật khẩu	Button	On click	Forward to popup "ChangePassword"	
10	Chọn tệp	File	On click	Submit inputted file to server	

6.28. Patient information screen

6.28.1. Screen image

Webpage Screenshot

Xin chào: Trần Cao Danh
Thông tin Người dùng

Thay đổi	<input type="radio"/> 1	<input checked="" type="radio"/> 2
Liên tiếp	<input type="radio"/>	<input checked="" type="radio"/> 1

Ảnh đại diện	Ho và tên	Trần Cao Danh 5
	Mật khẩu	Thay đổi mật khẩu 6
	Giới tính	Nam 7
	Ngày sinh	19/02/1992 8
	Số điện thoại	0933056722 9
	Địa chỉ thường trú	Tiền Giang 10
	Địa chỉ tạm trú	Quận 12 11

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

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http://localhost:52443/UserInfo Sat Aug 09 2014 23:10:28 GMT+0700 (SE Asia Standard Time)

6.28.2. Objects and Actions

6.28.2.1. Data fields

Field No	Field name	Type	Mandatory	Data type	Max length	Description
5	Họ Tên	Textbo	Yes	String	50	Contain user's full

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

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	

3	O	Check box	On click	Click “0” to not next value after 300 second	
4	I	Check box	On click	Click “0” 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	

6.29. Patient health record screen

6.29.1. Screen image

Webpage Screenshot

The screenshot shows a patient profile page with the following details:

- Xin Chào: Trần Cao Danh**
- Sức khỏe cá nhân** (Personal Health) section displays the following data:

Chiều Cao (cm)	170 5
Cân Nặng (kg)	70.5 6
Màu Mắt	Đen 7
Màu Tóc	Đen 8
Nhóm Máu	B 8
Lượng đồ uống có cồn (lít) hàng tuần	1.2 10
Số năm uống	4 11
Lượng thuốc hút (gói) hàng tuần	1 12
Số năm hút	2 13
Tên loại thể thao	Đá banh 14
Thời lượng tham gia (giờ) hàng tuần	4 15
Tham gia khác (Yoga, Thiền định,...)	Yoga 16
Thời lượng tham gia (giờ) hàng tuần	2 17

- Thay đổi** (Change) and **Liên tiếp** (Next) buttons are located at the top right.
- A sidebar on the right contains numbered interaction points:

 - Point 1: A radio button labeled "O" and a checkmark labeled "I".
 - Point 2: A green bar with a checkmark labeled "I".
 - Point 3: A radio button labeled "O".
 - Point 4: A radio button labeled "I".

Dị ứng

Bệnh án: Bệnh Án Mẫu 18					
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	

Lịch sử tiêm chủng

Bệnh án: Bệnh Án Mẫu 19		
Loại tiêm chủng	Ngày tiêm chủng	Số lần tiêm chủng
Sởi	15/03/1992	1

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http://localhost:52443/UserHealthRecord Sat Aug 09 2014 12:28:04 GMT+0700 (SE Asia Standard Time)

6.29.2. Objects and Actions

6.29.2.1. 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	Textbox	No	String	50	Contain user's sport per week

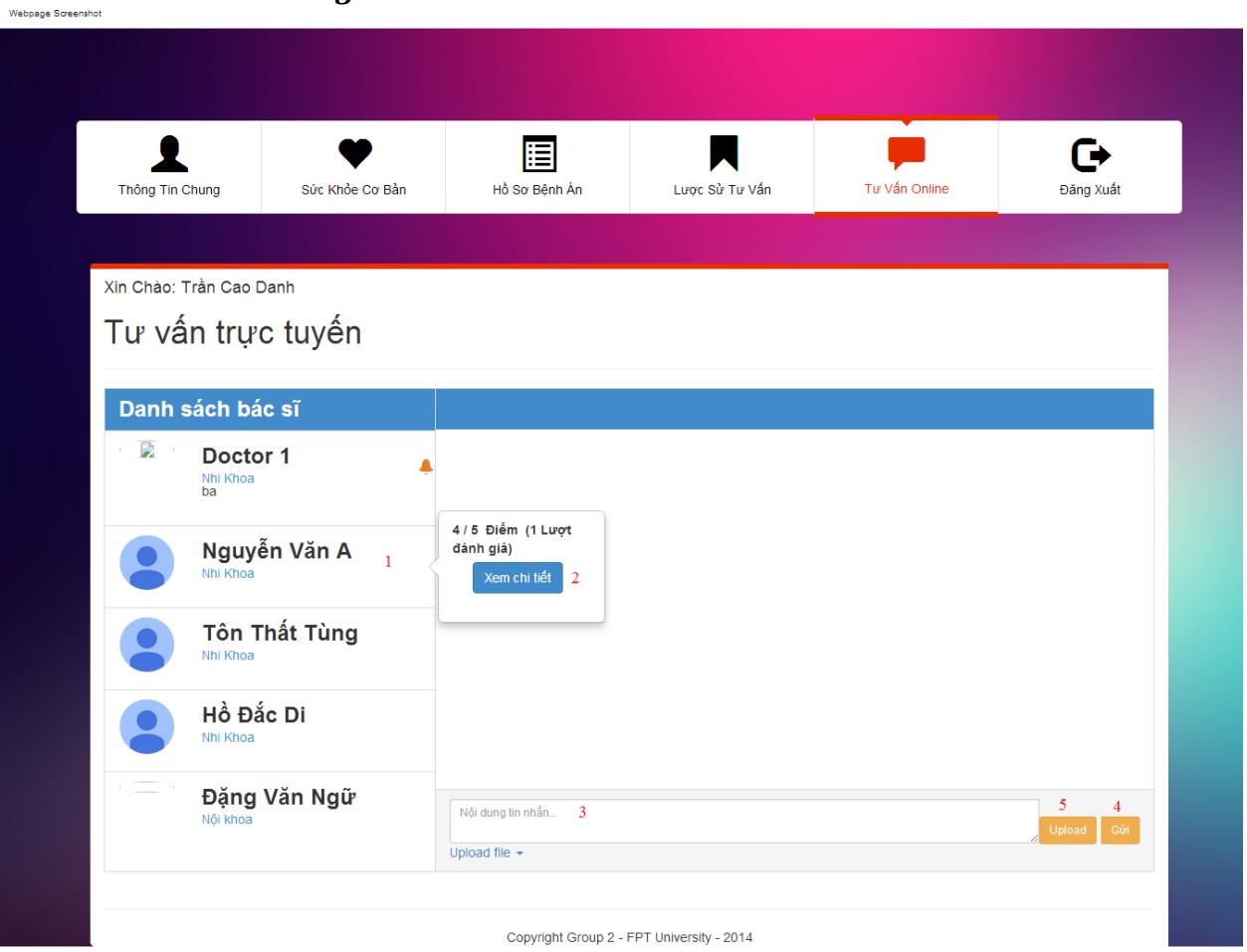
	tuần					
16	Tham gia khác	Textbo x	No	String	50	Contain user's exercise type
17	Thời lượng tham gia hàng tuần	Textbo x	No	String	50	Contain user's exercise per week

6.29.2.2. 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	
3	O	Check box	On click	Click “0” 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	

