Dhirubhai Ambani Institute of Information and Communication Technology

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IT-314: Software Engineering
Group-10
System Testing Report

FlipThePage

eBook Library System

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Black Box Testing

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1. Register Page For Reader / Author

Equivalence Classes for Register Page for Reader / Author

- **Username (E1, E2)**
  - **E1:** Valid username (length ≥ 5).
  - **E2:** Invalid username (length < 5).
- **Email (E3, E4)**
  - **E3:** Valid email (follows proper email format, e.g., user@example.com).
  - **E4:** Invalid email (doesn't follow proper email format, e.g., userexample.com).
- **Password (E5, E6)**
  - **E5:** Valid password (8 ≤ length ≤ 12).
  - **E6:** Invalid password (length < 8 or > 12).
- **Confirm Password (E7, E8)**
  - **E7:** Matches the password.
  - **E8:** Does not match the password.

Boundary Values :

- **Username: Minimum length - 5**
  - Invalid: Length = 4.
  - Valid: Length = 5, 6.
- **Email:**
  - Invalid: userexample.com, @x.c.
  - Valid: a@b.c, user@example.com.
- **Password: Valid length - 8 to 12**
  - Invalid: Length = 7, 13.
  - Valid: Length = 8, 12.
- **Confirm Password:**
  - Invalid: Mismatch

Test cases

ID	Username	Email	Password	Confirm Password	Expected Output	Actual Output	Classes Covered
1	`` (empty)	pateltasmay@gmail.com	123456789	123456789	Username is required!	Undefined	E2, E3, E5, E7
2	tasmay17	`` (empty)	123456789	123456789	Email is required!	Undefined	E1, E3, E5, E7
3	tasmay17	pateltasmay@gmail.com	`` (empty)	123456789	Password is required!	Password must be between 8 and 12 characters long!	E1, E3, E6, E7
4	tasmay17	pateltasmay@gmail.com	123456789	`` (empty)	Confirm Password is required!	Passwords do not match!	E1, E3, E5, E8
5	tasmay17	pateltasmay@gmail.com	123456789	123456789	Registered Successfully	Registered Successfully	E1, E3, E5, E7
6	tasm	pateltasmay@gmail.com	123456789	123456789	Username must be at least 5 characters long!	Undefined	E2, E3, E5, E7
7	tasmay17	pateltasmay@gmail.com	123	123	Password must be between 8 and 12 characters long!	Password must be between 8 and 12 characters long!	E1, E3, E6, E7
8	tasmay17	pateltasmay@gmail.com	123456789	12345678	Passwords do not match!	Passwords do not match!	E1, E3, E5, E8

Boundary value Cases

ID	Username	Email	Password	Confirm Password	Expected Output	Actual Output	Classes Covered
1	tasm	pateltasmay@gmail.com	123456789	123456789	Username must be at least 5 characters long!	Undefined	E2, E3, E5, E7
2	tasma	pateltasmay@gmail.com	12345678	12345678	Registered Successfully	Registered Successfully	E1, E3, E5, E7
3	tasmay	pateltasmay@gmail.com	123456789	123456789	Registered Successfully	Registered Successfully	E1, E3, E5, E7
4	tasmay17	pateltasmaygmail.com	123456789	123456789	Invalid E-mail	undefined!	E1, E4, E5, E7
5	tasmay17	pateltasmay@gmail.com	123456789	123456789	Registered Successfully	Registered Successfully	E1, E3, E5, E7
6	tasmay17	pateltasmay@gmail.com	12345678	12345678	Password must be between 8 and 12 characters long!	Password must be between 8 and 12 characters long!	E1, E3, E6, E7
7	tasmay17	pateltasmay@gmail.com	123456789	123456789	Registered Successfully	Registered Successfully	E1, E3, E5, E7
8	tasmay17	pateltasmay@gmail.com	123456789012	123456789012	Registered Successfully	Registered Successfully	E1, E3, E5, E7
8	tasmay17	pateltasmay@gmail.com	12345678 90123	12345678 90123	Password must be between 8 and 12 characters long!	Password must be between 8 and 12 characters long!	E1, E3, E6, E7
9	tasmay17	pateltasmay@gmail.com	12345678 90123	12345678 90123	Password must be between 8 and 12 characters long!	Password must be between 8 and 12 characters long!	E1, E3, E6, E7

2. Login Page For Reader / Author

Equivalence Classes for Login Page for Reader / Author

- **Username (E1, E2)**
  - **E1:** Valid username.
  - **E2:** Invalid username.
- **Password (E3, E4)**
  - **E3:** Valid password.
  - **E4:** Invalid password.

Boundary Values :

- **Username: Minimum length - 5**
  - Invalid: Length = 4.
  - Valid: Length = 5, 6.
- **Password: Valid length - 8 to 12**
  - Invalid: Length = 7, 13.
  - Valid: Length = 8, 12.

