# Software Requirement Specification

## User Requirement Specification

### Guest requirement

Guest can only log in and reset password. After logging in, Guest will become a member of the system that belongs to one of following kinds of member:

* Admin
* Staff
* Head teacher
* Teacher has one or both of two roles: subject teacher as default and principal teacher as optional.
* Student.
* Student’s parent.

### Administrator requirement

Admin is the person who manages the system. Admin is super user who can use the following functions:

* Manage account.
* Mange student.
* Manage teacher.
* Configure for new school year.
* Assign teaching.
* Change account status.

### Staff requirement

Staff is the person who imports and manages schedule, manages others information. Staff can use these functions:

* Manage schedule
* Manage announcement

### Head teacher requirement

Head teacher is the leaders of school. Head teacher can:

* View teacher information
* View class information
* View student information
* View statistic and report regarding study result of student.
* View schedule of all class and teacher
* View announcement.

### Subject teacher requirement

Subject teacher is a person who is responsible for student’s grade. He/she can use these functions:

* Update grade
* View own schedule
* View announcement.

### Principal teacher requirement

Subject teacher is the person who manages students in their responsible class. Principal teacher can use these functions:

* Input day off.
* Evaluate student’s behaviour (conduct).
* View announcement.
* Choose retake subject for students in the class he/she manage.
* View and approve absence request from student’s parent.
* View statistic and report about the class he/she manages.

### Student requirement

Student can use following functions:

* View own schedule.
* View study result.
* View day off.
* View announcement.
* View individual profile

### Student’s parent requirement

Student’s parents can use student’s function and use one more function:

* Send absence request form.
* Give comment

## System Requirement Specification

### External Interface Requirement

#### User Interface

* General requirement for graphics user interface of website is the GUI should be simple, clear, intuitive, and reminiscent.
* Some design principle will be taken into consideration:
* UI for business web applications - Janko Jovanovic [Ref: Appendix 1]
* Ten principles of effective web design – Vitaly Friedman [Ref: Appendix 2]

#### Hardware Interface

* N/A

#### Software Interface

* Chromes (version 41.0.2272.118), Firefox (version 37.0.1) with resolution (1024 x 768) or bigger and must support JavaScript and HTML5.

#### Communication Protocol

* Using HTTP/HTTPS and SMTP protocol.

### System Overview Use Case

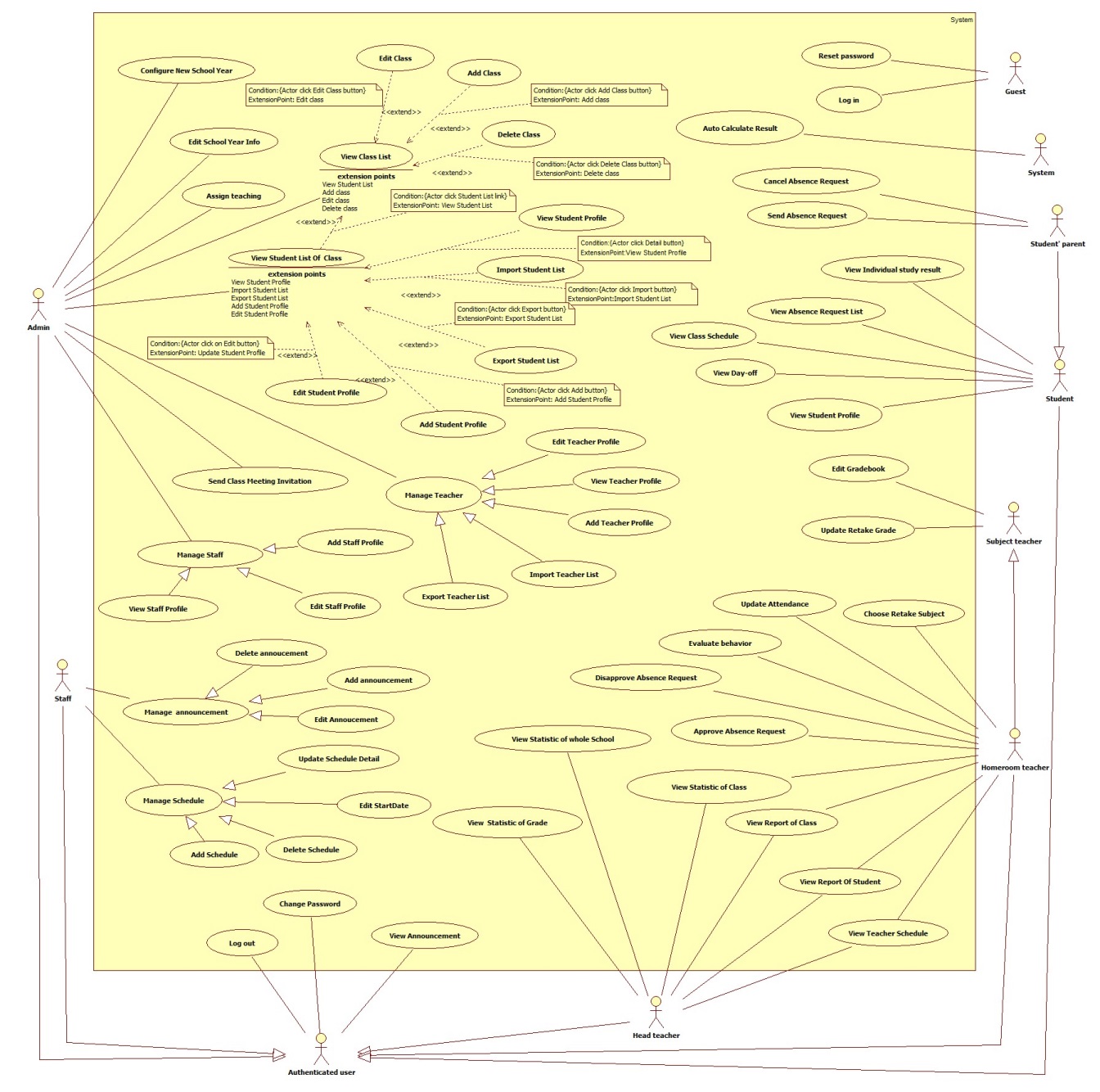


Figure 2: Overview Use Case

### List of Use Case

#### <Guest>Overview Use Case

Please refer full document in CD.

