**MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

The Traffic Sign Recognition and Training

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| **Capstone Project code** | TSRT |

-Ho Chi Minh City, 03/2014-

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# Definitions, Acronyms, and Abbreviations

# Report No 5 - Software Test Documentation Guide Implementation

## Introduction

### System 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 TSRT.

### Test Approach

- Goal: To test the whole system based on the core workflow.

- Method: System Testing, Black-box Testing.

## Database Relationship Diagram

## C:\Users\Hoang\Desktop\Capstone Project\Document\Diagrams\ERD\Physical-Diagram.jpg

Figure 1: ERD - Physical Diagram

## Performance measures

### Face Detection Performance

* Average time to detect face in 100 images(Resolution: 1100 x 750px): 116.5s
* Best face detected result: 206/222 faces. Percent: 92.8%
* Worst face detected result: 173/222 faces. Percent 77.9%

### Face recognition performance

* Maximum time to load the face recognizer: 12.56s
* Average time to load the face recognizer: 1.22s
* Recognition accuracy:

Figure 2: Face Recognizer Algorithm Accuracy

* The result in real world testing:

Figure 3: Number of images required

**Figure 4: Full Recognize Percent**

About testing progress and detail report, read **FaceRecognizerTestingReport.docx.**

## Test Plan

The purpose of this section is to verify and ensure that TSRT 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 101: Core Workflow**](#_Toc371697397)).

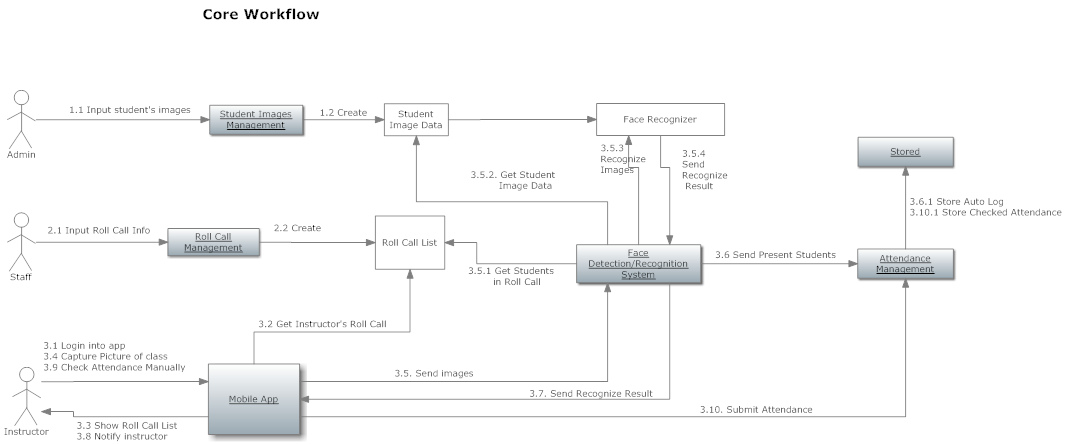
Based on the workflow, all following features will be tested, which can include one or more functions. These features will be focused and tested thoroughly during the test phase.

* Manage Traffic Sign Information: Add/Edit/Remove Traffic Sign, Add/Remove Train Image.
* Traffic Sign Detection And Recognition: Detect Traffic Sign from uploaded image, Recognition Traffic Sign from Detected Area.
* Search Traffic Sign Manual: Search/View Traffic Sign in manual in both mobile and web application.
* Search Traffic Sign Auto: Search/View Traffic Sign using detect and recognition module in both mobile and web application.

### Features not to be tested

* Login, Logout
* Forgot Password
* Configure System
* Statistic information
* Admin - Manage Account

