** MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

The Traffic Sign Recognition and Training

|  |  |
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# Definitions, Acronyms, and Abbreviations

# Report No.3 Software Requirement Specification

## User Requirement Specification

### Guest Requirement

Guest is a person who doesn’t have access to the system. To use system functions, guest must Login.

### Instructor Requirement

Instructor is teacher of the university. Instructor’s account is **created by admin**?.Instructor can use mobile app or website, that can do functions:

* Check Attendance
* Report Attendance Rate

### Staff Requirement

Staff is the employee of the university office. Staff’s account is created by admin. Staff can use website with these functions:

* Manage Subject: Add/ Edit/Active/ Inactive Subject
* Manage Class: Add/Edit /Active/ Inactive Class
* Manage Teacher: Add/Edit Teacher
* Manage Student: Add/Edit Student. Import Student List
* Manage Roll Call: Add/Edit Roll Call
* Report Attendance Rate: Report by Class, Block, Student. Export report

### Student Requirement

Student is the student of the university. Student’s account is created by admin. . Staff can use website with function:

* Check Present Rate

### Admin Requirement

Admin is the one who maintained and config the system. Admin can do functions:

* Manage Account: Create/Edit/Active/Inactive Account
* Manage Student Image: Add/Delete Student’s Image
* Config System

### System Requirement

System is also an actor, run in the background to keep the system working. System can do functions:

* Auto free storage space
* Face Detection
* Face Recognition: Recognition Student/Store Result
* Manage Roll Call: Auto Active/Inactive Roll Call

## System Requirement Specification

### External Interface Requirement

#### User Interface

* + - The interface of website is clear, do not annoy customer.
    - The interface of mobile app must be clear, compatibale with touch screen. The size of controls must be big enough to touch on smartphone.
    - The error, warning messages must be make clear, easy to understand. Error warning does not disturb customer.

#### Hardware Interface

* The system will use the standard hardware and data communications resources of a standard computer.

#### Software Interface

* Firefox Browser, Chromes with Resolution (1280\*800) or bigger and support JavaScript and HTML5
* Smartphone with Android 4.1 or above. Screen size (70 x 120 mm) or bigger.

#### Communication Protocol

* Website using HTTP protocol for communication between the web browser and the web server.
* Mobile app using HTTP protocol for communicating between app and web service.

### System Overview Use Case



Figure 1: System Overview Use Case

### List of Use Case

#### <Guest>Overview Use Case



Figure 2: <Guest> Overview Use Case

##### <Guest>Register account

Use Case Diagram



Figure 3: <Guest> Register account

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – GU001** | | | |
| **Use Case No.** | GU002 | **Use Case Version** | 1.0 |
| **Use Case Name** | Register | | |
| **Author** | Tran Le Tuan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Guest.  **Summary:**  Guest use this case to register account into system.  **Goal:**  Allow guest register account into system.  **Triggers:**   * Guest want to register account. * To register: Guest go to the register page, guest enter username, password, email, address then click on “Đăng ký” button to register.   **Preconditions:** N/A.  **Post Conditions:**   * **Success:** System will show success message on current page * **Fail:** System will show error message on current page   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Guest click on “Đăng ký” button. | System redirect to register page, contain a register form:   * “Tên đăng nhập”: textbox (min length: 5, max length: 30, required). * “Mật khẩu”: textbox (password box, min length: 5, max length: 30, required). * “Nhập lại mật khẩu”: textbox (password box, min length: 5, max length: 30, required). * “Email”: textbox ( [abc@xyz.com](mailto:abc@xyz.com)) required. * “Đăng ký” button. | | 2 | Guest enter register information.  Press “Đăng ký” button. | System send verify email and show the success message: “Bạn đã đăng ký thành công, vui lòng xác nhận email để kích hoạt tài khoản”.  [Exception 1, 2, 3, 4, 5] | | 3 | Guest verify account | System show message “Chúc mừng bạn kích hoạt thành công” and redirect to homepage  [Exception 6] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Missing information. | Show error message: “Vui lòng nhập đầy đủ thông tin”. | | 2 | Username/Password not in range [5,30] | Show error message: “Tên đăng nhập và mật khẩu phải từ 5-30 ký tự”. | | 3 | Input invalid retype password. | Show error message: “Thông tin nhập vào không đúng”. | | 4 | Input invalid email. | Show error message: “Email không hợp lệ” | | 5 | Existed username/email | Show error message: “Tên đăng nhập hoặc email đã được sử dụng” | | 6 | Verify link is expired | Show error message: “Đã hết hạn kích hoạt. Liên lạc với admin để có thêm thông tin” |   **Relationships:** N/A  **Business Rules:**   * Each user can register an account. | | | |

Table 1: <Guest> Register account

##### <Guest>Login

Use Case Diagram



Figure 4: <Guest> Login

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – GU001** | | | |
| **Use Case No.** | GU001 | **Use Case Version** | 2.0 |
| **Use Case Name** | Login | | |
| **Author** | Tran Le Tuan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Guest.  **Summary:**  Guest use this case to login into system.  **Goal:**  Allow authentication and authorization of the system.  **Triggers:**   * Guest want to login into system. * To login: Guest go to the login page, guest enter username and password, then click on “Log in” button to login.   **Preconditions:** N/A.  **Post Conditions:**   * **Success:** Guest is authorized, redirect to corresponding page. * **Fail:** System will show error on current page   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Guest click on “Đăng nhập” button. | System show a login form, includes:   * Tên đăng nhập: textbox (min length: 5, max length: 30, required). * Mật khẩu: textbox (password box, min length: 5, max length: 30, required). * Đăng nhập: button. | | 1 | Guess enter username and password into textboxs.  Press “Đăng nhập” button. | Guest is logged into system, authorized with corresponding role. Redirect to home page.  [Exception 1,2] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | No input in “Tên đăng nhập” or “Mật khẩu” textboxs | Show error message: “Vui lòng nhập thông tin đăng nhập”. | | 2 | Username/Password not in range [5,30] | Show error message: “Tên đăng nhập/Mật khẩu phải từ 5-30 ký tự” textbox. | | 3 | Input invalid username or password | Show error message: “Tên đăng nhập hoặc mật khẩu không đúng”. |   **Relationships:** N/A  **Business Rules:**   * Each user, staff, admin has an account. * Only active account can log in. | | | |

