** MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

Smart Buy

|  |  |
| --- | --- |
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-Ho Chi Minh City, 02/2014-

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# Definitions, Acronyms, and Abbreviations

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| SmartB | Smart Buy |

# Report No.3 Software Requirement Specification

## User Requirement Specification

### Guest Requirement

Guest is a person who doesn’t have access to the system. Guest can use some functions in the system. To use all functions, guest must login. These are some functions guest can use:

* Register.
* Ask for system suggestion.
* Search product.
* Add product to cart.

### Member Requirement

Member is guest who uses his account to login to the system. Member can use additional functions, such as:

* Update product price.
* Save product history.

### Staff Requirement

Staff is the person who manages the system. Staff can use these function:

* Configure system.
* Make statistics.
* Manage market.
* Manage user.
* Manage product.

### System Requirement

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

* Parse data.

## 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, compatible 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

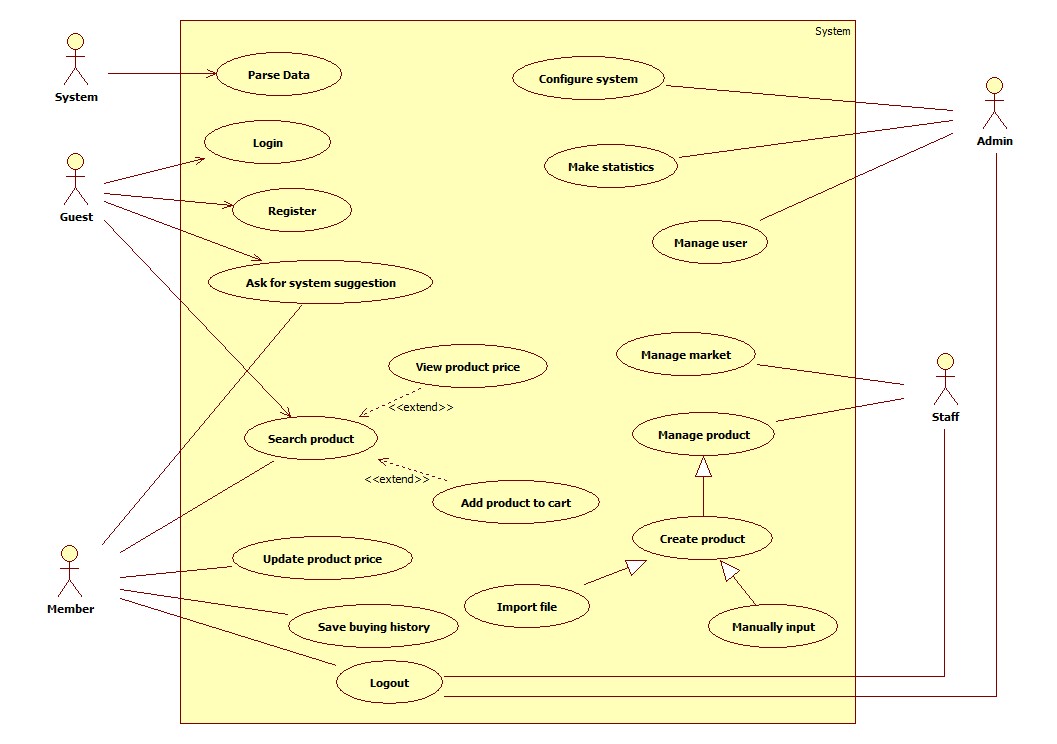


Figure 1: System Overview Use Case

### List of Use Case

#### <Admin> Overview Use Cases

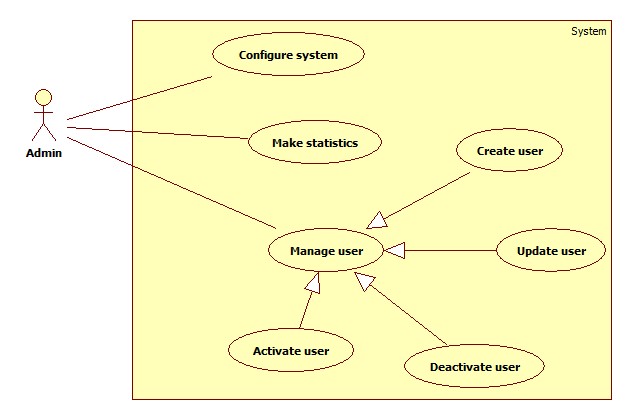


Figure 2 - <Admin> Overview use case

##### <Admin> Configure System

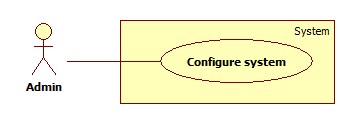


Figure 3: <Admin> Configure System

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SB001** | | | |
| **Use Case No.** | SB001 | **Use Case Version** | 2.0 |
| **Use Case Name** | Configure system | | |
| **Author** | Doan Ho Anh Triet | | |
| **Date** | 15/02/2014 | **Priority** | High |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to configure the system.   **Goal:**   * System parameters will be configured by admin.   **Triggers:**   * Admin wants to change system parameter, such as epsilon number or parse time. * To go to “System Configuration” screen, admin clicks at “System configuration” menu.   **Preconditions:**   * User must log in the system with the admin role.   **Post Conditions:**   * **Success:** New parameter will be saved to configuration file. * **Fail:** Nothing is saved to configuration file.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click at “System Configuration” link in the menu. | Show “System Configuration” page which contains:   * Epsilon: textbox, min length: 1, max length: 3, type: integer number, min value: 1, max value: 100, required. * Thời gian parse: time picker, min value: 0:00, max value: 23:59, required. * Lưu: button. | | 2 | Admin changes system parameters. |  | | 3 | Click on “Lưu” button.  [Exception 1, 2, 3] | * Save data to configuration file. * Show success message. |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Epsilon value out of range. | Show error message: “Epsilon phải lớn hơn 0 và nhỏ hơn hoặc bằng 100!” | | 2 | Epsilon is not a number. | Show error message: “Epsilon phải là số!” | | 3 | Time format is not correct. | Show error message: “Thời gian phải đúng định dạng!” |   **Relationships:** N/A  **Business Rules:** N/A | | | |

Table 1: <Admin> Configure System

##### <Admin> Make Statistics

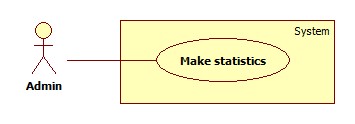


Figure 4: <Admin> Make Statistics

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SB002** | | | |
| **Use Case No.** | SB002 | **Use Case Version** | 2.0 |
| **Use Case Name** | Make statistics | | |
| **Author** | Doan Ho Anh Triet | | |
| **Date** | 15/02/2014 | **Priority** | Normal |
| **Actor:** Admin  **Summary:**  **Goal:**  **Triggers:**  **Preconditions:**   * User must log in the system with admin role.   **Post Conditions:**   * **Success:** * **Fail:**   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 |  |  |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 |  |  |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 |  |  |   **Relationships:**  **Business Rules:** | | | |

Table 2: <Admin> Make Statistics

##### <Admin> Create User

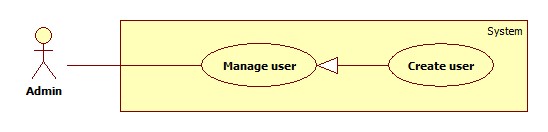


Figure 5: <Admin> Create User

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SB003** | | | |
| **Use Case No.** | SB003 | **Use Case Version** | 2.0 |
| **Use Case Name** | Create user | | |
| **Author** | Doan Ho Anh Triet | | |
| **Date** | 15/02/2014 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This user case allows admin to create new user account for the system.   **Goal:**   * New user account will be added to the system.   **Triggers:**   * Admin wants to create new user account. * Navigate to “Quản lý tài khoản” and click “Tạo tài khoản” button.   **Preconditions:**   * User must log in the system with admin role.   **Post Conditions:**   * **Success:** New user account will be added to the database. * **Fail:** Nothing is added to the database.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Admin clicks “Tạo tài khoản” link. | Navigate to “Tạo tài khoản” page which contains:   * Username: textbox, min length: 6, max length: 30, required. * Password: textbox, min length: 6, max length: 20, required. * Role: drop down list, required. * Tạo tài khoản: button. * Xóa trắng: button. | | 2 | Admin fills data to the form. |  | | 3 | Admin clicks “Tạo tài khoản” button. [Alternative 1], [Exception 1, 2, 3, 4] | Insert new user account to the database and redirect to “Quản lý tài khoản” page. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin clicks “Xóa trắng button”. | Clear all input data. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Length of username is not in range. | Show error message: “Độ dài username phải từ 6-30 ký tự!” | | 2 | Length of password is not in range. | Show error message: “Độ dài password phải từ 6-20 ký tự!” | | 3 | Role is not specified. | Show error message: “Phải phân quyền cho user!” | | 4 | Username’s existed already. | Show error message: “Trùng tên đăng nhập! Vui lòng chọn tên khác!” |   **Relationships:** Manage user  **Business Rules:**   * Each created account must be in active state when insert to database. | | | |

