# System Implementation & Test

## Introduction

### Overview

This section provides in detail all necessary information about test plans, test cases, test result, test environments, pass/fail criteria and risks estimations as well as a checklist to cover all possible cases of this project.

### Test Approach

* Goal: To test the whole system based on the core workflow.
* Method: System Testing, Black – box Testing.

## Database Relationship Diagram

### Physical Diagram



Figure 76: Database Relationship Diagram

### Data Dictionary

#### Data Dictionary

|  |  |
| --- | --- |
| **Relation dictionary** | |
| **Relation Name** | **Description** |
| AbsenceRequestForm | Describe the absent forms of students. |
| AcademicClassification | 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. |
| ClassInSchoolYear | Describe the specific classes in specific years. Each class has maximum 50 students. |
| ClassType | 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? |
| CourseResult | Describe the study result of a student in a course. |
| Day-Off | Describe all absent day which had permitted or not of student in specified semester. |
| EndSemesterResult | Weak entity describes the summary result of student in the end of semester. |
| EndYearResult | 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. |
| RequestStatus | 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. |
| ScheduleDetail | 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? |
| SchoolYear | Describe school year. A school year lasts for 9 months, it starts from August and finish at May of the next year. |
| SemesterInSchoolYear | Describe the specific semester in a school year. Each school year has exactly 2 semesters. |
| SlotInDay | 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. |
| StudentStatus | 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. |
| SubjectForClassType | Describe detail subjects for each type of class. |
| Teacher | Describe all teacher profiles in the system. Each teacher has only one account and teaches only one subject. |