#### <Admin>Overview Use Case

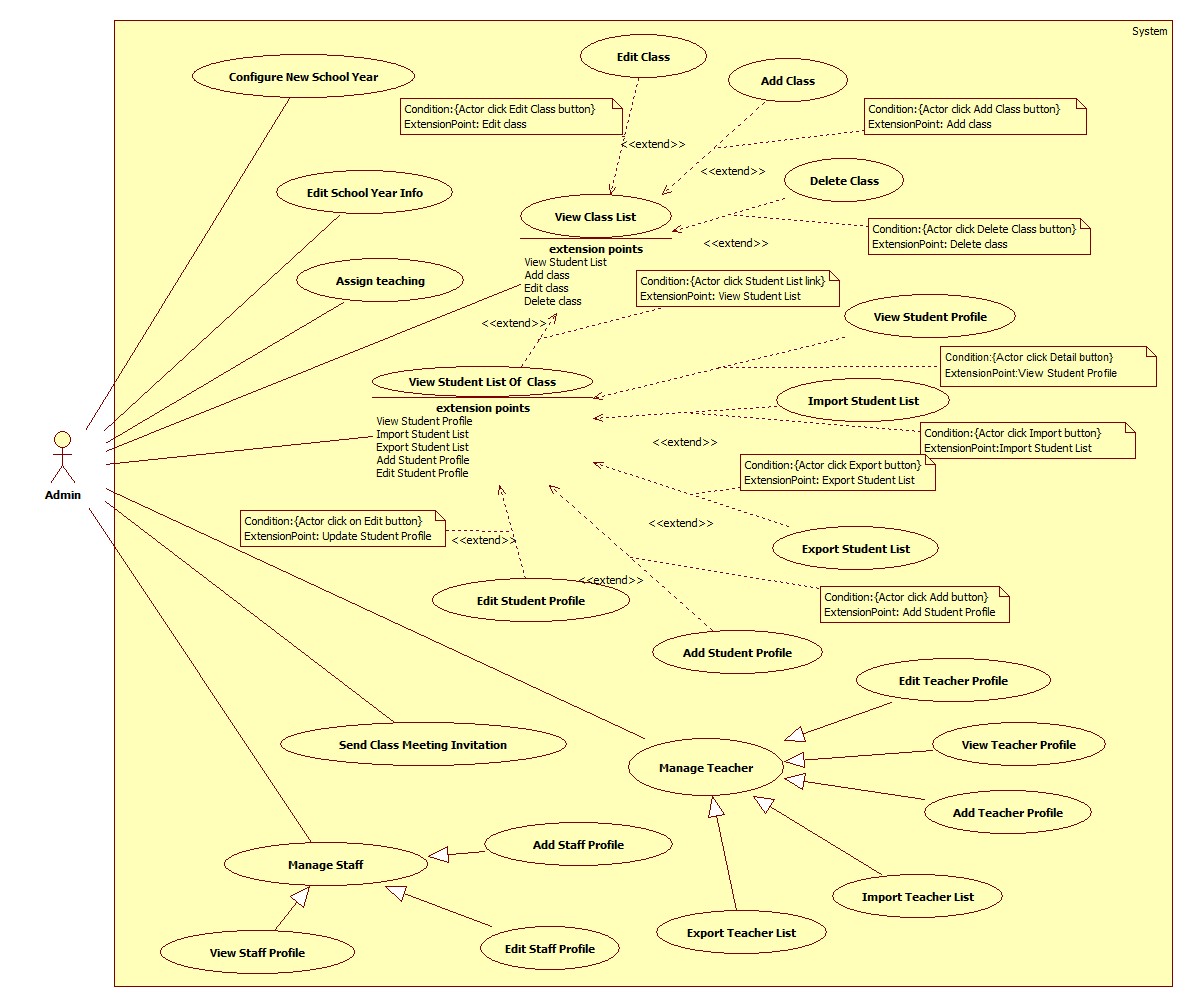


Figure 3: Admin Overview Use Case

##### <Admin>Configure New School Year

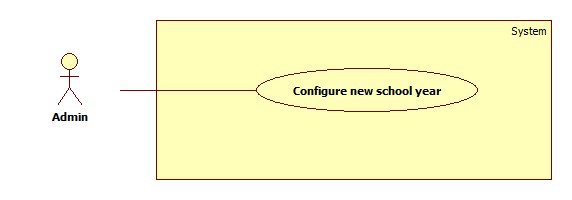


Figure 4: <Admin> Configure New School Year

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UC003** | | | |
| **Use Case No.** | UC003 | **Use Case Version** | 2.0 |
| **Use Case Name** | Configure New School Year | | |
| **Author** | Le Tai Nhat Minh | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to add new school year and then system will be configuration a new school year.   **Goal:**   * Admin can add new school year then save data into database successfully.   **Triggers:**   * Admin clicks “Cấu hình năm học mới” link on “Hệ thống” menu of navigation. * Admin clicks “Thêm năm học” button on “Danh sách năm học” page.   **Preconditions:** Log in to the system with admin roles.  **Post Conditions:**  **Success:** All data were saved successfully and show success message.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Teacher clicks “Cấu hình năm học mới” link | System display new page contains:  A table with 7 column:   * “STT”: text * “Năm học”: text * “Ngày bắt đầu HKI”: text * “Ngày kết thúc HKI”: text * “Ngày bắt đầu HKII”: text * “Ngày kết thúc HKII”: text * “Sửa”: button   “Thêm năm học”: button. | | 2 | Admin click “Thêm năm học” button. | System display “Thêm mới năm học” popup which contains:   * “Ghi chú”: text * “Tên năm học”: text, required * “Ngày bắt đầu HKI”: datepicker, required. * “Ngày kết thúc HKI”: datepicker, required. * “Ngày bắt đầu HKII”: datepicker, required. * “Ngày kết thúc HKII”: datepicker, required. * “Thêm”: button * “Đóng”: button | | 3 | Teacher input data and click “Thêm” button.  [Alternative 1] | System display “Đã lưu” message.  [Exception 1,2,3,4,5,6,7,8,9] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin clicks “Hủy” button | System closes “Thêm năm học” popup and show “Danh sách năm học” page which have no change. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | School year name is duplicate | System shows message “Tên lớp đã tồn tại”. | | 2 | Begin date of 1st semester of current school year is not later than the end date of 2nd semester of school year before. | System shows message “Ngày bắt HKI không hợp lệ”. | | 3 | Begin date of 1st semester of current school year is later 30 date than the time when admin add new school year. | System shows message “Ngày bắt đầu HKI không hợp lệ”. | | 4 | In current school year, end date of 1st semester is earlier than start date of 1st semester. | System shows message “Ngày kết thúc HKI không hợp lệ”. | | 5 | In current school year, total weeks form start date to end date of 1st semester is not more than 16 weeks. | System shows message “Thời gian của HKI tối thiểu là 16 tuần”. | | 6 | In current school year, start date of 2nd semester is earlier than end date of 1st semester. | System shows message “Ngày bắt đầu HKII không hợp lệ”. | | 7 | In current school year, end date of 2nd semester is earlier than start date of 1st semester. | System shows message “Ngày kết thúc HKII không hợp lệ”. | | 8 | In current school year, total weeks form start date to end date of 2nd semester is not more than 16 weeks. | System shows message “Thời gian của HKII tối thiểu là 16 tuần”. | | 9 | Cannot save data in to database | System shows message ““Đã có lỗi xảy ra trong hệ thống. Xin thử lại!””. |   **Relationships:** N/A  **Business Rules:**   * List is sort by descending based on school year name. * When admin add new school year successfully, all classes in grade 10, 11 in the old school year will be change to classes in grade 11, 12 at the current year keeping the old class type and homeroom teacher, new course will be create for each new class. Old data of these will not be deleted. * The role of all homeroom teachers of classes in grade 12 in old school year will be changed to Subject Teacher. * All students who of class 10, 11 in school years before and had status “Được lên lớp” will transfer to new class 11, 12. * For each student the system will create course result for every subject which he/she will study in the new school year. * All students with status “Được lên lớp” in grade 10, 11 in the last school year, their status will be changed to “Đang học”. * For each student with status “Đã ra trường” in grade 12 in the last school year, their account will be deactivated. Their parent account also is deactivated if they do not have any children who have active account. | | | |

Table 11: <Admin> Configure New School Year

##### <Admin>Edit School Year Info

Please refer full document in CD.

##### <Admin>Add Class

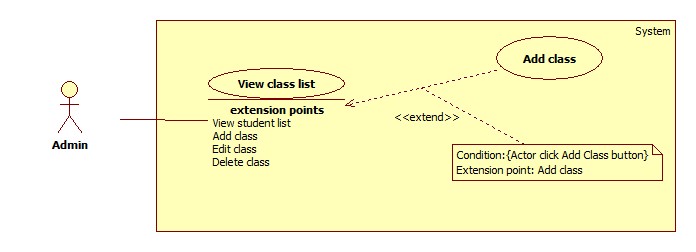


Figure 5: <Admin> Add Class

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC005** | | | |
| **Use Case No.** | UC005 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Class | | |
| **Author** | Le Tai Nhat Minh | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This use-case allows admin to add class in to class list.   **Goal:**   * Admin can add new class and save data into database successfully   **Triggers:**   * Admin click “Thêm lớp” button on “Danh sách lớp” page.   **Preconditions:**   * User login to system with admin role.   **Post Conditions:**  **Success:** All data were saved successfully and show success message.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | **Step** | **Actor Action** | **System Response** | | 1 | Admin click “Thêm lớp” button on “Danh sách lớp”. | System show the pop up “Thêm mới lớp học” which contains information of:   * “Khối”: Dropdown list contain all group of class of high school, required. * “Tên lớp”: A text box which have permission for staff input, min length 2, max length 10, required. * “GVCN”: Dropdown list contain all of teacher of high school, required. * “Năm học”: A textbox, disable, required. * “Chuyên ban”: Dropdown list contain all of type of class, required. * “Tạo mới lớp học” button for staffs confirm add new class. * “Đóng” button for staff cancels process. | | 2 | Staff input all of data and click “Thêm” button.  [Alternative 1] | System closes “Thêm mới lớp học” popup and show “Danh sách lớp” page which have new data in list and then, system show a successful message.  [Exception 1,2,3,4,5] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | **No** | **Actor Action** | **System Response** | | 1 | Staff click “Hủy” button. | System closes “Thêm mới lớp học” popup and show “Danh sách lớp” page which have no change. |     **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Name of class is contains special prefix character like 10, 11 and 12. | System shows error message “Tên lớp không hợp lệ”. | | 2 | Name of class had already existed. | System shows error message “Tên lớp đã tồn tại”. | | 3 | Name of class over range. | System shows error message “Tên lớp quá dài”. | | 4 | Name of class is empty. | System shows error message “Tên lớp không được để trống”. | | 5 | Cannot save data into database | System shows message “Đã có lỗi xảy ra trong hệ thống. Xin thử lại!”. |   **Relationships:** Extend for View Class List (Add Class)  **Business Rules:**   * There are 3 grades: 10, 11, 12, the lowest grade is 10, the highest grade is 12. * The class which have added by admin must be the only one, class name is not duplicate with anyone else in the same grade in current school yearThe homeroom teacher of new class is the teacher who had roles is homeroom teacher and he/she haven’t manages any other class at current school year, that means a homeroom teacher can manage one and only one class. * While the new class had been create, new course will be created. * The teacher, who was chose for new class, will be update status to homeroom teacher. | | | |

Table 12: <Admin>Add Class

##### <Admin>Edit Class

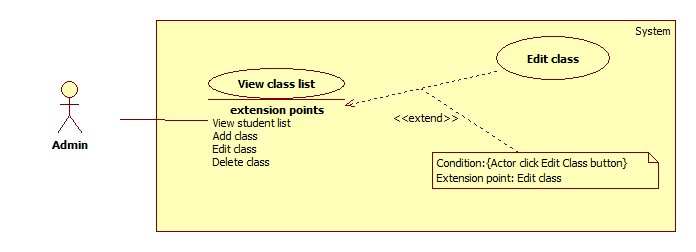


Figure 6: <Admin> Edit Class

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC006** | | | |
| **Use Case No.** | UC006 | **Use Case Version** | 2.0 |
| **Use Case Name** | Edit Class | | |
| **Author** | Le Tai Nhat Minh | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This use-case allows admin to update class information.   **Goal:**   * Admin can update class information and save data into database successfully   **Triggers:**   * Admin click “Sửa” button on any row on “Danh sách lớp” page.   **Preconditions**:   * User login to system with admin role.   **Post Conditions:**  **Success**: All data were saved successfully and show success message.  **Fail**: System shows error message.    **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Admin click “Sửa” button on any row on “Danh sách lớp” page. | System show the pop up “Cập nhật thông tin lớp học” which contains information of:   * “Khối”: Dropdown list, disabled. * “Tên lớp”: A text box, min length 2, max length 10, required. * “GVCN”: Dropdown list contain all of teacher of high school, required. * “Năm học”: textbox, disable. * “Chuyên ban”: Dropdown list, disabled. * “Cập nhật” button * “Đóng” button | | 2 | Staff input all of data and click “Cập nhật” button.  [Alternative 1] | System closes “Cập nhật thông tin lớp học” popup and show “Danh sách lớp” page which have modified data in list and then, system show a successful message.  [Exception 1,2,3,4,5] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Staff click “Hủy” button. | System closes “Cập nhật thông tin lớp học” popup and show “Danh sách lớp” page which have no change. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Name of class is contains special prefix character like 10, 11 and 12. | System shows error message “Tên lớp không hợp lệ”. | | 2 | Name of class had already existed. | System shows error message “Tên lớp đã tồn tại”. | | 3 | Name of class over range. | System shows error message “Tên lớp quá dài”. | | 4 | Name of class had only one character. | System shows error message “Tên lớp quá ngắn”. | | 5 | Cannot save data into database | System shows message “Đã có lỗi xảy ra trong hệ thống. Xin thử lại!” |   **Relationships**: Extend for View Class List (Edit Class)  **Business Rules:**   * Admin can only changes name of class or homeroom teacher of class. * The homeroom teacher of class is the teacher who had roles is homeroom teacher and he/she haven’t manages any other class at current school year, that means a homeroom teacher can manage one and only one class. * The teacher, who was chosen for new class, will be update status to homeroom teacher. | | | |

Table 13: <Admin>Edit Class

##### <Admin>Delete Class

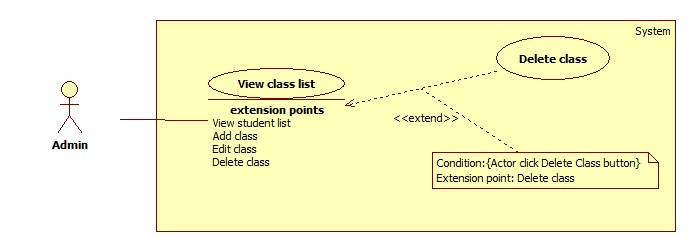


Figure 7: <Admin>Delete Class

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC007** | | | |
| **Use Case No.** | UC007 | **Use Case Version** | 2.0 |
| **Use Case Name** | Delete Class | | |
| **Author** | Le Tai Nhat Minh | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This use-case allows admin to delete class information.   **Goal:**   * Admin can delete class information.   **Triggers:**   * Admin click “Xóa” button on any row on “Danh sách lớp” page.   **Preconditions:**   * User login to system with admin role.   **Post Conditions:**  **Success:** All data were deleted successfully and show success message.  **Fail:** System shows error message.    **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Admin clicks “Xóa” button on any row on “Danh sách lớp” page. | System show the pop up “Thêm lớp” which contains:  “Bạn có chắc muốn xóa lớp (\*) chứ?”  + (\*) is a class name: label.  “Xóa” button for admin confirm add new class.  “Đóng” button for admin cancels process. | | 2 | Admin input all of data and click “Xóa” button.  [Alternative 1] | System closes “Xóa lớp học” popup and show “Danh sách lớp” page which don’t have deleted data in list and then, system show a successful message.  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Staff click “Hủy” button. | System closes “Xóa lớp học” popup and show “Danh sách lớp” page which have no change. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot delete data from database | System shows message ““Đã có lỗi xảy ra trong hệ thống. Xin thử lại!””. |   **Relationships:** Extend for View Class List (Delete Class)  **Business Rules:**   * The class which had chosen to delete must have no student in it. | | | |

