

**<<TOPIC>> PROJECT REPORT**

**Software Requirement Specification**

– Ho Chi Minh, September 2025 –

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# I. Record of Changes

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **A\* M, D** | **In charge** | **Change Description** |
| 30/6/2025 | A |  | Add context diagram |
| 2/7/2025 | A |  | Add use case diagram |
| 4/7/2025 | M |  | Edit use case diagram |
| 8/7/2025 | A |  | Edit use case diagram |
| 9/7/2025 | A |  | Write use case descriptions |
| 10/7/2025 | A |  | Screen flow |
| 13/7/2025 | A |  | Screen flow |
| 14/7/2025 | A |  | Write description for screenflow |
|  |  |  |  |
|  |  |  |  |

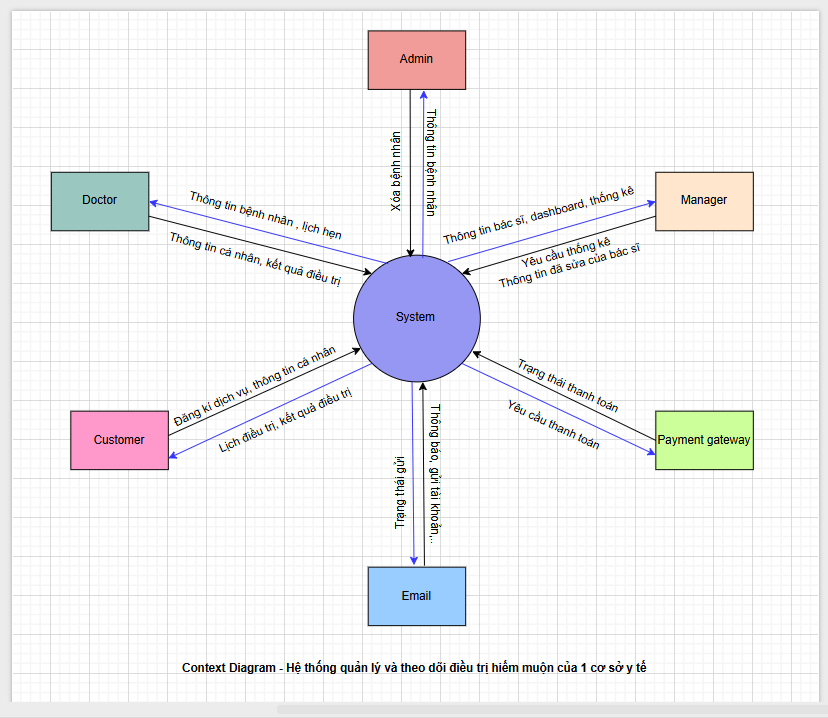
\*A - Added M - Modified D - Deleted

# II. Software Requirement Specification

## 1. Product vision

A system to manage and monitor infertility treatment at a medical facility. The system supports the entire process from service registration, treatment management, progress monitoring to statistical reporting.

## 2. Product Overview



## 3. User Requirements

### 3.1 Actors

|  |  |  |
| --- | --- | --- |
| **#** | **Actor** | **Description** |
| **1** | **Guest** | Unregistered, limited access. |
| **2** | **Customer** | Registered users can schedule appointments, view their profile, track results, and treatment schedules. |
| **3** | **Doctor** | View customer(patient)’s information, view and edit medical record, and view appointment. |
| **4** | **Manager** | Operations management, reporting. |
| **5** | **Admin** | System administrator, full control |

