

## VERSION HISTORY

Version #	Implemented By	Revision Date	Brief Description
1.0	Meet Mehta & Manvendra Singh Kushwah	03/04/2018	Self Testing Report
1.1	Saksham Banga & Ajat Prabha	9/04/2018	Cross Testing Report

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### 1.0 INTRODUCTION

#### 1.1 PURPOSE

The main Purpose of this test report is to detect any defects that may have occurred during development phase of the software. To deliver error free and quality software, this test report is very helpful. It can also be used to check if all the functionalities are delivered as mentioned in the SRS document.

### 2.0 TEST PLAN

We are doing testing level specific test plans and under this also we are following unit test plan and system test plan.

For unit testing we have taken open function from each class because that is the only function interacting with user and taking input and can be considered for testing except if there is a function get valid input in many classes so we have tested it for one class.

For testing we have used normal random testing generation method because in our implementation we have very simple function which checks input in certain ranges only so it is quite obvious to generate cases which are exhaustive.

### 3.0 DETAILS OF UNIT TESTING

#### 3.1 Studentlogincontroller :: open()

##### 3.1.1 Student Login

##### 3.1.2 Features to be tested

- 3.1.2.1 Student can login with his/her username and password if it matches with that in database

##### 3.1.3 Item Pass/Fail Criteria

- 3.1.3.1 If Student enters valid username and password then he is shown next window showing options that he/she can access.
- 3.1.3.2 If Student enters invalid username and password then he is taken back to the window asking him to select from student login or secretary login or exit.

Test Number	Input/ Variable	Local	Expected Output	Actual Output	Pass/Fail
3.1.1	Username – xyz Password – 123		Show Application Home	Showing Application Home	Pass
3.1.2	Username – meet.1 Password – meet		Show Student Homepage	Showing Student Homepage	Pass

### 3.2 SecretaryLogincontroller :: open()

#### 3.2.1 Secretary Login

#### 3.2.2 Features to be tested

3.2.2.1 Secretary can login with his/her username and password if it matches with that in database

#### 3.2.3 Item pass/fail criteria

3.2.3.1 If Secretary enters valid username and password than he is shown next window showing options that he/she can access.

3.2.3.2 If Secretary enters invalid username and password than he is taken back to the window asking him to select from student login or secretary login or exit.

Test Number	Input/ Variable	Local	Expected Output	Actual Output	Pass/Fail
3.2.1	username – xyz password – 123		Show Application Home	Showing Application Home	Pass
3.2.2	username – kushwah.1 password – man	-	Show Secretary Homepage	Showing Secretary Homepage	Pass

### 3.3 StudentIssueEquipmentcontroller :: open()

#### 3.3.1 Issue Equipment

**3.3.2 Features to be tested**

- 3.3.2.1 Student/Secretary can only issue equipment if his/her dues are cleared
- 3.3.2.2 Student/Secretary can issue a maximum of five equipment at a time
- 3.3.2.3 Student/Secretary can only issue equipment if guard is verified by matching password with database.

**3.3.3 Item pass/fail criteria**

- 3.3.3.1 Software must display “Please Clear Previous Dues” message if Dues of the student/secretary requesting the issue is not zero. And Should not make change in database.
- 3.3.3.2 Software must display “You Have Already Issued Five Equipment” message if student/secretary have already issued five equipment. And should not make change in database.
- 3.3.3.3 Software must display “Guard not verified, Please try Again” message if password of guard is not matched with the database. And should not make change in database.
- 3.3.3.4 Software must make change in database if every above criteria is fulfilled.

