

**CLINIC MANAGEMENT SYSTEMS**

**Software Requirement Specification**

– Hanoi, March 2022 –

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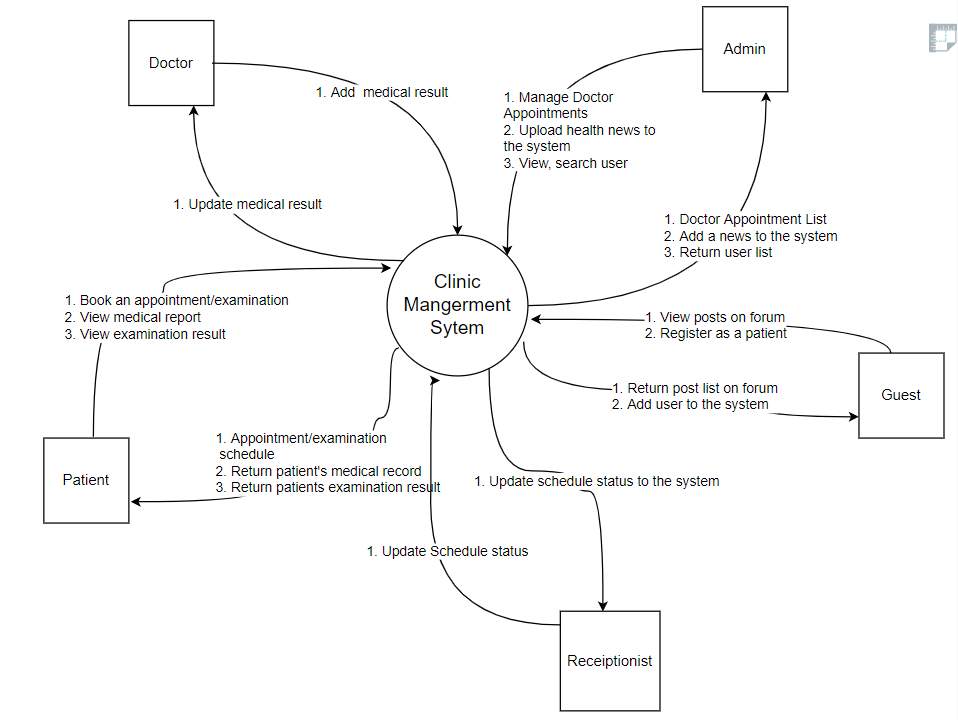
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# I. Overview

## 1. Introduction

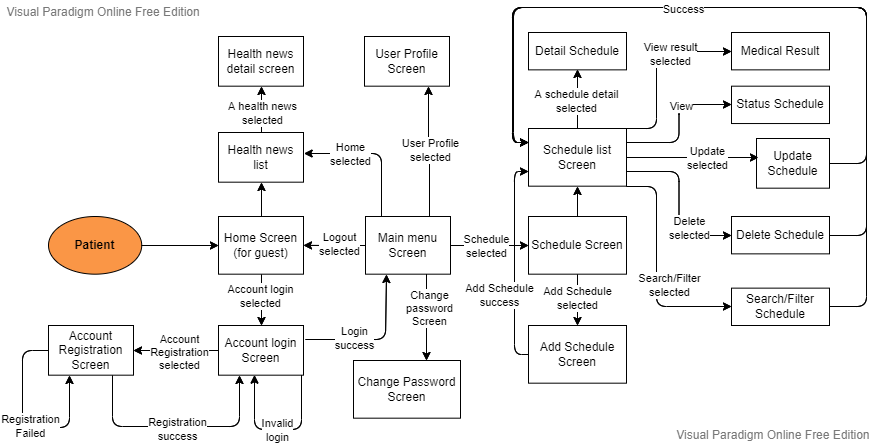
This project is aimed at developing an online healthcare website for a hospital which supports for the customers tracking their own health and booking reservation for examination schedules. In addition, the medical centres manage their services supporting customers.



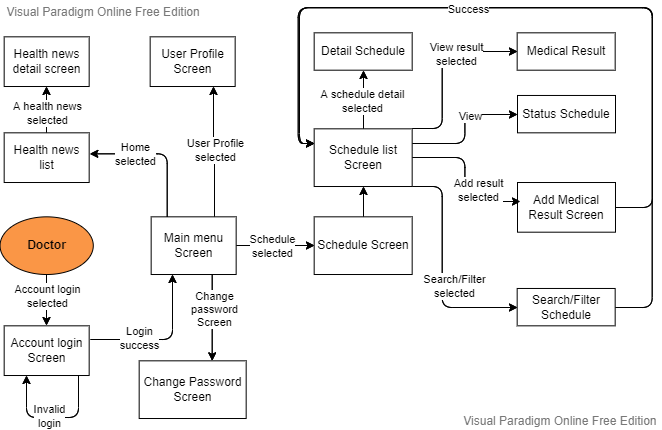
## 2. System Functions

### a. Screen Flow

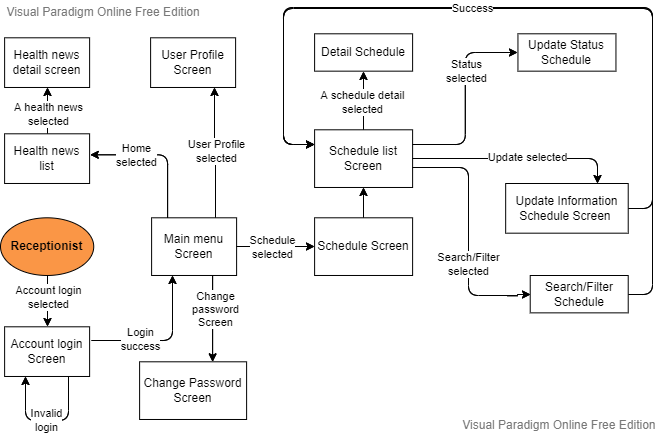
* **Patient:**

****

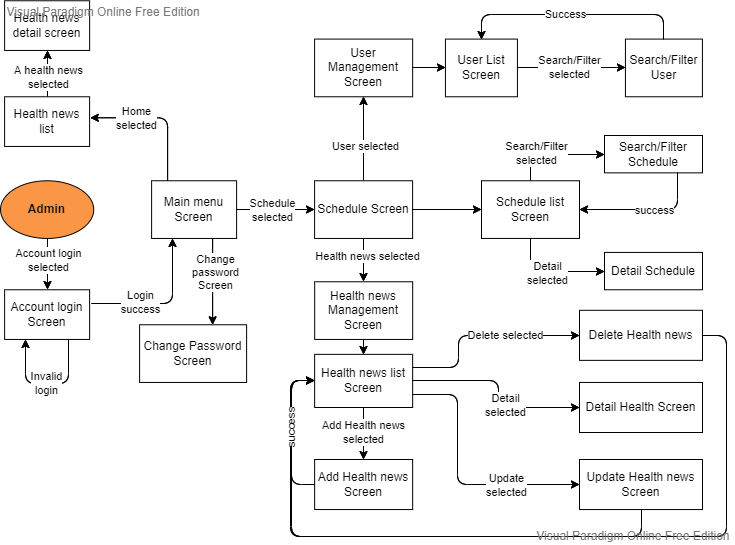
* **Doctor:**

****

* **Reception:**

****

* **Admin:**

****

### b. Screen Details

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Feature** | **Screen** | **Description** |
| 1 | Register | Register | Register an account to access the system |
| 2 | Login/logout | Login | Login/logout |
| 3 | Profile manage | Profile | Users manage and edit their own profiles |
| 4 | Create appointment | List Appointment | Users will create an appointment on the system. Appointment can be Health Care or Test Covid |
| 5 | Appointment process | List Appointment | Receptionist will consider the appointment and then update , approve or reject appointment |
| 6 | Add result | add result | Doctor add result for each appointment, include result of method |
| 7 | Home Page | Home | Display list news, information about medical |
| 8 | Manage appointment | List appointment | * patient : display all of appointment of each patient * Doctor: display all appointment has approve by receptionist * Receptionist : display all appointment |
| 9 | Manage health new | List health news | admin manage health news |

### c. User Authorization

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Screen** | **Admin** | **Patient** | **Guest** | **Doctor** | **Receiptionis** |
| Home page | X | X | X | X | X |
| Register | X |  |  |  |  |
| Login | X | X | X | X | X |
| Change password | X | X | X | X | X |
| View Profile | X | X | X | X | X |
| Book an appointment |  | X |  |  |  |
| Cancel an appointment |  | X |  |  | X |
| Update appointment |  |  |  |  | X |
| Search patient | X |  |  |  |  |
| Medical examination |  |  |  | X |  |
| Book Covid test |  | X |  |  |  |
| View medical report book |  | X |  | X |  |
| Book Vaccination |  | X |  |  |  |
| View patient list | X |  |  |  |  |
| Upload news to system homepage | X |  |  |  |  |
| View list health news | X |  |  |  |  |
| Delete health news | X |  |  |  |  |
| Update health news | X |  |  |  |  |
| View list user | X |  |  |  |  |
| Update medical record |  |  |  | X |  |
| Upload covid test result |  |  |  | X |  |

### d. Non-Screen Functions

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Feature** | **System Function** | **Description** |
| 1 | Authentication | Security | To verify who are you? |
| 2 | Authorization | Security | To verify what is your role ? |