### 3.2 Use Cases

#### 3.2.1 Diagram(s)



#### 3.2.2 Descriptions

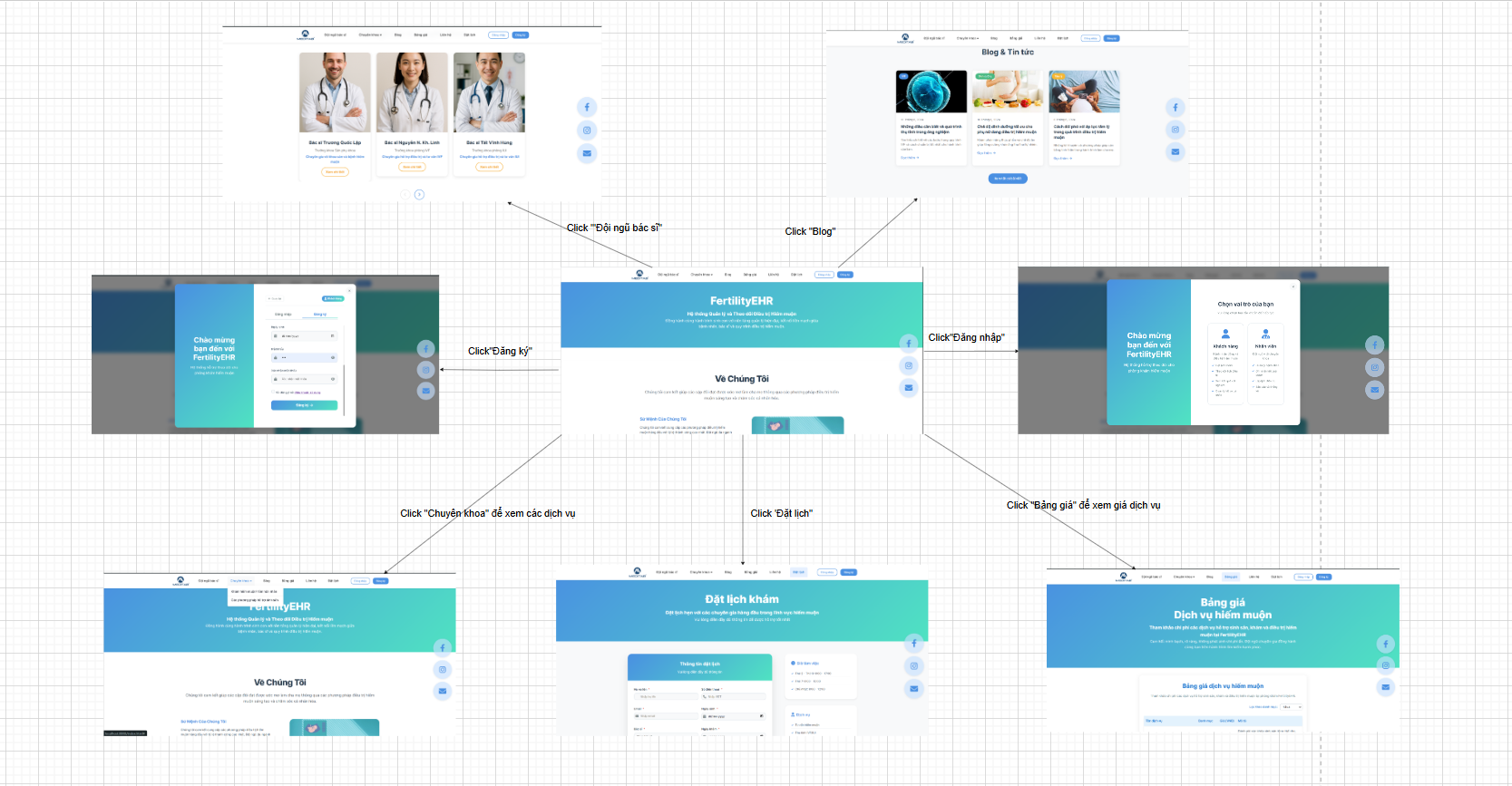
|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Use Case** | **Actors** | **Use Case Description** |
| *UC-01* | Login | Customer, doctor,manager,admin | Actors have valid accounts in the system:  - Actors enter email and password  - Information authentication system  - System grants access rights according to actors' roles  - If login is successful, go to home page |
| *UC-02* | Logout | Customer, doctor,manager,admin | When actors logout of systems, return to homepage |
| UC-03 | Register an account | Guest | Guest wants to create an account:  - Guest fills out the registration form  - System checks information  - Shows successful registration notification  🡺 New customer account created |
| *UC-04* | View introduction | Guest | When Guest wants to learn about the system's services:  - Guest visits the website  - View service information  - Read medical blogs  - View the team of doctors and view the service price list  🡺 Guest has full information about the service |
| *UC-05* | Make a appoinment | Customer | When Customer wants to make an appointment with a doctor:  When the Customer wants to make an appointment with a doctor:  - The Customer has logged in and made an appointment at the correct free time slot (prerequisite)  - The Customer fills in the appointment registration form  - Selects the doctor, date of appointment, free time slot and service  - The system saves the appointment  🡺 Appointment booked and confirmed successfully |
| *UC-06* | Track treatment schedule | Customer | Customer tracks their treatment progress:  -Customer has logged in and registered for an appointment and has a treatment history (prerequisite)  -Customer accesses process tracking items such as: tracking treatment schedule, test results, medical records, progress tracking  🡺 Customers understand the current situation and treatment process |
| *UC-07* | View booking history | Customer | Customers can review previous appointments:  - Customer has logged in and has appointment history (prerequisite)  -Customer accesses appointment history  -View appointment list  -View details of each visit  🡺Customer can view full appointment history |
| *UC-08* | Review and feedbacks | Customer | Customers can evaluate service quality:  -Customer has logged in and completed at least 1 visit (prerequisite)  -Customer rates and writes review  -Send feedback  🡺 Reviews are saved in the system |
| *UC-09* | View profile | Customer | Customer can manage and follow their personal page:  -Customer has logged in ( prerequisite)  - -Customer accesses personal page  -Views current information  -Updates information (if needed) 🡺Personal information is displayed and updated |
| *UC-10* | Forgot password | Customer, doctor, manager, admin | Actors forgot password and want to recover account:  -Actors already have an account(prerequisite)  -Actors click the forgot password button  -The OTP code will be sent to the email by the system  -Actor enters the OTP code and re-enters the new password  -Customer and Admin will be updated with a new password, while Doctor and manager will use the new password provided by the system  🡺New password set successfully |