Table 39: Data Dictionary

#### Attribute Data Dictionary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table name** | **Attributes** | **Description** | **Domain** | **Null** |
| AbsenceRequestForm | ARFID(PK) | Unique identifier of absence request form, auto increment. | int | No |
| Content | Content of absence request form. | nvarchar(max) | No |
| RequestStatus{FK} | Identity of request status. | int | No |
| FromDate | Start date of student absence | date | No |
| ToDate | End date of student absence | date | Yes |
| FromTime | Morning/Afternoon/All | int | No |
| ToTime | Morning/Afternoon/All | int | Yes |
| StudentID {FK} | Identity of student. | int | No |
| ClassID{FK} | Identity of class. | int | No |
| SentDate | Sent date of absence request form | datetime | No |
| DeniedReason | Reason of case teacher denies an absence request. | nvarchar(500) | Yes |
| AcademicClassification | ACID{PK} | Unique identifier of Academic classification, auto increment. | int | No |
| Name | Name of academic classification. | nvarchar(20) | No |
| Account | UserID{PK} | Unique identifier, auto increment. | int | No |
| UserName | User name | nvarchar(20) | No |
| Password | password | nvarchar(20) | No |
| Email | Student's email | nvarchar (50) | No |
| RoleID{PK} | Identity of role. | int | No |
| IsActive | Account status | bit | No |
| Announcement | AID{PK} | Unique identifier, auto increment. | int | No |
| StaffID{FK} | Identity of a staff who posts this announcement. | int | No |
| Title | Title of announcement. | nvarchar(50) | No |
| Content | Content of announcement. | nvarchar(max) | No |
| LastUpdatedDate | Last updated date. | date | No |
| IsConfidential | The announcement is confidential or not. | bit | No |
| ClassInSchoolYear | ClassID {PK} | Unique identifier of class, auto increment | int | No |
| GradeID(FK) | Identity of grade | int | No |
| Name | Name of Class | nvarchar(10) | No |
| HRTeacherID {FK} | Identity of a teacher who monitor this class. | int | No |
| SchoolYearID {FK} | Identity of a school year. | int | No |
| ClassTypeID{FK} | Identity of a class type. | int | No |
| ClassType | ClassTypeID{PK} | Unique identifier, auto increment | int | No |
| Name | Class type name. | nvarchar(20) | No |
| SpecializedSubjectID{FK} | Identity of a subject. | int | Yes |
| Conduct | ConductID{PK} | Unique identifier of student conduct, auto increment. | int | No |
| Name | Name of conduct kind. | nvarchar(20) | No |
| Course | CourseID {PK} | Unique identifier of course, auto increment. | int | No |
| SemesterID {FK} | Identity c semester. | int | No |
| TeacherID {FK} | Identity of a teacher. | int | Yes |
| ClassID {FK} | Identity of a class. | int | No |
| SubjectID{FK} | Identity of a subject. | int | No |
| CourseResult | CourseResultID {PK} | Unique identifier of course result, auto increment. | int | No |
| StudentID {FK} | Identity of student. | int | No |
| CourseID {FK} | Identity of course. | int | No |
| M1 | Oral Test 1 | float | Yes |
| M2 | Oral Test 2 | float | Yes |
| M3 | Oral Test 3 | float | Yes |
| M4 | Oral Test 4 | float | Yes |
| M5 | Oral Test 5 | float | Yes |
| P1 | 15 minutes Test 1 | float | Yes |
| P2 | 15 minutes Test 2 | float | Yes |
| P3 | 15 minutes Test 3 | float | Yes |
| P4 | 15 minutes Test 4 | float | Yes |
| P5 | 15 minutes Test 5 | float | Yes |
| V1 | 45 minutes Test 1 | float | Yes |
| V2 | 45 minutes Test 2 | float | Yes |
| V3 | 45 minutes Test 3 | float | Yes |
| V4 | 45 minutes Test 4 | float | Yes |
| V5 | 45 minutes Test 5 | float | Yes |
| FinalExam | Final exam score | float | Yes |
| RetakeExam | Retake exam score | float | Yes |
| TotalScore | Total score | float | Yes |
| DayOff | DayOffID(PK) | Unique identifier of day off, auto increment. | int | No |
| Date | Student's day-off date. | date | No |
| HasPermission | Has/hasn’t permission of teacher. | bit | No |
| StudentID(FK) | Identity of student. | int | No |
| SemesterID(FK) | Identity of semester. | int | No |
| IsMorning | Morning/Afternoon | bit | No |
| EndSemesterResult | EndSemesterResultID {PK} | Unique identifier of a study result of student in a semester, auto increment. | int | No |
| StudentID{FK} | Identity of a student. | int | No |
| SemesterID{FK} | Identity of a semester. | int | No |
| GPA | Grade Point Average of a semester. | float | Yes |
| ACID {FK} | Identity of academic classification. | int | Yes |
| ConductID {FK} | Identity of conduct. | int | Yes |
| Honor | Student's honor | nvarchar(50) | Yes |
| TeacherOpinion | Teacher’s opinion | nvarchar(500) | Yes |
| ParentOpinion | Parent’s opinion | nvarchar(500) | Yes |
| EndYearResult | EndYearResultID {PK} | Unique identifier of a study result of student in a school year, auto increment. | int | No |
| StudentID{FK} | Identity of a student. | int | No |
| ClassID {FK} | Identity of a class in school year. | int | No |
| GPA | Grade Point Average of a semester. | float | Yes |
| ACID {FK} | Identity of academic classification. | int | Yes |
| ConductID {FK} | Identity of conduct. | int | Yes |
| Honor | Student's honor | nvarchar(20) | Yes |
| TeacherOpinion | Teacher’s opinion. | nvarchar(500) | Yes |
| ParentOpinion | Parent’s opinion. | nvarchar(500) | Yes |
| GPA2 | Grade Point Average of a semester. | float | Yes |
| ACID2 {FK} | Identity of academic classification. | int | Yes |
| ConductID2 {FK} | Identity of conduct. | int | Yes |
| TeacherOpinion2 | Teacher’s opinion. | nvarchar(500) | Yes |
| ParentOpinion2 | Parent’s opinion. | nvarchar(500) | Yes |
| Ethnic | EthnicID(PK) | Unique identifier, auto increment. | int | No |