6.30. User conversation screen

6.30.1. Screen image



6.30.2. Objects and Actions

6.30.2.1. 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

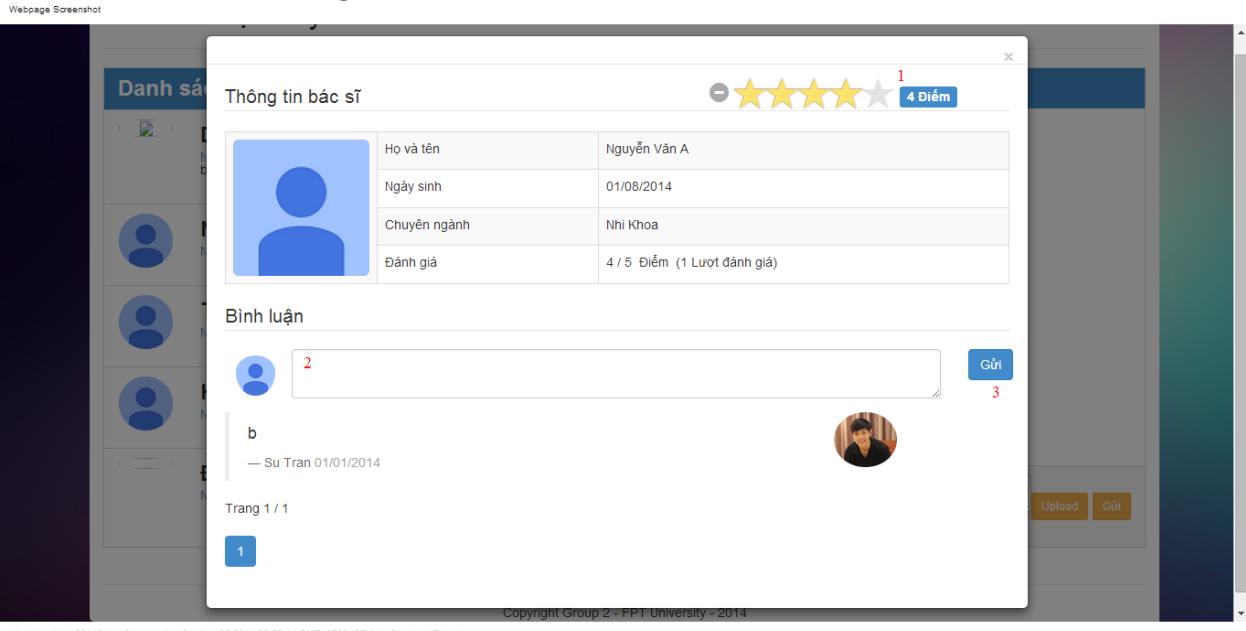
6.30.2.2. Actions

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	

6.31. User comment/rating screen

6.31.1. Screen image



6.31.2. Objects and Actions

6.31.2.1. Data fields

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

6.31.2.2. Actions

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

7. Database Design

7.1. Diagram

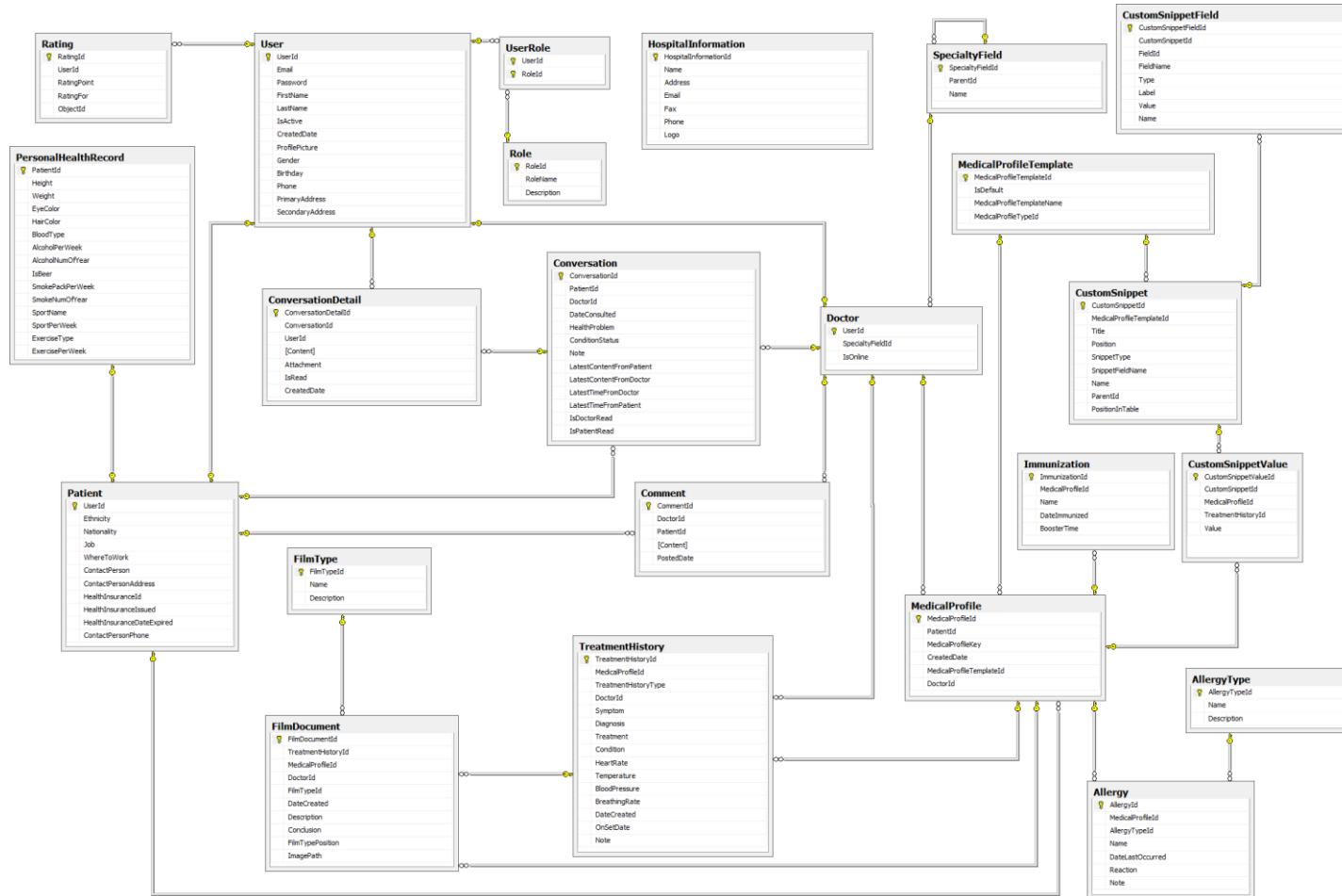


Figure 50 Database Relationship Design

7.2. Data dictionary

Reference to CD: <Root of CD>\Reports\Report 4 - Group 2.docx

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 much resources are required to perform the test.

Method: System Testing, Black-box Testing.

2. Performance measures

2.1. Assumptions

2.1.1. Software and Hardware

- CPU: Core i3 2.13Ghz
- Network connection: 72.0 Mbps
- Hard Drive: 320GB
- Memory: 4096MB RAM
- Version of Operation System: Windows 7 Professional 64-bit
- Version of Software:
 - Web Server: IIS Express 8.0.8418.0
 - Database: SQL Server 2008 R2

2.1.2. Performance requirement

Metric	Value
Average Page Load Time	< 4 sec
Max Page Load Time	< 60 sec
Minimum Throughput	Per scenario
Max Number of Registered Users	2000k
Max Records in the Database	4000k
Max Database Size	2GB

Figure 51 Performance Requirement

2.2. Scenarios Frequency (Throughput per scenario)

Scenario (Thread Group)	Expected Normal Throughput in peaks [scenarios/sec] (100%, Load Test)	Number of concurrent threads (100%)	Throughput in JMeter plan [scenarios/sec] (100%, Load Test)	Number of concurrent threads (200%)	Throughput in JMeter plan [scenarios/sec] (200%, Stress Test)
Anonymous views 3 pages	50	200	23.0	400	24.1
Admin views 7 pages	100	3	0.74	200	0.803
Doctor views 5 pages	120	30	5.33	240	5.7
Patient views 5 pages	120	100	18.0	240	19.3
All	150	390	44.7	780	46.79

Figure 52 Scenarios Frequency

3. Test Plan

3.1. Features to be tested

- 3.1.1. <User> Login**
- 3.1.2. <User> Logout**
- 3.1.3. <User> Register**
- 3.1.4. <User> Remember me**
- 3.1.5. <User> Forget password**
- 3.1.6. <Patient> Edit patient information**
- 3.1.7. <Patient> Edit health record**
- 3.1.8. <Patient> View medical profile**
- 3.1.9. <Patient> Chatting**
- 3.1.10. <Patient> Attach files**
- 3.1.11. <Doctor> List patients**
- 3.1.12. <Doctor> Add patient**
- 3.1.13. <Doctor> Edit patient**
- 3.1.14. <Doctor> View patient**
- 3.1.15. <Doctor> List medical profiles**
- 3.1.16. <Doctor> Edit medical profile**
- 3.1.17. <Doctor> Doctor chatting**
- 3.1.18. <Doctor> Request webcam**
- 3.1.19. <Doctor> View medical profile structure**
- 3.1.20. <Admin> List doctors**
- 3.1.21. <Admin> Add doctor**
- 3.1.22. <Admin> Edit doctor**
- 3.1.23. <Admin> List medical profile template**
- 3.1.24. <Admin> Add new medical profile template**

3.1.25. <Admin> Edit medical profile template

3.2. Features not to be tested

3.2.1. <User> Homepage's navigation

3.2.2. <User> 404 page

3.2.3. <User> Access Denied page

3.2.4. <Admin> Edit hospital information

3.2.5. <Admin> List patients

3.2.6. <Admin> Add patient

3.2.7. <Admin> Edit patient

3.2.8. <Admin> List specialty fields

3.2.9. <Admin> Edit specialty field

3.2.10. <Admin> Add specialty field

3.2.11. <Admin> List film types

3.2.12. <Admin> Add film type

3.2.13. <Admin> Edit film type

3.2.14. <Admin> List allergy type

3.2.15. <Admin> Add allergy type

3.2.16. <Admin> Edit allergy type

3.3. Testing Tools and Environment

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

4. Test cases

4.1. <User> Login

4.1.1. Purpose

4.1.2. 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

4.2. <User> Logout

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.3. <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

4.4. <User> Remember me

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.5. <User> Forget password

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.6. <Patient> Edit patient information

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.7. <Patient> Edit health record

4.7.1. Purpose

4.7.2. 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"> + Chiều Cao (cm): + Cân nặng (kg): + Màu tóc: + Màu mắt: + Nhóm máu: + Lượng đồ uống có cồn (lít) hàng tuần: + Số năm uống: + Lượng thuốc hút (gói) hàng tuần: + Số năm hút: + Tên loại thể thao: + Thời gian tham gia (giờ) hàng tuần: 	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"> + Cân nặng (kg): 77 + Màu tóc: Đen + Màu mắt: Đen + Nhóm máu: B + Lượng đồ uống có cồn (lít) hàng tuần: 0 + Số năm uống: 0 + Lượng thuốc hút (gói) hàng tuần: 0 + Số năm hút: 0 + Tên loại thể thao: Bóng đá + Thời gian tham gia (giờ) hàng tuần: 5 + Tham gia khác (Yoga, Thiền định,): Không + Thời gian tham gia (giờ) hàng tuần: 0 <p>Click on "v" button.</p>	<ul style="list-style-type: none"> + Màu tóc: Đen + Màu mắt: Đen + Nhóm máu: B + Lượng đồ uống có cồn (lít) hàng tuần: 0 + Số năm uống: 0 + Lượng thuốc hút (gói) hàng tuần: 0 + Số năm hút: 0 + Tên loại thể thao: Bóng đá + Thời gian tham gia (giờ) hàng tuần: 5 + Tham gia khác (Yoga, Thiền định,): Không + Thời gian tham gia (giờ) hàng tuần: 0 		
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4.8. <Patient> View medical profile

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.9. <Patient> Chatting

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.10. <Patient> Attach files

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.11. <Doctor> List patients

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.12. <Doctor> Add patient

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.13. <Doctor> Edit patient

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.14. <Doctor> View patient

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.15. <Doctor> List medical profiles

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.16. <Doctor> Edit medical profile

4.16.1. Purpose

4.16.2. Inputs

Email	Password	Role
doctor1@gmail.com	123456	User

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

4.17. <Doctor> Doctor chatting

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.18. <Doctor> Request webcam

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.19. <Doctor> View medical profile structure

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.20. <Admin> List doctors

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.21. <Admin> Add doctor

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.22. <Admin> Edit doctor

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.23. <Admin> List medical profile template

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.24. <Admin> Add new medical profile template

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

4.25. <Admin> Edit medical profile template

Reference to CD: <Root of CD>\Reports\Report 5 - Group 2.docx

5. Checklists

5.1. 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		

5.1.1. 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		

5.1.2. 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	

5.1.3. Checklist of Submission

Questions		Yes	No	N/A
TABLES AND FIGURES				
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	

5.2. 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

1.1.1. Hardware minimum requirement

- CPU Core 2 Duo 2.0GHz.
- 2GB RAM or more
- 250GB.

1.1.2. Software requirement

- Web Server: Internet Information System – IIS 7.0
- Microsoft Windows 7 or later
- 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