| *UC-11* | View workk schedule | Doctor | Let the doctor see your daily schedule:  To view the daily schedule for the doctor:  -The doctor is logged in (prerequisite)  -The doctor has access to the schedule section  -View the daily schedule  -View appointments and view the patient list (customer list)  🡺Doctor knows his daily schedule |
| *UC-12* | Doctor records patient's treatment and test results | Doctor | Doctor updates patient examination and treatment results:  -Doctor must complete patient examination (prerequisite)  -Doctor opens patient file  -Update patient medical record, update prescription, test results and schedule follow-up visit for patient  -Save information  🡺The patient's treatment results have been updated by the doctor. |
| *UC-13* | Write Blog | Doctor | Doctor writes and posts Blog in homepage:  --The doctor is logged in (prerequisite)  -Doctor accesses Blog posting section  -Creates new post  -Edits content  -Exports Blog  🡺Blog has been successfully uploaded to the home page |
| *UC-14* | Track patient progress | Doctor | The doctor can monitor the entire progress of the patient:  -The doctor must be logged in and have a patient in charge (prerequisite)  -The doctor views the patient list  -Selects the patient to monitor  -Views treatment history  🡺 The doctor knows the patient's condition |
| *UC-15* | Doctor management | Manager | Managing doctor's information and schedule:  -Manager must log in to the system  -Manager accesses doctor management  -Views doctor list  -Updates doctor information (professional qualifications,...)  -Manager accesses doctor's schedule to assign doctor's schedule  🡺 Doctor's information and schedule will be managed effectively by manager |
| *UC-16* | Patient record management | Manager | Manager monitors and manages all patient records:  -Manager must log in to the system (prerequisite)  -Manager accesses patient record management  -View patient records and edit record status (if necessary)  🡺Patient records will be strictly managed |
| *UC-17* | View statistical report | Manager | Clinic revenue tracking manager:  -Manager must log in to the system (prerequisite)  -Manager selects time period  -System calculates revenue  -Displays charts and reports  🡺Manager can track revenue easily |
| *UC-18* | View customer statistics | Manager | Manager views statistics on patient numbers and status:  -Manager must log in to the system (prerequisite)  -Patient statistics view access management  -Data analysis system  -Result display system  🡺Manager can track revenue easily |
| *UC-19* | System management | Admin | Admin manages and maintains the system:  -Admin logs in with the highest authority (prerequisite)  -Admin access  -Manage user accounts  -Authorization  -Backup data  🡺The system is managed and maintained stably |