| Name | Name of ethnic. | nvarchar(20) | No |
| Grade | GradeID(PK) | Unique identifier of grade, auto increment. | int | No |
| Name | Name of grade. | nvarchar(20) | No |
| Religion | ReligionID(PK) | Unique identifier of religion, auto increment. | int | No |
| Name | Name of religion. | nvarchar(20) | No |
| RequestStatus | RequestStatusID(PK) | Unique identifier of request status, auto increment. | int | No |
| Name | Name of student request status. | nvarchar(20) | No |
| Role | RoleID{PK} | Unique identifier or role, auto increment. | int | No |
| RoleName | The role name. | nvarchar(20) | No |
| Schedule | ScheduleID {PK} | Unique identifier of schedule, auto increment. | int | No |
| SchoolYearID {FK} | Identity of a school year. | int | No |
| StartDate | starting schedule date | date | No |
| IsPublic | Schedule is in public or not | bit | No |
| ScheduleDetail | ScheduleDetailID {PK} | Unique identifier of schedule detail, auto increment. | int | No |
| ScheduleID {FK} | Identity of a schedule. | int | No |
| ClassID {FK} | Identity of a class. | int | No |
| SubjectID{FK} | Identity of a subject. | int | No |
| TeacherID {FK} | Identity of a teacher. | int | No |
| SlotID {FK} | Identity of a slot. | int | No |
| SchoolYear | SchoolYearID {PK} | Unique identifier of school year, auto increment. | int | No |
| Name | Name of the school year | nvarchar(20) |  |
| SemesterInSchoolYear | SemesterID {PK} | Unique identifier of semester, auto increment | int | No |
| SchoolYearID {FK} | Identity of a school year. | int | No |
| IsFirstSemester | Identity the semester is the first or the second. | bit | No |
| StartDate | The start date of semester | date | No |
| EndDate | The end date of semester | date | No |
| SlotInDay | SlotID {PK} | Unique identifier of slot, auto increment | int | No |
| SlotNo | Number of slot | int | No |
| isMorning | the slots are placed in the morning or in the evening | bit | No |
| DayOfWeek | Day of the week | smallInt | No |
| Staff | StaffID {PK}{FK} | Unique identifier of a staff. Foreign key, user identifier. | int | No |
| FullName | Staff’s full name | nvarchar(50) | No |
| DateOfBirth | Staff’s date of birth. | Date | No |
| IsMale | Staff Is a male or female. | bit | No |
| Address | Staff's Address | nvarchar(200) | No |
| Phone | Staff's Phone number | nvarchar(20) | Yes |
| IdentityCardNo | Staff’s Identity card number | varchar(9) | No |
| PlaceOfIssue | Place of issue the identity card | nvarchar(50) | No |
| DateOfIssue | Date of issue the identity card | date | No |
| Student | StudentID(PK) {FK} | Unique identifier of a student. Foreign key, user identifier. | int | No |
| Username | Student's username | nvarchar(50) | No |
| FullName | Student's full name | nvarchar(50) | No |
| DateOfBirth | Student’s date of birth. | date | No |
| Address | Student's address | nvarchar(200) | No |
| Phone | Student's phone number | varchar(20) | Yes |
| ReligionID(FK) | Identity of religion. | int | No |
| EthinicID(FK) | Identity of ethnic. | int | No |
| FirstDayAtSchool | First day at school of student. | Date | No |
| ParentID(FK) | Identity of parent. | int | No |
| StudentStatusID (FK) | Identity of student status. | int | No |
| FatherName | Student’s father name. | nvarchar(50) | Yes |
| FatherYearOfBirth | Student’s father year of birth. | Date | Yes |
| FatherJob | Student’s father job. | nvarchar(50) | Yes |
| FatherPhone | Student’s father phone number. | varchar(20) | Yes |
| MotherName | Student’s mother name. | nvarchar(50) | Yes |
| MotherYearOfBirth | Student’s mother year of birth. | Date | Yes |
| MotherJob | Student’s mother job. | nvarchar(50) | Yes |
| MotherPhone | Student’s mother phone number. | varchar(20) | Yes |
| GodParentName | Student’s god parent name. | nvarchar(50) | Yes |
| GodParentYearOfBirth | Student’s god parent year of birth. | Date | Yes |
| GodParentJob | Student’s god parent job. | nvarchar(50) | Yes |
| GodParentPhone | Student’s god parent phone number. | varchar(20) | Yes |
| StudentStatus | StudentStatusID (PK) | Unique identifier of student status, auto increment. | int | No |
| Name | Name of student status. | nvarchar(10) | No |
| Subject | SubjectID {PK} | Unique identifier of subject, auto increment. | int | No |
| SemesterID {FK} | Identity of a semester. | int | No |
| Name | Name of Subject in Vietnamese | nvarchar(100) | No |
| isGradeSubject | The subject is evaluate by grade or comment | bit | No |
| SubjectForClassType | SubjectID {FK} | Identity of a subject | int | No |
| ClassTypeID {FK} | Class Type Identity | int | No |
| Factor | Factor of subject. | nvarchar(50) | No |
| MinSlotPerWeek | Minimum number of slot per week (float number). | float | No |
| Teacher | TeacherID {PK}{FK} | Unique identifier of teacher, Foreign key , user identifier | int | No |
| UserName | Teacher’s username | nvarchar(50) | No |
| FullName | Teacher’s full name | nvarchar(50) | No |
| SubjectID {FK} | Identity of Subject | nvarchar(50) | No |
| DateOfBirth | Teacher’s date of birth | date | No |
| Phone | Teacher’s Telephone number | nvarchar(20) | No |
| isMale | Teacher is a male or female | bit | No |
| ReligionID {FK} | Teacher’s religion | int | No |
| EthnicID {FK} | Teacher’s ethnic | int | No |
| isHomeroom Teacher | A teacher can become a homeroom teacher, there can be only one Homeroom Teacher for one class | bit | No |
| IdentityCardNo | Teacher’s Identify card Number | Nvarchar(9) | No |
| PlaceOfIssue | Place receive the Identity Card | Nvarchar (200) | No |
| DateOfIssue | Date receive the Identity Card | date | No |