Table 3: <Admin> Create User

##### <Admin> Update User

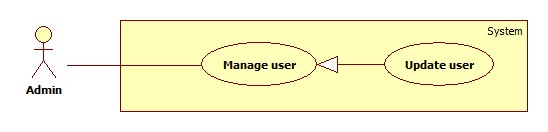


Figure 6: <Admin> Update User

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SB004** | | | |
| **Use Case No.** | SB004 | **Use Case Version** | 2.0 |
| **Use Case Name** | Update user | | |
| **Author** | Doan Ho Anh Triet | | |
| **Date** | 16/02/2014 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to update information for user accounts.   **Goal:**   * New information will be updated to the database.   **Triggers:**   * Admin wants to change some information of members or staffs.   **Preconditions:**   * User must log in system with admin role.   **Post Conditions:**   * **Success:** New information will be updated to the database. * **Fail:** Nothing is updated.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lý tài khoản”. | Navigate to “Quản lý tài khoản” page which contains:   * A table with 4 columns:   + Số thứ tự.   + Tên đăng nhập.   + Trạng thái.   + Hành động. * Tạo tài khoản: button. | | 2 | Click at username. | Navigate to “Thông tin tài khoản” page, which contains:   * Username: textbox, min length: 6, max length: 30, disabled. * Password: textbox, min length: 6, max length: 20, required. * Email: textbox, min length: 0, max length: 100, regular expression: ^[a-zA-Z0-9.!#$%&'\*+/=?^\_`{|}~-]+@[a-zA-Z0-9](?:[a-zA-Z0-9-]{0,61}[a-zA-Z0-9])?(?:\.[a-zA-Z0-9](?:[a-zA-Z0-9-]{0,61}[a-zA-Z0-9])?)\*$ * Role: drop down list, required. * Cập nhật: button. | | 3 | Admin updates information. |  | | 4 | Click “Cập nhật” button. | New information will be updated to the database. |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Length of password is not in range. | Show error message: “Độ dài password phải từ 6-20 ký tự!” | | 2 | Role is not specified. | Show error message: “Phải phân quyền cho user!” | | 3 | Invalid email format. | Show error message: “Email phải đúng định dạng!” |   **Relationships:** Manage User  **Business Rules:**   * Editing username is forbidden. | | | |

Table 4: <Admin> Update User

##### <Admin> Activate User

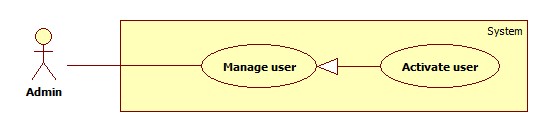


Figure 7: <Admin> Active User

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SB005** | | | |
| **Use Case No.** | SB005 | **Use Case Version** | 2.0 |
| **Use Case Name** | Activate User | | |
| **Author** | Doan Ho Anh Triet | | |
| **Date** | 16/02/2014 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This user case allows admin to activate a user account.   **Goal:**   * Deactivated accounts will be activated again.   **Triggers:**   * Admin wants to activate an account so that it can be used to log in the system again.   **Preconditions:**   * User must log in the system with admin role.   **Post Conditions:**   * **Success:** The selected account will be activated. * **Fail:** No account is activated.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lý tài khoản”. | Navigate to “Quản lý tài khoản” page which contains:   * A table with 4 column:   + Số thứ tự.   + Tên đăng nhập.   + Trạng thái.   + Hành động. * Tạo tài khoản: button. | | 2 | Click at the “Trạng thái” cell of a deactivated account. | Selected account is activated again. [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot activate the account due to database connection. | Show error message: “Không thể kích hoạt! Vui lòng thử lại sau.” |   **Relationships:** Manage User  **Business Rules:**   * Admins can’t activate/deactivate account of themselves or other admins. | | | |

Table 5: <Admin> Activate User

##### <Admin> Deactivate User

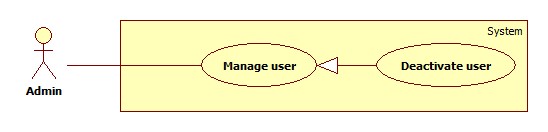


Figure 8: <Admin> Deactivate User

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SB006** | | | |
| **Use Case No.** | SB006 | **Use Case Version** | 2.0 |
| **Use Case Name** | Deactivate User | | |
| **Author** | Doan Ho Anh Triet | | |
| **Date** | 16/02/2014 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This user case allows admin to deactivate an account.   **Goal:**   * An active account will be deactivated.   **Triggers:**   * In our system, when we do not want a user to login, we deactivate his/her account. That account can be activated later.   **Preconditions:**   * User must log in the system with admin role.   **Post Conditions:**   * **Success:** The selected account will be deactivated. * **Fail:** No account is deactivated.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lý tài khoản”. | Navigate to “Quản lý tài khoản” page which contains:   * A table with 4 column:   + Số thứ tự.   + Tên đăng nhập.   + Trạng thái.   + Hành động. * Tạo tài khoản: button. | | 2 | Click at the “Trạng thái” cell of an active account. | The selected account will be deactivated.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot deactivate the account due to database connection. | Show error message: “Không thể kích hoạt! Vui lòng thử lại sau.” |   **Relationships:** Manage Account  **Business Rules:**   * Admins can’t activate/deactivate account of themselves or other admins. | | | |

Table 6: <Admin> Deactivate User

##### <Admin> Force Parse Data

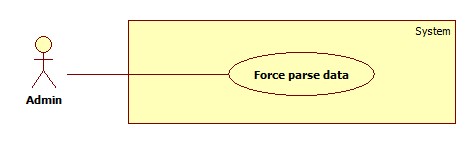


Figure 12: <Admin> Force Parse Data

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SB007** | | | |
| **Use Case No.** | SB007 | **Use Case Version** | 2.0 |
| **Use Case Name** | Force Parse Data | | |
| **Author** | Doan Ho Anh Triet | | |
| **Date** | 16/02/2014 | **Priority** | High |
| **Actor:**   * Admin.   **Summary:**   * Admin can force system to parse data at any time.   **Goal:**   * Get data from many websites.   **Triggers:**   * Admin wants to run the parser at that time. * Admin clicks “Parse” button.   **Preconditions:**   * User logged in with “Admin” role.   **Post Conditions:**   * **Success:** New data is inserted to database. Log file is generated. * **Fail:** Nothing is changed in the database. Log file is generated.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Parse” button. | * Disable “Parse” button. Change its text into “Parsing…” * Send request to the parsed link. * Fetch data from the response based on the inputted XPaths. * Validate data [Exception 1]. * If data is valid, insert to database [Alternative 1]. * Generate log file. * Enable “Parse” button. Change its text into “Parse”. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Parse” button. | * If fetched product is already in the database, update its information. * Generate log file. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Data is not valid. | * Don’t insert to database. * Generate log file. |   **Relationships:** N/A  **Business Rules:**   * Refer to “Auto Parse Data” use case. | | | |