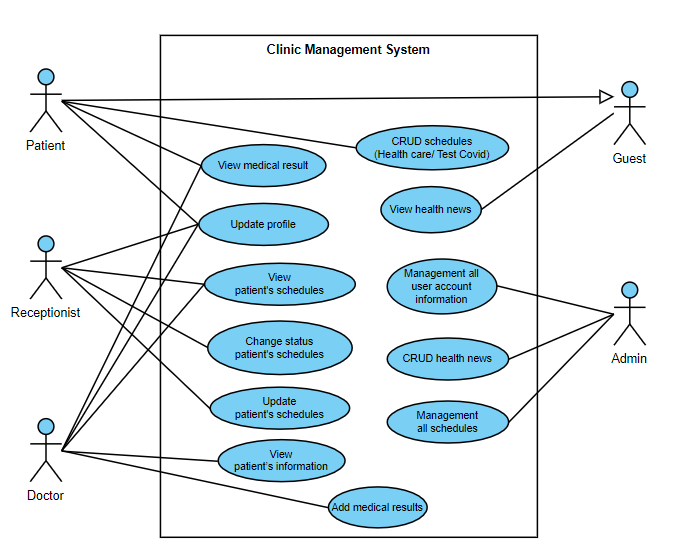
# II. User Requirements

## 1. Actors

|  |  |
| --- | --- |
| **#** | **Actor** |
| 1 | Guest |
| 2 | Patient |
| 3 | Receptionist |
| 4 | Doctor |
| 5 | Admin |

## 2. Use Cases

### 2.1 Diagram(s)

****

### 2.2 Descriptions

|  |  |  |
| --- | --- | --- |
| # | Actor | Description |
| 1 | *Guest* | 1. View health news |
| 2 | *Patient* | 1. View health news  2. Add/Update/Delete/Search schedule (Health care/ Test Covid)  3. View result medical record  4. Update profile/ Change password |
| 3 | *Receptionist* | 1. Change status patient's schedules (Health care/ Test Covid)  2. Update patient's schedules (Health care/ Test Covid)  3. View patient’s information  3. View/Search/Filter schedules  4. Update profile/ Change password |
| 4 | *Doctor* | 1. Add medical results (Health care/ Test Covid)  2. View patient ‘s medical results  3. View patient’s information  4. View/Search/Filter schedules  5. Update profile/ Change password |
| 5 | *Admin* | 1. View/Search/Filter all user account information  2. Add/Update/Delete health news  3. View/Search/Filter all schedules information |

# III. Functional Requirements

## 1. Login

### 1.1 Screen Design

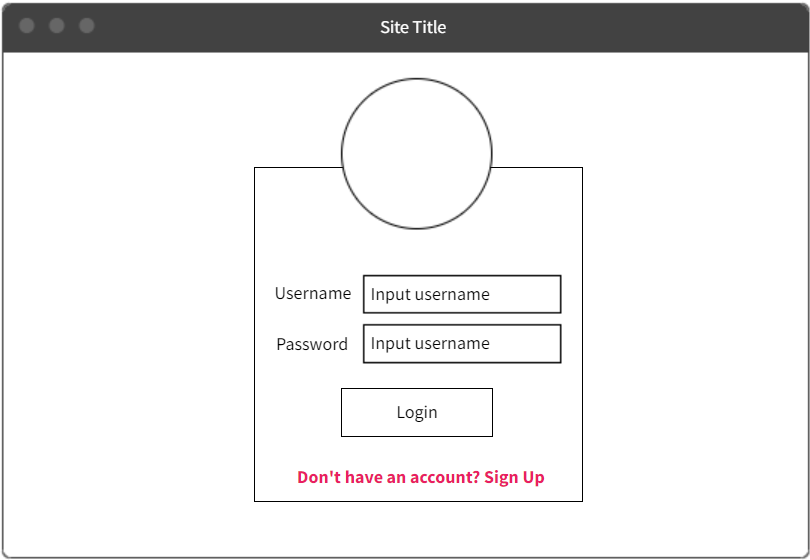


Figure 3.1.1: Screen Design of Login

### 1.2 Screen Definition

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| # | Field Name | Type | Mandatory | Max Length | Description |
| 1 | Username | Text | Yes | N/A |  |
| 2 | Password | Text | Yes | N/A | Display "\*" instead of clear character |
| 3 | Login | Button | Yes | N/A | If the username and the password are true go to homepage |

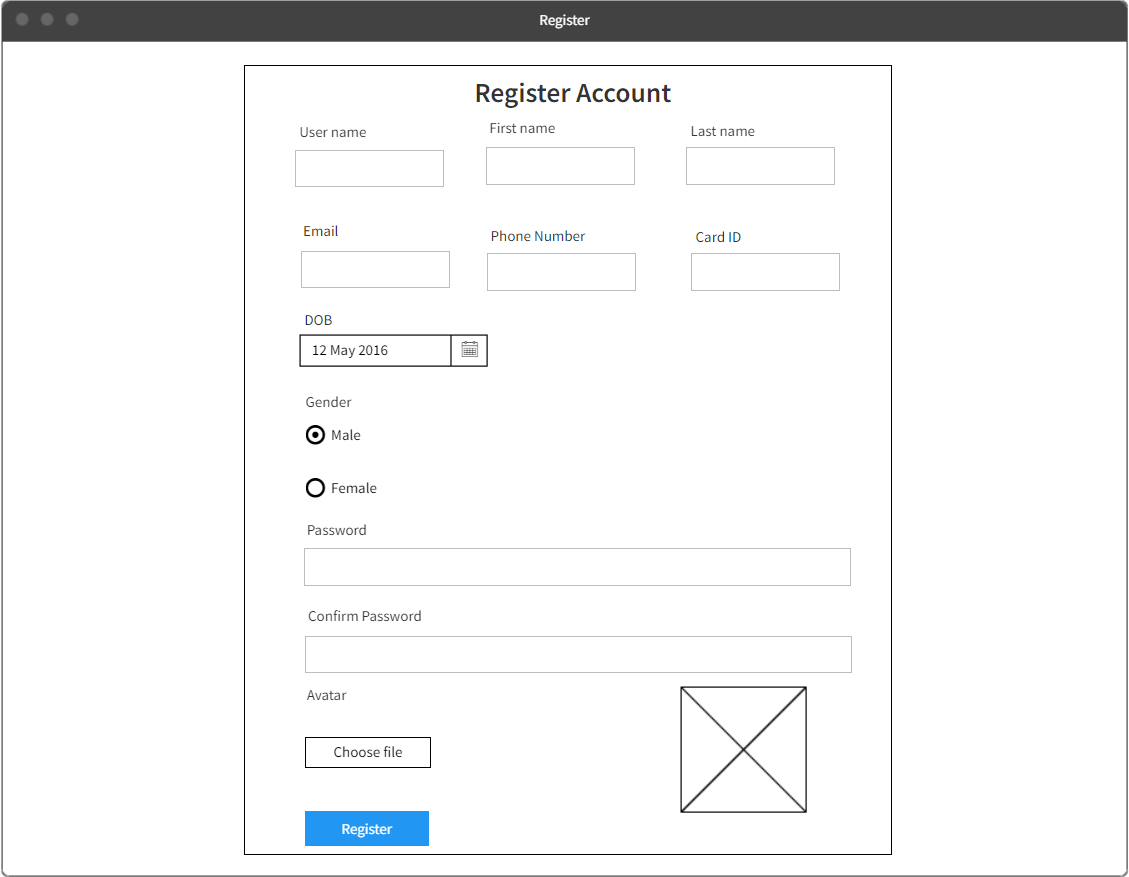
### 1.3 Use Case Specification

|  |  |
| --- | --- |
| Use Case ID | UC01 |
| Use Name | Login |
| Actor | Patient, Doctor, Receptionist, Admin |
| Description | The function allows a user to be able to login in the software when he/she has registered an account and his/her account is still active. |
| Precondition | User is in website Clinic Management System |
| Trigger | User clicks on Login button on the navigation bar of website |
| Post-Condition |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | User | | User clicks on Login button on the navigation bar of website | |
| *2* | CMS | | Display Login screen with the following fields:  - Username  - Password  - Login button | |
| *3* | User | | Enter username & password into Username & Password fields on the Login screen, then click on the Login button. | |
| *4* |  | | Validate the entered username & password and then display Home screen | |
| Alternative flows | | | | |
| AT2 | | At step 4 in the main flows, if failed to validate username & password | | |
| Sub step | | Actor | | Action |
| 4.1 | | MSW | | Display Login page with the message "Username or password incorrect" |

## 2. Register

### 2.1. Screen Design

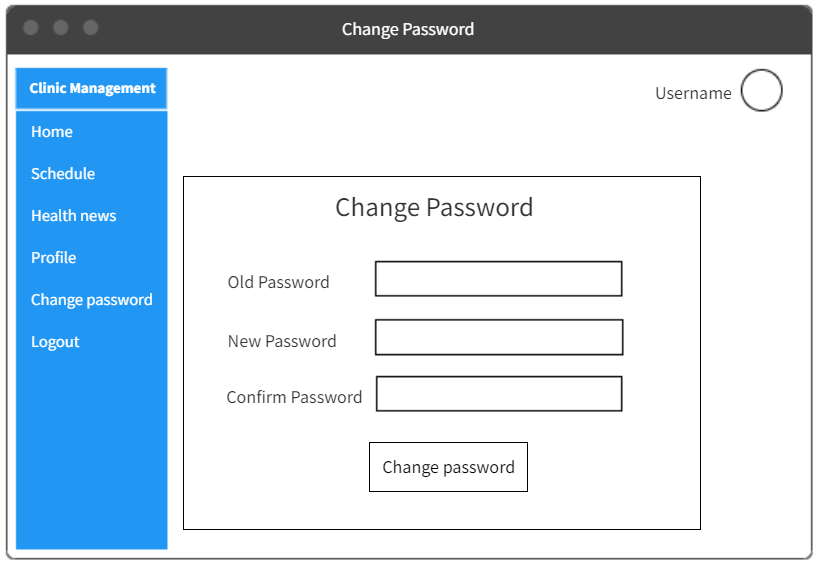


### 2.1 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Name | | | Register Account | |
| Actor | | | Patient | |
| Description | | | The function allows patient register new account | |
| Precondition | | | User is in register page | |
| Trigger | | | User enter their information and click on register button | |
| Post-Condition | | |  | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Patient | | User go to register page, enter their information and click on register button | |
| *2* | CMS | | Validate and add new account with entered information to the system | |
| Alternative flows | | | | |
| AT1 | | At step 2 in the main flows, if there is an internal error, confirmation password is  incorrect or user name existed | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | Display error "This account already existed" |
| 2.1 | | MSW | | Display error "Confirmation password incorrect" |
| 2.1 | | MSW | | Display error “Wrong format” |

