## **2. User Requirements**

### **2.1 Overview**

#### a. Use Case Diagram

*Figure 4. System Overview Use Case Diagram*

#### b. System Actors

|  |  |  |
| --- | --- | --- |
| **#** | **Actor** | **Description** |
| 1 | Unauthenticated User | Unauthenticated users are the users who have not logged in to the system. |
| 2 | Administrator | Administrators are responsible for managing accounts, expends. |
| 3 | Medical staff | Medical staff play an especially important role in our system. They are responsible for diagnosing and providing medicines for patients who come to the clinic. Besides, they are allowed to save information about who gets medicines. |
| 4 | Patient | Patients are anyone who is receiving medical treatment from medical staff |
| 5 | System Handler | System handler is responsible for handling notifications. |

*Table 12. System Actors*

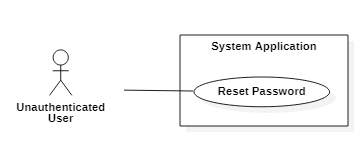
#### c. Use Cases List

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Use Case** | **Actors** | **Author** |
| 01 | Register | Unauthenticated User |  |
| 02 | Reset password | Unauthenticated User |  |
| 03 | Login | Unauthenticated User |  |
| 04 | Logout | Authenticated User |  |
| 05 | Manage doctor | Administrator |  |
| 06 | View medical supplies monthly report | Administrator |  |
| 07 | Export report | Administrator |  |
| 08 | View medical supplies inventory | Administrator |  |
| 09 | Modify license & policy | Administrator |  |
| 10 | Get list of transactions | Administrator, Parent |  |
| 11 | Get transaction details | Parent |  |
| 12 | Get list of accounts | Administrator |  |
| 13 | Get account details | Administrator |  |
| 14 | Change account status | Administrator |  |
| 15 | Get list of collaborators | Parent |  |
| 16 | Delete collaborator | Parent |  |
| 17 | Add collaborator | Parent |  |
| 18 | Pay subscription fee | Parent |  |
| 19 | Create transaction | Payment system, Parent |  |
| 20 | Add child | Parent |  |
| 21 | Modify child’s profile | Parent |  |
| 22 | Delete child | Parent |  |
| 23 | Get profile | Collaborator, Parent |  |
| 24 | Modify profile | Collaborator, Parent |  |
| 25 | Get list of children | Collaborator, Parent |  |
| 26 | Get child’s profile | Collaborator, Parent, Child |  |
| 27 | Add safe zone | Collaborator, Parent |  |
| 28 | Modify safe zone | Collaborator, Parent |  |
| 29 | Delete safe zone | Collaborator, Parent |  |
| 30 | Get safe zones list | Collaborator, Parent |  |
| 31 | Get safe zone details | Collaborator, Parent |  |
| 32 | Get child’s location status | Collaborator, Parent |  |
| 33 | Get child’s location summary | Collaborator, Parent |  |
| 34 | Get map | Collaborator, Parent, Google Maps Platform |  |
| 35 | Get list of tasks | Collaborator, Parent, Child |  |
| 36 | Get task details | Collaborator, Parent, Child |  |
| 37 | Add task | Collaborator, Parent |  |
| 38 | Update task | Collaborator, Parent, Child |  |
| 39 | Delete task | Collaborator, Parent |  |
| 40 | Get list of quests | Collaborator, Parent, Child |  |
| 41 | Get quest details | Collaborator, Parent, Child |  |
| 42 | Add quest | Collaborator, Parent |  |
| 43 | Update quest | Collaborator, Parent |  |
| 44 | Delete quest | Collaborator, Parent |  |
| 45 | Notify | System handler |  |