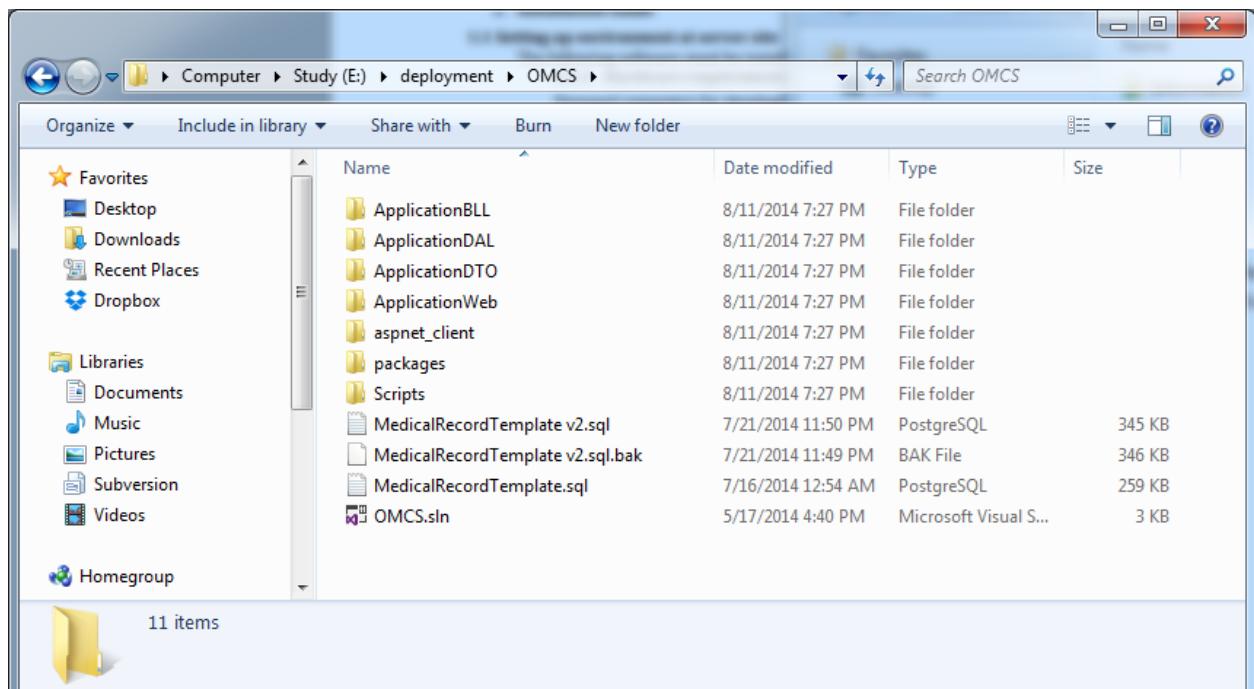


Figure 53 Prepare deployment package

1.2.2. Deploy database

1.2.2.1. Open Microsoft SQL Server Management Studio



Figure 54 Microsoft SQL Server Management Studio

1.2.2.2. Find and execute sql file

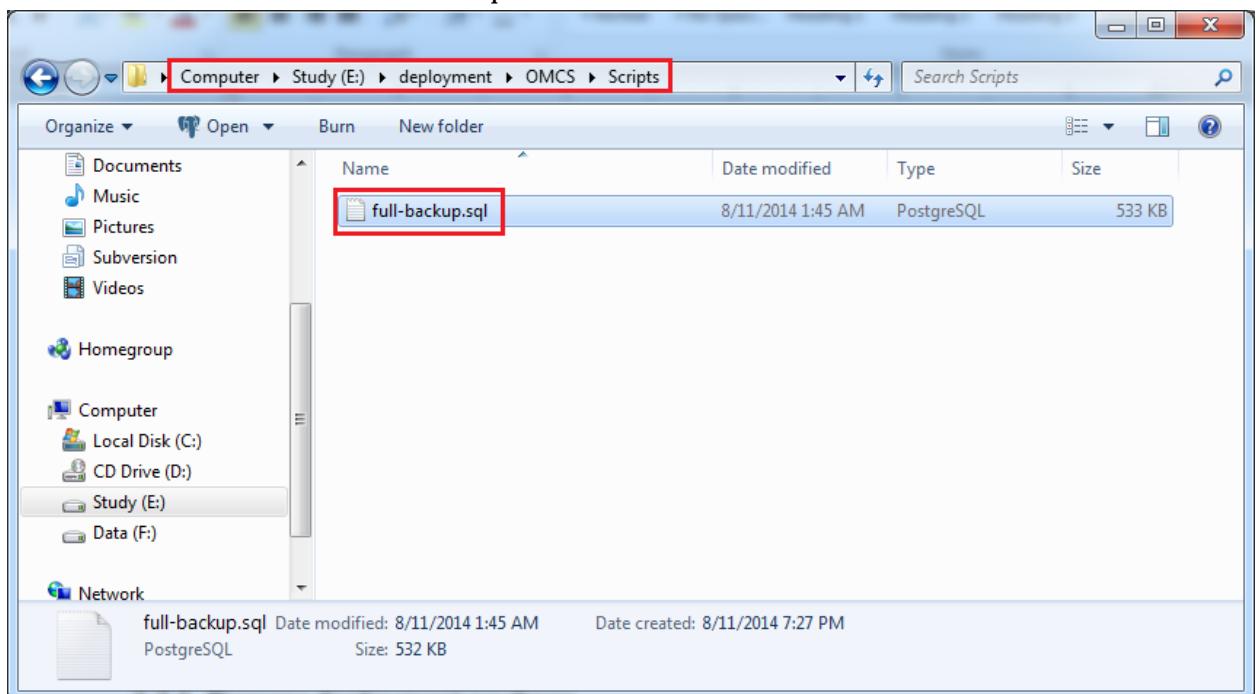


Figure 55 SQL - Full Backup

1.2.2.3. Configure connection string

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

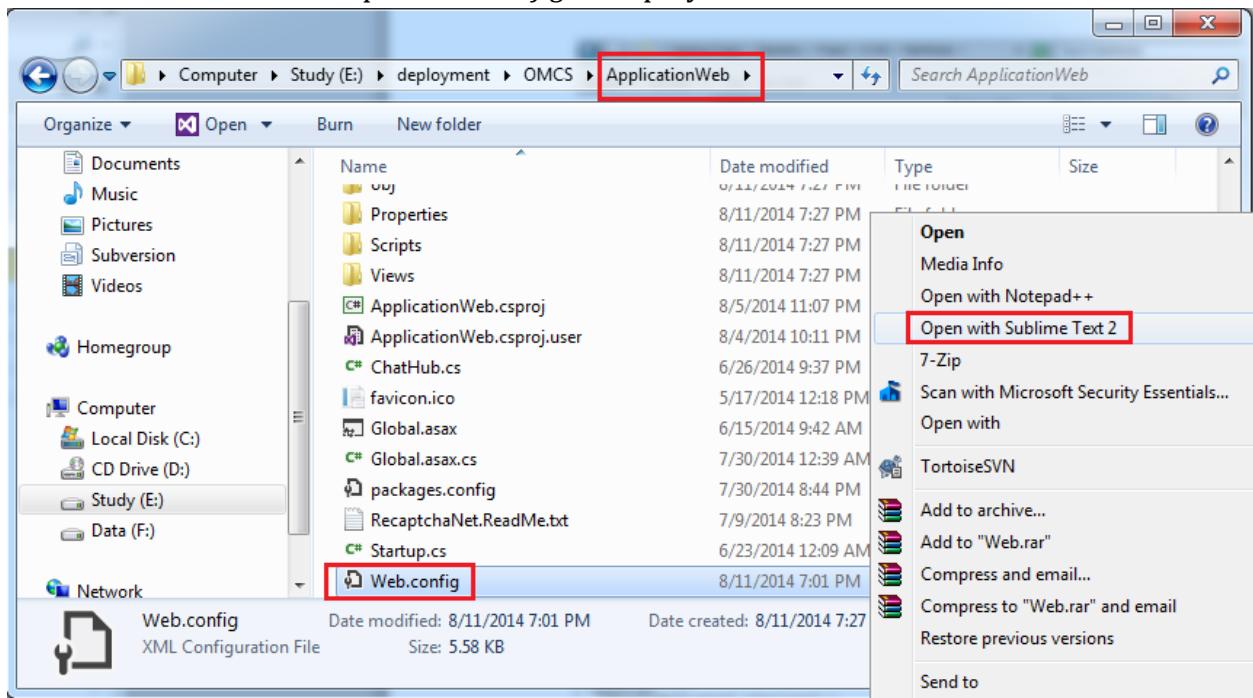


Figure 56 Connection String - 1

- 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" />
```

Figure 57 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 58 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....

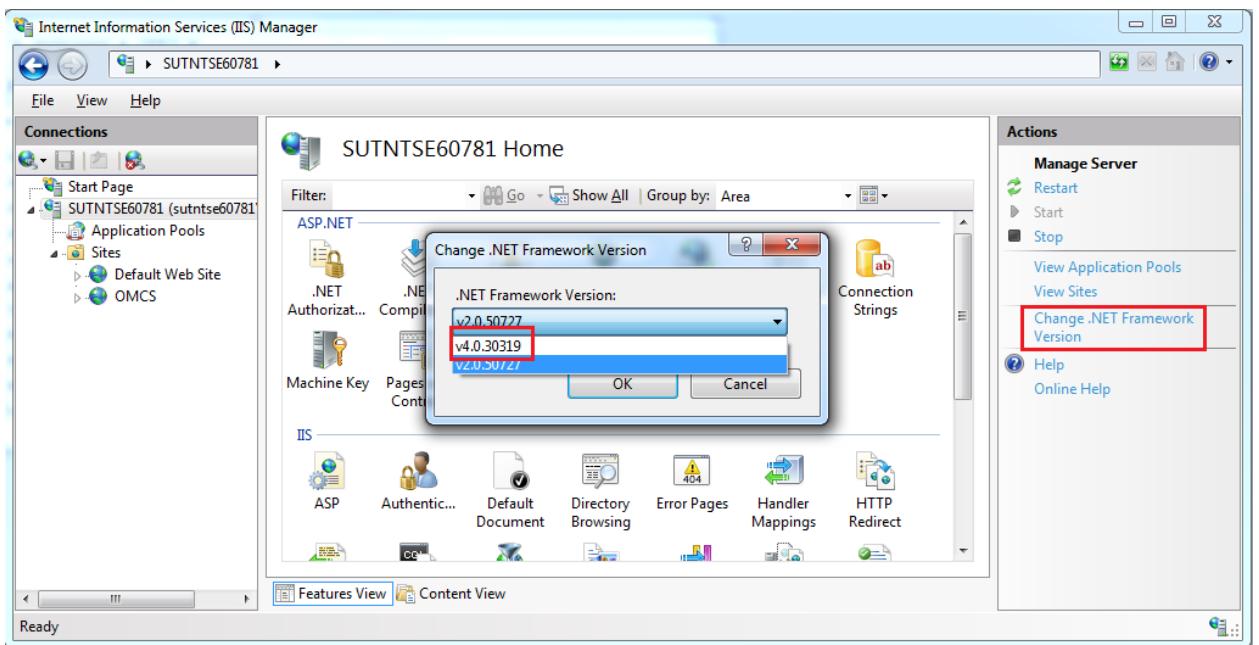


Figure 59 IIS Manager - 1

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

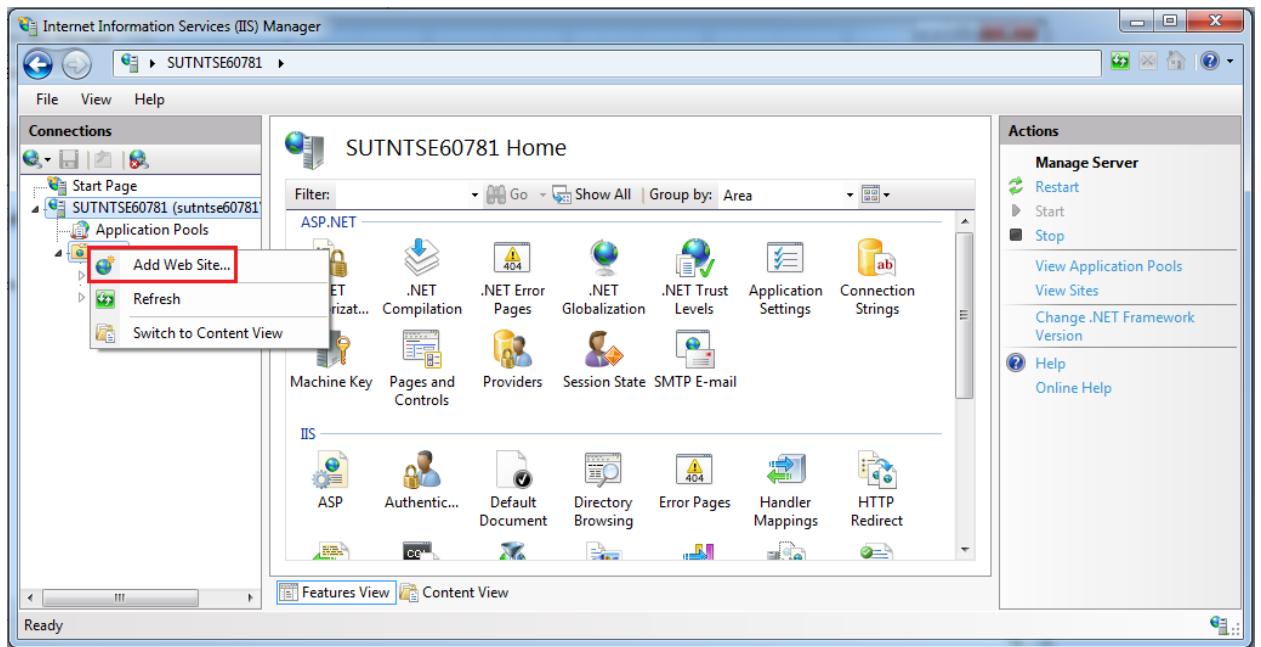


Figure 60 IIS Manager - 2

- 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”

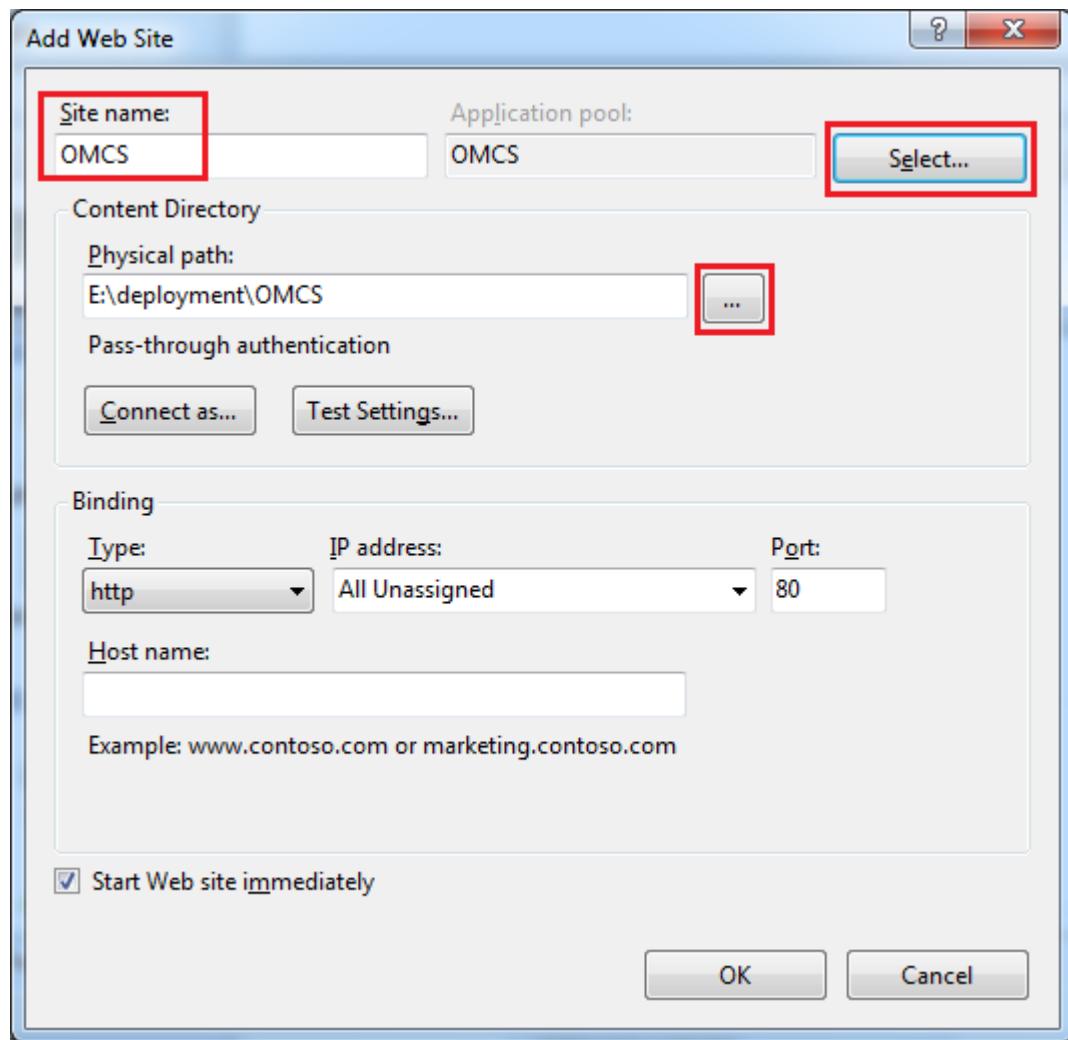


Figure 61 IIS Manager - 3

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

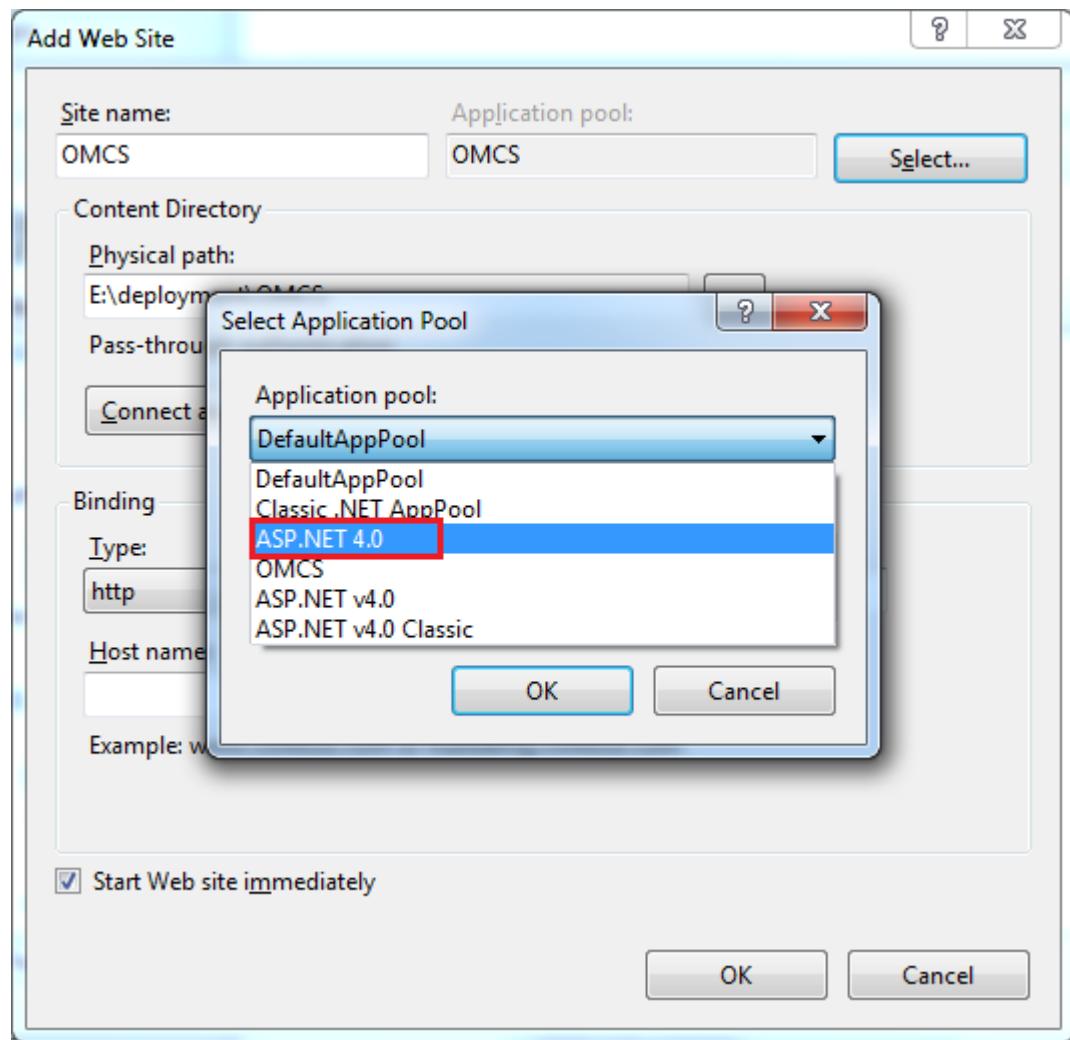


Figure 62 IIS Manager - 4

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

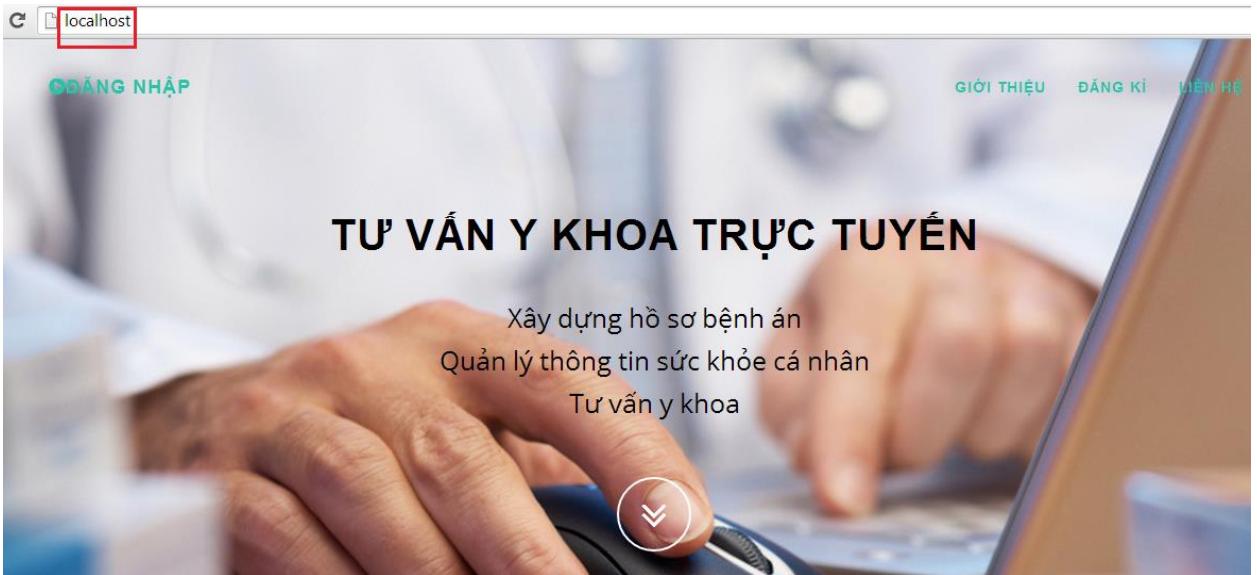


Figure 63 Deployment Successful

2. User Guide

2.1. Login



Figure 64 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.

Table 30 Login Step

2.2. Patient – User Info

2.2.1. Change Profile Image

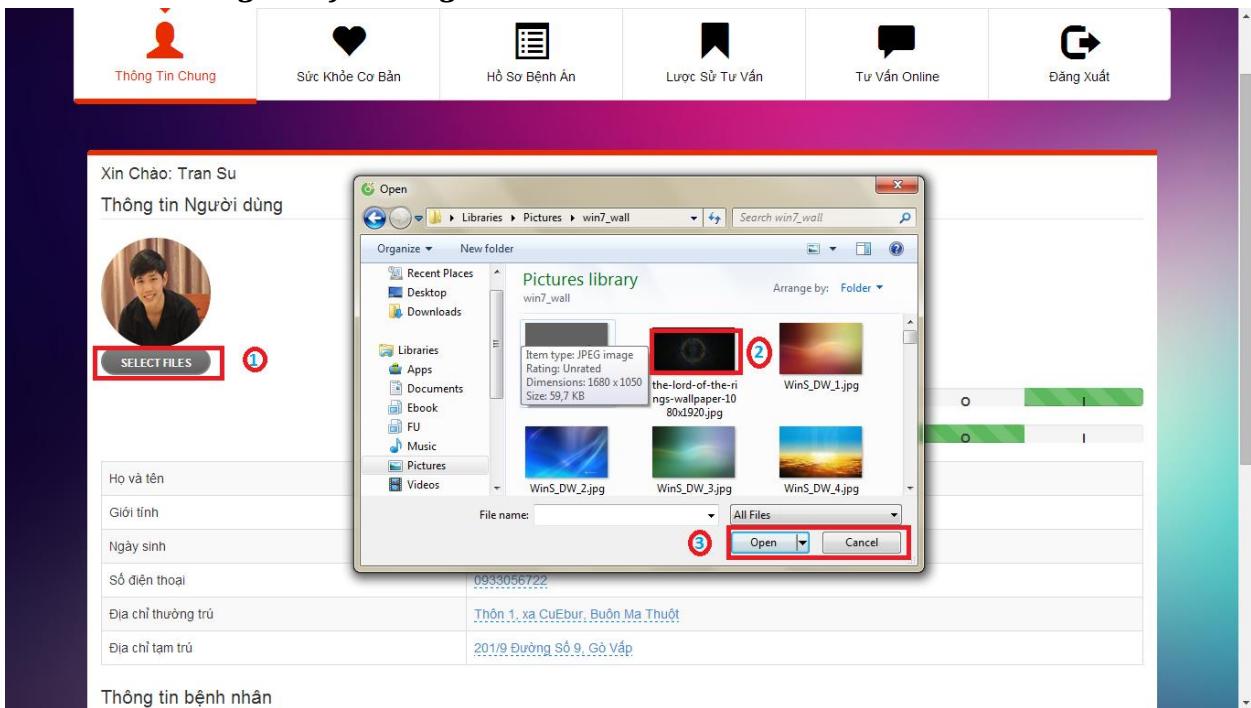


Figure 65 Change Profile Image Windows

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 31 Change Profile Image Step

2.2.2. Edit Patient Info

The screenshot shows a user interface for editing patient information. 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 và tên	Tran Sun 2
Giới tính	Nam 1
Ngày sinh	19/02/1992
Số điện thoại	0933056722
Địa chỉ thường trú	Thôn 1, xã Củ Ebur, Buôn Ma Thuột
Địa chỉ tạm trú	201/9 Đường Số 9, Gò Vấp

Below the table is another section titled 'Thông tin bệnh nhân' (Patient Information) with the following details:

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

A floating input dialog box is overlaid on the screen, containing a text field with 'Tran' and a dropdown menu with 'Tran Sun'. The dialog has four numbered circles: 1 points to the 'I' button at the top right, 2 points to the text field, 3 points to the dropdown arrow, and 4 points to the 'x' button.

Figure 66 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 “x” button to cancel.

Table 32 Edit Patient Info Step

2.3. Patient – User Health Record

2.3.1. Edit Personal Health Record

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 67 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 33 Edit Personal Health Record Step

2.3.2. View Patient Sample

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