Table 14: <Admin>Delete Class

##### <Admin>Add Student Profile

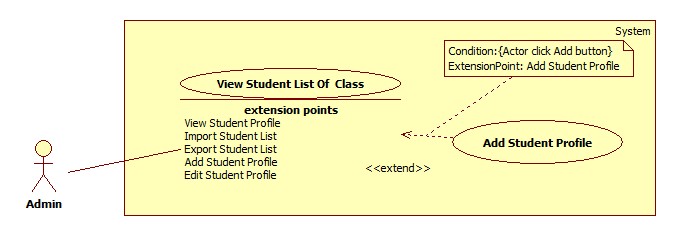


Figure 8: <Admin>Add Student Profile

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC008** | | | |
| **Use Case No.** | UC008 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Student Profile | | |
| **Author** | VÕ VĂN | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Admin   **Summary:**   * Allow Admin to add student profile   **Goal:**   * Admin can add student profile successfully   **Triggers:**   * Admin click “Thêm học sinh” button on “Danh sách học sinh” page   **Preconditions:**   * Admin must login into the system with role “Admin”   **Post Conditions:**  **Success:** Student profile will be added to database then show success message  **Fail:** Show error message  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | On “Danh sách học sinh” page, Admin click “Thêm học sinh” button  [Alternative 1, 2] | Student profile view detail pop-up panel float on the screen, first tab “NỘI DUNG HỌC SINH” will be shown and display a form contain as following:  “Họ & Tên”: textbox, length 5 – 50, required.  “Ngày nhập học”: datepicker  “Email Học Sinh”: textbox, lengh 6 – 20, required.  “Giới tính”:   * “Nam” : radioButton * “Nữ” : radioButton   “Tôn giáo”: drop-down list  “Điện thoại”: textbox, lengh 9 – 11.  “Ngày Sinh”: datepicker  “Tôn giáo”: drop-down list  “Tài khoản phụ huynh (Nếu có)”: textbox, lengh 5 – 20.  “Email phụ huynh”: textbox, lengh 6 – 20, required.  “Địa chỉ”: textbox, lengh 20 – 200, required.  “Đóng”: button | | 2 | Fill in input then Click “Tạo học sinh mới” button | Student profile is added to database  Show success message  Student profile adding pop-up panel float out of the screen  [Exception  1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin click tab “THÔNG TIN GIA ĐÌNH”  [Alternative 2] | Show family detail of student display a form contain as following:  “Tên cha”: textbox, lengh 5 – 20.  “Năm sinh cha”: drop-down list  “Nghề nghiệp cha”: textbox, lengh 5 – 20.  “Tên mẹ”: textbox, lengh 5 – 20.  “Năm sinh mẹ”: drop-down list.  “Nghề nghiệp mẹ”: textbox, lengh 5 – 20.  “Tên người đỡ đầu”: textbox, lengh 5 – 20.  “Năm sinh người đỡ đầu”: drop-down list.  “Nghề nghiệp người đỡ đầu”: textbox, lengh 5 – 20.  “Đóng”: button  [Exception 1] | | 2 | Admin click “Đóng” button | Student profile adding pop-up panel float out of the screen |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin provide invalid email input “Email học sinh”, “Email phụ huynh” | Show validation message below textbox “ Email không hợp lệ” | | 2 | “Email phụ huynh” input equal “Email học sinh” input | Show validation message below textbox “Email phụ huynh không được trùng với email học sinh” | | 3 | “Điện thoại” input contain less than 9 numbers or more than 11 | Show validation message below textbox “Số điện thoại phải từ 9 - 11” | | 4 | Admin’s input on “Account Phụ Huynh” is invalid | Show validation message below textbox “Sai Account phụ huynh” | | 5 | Admin’s input on “Email Phụ Huynh” is invalid or not contain in database when “Account Phụ Huynh” nếu có input is filled | Show validation message below textbox “Sai Email phụ huynh” | | 6 | “Họ & Tên”, “Tên mẹ”, “Tên cha”, “Tên người đỡ đầu” input are less than 5 characters and more than 50 characters | Show validation message below textbox “Họ & Tên không được dưới 5 và quá 50 ký tự” | | 7 | “Nghề nghiệp mẹ”, “Nghề nghiệp cha”, “Nghề nghiệp người đỡ đầu”, “Email học sinh”, “Email phụ huynh” are more than 50 characters | Show validation message below textbox “Nội dung không được quá 50 ký tự” | | 8 | “Địa chỉ” input are more than 200 characters | Show validation message below textbox “Dữ liệu không được quá 200 ký tự” | | 9 | Input information cannot be saved in the database | Show validation message below textbox “Có lỗi xãy ra trong hệ thống” | | 10 | “Họ & Tên” field is blank | Show validation message below textbox “Họ & Tên không được để trống” | | 11 | “Email học sinh” field is blank | Show validation message below textbox “Email học sinh không được để trống” | | 12 | “Email phụ huynh” field is blank | Show validation message below textbox “Email phụ huynh không được để trống” | | 13 | “Địa chỉ” field is blank | Show validation message below textbox “Địa chỉ không được để trống” | | 14 | “Ngày nhập học” field is blank | Show validation message below textbox “Ngày nhập học không được để trống” | | 15 | “Ngày sinh” field is blank | Show validation message below textbox “Ngày sinh không được để trống” | | 16 | Can’t access database | Show validation message below textbox “Có lỗi xãy ra trong hệ thống, xin hãy thử lại” |   **Relationships:** extend for View Student List Of Class(Add Student Profile) **Business Rules:**   * Date format is dd/MM/yyyy * “Ngày Sinh” input cannot be larger than now date and lesser than now date 14 years * “Ngày nhập học” input are limited on the semester year range * “ Email Phụ Huynh” cannot be the same as “Email Học Sinh” * When Admin Click “Tạo học sinh mới” button, the system will create an account with role “Học sinh” using the input “Họ & Tên” as username and generate random 8 characters password eg: Nguyễn Văn A will be convert to **nguyenvana** as username, password : PZpt8Jhp. Then the system will send an email to the student based on “Email học sinh” input to inform their information about the account * If parent does not have account before, system will create another account for Student’s Parent with the same method except username will add an extra string line “\_ph”and generate another random 8 characters password eg: nguyenvana\_ph as username, password : xWYefaVY. Then the system will send an email to the student Parent email based on “Email Phụ huynh” input to inform their information about the account * If both “Account Phụ Huynh” and “Email Phụ Huynh” textbox are filled and the filled information contained in database, the new created student will have the same parent who has account as the filled input in “Account Phụ Huynh”. | | | |

Table 15: <Admin>Add Student Profile

##### <Admin>Edit Student Profile

Please refer full document in CD.

##### <Admin>Import Student List

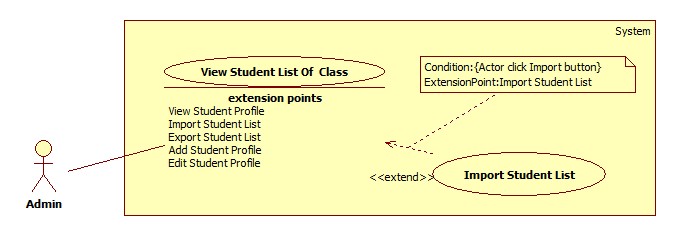


Figure 9: <Admin>Import Student List

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC010** | | | |
| **Use Case No.** | UC010 | **Use Case Version** | 2.0 |
| **Use Case Name** | Import Student List | | |
| **Author** | ThuTTD | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Admin   **Summary:**   * This use case allows Admin to import a list of student of a class from excel file to system.   **Goal:**   * Admin can add list of student and create accounts for them.   **Triggers:**   * Admin clicks “Nhập excel” button on “Danh sách học sinh” page.   **Preconditions:**   * User has login as Admin role.   **Post Conditions:**  **Success:** Create list of account of student successfully and redirect to list student page of the class which students are imported. In addition, send an email to each account in order to notify about user name and password to log into the system.  **Fail:** Show error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Admin clicks “Nhập excel” button. | System display import page contains:  “Chọn file”: choose file button  “Tải file mẫu”: button  “Nhập”: button | | 2 | Admin chooses the file and clicks “Nhập excel” button. [Alternative 1] | Read file and show a table on page. Table contains:   * “STT”: text * “Họ tên”: text * “Tên tài khoản”: text * “Ngày sinh”:text * “Giới tính” : text * “Chi tiết lỗi”: text * Checkbox   [Exception 1, 2, 3,4] | | 3 | Admin checks on checkbox to save students. | Show success pop-up “Đã lưu”  [Exception 5] |   **Alternative Scenario:**  N/A  **Exceptions**:   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin click “Nhập excel” | The format excel is not correct.  Show the error messages “File không đúng định dạng. Xin vui lòng nhập thông tin theo file mẫu và thử lại”. | | 2 | Admin click “Nhập excel” | Imported file is not an excel file.  Show the error message: “File vừa chọn không phải là file excel!” | | 3 | Admin does not choose file and click “Nhập excel” | Show the error message: “Bạn chưa chọn file!” | | 4 | Admin click “Nhập excel” | Imported data is not valid.  Show error table that including error detail of each row. | | 4 | Cannot save data in database | Show error message “Đã có lỗi xảy ra trong hệ thống. Xin thử lại!” |   **Relationships:** Extend for View Student List (Import Student List)  **Business Rules:**   * Excel file should be more than 2003 version and has .xls extension. * Rule to create an account is same with “Add Student Profile” function. * Validate imported data same as “Add student profile” use case. * The system saves data into database if and only if all data was valid. * Format of plan semester excel file should be: | | | |

Table 16: <Admin>Import Student List

##### <Admin>Export Student List

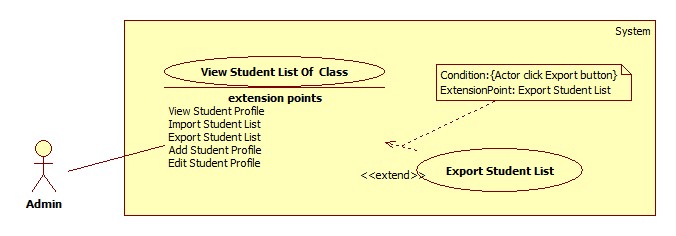


Figure 10: <Admin>Export Student List

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC011** | | | |
| **Use Case No.** | UC011 | **Use Case Version** | 2.0 |
| **Use Case Name** | Export Student List | | |
| **Author** | ThuTTD | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to export list of student of a class to excel file.   **Goal:**   * Admin can export list of student to excel file with formatted font and comprehensive presentation.   **Triggers:**   * Admin clicks “Xuất excel” button at “Danh sách học sinh” page of one class.   **Preconditions:**   * User log in as admin.   **Post Conditions:**  **Success:** Excel file was created and downloaded from browser automatically.  **Fail:** Show error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Admin clicks “Xuất excel” button at “Danh sách học sinh” page. | System creates excel file and sends it to browser.  [Exception 1] |   **Alternative Scenario:**N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin clicks “Xuất excel” button at “Danh sách học sinh” page. | Error occurs in the system.  System shows message “Đã có lỗi xảy ra trong hệ thống, xin thử lại!” |   **Relationships:** Extend for View Student List (Export Student List)  **Business Rules:**  Data in file is a list of all students of one class who have active account.  Default file name is “Danh sách học sinh lớp [class name]”  Default file type is “.xls”  Format of excel file should be: | | | |

Table 17: <Admin>Export Student List

##### <Admin>Add Teacher Profile

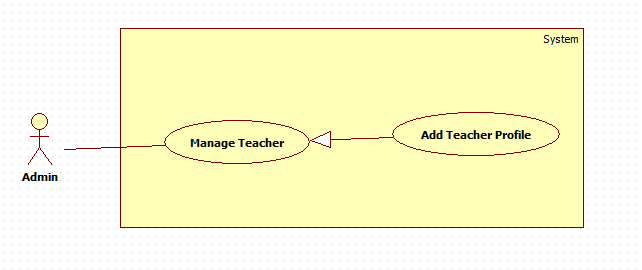


Figure 11: <Admin>Add Teacher Profile

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UC012** | | | |
| **Use Case No.** | UC012 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Teacher Profile | | |
| **Author** | Nguyễn Văn Ngọc Trường | | |
| **Date** | 02/06/2015 | **Priority** | High |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to add new teacher.   **Goal:**   * Admin can add new teacher and save data into database successfully.   **Triggers:**   * Admin clicks “Thêm mới” button on “Hồ sơ giáo viên” page.   **Preconditions:**   * People must have an account to log in the system with roles admin account.   **Post Conditions:**  **Success:** All data will be saving successfully and show success message.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Admin clicks “Thêm mới” button. | System display new pop up contains:  “Họ và tên”: textbox, required, min length 5, max length 50  “Ngày sinh”: date picker, required dd/MM/yyyy format.  “Giới tính”: required  +Nam: radio button  +Nữ: radio button  “Môn dạy”: drop down list, required  “Địa chỉ”: text box, required  “CMND”: text box, required, min length 9, max length 9  “Nơi cấp”: textbox, required, max length 250  “Ngày cấp”: date picker, required dd/MM/yyyy format.  “Dân tộc”: drop down list, required  “Tôn giáo”: drop down list, required  “Email”: text box, required email format, max length 50  “Điện thoại”: text box , min length 9, max length 11  “Thêm”: button  “Đóng”: button | | 2 | Admin click “Lưu” button to confirm adding.  [Alternative 1] | System will display a pop-up message “Đã lưu” then close popup page, the new inputted teacher information should be added to database and displayed on the table of “Hồ sơ giáo viên” page.At the same time, the system will send a username and password by email which was registered in system.  [Exception 1,2,3,4,5,6,7,8,9,10,11,12,13,14] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin click “Đóng” button to cancel adding. | System close “Thêm mới giáo viên” popup page and show again “Hồ sơ giáo viên” page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | “Họ và tên” is blank. | System shows message “\*Họ và tên không được để trống”. | | 2 | “Email” is blank. | System shows message “\*Email không được để trống”. | | 3 | “Địa chỉ” is blank. | System shows message “\*Địa chỉ không được để trống”. | | 4 | “CMND” is bank. | System shows message “\*Số chứng minh nhân dân không được để trống”. | | 5 | “Nơi cấp” is blank. | System shows message “\*Nơi cấp không được để trống”. | | 6 | Admin inputs length of “Họ và tên” over range. | System shows message “\*Họ và tên từ 5 đến 50 ký tự”. | | 7 | Admin inputs length of “Email” over range. | System shows message “\*Email không quá 50 ký tự”. | | 8 | Admin inputs length of “Địa chỉ” over range. | System shows message “\*Địa chỉ không được quá 250 kí tự”. | | 9 | Admin inputs length of “CMND” over range. | System shows message “\*Số chứng minh nhân dân có 9 ký tự”. | | 10 | Admin inputs length of “Nơi cấp” over range. | System shows message “\*Nơi cấp không quá 250 ký tự”. | | 11 | Admin inputs which is wrong format of email “<input>@<input>.<input>”. | System shows message “\*Email sai định dạng”. | | 12 | Admin inputs length of “Điện thoại” over range. | System shows message “\*Số điện thoại là chuỗi số từ 9 đến 11”. | | 13 | Admin inputs characters in “Điện thoại”. | System shows message “\*Số điện thoại là chuỗi số từ 9 đến 11”. | | 14 | Cannot save data into database | System shows message “Đã có lỗi xảy ra trong hệ thống. Xin thử lại!”. |   **Relationships:** N/A  **Business Rules:**   * When admin add new teacher into system, each teacher is only responsible for one subject. * Age number of teacher is from 22 year old. * Teacher’s date of birth must be smaller than teacher’s date of issue. * Date of issue must be from 14 years old (it calculated from date of birth). * System auto creates new username with first name and first letters of last name and middle name. * System auto creates random password with eight characters (include letters and numbers). * Each row is displayed one teacher’s information and this information’s error displayed next to this row. | | | |