## System Testing Test Case



**Figure 5: Core Workflow**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Excpected output** | **Result** | **Test Date** | **Note** |
| ST01 | Admin add images info for a student.  (In actual use, admin must add images for all student in class) | 1 – Login into the system using an admin account  2 – On the admin home page, click “Student Images”, then click “Student List”.  3 – Click a button in cell “Images” of a student.  4 – Click “Select student's images”, select student’s image from computer.  5 – Press “Upload” button.  6 – Click the face region in images to select student face.  7 – Press “Submit Result” button. | - After step 3, the thumbnails of selected image will be shown below the “Select student’s images” button.  - After step 4, display the uploaded images. The images contains white regions on face detected.  - After step 6, redirect back to Single Student Page. | Passed | 30/10/2013 |  |
| ST02 | Staff create new Roll Call.  (Class of this Roll Call contains the student in test case ST01). | 1 – Login into the system using a staff account  2 – On the staff home page, click “Create Roll Call” link.  3 – Fill in Roll Call Info:   1. Semester 2. Begin Date 3. Major 4. Class 5. Subject 6. Begin Time 7. Instructor   4 – Press “Create” button. | - On the Create Roll Call Page, all the dropdownlist are disabled except semester.  - When staff select a value from dropdowlist, the following dropdownlist will be enable, with filtered info.  - After step 4, the new roll call is created. | Passed | 30/10/2013 |  |
| ST03 | Instructor login into Mobile App. | 1 – Touch the app icon from mobile.  2 – On login screen, input username and password of the instructor selected in test case STO2.  3 – Touch “Login” button. | - A message is displayed: “Hello, [teacher name].”  - All the instructor teaching roll call will be displayed with label contains teaching time.  - The “Take Attendance” button is disabled. | Passed | 30/10/2013 |  |
| ST04 | Instructor check attendance by taking picture | 1 – Set the server time to begin time of the roll call in ST02.  2 – Login again into the mobile app.  3- Touch “Take Attendance” button.  4 – Take a picture of class.  5 – Press Back button.  6 - Wait for the notification, slide from top to view.  7 – Touch the notification message. | - After step 2, the “Take Attendance” button is enabled.  - After step 6: A notification with sound and vibration will appear. A picture is saved as log on server.  - After step 7: Back to the home screen. | Passed | 30/10/2013 |  |
| ST05 | Instructor check attendance by taking picture again | After step 7 in test case ST04  1- Touch “Take Attendance” button.  2 – Take a picture of class.  3 – Press Back button. | - A notification with sound and vibration will appear. - - One more picture is saved as log on server.  - The attendance is update with more student. | Passed | 30/10/2013 |  |
| ST06 | Instructor view Roll Call Log | 1 – On the home screen after login, touch an roll call item.  2- Press “Attendance Log” button.  3 – Touch a log date. | - After Step 2, attendance log of today and yesterday (If exist) will be shown.  - After Step 3, a select list of present/absent will be shown | Passed | 30/10/2013 |  |
| ST07 | Instructor check attendance manually | 1 – On the home screen after login, touch an roll call item.  2- Press “Attendance Log” button.  3 – Touch a log date.  4 – Recheck the attendance.  5 – Presss “OK” button | - The checked attendance will be submit, the screen is refresh. | Passed | 30/10/2013 |  |
| ST08 | Instructor view Roll Call Log using Web.  (In case of mobile problem) | 1 – Login into the system using the instructor account in test case ST03.  2 – On the instructor home page, click on “Detail” link of a Roll Call  3 – On the “Log Attendance” table, click “Log Detail” button of a log (Log date must be before yesterday) | - After step 2, the Roll Call Info page will be shown, contains roll call info and student list and a list of attendance log.  - After step 3, a pop-up will be show, contains log images, the present/absent students. | Passed | 30/10/2013 |  |
| ST09 | Instructor check attendance manually using Web.  (In case of mobile problem) | 1 - Repeat step 1-3 of test case ST08.  2 – Recheck the attendance.  3 – Click “Submit Attendance” button. | - The attendance is submitted. | Passed | 30/10/2013 |  |
| ST10 | Instructor get attendance report | 1 – Login into the system using the instructor account in test case ST03.  2 – On the instructor home page, click on “Detail” link of a Roll Call.  3 – Click on the “Report” link in Log Attendance table. | - An excel file is downloaded. The file contains two sheets: Roll Call Book, Final Examl Student List. | Passed | 30/10/2013 |  |