- Medical History:**

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
- Dị ứng:**

Bệnh án:	Bệnh Án Mẫu				
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	
- Lịch sử tiêm chủng:**

Bệnh án:	Bệnh Án Mẫu	
Loại tiêm chủng	Ngày tiêm chủng	Số lần tiêm chủng
Sởi	15/03/1992	1

Page footer: localhost:52443/UserMedicalProfile/Details?medicalProfileId=1 Copyright Group 2 - FPT University - 2014

Figure 68 View Patient Sample

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

Table 34 View Patient Sample Step

2.4. Patient - View Medical Profile Sample

The screenshot shows a user medical profile page with the following sections:

- Header Buttons:** 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, Đăng Xuất.
- User Info:** Xin Chào: Trần Su
- Hồ sơ bệnh án:**

Bệnh Án Mẫu	04/08/2014	
Bệnh Án Mẫu	25/07/2014	
Bệnh Án Mẫu	30/07/2014	

Page footer: localhost:52443/UserMedicalProfile/Details?medicalProfileId=1 Copyright Group 2 - FPT University - 2014

Figure 69 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 35 View Medical Profile Sample Step

2.5. Patient - View Consult History

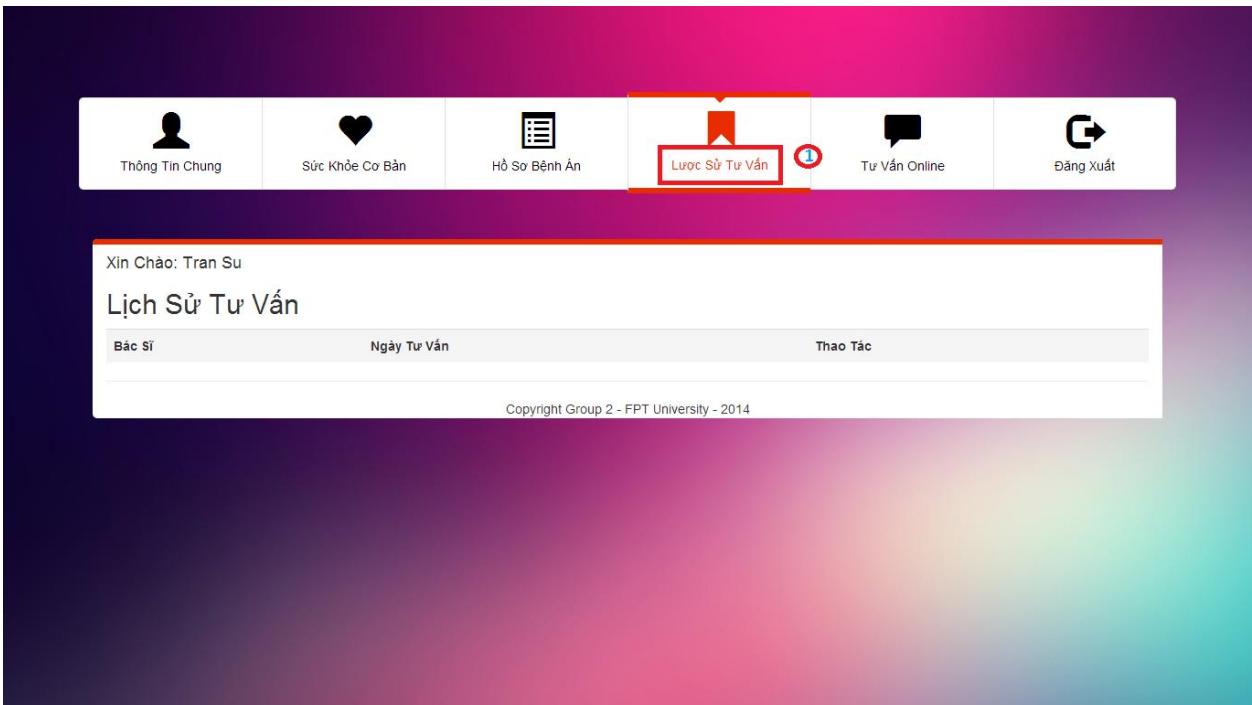


Figure 70 View Consult History Page

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

Table 36 View Consult History Step

2.6. Patient - Consult Online

2.6.1. Chatting

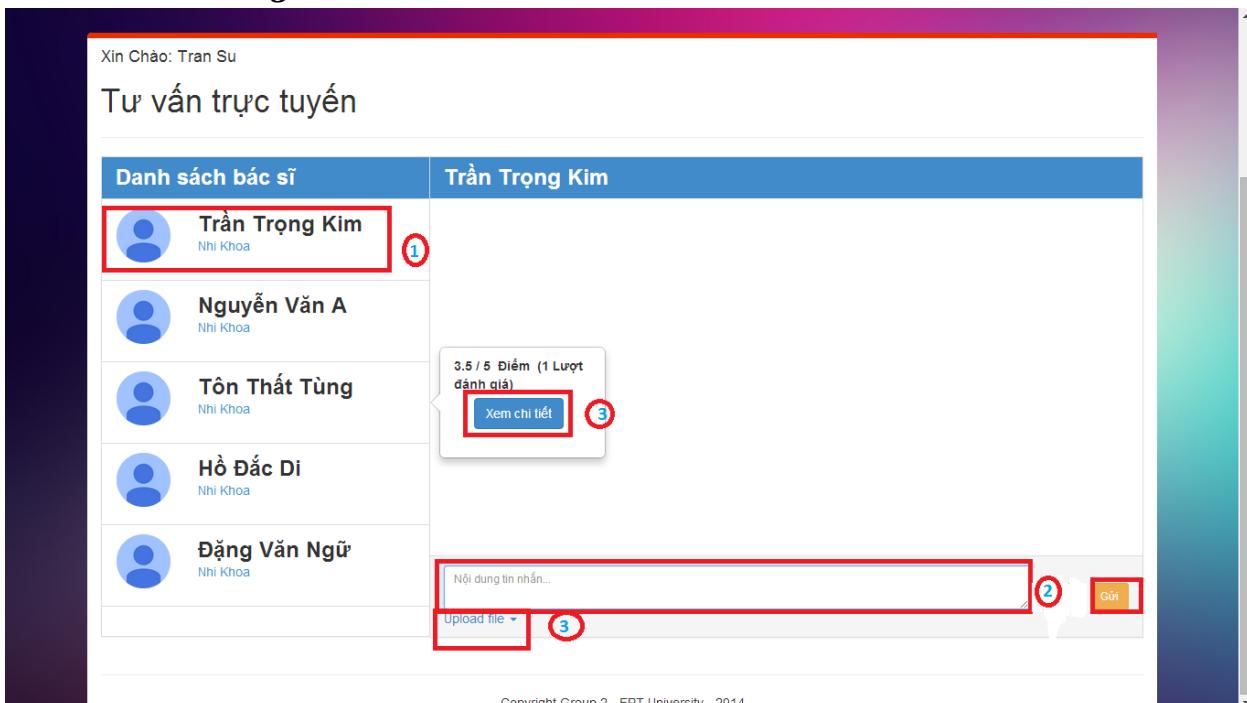


Figure 71 Consult Online Page – Chatting

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 37 Chatting Step

2.6.2. View Doctor Details

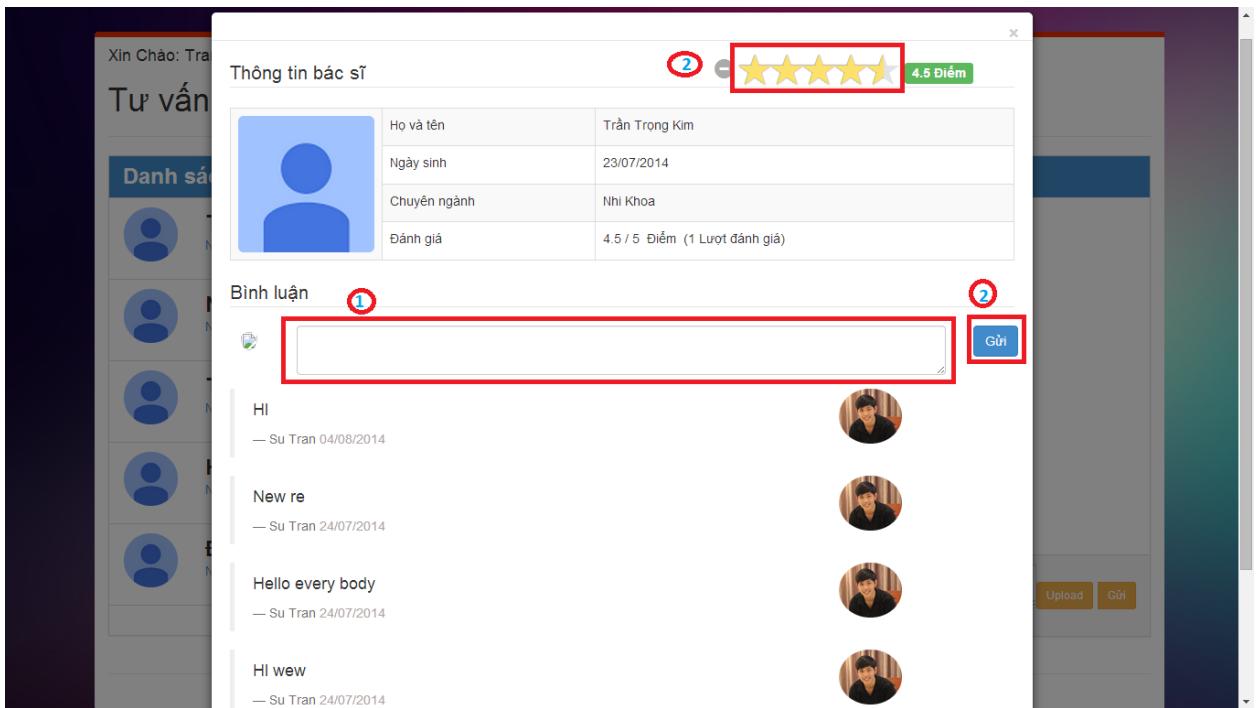


Figure 72 View Doctor Details Page

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 38 View Doctor Details Step

2.7. Doctor - Manage Patient

2.7.1. Create New Patient

The screenshot shows a medical software interface. On the left, a sidebar menu lists options like 'Quản lý bệnh nhân', 'Quản lý Bệnh án', 'Tư vấn trực tuyến', 'Tin nhắn', and 'Xem mẫu hồ sơ'. The main area is titled 'Tạo mới bệnh nhân' and contains a form for creating a new patient. The form includes tabs for 'Thông tin cơ bản', 'Thông tin bệnh nhân', 'Thông tin người liên lạc', and 'Sức khỏe cá nhân'. The 'Thông tin cơ bản' tab is selected and highlighted with a red box and the number '1'. The 'Email (*)' field is also highlighted with a red box and the number '2'. At the bottom right of the form, there are two buttons: 'Lưu' (Save) in blue and 'Bỏ qua' (Cancel) in red, which is also highlighted with a red box and the number '3'. To the right of the form, there is a vertical column labeled 'Thao Tác' (Actions) with several icons.

Figure 73 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 39 Create New Patient Step

2.7.2. View Patient Details

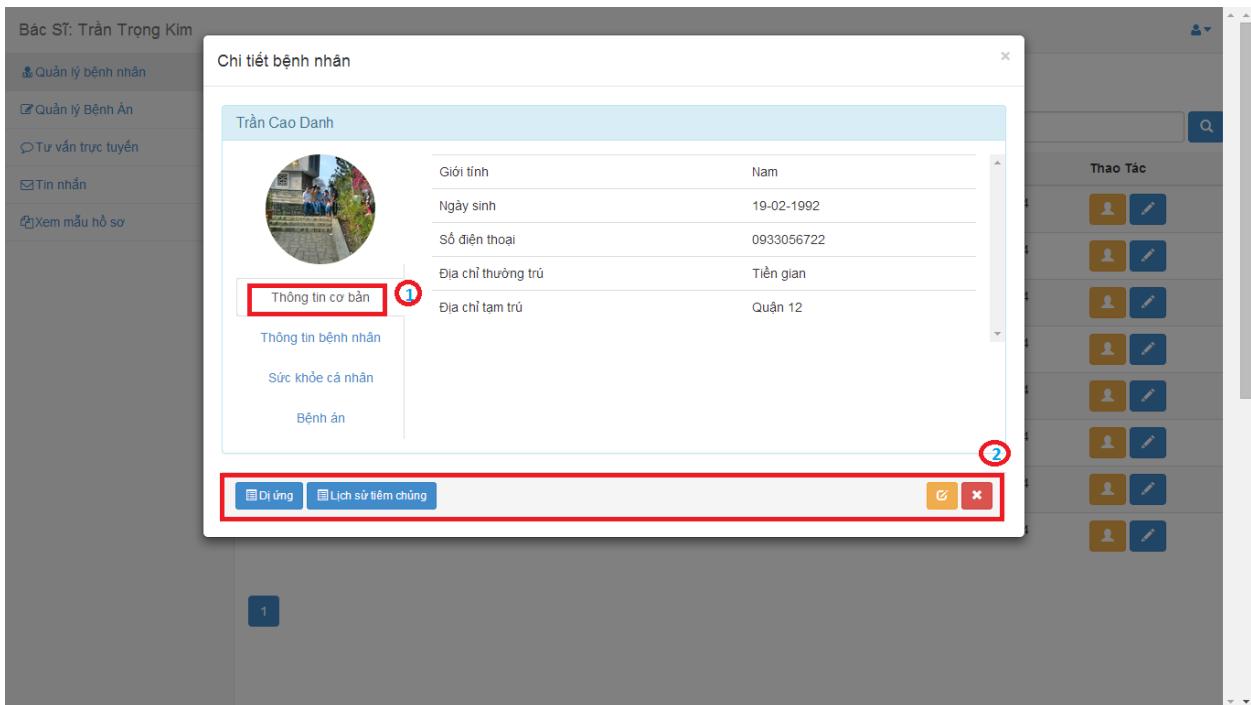


Figure 74 View Patient Details Page

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 40 View Patient Details Step