## 3. Change password

### 3.1 Screen Design



### 3.2 Screen Definition

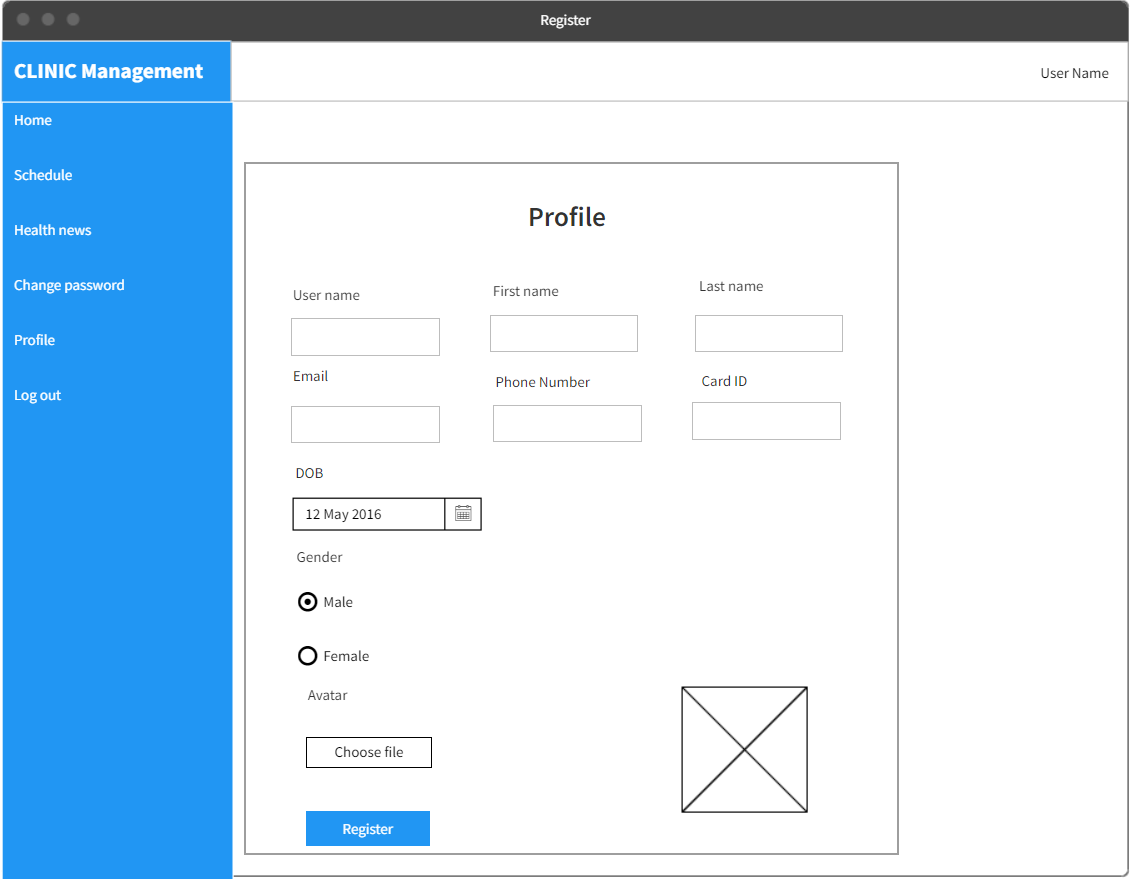
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| # | Field Name | Type | Mandatory | Max Length | Description |
| 1 | Old password | Text | Yes | 100 |  |
| 2 | New password | Text | Yes | 100 |  |
| 3 | Confirm password | Text | Yes | 100 |  |

### 3.3 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Name | | | Change password | |
| Actor | | | All user | |
| Description | | | The function allows User Update password | |
| Precondition | | | User is in website CMS/ Change password page | |
| Trigger | | | User enter new password information and click Change Password button | |
| Post-Condition | | |  | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | All | | User clicks on the Change Password button after enter old password, new password, confirm password | |
| *2* | CMS | | Update user information in the database and show message “Change password success” | |
| Alternative flows | | | | |
| AT1 | | At step 2 in the main flows, if there is an internal error or old password incorrect/ confirm password incorrect | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | Display error "Old password incorrect"/ “Confirm password incorrect” |

## 4. User Profile

4.1. *Screen Design*

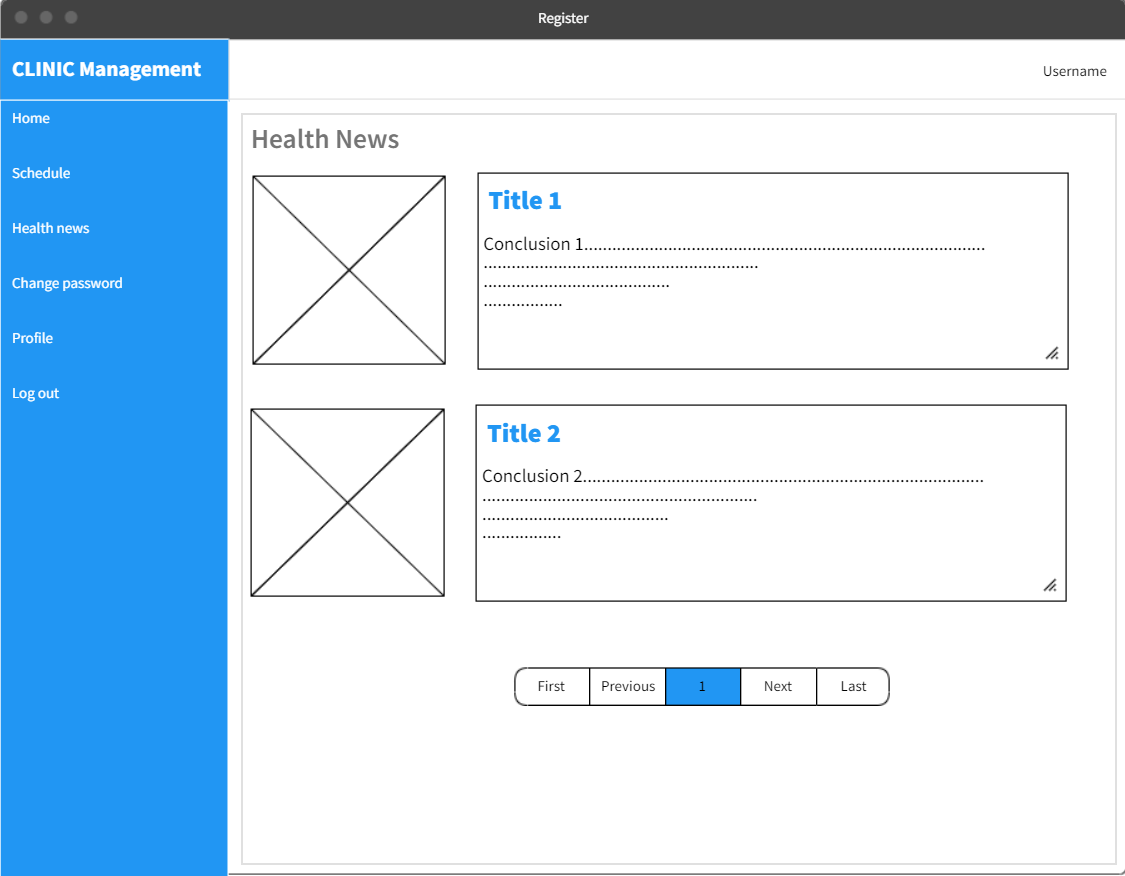


### 4.2 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Name | | | User Profile | |
| Actor | | | All role | |
| Description | | | The function allows user to view and update their account | |
| Precondition | | | User logged in and is in profile page | |
| Trigger | | | User enter their information and click on Update button | |
| Post-Condition | | |  | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Patient | | User go to profile page, enter their information and click on Update button | |
| *2* | CMS | | The system shows user’s information, validate and update their account with entered information to the system | |
| Alternative flows | | | | |
| AT1 | | At step 2 in the main flows, if there is an internal error | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | Display error “Wrong format” |