Table 2: <Guest> Login

##### <Guest, User>Search manually

Use Case Diagram



Figure 5: <Guest, User> Search manually

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –** | | | |
| **Use Case No.** |  | **Use Case Version** | 1.0 |
| **Use Case Name** | Search manually using web application | | |
| **Author** | Mai Van Tan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Guest, User  **Summary:**   * User use this case to search manually   **Goal:**   * Allow user to search a traffic sign   **Triggers:**   * User want to search traffic sign in manually * User can search manually by input a key work or view a list and choice the traffic sign. * User select “Tìm kiếm biển báo” in menu bar, input keyword in “Từ khóa” textbox then press “Tìm kiếm”. The system will return a list of traffic sign, select the traffic sign to view information.   **Preconditions:** N/A  **Post Conditions:**   * **Success**: System will show the information of the traffic sign * **Fail:** Show the error to user   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select “Tìm kiếm biển báo” in menu bar | System redirect to search traffic sign page, contain:   * Groupbox: “Tìm kiếm tự động” * Groupbox: “Tìm kiếm bằng tay”   + “Từ khóa”: textbox  + “Tìm kiếm”: button  + List of main type traffic sign | | 2 | User input keyword in “Từ khóa” and press “Tìm kiếm”  [Alternative 1] | System return a list of traffic sign match with the input keyword  [Exception 1] | | 3 | User select a traffic sign in list | System redirect to traffic sign information contain:  Tên biển báo: label  Hình ảnh: Image  Nội dung biển báo: label  Mức phạt: label |   **Alternative Scenario:**  **1.**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select a type in list main traffic sign type | Show the list of traffic sign of type that user selected. | | 2 | User select a traffic sign in list | System redirect to traffic sign information contain:  Tên biển báo: label  Hình ảnh: Image  Nội dung biển báo: label  Mức phạt: label |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | No result match with keyword | Show message: “Không tìm thấy” |   **Relationships: N/A**  **Business Rules: N/A** | | | |
|  | | | |

Table 3: <Guest, User> Search manually using web application

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –** | | | |
| **Use Case No.** |  | **Use Case Version** | 1.0 |
| **Use Case Name** | Search manually using mobile application | | |
| **Author** | Mai Van Tan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Guest, User  **Summary:**   * User use this case to search manually   **Goal:**   * Allow user to search a traffic sign   **Triggers:**   * User want to search traffic sign in manually * User can search manually by input a key work or view a list and choice the traffic sign. * User select search traffic sign in manually item [image], input keyword in “Từ khóa” textbox then press “Tìm kiếm”. The system will return a list of traffic sign, select the traffic sign to view information.   **Preconditions:** N/A  **Post Conditions:**   * **Success**: System will show the information of the traffic sign * **Fail:** Show the error to user   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select search traffic sign in manually item [image] | System redirect to search traffic in manually screen, contain:  + “Từ khóa”: textbox  + “Tìm kiếm”: button  + List of main type traffic sign | | 2 | User input keyword in “Từ khóa” and press “Tìm kiếm”  [Alternative 1] | System return a list of traffic sign match with the input keyword  [Exception 1] | | 3 | User select a traffic sign in list | System redirect to traffic sign information contain:  Tên biển báo: label  Hình ảnh: Image  Nội dung biển báo: label  Mức phạt: label |   **Alternative Scenario:**  **1.**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select a type in list main traffic sign type | Show the list of traffic sign of type that user selected. | | 2 | User select a traffic sign in list | System redirect to traffic sign information contain:  Tên biển báo: label  Hình ảnh: Image  Nội dung biển báo: label  Mức phạt: label |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | No result match with keyword | Show message: “Không tìm thấy” |   **Relationships: N/A**  **Business Rules: N/A** | | | |
|  | | | |

Table 4: <Guest, User> Search manually using mobile application

##### <Guest, User>Search auto

Use Case Diagram



Figure 6: <Guest, User> Search auto

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –** | | | |
| **Use Case No.** |  | **Use Case Version** | 1.0 |
| **Use Case Name** | Search auto using web application | | |
| **Author** | Mai Van Tan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Guest, User  **Summary:**   * User use this case to auto search traffic sign   **Goal:**   * Allow user to search traffic sign automatically   **Triggers:**   * User want to search traffic sign automatically * User select “Tìm kiếm biển báo” in menu bar, select an image and press “Tải lên và tìm kiếm”, then system will return a list of result. User select a traffic sign to view information of it.   **Preconditions:**  **Post Conditions:**   * **Success**: System will show the information of the traffic sign * **Fail:** Show the error to user.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User click on “Tìm kiếm biển báo” in menu bar | System redirect to search traffic sign page, contain:   * Groupbox: “Tìm kiếm tự động”   + File picker:  + “Tải lên và tìm kiếm”: button   * Groupbox: “Tìm kiếm bằng tay”   + “Từ khóa”: textbox  + “Tìm kiếm”: button  + List of main type traffic sign | | 2 | User select an image and press “Tải lên và tìm kiếm” | System receive the image, process. After done, redirect to result page contain:   * Image uploaded * List of traffic sign recognized   [Exception 1] | | 3 | User select an traffic sign to view detail | System redirect to view traffic sign information page, contain:  Tên biển báo: label  Hình ảnh: Image  Nội dung biển báo: label  Mức phạt: label |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | No result match with keyword | Show message: “Không tìm thấy” |   **Relationships: N/A**  **Business Rules: N/A** | | | |
|  | | | |