**Table 1: Core Workflow Test Case**

## Module Test Case

### Manage RollCall

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Excpected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| MR01 | Staff view roll call list. | 1 – Login into the system using a staff account.  2 – Click the Manage Roll Call tab in menu sidebar. | - The Roll call list is showed base on current semester (from begins date to end date). |  | Passed | 15/10/2013 |  |
| MR02 | Create new roll call. | 1 – On the Manage Roll Call Page, click on “Create new roll call” link.  2 – Select information of roll call. Click on “Create” button. | - Dropdown list will show option is filter.  -Transfer to Manage Roll Call page after step 2. | MR01 | Passed | 15/10/2013 |  |
| MR03 | Staff filters the roll call by semester or date. | 1 – On Manage Roll Call page, staff select the semester in dropdown list or select a new begin date – end date.  2 – Click on “Select” button. | \_All roll call in semester selected or from begin date to end date will be show in page. | MR01 | Passed | 15/10/2013 |  |
| MR04 | View attendance | 1 – On Manage Roll Call page, select an old semester. Click on “Select” button  2 – Click on “View attendance” link. | \_The “View attendance” page will be show include: student list, attendance, absent... | MR01 | Passed | 16/10/2013 |  |
| MR05 | Edit roll call | 1 – On Manage Roll Call page. Click on “Edit” link.  2 – Click on “Save” button. | \_The Edit page will be showed.  \_After step 2, transfer to Manage roll call with new roll call, which have been update. | MR01 | Passed | 17/10/2013 |  |
| MR06 | Delete roll call | 1 – On Manage Roll Call page, select a new semester. Click on “Select” button.  2 – Click on “Delete” link. Select “Yes”. | \_The confirm message will be showed.  \_After step 2, transfer to Manage Roll Call page. | MR01 | Passed | 17/10/2013 |  |
| MR07 | Change schedule roll call. | 1– On Manage Roll Call page, click on “Change” link.  2 – Click on one date.  3 – Fill the new value and click on “Change” button. | \_The calendar of roll call will be showed.  \_After step 2, a pop-up will be showed.  \_After step 3, the pop-up hide, and show calendar with new value. | MR01 | Passed | 18/10/2013 |  |
| MR08 | View student list. | 1 – On Manage Roll Call page, select a new semester. Click on “Select” button.  2 – Click on “Student list” link. | \_The student list of class of roll call will be showed. | MR01 | Passed | 18/10/2013 |  |
| MR09 | Add new students to roll call | 1 – On Student list page,  Type or select student on select box.  2 – Click on “Add” button. | \_The student list will be showed with new students. | MR01,MR08 | Passed | 18/10/2013 |  |
| MR10 | Remove a student from roll call | 1 – On Student list page, click on “Remove” link.  2 – Select “Yes” button. | \_After step 1, a confirm message will be show.  \_After step 2, the student list will be show with no student has been remove. | MR01, MR08 | Passed | 19/10/2013 |  |