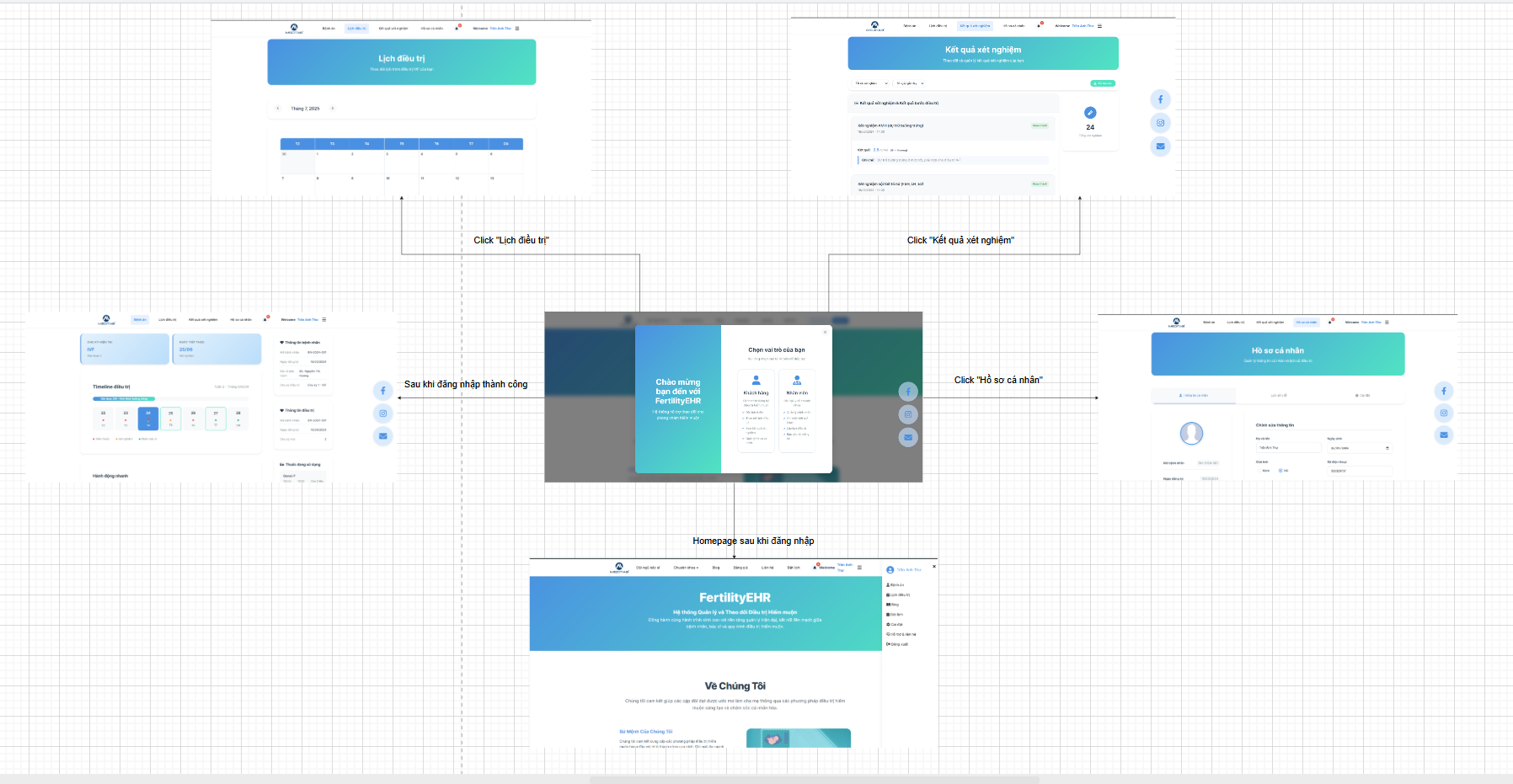
## 4. Functional Requirements

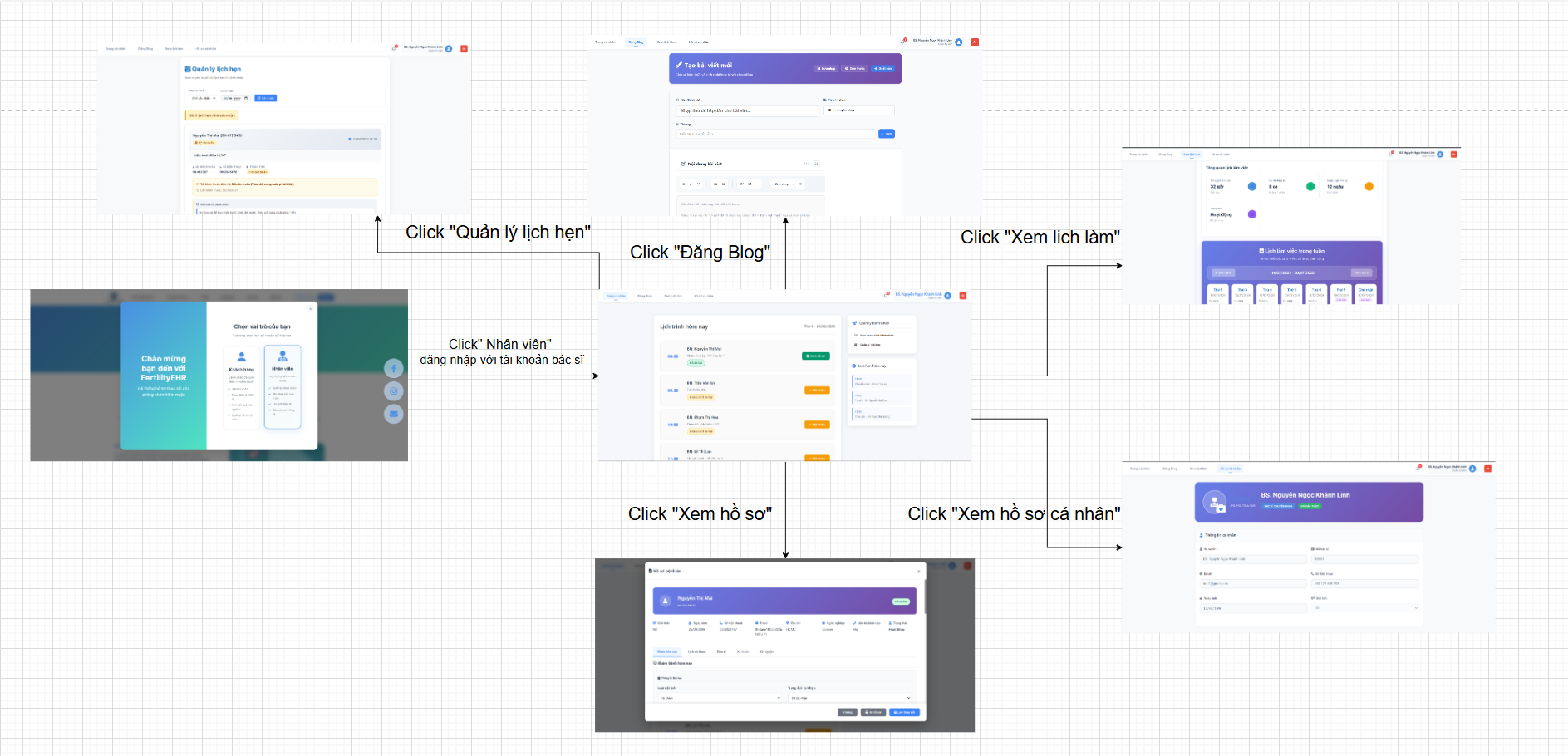
### 4.1 System Functional Overview

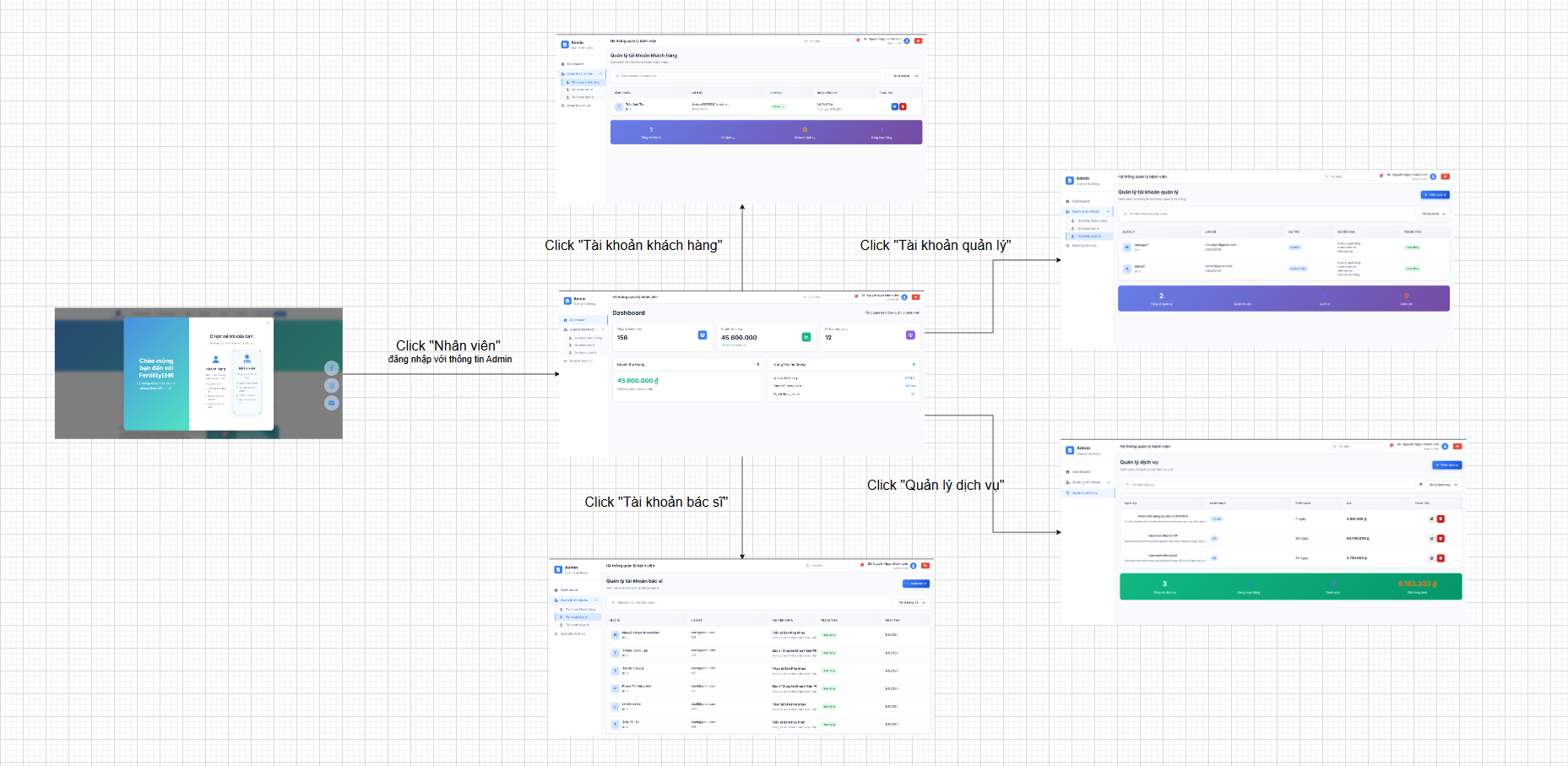
#### 4.1.1 Screens Flow

Guest’s screens flow









#### 4.1.2 Screen Descriptions

*[Provide the descriptions for the screens in the Screens Flow above]*

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Feature** | **Screen** | **Description** |
| 1 | View infertility | Home Page | View list of services (IUI, IVF) |
| 2 | View facility introduction | Home Page | View information of the system |
| 3 | Read blogs | Home Page | Read blogs |
| 4 | User login | User login | Customer log in to system |
| 5 | User registration | User registration | Customer registes new account |
| 6 | Book treatment service | Service booking | Register for infertility treatment services and assign doctor |
| 7 | View treatment schedule | Treatment schedule | View detailed schedule: medication injection, tests, examinations |
| 8 | Track treatment progress | Treatment tracking | Track treatment process from medication injection to pregnancy results |
| 9 | View appointment reminders | Notification Center | View reminders for appoinments, injections, tests |