Test cases

ID	Username	Password	Expected Output	Actual Output	Classes Covered
1	tasmay17	123456789	Logged In	Logged In Successfully	E1, E3
2	""	123456789	Username is Required!	User Not Found	E2, E3
3	tasmay17	""	Password is Required!	Incorrect password!	E1, E4
4	tasmay17	12345678	Wrong Password	Incorrect password!	E1, E4

5	""	""	Username is Required!	User Not Found	E2, E4
6	tasmay	1234567890 0	Inavalid Username and Password	User Not Found	E2, E4

Boundary Value Cases

ID	Username	Password	Expected Output	Actual Output	Classes Covered
1	tasma	12345678	Logged In	Logged In Successfully	E1, E3
2	tasm	123456789	Inavalid Username	User not Found	E2, E3
3	tasmay17	1234567	Wrong Password	Incorrect password!	E1, E4
5	tasmay17	1234567890 12	Logged In	Logged In Successfully	E1, E3
6	tasmay17	1234567890 123	Wrong Password	Incorrect password!	E1, E4

3. Forgot Password Page For Reader / Author

Equivalence Classes for Forgot Password Page

- **E-mail**
  - **E1:** Existing Reader / Author E-mail
  - **E2:** Not Existing Reader / Author E-mail
  - **E3:** Invalid E-mail Format

Test cases

ID	OTP	Expected Output	Actual Output	Classes Covered
1	pateltasmay@gmail.com	Existing Reader	OTP Sent	E1
2	202201129@daiict.ac.in	Not Existing Reader	No Account Found with provided E-mail	E2
3	pateltasmaygmail.com	Enter Valid E-mail	Enter Valid E-mail	E3
3	""	Enter Valid E-mail	Enter Valid E-mail	E3

4. E-mail Verification Page For Reader / Author

Equivalence Classes for E-mail Verification Page

- **OTP (E1, E2)**
  - **E1:** Valid OTP (a digit from 0 to 9).
  - **E2:** Invalid OTP.

Test cases

ID	OTP	Expected Output	Actual Output	Classes Covered
1	1234	Valid OTP	Redirected To Login Page	E1
2	""	Enter OTP	Failed	E2

	3	1233	Enter Valid OTP	Failed	E2

5. Reset Password Page For Reader / Author

Equivalence Classes for Reset Password Page

- **New Password**
  - **E1:** Valid password (8 ≤ length ≤ 12).
  - **E2:** InValid password (8 ≤ length ≤ 12).
  - **E3:** Existing Password
- **Confirm New Password**
  - **E4:** Matches the password.
  - **E5:** Does not match the password.

Boundary Values :

- **Password: Valid length - 8 to 12**
  - Invalid: Length = 7, 13.
  - Valid: Length = 8, 12.

Test cases

ID	New Password	Confirm Password	Expected Output	Actual Output	Classes Covered
1	123456789	123456789	Password Reset	Password Reset Successfully	E1,E4
2	123	123	Enter Valid password	Password must be between 8 and 12 characters long!	E2,E4
3	12345678	12345678	Enter different password	Existing Password	E3,E4
4	1234567890	123456789	Passwords not matching	Passwords do not match	E1,E5

Boundary Value cases

ID	New Password	Confirm Password	Expected Output	Actual Output	Classes Covered
1	1234567	1234567	Enter Valid password	Password Reset Successfully	E2,E4
2	123456789	12345678	Password Reset	Password Reset Successfully	E1,E4
3	1234567890 123	1234567890 123	Enter Valid password	Password Reset Successfully	E2,E4
4	1234567890	123456789	Passwords not matching	Passwords do not match	E1,E5

6. Author Upload Page

Equivalence Classes for Author Upload Page

- **Title**
  - **E1:** Valid Title (String)
  - **E2:** Invalid Title (Empty String)
- **Authors**
  - **E3:** Valid Author (String)
  - **E4:** Invalid Author (Empty String)
- **CoAuthors (Optional)**
  - **E5:** Valid CoAuthor (Both Fields are Empty or Filled)
  - **E6:** Invalid CoAuthor(Either of the fields are Empty)
  - **E7**: Invalid CoAuthor (No of CoAuthors > 5)
- **Genre**
  - **E8:** Valid Genre (String)
  - **E9:** Invalid Genre (Empty String)
- **Language**
  - **E10:** Valid Language (String)
  - **E11:** Invalid Language (Empty String)
- **Pages**
  - **E12:** Valid Pages (Number)