**Table 2: Manage Roll Call Test Case**

### Manage Student Image

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Excpected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| MS01 | Admin view the list of all students | 1 – On the admin home page, click “Student Images”, then click “Student List”. | - All active students will be displayed, order descending by StudentID |  | Passed | 22/09/2013 |  |
| MS02 | Admin filter the student by class | 1 – On the admin home page, click “Student Images”, then click “Student List”.  2 – Select a class from the dropdownlist.  3 – Press “Select” button. | - All students of the selected class will be filtered and displayed | MS01 | Passed | 22/09/2013 |  |
| MS03 | Admin view student images data | 1 – On the admin home page, click “Student Images”, then click “Student List”.  2 – Click a button in cell “Images” of a student. | - Display all images of the selected student | MS01 | Passed | 24/09/2013 |  |
| MS04 | Admin add images for a student | 1 – On the admin home page, click “Student Images”, then click “Student List”.  2 – Click a button in cell “Images” of a student.  3 – Click “Select student's images”, select student’s image from computer.  4 – Press “Upload” button.  5 – Click the face region in images to select student face.  6 – Press “Submit Result” button. | - After step 3, the thumbnails of selected image will be shown below the “Select student’s images” button.  - After step 4, display the uploaded images. The images contains white regions on face detected.  - After step 6, redirect back to Single Student Page. | MS03 | Passed | 24/09/2013 |  |
| MS05 | Admin add images for a student (Image already in database) | 1 - Repeat Step 1-6 of case MS04.  2 – Click “Select student's images”, select the old image again.  4 – Press “Upload” button.  5 – Click the same region as first time.  6 – Press “Submit Result” button. | - Redirect back to Single Student Page. A warning show “Image already in database”. | MS03, MS04 | Passed | 24/09/2013 |  |
| MS06 | Admin Delete Images of a student | 1 – On the admin home page, click “Student Images”, then click “Student List.  2 – Click a button in cell “Images” of a student.  3 – Click the “X” mark on the top-right corner of an image.  4 – A confirm box is shown, click “Yes”. | - The image is deleted from database. A message is shown then hide. | MS03 | Passed | 25/09/2013 |  |
| MS07 | Admin add images for many students | 1 – On the admin home page, click “Student Images”, then click “Upload Images”.  2 – Click “Select student's images”, select students’s image from computer.  3 – Press “Upload” button.  4 – Hover the mouse over the face region, click the dropdownlist.  5 – Select the face’s owner from dropdownlist.  6 – Click “Submit Result” button | - After step 2, the thumbnails of selected image will be shown below the “Select student’s images” button.  - In step 3, the dropdownlist contains: image, student code, student name of all active students.  - After step 6, redirect back to Add Images Page, show the submitted result. |  | Passed | 27/09/2013 |  |
| MS08 | Admin view the attendance log images | 1 – On the admin home page, click “Student Images”, then click “Log Images”.  2 – Select the begin date to find.  3 – Select the end date to find.  4 – Click the “Find” button. | - On Log Images page, the default begin date is today, the default end date is set to tomorrow.  - After step 4, all log images between begin date and end date will be shown as thumbnail. |  | Passed | 05/10/2013 |  |
| MS09 | Admin view the attendance log images filtered by class | 1 – On the admin home page, click “Student Images”, then click “Log Images”.  2 – Select the begin date to find.  3 – Select the end date to find.  4 – Select a class from dropdownlist.  5 – Click the “Find” button. | - On Log Images page, the default begin date is today, the default end date is set to tomorrow.  - After step 5, all log images between begin date and end date of the selected class will be shown as thumbnail. | MS08 | Passed | 05/10/2013 |  |
| MS10 | Admin select learning data from log images | 1 – Repeat step 1-4 of test case MS08.  2 – Select the log images by clicking them.  3 – Click “Use selected images” button.  4 – Hover the mouse on face region to see student name.  5 – If the name is wrong, click the face region.  6 – Select the face’s owner using the dropdownlist.  7 – Press “Save Result” button. | - After step 5, a dropdownlist contains: image, student code, student name of all active students will be shown.  - After step 7, redirect to Log Images page, show the submited result | MS08 | Passed | 05/10/2013 |  |

**Table 3: Manage Student Image Test Case**

### Check Attendance

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Excpected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| CA01 | Instructor view teaching session (Web) | 1 – Create some roll calls for an instructor.  2 – Login into the system with that instructor account | - All the instructor teaching roll call will be displayed with label contains teaching time. | MR01 | Passed | 01/10/2013 |  |
| CA02 | Instructor view teaching session on Sunday (Web) | 1 – Create some roll calls for an instructor.  2 – Change server time to Sunday.  3 – Login into the system with that instructor account | - All the instructor teaching roll call will be displayed with red label contains “No Teaching Slot”. | MR01, CA01 | Passed | 01/10/2013 |  |
| CA03 | Instructor view Present Roll Call (Web) | 1 – On the instructor home page, click on “Present Roll Call” link | - The Roll Call Info page will be shown, contains roll call info and student list |  | Passed | 01/10/2013 |  |
| CA04 | Instructor view Roll Call Log  (Web) | 1 – On the instructor home page, click on “Detail” link of a roll call  2 – On the “Log Attendance” table, click “Log Detail” button of a log (Log date must be before yesterday) | - After step 1, the Roll Call Info page will be shown, contains roll call info and student list and a list of attendance log.  - After step 2, a pop-up will be show, contains log images, the present/absent students. | CA01 | Passed | 04/10/2013 |  |
| CA05 | Instructor check Attendance Manually (Web) | 1 – On the instructor home page, click on “Detail” link of a roll call  2 – On the “Log Attendance” table, click “Log Detail” button of a log (Log date must be yesterday or today)  3 – Recheck the attendance.  4 – Click “Submit Attendance” button. | The attendance is submitted. | CA01, CA04 | Passed | 06/10/2013 |  |
| CA06 | Instructor view teaching session (Mobile) | 1 – Create some roll calls for an instructor.  2 – Login into the system with that instructor account using mobile | - All the instructor teaching roll call will be displayed.  - The present roll call will be bigger, with red and orange text. | MR01 | Passed | 10/10/2013 |  |
| CA07 | Instructor view teaching session without present Roll Call (Mobile) | 1 – Create some roll calls for an instructor.  2 – Change server time to 11:00 pm  2 – Login into the system with that instructor account using mobile | - All the instructor teaching roll call will be displayed.  - The “Take Attendance” button will be disable | MR01, CA06 | Passed | 10/10/2013 |  |
| CA08 | Instructor check attendance by taking picture | 1 – On the home screen after login, touch “Take Attendance” button.  2 – Take a picture of class.  3 - Wait for the notification, slide from top to view.  4 – Touch the notification message.  5 – Continue to take a picture.  6 – Press Back button. | - After step 2: A notification with sound and vibration will appear. A picture is saved as log on server.  - After step 4: Show the home screen.  - After step 5: The notification appears agagin, 1 more picture is stored as log. |  | Passed | 13/10/2013 |  |
| CA08 | Instructor view Roll Call Detail (Mobile) | 1 – On the home screen after login, touch an roll call. | - All roll call info, include the student list will be shown at a new screen | CA06 | Passed | 13/10/2013 |  |
| CA09 | Instructor view Roll Call Log (Mobile) | 1 – On the home screen after login, touch an roll call item.  2- Press “Attendance Log” button.  3 – Touch a log date. | - After Step 2, attendance log of today and yesterday will be shown.  - After Step 3, a select list of present/absent will be shown | CA06, CA08 | Passed | 13/10/2013 |  |
| CA10 | Instructor check attendance manually | 1 – On the home screen after login, touch an roll call item.  2- Press “Attendance Log” button.  3 – Touch a log date.  4 – Recheck the attendance.  5 – Presss “OK” button | - The checked attendance will be submit, the screen is refresh. | CA06, CA09 | Passed | 15/10/2013 |  |