| 10 | View examination results | Results Dashboard | View test result and medical examination results |
| 11 | Manager patient profile | Profile management | Manage personal information |
| 12 | View treatment history | Treatment history | View history of infertility treatment orders |
| 13 | Rate and feedback | Rating&feedback | Rate services and provide feedback on treatment process |
| 14 | Record examination | Doctor examination | Doctor record examination and test results |
| 16 | Manage |  |  |

#### 4.1.3 Screen Authorization

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Screen** | **Guest** | **Student** | **Teacher** | **Admin** |
| ***<<Home Page>>*** | *X* | *X* | *X* |  |
| *View Courses* |  |  | *X* | *X* |
| ***<<Login/Register Page>>*** | *X* |  | *X* |  |
| *Login* | *X* | *X* | *X* | *X* |
| *Register* | *X* |  |  |  |
| *Login by Google* | *X* | *X* | *X* | *X* |
| ***<<Student Profile Page >>*** |  | *X* |  |  |

#### 4.1.4 Non-Screen Functions

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Feature** | **System Function** | **Description** |
| *1* | *Login with Google* | *Login* | *Users logs in the system with his Google account* |

#### 4.1.5 Entity Relationship Diagram

*<<ERD>>*

**Entities Description**

|  |  |  |
| --- | --- | --- |
| **#** | **Entity** | **Description** |
| *1* | *User Information* | *Contains user information include role, which permission user can perform* |
| *2* | *Transaction* | *Contains some form of recorded activity or interaction within the system, such as purchases, payments, or other operations* |
| *3* | *Submisstion* | *Contains data related to submissions, which could be assignments, forms, or other types of documents submitted by users.* |

## 5. Use case details

### 5.1 Login

|  |  |  |  |
| --- | --- | --- | --- |
| UC ID and Name: | **UC-01 Login** | | |
| *Primary Actor:* | *Guest, Student, Teacher, Admin* | *Secondary Actor:* | *N/A* |
| *Description* | *This use case allows actor login in College Exam Preparation Application* | | |
| *Goal* | *Define role for the actor (student, teacher, admin)* | | |
| *Trigger:* | *Actor click button "Login" from Home Page* | | |
| *Preconditions:* | *Connect to the system* | | |
| *Post-conditions:* | *Success: The actor is now logged into the system.*  *Fail: the system will send an error.* | | |