Table 18: <Admin>Add teacher Profile

##### <Admin>Edit Teacher Profile

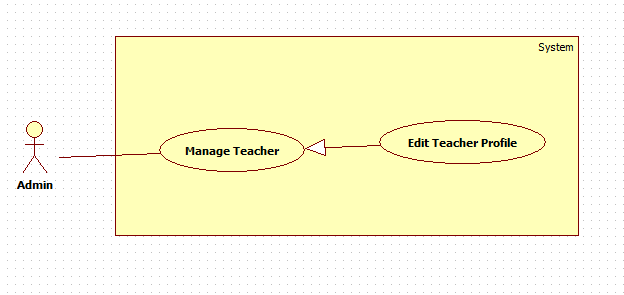


Figure 12: <Admin>Edit Teacher Profile

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UC013** | | | |
| **Use Case No.** | UC013 | **Use Case Version** | 2.0 |
| **Use Case Name** | Edit Teacher Profile | | |
| **Author** | Nguyễn Văn Ngọc Trường | | |
| **Date** | 02/06/2015 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to edit teacher profile   **Goal:**   * Admin can update new profile teacher and save data into database successfully.   **Triggers:**   * Admin clicks “Sửa” button on “Hồ sơ giáo viên” page.   **Preconditions:**   * People must have an account to log in the system with role admin account. * Teacher accounts existed in the system.   **Post Conditions:**  **Success:** All data will be saving successfully and show success message.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Admin click “Sửa” button to confirm update. | System display new pop up contains:  “Họ và tên”: textbox, required, in length 5, max length 50  “Ngày sinh”: date picker, required dd/MM/yyyy format  “Giới tính”: required  + Nam:radio button  + Nữ: radio button  “Môn dạy”: drop down list, required  “Địa chỉ”: text box, required  “CMND”: text box, required, min length 9, max length 9  “Nơi cấp”: text box, required, max length 250  “Ngày cấp”: date picker, required dd/MM/yyyy format  “Dân tộc”: drop down list, required  “Tôn giáo”: drop down list, required  “Email”: text box, required email format, max length 50  “Điện thoại”: text box, min length 9, max length 11  “Lưu”: button  “Đóng”: button | | 2 | Admin inputs data and click “Lưu” button to confirm update.  [Alternative 1] | System will display a pop-up message “Đã lưu” then close popup page, the new inputted teacher information should be added to database and displayed on the table of “Hồ sơ giáo viên” page.  [Exception 1,2,3,4,5,6,7,8,9,10,11,12,13,14] |   Alternative Scenario:   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin click “Đóng” button to cancel update. | System closes “Cập nhật thay đổi” popup page and shows again “Hồ sơ giáo viên” page. |   **Exceptions:** Reference Exception “Add Teacher Profile”  **Relationships:** N/A  **Business Rules:**   * When admin add new teacher into system, each teacher is only responsible for one subject. * Age number of teacher is from 22 year old. * Teacher’s date of birth is smaller than teacher’s date of issue. * Date of issue is from 14 years old (it calculated from date of birth). * Admin does not edit username and password in this page. * Each row is displayed one teacher’s information and this information’s error displayed next to this row. | | | |

Table 19: <Admin>Edit Teacher Profile

##### <Admin>Import Teacher List

Please refer full document in CD.

##### <Admin>Export Teacher List

Please refer full document in CD.

##### <Admin>Add Staff Profile

Please refer full document in CD.

##### <Admin>Edit Staff Profile

Please refer full document in CD.

##### <Admin>Send Class Meeting Invitation

Please refer full document in CD.

##### <Admin>Assign Teaching

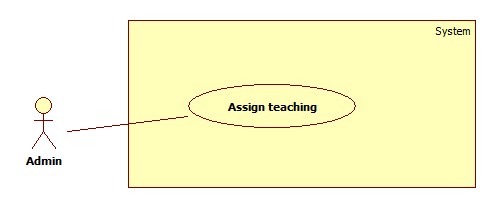


Figure 13: <Admin>Assign Teaching

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC019** | | | |
| **Use Case No.** | UC019 | **Use Case Version** | 2.0 |
| **Use Case Name** | Assign Teaching | | |
| **Author** | ThuTTD | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to assign teacher for each course.   **Goal:**   * Admin can assign teacher successfully.   **Triggers:**   * Admin click “Phân công giảng dạy” on “Giáo viên” menu   **Preconditions:**   * User log in to the system with admin role.   **Post Conditions:**  **Success:** Save data in database and show success message.  **Fail:** Show error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Admin click “Phân công giảng dạy” on “Giáo viên” menu | System shows “Phân công giảng dạy” page , which contains a tree menu of class on the left side.  On the right side:  “Học kỳ 1”: radio button  “Học kỳ 2”: radio button  A 3-column-table on right side which contains:  + “STT”: text  +”Môn học”: text  +”Cách đánh giá”: text  +”Hệ số”: text  +”Giáo viên”: dropdown list  If it is the second semester page, add “Sao chép HK1”: button  “Lưu” button | | 2 | Admin select dropdown list value and click “Lưu”[Alternative 1] | System shows “Đã lưu” message. [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin click on “Sao chép HK1” button | The page of the second semester will load all teacher same as the first semester. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Error occurs in the system. | Show error message “Đã có lỗi xảy ra trong hệ thống, xin vui lòng thử lại!” |   **Relationships:**  **Business Rules:**   * Admin can assign teaching for others class by click on class tree menu. * List of subjects in table depends on class. * In the first time does this function, the system will show the page of first class in grade 10. - And base on real time, there are 3 case: * Case 1: From created new school year date to the end date of 1st semester, the system will show the page of the first semester and teacher can edit on this page. * Case 2: From the date after the end date of the 1st semester to the end date of the 2nd semester, the system will show the page of 1st semester and teacher can edit on this page. * Case 3: From the date after the end date of the 2nd semester to the date create new school year: the system will show the page of 1st semester and teacher cannot edit anything. | | | |

Table 20: <Admin> Assign Teaching

##### <Admin>Change Account Status

Please refer full document in CD.

#### <Staff>Overview Use Case

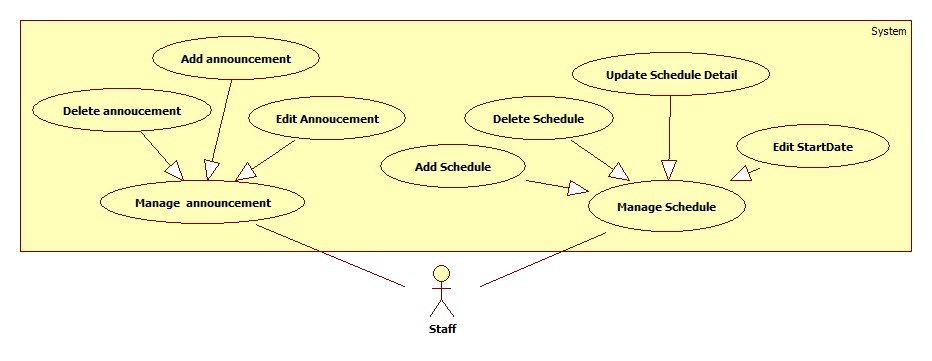


Figure 14: Staff Overview Use Case

##### <Staff>Add announcement



Figure 15: <Staff>Add Announcement

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC021** | | | |
| **Use Case No.** | UC021 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Announcement | | |
| **Author** | VÕ VĂN | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:** Staff  **Summary:**   * Allow Staff to add announcement   **Goal:**   * Staff can add announcement. New announcement is added to database   **Triggers:**   * Staff click “Thêm thông báo” button   **Preconditions:**   * Staff must login into the system with role “Giáo vụ”   **Post Conditions:**  **Success:** New announcement will be added to database then show success message  **Fail:** Show error message  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | From “Danh sách thông báo” page, Staff Click “Thêm thông báo” button  [Alternative 1] | Announcement adding pop-up panel float on the screen and display a form contains:  “Tiêu đề”: textbox (required)  “Thông báo nội bộ”: checkbox  “Nội Dung”: textarea (required)  “Tạo thông báo mới” button  “Thoát”: button  [Exception 4] | | 3 | Fill in input then Staff Click “Tạo thông báo mới” button | Announcement is added to database  Show success message  Announcement adding pop-up panel float out of the screen  [Exception 1, 2,3,4] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Staff click “Đóng” button | Announcement adding pop-up panel float out of the screen |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | “Tiêu đề” field is blank | Show validation message beside textbox “Tiêu đề không được để trống” | | 2 | “Nội dung” field is blank | Show validation message beside textbox “Nội dung không được để trống” | | 3 | “Nội dung” field contain more than 5000 characters | Show validation message beside textbox “Nội dung không được quá 5000 từ” | | 4 | Can’t access database | Show validation message below textbox “Có lỗi xãy ra trong hệ thống, xin hãy thử lại” |   **Relationships:** N/A **Business Rules:**  - When checkbox “Thông báo nội bộ” is checked, student and student’s parent can’t see the added announcement | | | |

Table 21: <Staff>Add Announcement

##### <Staff>Edit annoucement

Please refer full document in CD.

##### <Staff>Delete Announcement

Please refer full document in CD.

##### <Staff>Add Schedule



Figure 16: <Staff>Add Schedule

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UC024** | | | |
| **Use Case No.** | UC024 | **Use Case Version** | 2.0 |
| **Use Case Name** | Add Schedule | | |
| **Author** | Nguyễn Văn Ngọc Trường | | |
| **Date** | 02/06/2015 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows Staff to add new schedule for applying in the future.   **Goal:**   * Staff can add new schedule and save data into database successfully.   **Triggers:**   * Staff clicks “Thêm mới” button on “Thời khóa biểu” page.   **Preconditions:**   * People must have an account to log in the system with role Staff. * Semester school year must be available in the system.   **Post Conditions:**  **Success:** All data will be saving and show message successfully.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Thêm mới” button. | System display new pop up contains:  “Năm học”: textbox, required, disabled  “Học kỳ”: radio button, required  “Ngày bắt đầu”: date picker, required, format dd/MM/yyyy.  “Sao chép TKB hiện tại”: check box, required  “Thêm mới”: button.  “Đóng”: button | | 2 | Staff clicks “Học kỳ” radio button and choose “Ngày bắt đầu” of date picker. | System will check “Ngày bắt đầu” and the system should be not disabled “Thêm lịch mới” button.  [Exception 1,2] | | 3 | Staff clicks check or uncheck “Sao chép TKB hiện tại“check box and clicks “Thêm mới”.  [Alternative 1] | System will save data which Staff inputted, system close “Thêm mới thời khóa biểu” popup page and show again “Thời khóa biểu” page.  [Exception 3] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | **No** | **Actor Action** | **System Response** | | 1 | Staff clicks “Đóng” button to cancel adding. | System close “Thêm mới thời khóa biểu” popup page and show again “Thời khóa biểu” page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Staff chooses time that is smaller than schedule in the present. | System shows message “TKB đã qua!”. | | 2 | Staff choice time is not in range of semester in school year. | System shows message “Bạn đã chọn ngày không nằm trong học kỳ!”. | | 3 | Cannot save data into database | System shows message ““Đã có lỗi xảy ra trong hệ thống. Xin thử lại!””. |   **Relationships:** N/A  **Business Rules:**   * In default of “Thêm mới lịch” button is disable. * “Thêm mới lịch” button is not disable when system check successfully for input date picker. * “Thêm mới thời khóa biểu” popup page only show two semesters that had been apply in the present. * Staff can add new schedule in future but Staff cannot add new schedule in the present or in the past. | | | |

Table 22: <Staff> Add Schedule

##### <Staff>Edit Start Date

Please refer full document in CD.