2.7.3. Edit Patient Details

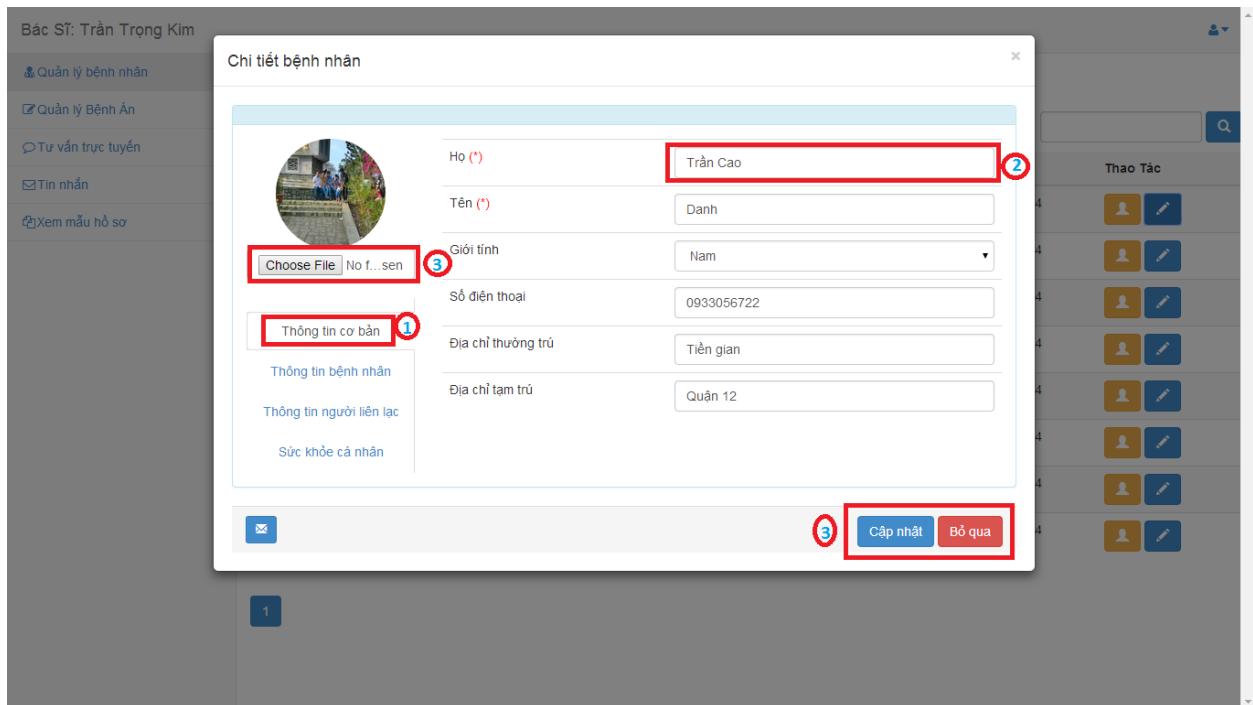


Figure 75 Edit Patient Details Page

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 41 Edit Patient Details Step

2.8. Doctor – Consult Online

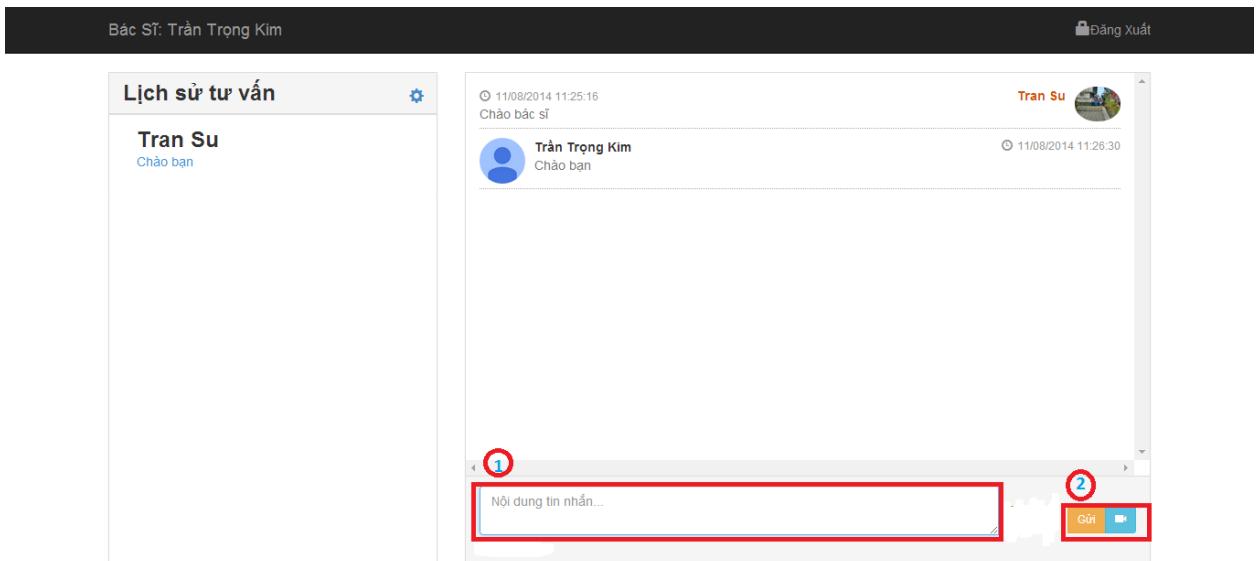


Figure 76 Consulting Online Page

Step	Description
1	Fill the text-box.
2	Click on “Gửi” button to send message. Click on “Webcam” button to request watching patient’s webcam.

Table 42 Consult Online Step

2.9. Doctor – Message

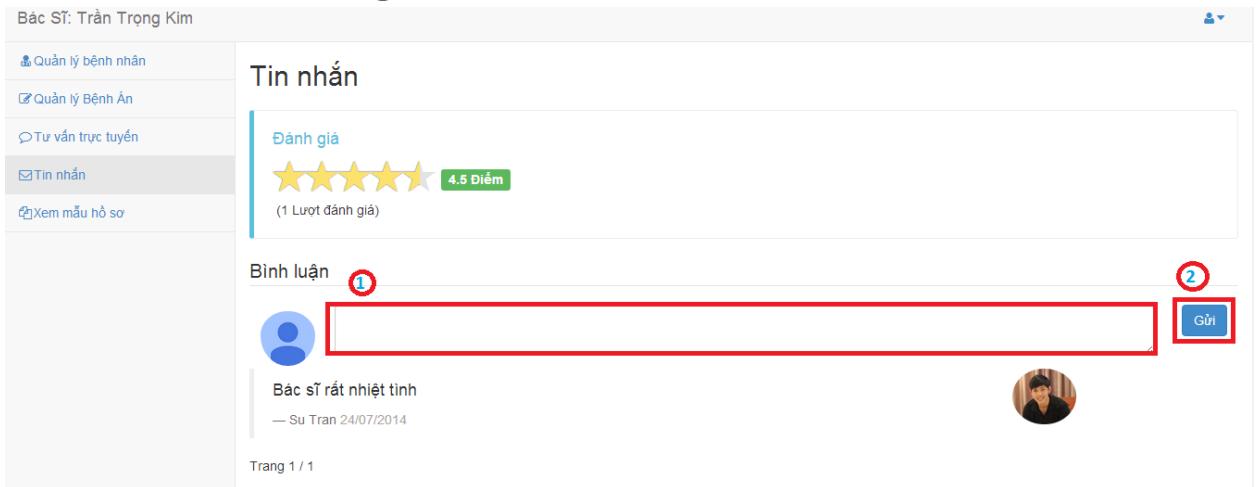


Figure 77 Message Page

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

Table 43 Comment Step

2.10. Admin – Manage Hospital Information

2.10.1. View/Edit hospital information

Thông tin bệnh viện

Thay đổi

Bệnh Viện

Tên bệnh viện:
Địa chỉ:
Điện thoại:
Fax:
Email:

Đội ngũ bác sĩ: 5 thành viên

Tên bác sĩ	Chuyên môn	Tên khoa
Doctor 1	Nhi Khoa	Ngoại Khoa
Nguyễn Văn A	Nhi Khoa	Nội Khoa
Tôn Thủ Tùng	Nhi Khoa	Nhi Khoa
Hồ Đức Gi	Nhi Khoa	Ngoại Trị inch
Bàng Văn Ngữ	Nội Khoa	Ngoại ileng ngực

Khoa khám bệnh: 14 khoa

Tên khoa
Ngoại Khoa
Nội Khoa
Nhi Khoa
Ngoại Trị inch
Ngoại ileng ngực
Ngoại tiêu hóa
Phẫu thuật mổ
Ngoại tổng quát
Ngoại thận hình
Phẫu thuật mổ & hàn mổ
Chẩn thương chấn thương
Đi ống
Viện dịch học
Nội trị inch

Xem thêm: 4
Hồ sơ bệnh án: 3 đang áp dụng

Mã bệnh án	Tên bệnh án	Bệnh nhân
OMCS:0000001.01	Bệnh án mẫu	Trần Su
OMCS:0000001.02	Bệnh Án mẫu	Trần Su
OMCS:0000001.03	Bệnh Án mẫu	Trần Su

Xem thêm: ...

Xem thêm: ...

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http://localhost:8243/InforInformationRebuild Sat Aug 09 2014 11:07:00 GMT+0700 (SE Asia Standard Time)

Figure 78 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 44 View/Edit Hospital Information Step

2.11. Admin – Manage Users

2.11.1. 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	
tranguyenbensu@gmail.com	Tran Su	Hoạt Động	03-08-2014	
tuanmai@gmail.com	Mai Anh Tuấn	Hoạt Động	03-08-2014	

1 2 3

http://localhost:52443/Admin/User Sat Aug 09 2014 09:57:11 GMT+0700 (SE Asia Standard Time)

Figure 79 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 45 View Users Step

2.11.2. 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"/>

1 2

Ngày tạo Thao Tác

09-08-2014
 09-08-2014
 03-08-2014
 03-08-2014
 03-08-2014
 03-08-2014

http://localhost:52443/Admin/User Sat Aug 09 2014 09:57:11 GMT+0700 (SE Asia Standard Time)

Figure 80 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 46 Create User Step

2.11.3. Edit user

Webpage Screenshot

Nguyễn Nhật Linh

1

Ảnh đại diện	Nguyễn Nhật
Tên (*)	Linh
Giới tính (*)	Nam
Số điện thoại (*)	0933056722
Địa chỉ thường trú (*)	Quảng Ngãi
Địa chỉ tạm trú	Quận 12

2

2

Figure 81 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 47 Edit User Step

2.12. Admin – Manage Doctors