| *Normal Flow:* | |  |  |  | | --- | --- | --- | | ***Step*** | ***Actor Action*** | ***System Response*** | | *1* | *Actor click “login” on “home page”* | *System redirects to Login screen* | | *2* | *Actor fill all information include: username and password* | *System checks if the username and password has been authenticated in CEPA system yet*   * *Authenticated: System inform “Login success”, redirect to “home page” screen base on role* * *Unauthenticated: [Exception 1]* | | | |
| *Alternative Flows:* | |  |  |  | | --- | --- | --- | | ***Step*** | ***Actor Action*** | ***System Response*** | | *1* | *Actor click “login” on “home page”* | *System redirects to Login screen* | | *2* | *Actor click login with Google* | *System checks if the Google account has been authenticated in CEPA system yet*   * *Authenticated: System inform “Login success”, redirect to “home page” screen base on role* * *Unauthenticated: [Exception 2]* | | | |
| *Exceptions* | |  |  |  | | --- | --- | --- | | ***No*** | ***Cause*** | ***System Response*** | | *1* | *Actor fill invalid information* | *System inform “username or password incorrect please try again”* | | *2* | *Google account not exist in system* | *System inform “account not exist please try again”* | | | |
| *Priority* | *High* | | |
| *Frequency* | *Guest want to login to CEPA system* | | |
| *Business Rules* | *N/A* | | |
| *Mockup* |  | | |