Table 5: <Guest, User> Search auto using web application

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –** | | | |
| **Use Case No.** |  | **Use Case Version** | 1.0 |
| **Use Case Name** | Search auto using mobile application | | |
| **Author** | Mai Van Tan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Guest, User  **Summary:**   * User use this case to auto search traffic sign in mobile   **Goal:**   * Allow user to search traffic sign automatically   **Triggers:**   * User want to search traffic sign automatically * User select search auto item [image], system open a camera screen. User take a photo and submit to server, then system will return a list of result. User select a traffic sign to view information of it.   **Preconditions:**  **Post Conditions:**   * **Success**: System will show the information of the traffic sign * **Fail:** Show the error to user.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select search auto item [image] | System show the screen contain:   * Chụp ảnh biển bao: label * Chọn ảnh có sẵn: label | | 2 | User select “Chụp ảnh biển báo” | System will open camera screen,   * Preview image screen * Button [image]: take and submit the image | | 3 | User take a photo and submit to the server  [Alternative 1][Alternative 2] | System receive the photo, after process system redirect to result page contain a list of traffic sign  [Exception 1] | | 4 | User select a traffic sign to view information | System redirect to traffic sign information page contain:  Tên biển báo: label  Hình ảnh: Image  Nội dung biển báo: label  Mức phạt: label |   **Alternative Scenario:**  **1.**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select “Chọn ảnh có sẳn” and select an image  [Alternative 2] | System receive the photo, after process system redirect to result page contain a list of traffic sign  [Exception 1] | | 2 | User select a traffic sign to view information | System redirect to traffic sign information page contain:  Tên biển báo: label  Hình ảnh: Image  Nội dung biển báo: label  Mức phạt: label |   **2.**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | No internet connection | Show message: “Không có kết nối internet, chương trình sẽ tự động tìm kiếm khi có internet” | | 2 | When internet available | System receive the photo, after process system notify user | | 3 | User view the notification | System show the list result  [Exception 1] | | 4 | User select a traffic sign to view information | System redirect to traffic sign information screen contain:  Tên biển báo: label  Hình ảnh: Image  Nội dung biển báo: label  Mức phạt: label |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | No result match with keyword | Show message: “Không tìm thấy” |   **Relationships: N/A**  **Business Rules: N/A** | | | |

Table 6: <Guest, User> Search auto using web application

#### <User> User over view

Use Case Diagram



Figure 7: <User> User over view

##### <User, Staff, Admin> Logout

Use Case Diagram



Figure 8: <User, Staff, Admin> Logout

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UU001** | | | |
| **Use Case No.** | UU001 | **Use Case Version** | 1.0 |
| **Use Case Name** |  | | |
| **Author** |  | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**  User use this case to logout  **Goal:**  Allow user to logout  **Triggers:**  User want to logout  User click on “Thoát” button  **Preconditions:**   * User must logged in the system with the role is user.   **Post Conditions:**  **Success:** User logout and redirect to home  **Fail:**  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User click on “Thoát” button | System delete user session and redirect to home page |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:** N/A | | | |

Table 7: <User, Staff, Admin > Logout

##### <User> Report traffic sign wrong information

Use Case Diagram



Figure 9: <User> Report traffic sign wrong information

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UU002** | | | |
| **Use Case No.** | UU002 | **Use Case Version** | 1.0 |
| **Use Case Name** | Report wrong information | | |
| **Author** | Ho Dac Nghia | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**  User uses this case to report traffic sign.  **Goal:**  Allow user to report traffic sign  **Triggers:**   * User want to report wrong traffic sign(wrong information) * When user view search result and think that result is wrong then user can click on report item on traffic sign information page.   **Preconditions:**   * User must logged in the system with role user.   **Post Conditions:**  **Success:** The report of a traffic sign will be save on server  **Fail:** No report send.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | While view search result, user click on the report item | System redirect to report page: - “Nội dung phản hồi”: Textbox(Min length:100; Max length: 200 ) - “Hủy”: Button - “Gửi”: Button | | 2 | User input report content and click on “Gửi” button  [Alternative 1] | System send report to server and show message “Cám ơn bạn đã gửi phản hồi” and go back to result page |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | User click on “Hủy” button | System back to result page |   **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:**   * The text box must not be empty. * The report sent to server have pending status. | | | |

Table 8: <User> Report traffic sign wrong information

##### <User> Report traffic sign wrong recognize

Use Case Diagram



Figure 10: <User> Report traffic sign wrong recognize

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UU002** | | | |
| **Use Case No.** | UU002 | **Use Case Version** | 1.0 |
| **Use Case Name** | Report Wrong Recognize | | |
| **Author** | Ho Dac Nghia | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**  User use this case to report traffic sign recognize.  **Goal:**  Allow user to report traffic sign recognize.  **Triggers:**   * User want to report wrong traffic sign(wrong recognize traffic sign) * When user want to recognize a traffic sign but the system can’t show the result of that traffic sign. * User can click report item on auto search result page.   **Preconditions:**  User must logged in the system with the role is user.  **Post Conditions:**  **Success:** The report of a traffic sign will be save on server  **Fail:** No report send.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In the recognize page, user can click “Phản hồi” item. | System redirect to report page: - “Nội dung phản hồi”: Textbox (Min length:100; Max length: 200) - “Hủy”: Button - “Gửi”: Button | | 2 | User input report content and click on “Gửi” button  [Alternative 1] | System send report to server and show message “Cám ơn bạn đã gửi phản hồi” and go back to result page |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | User click on “Hủy” button | System back to result page | | | | |
| **Exception:** N/A  **Relationships:** N/A  **Business Rules:**   * The text box must not be empty. * The report sent to server have pending status. | | | |

