**Test Cases – Iteration 2**

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| **S/N** | **Functionality** | **Description** | **Test Inputs** | **Test Procedure** | **Expected Results** | **Actual Results** | **Pass/Fail** |
| 1 | Login | Validation of student is logged in will be successfully when they enter the correct for both email id and password. | Email Id: sean.tan.2011  Password: asdf0000 | Enter student id and password into input text fields provided at the login menu. | Login successful.  Welcome page is displayed. | Student is logged in | Pass |
| 2 | Login | Validation of student is not logged in will be successfully when they enter the incorrect email id and correct password. | Email Id: 123456  Password: asdf0000 | Enter student id and password into input text fields provided at the login menu. | Login unsuccessful.  Re-directs the student to login page. An error message will be displayed and student is asked to re-enter email and password. | OutOfBoundException occurs | Fail |
| 3 | Login | Validation of student is not logged in will be successfully when they enter the correct email id and incorrect password. | Email Id: sean.tan.2011  Password: abcdefgh | Enter student id and password into input text fields provided at the login menu. | Login unsuccessful.  Re-directs the student to login page. An error message will be displayed and student is asked to re-enter email and password. | Wrong email id/password error message is alerted to the student | Pass |
| 4 | Login | Validation of student is not logged in will be successfully when they leave email id empty and enter correct password. | Email Id:  Password: asdf0000 | Leave the student id empty and enter the password into input text fields provided at the login menu. | Login unsuccessful.  Re-directs the student to login page. An error message will be displayed and student is asked to re-enter email and password. | Wrong email id/password error message is alerted to the student | Pass |
| 5 | Login | Validation of student is not logged in will be successfully when they enter the correct email id and leave the password empty. | Email Id: sean.tan.2011  Password: | Enter student id and leave the password empty in the input text fields provided at the login menu. | Login unsuccessful.  Re-directs the student to login page. An error message will be displayed and student is asked to re-enter email and password. | Wrong email id/password error message is alerted to the student | Pass |
| 6 | Login | Validation is successful when student has been logged in before re-direction to the welcome.jsp. | ……/SMUA/home.jsp | Enter “welcome.jsp” in the url of a browser. | Student will be redirected to the login page. | Student is redirected back to the login page | Pass |
| 7 | Logout | Validation is successful when logged in student is successfully logged out. | Student clicks on the ‘Logout’ button | Student has successfully logged in and clicks on the logout button. | Logout is successful.  Student is redirected to login page. | Student is redirected back to login page. | Pass |

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| **S/N** | **Functionality** | **Description** | **Test Inputs** | **Test Procedure** | **Expected Results** | **Actual Results** | **Pass/Fail** |
| 1 | Bootstrap (Validate zip file) | Validate that the file is of zip extension | 001.jpg | Load .jpg into database | Page returns with an error message | The .jpg file cannot be selected | Pass |
| 2 | Bootstrap (Validate common csv files) | Validate that the file has no blank fields | app-lookup.csv  demographics.csv  app.csv | Load a .zip file containing listed .csv files | The erroneous row is discarded with no further validations on the row required; display number of rows discarded | The error messages are successfully printed out | Pass |
| 3 | Bootstrap (Validate demographics.csv) | Validate the mac-address to be a 40-digit hexadecimal number | 713hsiasd23ih34  12321$#@$! | Load a .zip file containing demographics.csv | Return error message “invalid mac-address” | Error messages are returned with information “invalid mac-address” | Pass |
| 4 | Bootstrap (Validate demographics.csv) | Validate the student’s name (cannot contain numbers or symbols) | Tan88  $$Money | Load a .zip file containing demographics.csv | Return error message “invalid name” | Error messages are returned with information “invalid name” | Pass |
| 5 | Bootstrap (Validate demographics.csv) | Validate the student’s password (Must be more than 8 char and cannot contain white spaces) | Asdfg  Qwe rt y | Load a .zip file containing demographics.csv | Return error message “invalid password” | Error messages are returned with information “invalid password” | Pass |
| 6 | Bootstrap (Validate demographics.csv) | Validate the student’s email (must contain xxx.<year>@<school>.smu.edu.sg)  Year between 2011-2015  Xxx should contain only letters | [Testing.2010@sis.smu.edu.sg](mailto:Testing.2010@sis.smu.edu.sg)  [Testing.2016@sis.smu.edu.sg](mailto:Testing.2016@sis.smu.edu.sg)  [Noschool.2014@nothing.smu.edu.sg](mailto:Noschool.2014@nothing.smu.edu.sg)  [Name464.2013@accountancy.smu.edu.sg](mailto:Name464.2013@accountancy.smu.edu.sg)  Dumb!.2013@business.smu.edu.sg | Load a .zip file containing demographics.csv | Return error message “invalid email” | Error messages are returned with information “invalid email” | Pass |
| 7 | Bootstrap (Validate demographics.csv) | Validate the student’s gender (either F or M, case sensitive) | G  Female  Male  m | Load a .zip file containing demographics.csv | Return error message “invalid gender” | Error messages are returned with information “invalid email” when input is m/f | Fail |
| 8 | Bootstrap (Validate app-lookup.csv) | Validate the app-id (unique identifier, must be positive non-zero integer) | -23  0  A123 | Load a .zip file containing app-lookup.csv.csv | Return error message “invalid app-id” | Error messages are returned with information “invalid app-id” | Pass |