- ○ **E13:** Invalid Pages (Not a Number)
- ○ **E14:** Invalid pages (Number < 1)
- ● **Amount**
  - ○ **E15:** Valid Amount (Number)
  - ○ **E16:** Invalid Amount (Not a Number)
  - ○ **E17:** Invalid Amount (Amount < 0)
- ● **Cover Image**
  - ○ **E18:** Valid File (.png)
  - ○ **E19:** Invalid File
  - ○ **E20:** Size of Image > 5MB
- ● **eBook File**
  - ○ **E21:** Valid File (.pdf)
  - ○ **E22:** Invalid File
  - ○ **E23:** PDF Size > 50MB

Test Case ID	Input	Expected Output	Actual Output	Classes Covered
1	Title: "" Subtitle: "" Author: "" CoAuthors: [{"name":"", "email":""] Genre: "" Description: "" Language: "" Pages: "" Amount: "" CoverImage: "" File: ""	All Field are Empty	Please fill in all required field	E2, E4, E6, E9, E11, E13, E16, E19, E22

2	Title: The Alchemist Subtitle: Alchemist Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Book uploaded successfully.	Book uploaded successfully.	E1, E3, E5, E8, E10, E12, E15, E18, E21
3	**Title: ""** Subtitle: Alchemist Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Title is required.	Please fill in all required field	E2, E3, E5, E8, E10, E12, E15, E18, E21
4	Title: The Alchemist Subtitle: "" **Author: ""** CoAuthors: [{"name":"Paula Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Author name is required.	Please fill in all required field	E1, E4, E6, E7, E9, E11, E13, E15, E17, E19, E21

5	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paula Coehlo","email":""}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Co Author E-mail is empty.	One Co Author Field is Empty	E1, E3, E5, E7, E9, E11, E13, E15, E17, E19, E21
6	Title: The Alchemist Subtitle: Alchemist Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"} {"name":"Paulo Coehlo","email":"p@gmail.com"} {"name":"Paulo Coehlo","email":"p@gmail.com"} {"name":"Paulo Coehlo","email":"p@gmail.com"} {"name":"Paulo Coehlo","email":"p@gmail.com"} {"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	More than 5 Co authors	More than 5 Co authors	E1, E3, E7, E8, E10, E12, E15, E18, E21

7	Title: The Alchemist Subtitle: Alchemist Author: Paulo Coehlo CoAuthors: [{"name":"","email":""}] **Genre: ""** Description: A very engaging book Language: English Pages: 350 Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Genre is Required.	Please fill in all required field	E1, E3, E5, E9, E10, E12, E15, E18, E21
8	Title: The Alchemist Subtitle: Alchemist Author: Paulo Coehlo CoAuthors: [{"name":"","email":""}] Genre: Fiction **Description: ""** Language: English Pages: 350 Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Book uploaded successfully.	Book uploaded successfully.	E1, E3, E5, E8, E10, E12, E15, E18, E21
9	Title: The Alchemist Subtitle: Alchemist Author: Paulo Coehlo CoAuthors: [{"name":"","email":""}] Genre: Fiction Description: A very engaging book **Language: ""** Pages: 350 Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Language is Required.	Please fill in all required field	E1, E3, E5, E8, E11, E12, E15, E18, E21

10	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English **Pages: abcd** Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Pages must be a Number	Pages must be a Number	E1, E3, E5, E8, E10, E13, E15, E18, E21
11	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English **Pages: -350** Amount: 500 CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Mininmum No of Pages must be 1	Mininmum No of Pages must be 1	E1, E3, E7, E8, E10, E14, E15, E18, E21
12	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 **Amount: blabla** CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Amount must be Number	Amount must be Number	E1, E3, E5, E8, E10, E12, E16, E18, E21

12	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 **Amount: -500** CoverImage: Alchemistcover.png File: Alchemistebook.pdf	Amount must be a positive Number	Amount must be a positive Number	E1, E3, E5, E8, E10, E12, E17, E18, E21
13	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: -500 **CoverImage: Alchemistcover.pdf** File: Alchemistebook.pdf	Invalid Image Format	Invalid Image Format	E1, E3, E5, E8, E10, E12, E15, E19, E21
14	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: -500 **CoverImage: Alchemistcover.png** **Size > 5MB** File: Alchemistebook.pdf	Size must be less than 5MB	Size must be less than 5MB	E1, E3, E5, E8, E10, E12, E15, E20, E21

15	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: -500 CoverImage: Alchemistcover.png **File: Alchemistebook.png**	Invalid Book Format	Invalid Book Format	E1, E3, E5, E8, E10, E12, E15, E18, E22
16	Title: The Alchemist Subtitle: "" Author: Paulo Coehlo CoAuthors: [{"name":"Paulo Coehlo","email":"p@gmail.com"}] Genre: Fiction Description: A very engaging book Language: English Pages: 350 Amount: -500 CoverImage: Alchemistcover.png **File: Alchemistebook.png** **Size > 30MB**	Size must be less than 30MB	Size must be less than 30MB	E1, E3, E5, E8, E10, E12, E15, E18, E23

Acceptance Level Testing

1. Register Page For Reader / Author

Success Scenarios

● If details entered are valid, the user is registered Successfully.