Table 40: Attribute Data Dictionary

## Performance Measures

### Send mail performance

The total time for creating and sending each mail is less than 7 seconds per mail.

### Calculate semester/ school year result performance

The speed of calculate semester or school year result is less than 10 seconds per 100 students.

## Test Plan

The purpose of this section is to verify and ensure that TMST meets its design specification and other requirements from user. The following part will describe which features to be tested and which will not.

### Features to be tested

We will test the entire system based on the following core workflow (Reference: Figure 2, 3: Core Workflow).

Based on the workflow, all following features will be tested, which can include one or more functions. These features will be focused and tested thoroughly during the test phase.

Staff:

* Import Plan Semester.
* Import Classes List.
* View Temporary Timetable.
* Edit Temporary Timetable.
* Check Conflict Temporary Timetable.
* Export Temporary Timetable.
* Import Instructor List.
* View Complete Timetable.
* Edit Complete Timetable.
* Check Conflict Complete Timetable.
* Import Project Group List.
* Edit Guide Project Schedule.
* View Guide Project Schedule
* View Timekeeping
* View Room Usage Schedule
* Suggest Room Usage Schedule
* Edit Room Usage Schedule

System:

* Suggest Temporary Timetable.
* Suggest Complete Timetable.
* Suggest Room Usage.
* Suggest Guide Project Schedule.
* Calculate Timekeeping.

### Features not to be tested

* Login, Logout.
* Create New Semester.
* Open Semester.
* Manage Plan Semester.
* Manage Subject.
* Manage Class.
* Export Complete Timetable.
* Export Room Usage Schedule.
* Manage Group.
* Manage Instructor.
* Send Mail.
* Email Configure
* Synchronize Configure.