Table 9: <User> Report traffic sign wrong recognize

##### <User> Delete history

Use Case Diagram



Figure 11: <User> Delete history

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –** | | | |
| **Use Case No.** |  | **Use Case Version** | 1.0 |
| **Use Case Name** | Delete history using web application | | |
| **Author** | Mai Van Tan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**   * User use this case to delete search history in web application   **Goal:**   * Allow user delete their search history.   **Triggers:**   * User want to delete history of search result * User view list of history or view history detail then select “Xóa” button. Confirm to delete by press “Đồng ý”.   **Preconditions:**   * User must login.   **Post Conditions:**   * **Success**: The history will be deleted from system * **Fail:** Show the error to user.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select “Xem lịch sử tìm kiếm” | System redirect to history page contain a list of search history   * List of search history * Button: “Xóa” on each row | | 2 | User select “Xóa” button  [Alternative 1] | System show message: “Bạn có chắc chắn muốn xóa?” | | 3 | User select “Đồng ý” | System delete the history and refresh the list  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | User select to view history detail | System redirect to view history detail page, like result page when make search auto [reference to]   * Button: “Xóa” | | 2 | User select “Xóa” button | System show message: “Bạn có chắc chắn muốn xóa?” | | 3 | User select “Đồng ý” | System delete the history and refresh the list  [Exception 1] |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot delete history. | Show message: “Xóa không thành công”. |   **Relationships: Search auto in web application usecase**  **Business Rules: N/A** | | | |

Table 10: <User> Delete history using web application

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –** | | | |
| **Use Case No.** |  | **Use Case Version** | 1.0 |
| **Use Case Name** | Delete history using mobile application | | |
| **Author** | Mai Van Tan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**   * User use this case to delete search history in mobile application   **Goal:**   * Allow user deletes their search history.   **Triggers:**   * User want to delete history of search result * User view list of history or view history detail then select “Xóa” button. Confirm to delete by press “Đồng ý”.   **Preconditions:**   * User must login.   **Post Conditions:**   * **Success**: The history will be deleted from system * **Fail:** Show the error to user.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select “Xem lịch sử tìm kiếm” | System redirect to history screen contain a list of search history   * List of search history | | 2 | User press and hold for 1s in a history item, then select “Xóa”  [Alternative 1] | System show message: “Bạn có chắc chắn muốn xóa?” | | 3 | User select “Đồng ý” | System delete the history and refresh the list  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User select to view history detail | System redirect to view history detail screen, like result screen when make search auto [reference to]   * Button: “Xóa” | | 2 | User select “Xóa” button | System show message: “Bạn có chắc chắn muốn xóa?” | | 3 | User select “Đồng ý” | System delete the history and refresh the list  [Exception 1] |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot delete history. | Show message: “Xóa không thành công”. |   **Relationships: Search auto in mobile application usecase**  **Business Rules: N/A** | | | |

Table 11: <User> Delete history using mobile application

##### <User> Add favorite

Use Case Diagram



Figure 12: <User> Add favorite

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UU004** | | | |
| **Use Case No.** | UU004 | **Use Case Version** | 1.0 |
| **Use Case Name** | Add favorite (Using web application) | | |
| **Author** | Bui Viet Phong | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**  This user case allow user to add a traffic sign into favorite list.  **Goal:**  Add a traffic sign into favorite list.  **Triggers:**   * In our system, each user has a favorite list to bookmark traffic signs for viewing later again. * To add a traffic sign into favorite list, user must: * View traffic sign details by auto search or manually search. * On the traffic sign details screen, click button “Thêm vào danh sách yêu thích”.   **Preconditions:**   * Guest must log in the system. * The traffic sign is not added into favorite list before.   **Post Conditions:**   * **Success:** The popup inform that the traffic sign has been added to favorite list * **Fail:** No traffic sign has been added to favorite list.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | - Click one type off traffic sign in category  [Alternative 1] [Alternative 2] | Show the list of traffic signs in the category which was chosen by user. | | 2 | Click on one traffic sign in the list.  [Alternative 2] | Show the Traffic details screen, contains detail of traffic sign, include:   * Traffic sign Image * Traffic sign content * Penalize fee. | | 3 | Click button “Thêm vào danh sách yêu thích” | Add the traffic sign to favorite list and show the notice with message:  “Biển báo đã được thêm vào danh sách yêu thích” |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Enter traffic sign’s name then click “Tìm kiếm” | Show the list of traffic signs have name match with key words. | | 2 | View a traffic sign by search auto on web in use case **ABC** |  |   **Exceptions:** N/A  **Relationships:** Manage favorite  **Business Rules:** N/A | | | |