## 5. Home Page (health news)

5.1. *Screen Design*

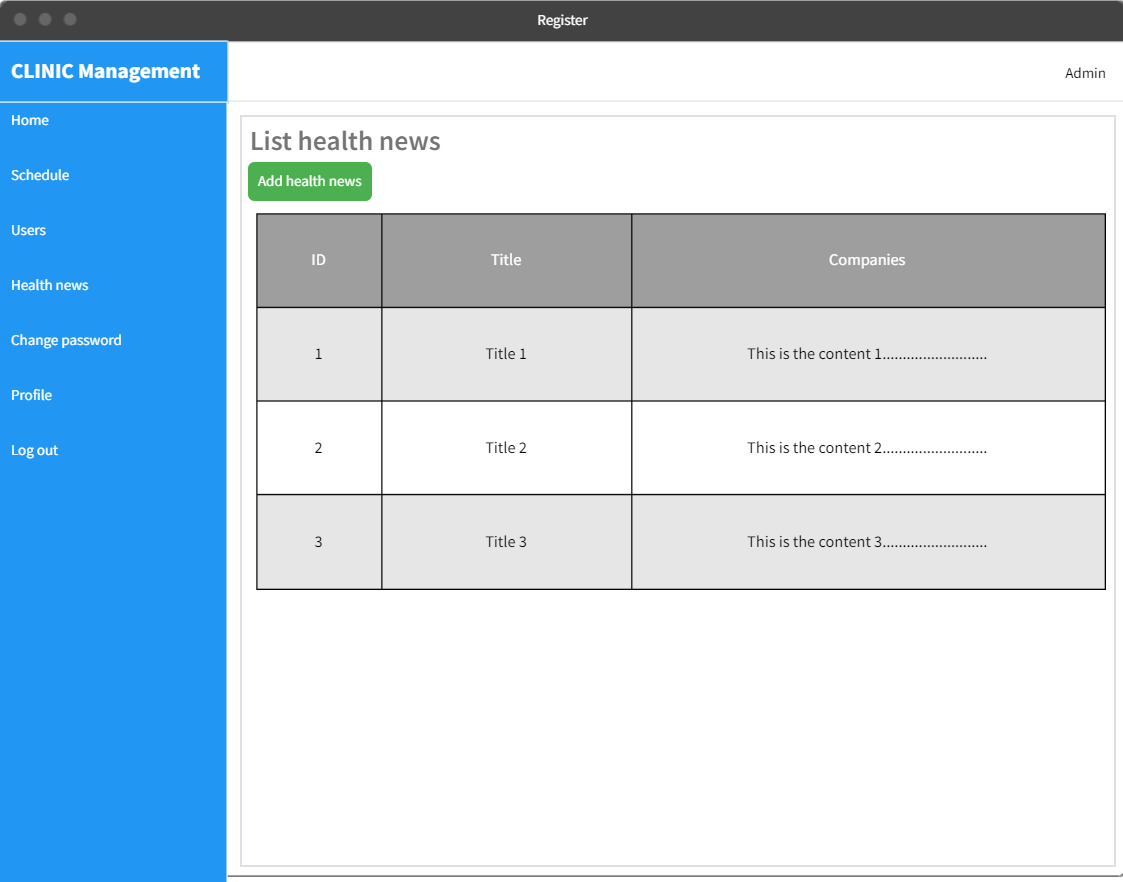


### 5.2 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Name | | | Health news | |
| Actor | | | All role | |
| Description | | | The function allows user to see all health news | |
| Precondition | | | User is in home page | |
| Trigger | | | User go to home page | |
| Post-Condition | | |  | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | User | | User go to home page | |
| *2* | CMS | | The system displays health news page on default | |
| Alternative flows | | | | |
| AT1 | | None | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | None |

## 6. List health news

### 6.1. Screen Design



### 6.2 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Name | | | List health news | |
| Actor | | | Admin | |
| Description | | | The function allows admin to see list health news | |
| Precondition | | | User logged in as an admin and in health news page | |
| Trigger | | | User go to health news page | |
| Post-Condition | | |  | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Admin | | User go to home page | |
| *2* | CMS | | The system lists all health news on the page | |
| Alternative flows | | | | |
| AT1 | | None | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | None |

## 7. List appointment:

### 7.1 Screen Design

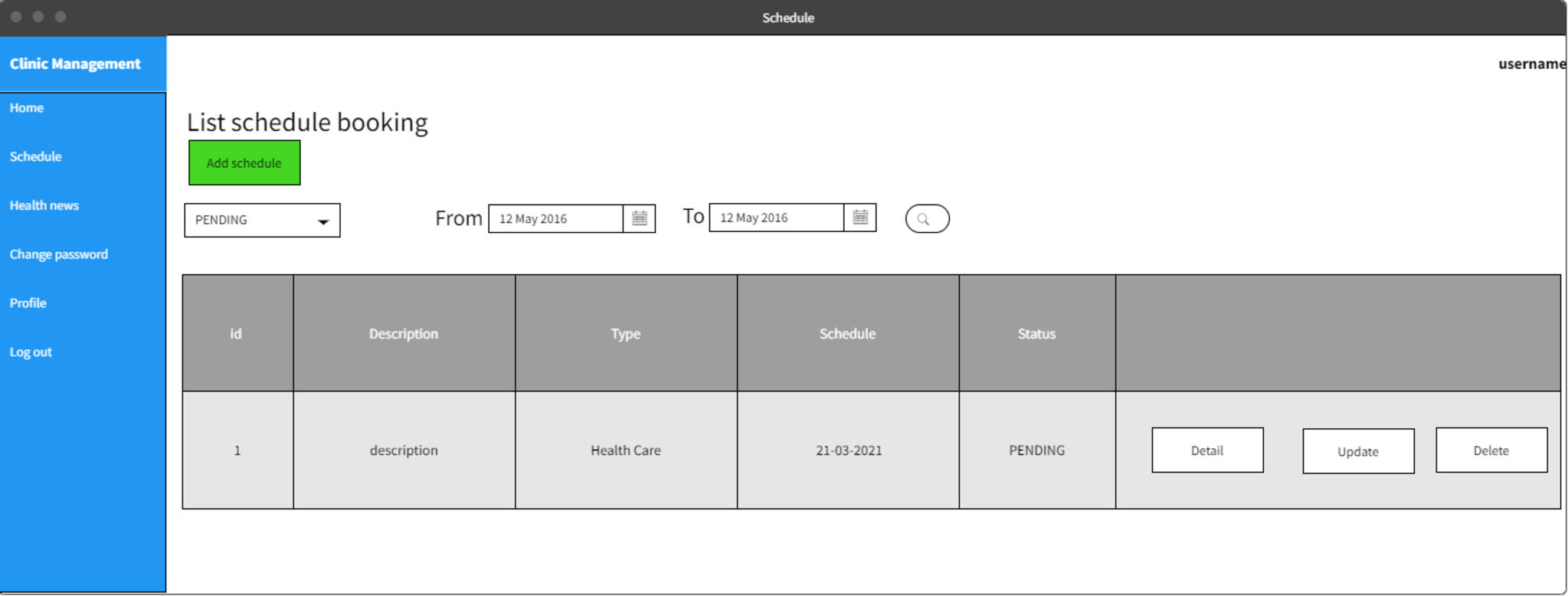


Figure 3.1.1: Screen Design of List Appointment

### 7.2 Use Case Specification

|  |  |
| --- | --- |
| Use Case ID | UC01 |
| Use Case Name | List appointment |
| Actor | Patient, Doctor, Receptionist, Admin |
| Description | The function show list of all appointments. |
| Precondition | User is in website Clinic Management System |
| Trigger | User go to schedule page |
| Post-Condition |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | All | | Go to schedule page | |
| *2* | CMS | | The system lists all schedules on the page | |
| Alternative flows | | | | |
| AT2 | | None | | |
| Sub step | | Actor | | Action |
| 4.1 | | MSW | | None |

## 8. Filter appointments:

### 8.1 Screen Design

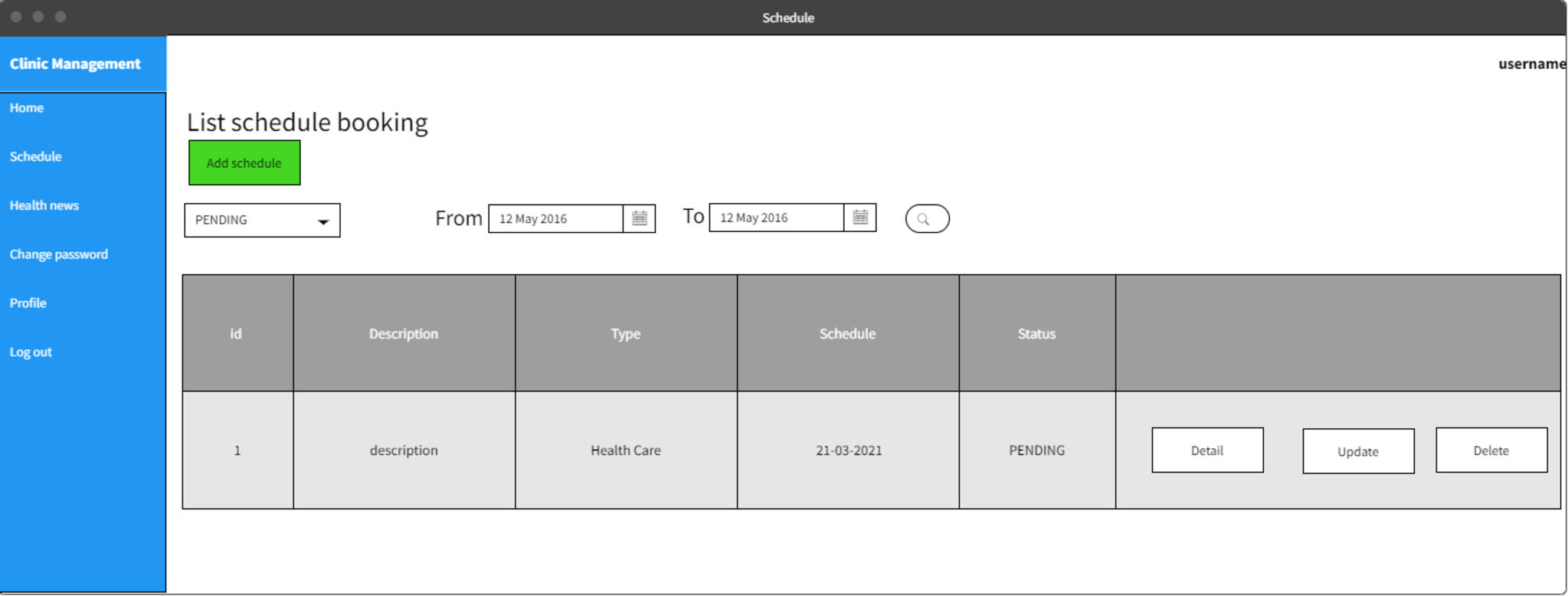


Figure 3.1.1: Screen Design of List Appointment

### 8.2 Use Case Specification

|  |  |
| --- | --- |
| Use Case ID | UC01 |
| Use Case Name | Filter appointments |
| Actor | Patient, Doctor, Receptionist, Admin |
| Description | The function show list of all appointments. |
| Precondition | User is in website Clinic Management System |
| Trigger | User fill somes information about status,from date,to date and system will filter by these conditions. |
| Post-Condition |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | All | | Go to schedule page | |
| *2* | CMS | | The system filter all schedule on the page | |
| Alternative flows | | | | |
| AT2 | | None | | |
| Sub step | | Actor | | Action |
| 4.1 | | MSW | | None |