## System Testing Test Case

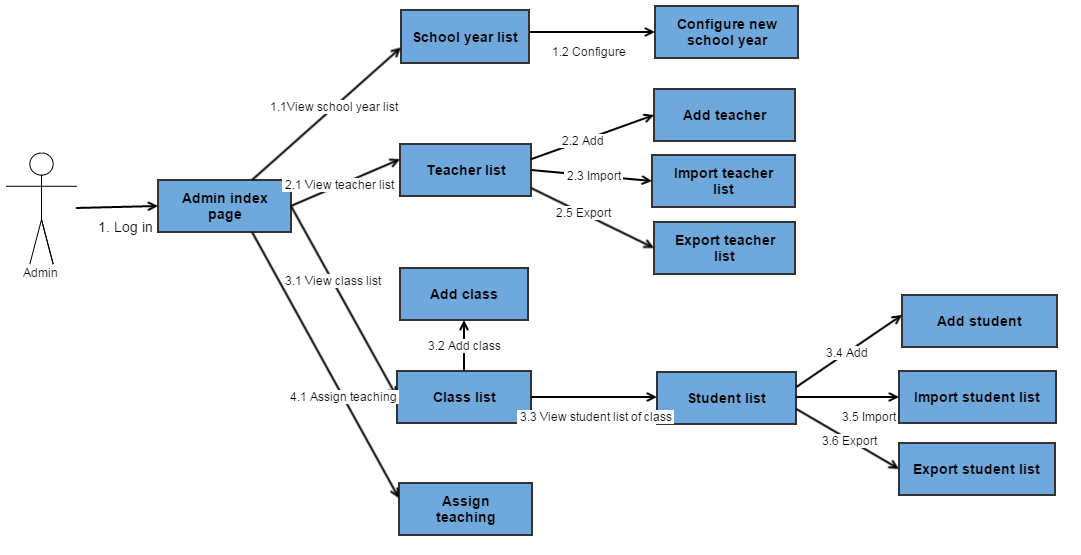


Figure 77: Core Flow 1

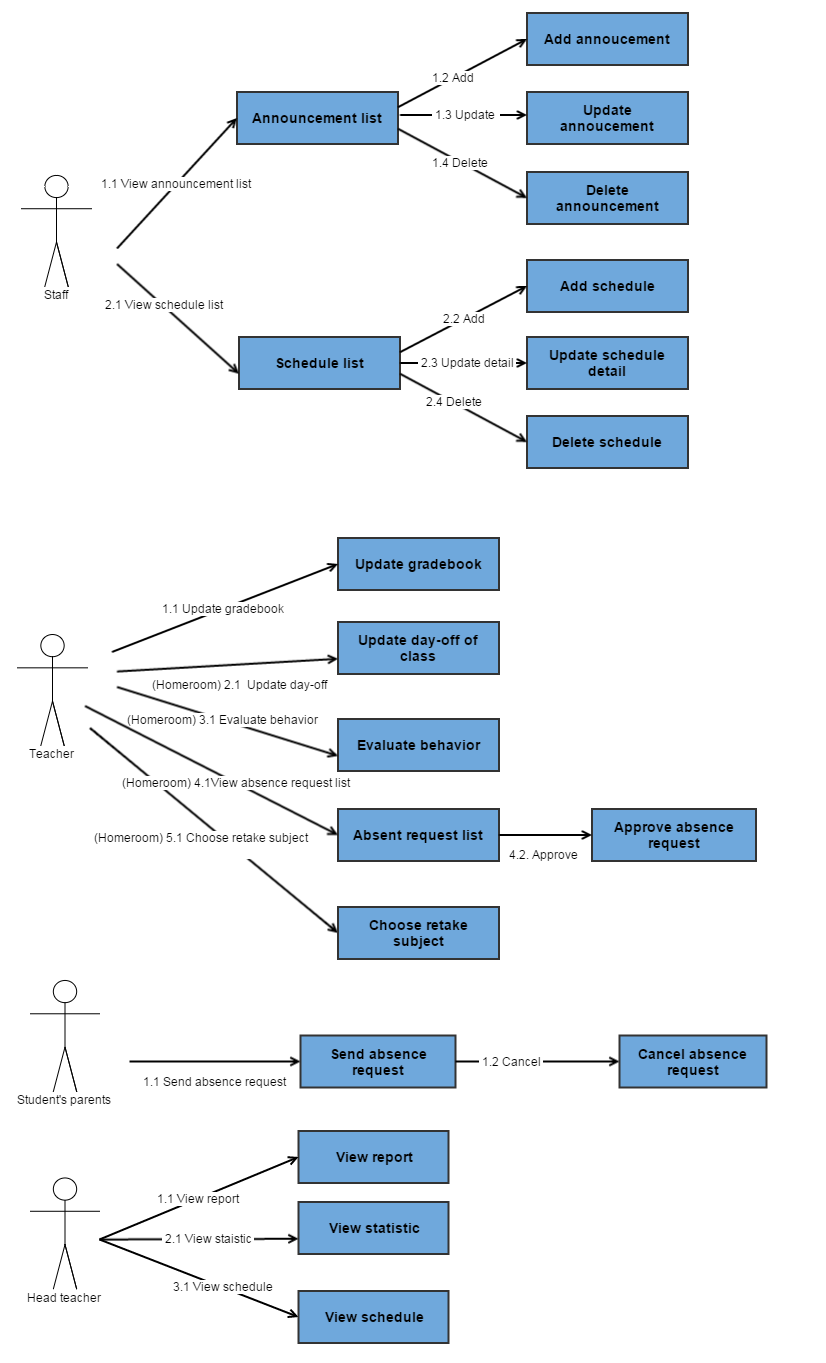


Figure 78: Core Flow 2

### Core Flow 1

#### Configure New School Year

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| CNSY01 | Admin can view "Thêm mới năm học" pop-up | 1. Login as Admin 2. On index page, clicks “Cấu hình năm học mới” link on “Hệ thống” menu navigation bar. 3. On “Cấu hình năm học mới” page, click “Thêm mới”. | * After step 3, show " Thêm mới năm học " popup |  | Passed | 20/7/2015 |  |
| CNSY02 | Admin Add New School Year | 1. On “Thêm mới năm học” popup , Admin input valid data and click “Thêm” button | * close " Thêm mới năm học " popup * display success message “Đã lưu” * Data is saved to database | CNSY01 | Passed | 20/7/2015 |  |
| CNSY03 | Admin create another school year with duplicate name | 1. On “Thêm mới năm học” popup, Admin input duplicate school year name 2. Admin click “Thêm” button | * After step 2, show " Tên lớp đã tồn tại " error message on popup | CNSY01 | Passed | 20/7/2015 |  |
| CNSY04 | Admin input start date of 1st semester bigger than end date of 2nd semester | 1. On “Thêm mới năm học” popup, Admin pick 1st Semester start date bigger than 2nd Semester end date 2. Admin click “Thêm” button | * After step 2, show " Ngày bắt đầu HKI không hợp lệ " error message | CNSY01 | Passed | 20/7/2015 |  |
| CNSY05 | Admin input Begin date of 1st semester and the end of 1st semester less than 16 weeks | 1. On “Thêm mới năm học” popup, Admin pick 1st Semester start date and 1st Semester end date sum up less than 16 weeks 2. Admin click “Thêm” button | * After step 2, show " Thời gian của HKI tối thiểu là 16 tuần " error message | CNSY01 | Passed | 20/7/2015 |  |
| CNSY06 | Admin input Begin date of 2nd semester and the end of 2nd semester less than 16 weeks | 1. On “Thêm mới năm học” popup, Admin pick 2nd Semester start date and 2nd Semester end date sum up less than 16 weeks 2. Admin click “Thêm” button | * After step 2, show " Thời gian của HKII tối thiểu là 16 tuần " error message | CNSY01 | Passed | 20/7/2015 |  |

Table 41: Configure New School Year

#### Import Teacher List

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| ITL01 | Admin navigate Import Teacher List page | 1. Login as Admin 2. On index page, clicks “Danh sách giáo viên” link on “Giáo viên” menu navigation bar. 3. On “Danh sách giáo viên” page, click “Nhập excel”. | * After step 3, show "Nhập excel " page |  | Passed | 20/7/2015 |  |
| ITL02 | Admin import teacher list | 1. On “Nhập excel” page , Admin chooses the right excel file and clicks “Nhập excel” button | * Redirect to “Danh sách giáo viên” page * Import data is displayed * Data is saved to database | ITL01 | Passed | 20/7/2015 |  |
| ITL03 | Admin choose excel file with wrong format | 1. On “Nhập excel” page, Admin chooses the excel file with wrong format and clicks “Nhập excel” button | * Show error message “File không đúng định dạng. Xin vui lòng nhập thông tin theo file mẫu và thử lại”. | ITL01 | Passed | 20/7/2015 |  |
| ITL04 | Admin does not choose file before import | 1. On “Nhập excel” page, Admin clicks “Nhập excel” button | * Show error message “Bạn chưa chọn file!” | ITL01 | Passed | 20/7/2015 |  |
| ITL05 | Admin choose invalid excel file | 1. On “Nhập excel” page, Admin chooses wrong excel file and clicks “Nhập excel” button | * Show error message “File vừa chọn không phải là file excel!” | ITL01 | Passed | 20/7/2015 |  |

Table 42: Import Teacher List.

#### Export Teacher List

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| ETL01 | Admin export teacher list | 1. Login as Admin 2. On index page, clicks “Danh sách giáo viên” link on “Giáo viên” menu navigation bar. 3. On “Danh sách giáo viên” page, click “Xuất excel”. | * System creates excel file and sends it to browser. |  | Passed | 20/7/2015 |  |

Table 43: Export Teacher List

#### Add Teacher Profile

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| AT01 | Admin navigate " Thêm mới Giáo viên " pop-up | 1. Login as Admin 2. On Index page, click “Hồ sơ giáo viên” on “Giáo viên” menu navigation bar. 3. On “Hồ sơ giáo viên” page, click “Thêm mới”. | * After step 3, show " Thêm mới Giáo viên" popup |  | Passed | 20/7/2015 |  |
| AT02 | Admin add new teacher | 1. On " Thêm mới Giáo viên " popup, Admin input valid data 2. click “Thêm mới”. | * After step 2, " Thêm mới Giáo viên " popup will close then System show success message * Teacher account will be created in database with random password * Information about account and password will be sent via Teacher Email | AT01 | Passed | 20/7/2015 |  |
| AT03 | Admin leave required fields empty | 1. On " Thêm mới Giáo viên " popup, Admin only click “Thêm mới” without input any information | Error messages show below required textbox fields | AT01 | Passed | 20/7/2015 |  |

Table 44: Add Teacher Profile

#### Assign Teaching

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| AT01 | Admin assign teacher | 1. Login as Admin 2. On Index page, click “Phân công giảng dạy” on “Giáo viên” menu navigation bar. 3. On “Phân công giảng dạy” page, Admin select all dropdown list value 4. Admin click “Lưu” | * After step 4, System shows “Đã lưu” message. * Teacher Assign data in Semester I should be display and saved into database * Teacher Assign data in Semester II should be empty |  | Passed | 20/7/2015 |  |
| AT02 | Admin copy data from Semester I | 1. Login as Admin 2. On Index page, click “Phân công giảng dạy” on “Giáo viên” menu navigation bar. 3. On “Phân công giảng dạy” page, Admin select all dropdown list value and click on “Sao chép HK1” button 4. Admin click “Lưu” | * After step 4, System shows “Đã lưu” message. * Teacher Assign data in Semester I should be display and saved into database * Teacher Assign data in Semester II should be the same as Semester I |  | Passed | 20/7/2015 |  |