Table 9: <Admin> Force Parse Data

#### <System> Overview Use Case

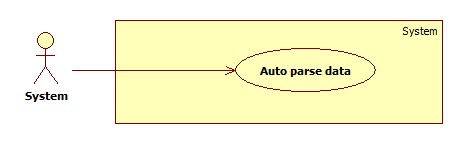


Figure 10: <System> Overview Use Case

##### <System> Auto Parse Data

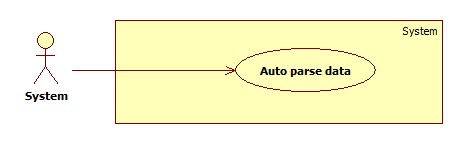


Figure 11: <System> Auto Parse Data

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SB008** | | | |
| **Use Case No.** | SB008 | **Use Case Version** | 2.0 |
| **Use Case Name** | Auto Parse Data | | |
| **Author** | Doan Ho Anh Triet | | |
| **Date** | 16/02/2014 | **Priority** | High |
| **Actor:**   * System.   **Summary:**   * System can parse data automatically from many websites at specified time.   **Goal:**   * Get data from many websites.   **Triggers:**   * The time hits configured time.   **Preconditions:**   * Parse time has been configured.   **Post Conditions:**   * **Success:** New data is inserted to database. Log file is generated. * **Fail:** Nothing is changed in the database. Log file is generated.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Server checks the current time. If it hits configured time, parse process starts. | * Send request to the parsed link. * Fetch data from the response based on the inputted XPaths. * Validate data [Exception 1]. * If data is valid, insert to database [Alternative 1]. * Generate log file. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Server checks the current time. If it hits configured time, parse process starts. | * If fetched product is already in the database, update its information. * Generate log file. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Data is invalid. | * Don’t insert to database. * Generate log file. |   **Relationships:** N/A  **Business Rules:**   * If price is negative or not a number, consider it invalid. * Log file structure:   SMART BUY LOG FILE  Tạo file lúc: {Created date}, {Created time}   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | STT | Link | Thời gian parse | Dạng dữ liệu | Tổng sản phẩm | Insert thành công | Insert thất bại | |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |   Tổng thời gian parse dạng {Data type}: {Elapsed time}  Tổng thời gian parse: {Total elapsed time}  Tổng sản phẩm parse được: {Total parsed product} | | | |

Table 8: <System> Auto Parse Data

#### <Staff >Overview Use Case



Figure 16: <Staff> Overview Use Case

##### <Staff>Add Roll Call

Use Case Diagram



Figure 17: <Staff>Add Roll Call

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU001** | | | |
| **Use Case No.** | SU001 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Roll Call. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can create a new Roll Call.  **Goal:**  A new roll call includes: instructor, subject, class, date, time will be added to database.  **Triggers:**   * Staff can create new roll call for every block/semester * Staff must do these step to create new roll call:   + On Home page, click on link “Manage Roll Call” in menu sidebar and Manage Roll Call page will be showed.   + Then, choose “New Roll Call” tab.   + Then, choose the instructor, subject, class, student, date, time… for class.   + Click on button “Add”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A new roll call will be created. The roll call will be displayed on roll call list. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Roll Call” in menu bar. | Redirect to Manage roll call page, include 2 tabs:   * Roll Call List * New Roll Call   Current Tab is Roll Call List, include table roll call list, for each roll call:   * No. : label * Instructor: label * Subject: label * Class: label * Date: label * Time: label * Show Student List: Button * Detail: Button * Status: label | | 2 | Click “New Roll Call” tab. | Display “New Roll Call” tab with :   * Instructor: Drop down list (value: all active instructor in database) * Subject: Drop down list (value: all active subject in database) * Class: Drop down list (value: all active class in database). * Button “Show Student List” * Date picker “Start date” and “End date” * Time: Drop down list(value: 7:00, 8:45, 10:30, 12:30, 14:15, 16:00) * Button “Add” | | 3 | Input roll call information, click “Add” button. | Add new roll call to database. Redirect Roll call list tab.  [Exception 1, 2, 3, 4] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | The teacher already has different class at selected time. | Show error message “The teacher has a class at XX:XX, choose different time”. | | 2 | Class and subject have different major. | Show error message “The class and subject should have same major”. | | 3 | The subject, which has 2 slots, must not have time start at 10:30 or 16:00. | Show error message “The subject, which has 2 slot, should have time start at 7:00/8:45/12:30 or 14:15 ” | | 4 | Select “End date” is smaller than “Start Date”. | Show error message “The end date must be bigger than start date” |   **Relationships:** Manage Roll Call.  **Business Rules:**   * Start date must be later than current date; end date must be later than start date. * The class and subject belong to the same major. * When staff select a class for roll call, all students in that class is assigned to the roll call. | | | |

Table 13: <Staff>Add Roll Call

##### <Staff>Edit Roll Call

Use Case Diagram



Figure 18: <Staff>Edit Roll Call

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU002** | | | |
| **Use Case No.** | SU002 | **Use Case Version** | 2.0 |
| **Use Case Name** | Edit Roll Call. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can use this case to edit a roll call.  **Goal:**  Update new information roll call includes: instructor, subject, class, date, time…  **Triggers:**   * Staff can update new information for roll call to database. * Staff must do these step to edit roll call: * In Home Page, click on link “Manage roll call”. * Click on button “Detail” in row, which staff wants to edit. * In “Roll call detail” pop-up window, edit information. * Click on button “Update”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A roll call will be updated. The system will transfer to roll call list page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Roll call” in menu bar. | Redirect to Manage roll call page, include 2 tabs:   * Roll Call List * New Roll Call   Current Tab is Roll Call List, include table roll call list, for each roll call:   * No. : label * Instructor: label * Subject: label * Class: label * Date: label * Time: label * Show Student List: Button * Detail: Button * Status: label | | 2 | Click button “Detail” in row, which staff wants to edit. | The system will show “Roll call detail” pop-up:   * Instructor: Drop down list (value of instructor list) * Subject: Drop down list (value of subject list) * Class: Drop down list (value of Class list) * Button “Show” * Date picker “Start date” and “End date” * Time: Drop down list(value: 7:00, 8:45, 11:00, 12:30, 14:15, 16:00) * Button “Update” * Button “Cancel” | | 3 | Edit Subject information, click “Update” button. | The system will update roll call to database. The system transfer to roll call list page.  [Exception 1, 2, 3] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | The teacher teaches different class at time. | Display “The teacher should teach classes in different time”. | | 2 | Class and subject have different major. | Display “The class and subject should have same major”. | | 3 | The subject, which has 2 slots, must not have time start at 11:00 or 16:00. | Display “The subject, which has 2 slot, should have time start at 7:00/8:45/12:30 or 14:15 ” | | 4 | Select “End date” is smaller than “Start Date”. | Show error message “The end date must be bigger than start date” |   **Relationships:** Manage Roll Call.  **Business Rules:**   * In pop-up window, the value of instructor, subject, class, student list, date, time will be auto set by subject was chosen. * If the roll call status is “Created”, the staff can edit all roll call info. * If the roll call status is “Active”, the staff can only change the teacher of roll call. * If the roll call status is “Inactive”, the staff can edit anything. | | | |

Table 14: <Staff>Edit Roll Call

##### <Staff> Add Subject

Use Case Diagram



Figure 19: <Staff> Add Subject

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU003** | | | |
| **Use Case No.** | SU003 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Subject. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can create a new Subject.  **Goal:**  A new Subject include: major, name, slot will be added to database.  **Triggers:**   * Staff can create new subject with all information: name, major , slot … * Staff must do these step to create new subject:   + On Home page, click on link “Manage subject” in menu sidebar and Manage subject page will be showed.   + Then, choose “New subject” tab.   + Then, choose the major, input name, block for subject.   + Click on button “Add”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A new Subject will be created. The Subject will be displayed on Subject list. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Subject” in menu bar. | Redirect to Manage Subject Page, include 2 tabs:   * Subject List * New Subject   Currnt Tab is Subject List. its include table subject ,for each row:   * No. : label * Major: label * Name: label * Slot (/day): label * Detail: button * Active/Inactive: button | | 2 | Click “New Subject” tab. | Display “New Subject” tab with :   * Major: Multiple chosen (value: Software Engineering, Financial Banking, Business Analysis) * Name: textbox (min length:1, max length: 30, required). * Slot (/day): drop down list (value: 1, 2). | | 3 | Input Subject information, click “Add” button. | Create new Subject to database. Redirect Subject list tab.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Name’s length is not in range [1,30] | Display “Name’s length must be from 1 to 30 words”. |   **Relationships:** Manage Subject.  **Business Rules:**N/A | | | |

Table 15: <Staff> Add Subject

##### <Staff> Edit Subject

Use Case Diagram



Figure 20: <Staff> Edit Subject

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU004** | | | |
| **Use Case No.** | SU004 | **Use Case Version** | 2.0 |
| **Use Case Name** | Edit Subject. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:**Staff.  **Summary:**  Staff can use this case to edit a Subject.  **Goal:**  Updatenew information Subject includes: major, name, slot…  **Triggers:**   * User can update new information for subject to database. * Staff must do these step to Edit subject: * In Home Page, click on link “Manage subject”. * Click on button “Detail” in row, which staff wants to edit. * In “Subject detail” pop-up window, edit information. * Click on button “Update”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A Subject will be updated. The system will transfer to Subject list page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Subject” in menu bar. | Redirect to Manage Subject Page, include 2 tabs:   * Subject List * New Subject   Currnt Tab is Subject List. its include table subject ,for each row:   * No. : label * Major: label * Name: label * Slot (/day): label * Detail: button * Active/Inactive: button | | 2 | Click button “Detail” in row, which staff wants to edit. | The system will show “Subject detail” pop-up:   * Major: Drop down list (value: Software Engineering, Financial Banking, Business Analysis ) * Name: textbox (min length: 1 max length: 30, required). * Slot (/day): drop down list (value: 1, 2). | | 3 | Edit Subject information, click “Update” button. | The system will update Subject to database. The system transfer to Subject list page.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Name’s length is not in range [1,30] | Display “Name is invalid”. |   **Relationships:** Manage Subject.  **Business Rules:**   * In pop-up win down, the value of major, name, slot will be auto set by subject was chosen. | | | |