2.12.1. View doctor list

Quản Lý Bác sĩ						
Email	Tên đầy đủ	Chuyên môn	Tình trạng	Ngày tạo	Thao Tác	
dangvangu@gmail.com	Đặng Văn Ngũ	Nội Khoa	Hoạt Động	09-08-2014	 	1
doctor1@ymail.com	Doctor 1	Nhi Khoa	Hoạt Động	01-08-2014	 	2
tonthaftung@gmail.com	Tôn Thất Tùng	Nhi Khoa	Hoạt Động	01-08-2014	 	3
tonthaftung@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	 	

1

Http://localhost:52443/Admin/Doctor Sat Aug 09 2014 19:51:11 GMT+0700 (SE Asia Standard Time)

Figure 82 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 48 View Doctors Step

2.12.2. Create doctor

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

Tạo Mới

Email

dangvangu@gmail.com

doctor1@ymail.com

tonthaftung@gmail.com

tonthaftung@gmail.com

vana@gmail.com

1

Http://localhost:52443/Admin/Doctor Sat Aug 09 2014 19:36:17 GMT+0700 (SE Asia Standard Time)

Email (*)

Họ (*)

Tên (*)

Giới tính (*)

Chuyên môn (*)

Ngày sinh (*)

Số điện thoại (*)

Địa chỉ thường trú (*)

Địa chỉ tạm trú

X Bỏ Qua Lưu

Ngày tạo

Thao Tác

09-08-2014  

01-08-2014  

01-08-2014  

01-08-2014  

09-08-2014  

2

Figure 83 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 49 Create Doctor Step

2.12.3. Edit doctor

Figure 84 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 50 Edit Doctor Step

2.13. Admin – Manage Medical Profiles

2.13.1. View medical profile list

The screenshot shows a webpage titled "Quản Lý Bệnh Án" (Manage Medical Profiles). On the left, there is a sidebar with a navigation menu:

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

The main content area displays a table titled "Quản Lý Bệnh Án" with the following data:

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	1 Q W X
OMCS.0000001.02	Bệnh Án Mẫu	Tran Su	trannguyentiensu@gmail.com	25/07/2014 00:00:00	2 Q W X
OMCS.0000001.03	Bệnh Án Mẫu	Tran Su	trannguyentiensu@gmail.com	30/07/2014 00:00:00	Q W X

At the bottom left of the main content area, there is a small blue box containing the number "1". At the bottom right of the search bar, there is a small red box containing the number "2".

Figure 85 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 51 View Medical Profiles Step

2.13.2. View details a medical profile

Webpage Screenshot

Bệnh Án Mẫu

Hành chính

Họ và tên	Tran Su
Giới tính	Nữ
Công việc	Lập trình viên
Dân tộc	Kinh
Địa chỉ	Thôn 1, xã Cù Ebur, Buôn Ma Thuột
Vào viện	09/06/2014

Chuyên môn

Lí do vào viện	Khó thở
Bệnh sử	Bệnh khởi 3 ngày trước nhập viện với triệu chứng: hắt hơi, sổ mũi, ho khan từng cơn (8 – 10 cơn /ngày, # 30s/còn). 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 tái thi , nhiều hơn ở triethorax. Khó thở liên tục, tăng khi vận động thể lực, có những cơn kịch phát, ngồi dậy dễ thở hơn.Ở nhà có dùng thuốc (medisolume 4mg, tocomuc 200mg, theophillin 100mg, midirel 20mg, thở khí dung), nhưng không đỡ khó thở nên xin nhập viện điều trị. Vào khoa với tình trạng: Tình tiếp xúc tốt. Da niêm hồng Khó thở độ 3 Cơ kéo khoang gian sườn Phổi ran rít, ran ngay hai phế trường, rải rác ran ầm Tim đều Bụng mềm, gan lách không sờ được. Dấu hiệu sinh tồn : M: 80 lần/phút T: 370 C HA: 160/90mmhg NT: 241/p