##### <Staff>Delete Schedule

Please refer full document in CD.

##### <Staff>Update Schedule Detail



Figure 17: <Staff> Update Schedule Detail

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UC027** | | | |
| **Use Case No.** | UC027 | **Use Case Version** | 2.0 |
| **Use Case Name** | Update Schedule Detail | | |
| **Author** | Nguyễn Văn Ngọc Trường | | |
| **Date** | 02/06/2015 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows Staff to view and edit detail that will apply in the future.   **Goal:**   * Staff can view detail schedule, edit schedule detail and save data into database successfully.   **Triggers:**   * Staff clicks “Chi tiết” button on “Thời khóa biểu” page.   **Preconditions:**   * People must have an account to log in the system with role Staff. * System had semester in school year which semester is applying in the present. * System had schedule for the school. * Admin assigned teachers for class.   **Post Conditions:**  **Success:** All data show detail schedule, save successfully.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Chi tiết” button. | System display new contains:  “Lớp”: drop down list, required. | | 2 | Staffs choose class in school year. | System display min slot day week of subjects of this class in content above.  Below contain, system show schedule detail of this class by :  A table 5 columns:  + “Thứ ngày”: text  + “Buổi”: text  + “Tiết”: text  + “Tên môn học”: drop down list  + “Giáo viên giảng dạy/ phụ trách”: text  “Kiểm tra TKB”: check box  “Lưu thay đổi”: button | | 3 | Staff selects subject for each slot. | System check subject of this class and should be show teacher for each subject. | | 4 | Staff clicks “Lưu thay đổi” button to save data. | System will save data that Staff inputted.  [Exception 1,2,3] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Staff choices subject that two teacher have same subject but teach at the same slot in a class. | System shows message “Đã trùng giáo viên dạy!” | | 2 | Staff selects number slot of a subject that teaches in a week is smaller than min slot per week of system. | System shows message min slots per week in this class. | | 3 | Cannot save data into database | System shows message ““Đã có lỗi xảy ra trong hệ thống. Xin thử lại!””. |   **Relationships:** N/A  **Business Rules:**   * In default of “Lưu thay đổi” button is disable. * “Lưu thay đổi” button is not disabled when system check successfully for input subjects. * Depending on type of class, number subjects will change for each class. * Number min slot day week depends on type of class and min slot per week was rounded (cell round) to the natural number. * Number slot for each subject depends on min slot per week of system. * Staff can add new schedule in future but Staff cannot add new schedule in the present or in the past. * Staff can edit schedule detail that he/she selected one schedule in the present and future when he/she views schedule detail. * In the process of Staff edits schedule detail, system saves input:   + Case 1: input data for schedule detail in the first time, system creates new schedule detail.  + Case 2: edit data for schedule detail, system updates into database. | | | |

Table 23: <Staff> Update Schedule Detail

#### <Head teacher>Overview Use Case

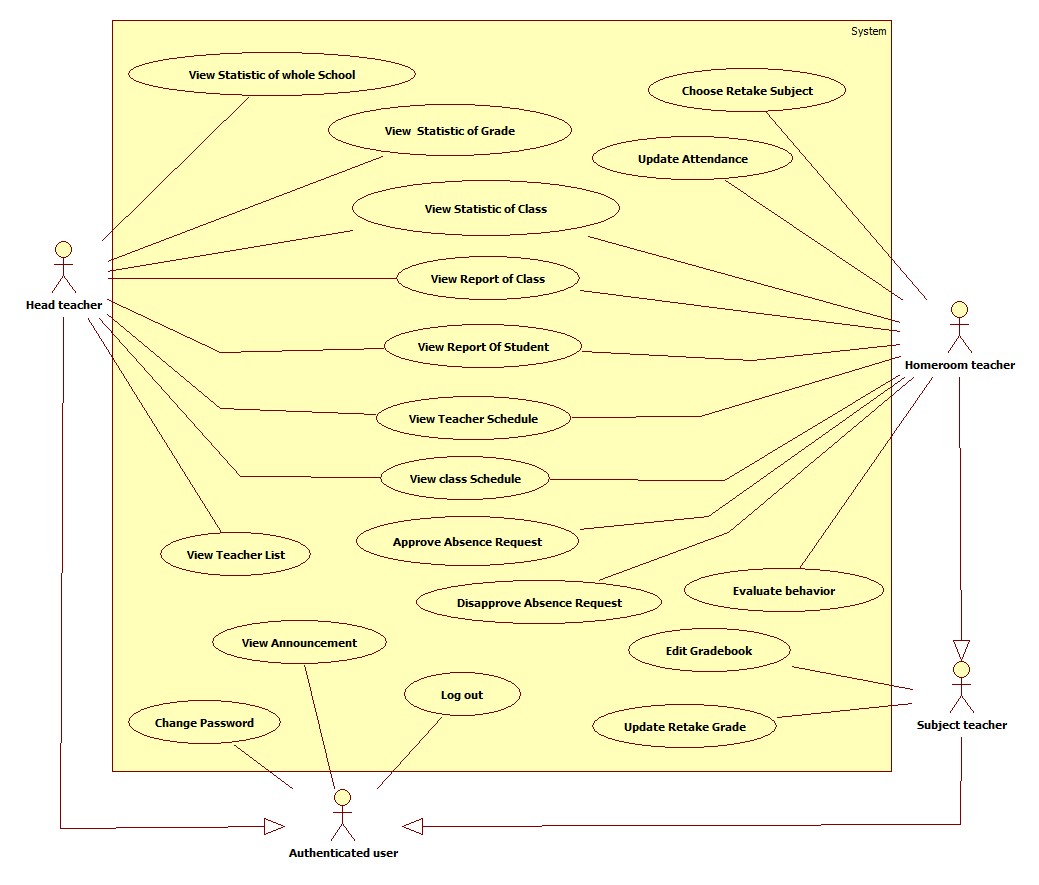


Figure 18: Head Teacher, Homeroom Teacher, Subject Teacher Overview Use Cas

##### <Head teacher>View Statistic of Whole School

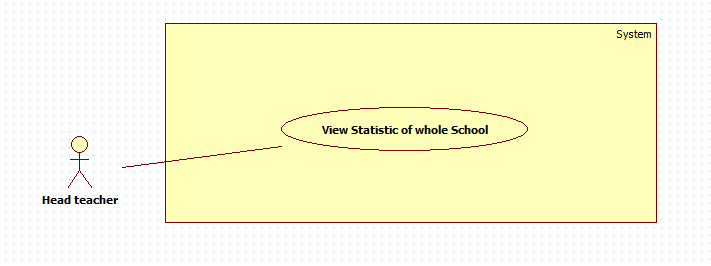


Figure 19: <Head teacher> View Statisctic Of Whole School

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| **USE CASE – UC028** | | | |
| **Use Case No.** | UC028 | **Use Case Version** | 2.0 |
| **Use Case Name** | View Statistic Of Whole School | | |
| **Author** | Nguyễn Văn Ngọc Trường | | |
| **Date** | 02/06/2015 | **Priority** | High |
| **Actor:**   * Head teacher   **Summary:**  This use case allows head teacher to view statistic of whole school that is applying in the school year.  **Goal:**  Head teacher can view overview statistic of whole school.  **Triggers:**  Head teacher click “Trường” link on “Xếp loại học lực” of “Thống kê” menu of navigation.  **Preconditions:**   * User log in the system with head teacher role. * All data have to ready for statistic of whole school.   **Post Conditions:**  **Success:** Data get successfully and system displays data calculated under chart type.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Head teacher clicks”Trường” link. | System displays links on menu content:  “Học kỳ 1”: link  “Học kỳ 2”: link  “Cả Năm”: link | | 2 | Head teacher selects a link to statistic of whole school. | System shows new “Thống kê xếp loại theo trường” page with content:  “Tổng số HS”: text  “Giỏi”: text  “Khá”: text  “TB”: text  “Yếu”: text  “Kém”:text  Pie chart: chart  Column chart: chart  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot get data form database. | System shows message “Đã có lỗi xảy ra! Vui lòng thử lại!”. |   **Relationships:** N/A  **Business Rules:**   * Statistic has three options: result of semester one, result of semester two and end year result. * Each result statistic only can be summarized by learning process of students of class was completed in the current semester. | | | |

Table 24: <Head teacher> View Statistic of Whole School

##### <Head teacher>View Statistic of Grade



Figure 20: <Head teacher>View Statistic Of Grade

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| --- | --- | --- | --- |
| **USE CASE – UC029** | | | |
| **Use Case No.** | UC029 | **Use Case Version** | 2.0 |
| **Use Case Name** | View Statistic Of Grade | | |
| **Author** | Nguyễn Văn Ngọc Trường | | |
| **Date** | 02/06/2015 | **Priority** | High |
| **Actor:**   * Head teacher   **Summary:**   * This use case allows head teacher to view statistic grade in the school year.   **Goal:**   * Head teacher can view overview statistic grade.   **Triggers:**   * Head teacher click “Khối” link on “Xếp loại học lực” of “Thống kê” menu of navigation.   **Preconditions:**   * People must have an account to log in the system with role head teacher. * All data have to ready for statistic of grade.   **Post Conditions:**  **Success:** Data get successfully and system displays data calculated under chart type.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Head teacher clicks”Khối” to view statistic class. | System display popup page content:  “Khối”: drop down list, required  “Học kỳ”: radio button, required  “Thống kê”: button, disabled  “Đóng”: button | | 2 | Head teacher clicks all “Khối”, “Học kỳ” button to select a grade. | System checks all select of head teacher and should be unlock “Thống kê”. | | 3 | Head teacher clicks “Thống kê” button to view statistic of this grade.  [Alternative 1] | System will close popup message, shows new “Thống kê xếp loại theo khối” page with content:  “Tổng số HS”: text  “Giỏi”: text  “Khá”: text  “TB”: text  “Yếu”: text  “Kém”:text  Pie chart: chart  Column chart: chart  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Head teacher click “Đóng” button to cancel view. | System closes popup page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot get data form database. | System shows message “Đã có lỗi xảy ra! Vui lòng thử lại!” |   **Relationships:** N/A  **Business Rules:**   * Statistic has three options: result of semester one, result of semester two and end year result. * Each result statistic only can be summarized by learning process of students of class was completed in the current semester. * At the popup page content, default of “Thống kê” button is disabled, head teacher has to select fields from top to bottom, and data of field above will open data of field below. If all selections are success then “Thống kê” is not disabled. | | | |

