**CSC 217 Lab 02 System Test Plan**

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| **Test ID** | **Description** | **Expected Results** | **Actual Results** |
| Test 1: Start Pack Scheduler | Preconditions: None   1. Start the Pack Scheduler application. 2. *Check results.* | * Pack Scheduler GUI loads * New Student Directory is displayed. * Student Directory only shows labels. * New Student Information is empty. | **The Pack Scheduler GUI loads as intended. The New Student Directory is displayed as intended. The Student Directory only shows the labels and the New Student Information is empty.** |
| Test 2:  Stop Pack Scheduler | Preconditions: The user is in the main window of the Pack Scheduler application.  Click on the close window button. | * Pack Scheduler GUI closes without any errors. | **The Pack Scheduler GUI closes as expected.** |
| Test 3:  New Student Directory | Preconditions: The Pack Scheduler application has started.  Click on **“New Student Directory”** button. | * A new student directory should be created. * The display is updated so that the *Student Directory* is empty. | **A new Student Directory is created as intended, and the display is updated such that the Student Directory is empty.** |
| Test 4:  Load Student Directory (Valid File) | Preconditions: The Pack Scheduler application has started.   * Click on **“Load Student Directory”** button. * Check results | * A dialog appears to browse the file system for file with student information. * Select the file student\_records.txt from test-files folder. * All 10 records from student\_records.txt are displayed in the *Student Directory* list. * Student Records should be displayed as the same order in the text file. | **The dialog box shows up as expected All the ten expected records are displayed from the Student Directory list in the same order in the text file.** |
| Test 5:  Load Student Directory (Invalid File) | Preconditions: The Pack Scheduler application has started.   * Click on **“Load Student Directory”** button.   Check results | * A dialog appears to browse the file system for file with student information. * Select the file invalid\_student\_records.txt from test-files folder. * Only 1 record with the student’s name (Zahir King) from invalid\_student\_records.txt is displayed in the *Student Directory* list. * All other records should be ignored. | **The dialog box to browse the file system appears as intended. There is only one record from the invalid\_student\_records.txt that is displayed in the Student Directory list.** |
| Test 6:  Save Student Directory after loading directory | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Click on **“Save Student Directory”** button. * Check results. | * A dialog appears to browse the file system and the name of the file. * Select the folder as test-files and the file name as student\_records\_saved.txt * All the 10 student records displayed in the Student Directory section of the UI are saved to the new file student\_records\_saved.txt * The order of the records in the output file is same as the order displayed in the UI. | **A dialog box appears as intended. All the 10 student records displayed in the Student Directory section of the UI are saved to the new file student\_records\_saved.txt as expected in the same order displayed in the UI.** |
| Test 7:  Add Student to Student Directory (Valid Student Details) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: Smith,* ***ID****: jsmith,* ***Email****:* [*john.smith@ncsu.edu*](mailto:john.smith@ncsu.edu)*,* ***Password****: Test123,* ***Repeat Password****: Test123,* ***Max Credits****: 12*   * Click on **“Add Student”** button.   Check results | * A new student record for John Smith should be added and displayed at the bottom of the *Student Directory.* * The Student Directory section should display a total of 11 records. * The Student Information section at the bottom should become empty after the new student is added to the directory. | **A new Student Record for John Smith is added and displayed at the bottom of the Student Directory. The Student Directory displays a total of 11 records as expected. The Student Information Section is empty after the new Student is added.** |
| Test 8:  Add Student to Student Directory (Valid Student Details without max credits) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: Smith,* ***ID****: jsmith,* ***Email****:* [*john.smith@ncsu.edu*](mailto:john.smith@ncsu.edu)*,* ***Password****: Test123,* ***Repeat Password****: Test123,* ***Max Credits****: (leave blank)*   * Click on **“Add Student”** button.   Check results | * A new student record for John Smith should be added without any errors and displayed at the bottom of the *Student Directory.* * The Student Directory section should display a total of 11 records. * The Student Information section at the bottom should become empty after the new student is added to the directory. | **A new student record for John Smith is added without any errors at the bottom of student directory. The Student Directory section displays a total 11 records as intended. The student information section at the bottom is empty.** |