Table 45: Assign Teaching

#### Add Class

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| AC01 | Admin navigate " Thêm lớp " pop-up | 1. Login as Admin 2. On Index page, click “Quản lí lớp” on “Học Sinh” menu navigation bar. 3. On “Danh sách lớp” page, click “Thêm lớp”. | * After step 2, show " Danh sách lớp " page * After step 3, show " Thêm lớp " popup |  | Passed | 20/7/2015 |  |
| AC02 | Admin add new class | 1. On “Thêm lớp” popup, Admin input all required data 2. Click “Thêm” button | * After step 2, “Thêm lớp” popup will be closed then System show success message * A new class should be created and saved into database | AC01 | Passed | 20/7/2015 |  |
| AC03 | Admin leave required field empty | 1. On “Thêm lớp” popup, Admin only Click “Thêm” button | * Show error messages below required textbox | AC01 | Passed | 20/7/2015 |  |
| AC04 | Admin already created a class with the same name | 1. On “Thêm lớp” popup, Admin input all required data but the name of the new class is the same as the old one 2. Click “Thêm” button | * After step 2, “Thêm lớp” System show error message   “Tên lớp đã tồn tại”. |  | Passed | 20/7/2015 |  |

Table 46: Add Class

#### Add Student Profile

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| AS01 | Admin navigate " Thêm mới Học Sinh" pop-up | 1. Login as Admin 2. On Index page, click “Quản lí lớp” on “Học Sinh” menu navigation bar. 3. On “Danh sách lớp” page, click “DSHS”. ( At least a class must be created ) 4. On “Danh sách học sinh” page, click “Thêm mới”. | * After step 4, show " Thêm mới Học Sinh" popup |  | Passed | 20/7/2015 |  |
| AS02 | Admin add new student with new parent | 1. On " Thêm mới Học Sinh" popup, Admin input valid data, excluding “Account Phụ Huynh” 2. Click “Thêm mới”. | * After step 2, " Thêm mới Học Sinh" popup will close then show success message “Thêm mới học sinh thành công”. * 2 account will be created in database : Student and Student’s Parent account with random password * Information about account and password will be sent via Student Email and Student’s Parent Email | AS01 | Passed | 20/7/2015 |  |
| AS03 | Admin add new student with existed parent | 1. On " Thêm mới Học Sinh" popup, Admin input valid data, including “Account Phụ Huynh” that contained in database, “Email Phụ Huynh” belong to the provide account 2. click “Thêm mới”. | * After step 2, " Thêm mới Học Sinh” popup will close then show success message “Thêm mới học sinh thành công”. * Only student account will be created in database * Information about account and password will be sent via Student Email and Student’s Parent Email |  | Passed | 20/7/2015 |  |
| AS04 | Admin leave required field empty | 1. On " Thêm mới Học Sinh" only click “Thêm mới” without input any information | Error messages show below required textbox fields | AS01 | Passed | 20/7/2015 |  |
| AS05 | Admin input invalid Parent Account | 1. On " Thêm mới Học Sinh", filled all required field with valid data but the “Account Phụ Huynh”data doesn’t contain in database 2. click “Thêm mới” | After Step 2 ,Error message show below “Account Phụ Huynh” field “Sai Account Phụ Huynh” | AS01 | Passed | 20/7/2015 |  |
| AS06 | Admin input valid Parent Account but invalid Parent Email | 1. On " Thêm mới Học Sinh", filled all required field with valid data but the “Email Phụ Huynh”data doesn’t contain in database 2. click “Thêm mới” | After Step 2 ,Error message show below “Email Phụ Huynh” field “Sai Email Phụ Huynh” | AS01 | Passed | 20/7/2015 |  |

Table 47: Add Student Profile

#### Import Student List

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| ISL01 | Admin navigate Import Student List page | 1. Login as Admin 2. On index page, clicks “Quản lí lớp” link on “Học sinh” menu navigation bar. 3. On “Quản lí lớp” page, click “Nhập excel”. | * After step 3, show "Nhập excel " page |  | Passed | 20/7/2015 |  |
| ISL02 | Admin import Student List | 1. On “Nhập excel” page, Admin chooses the right excel file and clicks “Nhập excel” button | * Redirect to “Quản lí lớp” page * Import data is displayed * Data is saved to database | ISL01 | Passed | 20/7/2015 |  |
| ISL03 | Admin choose excel file with wrong format | 1. On “Nhập excel” page, Admin chooses the excel file with wrong format and clicks “Nhập excel” button | * Show error message “File không đúng định dạng. Xin vui lòng nhập thông tin theo file mẫu và thử lại”. | ISL01 | Passed | 20/7/2015 |  |
| ISL04 | Admin does not choose file before import | 1. On “Nhập excel” page, Admin clicks “Nhập excel” button | * Show error message “Bạn chưa chọn file!” | ISL01 | Passed | 20/7/2015 |  |
| ISL05 | Admin choose invalid excel file | 1. On “Nhập excel” page, Admin chooses wrong excel file and clicks “Nhập excel” button | * Show error message “File vừa chọn không phải là file excel!” | ISL01 | Passed | 20/7/2015 |  |

Table 48: Import Student List.