**Table 4: Check Attendance Test Case**

### Attendance Report

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Excpected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| AR01 | Instructor get Roll Call attendance report | 1 – Login into the system using an instructor account.  2 – On the instructor home page, click on “Detail” link of a Roll Call.  3 – Click on the “Report” link in Log Attendance table. | - An excel file is downloaded. The file contains two sheets: Roll Call Book, Final Exam Student List. |  | Passed | 25/10/2013 |  |
| AR02 | Staff get attendance report of Roll Calls | 1 – Login into the system using an instructor account.  2 – On the Roll Call Page, filter the Roll Call by select start date and end date  3 – Click “Get Attendance Rate” button. | - An excel file is downloaded. Each sheet contains the Roll Call Book with attendance rate of each Roll Call. |  | Passed | 25/10/2013 |  |
| AR03 | Staff get final exam’s student list of Roll Calls | 1 – Login into the system using an instructor account.  2 – On the Roll Call Page, filter the Roll Call by select start date and end date  3 – Click “Get Final Exam Student List” button. | - An excel file is downloaded. Each sheet contains the Final Exam Student List of each Roll Call. |  | Passed | 25/10/2013 |  |

**Table 5: Attendance Report Test Case**

### Manage Teaching Calendar

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Excpected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| MT01 | Instructor view teaching calendar | 1 – Create some roll calls for an instructor.  2 – Login into the system with that instructor account  3 - On the instructor home page, click on “Teaching Calendar” link | - A calendar will be shown, with the events are instructor teaching session. | MR01 | Passed | 04/11/2013 |  |
| MT02 | Instructor request Google API token | 1 – Repeat step 1-3 of case MT01  2- Click button “Sync with Google Calendar”.  3 – On the new page, click “Accept” button | - Redirect back to Calendar Page, with a message “Token received. Your calendar will be sync to Google Calendar later.”  - On the Calendar Page, there’re two button “Renew Token” and “Request Calendar Sync Now” | MT01 | Passed | 04/11/2013 |  |
| MT03 | Instructor request Google Calendar sync | 1 – Login with the instructor account used in MT02.  2 - On the instructor home page, click on “Teaching Calendar” link.  3 – Click “Request Calendar Sync Now” button.  4 – Login into Google Calendar account to check. | - Redirect back to Calendar Page, with a message “Your calendar was synced to Google Calendar at …”.  - The events are synced to Google Calendar | MT02 | Passed | 04/11/2013 |  |
| MT04 | Instructor request new token | 1 – Login with a new Google Calendar Account.  2 – Login with the instructor account used in MT02.  3 – Click “Renew Token” button.  4 – Click “Request Calendar Sync Now” button.  5 – Login into Google Calendar account to check. | - After step 3, redirect back to Calendar Page, with a message “Token received. Your calendar will be sync to Google Calendar later.”  - The events are synced to new Google Calendar account. | MT03 | Passed | 04/11/2013 |  |
| MT05 | Auto sync Google Calendar | 1 – At 02:00AM of everyday | - All the events begin from today will be synced for instructors who received Google API Token. | MT02 | Passed | 04/11/2013 |  |