| Test 9:  Add Student to Student Directory and Save (Valid Student Details) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of Student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: Smith,* ***ID****: jsmith,* ***Email****:* [*john.smith@ncsu.edu*](mailto:john.smith@ncsu.edu)*,* ***Password****: Test123,* ***Repeat Password****: Test123,* ***Max Credits****: 12*   * Click on **“Add Student”** button. * Check results. * Click on **“Save Student Directory”** button. * Check results. | * A new student record for John Smith should be added and displayed at the bottom of the *Student Directory.* * The Student Directory section should display a total of 11 records. * The Student Information section at the bottom should become empty after the new student is added to the directory. * After clicking on **“Save Student Directory”** button, a dialog appears to browse the file system and to enter the name of the file. * Select the folder as test-files and the file name as student\_records\_add\_save.txt. * All the 11 student records displayed in the Student Directory section of the UI are saved to the new file student\_records\_add\_save.txt. * The order of the records in the output file is the same as the order displayed in the UI. * The password for all the records saved in the text file are hashed using SHA-256. | **John Smith is added as a new student record and displayed at the bottom of the Student Directory as intended. The Student Directory section displays a total of 11 records. After the new student is added to the directory, the Student Information section at the bottom becomes empty. Upon clicking the "Save Student Directory" button, a dialog appears to browse the file system and enter the name of the file. All 11 student records displayed in the Student Directory section of the user interface are saved to the new file "student\_records\_add\_save.txt." The order of the records in the output file matches the order displayed in the UI. Furthermore, the passwords for all the records saved in the text file are hashed using SHA-256.** |
| Test 10:  Add Student to Student Directory (Invalid Last Name) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: (leave blank),* ***ID****: jsmith,* ***Email****:* [*john.smith@ncsu.edu*](mailto:john.smith@ncsu.edu)*,* ***Password****: Test123,* ***Repeat Password****: Test123,* ***Max Credits****: 12*   * Click on **“Add Student”** button.   Check results | * After clicking on “Add Student” button a pop-up message box should be displayed stating “Invalid last name” * After clicking “OK”, the student directory with 10 records is displayed. * The *Student Directory* section should show the same 10 records as before and the new student information should not be added to the *Student Directory.* | **After clicking on the "Add Student" button, a pop-up message box displays stating "Invalid last name." as intended. Upon clicking "OK," the student directory with 10 records is displayed as intended. The Student Directory section still shows the same 10 records as earlier, and the new student information is not added to the Student Directory.** |
| Test 11:  Add Student to Student Directory (Invalid Email) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: Smith,* ***ID****: jsmith,* ***Email****: (leave blank),* ***Password****: Test123,* ***Repeat Password****: Test123,* ***Max Credits****: 12*   * Click on **“Add Student”** button.   Check results | * After clicking on “Add Student” button a pop-up message box should be displayed stating “Invalid Email”. * After clicking “OK”, the student directory with 10 records is displayed. * The *Student Directory* section should show the same 10 records as before and the new student information should not be added to the *Student Directory.* | **After clicking the "Add Student" button, a pop-up message box stating "Invalid Email." Is displayed. After clicking "OK," the student directory with 10 records is displayed as expected. The Student Directory section continues to show the same 10 records as before, and the new student information is not added to the Student Directory.** |
| Test 12:  Add Student to Student Directory (Non-Matching Passwords) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: Smith,* ***ID****: jsmith,* ***Email****:* [*john.smith@ncsu.edu*](mailto:john.smith@ncsu.edu)*,* ***Password****: Test123,* ***Repeat Password****: Test456,* ***Max Credits****: 12*   * Click on **“Add Student”** button.   Check results | * After clicking on “Add Student” button a pop-up message box should be displayed stating “Passwords do not match”. * After clicking “OK”, the student directory with 10 records is displayed. * The *Student Directory* section should show the same 10 records as before and the new student information should not be added to the *Student Directory.* | **Upon clicking the "Add Student" button, a pop-up message box is displayed, stating "Passwords do not match." as expected. After clicking "OK," the student directory with 10 records is displayed as intended. The Student Directory section continues to show the same 10 records as before, and the new student information is not added to the Student Directory.** |
| Test 13:  Add Student to Student Directory (Duplicate Unique ID) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: Smith,* ***ID****: zking,* ***Email****:* [*john.smith@ncsu.edu*](mailto:john.smith@ncsu.edu)*,* ***Password****: Test123,* ***Repeat Password****: Test123,* ***Max Credits****: 12*   * Click on **“Add Student”** button.   Check results | * After clicking on “Add Student” button a pop-up message box should be displayed stating “Student already in system”. * After clicking “OK”, the student directory with 10 records is displayed. * The *Student Directory* section should show the same 10 records as before and the new student information should not be added to the *Student Directory.* | **Upon clicking the "Add Student" button, a pop-up message box displays stating "Student already in the system." After clicking "OK," the student directory with 10 records is displayed. The Student Directory section continues to show the same 10 records as before, and the new student information is not added to the Student Directory.** |
| Test 14:  Add Student to Student Directory (Invalid Max credits) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: Smith,* ***ID****: jsmith,* ***Email****:* [*john.smith@ncsu.edu*](mailto:john.smith@ncsu.edu)*,* ***Password****: Test123,* ***Repeat Password****: Test123,* ***Max Credits****: 25*   * Click on **“Add Student”** button.   Check results | * After clicking on “Add Student” button a pop-up message box should be displayed stating “Invalid credits.”. * After clicking “OK”, the student directory with 10 records is displayed. * The *Student Directory* section should show the same 10 records as before and the new student information should not be added to the *Student Directory.* | **Upon clicking the "Add Student" button, a pop-up message box displays stating "Invalid credits." After clicking "OK," the student directory with 10 records is displayed. The Student Directory section continues to show the same 10 records as before, and the new student information is not added to the Student Directory.** |