Test Number	Input/ Variable	Local	Expected Output	Actual Output	Pass/Fail
3.2.1	1   (dues not cleared)		Should go back to Homepage	Showing Homepage	Pass
3.2.2	12   (dues not cleared)		Should ask for valid input	Showing message to enter valid input	Pass
3.2.3	2   (dues not cleared)		Should show Application Home	Showing Application Home	Pass
3.2.4	1   (Already issued five equipment)				

**3.4 StudentReturnEquipmentcontroller :: open()**

**3.4.1 Return Equipment:** student can submit the already issued equipment.

**3.4.2 Features to be tested:**

- 3.4.2.1** Check if at least one equipment is already issued.
- 3.4.2.2** Checks for the status of the returned equipment if that is damaged or not.
- 3.4.2.3** Checks the validity of guards password
- 3.4.2.4** Actual Date of return is compared with expected date of return so as to add dues accordingly.

**3.4.3 Item pass/fail criteria:**

- 3.4.3.1** Database will be updated accordingly if equipment gets submitted successfully .
- 3.4.3.2** System checks if there is at least one equipment is issued to the student and shows them to return.
- 3.4.3.3** System adds the submitted equipment in the database according to it's damaged status.
- 3.4.3.4** Equipment will be found for available equipment if it is not damaged and vice versa.
- 3.4.3.5** Fine amount can be found to be updated just after submission.

Test Number	Input / Local Variable	Expected Output	Actual Output	Pass / Fail
<b>3.4.1</b>	1   (No Equipment Issued)	Show Student / Secretary Homepage	Showing Student / Secretary Homepage	Pass
<b>3.4.2</b>	2   (No Equipment Issued)	Show Application Homepage	Showing Application Homepage	Pass
<b>3.4.3</b>	12   (No Equipment Issued)	Ask for valid input	Showing a message asking for valid input	Pass
<b>3.4.4</b>	1   (At least one	Should Remove	Removed equipment	Pass

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	equipment issued)  (late return) Guard-Password  1 1	equipment at position 1 from outstanding database, Add Dues of the damaged equipment equal to the price of equipment.	at position 1 from outstanding equipment, added price of the equipment as dues.	
<b>3.4.5</b>	1   (At least one equipment issued)   (late return) Guard – Password   2   1	Should remove equipment at position 1 from outstanding database, add that equipment in available database and also add dues for late return	Removed equipment from outstanding database, added to available database also added dues for late return	Pass
<b>3.4.6</b>	1 (At least one equipment issued)   (early return)   Guard - Password   2   1	Should remove equipment at position 1 from outstanding database, add equipment in available database	Removed equipment at position 1 from outstanding database also added it to available database	Pass
<b>3.4.7</b>	1   (At least one equipment issued)  (early return) Guard-	Should Remove equipment at position 1 from outstanding database, Add Dues	Removed equipment at position 1 from outstanding equipment, added price	Pass

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	Password  1 1	of the damaged equipment equal to the price of equipment.	of the equipment as dues.	
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### **3.5 Studentduescontroller :: open( )**

#### **3.5.1 Check Dues and pay dues:**

**3.5.1.1** Student can check and pay their dues if any.

#### **3.5.2 Features to be tested:**

**3.5.2.1** Checks for the due amount of currently logged in user.

**3.5.2.2** Paying dues by the amount entered by user.

**3.5.2.3** Update database (new due amount of user) accordingly.

#### **3.5.3 Item pass/fail criteria:**

**3.5.3.1** If successfully shows the correct due amount of currently logged in user.

**3.5.3.2** Takes only valid amount of money as input for due payment.

**3.5.3.3** Deduct the due amount of user by entered amount.

**3.5.3.4** Update the new due amount in database corresponding with this user.

**3.5.3.5** Shows updated due amount if same showdue function is called again.

**3.5.3.6** Returns back to homepage without updating anything in database if user press 2 as input.

**3.5.3.7** Ask for valid input if entered amount is more than current due amount of the user.

<b>Test Number</b>	<b>Input / Local Variable</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>Pass / Fail</b>
<b>3.5.1</b>	Nil	Show dues of the	Showing dues of the	Pass