Table 25: <Head teacher> View Statistic of Grade

#### <Subject teacher>Overview Use Case

##### <Subject teacher>Edit GradeBook

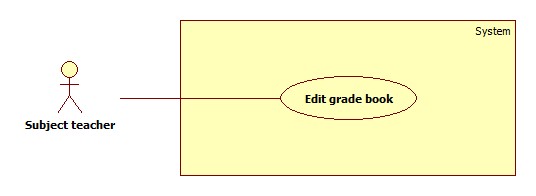
****

Figure 21: <Subject teacher>Edit gradebook

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| --- | --- | --- | --- |
| **USE CASE – UC030** | | | |
| **Use Case No.** | UC030 | **Use Case Version** | 2.0 |
| **Use Case Name** | Edit Gradebook | | |
| **Author** | Le Tai Nhat Minh | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Subject teacher   **Summary:**   * This use case allows subject teacher to edit grade of all students in the class that he/she is responsible for during semester.   **Goal:**   * Subject teacher can edit grade then save data into database successfully.   **Triggers:**   * Subject teacher clicks “Sổ điểm bộ môn” link on “Bộ môn” menu of navigation. * Subject teacher clicks “Sổ điểm bộ môn” link on “Quản lý chi tiết” menu for the class that he/she is responsible.   **Preconditions:**   * Log in to the system with teacher role and is responsible for one class at least in current school year. * The real time when he/she login is in the first or second semester of current school year.   **Post Conditions:**  **Success:** All data were saved successfully and show success message.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Teacher clicks “Sổ điểm bộ môn” link | System display new page contains:   * “Năm học”: text * “Học kỳ 1”: radio button * “Học kỳ 2”: radio button * “Cả năm”: radio button   If “Học kỳ 1” is checked, the page will show:  A table with 19 column:   * “STT”: text * “Họ và tên”: text * “M1”: textbox * “M2”: textbox * “M3”: textbox * “M4”: textbox * “M5”: textbox * “P1”: textbox * “P2”: textbox * “P3”: textbox * “P4”: textbox * “P5”: textbox * “V1”: textbox * “V2”: textbox * “V3”: textbox * “V4”: textbox * “V5”: textbox * “Điểm thi HKI”: textbox * “Điểm trung bình HKI”: text * “Cập nhật”: button   If “Học kỳ 2” is checked, the page will show:  A table with 19 column with 17 column fist like “Học kì 1” table, and 2 column at the end will be:   * “Điểm thi HKII”: text box * “Điểm trung bình HKII”: text * “Cập nhật”: button | | 2 | Teacher input data and click “Cập nhật” | System display “Đã lưu” message.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot save data into database | System shows message ““Đã có lỗi xảy ra trong hệ thống. Xin thử lại!””. |   **Relationships:** N/A  **Business Rules:**   * Base on real time, the system would display the data of respective semester: * Case 1: If a new school year is created but the first semester has not started yet, the system shows data of the first semester without change permission. * Case 2: If it is in the first semester, the system shows data of the first semester with change permission. * Case 3: If it is in the time between two semesters, the system shows data of the first semester without change permission. * Case 4: If it is in second semester, the system shows data of the second semester with change permission. * List is sort by alphabet based on student name. * All grade of student must be a number from 1 to 3 characters. * The total grade will be calculate when teacher input final exam and there must be have one grade at least of each oral test, 15 minutes test, 45 minutes/1 slot test exam. * The total score will be calculate in client site and calculate again in server site before saving in to database. * With grade-base subjects: * Subject teacher can input a decimal grade normally; max range of each input field is 3 characters. * Total score will be calculating by formula: get sum of all grades at semester then divide to sum factor of these. * Oral test and 15 minutes test: factor 1 * 45 minutes test: factor 2 * Final exam: factor 3 * With comment-base subjects: * Subject teacher can in put “c” or “d”, “c” is “CĐ” means not OK, fail and “d” is “Đ” means OK, pass. * Total score will be “Đ” when final exam is “Đ” and sum of “Đ” grade divide to sum of all “CĐ” and “Đ” grade must be greater or equal 2/3. The rest case total score will be “CĐ”. * Teacher can view the page of another semester or full year by clicking on radio button. * Input example:  |  |  | | --- | --- | | Input | Display | | 8/80/800/8,/8,,/80, | 8 | | 8,4/84/8,44/8,36/844/836 | 8,4 | | ,/,,/,,, | none | | d/đ/D/Đ/dd/DD/đđ/ĐĐ | Đ | | c/C/cd/CD/cD/Cd/cđ/cĐ/Cđ/CĐ/cc/CC | CĐ | | | | |

Table 26: <Subject teacher> Edit Gradebook

##### <Subject teacher>Update Retake Grade

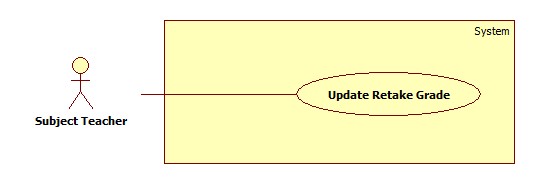


Figure 22: <Subject>Update Retake Grade

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| --- | --- | --- | --- |
| **USE CASE – UC031** | | | |
| **Use Case No.** | UC031 | **Use Case Version** | 2.0 |
| **Use Case Name** | Update Retake Grade | | |
| **Author** | Le Tai Nhat Minh | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Subject teacher   **Summary:**   * This use case allows subject teacher to update retake grade of student who he/she taught.   **Goal:**   * Subject teacher can update retake score then save data into database successfully.   **Triggers:**   * Subject teacher clicks “Quản lý bộ môn” link on “Giáo viên bộ môn” menu of navigation. * Subject teacher clicks “Sổ điểm bộ môn” link on “Bộ môn” menu for the class that he/she is responsible. * Subject teacher clicks “Cả năm” link on “Sổ điểm bộ môn” page for the class that he/she is responsible.   **Preconditions:**   * Log in to the system with teacher role.   **Post Conditions:**  **Success:** All data were saved successfully and show success message.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Teacher clicks “Cả năm” radio button in “Sổ điểm bộ môn” page. | If “Cả năm” is checked, the page will show:  A table with 6 column:  “STT”: text  “Họ và tên”: text  “Điểm trung bình HKI”: text  “Điểm trung bình HKII”: label  “Điểm trung bình cả năm”: label  “Thi lại”: label  “Cập nhật”: button | | 2 | Teacher input data and click “Cập nhật” button. | System display “Đã lưu” message.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot save data in to database | System shows message ““Đã có lỗi xảy ra trong hệ thống. Xin thử lại!””. |   **Relationships:** N/A  **Business Rules:**   * Each row in table is display the data of one student. List student will be sorted by alphabet * Subject teacher only input data for students who have status “Thi lại” and this subject have been chosen to retake by his/her home room teacher (Homeroom teacher has choosing retake subject function). Other students don’t have retake input fields. * The retake grade of this subject is used to replace for total score of whole year of student when the system re-calculate GPA. * Input style is similar to “Update grade” use case. | | | |

Table 31: < Subject teacher> Update Retake Grade

#### <Homeroom teacher>Overview Use Case

##### <Homeroom teacher> Update Attendance



Figure 23: <Homeroom teacher>Update Attendence

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC032** | | | |
| **Use Case No.** | UC032 | **Use Case Version** | 2.0 |
| **Use Case Name** | Update Attendance | | |
| **Author** | VÕ VĂN | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Homeroom Teacher   **Summary:**   * Allow Homeroom Teacher to update student’s attendance   **Goal:**   * Homeroom teacher can update student’s attendance * Student’s attendance information is added or modified in database   **Triggers:**   * Homeroom Teacher click “Sổ điểm danh” link on “Chủ nhiệm” menu * Homeroom teacher click “Sổ điểm danh” on the class he/she manages   **Preconditions:**   * Homeroom Teacher must login into the system with Role “Giáo viên” and is homeroom teacher of a class   **Post Conditions:**  **Success:** Student’s attendance is added or modified in database then show success message  **Fail:** Show error message  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Homeroom Teacher Click “Điểm danh” button on “Sổ điểm danh” page | Show “Điểm danh” page which display a form contains following information:  “Học kỳ I”: radiobox  “Học kỳ II”: radiobox  “Buổi” : drop-down list  “Tháng/Năm” : drop-down list  A grid table contains following information:   * “STT”: text * “Họ và tên”: text * “1” – “30” : textbox ( day of month ), lengh: 1. * “KP” : text * “CP” : text * “Tổng” : text   “Lưu” : button | | 2 | Fill in input then Homeroom Teacher Click “Lưu” button | Attendance information is added to database  Show success message “ĐÃ LƯU”  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Can’t access database | Show validation message “Có lỗi xãy ra trong hệ thống, xin hãy thử lại” |   **Relationships:** N/A **Business Rules:**   * Input are limited by “P” or “K”, “P” is for absence with permission, “K” is for absence with no permission * Teacher can’t input “P” or “K” on the day after today * Teacher can’t input “P” or “K” on the day before today 3 days * Teacher can’t input “P” or “K” on any Sunday * After teacher input “P” or “K” on a day, number of absence day with or without permission will be calculated and update on “CP”, “KP”, “Tổng” columns. | | | |

Table 27: <Homeroom teacher>Update Attendence

##### <Homeroom teacher> Approve Absence Request



Figure 24: <Homeroom teacher>Approve Absence Request

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| --- | --- | --- | --- |
| **USE CASE –UC033** | | | |
| **Use Case No.** | UC033 | **Use Case Version** | 2.0 |
| **Use Case Name** | Approve Absence Request | | |
| **Author** | VÕ VĂN | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Homeroom Teacher   **Summary:**   * Allow Homeroom Teacher to approve selected absence request   **Goal:**   * Homeroom teacher can approve selected absence request * Selected absence request status is modified in database   **Triggers:**   * Homeroom Teacher click “Chấp nhận” button   **Preconditions:**   * User log in to the system as teacher and he/she is managing a class in current year.   **Post Conditions:**   * **Success:** Selected absence request status is modified in database then show success message * **Fail:** Show error message   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Chấp nhận” button | Selected absence request status is modified in database  Show success message “Đơn đã được duyệt”  [Exception 1] |   **Alternative Scenario**:   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Không Chấp nhận” button  [Alternative 1] | Selected absence request disapprove confirm pop-up panel float on the screen and display a form contains:  “Lý do”: text area, required, length: 1-500.  “Gửi” :button  “Không”: button | | 2 | Fill Input then Click “Gửi” button | Selected absence request status is modified in database  [Exception 2,3] | | 2’ | Homeroom teacher clicks “Đóng” button to cancel. | System closes popup. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Can’t access database | Show validation message “Có lỗi xãy ra trong hệ thống, xin hãy thử lại” | | 2 | “Lý do” field is blank | Show validation message below text area “Lý do không được để trống” | | 3 | “Lý do” field contain more than 2000 characters | Show validation message below textarea “Lý do không được quá 2000 kí tự.” |   **Relationships:** Extend for “View Request List” (Approve) **Business Rules:**   * Teacher can’t approve request if the requested date passed or the request form deleted. | | | |

Table 28: <Homeroom teacher>Approve Absence Request

##### <Homeroom teacher> Disapprove Absence Request



Figure 25: <Homeroom teacher>Disapprove Absence Request

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC033** | | | |
| **Use Case No.** | UC033 | **Use Case Version** | 2.0 |
| **Use Case Name** | Disapprove Absence Request | | |
| **Author** | VÕ VĂN | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Homeroom Teacher   **Summary:**   * Allow Homeroom Teacher to disapporve selected absence request   **Goal:**   * Homeroom teacher can disapporve selected absence request * Selected absence request status is modified in database   **Triggers:**   * Homeroom Teacher click “Chấp nhận” button   **Preconditions:**   * User log in to the system as teacher and he/she is managing a class in current year.   **Post Conditions:**   * **Success:** Selected absence request status is modified in database then show success message * **Fail:** Show error message   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Không Chấp nhận” button | Selected absence request disapprove confirm pop-up panel float on the screen and display a form contains:  “Lý do”: text area, required, length: 1-2000  “Gửi” :button  “Không”: button  [Exception 1] | | 2 | Fill Input then Click “Gửi” button | Selected absence request status is modified in database  [Exception 2,3] |   **Alternative Scenario**:   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Homeroom teacher clicks “Đóng” button to cancel. | Selected absence request disapprove confirm pop-up panel float on the screen and display a form contains:  “Lý do”: text area, required, length: 1-500  “Gửi” :button  “Không”: button |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Can’t access database | Show validation message “Có lỗi xãy ra trong hệ thống, xin hãy thử lại” | | 2 | “Lý do” field is blank | Show validation message below text area “Lý do không được để trống” | | 3 | “Lý do” field contain more than 2000 characters | Show validation message below textarea “Lý do không được quá 2000 kí tự.” |   **Relationships:** Extend for “View Request List” (Disaprrove) **Business Rules:**   * Teacher can’t disapprove request if the requested date passed or the request form deleted. | | | |