Table 16: <Staff> Edit Subject

##### <Staff> Active Subject

Use Case Diagram



Figure 21: <Staff> Active Subject

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU005** | | | |
| **Use Case No.** | SU005 | **Use Case Version** | 2.0 |
| **Use Case Name** | Active Subject. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can use this case to active subject.  **Goal:**  Active a subject for new block.  **Triggers:**   * Staff can active a subject have exit. * Staff must do these step to Active subject: * In Home Page, click on link “Manage subject”. * Click on button “Inactive” in row, which staff wants to edit. * The system will show a message box confirm. * Click on button “Yes”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A Subject will be active. The system will still in current manage subject page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Subject” in menu bar. | Redirect to Manage Subject Page, include 2 tabs:   * Subject List * New Subject   Currnt Tab is Subject List. its include table subject ,for each row:   * No. : label * Major: label * Name: label * Slot (/day): label * Detail: button * Active/Inactive: button | | 2 | Click button “Inactive” in row, which staff wants to edit. | The system will show confirm message box:   * Text: “Do you want to active this object?” * Button “Yes” * Button “No” | | 3 | Click on button “Yes”  [Alternative 1] | The system will change status subject to active and still in current page. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In confirm message box, staff click on button “No” | The system will still in current page with no value is changed. |   **Exceptions:** N/A  **Relationships:** Manage Subject.  **Business Rules:**   * The button active has color blue and button inactive has color orange. | | | |

Table 17: <Staff> Active Subject

##### <Staff> Inactive Subject

Use Case Diagram



Figure 22: <Staff> Inactive Subject

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU006** | | | |
| **Use Case No.** | SU006 | **Use Case Version** | 2.0 |
| **Use Case Name** | Inactive Subject. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can use this case to inactive subject.  **Goal:**  Inactive a subject.  **Triggers:**   * Staff can inactive a subject have exit. * Staff must do these step to Inactive subject: * In Home Page, click on link “Manage subject”. * Click on button “Active” in row, which staff wants to edit. * The system will show a message box confirm. * Click on button “Yes”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A Subject will be inactive. The system will still in current manage subject page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Subject” in menu bar. | Redirect to Manage Subject Page, include 2 tabs:   * Subject List * New Subject   Currnt Tab is Subject List. its include table subject ,for each row:   * No. : label * Major: label * Name: label * Slot (/day): label * Detail: button * Active/Inactive: button | | 2 | Click button “Active” in row, which staff wants to edit. | The system will show confirm message box:   * Text: “Do you want to inactive this object?” * Button “Yes”. * Button “No”. | | 3 | Click on button “Yes”  [Alternative 1] | The system will change status subject to inactive and still in current page. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In confirm message box, staff click on button “No” | The system will still in current page with no value is changed. |   **Exceptions:** N/A  **Relationships:** Manage Subject.  **Business Rules:**   * The button active has color blue and button inactive has color orange. | | | |

Table 18: <Staff> Inactive Subject

##### <Staff>Add Student

Use Case Diagram



Figure 23: <Staff> Add Student

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU007** | | | |
| **Use Case No.** | SU007 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Student. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can create a new student.  **Goal:**  A new student include: name, email, student id, birthday, citizen id, address will be added to database.  **Triggers:**   * Staff can create new student with all information: name, email, student id, birthday, citizen id, address... * Staff must do these step to create new student:   + On Home page, click on link “Manage student” in menu sidebar and Manage student page will be showed.   + Then, choose “New student” tab.   + Then, choose the class, input name, id, email, citizen id, address for student.   + Click on button “Add”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A new student will be created. The student will be displayed on student list. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Student” in menu bar. | Redirect to Manage Student Page, include 2 tabs:   * Student List * New Student * Import Student List   Current Tab is Student List, its include table student , for each row:   * No: label * Name: label * Current Classes: label * Email: label * Student ID: label * Detail: button * Active/Inactive: button | | 2 | Click “New Student” tab. | Display “New Student” tab with :   * Name: textbox (min length: 1 max length: 30, required). * Student ID: textbox (min length: 1 max length: 30, required). * Birthday: date picker (value: current date.) * Address: textbox (min length: 1 max length: 50, required). * Email: textbox (match regular expression:   ^([\w\.])+@([\w])+\.(\w){2,6}(\.([\w]){2,4})\*$  , required).   * Citizen ID: (match regular expression:^\d{8}$   , required).   * Button “Add” * Button “Cancel” | | 3 | Input Student information, click “Add” button. | Create new student to database. Redirect student list tab.  [Exception 1,2,3,4] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Cancel” button. | All control in “New Student” tab is cleared. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Name’s length is not in range [1,30] | Display “Name is invalid”. | | 2 | Address’s length is not in range [1,50] | Display “Address is invalid”. | | 3 | Student ID’s length is not in range [1,30] | Display “Student ID is invalid”. | | 4 | Email is not matched regular expression. | Display “Invalid email address”. |   **Relationships:** Manage Student.  **Business Rules:** N/A | | | |

Table 19: <Staff> Add Student

##### <Staff>Edit Student

Use Case Diagram



Figure 24: <Staff> Edit Student

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU008** | | | |
| **Use Case No.** | SU008 | **Use Case Version** | 2.0 |
| **Use Case Name** | Edit Student. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can use this case to edit a student.  **Goal:**  Update new information student includes: name, birthday, citizen ID, email…  **Triggers:**   * Staff can update new information for student to database. * Staff must do these step to edit student: * In Home Page, click on link “Manage Student”. * Click on button “Detail” in row, which staff wants to edit. * In “Student detail” pop-up window, edit information. * Click on button “Update”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A student will be updated. The system will transfer to student list page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Student” in menu bar. | Redirect to Manage Student Page, include 2 tabs:   * Student List * New Student * Import Student List   Current Tab is Student List, its include table student , for each row:   * No: label * Name: label * Current Classes: label * Email: label * Student ID: label * Detail: button * Active/Inactive: button | | 2 | Click button “Detail” in row, which staff wants to edit. | The system will show “Student Detail” pop-up:   * Name: textbox (min length: 1 max length: 30, required). * Student ID: textbox (min length: 1 max length: 30, required, disabled). * Birthday: date picker (value: current date.) * Address: textbox (min length: 1 max length: 50, required). * Email: textbox (match regular expression:   ^([\w\.])+@([\w])+\.(\w){2,6}(\.([\w]){2,4})\*$  , required).   * Citizen ID: (match regular expression:^\d{8}$   , required).   * Update: button * Cancel: button | | 3 | Edit student information, click “Update” button.  [Alternative 1] | The system will update student to database. The system transfer to student list page.  [Exception 1,2,3,4] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Cancel” button. | The pop-up is closed. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Name’s length is not in range [1,30] | Display “Name is invalid”. | | 2 | Address’s length is not in range [1,50] | Display “Address is invalid”. | | 3 | Student ID’s length is not in range [1,30] | Display “Student ID is invalid”. | | 4 | Email is not matched regular expression. | Display “Invalid email address”. |   **Relationships:** Manage Student.  **Business Rules:**   * In pop-up window, the value of name, current class, address, citizen id, and birthday will be auto set by student was chosen. | | | |