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		student/sec retary	student/sec retary	
<b>3.5.2</b>	(dues = 10)   1   11	Ask for a valid amount to be paid	Showing a message asking for valid amount to pay	Pass
<b>3.5.3</b>	(dues = 10)   1   5	Make changes in database, show "your dues : 5 "	Made changes in database and showing " your dues : 5 "	Pass
<b>3.5.4</b>	(dues = 10)   2	Show student / secretary homepage	Showing student/sec retary homepage	Pass
<b>3.5.5</b>	(dues = 10)   3	Show Applicatio n Homepage	Showing Applicatio n Homepage	Pass
<b>3.5.6</b>	(dues = 10)   10	Ask for valid input	Asking for valid input	Pass
<b>3.5.7</b>	(dues = 10)   1   -1	Ask for valid amount to be paid	Asking for valid input to be paid	Pass

### 3.6 ViewbyOutstandingcontroller :: open( )

**3.6.1 View All Outstanding Equipment:** secretary can view all the issued equipment and their other issue history such as who is carrying which equipment and from when etc. Can be checked y secretary.

#### 3.6.2 Features to be tested:

**3.6.2.1** If it shows all the outstanding equipment correctly to the secretary.

**3.6.2.2** Go to the homepage if secretary enters 1 as input.

**3.6.2.3** Go to the Application Homepage (Logged out).

#### 3.6.3 Item pass/fail criteria:

**3.6.3.1** Shows all the content of outstanding database to the secretary.

**3.6.3.2** Enters the desired secretary homepage or application homepage according to the input entered by user.

**3.6.3.3** Accepts only valid input if entered by user otherwise should ask again for valid input.

Test Number	Input / Local Variable	Expected Output	Actual Output	Pass / Fail
3.6.1	Nil	Show all outstanding equipment	Showing all outstanding equipment	Pass
3.6.2	1	Go back to Secretary Homepage	Showing secretary homepage	Pass
3.6.3	2	Go back to Application	Showing Application Homepage	Pass

		Homepage and logout	after logging out	
<b>3.6.4</b>	10	Ask for valid input	Showing message asking for valid input	Pass

### **3.7 Viewbyavailabilitycontroller :: open( )**

**3.7.1 View All Available Equipment:** secretary can view all the available equipment which are currently available in the inventory which can be used for issuing to any student.

#### **3.7.2 Features to be tested:**

**3.7.2.1** If it shows all the Available equipment correctly to the secretary.

**3.7.2.2** Go to the homepage if secretary enters 1 as input.

**3.7.2.3** Go to the Application Homepage (Logged out).

#### **3.7.3 Item pass/fail criteria:**

**3.7.3.1** Shows all the content of available database to the secretary.

**3.7.3.2** Enters the desired secretary homepage or application homepage according to the input entered by user.

**3.7.3.3** Accepts only valid input if entered by user otherwise should ask again for valid input.

<b>Test Number</b>	<b>Input Local Variable</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>Pass / Fail</b>
<b>3.7.1</b>	NIL	Show all available	Showing all	Pass

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		equipment with its count	available equipment with its count	
<b>3.7.2</b>	1	Go back to Secretary Homepage	Showing secretary homepage	Pass
<b>3.7.3</b>	2	Go back to Applicatio n Homepage and logout	Showing Applicatio n Homepage after logging out	Pass
<b>3.7.4</b>	10	Ask for valid input	Showing message asking for valid input	Pass

### 3.8 ViewByCategorycontroller :: open( )

**3.8.1 View By Equipment Category:** secretary can view all the equipment of any given equipment category.

**3.8.2 Features to be tested:**

**3.8.2.1** If it can shows the correct amount of equipment of given category and their issue details if they are already issued to someone.

