**Milestone 7:**

- Describe one unit test case for each of your components

- Describe one validation test case for the entire software system

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Unit Tests:

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| Test case type | Black box |
| Test target | Web Portal Applet (Web Portal component) |
| Test input | “Software Engineering Principles I” in search box |
| Test output | Command line display: |
| Software  Engineering  Principles  I |

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| Test case type | Black box |
| Test target | Patron class (Patron component) |
| Test input | Instantiate with the following:  Patron patron1 = new Patron (1122334455);  ArrayList<String> mediaList1 = new ArrayList<String>;  mediaList1.add(“Software Engineering Principles I”);  mediaList1.add(“Quantum Computing for fun and recreation”);  patron1.setName (“John Doe”);  patron1.setEmail (“[john.doe@wsu.edu](mailto:john.doe@wsu.edu)”);  patron1.setPassword ( “supergoodpassword”);  patron1.setmediaList (mediaList1);  patron1.setuserLevel (1);  Retrieve with:  System.out.println (patron1.ID);  System.out.println (patron1.Name);  System.out.println (patron1.Email);  System.out.println (patron1.password);  System.out.println (patron1.mediaList);  System.out.println (patron1.userLevel); |
| Expected Output | Command line display: |
| 11223344  “John Doe”  [john.doe@wsu.edu](mailto:john.doe@wsu.edu)  “supergoodpassword”  “Software Engineering Principles I”, “Quantum Computing for fun and recreation”  1 |

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| Test case type | Black box |
| Test target | Media class (media manager component) |
| Test input | Media media1 = new Media(“CPTS Book”);  media1.setAuthor("Bob");  media1.setCheckedOut(**new** Patron("Bob"));  media1.setDescription("Great Book");  media1.setDueDate(**new** Date());  media1.setGenre("Good");  media1.setLanguage("English");  media1.setLocation("Here");  media1.setPublisher("WSU");  media1.setReserved(**new** Patron("Bob"));  media1.setSubject("CPTS"); |
| Expected Output | **if**(!media1.getAuthor().equals("Bob"))  success = **false**;  **if**(!(media1.getCheckedOut() == **new** Patron("Bob")))  success = **false**;  **if**(!(media1.getDescription().equals("Great Book")))  success = **false**;  **if**(!(media1.getDueDate() == **new** Date()))  success = **false**;  **if**(!(media1.getGenre().equals("Good")))  success = **false**;  **if**(!(media1.getLanguage().equals("English")))  success = **false**;  **if**(!(media1.getLocation().equals("Here")))  success = **false**;  **if**(!(media1.getPublisher().equals("WSU")))  success = **false**;  **if**(!(media1.getReserved() == **new** Patron("Bob")))  success = **false**;  **if**(!(media1.getSubject().equals("CPTS")))  success = **false**;  **if**(success){  System.***out***.print("Media Testing Succesful");  }**else**{  System.***out***.print("Media Testing Failed");  } |

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| Test case type | Black box |
| Test target | Database class (database component) |
| Test input | bool isSuccessful = addUser(patron1);  if (isSucessful != True)  {  System.out.println (“There was an error creating the record”);  }  bool isSuccessful = addMedia(media1);  if (isSucessful != True)  {  System.out.println (“There was an error creating the record”);  }  Patron patron1 = getPatron (1122334455)  System.out.println (patron1.ID);  System.out.println (patron1.Name);  System.out.println (patron1.Email);  System.out.println (patron1.password);  System.out.println (patron1.mediaList);  System.out.println (patron1.userLevel);  Media media1 = getMedia(“CPTS Book”);  System.out.println (media1.GetTitle() );  System.out.println (media1.getAuthor() );  System.out.println (media1.getCheckedOut() );  System.out.println (media1.getDescription() );  System.out.println (media1.getDueDate() );  System.out.println (media1.getGenre() );  System.out.println (media1.getLanguage() );  System.out.println (media1.getLocation() );  System.out.println (media1.getPublisher() );  System.out.println (media1.getReserved() );  System.out.println (media1.getSubject() ); |
| Expected Output | Command line display: |
| 11223344  “John Doe”  [john.doe@wsu.edu](mailto:john.doe@wsu.edu)  “supergoodpassword”  “Software Engineering Principles I”, “Quantum Computing for fun and recreation”  1  CPTS Book  Bob  Bob  Great Book  05/05/2017  Good  English  Here  WSU  Bob  CPTS |

**Validation test:**

From Use Cases:

**1. Patron looks up a book through the access terminal**

2. The book availability is determined

3. Book location is provided to patron

4. Patron locates book in library and decides to check out book

5. Patron visits librarian assistant to checkout book

**6. Librarian assistant authenticates patron with their Cougar Card**

**7. Librarian assistant checks out book to patron**

8. Patron leaves with book

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| --- | --- |
| Test Case Type | Validation |
| Test Target | Library Management Software, CheckOutBook Process |
| Test1 input: | “Software Engineering Principles I” in search box |
| Test1 output: | “Software Engineering Principles I”  “1.2.3” |
| Test2 input: | 1122334455  “Software Engineering Principles I” |
| Test2 output: | John Doe  “Software Engineering Principles I”  05/05/2017 |