| 9 | Bootstrap (Validate app-lookup.csv) | Validate the app-category (can only be predefined categorical values) | Fun  123  Local! | Load a .zip file containing app-lookup.csv.csv | Return error message “invalid app-category” | Error messages are returned with information “invalid app-category” | Pass |
| 10 | Bootstrap (Validate app.csv) | Validate the app-id (must be in app-lookup.csv) | 999  500#  App123 | Load a .zip file containing app-lookup.csv.csv | Return error message “invalid app-id” | Error messages are returned with information “invalid app-id” | Pass |
| 11 | Bootstrap (Validate app.csv) | Validate the mac-address to be a 40-digit hexadecimal number | 8138wbdfh8r23427dsa  28eh3rffas#\*$@#&%(@#E(@#DH!## | Load a .zip file containing app.csv | Return error message “invalid mac-address” | Error messages are returned with information “invalid mac-address” | Pass |
| 12 | Bootstrap (Validate app.csv) | Validate mac-address (must be in demographics.csv) | 3776412bsajdhjad89212312312312sadasdjbejbasdassdasd  #@%@#duashdiasne1bj2hveqwe123131 | Load a .zip file containing app.csv | Return error message “no matching mac-address” | Error messages are returned with information “no matching mac-address” | Pass |
| 13 | Bootstrap (Validate app.csv) | Validate timestamp (format of date and time YYYY-MM-DD HH:MM:SS) | 1994-13-34 43:11:32  Tsaesdanq123  2014-10-33 12:10:20  2014-10-22 12:10:61 | Load a .zip file containing app.csv | Return error message “invalid timestamp” | No error message is returned when input value is 1994-13-34 3:11:32 | Fail |
| 14 | Bootstrap (Validate app.csv) | Validate duplicate rows (records with same values) | (duplicate rows) | Load a .zip file containing app.csv | Return error message “duplicate row” | Error messages are returned with information “duplicate row” | Pass |

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| **S/N** | **Functionality** | **Description** | **Test Inputs** | **Test Procedure** | **Expected Results** | **Actual Results** | **Pass/Fail** |
| 1 | Basic App Usage Report: Breakdown by time usage | Validation report is display with valid start date and end date within the app usage timestamp | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the Breakdown by time usage. | View report successful.  Redirect user to Breakdown by time usage page. Display time usage report of type of users (intense, normal, mild), number of that users and percentage | Display time usage report of type of users (intense, normal, mild), number of that users and percentage | Pass |
| 2 | Basic App Usage Report: Breakdown by time usage | Validation start date is before end date | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the Breakdown by time usage. | View report unsuccessful.  Redirect user to Breakdown by time usage page. An error message is displayed and user is told that start date must be before end date | Start date must be before End date error message is alerted to the user | Pass |
| 3 | Basic App Usage Report: Breakdown by time usage | Validation app usage timestamp is after start date and before end date | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the Breakdown by time usage. | View report unsuccessful.  Redirect user to Welcome page. A message is displayed and user is told that there is no record shown | Blank page is shown. Suppose to redirect user back to Basic App Usage main page and display “No record shown” | Pass |
| 4 | Basic App Usage Report: Breakdown by time usage & demographics | Validation of displaying results by year | Either check or uncheck the “year” button | If year is selected, usage report should be categorized by administrative years (from 2011 - 2015) | Redirect to the same page:  If year button is checked, which should display the result categorized by year; if year button is unchecked, the result should not be sorted by year |  |  |
| 5 | Basic App Usage Report: Breakdown by time usage & demographics | Validation of displaying results by gender | Either check or uncheck the “gender” button | If gender is selected, usage report should be categorized by either male of female | Redirect to the same page:  If gender button is checked, which should display the result categorized by gender; if gender button is unchecked, the result should not be sorted by gender |  |  |
| 6 | Basic App Usage Report: Breakdown by time usage & demographics | Validation of displaying results by school | Either check or uncheck the “school” button | If school is selected, usage report should be categorized by specific schools | Redirect to the same page:  If school button is checked, which should display the results categorized by school; if school button is unchecked, the result should not be sorted by school |  |  |
| 7 | Basic App Usage Report: Breakdown by time usage & demographics | Validation of displaying results by selecting more than one category | Buttons check >= 2 | Check more than one button, the result should be able to display all categories accordingly; sub-categories should be seen under each primary category; priority order: gender > school > year | Redirect to the same page, all categories and each sub-categories are displayed |  |  |
| 8 | Basic App Usage Report: Breakdown by app category | Validation report is display with valid start date and end date within the app usage timestamp | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the Breakdown by app category. | View report successful.  Redirect user to Breakdown by time usage page. Display daily usage duration as well as the percentage of the total (0 would be displayed if there is no usage in an app category) | Display time usage report of app categories, daily usage duration (in hours) and percentage | Pass |
| 9 | Basic App Usage Report: Breakdown by app category | Validation report of invalid period of time input(does not overlap with the duration in app.csv) | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the Breakdown by app category. | View report unsuccessful.  Redirect user to Breakdown by app category page. An error message is displayed and user is told that start date must be before end date | Start date must be before End date error message is alerted to the user | Pass |