**3.8.2.2** Shows from both available and outstanding equipment.

**3.8.2.3** Takes the valid input from secretary for next step.

**3.8.2.4** If it Goes to the homepage successfully if secretary enters 8 as input.

**3.8.2.5** If it Goes to the Application Homepage successfully if secretary enters 9 as valid input (Logged out).

**3.8.2.6** Input from 1-7 will be used for equipment category option selection.

**3.8.2.7** Will be asked to reenter valid input until a valid 1-9 input is not entered by secretary.

**3.8.3 Item pass/fail criteria:**

**3.8.3.1** If on any input it shows a list of available and outstanding equipment of that equipment category.

**3.8.3.2** It takes only valid input from 1 to 9.

**3.8.3.3** Enters the desired secretary homepage or application homepage according to the input entered by user.

**3.8.3.4** Accepts only valid input if entered by user otherwise should ask again for valid input.

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Test Number	Input / Local Variable	Expected Output	Actual Output	Pass / Fail
3.8.1	1	Show count of all available equipment and all outstanding equipment of category at position 1	Showing count of all available equipment and all outstanding equipment of category at position 1	Pass
3.8.2	1   1	Show the same page	Showing same page	Pass
3.8.3	8	Go back to Secretary Homepage	Showing Secretary Homepage	Pass
3.8.4	9	Show Application Homepage after logout	Showing Application homepage after login gout	Pass
3.8.5	20	Ask for valid input	Showing Message asking for valid input	Pass

**3.9 Viewstudentduescontroller :: open( )**

**3.9.1 Check Dues of other students:** Secretary can check dues of all the students in the institute.

**3.9.2 Features to be tested:**

**3.9.2.1** If it shows the correct dues amount of student of the roll number entered by secretary.

**3.9.2.2** Takes only valid roll number as input if they exists in database.

**3.9.2.3** In case of wrong roll number shows the same page.

**3.9.2.4** If it successfully lands to the secretary homepage if secretary enters 2 as input.

**3.9.2.5** If it successfully lands to the application homepage if secretary enters 3 as input.

**3.9.3 Item pass/fail criteria:**

**3.9.3.1** If on any valid roll number entered by secretary if it shows correct due amount of the student of that particular roll number .

**3.9.3.2** It should take only valid numbers as input.

**3.9.3.3** Roll number entered by secretary should be valid and should be present in database.

**3.9.3.4** Enters the desired secretary homepage or application homepage according to the input entered by user.

**3.9.3.5** Accepts only valid input if entered by user otherwise should ask again for valid input.

Test Number	Input / Local Variable	Expected Output	Actual Output	Pass / Fail
3.9.1	1   B16CS017 (existing in database)	Show dues of roll number entered	Showing dues of the roll	Pass



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			number B16CS017	
<b>3.9.2</b>	1   B16CS017 (existing in database)   1	Show same page	Showing same page	Pass
<b>3.9.3</b>	1   B16CS016 (not existing in database)	Show message "Entered Roll Number Doesn't Exist"	Showing message "Entered Roll Number Doesn't Exist"	Pass
<b>3.9.4</b>	1   B16CS016 (not existing in database)	Show same page	Showing same page	Pass
<b>3.9.5</b>	2	Go back to secretary homepage	Showing Secretary Homepage	Pass
<b>3.9.6</b>	3	Show Applicatio n Homepage after logout	Showing application homepage after logging out	Pass

### **3.10 AddEquipmentcontroller :: open( )**

**3.10.1 Add new equipment:** secretary can add any new equipment in the database.

#### **3.10.2 Features to be tested:**

**3.10.2.1** Entered number of equipment of the category selected by secretary should be added to the database in the available equipment.

**3.10.2.2** Added equipment can be issued to the students.

**3.10.2.3** Secretary can add any number of product of any category as entered as input.

**3.10.2.4** Asks for valid input until a valid input is entered by secretary.

**3.10.2.5** If it successfully lands to the secretary homepage if secretary enters 8 as input.

**3.10.2.6** If it successfully lands to the application homepage if secretary enters 9 as input.

#### **3.10.3 Item pass/fail criteria:**

**3.10.3.1** If entered amount of given category is added into the available equipment database.

**3.10.3.2** It should take only valid numbers as input.

**3.10.3.3** Enters the desired secretary homepage or application homepage according to the input entered by user.

**3.10.3.4** Accepts only valid input if entered by user otherwise should ask again for valid input.

<b>Test Number</b>	<b>Input / Local Variable</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>Pass / Fail</b>
<b>3.10.1</b>	1   5	Show same page after adding 5 equipment	Showing same page after adding 5	Pass