*Table 13. Use Cases List*

### 2.2 <Unauthenticated User> Overview Use Case

#### 2.2.2. Reset password

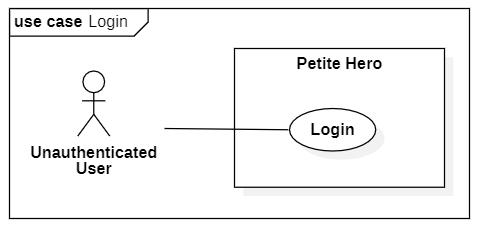


*Figure 6. Use case - Reset Password*

|  |  |  |  |
| --- | --- | --- | --- |
| ID and Name: | **- Reset password** | | |
| Created By: | SonDH | Date Created: | 11/05/2021 |
| Primary Actor: | Unauthenticated User | Secondary Actors: | N/A |
| Description: | - **Summary**: When forgetting a password, the actor requests to get an OTP code sent to the account’s phone number for setting a new password.  - **Goal**: After receiving a “Reset password” request, the system generates and sends an OTP code to the account’s registered phone number. The actor then uses that code as authentication to update the password. | | |
| Trigger: | Actor sends the “Reset password” command. | | |
| Preconditions: | N/A | | |
| Post-  conditions: | **- Success:** The password is updated. Actor is signed in. An associated access token is created.  **- Fail**: N/A | | |
| Normal Flow: | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actor sends the “Reset password” command. | System generates an OTP code then sends it to the account’s phone number.  System prompts the actor to input the code.  OTP code: string, number input, required, length 6  [Exception 1, 2] | | 2 | Actor fills in the code, then sends the “Verify” command. | System verifies the code.  System prompts the actor to input the new password.  New password: string, free text input, masked, required, length 6.  Confirm password: string, free text input, masked, required, length 6.  [Exception 3] | | 3 | Actor fills in the password, then sends the “Update” command. | System check if the two password fields matched.  System updates the password, then signs in the actor. An associated access token is created.  [Exception 4] | | | |
| Alternative Flows: | N/A | | |
| Exceptions: | |  |  |  | | --- | --- | --- | | No | Cause | System Response | | 1 | System cannot send the code to the account phone number. | System shows an error message to the actor. | | 2 | Not enough time had passed since the previous OTP code was generated. | System shows a message telling the actor to wait until enough time has passed. | | 3 | Actor filled in the incorrect code. | System shows an error message and prompts the actor to re-input the code. | | 4 | The two password fields did not match. | System prompts the actor to re-input the two fields. | | | |
| Priority: | Medium | | |
| Frequency of Use: | Rarely, expect one usage every 3 months for a user. | | |
| Business Rules: | - When forgetting password, system lets the user create a new password, authenticated by an OTP code sent to the user's registered phone number.  - After verifying, the user must update the password to access application functions. The password is updated in the system. | | |
| Other Information: | - The OTP code has an expired time depending on the system configuration.  - Depending on the system configuration, a minimal amount of time has to pass between OTP generations.  - Third party API Twilio does not support Mobifone in Vietnam. | | |
| Assumptions: | The user must have access to the phone number used for registration. | | |

*Table 15. Use case specification - Reset password*

#### 2.2.3. Login



*Figure 7. Use case - Login*

|  |  |  |  |
| --- | --- | --- | --- |
| ID and Name: | **- Login** | | |
| Created By: | SonDH | Date Created: | 23/09/2020 |
| Primary Actor: | Unauthenticated User | Secondary Actors: | N/A |
| Description: | - **Summary**: Actor signs in to the system using credentials of an existing account.  - **Goal**: System checks the actor’s provided account credentials. If the credentials are correct, it gives the actor access to application functions by an access token. | | |
| Trigger: | Actor sends the “Login” command. | | |
| Preconditions: | N/A | | |
| Post-  conditions: | **- Success:** Actor is signed in. An associated access token is created.  **- Fail**: N/A | | |
| Normal Flow: | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actor sends the “Login” command on the mobile application.  [Alternative 1] | System asks the actor to input credential information.  Phone number: string, number input, required, length 10.  Password: string, free text input, masked, required, length 6. | | 2 | Actor fills in the information, then sends the “Verify” command. | System verifies the information.  System signs in the actor. An associated access token is created.  [Exception 1] | | | |
| Alternative Flows: | **Alternative 1**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actor sends the “Login” command on the admin web application. | System asks the actor to input credential information.  Username: string, free text input, required, maximum 11 characters.  Password: string, free text input, masked, required, length 6. | | 2 | Actor fills in the information, then sends the “Verify” command. | System verifies the information.  System signs in the actor. An associated access token is created.  [Exception 2] | | | |
| Exceptions: | |  |  |  | | --- | --- | --- | | No | Cause | System Response | | 1 | Actor filled in the incorrect credential information. | System shows an error message and prompts the actor to re-input the information. | | 2 | Actor filled in the incorrect credential information. | System shows an error message and prompts the actor to re-input the information. | | | |
| Priority: | Medium | | |
| Frequency of Use: | Frequently, expect 2 to 5 usages everyday for a user. | | |
| Business Rules: | - A user must be authenticated by an identity and password before accessing system functions.  - The actor is logged in as a Parent on the mobile application.  - The actor is logged in as Admin on the admin web application. | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

### 2.3 <Authenticated User> Overview Use Case

#### 2.3.1. Logout

*Figure 8. Use case - Logout*

|  |  |  |  |
| --- | --- | --- | --- |
| ID and Name: | **HERO04 - Logout** | | |
| Created By: | HungNP | Date Created: | 05/10/2020 |
| Primary Actor: | Authenticated User | Secondary Actors: | N/A |
| Description: | - **Summary**: Actor logs out from the current account.  - **Goal**: System removes actor’s access to application functions. The associated bearer token is removed. | | |
| Trigger: | Actor sends the “Logout” command. | | |
| Preconditions: | Actor has logged into the system. | | |
| Post-  conditions: | **- Success:** Actor is logged out. The associated access token is removed.  **- Fail**: N/A | | |
| Normal Flow: | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actor sends the “Logout” command. | System confirms if the user wants to log out. | | 2 | Actor sends the “Confirm” command.  [Alternative 1] | System signs out the actor. The associated access token is removed.  [Exception 1] | | | |
| Alternative Flows: | **Alternative 1**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actor sends the “Cancel” command. | N/A | | | |
| Exceptions: | |  |  |  | | --- | --- | --- | | No | Cause | System Response | | 1 | An error occurred while signing out the actor. | System shows an error message. | | | |
| Priority: | Medium | | |
| Frequency of Use: | Rarely, expect one usage every week for a user. | | |
| Business Rules: | - Actor can log out from the system after being authenticated.  - After logging out, user’s credential information is cleared from the user application. The access token is removed. | | |
| Other Information: | N/A | | |
| Assumptions: | N/A | | |

*Table 17. Use case specification - Logout*