## 9. Create new Health news

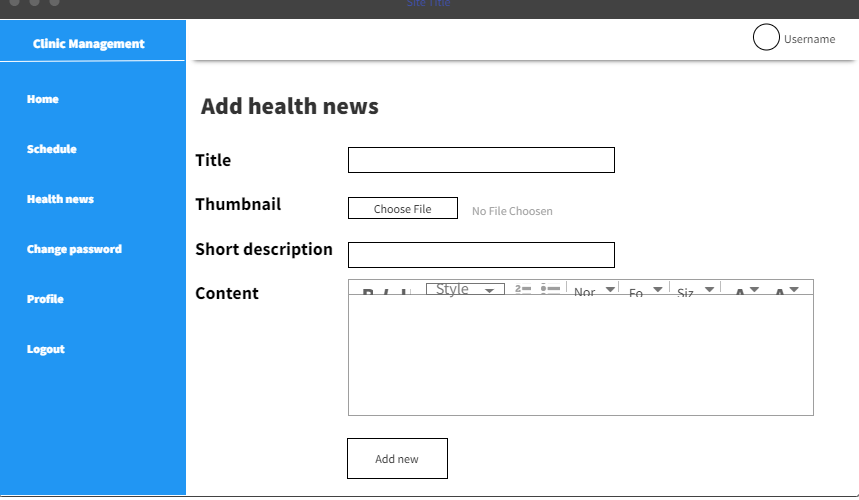
### 9.1 Screen Definition

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| # | Field Name | Type | Mandatory | Max Length | Description |
| 1 | Title | Text | Yes | N/A |  |
| 2 | Thumbnail | Image | Yes | N/A |  |
| 3 | Short description | Text | Yes | N/A |  |
| 4 | Content | CKEditor | Yes |  |  |
| 5 | Add | Button |  |  |  |

### 9.2 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Case Name | | | Create Health news | |
| Actor | | | Admin | |
| Description | | | The function allows admin to create a article about medical, health, .. | |
| Precondition | | | User logged in as role admin | |
| Trigger | | | User go to add health news page(***/news/add***) | |
| Post-Condition | | | cre | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Admin | | User go to list health news, then click btn “add health news” | |
| *2* | CMS | | The system display the screen that allow user enter information about news | |
| *3* | Admin | | Enter Title, thumbnail, short description, content | |
| *4* | CMS | | Back to list health new page for admin | |
| Alternative flows | | | | |
| AT1 | | Admin missing one of the fields | | |
| Sub step | | Actor | | Action |
| 4.1 | |  | | Display message require admin must enter all of field |

### 9.3 Screen design

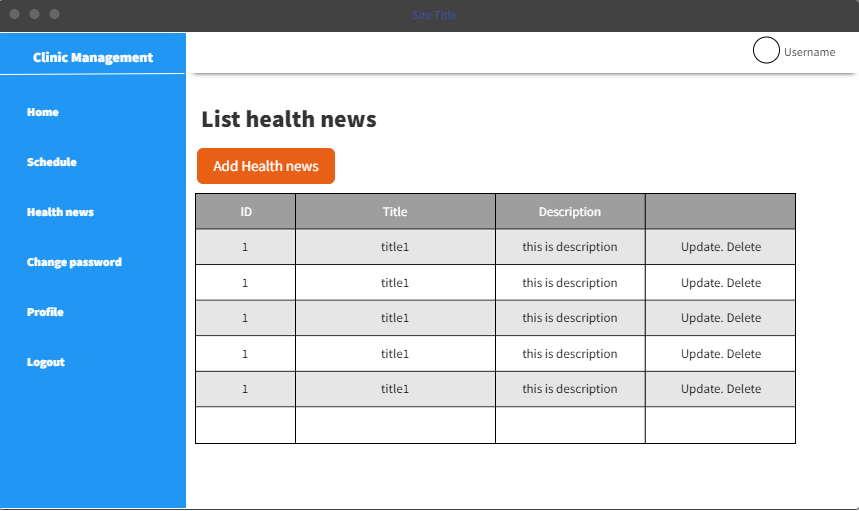


## 10. Delete Health news

### 10.1 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Case Name | | | Delete Health news | |
| Actor | | | Admin | |
| Description | | | The function allows admin to create a article about medical, health, .. | |
| Precondition | | | User logged in as role admin | |
| Trigger | | | select button delete on row that you want to delete | |
| Post-Condition | | | health new delete success | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Admin | | User go to list health news, then click btn “add health news” | |
| *2* | CMS | | The system display the screen that allow user enter information about news | |
| *3* | Admin | | Enter Title, thumbnail, short description, content | |
| *4* | CMS | | Back to list health new page for admin | |
| Alternative flows | | | | |
| AT1 | | Admin missing one of the fields | | |
| Sub step | | Actor | | Action |
| 4.1 | |  | | Display message require admin must enter all of field |

### 10.2 Screen design

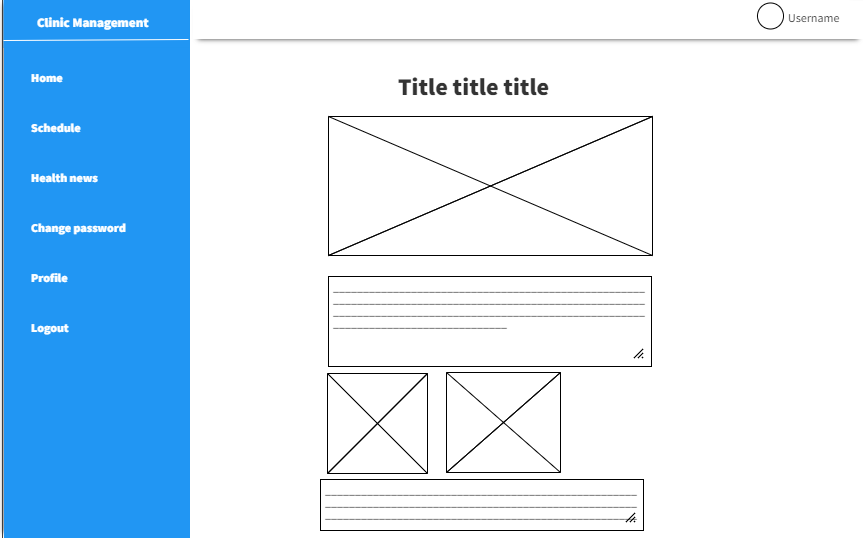


## 11. Detail health news

### 11.1 Use Case Specification

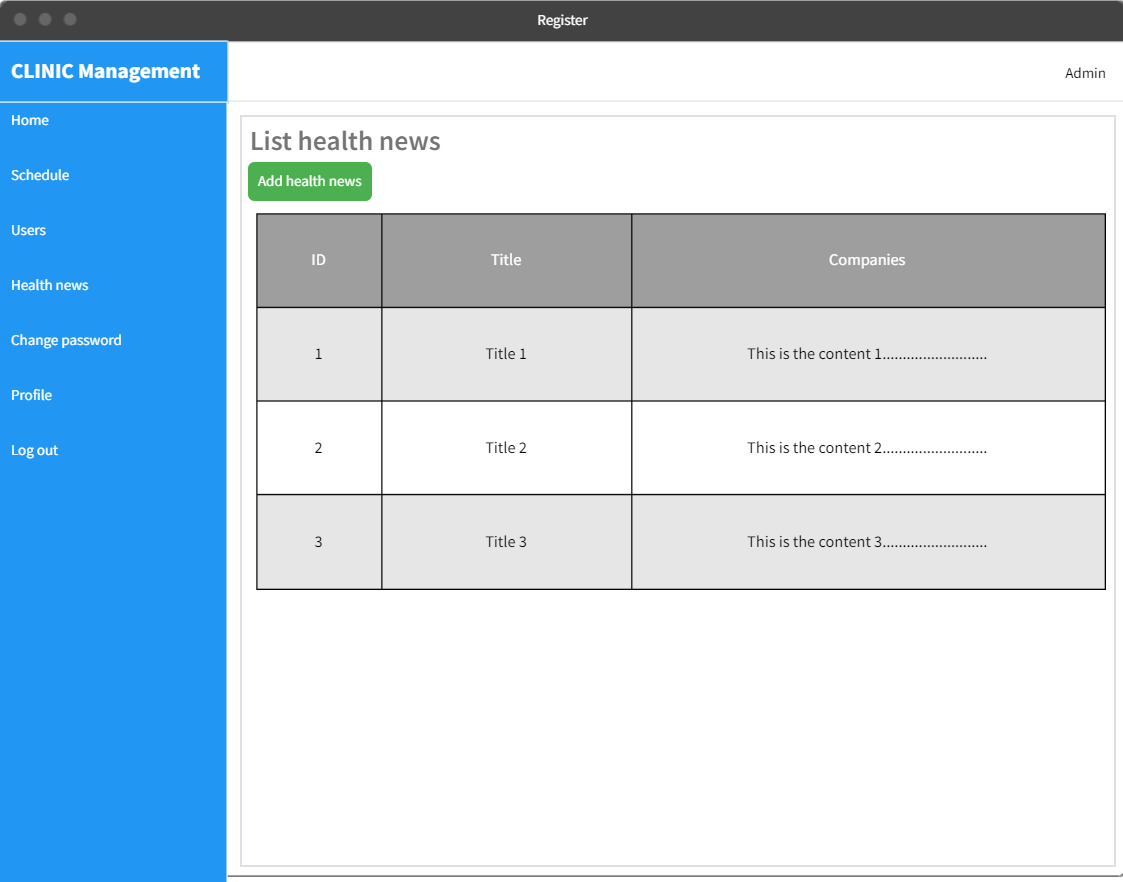
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Case Name | | | Delete Health news | |
| Actor | | | Admin | |
| Description | | | The function allows admin to create a article about medical, health, .. | |
| Precondition | | | User logged in as role admin | |
| Trigger | | | select button delete on row that you want to delete | |
| Post-Condition | | | health new delete success | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Admin | | User go to list health news, then click btn “add health news” | |
| *2* | CMS | | The system display the screen that allow user enter information about news | |
| *3* | Admin | | Enter Title, thumbnail, short description, content | |
| *4* | CMS | | Back to list health new page for admin | |
| Alternative flows | | | | |
| AT1 | | Admin missing one of the fields | | |
| Sub step | | Actor | | Action |
| 4.1 | |  | | Display message require admin must enter all of field |