Table 20: <Staff> Edit Student

##### <Staff>Import Student List

Use Case Diagram



Figure 25: <Staff> Import Student List

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU009** | | | |
| **Use Case No.** | SU009 | **Use Case Version** | 2.0 |
| **Use Case Name** | Import student list | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can use this case to import student list.  **Goal:**  Create multiple student by import from excel file.  **Triggers:**   * User can import an excel file student list. * Staff must do these step to import student list: * In Home Page, click on link “Manage Student”. * Click on tab “Import Student List” * Click on button “Import” * Then, choose the excel file in browser dialog.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: Student list will be added to database. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Student” in menu bar. | Redirect to Manage Student Page, include 2 tabs:   * Student List * New Student * Import Student List   Current Tab is Student List, its include table student ,for each row:   * No: label * Name: label * Current Classes: label * Email: label * Student ID: label * Detail: button * Active/Inactive: button | Click “Manage Student” in menu bar. | Redirect to Manage Student Page, include 2 tabs:   * Student List * New Student   Student List is tab default, its include table student ,for each row:   * “No.” * “Name”. * “Current Classes”. * “Email”. * “Student ID”. * Button “Detail” * Button “Active/Inactive”. | | 2 | Click “Import Student List” tab | Display “Import Student List” tab with :   * Import file: File upload control. * Button “Import” | | 3 | Click on textbox Import file, choose file. Click “Ok” | The system will get path file and show on text box (only allow excel file.) | | 4 | Click on button “Import” | Import student list to database and show a message box:   * Text: “Import is successful!   There are [number of student in file] student and [number of class in file] class were imported to database”   * Button “Ok”.   [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Import file get error. | Show error message, the sheet, line, row where error occur. |   **Relationships:** Manage Student.  **Business Rules:**   * The input excel file must follow a student list excel template. | | | |

Table 21: <Staff> Import Student List

##### <Staff>Add Instructor

Use Case Diagram



Figure 26: <Staff>Add Instructor

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU010** | | | |
| **Use Case No.** | SU010 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add instructor. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can create a new instructor.  **Goal:**  A new instructor include: name, current subject, current class, and phone number will be added to database.  **Triggers:**   * Staff can create new instructor with all information: name, current subject , current class, phone number … * Staff must do these step to create new instructor:   + On Home page, click on link “Manage Instructor” in menu sidebar and Manage Instructor page will be showed.   + Then, choose “New Instructor” tab.   + Then, choose the Classes, subject, input name, phone number for instructor.   + Click on button “Add”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A new instructor will be created. The instructor will be displayed on instructor list. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Instructor” in menu bar. | Redirect to Manage instructor page, include 2 tabs:   * Instructor List * New Instructor   Current Tab is Instructor List, include table instructor list, for each instructor:   * No: label * Name: label * Teaching Subject: label * Teaching Class: label * Detail: button * Active/Inactive: button | | 2 | Click “New Instructor” tab. | Display “New Instructor” tab with :   * Instructor name: Text box (min length:1 max length:30, required) * Email: textbox (match regular expression:   ^([\w\.])+@([\w])+\.(\w){2,6}(\.([\w]){2,4})\*$  , required).   * Phone number: text box (min length: 8, max length: 11, match regular expression: ^\s\*\d+\s\*$ ) | | 3 | Input instructor information, click “Add” button. | Create new instructor to database. Redirect instructor list tab.  [Exception 1, 2, 3] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Name’s length is not in range [1,30] | Display “Name is invalid”. | | 2 | Email not matched regular expresion | Display “Email is invalid”. | | 3 | Phone number is not matched regular expresion. | Display “Phone number is invalid”. |   **Relationships:** Manage instructor.  **Business Rules:** N/A | | | |

Table 22: <Staff>Add Instructor

##### <Staff>Edit Instructor

Use Case Diagram



Figure 27: <Staff>Edit Instructor

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU011** | | | |
| **Use Case No.** | SU011 | **Use Case Version** | 2.0 |
| **Use Case Name** | Edit instructor. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can use this case to edit an instructor.  **Goal:**  Update new information instructor includes: name, current subjects, current classes, phone…  **Triggers:**   * Staff can update new information for instructor to database. * Staff must do these step to edit instructor: * In Home Page, click on link “Manage Instructor”. * Click on button “Detail” in row, which staff wants to edit. * In “Instructor detail” pop-up window, edit information. * Click on button “Update”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: An instructor will be updated. The system will transfer to instructor list page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Instructor” in menu bar. | Redirect to Manage instructor page, include 2 tabs:   * Instructor List * New Instructor   Current Tab is Instructor List, include table instructor list, for each instructor:   * No: label * Name: label * Teaching Subject: label * Teaching Class: label * Detail: button * Active/Inactive: button | | 2 | Click button “Detail” in row, which staff wants to edit. | The system will show “Instructor detail” pop-up:   * Instructor name: Text box (min length:1 max length:30, required) * Email: textbox (match regular expression:   ^([\w\.])+@([\w])+\.(\w){2,6}(\.([\w]){2,4})\*$  , required).   * Phone number: text box (min length: 8, max length: 11, match regular expression: ^\s\*\d+\s\*$ ) * Update: button * Cancel: button | | 3 | Edit instructor information, click “Update” button.  [Alternative 1] | The system will update instructor to database. The system transfer to instructor list page.  [Exception 1, 2] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Cancel” button. | The pop-up is closed. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Name’s length is not in range [1,30] | Display “Name is invalid”. | | 2 | Phone number is not matched regular exception. | Display “Phone number is invalid”. |   **Relationships:** Manage Instructor.  **Business Rules:**   * In pop-up window, the value of name, current class, current subject, phone number will be auto set by instructor was chosen. | | | |

Table 23: <Staff> Edit Instructor

##### <Staff>Add Class

Use Case Diagram



Figure 28: <Staff> Add Class

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU012** | | | |
| **Use Case No.** | SU012 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Class. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can create a new Class.  **Goal:**  A new class includes: major, name will be added to database.  **Triggers:**   * Staff can create new class with for every block/semester/year… * Staff must do these step to create new class:   + On Home page, click on link “Manage Class” in menu sidebar and Manage subject page will be showed.   + Then, choose “New Class” tab.   + Then, choose the major, input name for class.   + Click on button “Add”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A new class will be created. The class will be displayed on Class list. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Class” in menu bar. | Redirect to Manage Class Page, include 2 tabs:   * Class List * New Class   Current Tab is Class List, include table class list, for each class:   * No: label * Major: label * Name: label * Show Student List: button * Detail: button * Active/Inactive: button | | 2 | Click “New Class” tab. | Display “New Class” tab with :   * Major: Drop down list (value: Software Engineering, Financial Banking, Business Analysis ) * Name: textbox (min length: 1 max length: 30, required). * Add: button * Cancel: button | | 3 | Input class information, click “Add” button. | Create new class to database. Redirect Class list tab.  [Exception 1, 2] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Cancel” button. | The input form is reseted. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Name’s length is not in range [1,30] | Display “Name is invalid”. | | 2 | The name class has existed. | Display “The class has existed”. |   **Relationships:** Manage Class.  **Business Rules:** N/A | | | |

Table 24: <Staff> Add Class

##### <Staff>Edit Class

Use Case Diagram



Figure 29: <Staff> Edit Class

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU013** | | | |
| **Use Case No.** | SU013 | **Use Case Version** | 2.0 |
| **Use Case Name** | Edit Class. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff can use this case to edit a class.  **Goal:**  Update new information class includes: major, name …  **Triggers:**   * User can update new information for class to database. * Staff must do these step to Edit class: * In Home Page, click on link “Manage Class”. * Click on button “Detail” in row, which staff wants to edit. * In “Class detail” pop-up window, edit information. * Click on button “Update”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A class will be updated. The system will transfer to class list page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Manage Class” in menu bar. | Redirect to Manage Class Page, include 2 tabs:   * Class List * New Class   Current Tab is Class List, include table class list, for each class:   * No: label * Major: label * Name: label * Show Student List: button * Detail: button * Active/Inactive: button | | 2 | Click button “Detail” in row, which staff wants to edit. | The system will show “Class detail” pop-up:   * Major: Drop down list (value: Software Engineering, Financial Banking, Business Analysis ) * Name: textbox (min length: 1 max length: 30, required). * Table: Student List of class. * Update: button * Cancel: button | | 3 | Edit Class information, click “Update” button.  [Alternative 1] | The system will update class to database. The system transfer to class list page. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Cancel” button. | The pop-up is closed. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Name’s length is not in range [1,30] | Display “Name is invalid”. |   **Relationships:** Manage Class.  **Business Rules:**   * In pop-up win down, the value of major, name will be auto set by class was chosen. | | | |