Table 29: <Homeroom teacher>Disapprove Absence Request

##### <Homeroom teacher> Evaluate Behaviour



Figure 26: <Homeroom teacher>Evaluate Behaviour

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| --- | --- | --- | --- |
| **USE CASE – UC034** | | | |
| **Use Case No.** | UC034 | **Use Case Version** | 2.0 |
| **Use Case Name** | Evaluate Behaviour | | |
| **Author** | ThuTTD | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Homeroom teacher   **Summary:**   * This use case allows homeroom teacher to evaluate behaviour (conduct) of all students in the class that he/she is responsible for at the end of semester.   **Goal:**   * Homeroom teacher can evaluate behaviour and save data into database successfully.   **Triggers:**   * Teacher clicks “Xét hạnh kiểm” link on “Chủ nhiệm” menu of navigation. * Teacher clicks “Xét hạnh kiểm” link on “Quản lí chi tiết” menu for the class that he/she is responsible.   **Preconditions:**   * Log in to the system as a homeroom teacher. * The real time is in which stage of a school year   **Post Conditions:**  **Success:** All data is saved successfully and show success message.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Teacher clicks “Xét hạnh kiểm” link | System display new page contains:  “Năm học”: label  “Học kỳ 1”: radio button  “Học kỳ 2”: radio button  “Cả năm”: radio button  “Rèn luyện hè”: radio button  “Chọn hạnh kiểm để xếp cho tất cả”: dropdown list  A table with 7 column:  “STT”: text  “Họ và tên”: text  “Xếp loại hạnh kiểm”: dropdown list “Nhận xét”: text area, max length: 500  “Lưu”: button | | 2 | Teacher inputs data and clicks “Lưu” | System displays “Đã lưu” message.  [Exception 1,2] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Teacher chooses value for dropdown list but does not fill “Nhận xét” field then click “Lưu”. | System shows message “Phải nhập nhận xét kèm theo hạnh kiểm.” in text area. | | 2 | Teacher click “Lưu” | Cannot save data.  System shows message “Đã có lỗi xảy ra trong hệ thống. Xin thử lại!” |   **Relationships:** N/A  **Business Rules:**   * There are 4 value of conduct: “Tốt”( very good), “Khá”( good), “TB” (fair), “Yếu” (bad) * Base on real time, the system would display as following:  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | New school year has been created but 1st semester has not started yet | In 1st semester | In the time between two semesters | In 2nd semester | Later than the end date of 2nd semester and new school year has not started yet | | Semester1 page | Display  Editable: no | Display  Editable: yes | Editable: no | Editable: no | Editable: no | | Semester2 page | Editable: no | Editable: no | Display  Editable: no | Display  Editable: yes | Editable: no | | Whole year page | Editable: no | Editable: no | Editable: no | Editable: yes | Editable: no | | Summer page | Editable: no | Editable: no | Editable: no | Editable: no | Display  Editable: yes |  * Each row in table is display the data of one student in the class. List is sort by alphabet based on student name. In summer vacation page, list is all students who have “Rèn luyện hè” status. * After evaluating student’s behaviour, teacher must give a comment for that student. * Teacher can only give comment if and only if he/she have already selected value of conduct before. * When teacher select the value of “Chọn hạnh kiểm để xếp cho tất cả” dropdown list, selected value will be set for all student in class. * Teacher can view the page of another semester or a whole year by clicking on radio button. | | | |

Table 30: <Homeroom teacher>Evaluate Behaviour

##### <Homeroom teacher> Choose Retake Subject

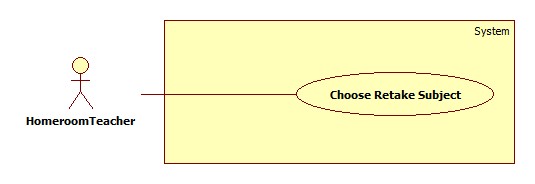


Figure 27: <Homeroom teacher>Choose Retake Subject

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UC035** | | | |
| **Use Case No.** | UC035 | **Use Case Version** | 2.0 |
| **Use Case Name** | Choose Retake Subject | | |
| **Author** | Le Tai Nhat Minh | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:**   * Homeroom teacher   **Summary:**   * This use case allows homeroom teacher to choosing retake subject of student who he/she manage.   **Goal:**   * Homeroom teacher can choose retake subject then save data into database successfully.   **Triggers:**   * Homeroom teacher clicks “Quản lý học sinh thi lại” link on “Chủ nhiệm” page for the class that he/she is responsible.   **Preconditions:**   * Log in to the system with homeroom teacher role.   **Post Conditions:**  **Success:** All data were saved successfully and show success message.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Homeroom teacher clicks “Quản lý học sinh thi lại” link on “Chủ nhiệm” page. | If he/she class have student who must be retake , the page will show:  A table with column:   * “STT”: text * “Họ và tên”: text * A multiple column for each subject which his/her student must retake. * “Cập nhật”: button | | 2 | Teacher tick on some subjects that student has to retake and click “Cập nhật” button. | System display “Đã lưu” message.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot save data in to database | System shows message ““Đã có lỗi xảy ra trong hệ thống. Xin thử lại!””. |   **Relationships:** N/A  **Business Rules:**   * Each row in table is display the data of one student in the class who has to retake at least one subject. List is sort by alphabet. * Each column except “STT” and “Họ và tên” in table display a subject which has at least one student in his/her class has to retake. * For each student, when their have any subject with average grade smaller than 5, system will be showing a checkbox and average subject grade for each subject like this. * Homeroom teacher will checking in one or many checkbox, each checkbox is one subject which student must be retake. * When homeroom teacher click update button, the retake exam of student course result will be setting to -1. Which means student’s must be retake this subject, and this is one of many conditions to show a text fields for subject teacher input retake score.( Update retake grade function of subject teacher). | | | |

Table 31: <Homeroom teacher>Choose Retake Subject

#### <Student’s parent>Overview Use Case

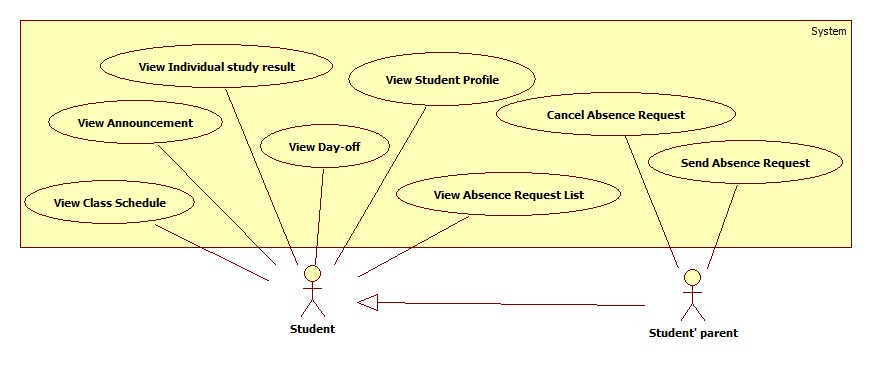


Figure 28: Student, Student’s Parent Overview Use Case

##### <Student’s parent> Send Absence Request



Figure 29: <Student’s parent>Send Absence Request

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC036** | | | |
| **Use Case No.** | UC036 | **Use Case Version** | 2.0 |
| **Use Case Name** | Send Absence Request | | |
| **Author** | VÕ VĂN | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Student’s Parent   **Summary:**   * Allow Student’s Parent to send absence request   **Goal:**   * Student’s Parent can send an absence request * Absence request is added to database   **Triggers:**   * Student’s Parent click “Thêm mới” button   **Preconditions:**   * Student’s Parent must login into the system with role “Phụ huynh”   **Post Conditions:**  **Success:** Absence request will be added to database then show success message  **Fail:** Show error message  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | From “Danh sách đơn xin nghỉ học” page, Click “Thêm mới” button  [Alternative 1] | Absence request sending pop-up panel float on the screen and display a form contains:  “Gửi tới”: text  “Ngày nghỉ”:  Từ: datepicker.  Buổi: drop-down list  Tới: datepicker.  Buổi: drop-down list  “Nội Dung”: textarea, required.  “Gửi” button  “Đóng”: button | | 2 | Fill in input Student’s Parent Click “Gửi” button | Absence request information is added to database  Show success message  Absence request sending pop-up panel float out of the screen  [Exception 1, 2,3]  [Alternative 2] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Student’s Parent click “Đóng” button | User editing pop-up panel float out of the screen | | 2 | There’s no absence request form | Display message “Chưa có đơn xin nghỉ” |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Student’s Parent has already sent the request with the same day | Show validation message beside textbox “Đã có đơn xin nghỉ cho ngày này” | | 2 | “Nội dung” field is blank | Show validation message below textbox “Nội dung không được để trống” | | 3 | “Nội dung” field contain more than 2000 characters | Show validation message below textbox “Nội dung không được quá 2000 từ” |   **Relationships:** N/A **Business Rules:** - Student’s Parent can’t send absence request the same day twice at a time  - Student’s Parent can’t send absence request the day before today  - Student’s Parent can only send absence request from tomorrow  - Student’s Parent can’t send anymore request if the student have been absence for at least 45 days  - Student’s Parent can only send 1 request per day | | | |

Table 32: <Student’s parent>Send Absence Request

##### <Student’s parent> Cancel Absence Request



Figure 30: <Student’s parent> Cancel Absence Request

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC037** | | | |
| **Use Case No.** | UC037 | **Use Case Version** | 2.0 |
| **Use Case Name** | Cancel Absence Request | | |
| **Author** | VÕ VĂN | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Student’s Parent   **Summary:**   * Allow Student’s Parent to cancel selected absence request   **Goal:**   * Student’s Parent can cancel selected absence request   selected absence request is deleted in database  **Triggers:**   * Student’s Parent click “Hủy” button   **Preconditions:**   * Student’s Parent must login with role “Phụ huynh”   **Post Conditions:**  **Success**: Selected absence request will be deleted in database then show success message  **Fail**: Show error message  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | From “Danh sách đơn xin nghỉ học” page, Student’s Parent Click “Hủy” button  [Alternative 1] | Selected absence request canceling confirm pop-up panel float on the screen and display a form contains:  “HỦY” button  “Không”: button | | 2 | Student’s Parent Click “HỦY” button | Selected absence request information is deleted in database  Show success message  Selected absence request canceling confirm pop-up panel float out of the screen  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Student’s Parent click “Không” button | Selected absence request canceling confirm pop-up panel float out of the screen |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Can’t access database | Show validation message “Có lỗi xảy ra trong hệ thống, xin hãy thử lại” |   **Relationships**: Extend for View Absence Request List **Business Rules:**  Approved or Disapproved Absence Request Information cannot be cancel  ( “Hủy” button will be disable ) | | | |

Table 33: <Student’s parent>Cancel Absence Request

#### <Authenticated User> Overview Use Case

##### <Authenticated User> Log Out

Please refer full document in CD.

##### <Authenticated User> View Announcement

Please refer full document in CD.

##### <Authenticated User>Change password

Please refer full document in CD.

#### General Use Case

##### View Student List of Class

Please refer full document in CD.

##### View Student Profile

Please refer full document in CD.

##### View Teacher Profile

Please refer full document in CD.

##### View Statistic of Class



Figure 31: View Statistic of Class

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UC044** | | | |
| **Use Case No.** | UC044 | **Use Case Version** | 2.0 |
| **Use Case Name** | View Statistic Of Class | | |
| **Author** | Nguyễn Văn Ngọc Trường | | |
| **Date** | 02/06/2015 | **Priority** | High |
| **Actor:**   * Head teacher, Homeroom teacher   **Summary:**   * This use case allows head/homeroom teacher to view statistic class that is applying in the school year.   **Goal:**   * Head/homeroom teacher can view overview statistic class.   **Triggers:**   * Teacher click “Thống kê” button on“Xếp loại học lực” Menu   **Preconditions:**   * People must have an account to log in the system with role head/homeroom teacher.   All data have to ready for statistic of class.  **Post Conditions:**  **Success:** Data get successfully and system displays data calculated under chart type.  **Fail:** System shows error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Head teacher clicks all “Khối”,”Lớp” and “Học kỳ” radio button to select a class.  Homeroom teacher select “Học kỳ” radio button. | System checks all select of teacher and open “Thống kê”. | | 2 | Head/homeroom teacher click “Thống kê” button to view statistic of this class.  [Alternative 1] | System will close popup message, shows new “Thống kê xếp loại theo lớp” page with content:  “GVCN”: text  “Sĩ số”: text  “Giỏi”: text  “Khá”: text  “TB”: text  “Yếu”: text  “Kém”:text  Pie chart: chart  Column chart: chart  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Head teacher click “Đóng” button to cancel view. | System closes popup page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot get data form database. | System shows message “Đã có lỗi xảy ra! Vui lòng thử lại!” |   **Relationships:** N/A  **Business Rules:**   * Statistic has three options: result of semester one, result of semester two and end year result. * Each result statistic only can be summarized by learning process of students of class was completed in the current semester. * With head teacher role, at the popup page content, in default of “Thống kê” button is disabled, head teacher has to select fields from top to bottom, data of field above will open data of field below. If all selections are success then “Thống kê” is not disabled. In addition, Head teacher can view statistic all class. * With homeroom teacher role, he/she only views statistic of class that he/she is responsible. | | | |