### 11.2 Screen design



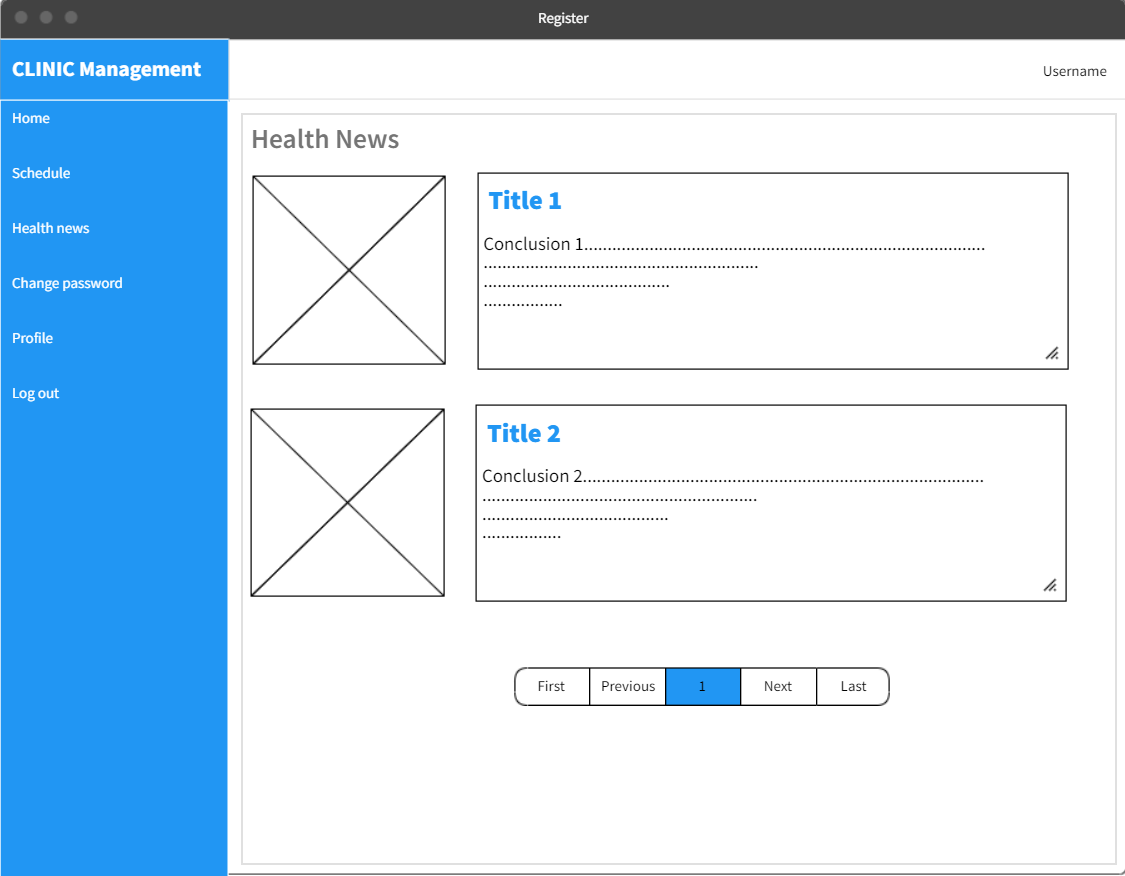
## 12. List all health news

### 12.1 Screen design



## 13. List all health news

### 13.1 Screen design

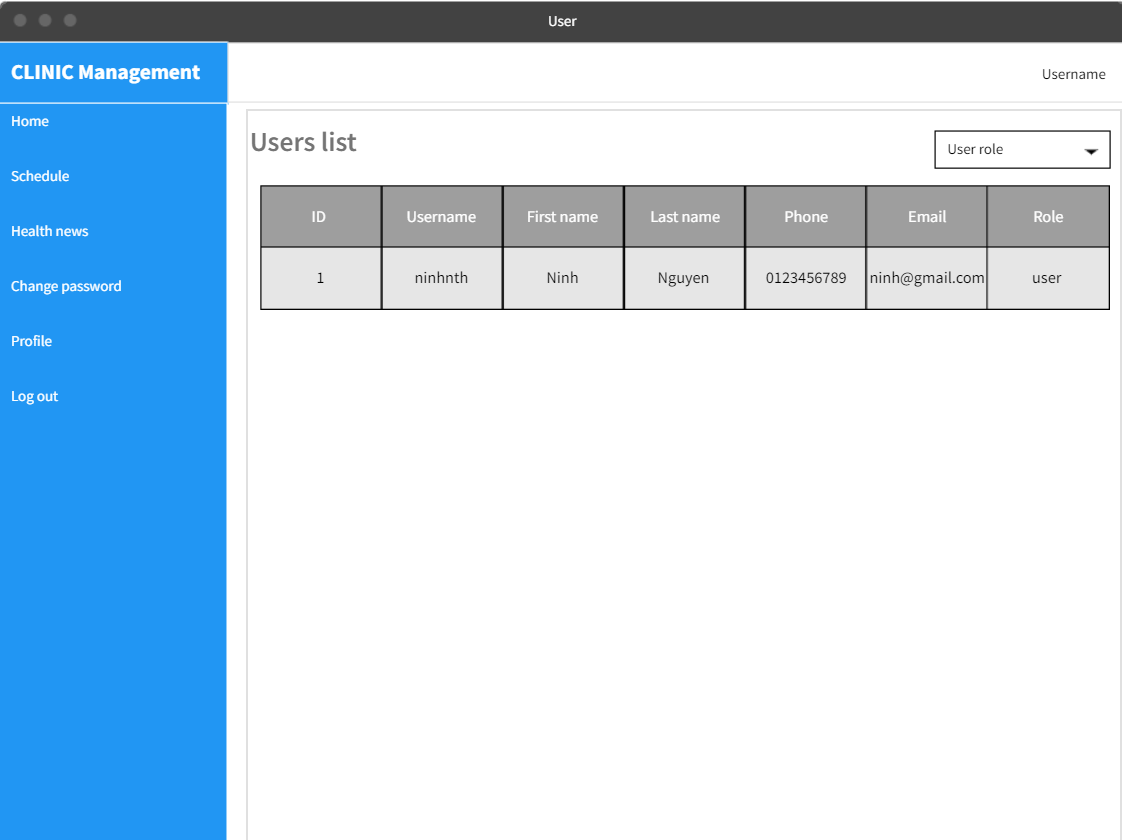


### 13.2 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC3 | |
| Use Case Name | | | Delete Health news | |
| Actor | | | Admin | |
| Description | | | The function allows admin to create a article about medical, health, .. | |
| Precondition | | | User logged in as role admin | |
| Trigger | | | select button delete on row that you want to delete | |
| Post-Condition | | | health new delete success | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Admin | | User go to list health news, then click btn “add health news” | |
| *2* | CMS | | The system display the screen that allow user enter information about news | |
| *3* | Admin | | Enter Title, thumbnail, short description, content | |
| *4* | CMS | | Back to list health new page for admin | |
| Alternative flows | | | | |
| AT1 | | Admin missing one of the fields | | |
| Sub step | | Actor | | Action |
| 4.1 | |  | | Display message require admin must enter all of field |