Table 25 <Staff> Edit Class

##### <Staff> Report Attendance by Class

Use Case Diagram



Figure 30: <Staff> Report Attendance by Class

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU014** | | | |
| **Use Case No.** | SU014 | **Use Case Version** | 2.0 |
| **Use Case Name** | Report Attendance by Class | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  This use case allows staff report attendance of all students by class.  **Goal:**  Staff can report attendance of class.  **Triggers:**   * Staff can report information of class: subject, student, attendance… * Staff must do these step to view report result:   + On Home page, click on link “Report” in menu bar and Report page will be showed.   + Then, in select box “Report by” choose type: Class.   + Then, in drop down list “Name” chose the class name.   + Click on button “Statistic”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A report attendance by class will be showed on screen. * **Fail:** The system will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Report” link in menu bar. | Redirect to Report Page, include 4 part:   * Drop down list “Report by” (value: Class, Student, Block, and Semester). * Drop down list “Name” (value: auto set based on drop down list Report by) * Button “Statistic” * Button “Export”. | | 2 | Choose “Class” in drop down list Report by. | System will auto set value based on type Class (just active class) for drop down list “Name”. | | 3 | Chose the class in drop down list “Name”. Click button “Statistic” | System will show result attendance by class on screen.  System still in current “Report” page. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Manage Report Attendance.  **Business Rules:**   * System will show attendance result in chosen conditions. * Default value when manager clicks on tab “Report” is: Class. | | | |

Table 26: <Staff> Report Attendance by Class

##### <Staff> Report Attendance by Student

Use Case Diagram



Figure 31: <Staff> Report Attendance by Student

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU015** | | | |
| **Use Case No.** | SU015 | **Use Case Version** | 2.0 |
| **Use Case Name** | Report Attendance by Student | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  This use case allows staff report attendance of student.  **Goal:**  Staff can report attendance of student.  **Triggers:**   * Staff can report information of student: student name, class, subject, attendance… * Staff must do these step to view report result:   + On Home page, click on link “Report” in menu bar and Report page will be showed.   + Then, in drop down list “Report by” choose type: Student.   + Then, in drop down list “Name” choose the student name.   + Click on button “Statistic”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A report attendance by student will be showed on screen. * **Fail:** System will not return any value. Transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Report” link in menu bar. | Redirect to Report Page, include 4 part:   * Drop down list “Report by” (value: Class, Student, Block, and Semester). * Drop down list “Name” (value: auto set based on drop down list Report by) * Button “Statistic” * Button “Export”. | | 2 | Choose “Student” in drop down list Report by. | System will auto set value based on type Student (just active student) for drop down list “Name”. | | 3 | Chose the student in drop down list “Name”. Click button “Statistic”. | System will show result attendance by student on screen.  System still in current “Report” page. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Manage Report Attendance.  **Business Rules:**   * System will show attendance result in chosen conditions. * Default value when manager clicks on tab “Report” is: Class. | | | |

Table 27: <Staff> Report Attendance by Student

##### <Staff> Report Attendance by Block

Use Case Diagram



Figure 32: <Staff> Report Attendance by Block

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU016** | | | |
| **Use Case No.** | SU016 | **Use Case Version** | 2.0 |
| **Use Case Name** | Report Attendance by Block | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  This use case allows staff report attendance all students by block.  **Goal:**  Staff can report attendance of student.  **Triggers:**   * Staff can report information of student: Block, class, subject, attendance… * Staff must do these step to view report result:   + On Home page, click on link “Report” in menu bar and Report page will be showed.   + Then, in drop down list “Report by” choose type: Block.   + Then, in drop down list “Name” choose the block.   + Click on button “Statistic”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A report attendance by block will be showed on screen. * **Fail:** System will not return any value. Transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Report” link in menu bar. | Redirect to Report Page, include 4 part:   * Drop down list “Report by” (value: Class, Student, Block, and Semester). * Drop down list “Name” (value: auto set based on drop down list Report by) * Button “Statistic” * Button “Export”. | | 2 | Choose “Block” in drop down list Report by. | System will auto set value based on type Block (just active block) for drop down list “Name”. | | 3 | Chose the Block in drop down list “Name”. Click button “Statistic”. | System will show result attendance by block on screen.  System still in current “Report” page. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Manage Report Attendance.  **Business Rules:**   * System will show attendance result in chosen conditions. * Default value when manager clicks on tab “Report” is: Class. | | | |

Table 28: <Staff> Report Attendance by Block

##### <Staff> Report Attendance by Semester

Use Case Diagram



Figure 33: <Staff> Report Attendance by Semester

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU017** | | | |
| **Use Case No.** | SU017 | **Use Case Version** | 2.0 |
| **Use Case Name** | Report by Semester. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  This use case allows staff report attendance by semester.  **Goal:**  Staff can report attendance by semester.  **Triggers:**   * Staff can report information of student: Block, class, subject … * Staff must do these step to view report result:   + On Home page, click on link “Report” in menu bar and Report page will be showed.   + Then, in drop down list “Report by” choose type: Semester.   + Then, in drop down list “Name” choose the semester.   + Click on button “Statistic”.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: A report attendance by semester will be showed on screen. * **Fail:** System will not return any value. Transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Report” link in menu bar. | Redirect to Report Page, include 4 part:   * Drop down list “Report by” (value: Class, Student, Block, and Semester). * Drop down list “Name” (value: auto set based on drop down list Report by) * Button “Statistic” * Button “Export”. | | 2 | Choose “Semester” in drop down list Report by. | System will auto set value based on type Semester (just active semester) for drop down list “Name”. | | 3 | Chose the semester in drop down list “Name”. Click button “Statistic”. | System will show result attendance by semester on screen.  System still in current “Report” page. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Manage Report Attendance.  **Business Rules:**   * System will show attendance result in chosen conditions. * Default value when manager clicks on tab “Report” is: Class. | | | |

Table 29: <Staff> Report Attendance by Semester

##### <Staff> Export Report

Use Case Diagram

**

Figure 34: <Staff> Export Report

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – SU018** | | | |
| **Use Case No.** | SU018 | **Use Case Version** | 2.0 |
| **Use Case Name** | Export report. | | |
| **Author** | Nguyen Quoc Huy. | | |
| **Date** | 19/09/2013 | **Priority** | Normal |
| **Actor:** Staff.  **Summary:**  Staff uses this case to Export report.  **Goal:**  Allow staff to export report.  **Triggers:**   * Staff can export report. * On report page, click on button “Export” to export report.   **Preconditions:**   * User must logged in the system with the role is staff.   **Post Conditions:**   * **Success**: Staff can export report. The system still in current page. * **Fail:** N/A.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click on “Export” to request export report on Report page | System will export report to file excel |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Manage Report Attendance.  **Business Rules:**   * Staff export report to file excel and attendance: class, block, student, semester … | | | |

#### < Instructor>Overview Use Case



Figure 35: <Instructor> Overview Use Case

##### <Instructor> Capture and Show result attendance



Figure 36: <Instructor> Capture and Show result attendance

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – IU001** | | | |
| **Use Case No.** | IU001 | **Use Case Version** | 2.0 |
| **Use Case Name** | Capture and Show result attendance | | |
| **Author** | Nguyen Thanh Binh | | |
| **Date** | 23/09/2013 | **Priority** | High |
| **Actor:** Instructor.  **Summary:**  Instructor uses this case to check attendance.  **Goal:**  Allow instructor capture image, send image to web service and check attendance.  **Triggers:**   * Instructor can use mobile to take picture. This picture will be used for attendance checking ... To check attendance using picture, instructor must do: * Instructor login application and click button “Take Attendance” in Roll Call page. System transfer to “Taking Attendance” Page. * On “Taking Attendance” page, Instructor capture image, then send image to web service for detected face of member. * Instructor receive result from Web service. Instructor view result and check attendance for members.   **Preconditions:**   * User must logged in the system with the role is Instructor * Instructor is assign to class   **Post Conditions:**   * **Success**: Instructor can check attendance for student. The attendance log will be stored. * **Fail:** System will alert error.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Instructor open mobile app.  Instructor type username, password, press “Login” to login into application. | System will show the Roll call page with information includes:   * Instructor name: label * No: label * Subject: label * Class name: label * Class Time: Calendar * Class date: Calendar   **Main menu:**   * Detail: Button (follow each course) * Take Attendance: Button | | 2 | Instructor click button “Take Attendance” to capture picture.  [Alternative 1] | System transfer to Taking Attendance page with:   * Camera screen view: Frame layout * Capture: Button | | 3 | Instructor look at screen and click “Capture” button to capture image and send image to web service. | System will save image on real time when instructor click button “Capture”.  Image is sent to web service.  Then, system create show a popup “Sending success” with button “OK”.  [Exception 1,2] | | 4 | Instructor click “OK” button to return to Course page. | System will notify result to Instructor.  Result contains the students detected from image.  [Exception 3, 4, 5] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Instructor click button “Detail” to check attendance with use case “IU002”. | System will transfer to Roll Call Detail page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Error with camera (No camera, can’t connect to camera) | System will show popup “Camera is not available”. | | 2 | Can’t send image to service | System will show a popup “Failed to connect server, please check you internet connection and try it again”. Instructor click “OK” button to retake an image. | | 3 | No respond from service | System will show popup “Request timeout. Please try again”. | | 4 | Only some student detected (<30% number of class students) | System will vibrate and notify “Only X student detect. You can take more picture, or check attendance manually (See Use Case IU002)”. | | 5 | Stranger detected | System will vibrate and notify “Stranger Detected”. |   **Relationships:** N/A  **Business Rules:**   * Image : min 1500px \* 1000px max 3552px \* 2000px or size smaller than 3mb; resolution 72dpi (recommend) * Cable: 3mb ~ 6mb, Wifi: 3mb ~ 6mb * The average time for attendance taking is 10 seconds. * In success case, the app will notify normally, without sound or vibration. In exception case, the notification is with sound and vibration. | | | |