#### Export Student List

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| ESL01 | Admin export student list | 1. Login as Admin 2. On index page, clicks “Danh sách giáo viên” link on “Giáo viên” menu navigation bar. 3. On “Danh sách giáo viên” page, click “Xuất excel”. | * System creates excel file and sends it to browser. |  | Passed | 20/7/2015 |  |

Table 49: Export Student List

#### Add Schedule

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| AS01 | Staff navigate “Thêm mới thời khóa biểu” popup | 1. Login as Staff 2. On index page, clicks “Thời khóa biểu” link on menu navigation bar. 3. On “Thời khóa biểu” page, click “Thêm mới”. | * After step 3, Show “Thêm mới thời khóa biểu” popup |  | Passed | 20/7/2015 |  |
| AS02 | Staff add new Schedule | 1. On "Thêm mới thời khóa biểu" popup, Staff clicks “Học kỳ I”/”Học kỳ II” radio button and choose valid “Ngày bắt đầu” start date by datepicker. 2. Staff clicks “Thêm lịch mới”. | * After step 2, “Thêm mới thời khóa biểu” popup will be closed * Schedule data is saved into database | AS01 | Passed | 20/7/2015 |  |
| AS03 | Staff choose schedule date in the past | 1. On "Thêm mới thời khóa biểu" popup, Staff clicks “Học kỳ I”/”Học kỳ II” radio button and choose “Ngày bắt đầu” start date later than today. 2. Staff clicks “Thêm lịch mới”. | * Show error message “Thời khóa biểu đã qua”. | AS01 | Passed | 20/7/2015 |  |
| AS04 | Staff choose schedule date not in the semester I range | 1. On "Thêm mới thời khóa biểu" popup, Staff clicks “Học kỳ I” radio button and choose “Ngày bắt đầu” start date not in the semester range. 2. Staff clicks “Thêm lịch mới”. | * Show error message “Bạn đã chọn ngày không nằm trong học kỳ!”. | AS01 | Passed | 20/7/2015 |  |
| AS05 | Staff choose schedule date not in the semester II range | 1. On "Thêm mới thời khóa biểu” popup, Staff clicks “Học kỳ II” radio button and choose “Ngày bắt đầu” start date not in the semester range. 2. Staff clicks “Thêm lịch mới”. | * Show error message “Bạn đã chọn ngày không nằm trong học kỳ!”. | AS01 | Passed | 20/7/2015 |  |

Table 50: Add Schedule

#### Update Schedule Detail

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| USD01 | Staff navigate “Thay đổi thời khóa biểu” popup | 1. Login as Staff 2. On index page, clicks “Thời khóa biểu” link on menu navigation bar. 3. On “Thời khóa biểu” page, click “Sửa”. ( At least 1 schedule is created ) | After step 3, Show “Thay đổi thời khóa biểu” popup | AS02 | Passed | 20/7/2015 |  |
| USD02 | Staff update Schedule | 1. On "Sửa thời khóa biểu “popup, Staff clicks “Học kỳ I”/”Học kỳ II” radio button and choose valid “Ngày bắt đầu” start date by datepicker. 2. Staff clicks “Thay đổi lịch”. | * After step 2, “Thay đổi thời khóa biểu” popup will be closed * Schedule data is modified into database | USD01 | Passed | 20/7/2015 |  |
| USD03 | Staff choose schedule date in the past | 1. On” Thay đổi thời khóa biểu" popup, Staff clicks “Học kỳ I”/”Học kỳ II” radio button and choose “Ngày bắt đầu” start date later than today. 2. Staff clicks “Thay đổi lịch. | * Show error message “Thời khóa biểu đã qua”. | USD01 | Passed | 20/7/2015 |  |
| USD04 | Staff choose schedule date not in the semester range | 1. On “Thay đổi thời khóa biểu” popup, Staff clicks “Học kỳ I” radio button and choose “Ngày bắt đầu” start date not in the semester range. 2. Staff clicks “Thay đổi lịch”. | * Show error message “Bạn đã chọn ngày không nằm trong học kỳ!”. | USD01 | Passed | 20/7/2015 |  |

Table 51: Update Schedule Detail

#### Delete Schedule

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| DS01 | Staff delete a schedule | 1. Login as Staff 2. On index page, clicks “Thời khóa biểu” link on menu navigation bar. 3. On “Thời khóa biểu” page, click “Xóa”. ( At least 1 schedule is created ) 4. Click “Xóa” button | * After step 3, Show “Bạn có chắc muốn xóa không” popup * After step 4, close popup * Selected schedule is deleted in database |  | Passed | 20/7/2015 |  |

Table 52: Delete Schedule

### Core Flow 2

#### Edit Gradebook

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| UGB01 | Subject Teacher update grade | 1. Login as Subject Teacher 2. On index page, clicks “Sổ điểm bộ môn” link on “Bộ môn” menu navigation bar. 3. Teacher input data and click “Cập nhật” | * After step 2, Show “Sổ điểm bộ môn” page * After step 3, System display “Đã lưu” message. * Student grade data is saved into database |  | Passed | 20/7/2015 |  |

Table 53: Edit Gradebook

#### Update Attendance

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| UA01 | Homeroom teacher update student attendance | 1. Login as Homeroom teacher 2. On index page, clicks “Sổ điểm danh” link on “Chủ nhiệm” menu navigation bar. 3. Homeroom teacher input data then click “Lưu” | * After step 2, Show “Sổ điểm danh” page * After step 3, System display “Đã lưu” success message. * All attendance data are saved into database |  | Passed | 20/7/2015 |  |