| 10 | Diurnal pattern of app usage time | Validation report from selection of Gender | M  F | Select gender from the drop-down list input text fields provided at the Diurnal pattern of app usage time. | View report successful.  Redirect user to diurnal pattern app usage. Display results accordingly. | Display records accordingly from 13:00 hrs to 16:00 hrs. | Pass |

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| **S/N** | **Functionality** | **Description** | **Test Inputs** | **Test Procedure** | **Expected Results** | **Actual Results** | **Pass/Fail** |
| 1 | Top-k Usage Report: Top-k most used apps | Validation report is display with valid start date and end date within the app usage timestamp, k is an integer within the range from 1 – 10, school is selected from one of the schools. | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00  School name: SIS, SOE, LKCSB,SOA,SOL,SOSS  k = 1 ~ 10 | Select start date and end date into readable only input text fields provided at the App. | View report successful.  Redirect user to Top-k most used app web page. Display top-k apps for a certain school during certain period. | Display records accordingly based on user selection | Pass |
| 2 | Top-k Usage Report: Top-k most used apps | Validation start date is before end date | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the App Usage by time usage. | View report unsuccessful.  Redirect user to Top-k app web page. An error message is displayed and user is told that start date must be before end date | Display list of possible error messages in the error display page | Pass |
| 3 | Top-k Usage Report: Top-k most used apps | Validation timestamp is after start date and before end date | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the Breakdown by time usage. | View report unsuccessful.  Redirect user to Top-k app web page. A message is displayed and user is told that there is no record shown | Display list of possible error messages in the error display page | Pass |
| 4 | Top-k Usage Report: Top-k most used apps | Validation of input value of k | The value of k must be an integer which lies between 1 to 10 | Input k multiple times with negative value, double value | View report unsuccessful.  Redirect user to Top-k app web page. A message is displayed and user is told that k should be an integer which lies between 1 to 10 | Display a pop-out message and alert the user that k should be an integer which lies between 1 to 10 | Pass |
| 5 | Top-k Usage Report: Top-k students with most used apps | Validation report is display with valid start date and end date within the app usage timestamp, k is an integer within the range from 1 – 10, school is selected from one of the schools. | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00  School name: SIS, SOE, LKCSB,SOA,SOL,SOSS  k = 1 ~ 10 | Select start date and end date into readable only input text fields provided at the App usage. | View report successful.  Redirect user to Top-k students with most used app web page. Display top-k students with longest period of app usage. | Display records accordingly based on user selection | Pass |
| 6 | Top-k Usage Report: Top-k students with most used apps | Validation start date is before end date | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the App Usage by time usage. | View report unsuccessful.  Redirect user to Top-k students with app usage web page. An error message is displayed and user is told that start date must be before end date | Display list of possible error messages in the error display page | Pass |
| 7 | Top-k Usage Report: Top-k students with most used apps | Validation timestamp is after start date and before end date | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided at the Breakdown by time usage. | View report unsuccessful.  Redirect user to Top-k students with app usage web page. A message is displayed and user is told that there is no record shown | Display list of possible error messages in the error display page | Pass |
| 8 | Top-k Usage Report: Top-k students with most used apps | Validation of input value of k | The value of k must be an integer which lies between 1 to 10 | Input k multiple times with negative value, double value | View report unsuccessful.  Redirect user to Top-k students with app usage web page. A message is displayed and user is told that k should be an integer which lies between 1 to 10 | A pop-out message is displayed and alerted the user that k should be an integer which lies between 1 to 10 | Pass |
| 9 | Smartphone Overuse Report | Validation report is display with valid start date and end date within the app usage timestamp | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided. | View report successful.  Redirect user to Smartphone overuse report. Display Smartphone Overuse Report for a certain school during certain period. | Display records accordingly based on user selection | Pass |
| 10 | Smartphone Overuse Report | Validation of input date which is not within the range of csv | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date which is different from any dates recorded in the csv file. | View report unsuccessful.  Redirect user to Smartphone Overuse Report web page. User is told that there is no record shown | Display list of possible error messages in the error display page | Pass |
| 11 | Smartphone Overuse Report | Validation start date is before end date | Date format (yyyy-MM-dd hh:MM:ss)  Start date: 2015-04-06 00:00:00  End date: 2015-04-07 00:00:00 | Select start date and end date into readable only input text fields provided. | View report unsuccessful.  Redirect user to Smartphone Overuse Report web page. An error message is displayed and user is told that start date must be before end date | Display list of possible error messages in the error display page | Pass |
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