Table 30: <Instructor> Check Attendance by Taking Picture

##### <Instructor> Check Attendance Manually



Figure 37: <Instructor> Check Attendance Manually

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – IU002** | | | |
| **Use Case No.** | IU002 | **Use Case Version** | 2.0 |
| **Use Case Name** | Check Attendance Manually | | |
| **Author** | Nguyen Thanh Binh | | |
| **Date** | 23/09/2013 | **Priority** | High |
| **Actor:** Instructor.  **Summary:**   * Instructor uses this case to check attendance manually.   **Goal:**   * Allow instructor check attendance again for some special reasons.   **Triggers:**   * Sometimes, the auto attendance checking is not accuracy, the instructor must check attendance manually. * To check attendance again manually, instructor must do: * Instructor login application and click button “Detail” in “Roll Call” page. System transfer to “Roll Call Detail” Page. * Instructor review all members and check attendance for member have special reason on this day or previous day.   **Preconditions:**   * User must logged in the system with the role is Instructor. * Instructor is assign to class.   **Post Conditions:**   * **Success**: Instructor can check attendance for member on this day or previous day. * **Fail:** System will alert error.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Instructor open mobile app.  Instructor type username, password, press “Login” to login into application. | System will show the Roll call page with information includes:   * Instructor name: label * No: label * Subject: label * Class name: label * Class Time: Calendar * Class date: Calendar   **Main menu:**   * Detail: Button (follow each course) * Take Attendance: Button | | 2 | Instructor click button “Detail” to view detail of that Subject.  [Alternative 1] | System will show Roll Call Detail:   * Roll call: label * Instructor Name: label * Class Name: label * Subject: label * Date & Time: Calendar * Student List: link show(No., Name, Code) * Attendance Log: * No: label * Date: Calendar * Present: Number * Log Detail: button | | 3 | Instructor click button “Log Detail” with correlative Date.  [Alternative 2] | System will show Log detail page on correlative with three tab:   * Roll Call info (Roll Call, Date, Subject, Class) * Log image * Attendance: * No: label * Student name: label * Present & Absent : Ratio button * Note: textbox * Present All & Absent All: Ration button * Submit Attendance: Button | | 4 | Click “Present” ratio button with correlative student.  [Alternative 3, 4, 5]  Write info on Note text box (recommend).  Click button “Submit Attendance” send request to check attendance for present member. | System will send request check attendance for present member to server.  System will show popup “Save changed!” with button “OK” | | 5 | Instructor click button “OK” redirect to Roll call page. |  |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Instructor click button “Take Attendance” to check attendance with Use case “IU001”. | System will transfer to Taking Attendance page. | | 2 | Instructor click “Student list” link. | System will show popup all student with correlative class and course. | | 3 | Instructor click “Absent” ratio button with correlative student. | System will set absent for correlative student. | | 4 | Instructor click “Absent” ratio button with correlative student. | System will set present for all student. | | 5 | Instructor click “Absent All” ratio button with correlative student. | System will set absent for all student. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Can’t connection to service | System will show a popup “Failed to connect server, please check you internet connection and try it again”. Instructor click “OK” button to transfer Roll Call page. | | 2 | No respond from service | System will show popup “Request timeout. Please try again”. |   **Relationships:** N/A  **Business Rules:**   * Instructor can check present member again for student have special reason. | | | |

Table 31: <Instructor> Check Attendance Manually

##### <Instructor> View Roll Call List



Figure 38: <Instructor> View Roll Call List

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – IU003** | | | |
| **Use Case No.** | IU003 | **Use Case Version** | 2.0 |
| **Use Case Name** | View Roll Call List | | |
| **Author** | Nguyen Thanh Binh | | |
| **Date** | 23/09/2013 | **Priority** | Normal |
| **Actor:** Instructor.  **Summary:**  Instructor uses this case to view all roll call list.  **Goal:**  Allow instructor view roll call list with current day or previous day to check attendance again for member have special reason.  **Triggers:**   * Instructor login application and click button “Report” in Course page. System transfer to “Roll Call” Page. * Instructor review all members with course, class and selected day.   **Preconditions:**   * User must logged in the system with the role is Instructor. * Instructor is assign to class.   **Post Conditions:**   * **Success**: Instructor can view list of members on current day or previous day with selected course, class. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Instructor open mobile app.  Instructor type username, password, press “Login” to login into application. | System will show the Roll call page with information includes:   * Instructor name: label * No: label * Subject: label * Class name: label * Class Time: Calendar * Class date: Calendar   **Main menu:**   * Detail: Button (follow each course) * Take Attendance: Button | | 2 | Instructor click button “Detail” to view detail of that Subject.  [Alternative 1] | System will show Roll Call Detail:   * Roll call: label * Instructor Name: label * Class Name: label * Subject: label * Date & Time: Calendar * Student List: link show(No., Name, Code) * Attendance Log: * No: label * Date: Calendar * Present: Number * Log Detail: button |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Instructor click button “Take Attendance” to check attendance with Use case “IU001”. | System will transfer to Taking Attendance page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Can’t connection to service | System will show a popup “Failed to connect server, please check you internet connection and try it again”. Instructor click “OK” button to transfer Roll Call page. |   **Relationships:** Check Attendance Manually  **Business Rules:**   * Instructor can view all roll call list, help to review status of student and check attendance again for students have special reason. | | | |

Table 32: <Instructor> View Roll Call List

##### <Instructor> Report Attendance by Class



Figure 39: <Instructor> Report Attendance by Class

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| --- | --- | --- | --- |
| **USE CASE – IU004** | | | |
| **Use Case No.** | IU004 | **Use Case Version** | 2.0 |
| **Use Case Name** | Report Attendance by Class | | |
| **Author** | Nguyen Thanh Binh. | | |
| **Date** | 23/09/2013 | **Priority** | Normal |
| **Actor:** Instructor.  **Summary:**  This use case allows Instructor report attendance of all students by class.  **Goal:**  Instructor can report attendance of class.  **Triggers:**   * Instructor can report information of class: subject, student, attendance… * Instructor must do these step to view report result: * On Home page, click on link ”Report” in menu bar and Report page will be showed. * Then, in select box “Report by” choose type: Class. * Then, in drop down list “Name” chose the class name. * Click on button “Statistic”.   **Preconditions:**   * User must logged in the system with the role is Instructor.   **Post Conditions:**   * **Success**: A report attendance by class will be showed on screen. * **Fail:** System will not return any value. Transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Report” link in menu bar. | Redirect to Report Page, include 4 part:   * Drop down list “Report by” (value: Class, Student, Block, and Semester). * Drop down list “Name” (value: auto set based on drop down list Report by) * Button “Statistic” * Button “Export”. | | 2 | Choose “Class” in drop down list Report by. | System will auto set value based on type Class. | | 3 | Chose the class in drop down list “Name”. Click button “Statistic”. | System will show result attendance by class on screen.  System still in current “Report” page. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Manage Report Attendance.  **Business Rules:**   * System will show attendance result in chosen conditions. * Default value when manager clicks on tab “Report” is: Class. | | | |