| Test 15:  Add Student to Student Directory (Invalid Email Address without a “.”) | Preconditions: The Pack Scheduler application has started, and Test 4 has passed with the list of valid student records populated.   * Enter valid information for the student in the *Student Information* section as follows:   ***FirstName****: John,* ***LastName****: Smith,* ***ID****: jsmith,* ***Email****:* [*jsmith@ncsuedu*](mailto:john.smith@ncsuedu)***Password****: Test123,* ***Repeat Password****: Test123,* ***Max Credits****: 14*   * Click on **“Add Student”** button.   Check results | * After clicking on “Add Student” button a pop-up message box should be displayed stating “Invalid email.”. * After clicking “OK”, the student directory with 10 records is displayed. * The *Student Directory* section should show the same 10 records as before and the new student information should not be added to the *Student Directory.* | **Upon clicking the "Add Student" button, a pop-up message box should be displayed, stating "Invalid email." After clicking "OK," the student directory with 10 records is displayed. The Student Directory section continues to show the same 10 records as before, and the new student information is not added to the Student Directory.** |
| Test 16:  Remove Student from Student Directory (without selecting any record) | Preconditions: The Pack Scheduler application has started, and Test 9 has passed.   * Click on **“Load Student Directory”** button. * Select the file student\_records\_add\_save.txt from test-files folder. * Check results. * Click on **“Remove Student”** button. * Check results. | * A dialog appears to browse the file system for file with student information. * The Student Directory section should display a total of 11 records. * Don’t select any record and click on “Remove Student” button. A pop-up message box should be displayed stating “No student selected.”. * After clicking “OK”, all 11 records are displayed in *Student Directory*. | **A dialog appears, allowing you to browse the file system for a file containing student information. The Student Directory section should display a total of 11 records. If you don't select any record and click on the "Remove Student" button, a pop-up message box should be displayed, stating "No student selected." After clicking "OK," all 11 records are displayed in the Student Directory.** |
| Test 17:  Remove Student from Student Directory (select one record) | Preconditions: The Pack Scheduler application has started, and Test 9 has passed.   * Click on **“Load Student Directory”** button. * Select the file student\_records\_add\_save.txt from test-files folder. * Check results. * Select the last record (John Smith) and click on “Remove Student” button. * Click on **“Remove Student”** button. * Check results. | * A dialog appears to browse the file system for file with student information. * The Student Directory section should display a total of 11 records. * Select the last record (John Smith) and click on “Remove Student” button. * The last record (John Smith) is removed from the display in *the Student Directory* section and only 10 records are displayed. | **A dialog appears, allowing you to browse the file system for a file with student information. The Student Directory section should display a total of 11 records. If you select the last record (John Smith) and click on the "Remove Student" button, the last record (John Smith) is removed from the display in the Student Directory section, leaving only 10 records displayed.** |
| Test 18:  Remove Student from Student Directory and Save Student Directory (select one record) | Preconditions: The Pack Scheduler application has started, and Test 9 has passed.   * Click on **“Load Student Directory”** button. * Select the file student\_records\_add\_save.txt from test-files folder. * Check results. * Select the last record (John Smith) and click on “Remove Student” button. * Click on “Remove Student” button. * Check results. * Click on **“Save Student Directory”** * Check results. | * A dialog appears to browse the file system for file with student information. * The Student Directory section should display a total of 11 records. * Select the last record (John Smith) and click on “Remove Student” button. * The last record (John Smith) is removed from the display in *the Student Directory* section and only 10 records are displayed. * After clicking on “Save Student Directory” button, a dialog appears to browse the file system and to enter the name of the file. * Select the folder as test-files and the file name as student\_records\_remove\_save.txt. * All the 10 student records displayed in the Student Directory section of the UI are saved to the new file student\_records\_remove\_save.txt. * The order of the records in the output file is the same as the order displayed in the UI. * The password for all the records saved in the text file are hashed using SHA-256. | **A dialog appears for browsing the file system to select a file with student information. The Student Directory section should display a total of 11 records. If you select the last record (John Smith) and click on the "Remove Student" button, the last record (John Smith) is removed from the display in the Student Directory section, resulting in only 10 records being displayed.**  **After clicking on the "Save Student Directory" button, a dialog appears for browsing the file system and entering the name of the file. All the 10 student records displayed in the Student Directory section of the UI are saved to the new file "student\_records\_remove\_save.txt." The order of the records in the output file matches the order displayed in the UI. Additionally, the passwords for all the records saved in the text file are hashed using SHA-256.** |