## 14. List users

### 14.1. Screen Design

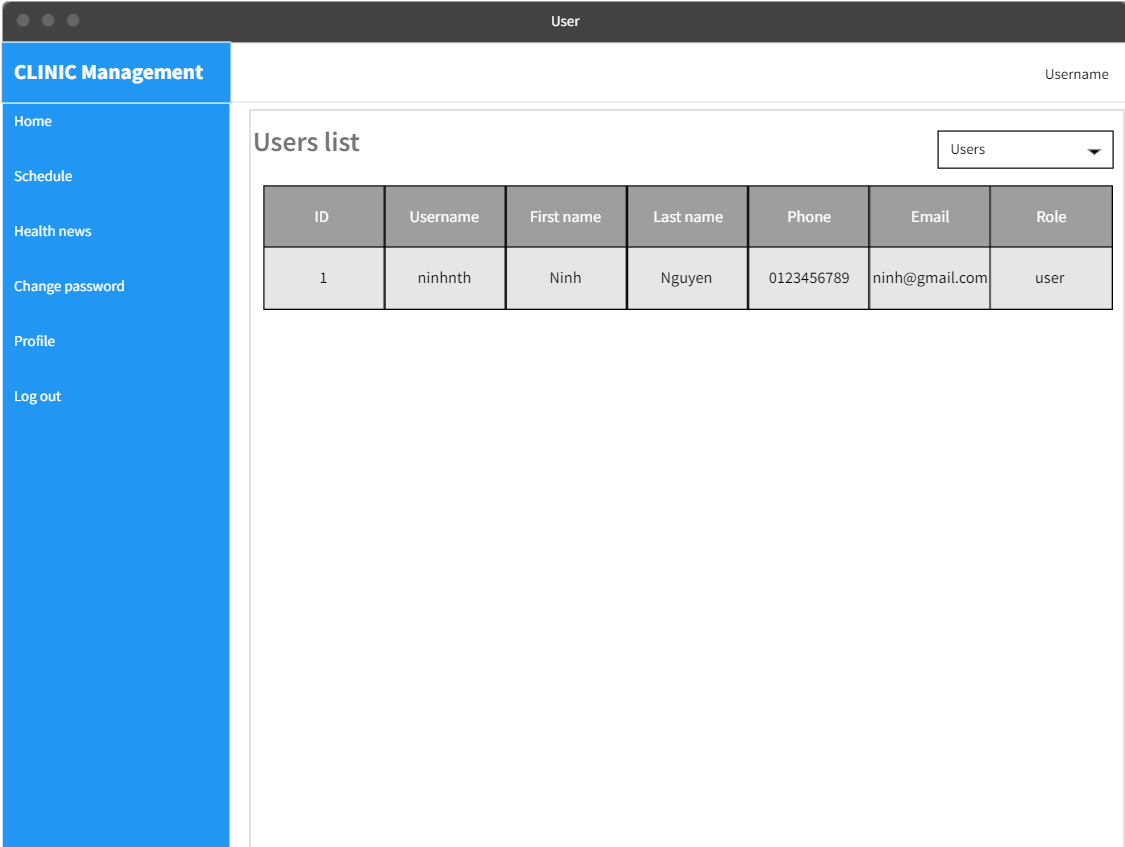


### 14.2 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC9 | |
| Use Name | | | List all users | |
| Actor | | | Admin | |
| Description | | | The function allows admin to see list users | |
| Precondition | | | User logged in as an admin and in Users page | |
| Trigger | | | User go to Users page | |
| Post-Condition | | |  | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Admin | | User go to users page | |
| *2* | CMS | | The system lists all user on the page | |
| Alternative flows | | | | |
| AT1 | | None | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | None |

## 15. Filter users

### 15.1. Screen Design

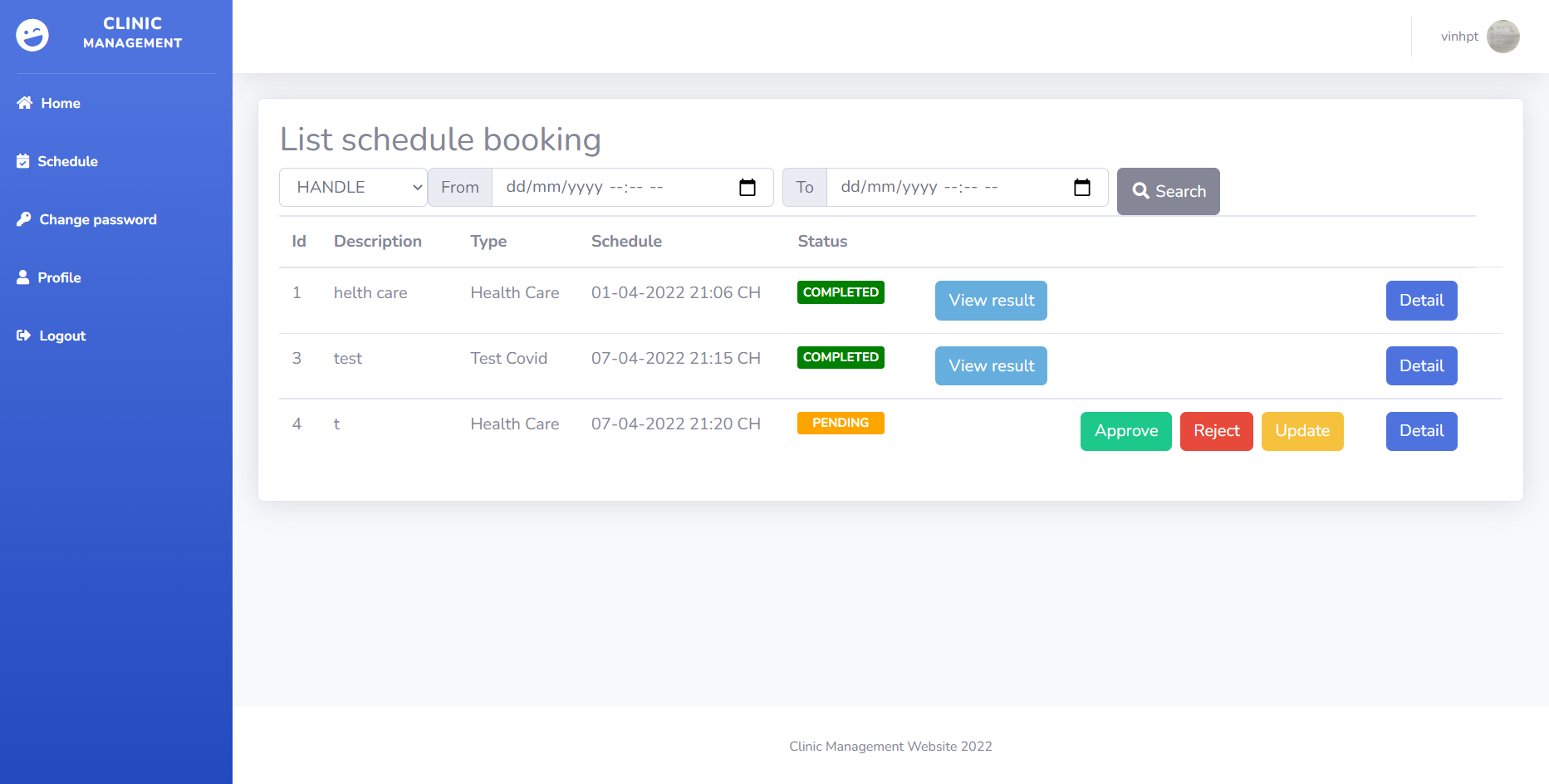


### 15.2 Use Case Specification

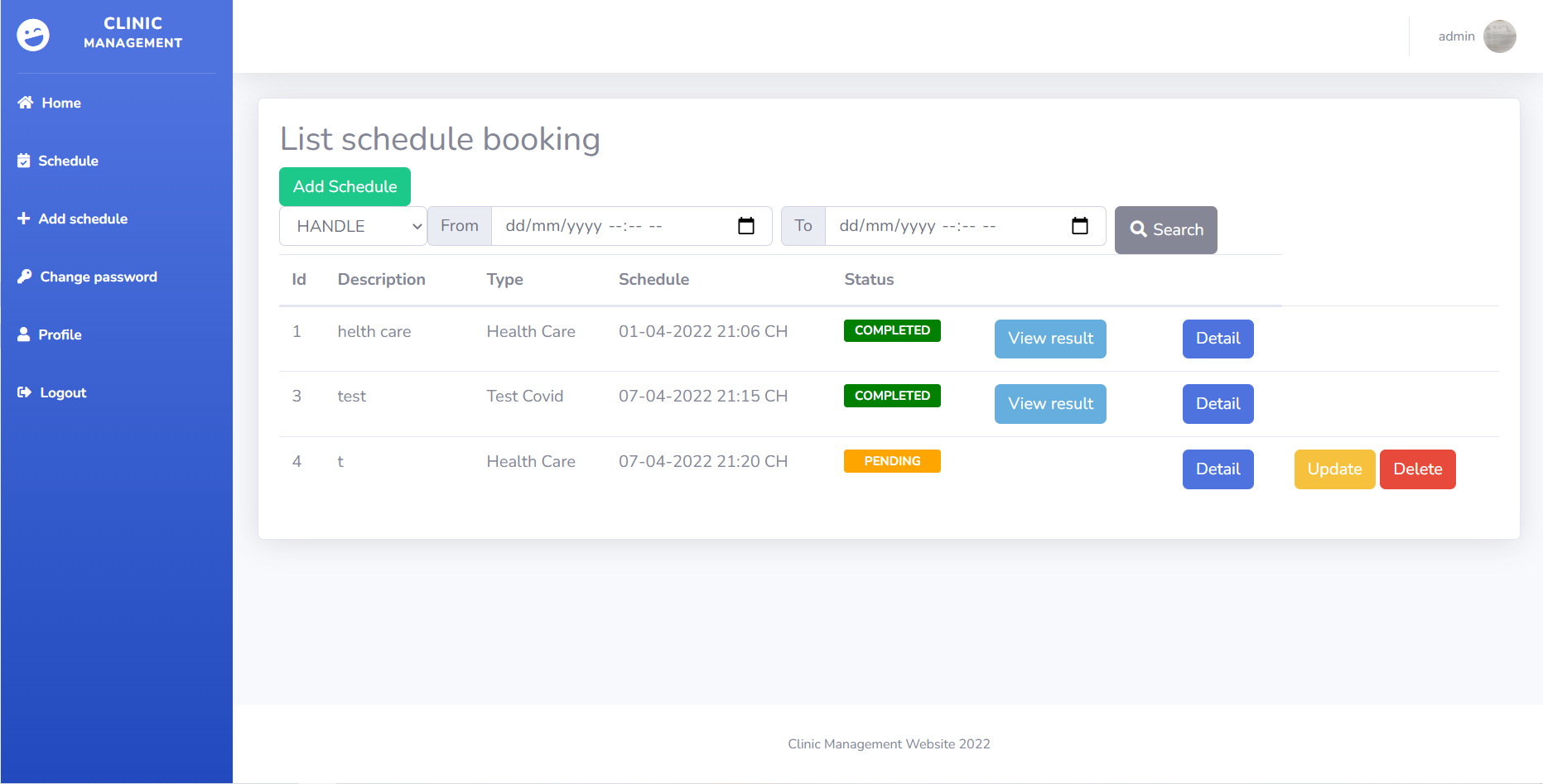
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC9 | |
| Use Name | | | Filter users list by role | |
| Actor | | | Admin | |
| Description | | | The function allows admin to filter list users by role | |
| Precondition | | | User logged in as an admin and in Users page | |
| Trigger | | | User go to Users page | |
| Post-Condition | | |  | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Admin | | User go to users page, choose a role in filter dropdown | |
| *2* | CMS | | The system lists all user with chosen role on the page | |
| Alternative flows | | | | |
| AT1 | | None | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | None |