Table 33: <Instructor> Report Attendance by Class

#### <Student>Overview Use Case



Figure 40: <Student> Overview Use Case

##### <Student>Check Present Rate by Searched Course



Figure 41: <Student> CheckPresent Rate

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| **USE CASE – STU001** | | | |
| **Use Case No.** | STU001 | **Use Case Version** | 2.0 |
| **Use Case Name** | Check Present Rate by Searched Course | | |
| **Author** | Nguyen Thanh Binh | | |
| **Date** | 23/09/2013 | **Priority** | Normal |
| **Actor:** Student.  **Summary:**   * Student uses this case to search learned/learning course.   **Goal:**   * Allow student views learned/learning course info. The search condition is course name.   **Triggers:**   * Student can search course name on list course page. The searching results follow course name. * On list courses page, student choose search condition and clicks search button. System will show list search in list course table at current page. * On list search page, student choose the course. System will show information detail about that course.   **Preconditions:**   * User must logged in the system with the role is Student.   **Post Conditions:**   * **Success**: The search course will be found. System will show list search in lists course page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | At lists course page, student choose search condition. | System will show the search condition include:  Course Name: text box | | 2 | After chose search condition, student clicks on search button (submit button) finish. | System will show list search of courses that student searched by condition in List Course table.  List Courses table includes 5 column: No (number), Course Name, Semester, Time, Present Rate. | | 3 | Ai list course table, student choose the course they want to view and click on that course name. | System will show information about that course in current page.  Information course includes: Roll call, Course Name, Semester, Time, Student Name & Code, Present, Present Rate and Detail (about exactly day present or absent) |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Search not found | System will show “No course was found!” |   **Relationships:** Check Present Rate  **Business Rules:**   * The courses will be search by course name. * Student can use search course to view their course easily. | | | |

Table 34: <Student> CheckPresent Rate

##### <Student>Check Present Rate by Learned Course



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| **USE CASE – STU002** | | | |
| **Use Case No.** | STU002 | **Use Case Version** | 2.0 |
| **Use Case Name** | Check Present Rate by Learned Course | | |
| **Author** | Nguyen Thanh Binh | | |
| **Date** | 23/09/2013 | **Priority** | Normal |
| **Actor:** Student.  **Summary:**   * Student uses this case to search learned course.   **Goal:**   * Allow student views learned course info. The search condition is semester.   **Triggers:**   * On list learned courses page, student choose search condition. System will show list search in list course table at current page. * On list search page, student choose the course. System will show information detail about that course.   **Preconditions:**   * User must logged in the system with the role is Student.   **Post Conditions:**   * **Success**: The search course will be found. System will show list search in lists course page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | At lists course page, student choose search condition. | System will show the search condition include:  Semester: drop down list | | 2 | After chose search condition, student view list learned course will be show on current page. | System will show list search of courses that student searched by condition in List Course table.  List Courses table includes 5 column: No (number), Course Name, Semester, Time, Present Rate. | | 3 | Ai list course table, student choose the course they want to view and click on that course name. | System will show information about that course in current page.  Information course includes: Roll call, Course Name, Semester, Time, Student Name & Code, Present, Present Rate and Detail (about exactly day present or absent) |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Check Present Rate  **Business Rules:**   * The learned courses will be search by semester. * Student can use search course to view their course easily. | | | |

##### <Student>Check Present Rate by Learning Course



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| --- | --- | --- | --- |
| **USE CASE – STU003** | | | |
| **Use Case No.** | STU003 | **Use Case Version** | 2.0 |
| **Use Case Name** | Check Present Rate by Learning Course | | |
| **Author** | Nguyen Thanh Binh | | |
| **Date** | 23/09/2013 | **Priority** | Normal |
| **Actor:** Student.  **Summary:**   * Student uses this case to search learning course.   **Goal:**   * Allow student views learning course info.   **Triggers:**   * On list learning courses page student choose the course. System will show information detail about that course.   **Preconditions:**   * User must logged in the system with the role is Student.   **Post Conditions:**   * **Success**: The search course will be found. System will show list search in lists course page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Student choose view Learning Course page. | System will show list learning courses. List Courses table includes 5 column: No (number), Course Name, Semester, Time, Present Rate. | | 2 | Ai list course table, student choose the course they want to view and click on that course name. | System will show information about that course in current page.  Information course includes: Roll call, Course Name, Semester, Time, Student Name & Code, Present, Present Rate and Detail (about exactly day present or absent) |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Check Present Rate  **Business Rules:**   * Student can use search course to view their course easily. | | | |

#### <Guest>Overview Use Case



Figure 42: <Guest> Overview Use Case

##### <Guest> Login

Use Case Diagram



Figure 43: <Guest> Login

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – GU001** | | | |
| **Use Case No.** | GU001 | **Use Case Version** | 2.0 |
| **Use Case Name** | Login | | |
| **Author** | Pham Huy Hoang | | |
| **Date** | 19/09/2013 | **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 go to login page. | System show a login form, includes:   * Username: textbox (min length: 5, max length: 30, required). * Password: textbox (password box, min length:5, max length: 30, required). * Login: button. | | 1 | Guess enter username and password into textboxs.  Press “Log In” button. | Guest is logged into system, authorized with corresponding role. Redirect to corresponding page..  [Exception 1,2] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | No input in “Username” or “Password” textboxs | Show error message: “Please enter username/password” below Username/Password textbox. | | 2 | Username/Password not in range [5,30] | Show error message: “Username/Password must be from 5 to 30 characters” textbox. | | 3 | Input invalid “Username” and “Password” | Show error message: “Invalid username or password”. |   **Relationships:** N/A  **Business Rules:**   * Each student, instructor, staff, admin has an account. * Only active account can log in. * Only instructor’s account can log in into mobile app. | | | |

Table 35: <Guest> Login

#### <Authorized User> Overview Use case

##### < Authorized User> Overview Use Case



Figure 44: < Authorized User> Overview Use Case

##### < Authorized User> Change Password



Figure 45: < Authorized User> Change Password

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UU001** | | | |
| **Use Case No.** | UU001 | **Use Case Version** | 2.0 |
| **Use Case Name** | Change Password | | |
| **Author** | Nguyen Thanh Binh | | |
| **Date** | 23/09/2013 | **Priority** | Normal |
| **Actor:** User (Instructor, Staff, Student, Admin).  **Summary:**   * User users this case to change their password.   **Goal:**   * Allow users can change their password.   **Triggers:**   * User use this use case to help improve their account security. * User login their account, click “Change Password” link. Go to “Change Password” page.   **Preconditions:**   * User must logged in the system with the role is User (Staff, Instructor, Student, Admin).   **Post Conditions:**   * **Success**: The password be changed. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User selects the “Change Password” command in the top-right column of Home page. | System will show “Change Password” page includes:   * Username – Text box * Current Password – Text box * New Password – Text box * Confirm New Password – Text box * Submit – Button * Reset - Button | | 2 | - User enters the following information (Username, Current Password, New password, Confirm new password).  - Click “Submit” button to send request. | * System changes the user’s password. * System automatically re-authenticates the user with the new credentials. * System will show “Your password was changed successfully!” |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | System verifies that the Username and Current Password entries are correct and correspond to a current user. | System will show “Wrong username/ password” and reset all. | | 2 | New password same current password | System will show “New password was used! Please choose new password” and reset all. | | 3 | New password and confirm new password does not match. | System will show “Password does not match” and reset all. |   **Relationships:**  **Business Rules: N/A** | | | |

Table 36: < Authorized User> Change Password

##### < Authorized User>Logout



Figure 46: < Authorized User> Logout

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| --- | --- | --- | --- |
| **USE CASE – UU002** | | | |
| **Use Case No.** | UU002 | **Use Case Version** | 2.0 |
| **Use Case Name** | Change Password | | |
| **Author** | Nguyen Thanh Binh | | |
| **Date** | 23/09/2013 | **Priority** | Normal |
| **Actor:** User (Instructor, Staff, Student, Admin).  **Summary:**   * User use this use case to logout system.   **Goal:**   * The user selects the option to log off of the HCPT website and is then redirected back to the Login page.   **Triggers:**   * The use case starts when the user selects the option to logout. * The user selects the option to logout. * The system informs the user of logging out. * The user confirms logging out. * The system redirects user back to the Login page.   **Preconditions:**   * User must logged in the system with the role is User (Staff, Instructor, Student, Admin).   **Post Conditions:**   * **Success**: User logout system and redirect to login page. * **Fail:** System will transfer to error page or still in current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | The user selects log out. | The system will show a pop-up: Do you really want to logout”   * Yes: button * No: button | | 2 | User select “Yes”.  [Alternative 1] | The system will clear user session and the user is logged out |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User selects No. | User stay at current page. |   **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:** N/A | | | |

Table 37: <User> Logout

## 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 47: ERD - Conceptual Diagram