Table 34: View Statistic of Class

##### View Report of Class



Figure 32: View Report of Class

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE –UC045** | | | |
| **Use Case No.** | UC045 | **Use Case Version** | 2.0 |
| **Use Case Name** | View Report of Class | | |
| **Author** | ThuTTD | | |
| **Date** | 01/06/2015 | **Priority** | Normal |
| **Actor:**   * Head teacher, homeroom teacher   **Summary:**   * This use case allows head teacher or homeroom teacher to view a report about study result of class after a semester.   **Goal:**   * Head teacher or homeroom teacher can view report.   **Triggers:**   * Head teacher chooses “Bảng tổng kết của lớp” on “Báo cáo” menu. * Homeroom teacher clicks on “Bảng tổng kết của lớp” on “Chủ nhiệm” menu.   **Preconditions:**   * User has log in as head teacher or homeroom teacher role.   **Post Conditions:**  **Success:** Show report successfully.  **Fail:** Show error message.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | -Head teacher select a specific class and semester then click “Báo cáo ”  - Homeroom teacher click “Bảng tổng kết của lớp” on “Chủ nhiệm” menu. | If user selects “Học kỳ 1” or “Học kỳ 2”, displayed table contains:   * “STT”: text * “Họ và tên”: text * A list of all subjects that the class studies. (Include subject name and the factor) * “TBCM” : text (GPA of student) * “Xếp loại” * “HL” : text (academic classification) * “HK”: text (conduct) * “Buổi nghỉ” * “CP”: text (days of absence with permission) * “KP”: text (days of absence without permission) * “Tổng”: text (total number of absence) * “Danh hiệu”: text (title)   If user selects “Cả năm”, displayed table contains:   * “STT”: text * “Họ và tên”: text * “Xếp loại cả năm”: text * “TBCM”: text * “HL” : text * “HK”: text * “Buổi nghỉ”:text * “CP”: text * “KP”: text * “Tổng”: text * “Danh hiệu”:text * “Xếp loại sau khi thu lại hoặc rèn luyện hè” * “TBCM”: text * “HL” : text * “HK”: text * “Ghi chú”: note * “Tính trạng”: student status   [Alternative 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | There is no data. | System shows message “Không có dữ liệu.” |   **Exceptions:** N/A  **Relationships:** N/A  **Business Rules:**   * Head teacher can view report of all class in school, while homeroom teacher can only view the report of the class he/she manages. * If user is head teacher, he/she can choose the class to view report * If user is homeroom teacher, the system would display the page base on real time: * Case 1: If it is not over the start date of the second semester, the system shows the page of the first semester. * Case 2: If it is in the second semester, the system shows page of second semester. * The subject list depends on the type of class. * “Ghi chú” is used to notes subjects which student has to retake. | | | |

Table 35: View Report of Class

##### View Report of Student

Please refer full document in CD.

#### <System>Auto Calculate Result



Figure 33: <System>Auto Calculate Result

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – UC047** | | | |
| **Use Case No.** | UC047 | **Use Case Version** | 2.0 |
| **Use Case Name** | Auto calculate result | | |
| **Author** | Nguyễn Văn Ngọc Trường | | |
| **Date** | 01/06/2015 | **Priority** | High |
| **Actor:** System  **Summary:** System auto calculate result of all students in appropriate time period.  **Goal:** Calculate result of all students.  **Triggers:**   * At a time determined the system will be activated.   **Preconditions:**   * Admin configured time into system. * Data is prepared to calculate.   **Post Conditions:**  **Success:** Result is added into database and send message to admin.  **Fail:** send error message to admin.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | **Step** | **Actor Action** | **System Response** | | 1 | At the time determined, system auto active function calculate result | -System do processes:  + Calculating all result of students.  + Adding to database.  + Send message success to admin.  [Exception 1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot add new data | Cancel add data then send message error to admin. |   **Relationships:** N/A  **Business Rules:**   * System can only calculate when time at the end of semester. * Based on the current time results will be different ways:   +Case 1:At the end of semester one, system will calculate:   * + - * GPA of semester one       * Academic classify for semester one       * Honor of semester one   +Case 2: At the end of semester two, system will calculate:   * + - * GPA of semester two       * GPA end year       * Academic classify for semester two       * Academic classify for end year       * Consider of upgrading       * Honor of semester two       * Honor of end year   +Case 3: 7 days before end date of each semester, send remind email to all teacher  +Case 4: 30 day after end date of 2nd semester, system will:   * Calculate GPA and classify again for students who have to retake. * Consider of upgrading for students who have to retake or has status “Rèn luyện hè”. * GPA formula:   + n: number of grade subject  + Ti: totalscore of ith subject  + fi: factor of ith subject   * Academic classification, consider of upgrading, consider of honor is presented in Algorithm section. * If data of a student is missing, do not classify for him/her. * In the process, if system’s calculation is fail, system doesn’t add data to database. | | | |

Table 36: <System> Auto Calculate Result

## Software System Attribute

### Usability

#### Graphic User Interface

* Using language should be Vietnamese.

#### Usability

* All users should need less than one training week to interact with website.

#### Installation

* Customer can deploy successfully and learn to configure, maintain the system within one day of training.
* The attached manual guide must be clear. User can read and do themselves without developer’s help.

### Reliability

* Calculating average grade (score) and classifying academic result should base on the rules of Ministry of Education and Training.

### Availability

* The website should be available 24 hours per day, 7 days per week.

### Security

* Only user who has account can access into System.
* Each role of user has a specific permission to interact with system.
* System always checks authorization before process user’s request.

### Maintainability

* Code is easy to maintain and upgrade.

### Portability

* The system can be deployed into many type of servers those have IIS server.

### Performance

* Response time of almost functions should be less than 2s.

## Conceptual Diagram

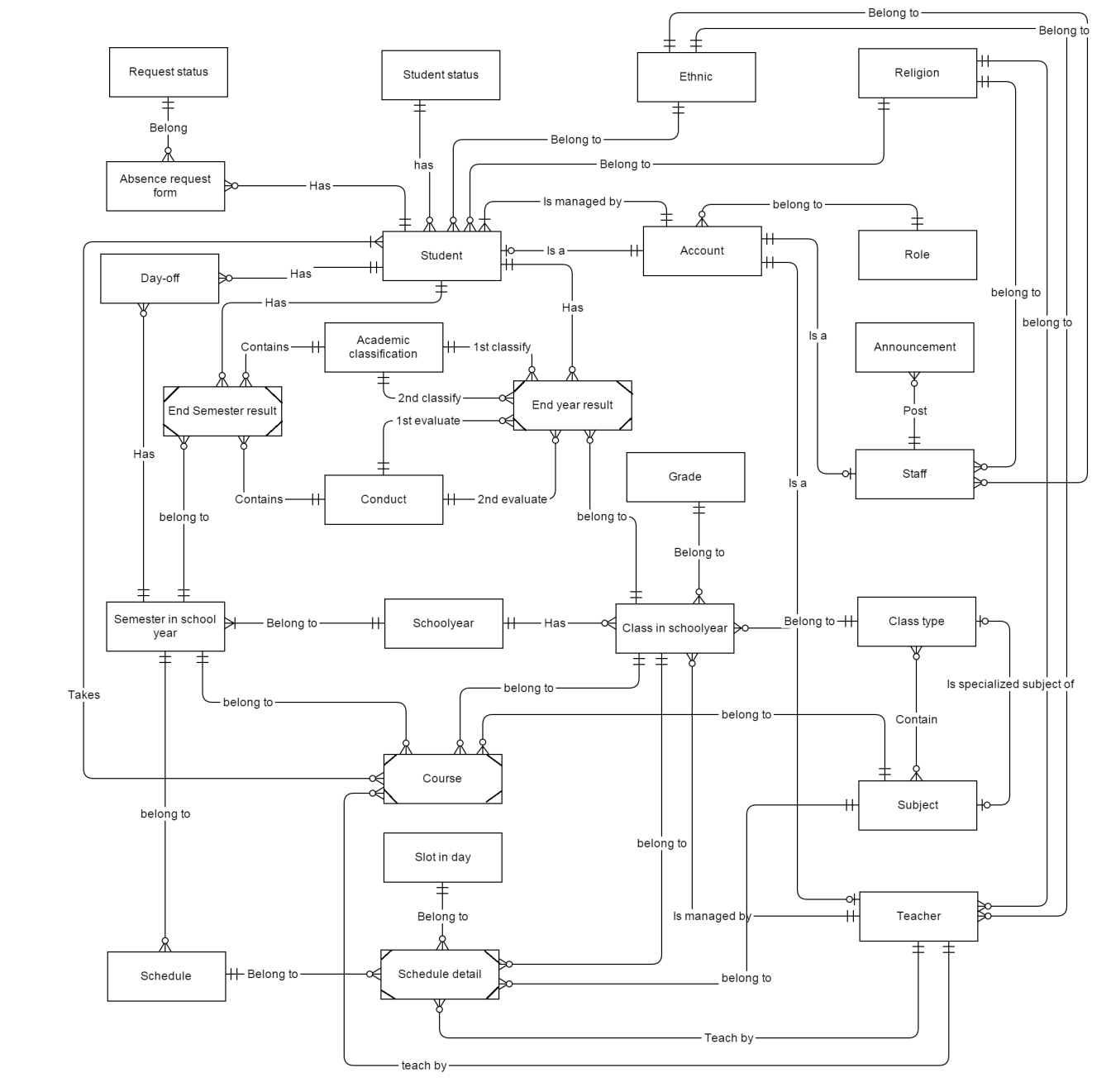


Figure 34: Conceptual Diagram

Data dictionary:

|  |  |
| --- | --- |
| **Entity dictionary** | |
| **Entity Name** | **Description** |
| Absence Request Form | Describe the absence forms of students. |
| Academic Classification | Describe all kind of academic classification base on 5 criteria. It includes: “Giỏi”, “Khá”, “Trung bình”, “Yếu” and “Kém”. |
| Account | Describe all users of the system. Each user has only one account. |
| Announcement | Describe all announcements. An announcement can be general or confidential one. |
| Class In School Year | Describe the specific classes in specific years. Each class has maximum 50 students. |
| Class Type | Describe group of classes which have same courses. |
| Conduct | Describe all kind of conduct. It includes: “Tốt”, “Khá”, “Trung bình” and “Yếu”. |
| Course | Weak entity describes all courses. A course should be answer for these questions: In a specific semester, which class has to study which subject? Who teach? |
| Day-Off | Describe all absent day which had permitted or not of student in specified semester. |
| End Semester Result | Weak entity describes the summary result of student in the end of semester. |
| End Year Result | Weak entity describes the summary result of student in the end of school year. |
| Ethnic | Describe 54 ethnics in Viet Nam. |
| Grade | Describe all grades of a high school, includes: 10, 11, 12 |
| Religion | Describe some religions. |
| Request Status | Describe status of request which includes: “Chờ duyệt”, “Đã được duyệt”, “Không được duyệt”, “Quá hạn”. |
| Role | Describe all roles in the system. |
| Schedule | Describe all versions of schedule. |
| Schedule Detail | Weak entity. A schedule detail should be answer for these questions: In a specific schedule, which class has to study which subject? Who teach? Which slot? |
| School Year | Describe school year. A school year lasts for 9 months, it starts from August and finish at May of the next year. |
| Semester In School Year | Describe the specific semester in a school year. Each school year has exactly 2 semesters. |
| Slot In Day | Describe all study slots in weekdays. Each slot is 45 minutes. |
| Staff | Describe all staff profiles in the system. |
| Student | Describe all students in the system. |
| Student Status | Describe status of student which includes: “Đang học”, ” Được lên lớp”, ”Lưu ban”, ”Đã ra trường”, ”Rèn luyện hè”, “Thi lại”. |
| Subject | Describe all available subjects being taught in high school. |
| Teacher | Describe all teacher profiles in the system. Each teacher has only one account and teaches only one subject. |

Table 37: Data dictionary

Relationship dictionary:

|  |  |
| --- | --- |
| **Relationship dictionary: describe content of relationships** | |
| **Relationship** **Name** | **Description** |
| Takes (between Student and Course) | Describe study result of a student in a course. |
| Contain(between Class Type and Subject) | Each class type has to study a set of subjects with different factor and slot per week. |
| Is specialized subject of(between Class Type and Subject) | A class type can be has specialized subject or not. |
| Is managed by (between Student and Account) | Each student has one parent’s account to follow and manage his/her study result |
| 1st Classify(between Academic Classification and End year result) | Academic classification after the end of a school year. |
| 2st Classify(between Academic Classification and End year result) | Academic classification after retake exam (if student has to retake). |
| 1st Evaluate(between Conduct and End year result) | Academic classification after the end of a school year. |
| 2st Evaluate(between Conduct and End year result) | Conduct is evaluated again after summer vacation (if student has to practice in summer). |