## 16. Change appointment status

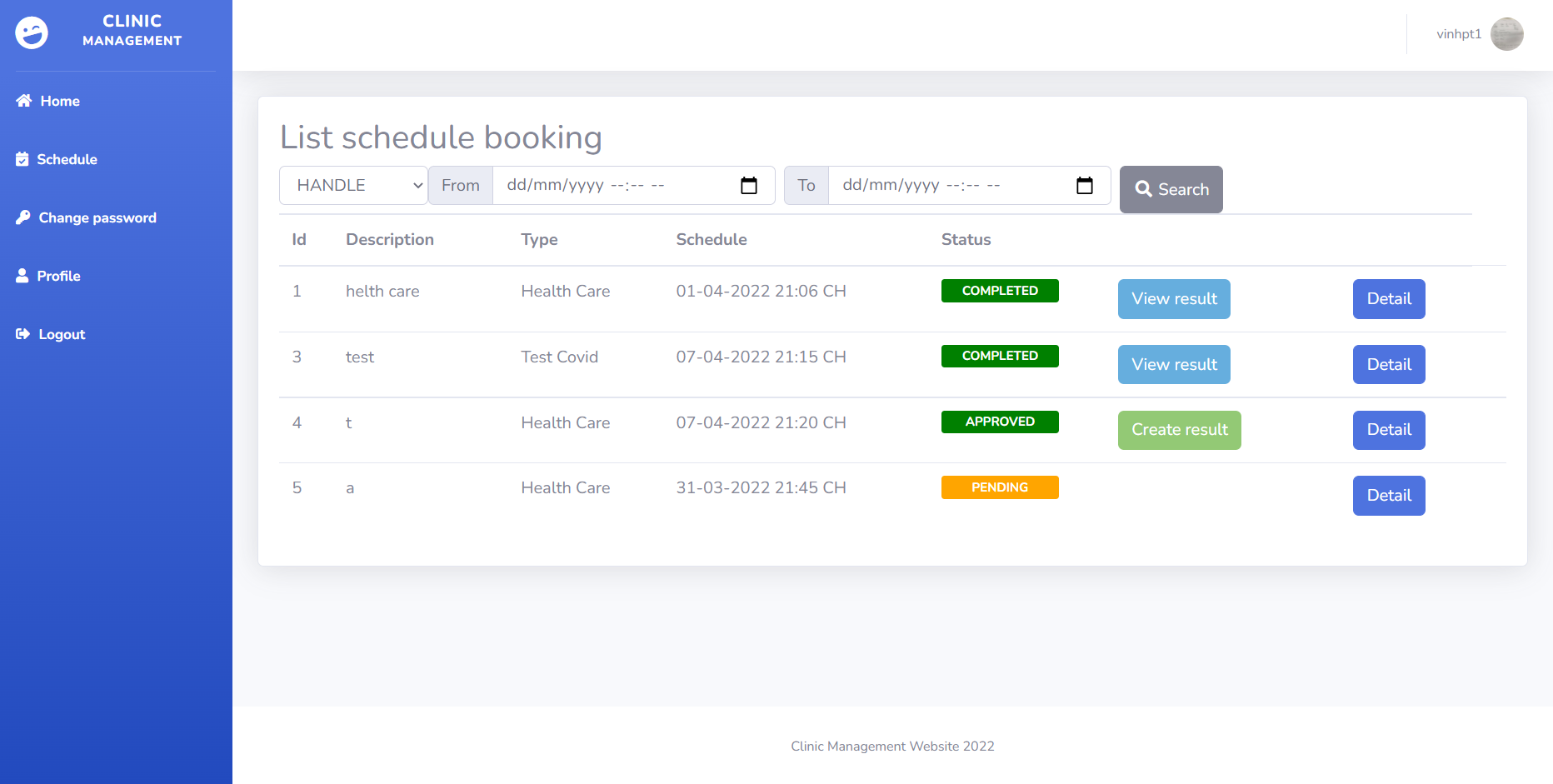
### 16.1Screen Design

Login as Receptionist

Login as Patient



Login as Doctor

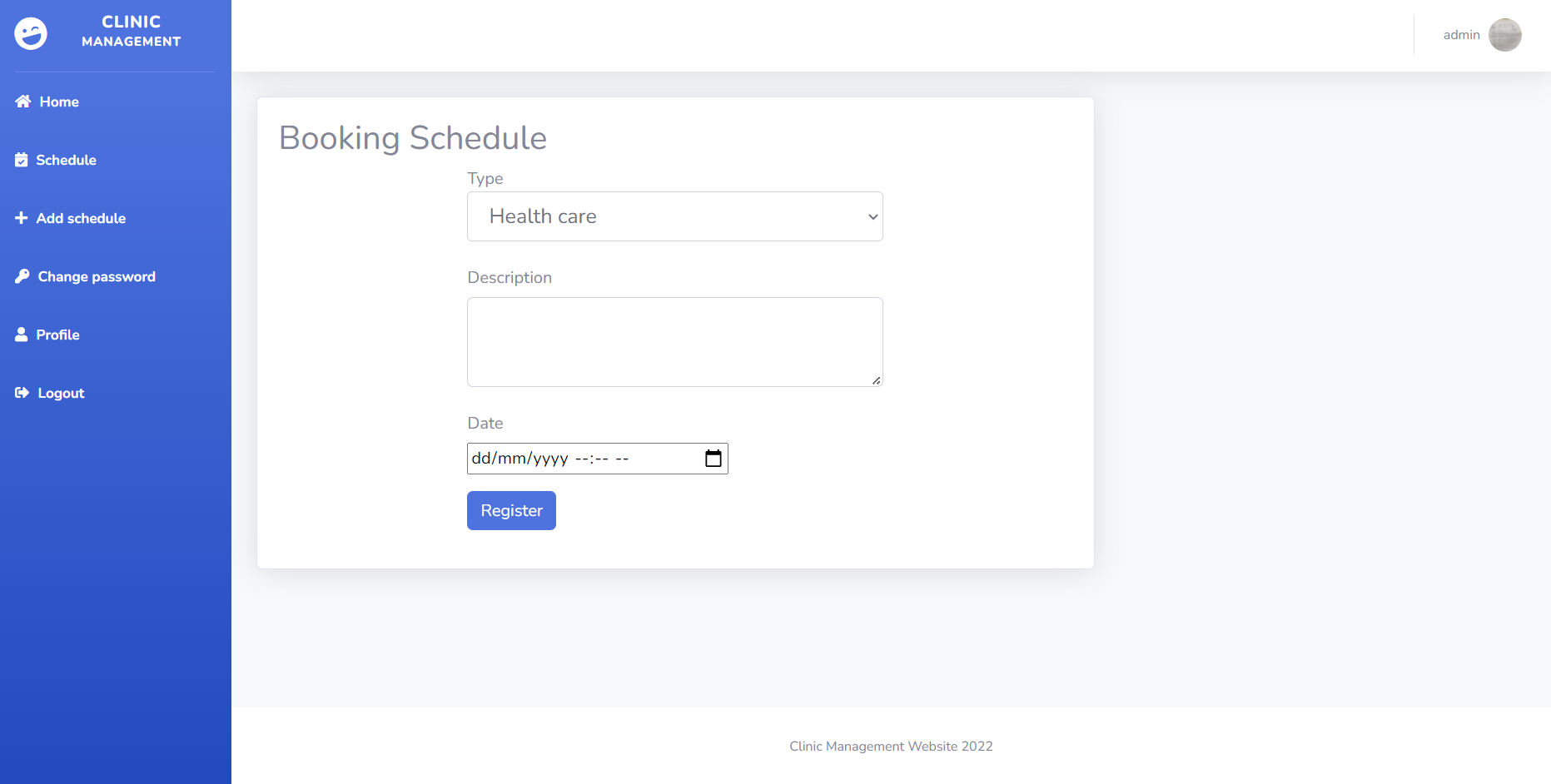


### 16.2 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC11 | |
| Use Name | | | Change Appointment Status | |
| Actor | | | Admin | |
| Description | | | The function allows receptionist to update status | |
| Precondition | | | User logged in as an Patient create appointment, User login as Receptionist to update Status to approve and reject,User login as Doctor to add result and change status to complete | |
| Trigger | | | User go to Appointment List | |
| Post-Condition | | |  | |
| Receptionist flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Receptionist | | User go to Schedult page, choose a date in filter dropdown and status | |
| *2* | CMS | | The system lists all appointment with chosen date and status on the page | |
| *3* | Receptionist | | Update status by click Approve to change status to approve, and click Reject to change status to rejected | |
| Doctor flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Doctor | | User go to Schedult page, choose a date in filter dropdown and status | |
| *2* | CMS | | The system lists all appointment with chosen date and status on the page | |
| Alternative flows | | | | |
| AT1 | | None | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | None |

## 17. Change appointment status

### 17.1 Screen Design



### 17.2 Use Case Specification

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Use Case ID | | | UC9 | |
| Use Name | | | Add appointment | |
| Actor | | | Patient | |
| Description | | | The function allows patient to book an appointment | |
| Precondition | | | User login as an patient and go to add schedule page and add schedule | |
| Trigger | | | User go to add schedule and book an appointment | |
| Post-Condition | | |  | |
| Main flows | | | | |
| *Step* | *Actor* | | *Action* | |
| *1* | Patient | | User go to add schedule page, choose type of service they want and write description if they need and pick a date for appointment | |
| *2* | CMS | | The system will receive the appointment and change status of the schedule to pending and the schedule will process by Receptionist. And return to schedule page | |
| Alternative flows | | | | |
| AT1 | | None | | |
| Sub step | | Actor | | Action |
| 2.1 | | MSW | | None |

### 