### 5.2 Filter Transaction

|  |  |  |  |
| --- | --- | --- | --- |
| UC ID and Name: | **UC-02 Filter Transaction** | | |
| *Primary Actor:* | *Teacher* | *Secondary Actor:* | *N/A* |
| *Description* | *This use case allows teachers to filter financial transactions related to their courses.* | | |
| *Goal* | *Filter financial transactions.* | | |
| *Trigger:* | *Teacher selects the "search" option.* | | |
| *Preconditions:* | *Teacher is logged into the system, has created courses, and wants to filter transaction information.* | | |
| *Post-conditions:* | *Teacher views filtered financial transaction information related to their courses.* | | |
| *Normal Flow:* | |  |  |  | | --- | --- | --- | | ***Step*** | ***Actor Action*** | ***System Response*** | | *1* | *Actor click “transaction” on “sidebar”* | *System redirects to “Transaction” screen and show list of transaction* | | *2* | *Actor write on search bar or choose type to filter transaction* | *System base on information and type to filter transaction*  *[Exception 1]* | | | |
| *Alternative Flows:* | *N/A* | | |
| *Exceptions* | |  |  |  | | --- | --- | --- | | ***No*** | ***Cause*** | ***System Response*** | | *1* | *Empty transaction* | *System inform “Transaction is empty”* | | | |
| *Priority* | *High* | | |
| *Frequency* | *Teachers may filter transaction information for their courses as needed.* | | |
| *Business Rules* | *N/A* | | |
| *Mockup* |  | | |

## 6. Non-Functional Requirements

### 6.1 External Interfaces

*[This section provides information to ensure that the system will communicate properly with users and with external hardware or software/system elements.]*

#### 6.1.1 User Interface

1. *User friendly interface*

#### 6.1.2 Hardware Interface

* No hardware interfaces have been identified

### 6.2 Quality Attributes

#### 6.2.1 Usability

* *All text, label and message should be uniformly written in Vietnamese.*

#### 6.2.2 Reliability

* *Bugs or Defect Rate: Warning 1%, Critical: 0.05%*

#### 6.2.3 Performance

* *Response time for a transaction (average, maximum): (1.16s, 1.16s)*

## 7. Requirement Appendix

### 7.1 Business Rules

|  |  |
| --- | --- |
| **ID** | **Rule Definition** |
| *BR-01* | *Teacher do not possess the authority to delete videos or course resources from the system. Instead, they retain the capability to conceal videos.* |
| *BR-02* | *Admin account only provided by system* |
| *BR-03* |  |

### 7.2 Common Requirements

1. *Data in the form of lists, tables, etc. will be displayed as data tables/paging supported*
2. *All changes, updates, and modifications are alerted by pop-up*
3. *Supports PNG, JPG, JPEG image file format , maximum image size 10MB*

### 7.3 Application Messages List

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Message code** | **Message Type** | **Context** | **Content** |
| *1* | *MSG01* | *In line* | *There is not any search result* | *No search results.* |
| *2* | *MSG02* | *In red, under the text box* | *Input-required fields are empty* | *The \* field is required.* |
| *3* | *MSG03* | *Toast message* | *Updating asset(s) information successfully* | *Update asset(s) successfully.* |
| *4* | *MSG04* | *Toast message* | *Adding new asset successfully* | *Add asset successfully.* |

### 7.4 Other Requirements…

* N/A