Table 54: Update Attendance

#### Evaluate Behaviour

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| EB01 | Homeroom teacher evaluate behavior (conduct) of all students of his/her class | 1. Login as Homeroom teacher 2. On index page, clicks “Xét hạnh kiểm” link on “Chủ nhiệm” menu navigation bar. 3. Teacher chooses value for dropdown list and fill “Nhận xét” field then clicks “Lưu” | * After step 2, Show “Xét hạnh kiểm” page * After step 3, System display “Đã lưu” success message. * All data are saved into database |  | Passed | 20/7/2015 |  |
| EB02 | Homeroom Teacher doesn’t input “Nhật xét” field | 1. Login as Homeroom teacher 2. On index page, clicks “Xét hạnh kiểm” link on “Chủ nhiệm” menu navigation bar. 3. Teacher chooses value for dropdown list but doesn’t fill “Nhận xét” field then clicks “Lưu” | * After step 3, System display “Phải nhập nhận xét kèm theo hạnh kiểm.” error message |  | Passed | 20/7/2015 |  |

Table 55: Evaluate Behavior

#### Approve Absence Request

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| AAR01 | Homeroom teacher approve Absence Request | 1. Login as Homeroom teacher 2. On index page, clicks “Đơn xin nghỉ” link on menu navigation bar. 3. click “Chấp nhận” button | * After step 2, Show “Danh sách đơn xin nghỉ” page * After step 3, System display “Đơn đã được duyệt” success message. * Absence request data is modified in database |  | Passed | 20/7/2015 |  |

Table 56: Approve Absence Request

#### DisApprove Absence Request

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| DAR01 | Homeroom teacher disapprove Absence Request | 1. Login as Homeroom teacher 2. On index page, clicks “Đơn xin nghỉ” link on menu navigation bar. 3. click “Không Chấp nhận” button 4. Teacher fill in “Lý do” field 5. Click “Gửi” button | * After step 2, show “Danh sách đơn xin nghỉ” page * After step 3, System display “Lý do” pop-up message. * After step 5, System closes “Lý do” popup * Absence request data is modified in database |  | Passed | 20/7/2015 |  |

Table 57: DisApprove Absence Request

#### Choose Retake Subject

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| CRS01 | Homeroom teacher choose retake subject for student | 1. Login as Homeroom teacher 2. On index page, clicks “Quản lý học sinh thi lại” link on “Chủ nhiệm” menu navigation bar. 3. Homeroom Teacher   tick on some subjects that student has to retake   1. Click “Cập nhật” button. | * After step 2, show “Danh sách đơn xin nghỉ” page * After step 3, system display “Đã lưu” success message. * All data are saved into database |  | Passed | 20/7/2015 |  |

Table 58: Choose Retake Subject

#### Send Absence Request

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| SAR01 | Student’s Parent navigate “Gửi đơn xin nghỉ” pop-up | 1. Login as Student’s Parent 2. On index page, clicks “Xin nghỉ học” link on menu navigation bar. 3. Student’s Parent click “Thêm mới” button | * After step 2, Show “Danh sách đơn xin nghỉ” page * After step 3, Show “Gửi đơn xin nghỉ” pop-up. |  | Passed | 20/7/2015 |  |
| SAR02 | Student’s Parent send an absence request | 1. On “Gửi đơn xin nghỉ” pop-up, Student’s Parent choose a date and time, fill “Nội dung” field then click “Gửi” button | * System closes “Gửi đơn xin nghỉ” popup * Absence request data is created in database | SAR01 | Passed | 20/7/2015 |  |
| SAR03 | Student’s Parent send an absence request with the same day as the old request | 1. On “Gửi đơn xin nghỉ” pop-up, Student’s Parent choose duplicate date and duplicate time, fill “Nội dung” field then click “Gửi” button | * System display “Đã có đơn xin nghỉ cho buổi này” error message | SAR02  SAR01 | Passed | 20/7/2015 |  |
| SAR04 | Student’s Parent send an absence request with date range bigger than limitation | 1. On “Gửi đơn xin nghỉ” pop-up, Student’s Parent check “Nghỉ nhiều buổi” checkbox, pick date range bigger than limitation, fill “Nội dung” field then click “Gửi” button | * System display “Đã nghỉ quá số buổi cho phép” error message | SAR01 | Passed | 20/7/2015 |  |
| SAR05 | Student’s Parent send an absence request without filling the “Nội dung” field | 1. On “Gửi đơn xin nghỉ” pop-up, Student’s Parent choose a date and time but doesn’t fill “Nội dung” field then click “Gửi” button | * System display “Không có nội dung” error message | SAR01 | Passed | 20/7/2015 |  |

Table 59: Send Absence Request

#### Cancel Absence Request

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Expected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| UDO01 | Student’s Parent delete an absence request | 1. Login as Student’s Parent 2. On index page, clicks “Xin nghỉ học” link on menu navigation bar. 3. On “Xin nghỉ học” page Click “Hủy” button 4. On Confirm pop-up, click “Hủy button” | * After step 2, show “Xin nghỉ học” page * After step 3, show “Bạn có muốn hủy đơn xin nghỉ ?” confirm pop-up. * After step 4, close confirm popup, the selected absence request is deleted in database |  | Passed | 20/7/2015 |  |

Table 60: Cancel Absence Request