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		of category at position 1 in available database	equipment of category at position 1 in available database	
<b>3.10.2</b>	8	Go back to secretary homepage	Showing secretary homepage	Pass
<b>3.10.3</b>	10	Asking for valid input	Showing message asking for valid input	Pass
<b>3.10.4</b>	9	Go back to application homepage after logout	Showing application homepage after logging out	Pass
<b>3.10.5</b>	1   5   8	Go back to secretary homepage after adding 5 equipment of category at position 1 in available database	Showing secretary homepage after adding 5 equipment of category at position 1 in available database	Pass

### **3.11 Studenthomepagecontroller :: Entervalidinput( )**

**3.11.1 Add new equipment:** user can enter only valid input according to possible cases only here it is in range 1 to 5.

#### **3.11.2 Features to be tested:**

**3.11.2.1** Entered input should be in same format as expected by code.

**3.11.2.2** Input should in appropriate range only.

#### **3.11.3 Item pass/fail criteria:**

<b>Test Number</b>	<b>Input / Local Variable</b>	<b>Expected Output</b>	<b>Actual Output</b>	<b>Pass / Fail</b>
1.	ab cd	Should ask for valid input	Asking for valid integral input	Pass
2.	7	Should ask for valid input	Asking for valid input in range	Pass
3.	4	Should accept input and show corresponding option	Accepting input and showing corresponding option	Pass

**3.11.3.1** the entered input is considered to be correct if and only if it is in same format and in range as expected.

## 4.0 DETAILS OF SYSTEM TESTING

Step	TEST STEP/ INPUT	Intended Result	Actual Result	Pass/Fail
1	Log in as Student/Secretary - > issued equipment -> select equipment	Remove equipment data from available and add to outstanding database	Removed equipment data from available and add to outstanding database	Pass
2	Login as Secretary / Student -> return equipment -> select equipment	Add equipment to available and remove from outstanding	Added equipment to available and removed from outstanding	Pass
3	Login as Secretary / Student -> check dues	Show dues of the student/secretary	Showing dues of the student/secretary	Pass
4	Login as Secretary/Student - > check dues -> pay dues -> enter amount	Deduct dues of the student/secretary by the entered amount	Deducted dues of student/secretary by the entered amount	Pass
5	Login as Secretary - > add new equipment -> select equipment -> enter quantity	Add new equipment of selected category and quantity in the available data	Added new equipment of selected category and quantity in the available data	Pass

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6	Login as Secretary - > view dues of other student -> enter roll number	Show dues of the student with the entered roll number	Showing dues of the student with entered roll number	Pass
7	Login as Secretary - > View Details -> View all available	Show list of all available equipment	Showing list of all available equipment	Pass
8	Login as Secretary - > View Details -> View all Outstanding	Show list of all outstanding equipment	Showing list of all outstanding equipment	Pass
9	Login as Secretary - > View Details -> View by Category -> Select Category	Show all outstanding and all available equipment of selected category	Showing all outstanding and all available equipment of selected category	Pass

### Testing Team Report

All Tests Reported in the above Test Report are verified and validated by the Cross Testing Team. There were no tests which were found to be invalid during this testing procedure.

Other Tests performed by the Testing Team along with the Tester Details are listed below:

Test No.	Tested By	Summary of Defect spotted	Resolved before Release of Software?	Why not resolved(If applicable)?
1.	Saksham	While entering due amount, if a string is entered,	Resolved	

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		<b>segmentation error arises</b>		
2.	Ajat	<b>Option 6 doesn't work in secretary login sometimes</b>	Resolved	
3.	Ajat	<b>Lower case roll numbers doesn't work/match, however such a roll can still be searched in database.</b>	Resolved	
4.	Saksham	<b>It seems like MVC is followed but not adhered to strictly, since Controller is misinterpreted as View.</b>	Not Applicable	Architecture is designed with focus upon command line interface.