Table 12: <User> Add favorite using web application

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UU004** | | | |
| **Use Case No.** | UU004 | **Use Case Version** | 1.0 |
| **Use Case Name** | Add to favorite (Using mobile application) | | |
| **Author** | Bui Viet Phong | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**  This user case allow user to add a traffic sign into favorite list.  **Goal:**  Add a traffic sign into favorite list.  **Triggers:**   * In our system, each user has a favorite list to bookmark traffic signs for viewing later again. * To add a traffic sign into favorite list, user must: * View traffic sign details by auto search or manually search. * On the traffic sign details screen, select favorite item.   **Preconditions:**   * Guest must log in the system. * The traffic sign is not added into favorite list before.   **Post Conditions:**   * **Success:** The popup inform that the traffic sign has been added to favorite list * **Fail:** No traffic sign has been added to favorite list.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | - Choose ‘Tra cứu biển báo’  - Choose one item in category.  [Alternative 1] | Show the list of traffic signs in the category which was chosen by user before. | | 2 | Choose one traffic sign in the list.  [Alternative 1] | Show the Traffic details screen, contains detail of traffic sign, include:   * Traffic sign Image * Traffic sign content * Penalize fee. | | 3 | Click on favorite item at the top-right corner of the screen. | Add the traffic sign to favorite list and show the message:  “Biển báo đã được thêm vào danh sách yêu thích” |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | [Alternative 1]  View a traffic sign by search auto on mobile in use case **ABC** |  |   **Exceptions:** N/A  **Relationships:** Manage favorite  **Business Rules:** N/A | | | |

Table 13: <User> Add favorite using mobile application

##### <User> Remove favorite

Use Case Diagram



Figure 13: <User> Remove favorite

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UU005** | | | |
| **Use Case No.** | UU005 | **Use Case Version** | 1.0 |
| **Use Case Name** | Remove favorite (Using web application) | | |
| **Author** | Bui Viet Phong | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**  This user case allow user to remove a traffic sign from favorite list.  **Goal:**  Remove a traffic sign from favorite list**.**  **Triggers:**   * In our system, each user has a favorite list to bookmark traffic signs for viewing later again. * To remove a traffic sign from favorite list, user must: * Select ‘Danh sách yêu thích’ to view favorite list. * Select ‘Xóa’.   **Preconditions:**   * Guest must logged in the system.   **Post Conditions:**   * **Success:** The traffic sign has been remove from favorite list. * **Fail:** No traffic signs has been remove from favorite list.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | - Click ‘Danh sách yêu thích’ | Redirect to favorite page, include:   * List of traffic signs in the favorite list. * Button “Xóa” | | 2 | Click button “Xóa” in the row contain the traffic | Remove the traffic sign from favorite list. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Manage favorite  **Business Rules:** N/A | | | |

Table 14: <User> Remove favorite using web application

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UU005** | | | |
| **Use Case No.** | UU005 | **Use Case Version** | 1.0 |
| **Use Case Name** | Remove favorite (Using mobile application) | | |
| **Author** | Bui Viet Phong | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** User  **Summary:**  This user case allow user to remove a traffic sign from favorite list.  **Goal:**  Remove a traffic sign from favorite list**.**  **Triggers:**   * In our system, each user has a favorite list to bookmark traffic signs for viewing later again. * To remove a traffic sign from favorite list, user must: * Select ‘Danh sách yêu thích’ to view favorite list. * Select and hold on the traffic sign for 1 second. * Select ‘Xóa’.   **Preconditions:**   * Guest must logged in the system.   **Post Conditions:**   * **Success:** The traffic sign has been remove from favorite list. * **Fail:** No traffic signs has been remove from favorite list.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | - Click ‘Danh sách yêu thích’  [Alternative 1] | Show the list of traffic signs in the favorite list. | | 2 | Select and hold on one traffic sign in the list for 1 second.  [Alternative 1] | Show the menu, contains below items:   * Chuyển lên trên * Chuyển xuống dưới * Xóa | | 3 | Select ‘Xóa’  [Alternative 1] | Remove the traffic sign from favorite list. |   **Alternative 1:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | - View a traffic sign by search auto or by search manually on mobile in use case **ABC** – |  | | 2 | Select the “Yellow star” on the top-right screen | Remove the traffic sign from favorite list. |   **Exceptions:** N/A  **Relationships:** Manage favorite  **Business Rules:** N/A | | | |

Table 15: <User> Remove favorite using mobile application

#### <Staff> Staff overview

Use Case Diagram



Figure 14: <Staff> Staff overview

##### <Staff> Add Traffic sign

Use Case Diagram



Figure 15: <Staff> Add traffic sign

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE** | | | |
| **Use Case No.** | AD003 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add traffic sign | | |
| **Author** | Tran Le Tuan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Staff  **Summary:**  Staff use this case to add new traffic sign  **Goal:**  New traffic sign will be added into database.  **Triggers:**   * We want to add a new traffic sign into database. * To add new sign, staff must: * From the staff Home Page, click the menu item “Quản lí”. * Select “Thêm biển báo” button.   **Preconditions:**   * Staff must login.   **Post Conditions:**   * **Success:** The selected sign(s) will be added. * **Fail:** No sign added. Transfer to error page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lí biển báo”. | Redirect to Sign Manager Page, includes a panel with 2 tabs:   * Danh sách biển báo. * Thêm biển báo.   Current tab is Account List. This tab includes:   * Table with 2 column: * Hình: label * Thông tin: label * Thêm: button * Hủy: button | | 2 | Fill information of the sign and press “Thêm” button.  [Alternative 1] | The new sign(s) will be added. System show message “Đã Thêm Biển Báo Thành Công”. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Click on “hủy” button | The form is emptied. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Not enter enough require information. | Display error message: “Thông tin khai báo chưa đầy đủ.” | | 2 | Traffic sign name existed in database | Display error message:  “Biển báo đã tồn tại.” |   **Relationships:** Manage Account  **Business Rules:** | | | |