**Table 6: Manage Teaching Calendar Test Case**

### Manage Study Session

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Excpected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| MS01 | Staff add more study session for roll call | 1 – Login into the system using a staff account.  2 – Click on “Roll Call” link.  3 – In the “Schedule” column, click the “Change” link.  4 – Click “Add new Session” button.  5 – Fill in information:   1. Date 2. Time 3. Instructor 4. Note   6 – Press “Add” button. | - After step 3, a calendar is shown, contains all study session of the roll call.  - After step 4, a pop-up is shown.  - After step 6, the created session is added to the calendar. |  | Passed | 25/10/2013 |  |
| MS02 | Staff change study session time (In past) | 1 – Login into the system using a staff account.  2 – Click on “Roll Call” link.  3 – In the “Schedule” column, click the “Change” link.  4 – Click on an gray event on calendar (Event in the past). | - The pop-up is not shown |  | Passed | 25/10/2013 |  |
| MS03 | Staff change study session time (In future) | 1 – Login into the system using a staff account.  2 – Click on “Roll Call” link.  3 – In the “Schedule” column, click the “Change” link.  4 – Click on an green event on calendar (Event in future).  5 – Select the date to change,  6 – Select time to changes.  7 – Enter reason into “Note”.  8 – Press “Save” button. | - After step 4, a pop-up is shown.  - After step 5, the time dropdownlist will be filled with avaible time.  - After step 8, the time of selected event is changed. |  | Passed | 25/10/2013 |  |
| MS04 | Staff change study session time without enter Note | 1 – Login into the system using a staff account.  2 – Click on “Roll Call” link.  3 – In the “Schedule” column, click the “Change” link.  4 – Click on an green event on calendar (Event in future).  5 – Press “Save” button. | - Alert “Enter reason for changing date”. |  | Passed | 26/10/2013 |  |
| MS05 | Staff change study session time with Note longer than 50 characters | 1 – Login into the system using a staff account.  2 – Click on “Roll Call” link.  3 – In the “Schedule” column, click the “Change” link.  4 – Click on an green event on calendar (Event in future).  5 – Enter note, longer than 50 characters  5 – Press “Save” button. | - Alert “Reason too long. Must be shorter than 50 characters”. |  | Passed | 26/10/2013 |  |
| MS06 | Staff change instructor of study session | 1 – Login into the system using a staff account.  2 – Click on “Roll Call” link.  3 – Click the “Change” link.  4 – Click “Change Instructor”.  5 – Choose the start date.  6 – Choose the end date.  7 – Choose instructor.  8 – Enter reason into “Note”.  9 – Press “Save” button. | - After step 4, a pop-up is shown.  - After step 6, the instructor dropdownlist will be filled with avaiable instructor.  - The instructor of selected study sessions will be changed. |  | Passed | 27/10/2013 |  |

**Table 7: Manage Study Session Test Case**

### Check own Attendance Rate

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Case Procedure** | **Excpected output** | **Inter-test Case Dependence** | **Result** | **Test Date** | **Note** |
| CA01 | New student check own attendance | 1 – Using a staff account, create a new student  2 – Using an admin account, create the student account.  3 – Login into system, using the newly created student account. | - The Student Home Page is shown, with “No Learning Course” text. |  | Passed | 5/10/2013 |  |
| CA02 | Student check own attendance Rate | 1 – Login into the system using a student account.  2 – On the Roll Call Page, all the learning and learned course are shown.  3 – Click on the “Attendance” button of a course. | - A pop-up is shown, contains the absent rate, the log of present/absent of the student. |  | Passed | 6/10/2013 |  |

**Table 8: Check own Attendance Rate Test Case**