Figure 86 Details Medical Profile Page

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

Table 52 Details Medical Profile Step

2.13.3. Update medical profile

Cập nhật hồ sơ bệnh án

Bệnh Án Mẫu

Cập nhật	1
Hành chính	
Họ và tên	Tran Su
Giới tính	Nữ
Công việc	Lập trình viên
Dân tộc	Kinh
Địa chỉ	Thôn 1, xã Củ Ebur, Buôn Ma Thuột
Vào viện *	09/06/2014 2
Chuyên môn	
Lí do vào viện *	Khô thở
Bệnh sử	<p>Bệnh khởi 3 ngày trước nhập viện với triệu chứng : hắt hơi, sổ mũi, ho khan từng cơn (8 – 10 cơn /ngày, # 30/còn). Khô thở, khó khé, khó khạc đờm , khac được thì dễ thở. Sốt nhẹ, mồi khô, mệt mỏi nhiều, đau nhức vai gáy, sau đó khó thở hai thi , nhiều hơn ở thi thở ra. Khô thở liên tục, tăng khi vận động thể lực, có những cơn kịch 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.</p> <p>Vào khoa với tình trạng:</p> <p>Tỉnh tiếp xúc tốt.</p> <p>Da niêm hồng</p> <p>Khô thở độ 3</p> <p>Co kèo khoang gian sườn</p>

Figure 87 Update Medical Profile Page

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

Table 53 Update Medical Profile Step

2.14. Admin – Manage Specialty Fields

2.14.1. View specialty fields

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	<p style="text-align: center;">Danh sách Khoa và Chuyên Khoa</p> <p style="text-align: center;">1 2</p> <p style="text-align: center;">Thêm Khoa Thêm Chuyên Khoa</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Tên Khoa</th> <th>Chuyên Khoa</th> <th>Thao tác</th> </tr> </thead> <tbody> <tr> <td>Ngoại khoa</td> <td></td> <td>edit x 3</td> </tr> <tr> <td>Nội khoa</td> <td></td> <td>edit x</td> </tr> <tr> <td>Nhi Khoa</td> <td></td> <td>edit x</td> </tr> <tr> <td>Ngoại tim mạch</td> <td></td> <td>edit x</td> </tr> </tbody> </table>	Tên Khoa	Chuyên Khoa	Thao tác	Ngoại khoa		edit x 3	Nội khoa		edit x	Nhi Khoa		edit x	Ngoại tim mạch		edit x
Tên Khoa	Chuyên Khoa	Thao tác														
Ngoại khoa		edit x 3														
Nội khoa		edit x														
Nhi Khoa		edit x														
Ngoại tim mạch		edit x														

Figure 88 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 54 View Specialty Fields Step

2.14.2. Create parent specialty field

Webpage Screenshot