Table 16: <Staff> Add traffic sign

##### <Staff> Edit traffic sign

Use Case Diagram



Figure 16: <Staff> Edit traffic sign

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – AD007** | | | |
| **Use Case No.** | AD007 | **Use Case Version** | 1.0 |
| **Use Case Name** | Edit traffic sign | | |
| **Author** | Bui Viet Phong | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Staff  **Summary:**  This user case allow staff to edit traffic sign information or traffic images.  **Goal:**  Edit traffic sign information or traffic images**.**  **Triggers:**   * For recognize or view traffic signs details, the system must store traffic signs information and images for recognition. * To edit traffic signs, staff must: * Select ‘Quản lý biển báo’ * Click “Chỉnh sửa” * Edit information or add image then click “Hoàn tất”.   **Preconditions:**   * Guest must logged in the system with role staff.   **Post Conditions:**   * **Success:** The new traffic sign’s information or image will be updated. * **Fail: T**raffic sign’s information or image will not be updated.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | - Click ‘Quản lý biển báo’ | Redirect to Traffic management page, contains:   * List of the current traffic signs. * “Tạo mới biển báo” button. * “Thêm biển báo từ tập tin” button * “Chỉnh sửa” button | | 2 | Click “Chỉnh sửa” button | Redirect to edit traffic sign page, contains:   * Text filed: All about traffic sign information. * File Upload Control. * “Hoàn tất” button. * “Hủy” button | | 3 | Edit information in text box or select file to upload from File Upload Control to add more image then click “Hoàn tất”.  [Alternative 1]  [Exception 1] | Update traffic sign information or images.  Redirect to Traffic management page. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | [Alternative 1]  - Click “Hủy” button | Redirect to Traffic management page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Select wrong file. | Display error message: “ Tập tin không đúng định dạng” |   **Relationships:** Manage traffic signs  **Business Rules:** N/A | | | |

Table 17: <Staff> Edit traffic sign

##### <Staff> Export to file

Use Case Diagram



Figure 17: <Staff> Export to file

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU018** | | | |
| **Use Case No.** | SU018 | **Use Case Version** | 2.0 |
| **Use Case Name** | Export To File. | | |
| **Author** | Tran Le Tuan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff uses this case to export to file.  **Goal:**  Allow staff to export to file.  **Triggers:**   * Staff want to export to file. * To export file, we must :   + Staff login system  + On manage traffic sign page, click on button “Xuất tập tin” to export.  **Preconditions:**   * Staff must login.   **Post Conditions:**   * **Success**: Staff can export to file. * **Fail:** N/A.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click on “Xuất tập tin” to request export on “quản lí” page | System will export report to file excel.  Show message “Xuất tập tin thành công”. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships: N/A**  **Business Rules: N/A** | | | |

Table 18: <Staff> Export to file

##### <Staff> Import from file

Use Case Diagram



Figure 18: <Staff> Import from file

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – AD007** | | | |
| **Use Case No.** | AD007 | **Use Case Version** | 1.0 |
| **Use Case Name** | Import traffic sign from file | | |
| **Author** | Bui Viet Phong | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Staff  **Summary:**  This user case allow staff to train new traffic signs from existing file.  **Goal:**  Train new traffic signs from existing file**.**  **Triggers:**   * For recognize or view traffic signs details, the system must store traffic signs information and images for recognition. * To train new traffic signs from existing file, staff must: * Select ‘Quản lý biển báo’ * Click “Thêm biển báo từ tập tin” * Select file to upload then click “Tải lên”.   **Preconditions:**   * Guest must logged in the system with role staff. * Staff has the file to upload.   **Post Conditions:**   * **Success:** The new traffic signs has been added to database. * **Fail:** No traffic signs has been has been added to database.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | - Click ‘Quản lý biển báo’ | Redirect to Traffic management page, contains:   * List of the current traffic signs. * “Tạo mới biển báo” button. * “Thêm biển báo từ tập tin” button * “Chỉnh sửa” button | | 2 | Click “Thêm biển báo từ tập tin” button | Redirect to Import traffic sign page, contains:   * File Upload Control. * “Tải lên” button. * “Hủy” button | | 3 | Select file to upload from File Upload Control then click “Tải lên” button.  [Alternative 1]  [Exception 1]  [Exception 2] | Upload file and add new traffic signs to database.  Redirect to Traffic management page. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | [Alternative 1]  - Click “Hủy” button | Redirect to Traffic management page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Not select file, click “Tải lên” button | Display error message: “Vui lòng chọn file để tải lên” | | 2 | Upload wrong file. | Display error message: “ Tập tin không đúng định dạng” |   **Relationships:** Manage traffic signs  **Business Rules:** N/A | | | |

Table 19: <Staff> Import from file

##### <Staff> View report

Use Case Diagram



Figure 19: <Staff>View report

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU001** | | | |
| **Use Case No.** | SU001 | **Use Case Version** | 1.0 |
| **Use Case Name** | View Report | | |
| **Author** | Ho Dac Nghia | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Staff  **Summary:**  Staff use this case to view report  **Goal:**   * Allow staff to view list of report or detail of report.   **Triggers:**   * Click menu item “Quản lý phản hồi” * System redirect to Report Page * The list of report will show * For view report’s detail: Click “Chi tiết” link to view details of report   **Preconditions:**   * User must login system with role staff.   **Post Conditions:**   * **Success:** The list of report will show.  Staff can view details of report. * **Fail:** Report list isn’t displayed   Staff can’t view details of report.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lí phản hồi” on menu bar. | Redirect to Report List Page, contains:  Table with 4 columns, record of 20 latest report:  - Mã số: label  - Tên người phản hồi: label  - Thời gian: label  - Nội dung: label  - Xem chi tiết: link | | 2 | For report’s detail view  Staff click “Chi tiết” link beside each report. | System redirect Report Details Page  The details of report will show |   **Exception**: N/A  **Relationships:** N/A  **Business Rules:** N/A | | | |

Table 20: <Staff> View report

##### <Staff> Delete report

Use Case Diagram



Figure 20: <Staff> Delete report

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU004** | | | |
| **Use Case No.** | SU004 | **Use Case Version** | 1.0 |
| **Use Case Name** | Delete Report | | |
| **Author** | Ho Dac Nghia | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Staff  **Summary:**  Staff use this case to delete report.  **Goal:**  Allow staff to delete report.  **Triggers:**   * Click menu item "Quản lí phản hồi" on menu bar. * On the report list, click report item to view details of report. * Click "Xóa" to delete report. * Click “Đồng ý”.   **Preconditions:**   * User must log in the system with role staff. * There must be at least one report in the report list   **Post Conditions:**   * **Success:** The report of a traffic sign will be inactive from server and database * **Fail:** Report isn’t removed   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lí phản hồi” on menu bar.  [Alternative1] | Redirect to Report List Page, contains:  Table with 4 columns, record of 20 latest report:  - Mã số: label  - Tên người phản hồi: label  - Thời gian: label  - Nội dung: label  - Xem chi tiết: link | | 1 | [Alternative 1]  Click on the “Xóa” link | Show confirms windows with message:  “Bạn có muốn xóa phản hồi này.” | | 2 | Click “Đồng ý” button.  [Alternative 3] | The selected report will be removed from server.  An message is display: “Phản hồi đã được xóa”. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | [Alternative 1]  Click on “xem chi tiết” link | Redirect to Report Detail Page, contains detail of User’s Report, include:  Mã số: label  -Tên người phản hồi: label  -Thời gian: label  -Nội dung: label  -Hình ảnh kết quả nhận diện: label  -Xóa: button | | 2 | Click on the “Xóa” button | Show confirms windows with message:  “Bạn có muốn xóa phản hồi này.” | | 3 | Click “Đồng ý” button.  [Alternative 3] | The selected report will be removed from server.  An message is display: “Phản hồi đã được xóa”. |  |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | [Alternative 3]  Click “Hủy” | System close message box. |   **Exceptions:** N/A **Relationships:** View Report  **Business Rules:** N/A | | | |

Table 21: <Staff> Delete report

##### <Staff, Admin> Active Account

Use Case Diagram



Figure 21: <Staff, Admin> Active Account

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – AD002** | | | |
| **Use Case No.** | AD002 | **Use Case Version** | 2.0 |
| **Use Case Name** | Active Account | | |
| **Author** | Tran Le Tuan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Admin  **Summary:**  This user case allow admin to active an accout  **Goal:**  A inactive account will be activated  **Triggers:**   * In our system, when we do not want an user to login, we inactive his/her account. We can active the inactivated account so they can login again. * To active an account, admin must: * From the admin Home Page, click the menu item “Account Manager”. * Check the Select checkbox of the account record, select “Active” on the drop down list, and press “Process” button.   **Preconditions:**   * User must logged in the system with the role is admin. * There must be at least 1 inactive account in database.   **Post Conditions:**   * **Success:** The selected account(s) will be activated. * **Fail:** No account activated.Transfer to error page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item“Account Manager”. | Redirect to Account Manager Page, includes a panel with 2 tabs:   * Account List * Create Account   Current tab is Account List. This tab includes:   * Table with 4 column: * Account ID: label * Username: label * Email: label * Role: label * Action: dropdownlist, values: Inactive, Active. * Process: button | | 2 | Check the checkboxs of the account(s), select “Active” on the drop down list, and press “Process” button. | The selected account(s) will be activated  [Exception 1,2] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | The account has already been activated by another admin | Nothing happen, the account(s) status is active | | 2 | Check no checkbox, press “Process” button | Display error message:  “Please select account to activated.” |   **Relationships:** Manage Account  **Business Rules:**   * Admin can’t active/inactive account of themselves or other admin. | | | |

Table 22: <Staff, Admin> Active Account

##### <Staff, Admin> Deactivate Account

Use Case Diagram



Figure 22: <Staff, Admin> Deactivate Account

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – AD003** | | | |
| **Use Case No.** | AD003 | **Use Case Version** | 2.0 |
| **Use Case Name** | Inactive Account | | |
| **Author** | Tran Le Tuan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Admin  **Summary:**  This user case allow admin to active an account  **Goal:**  A active account will be inactivated  **Triggers:**   * In our system, when we do not want an user to login, we inactive his/her account. The account can be activated later. * To active an account, admin must: * From the admin Home Page, click the menu item “Account Manager”. * Check the Select checkbox of the account record, select “Active” on the drop down list, and press “Process” button.   **Preconditions:**   * User must logged in the system with the role is admin * There must be at least 1 active account in database.   **Post Conditions:**   * **Success:** The selected account(s) will be inactivated. * **Fail:** No account inactivated.Transfer to error page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item“Account Manager”. | Redirect to Account Manager Page, includes a panel with 2 tabs:   * Account List * Create Account   Current tab is Account List. This tab includes:   * Table with 5 column: * Account ID: label * Username: label * Email: label * Role: label * Action: dropdownlist, values: Inactive, Active. * Process: button | | 2 | Check the checkboxs of the account, select “Inactive” on the drop down list, and press “Process” button. | The selected account(s) will be inactivated.  [Exception 1,2] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | The account has already been inactivated by another admin. | Nothing happen, the account(s) status is inactive | | 2 | Check no checkbox, press “Process” button. | Display error message:  “Please select account to deactivated.” |   **Relationships:** Manage Account  **Business Rules:**   * Admin can’t active/inactive account of themselves or other admin. | | | |