The screenshot shows a web application interface for managing medical specialties. On the left, there's a sidebar with various menu items like 'Thông tin bệnh viện', 'Quản lý người dùng', etc. The main area has a title 'Danh' and a sub-section 'Thêm Khoa'. A modal window titled 'Thêm Khoa' is displayed, containing a single input field labeled 'Tên Khoa' with a red border. Below the input field are two buttons: 'Bỏ qua' and 'Lưu', also with red borders. The background lists other specialties such as 'Ngoại khoa', 'Nội khoa', 'Nhi khoa', etc., each with an edit icon (pencil) and a delete icon (cross). The URL at the bottom of the page is 'http://localhost:52443/AdminSpecialtyField 5et Aug 09 2014 10:35:22 GMT+0700 (SE Asia Standard Time)'.

Figure 89 Create Parent Specialty Field Page

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

Table 55 Create Parent Specialty Field Step

2.14.3. Create specialty field

Webpage Screenshot

Thêm Chuyên Khoa

1

Tên Khoa
Ngoại khoa

Tên Chuyên Khoa *

2

Bỏ qua Lưu

Danh

Thao tác

Nội khoa

Nhi Khoa

Ngoại tim mạch

Ngoại lồng ngực

Ngoại tiêu hóa

Phẫu thuật mắt

Figure 90 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 56 Create Specialty Field Step

2.14.4. Edit parent specialty field

Webpage Screenshot

Cập nhật Chuyên Khoa

1

Tên Khoa
Ngoại khoa

2

BỎ qua Lưu

Danh

Thao tác

Nội khoa

Nhi Khoa

Ngoại tim mạch

Ngoại lồng ngực

Ngoại tiêu hóa

Phẫu thuật mắt

Figure 91 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 57 Edit Parent Specialty Field Step

2.14.5. Edit specialty field

Figure 92 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 58 Edit Specialty Field Step

2.15. Admin – Manage Medical Profile Templates

2.15.1. View medical profile template list

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 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 93 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 59 View Medical Profile Templates Step

2.15.2. Create medical profile template

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

Thêm Mẫu hồ sơ 1

Tên Mẫu Hồ Sơ

Bệnh Án Mẫu

Bệnh Án Ngoài Da - BV Da Liễu

Bệnh Án Truyền Nhiễm

Bệnh Án Nội Khoa

Bệnh Án Mẫu

Bỏ qua Tiếp tục 2

Xóa

http://localhost:52443/AdminTemplate Mon Aug 11 2014 12:16:18 GMT+0700 (SE Asia Standard Time)

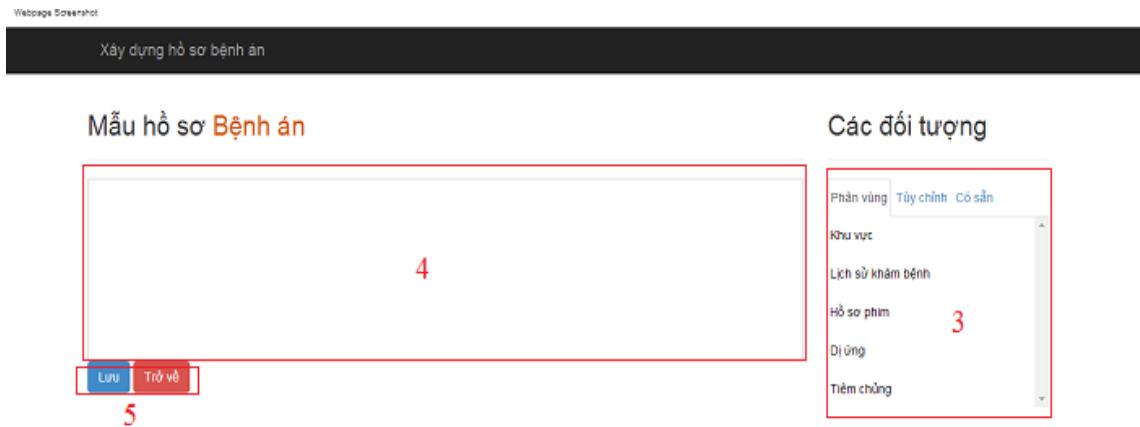


Figure 94 Create Medical Profile Template Page

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 60 Create Medical Profile Template Step

2.15.3. Update medical profile template name

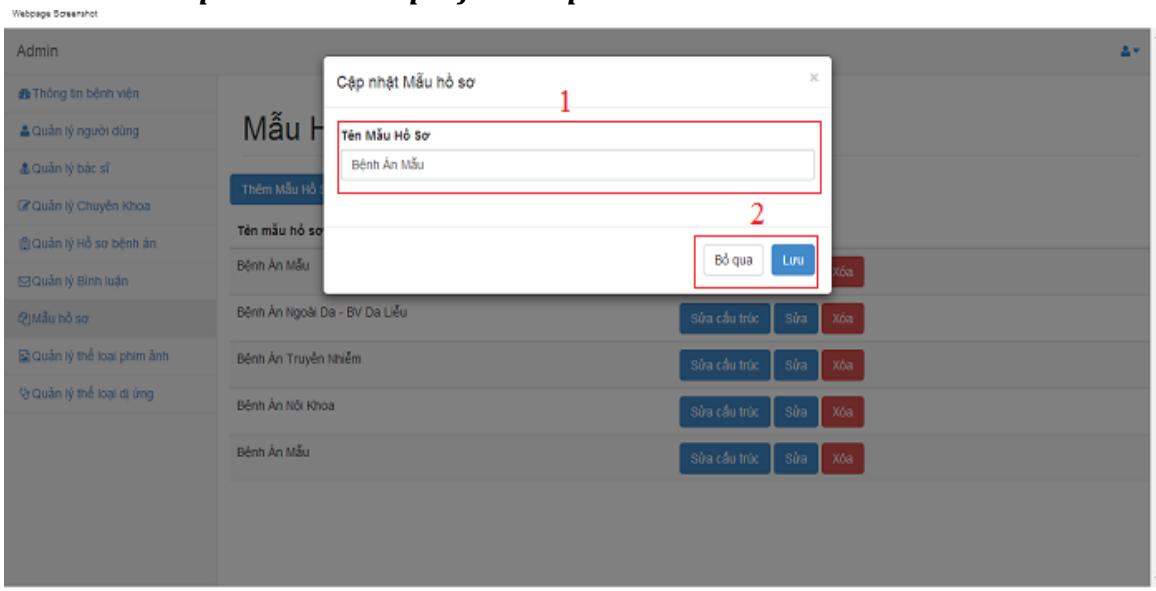


Figure 95 Update Medical Profile Template Name Page

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 61 Update Medical Profile Template Name Step

2.16. Update medical profile template

Figure 96 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 62 Update Medical Profile Template Step

2.17. Admin – Manage Personal Information

2.17.1. View/Edit personal information

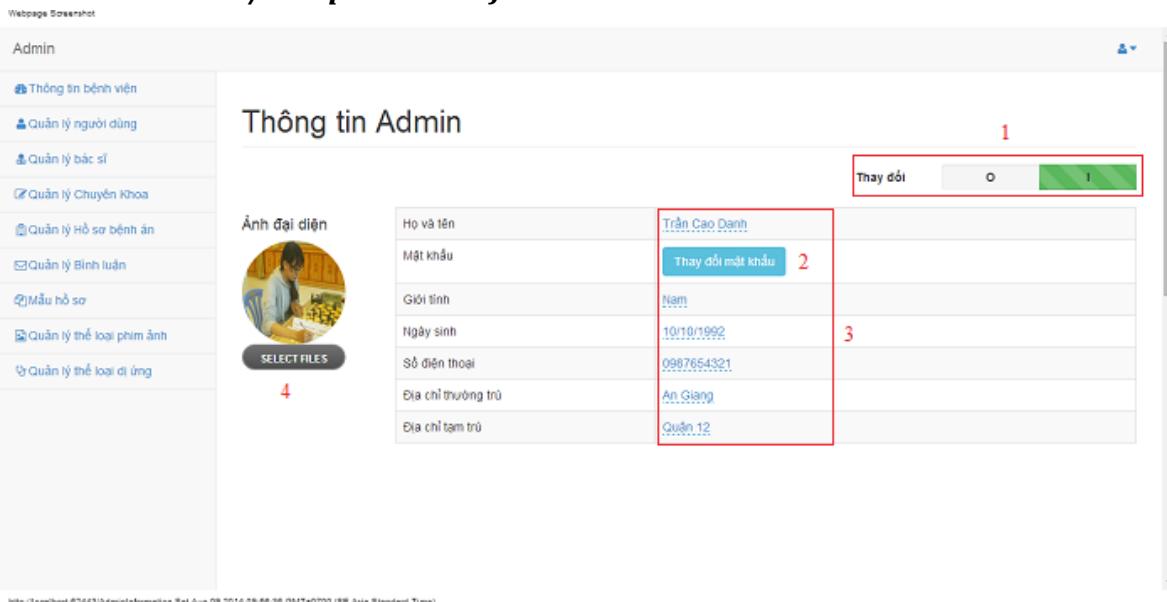


Figure 97 View/Edit Admin Information Page

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 63 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>