Table 23: <Staff, Admin> Deactivate Account

##### <Staff, Admin> Make statistic

Use Case Diagram



Figure 23: <Staff, Admin> Make statistic

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | Make Statistics | | |
| **Author** | Ho Dac Nghia | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Staff  **Summary:**  This user case allow staff to make Statistics about User and Report.  **Goal:**   * Have Statistics information about user or report.   **Triggers:**   * Click menu item “Thống Kê” -> “Drop down list” have 2 item “Thống kê người dùng” and “Thống kê phản hồi” * Click on “Thống kê người dùng” -> Statistics info of User * Click on “Thống kê phản hồi” -> Statistics info of Report   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success:** Statistics info of User or Report were displayed. * **Fail:** No statistics info displayed.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item“Thống Kê”  [Alternative 1], [Alternative 2] | Dropdown list, contains :   * Thống kê người dùng * Thống kê phản hồi |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | [Alternative 1]  Click item “Thống kê người dùng” | System redirect to Statistic Page contains:   * Thời gian bắt đầu: Textbox * Thời gian kết thúc: Textbox * Submit: Button | | 2 | Staff input value of time start and value of time end. Click “Submit” button | System will show the graph for User Statistic. |  |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | [Alternative 2]  Click item “Thống kê phản hồi” | System redirect to Statistic Page contains:   * Thời gian bắt đầu: Textbox * Thời gian kết thúc: Textbox * Submit: Button | | 2 | Staff input value of time start and value of time end. Click “Submit” button | System will show the graph for Report Statistic. |   **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:** N/A | | | |

Table 24: <Staff, Admin> Make statistic

#### <Admin> Admin overview

Use Case Diagram



Figure 24: <Admin> Admin overview

##### <Admin> Configure system

Use Case Diagram



Figure 25: <Admin> Configure system

Use Case Specification

Table 25: <Admin> Configure system

##### <Admin> Create staff account

Use Case Diagram



Figure 26: <Admin> Create staff account

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – AD001** | | | |
| **Use Case No.** | AD001 | **Use Case Version** | 2.0 |
| **Use Case Name** | Create Staff Account | | |
| **Author** | Tran Le Tuan | | |
| **Date** | 15/01/2014 | **Priority** | Normal |
| **Actor:** Admin  **Summary:**  Admin use this case to create account for staff.  **Goal:**  A new account staff will be added to database  **Triggers:**   * In our system, the account of a staff will be added only by admin. * To create a new account, admin must: * From the admin Home Page, click the menu item “Quản lí tài khoản”. * In the Account Manager Page, click on the Tab “Tạo tài khoản”. * Input new account information, click “Đồng ý” to finish.   **Preconditions:**   * Admin must login system.   **Post Conditions:**   * **Success:** A new account will be created. The account will be displayed on account list. * **Fail:** No account created.Transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lí tài khoản”. | Redirect to Account Manager Page, includes a panel with 2 tabs:   * Danh sách tài khoản * Tạo tài khoản   Current tab is Account List. This tab includes:   * Table with 5 column: * Mã số: label * Tên: label * Email: label * Chức vụ: label * Tình trạng: checkbox * Action: dropdownlist, values: Khóa, Đã kích hoạt. * Đồng ý: button | | 2 | Click Tab “Tạo tài khoản”. | Display a tab panel includes:   * Tên Tài Khoản: textbox (min length, max length: 30, required). * Mật mã: textbox (password box, min length, max length: 30, required). * Chức vụ : dropdownlist, values: Nhân viên, Thành viên. * Đồng ý: button * Hủy: button | | 3 | Input new account information.  Click “Đồng ý” button.  [Alternative 1] | System will add the account to database.  Show the tab panel “Danh sách tài khoản”  [Exception 1,2,3,4] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Click on “hủy” button | The form is emptied. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Not enter enough require information. | Display error message: “Thông tin khai báo chưa đầy đủ.” | | 2 | Username/password is not in range [6,30] | Display error message: “Tên tài khoản/Mật mã phải từ 6 đến 30 kí tự” | | 3 | Confirm password is not equal password | Display error message:  “Mật mã nhập lại không trùng khớp.” | | 4 | Username or email existed in database | Display error message:  “Tài khoản hoặc Email đã tồn tại.” |   **Relationships:** Manage Account  **Business Rules:**   * Each account is active when added to database. * The “Nhập lại mật khẩu” value must match “Mật khẩu” value. | | | |

Table 26: <Admin> Create staff account

## Software System Attribute

### Usability

#### Graphic User Interface

* All the text, label and image in staff, instructor and student page should be English.
* All the text, label and image in admin page should be English.

#### Usability

* Website admin, staff and instructor should need more than one week of training to be productive with the system.
* The student can use the system easily without training.

#### Installation

* The system must be easy to deploy. Customer can deploy successfully and learn to configure, maintain the system within one day of training.
* The mobile app must be easy to install. Compatible with almost Android Phone.
* The attached manual guide must be clear. User can read and do themselves without developer’s help.

### Reliability

* N/A

### Availability

* N/A

### Security

* Privacy: Each role of user has a specific permission to interact with system.
* System always checks authorization and authenticated before doing anything.
* Only admin can grant permission to staff.

### Maintainability

* N/A

### Portability

* N/A

### Performance

* Detect Faces From an Image: 3~4 seconds/image.
* Recognize Faces: 20~30 seconds/100 faces. With training set of 30 students, 600 images.
* The image upload speed depend on the speed of the network.

## ERD



Figure 27: ERD - Conceptual Diagram