Failure Scenarios

● If the email is in an invalid format, a prompt displays "Undefined."
● If the username is already in existence, an error displays "Username already exists."
● If the username does not satisfy the minimum criteria, an error displays "Undefined"
● If the email is already in existence, an error displays "Email already exists."
● If the password does not satisfy the minimum criteria, an error displays "Password must be 8 to 12 characters long."
● If the confirm password is different from the password, an error displays "Passwords do not match."

Test Cases

● Enter details for Reader registration, and click on register.
● Enter details for Author registration, and click on register.
● While trying to register, input correct details.
● Try registering with incorrect details.
● Enter an already existing username or email.
● Enter an incorrect email address.
● Enter a password with a length less than 5 or a length greater than 12.
● Check whether the website is redirected to the login page after clicking register.

Output

● Errors are shown in case the entered details are in an improper format or are incorrect.

- An error is shown if the username or email already exists.
- An error is shown if the email is incorrect.
- An error is shown if the password is not of specified length.
- An error is shown if any field is empty.
- The user is redirected to the login page if all registration details are entered correctly.

2. Login Page For Reader / Author

Success Scenarios:

- Readers or authors enter valid credentials.
- The system authenticates the reader or author.
- The system grants access to the reader or author dashboard.

Failure Scenarios:

- Readers or authors enter an incorrect username or password.
- The system provides a clear error message indicating invalid credentials.

Test Cases:

- Enter valid username and password; verify redirection to the dashboard.
- Enter invalid username; an error is shown for username not exists.
- Enter invalid password; an error is shown for wrong password.
- Leave one or both fields empty; an error is shown as please fill out the field.

Expected Outputs:

- Successful login results in access to the reader or author dashboard.
- Clear and informative error messages for invalid credentials.

3. Forgot Password For Reader / Author

Success Scenarios:

- Reader or author initiates password reset with a valid email.
- System sends a password reset link successfully.

Failure Scenarios:

- Invalid email / Non Existing E-mail entered; system displays an error message.
- Password reset link expired or invalid; system prompts for a new request.
- Technical issues prevent email delivery; user receives an error message.

Test Cases:

- Enter a valid email and receive a password reset link.
- Enter an invalid email and an error is shown for invalid e-mail.
- Enter a Non existing Reader / Author E - mail an error is shown for user not exists

Expected Outputs:

- Successful reset request sends an email to the user.
- Clear error messages for invalid email, non existing user, or technical issues.

4. Email verification for Readers / Authors

Success Scenarios:

- Reader or author enters a valid 4-digit OTP.
- System verifies the OTP successfully and confirms the email.

Failure Scenarios:

- OTP entered is incorrect; system displays an error message.
- OTP is expired or already used; system prompts for a new OTP request.
- OTP field is left empty or incomplete; system shows a relevant error.

Test Cases:

- Enter a valid 4-digit OTP and verify email successfully.
- Enter an incorrect OTP an error message comes for incorrect OTP.
- Use an expired OTP and check for the system's prompt to request a new one.
- Leave the OTP field empty or incomplete an error message comes to enter a OTP.

Expected Outputs:

- Successful verification confirms the email.
- Clear error messages for incorrect, expired, or incomplete OTP entries.

5. Reset Password for Readers / Authors

Success Scenarios:

- Reader or author enters a valid new password and confirms it successfully.
- Password reset completes, and the user is redirected to the login page.

Failure Scenarios:

- New password and confirm password do not match; system shows an error.
- Password length is less than 8 or exceeds 12 characters; system rejects the input.

- Either password field is left empty; system prompts to fill in the required fields.

Test Cases:

- Enter a valid new password and confirm password (both match, length 8-12) and reset successfully.
- Enter mismatched new password and confirm password; verify the error message.
- Enter a password that is too short (<8) or too long (>12); verify rejection.
- Leave the new password or confirm password field empty; verify error handling.

Expected Outputs:

- Successful reset redirects the user to the login page.
- Clear error messages for mismatched passwords, invalid length, or empty fields.

6. Author Book Upload

Success Scenarios:

- Author uploads a book with all valid fields, and the upload is successful.
- The book is successfully saved in the database, and the author receives a confirmation.

Failure Scenarios:

- Any required field (e.g., Title, Authors, Genre, Language) is empty.
- Co-author details are invalid (e.g., only one field is filled, or the count exceeds 5).
- Invalid file formats for the cover image or eBook (e.g., non-.png or non-.pdf).
- File size limits exceeded (cover image > 5MB or eBook > 50MB).
- Pages or amount are non-numeric or outside the valid range.

Test Cases:

1. **Valid Upload:**
   ○ Enter all valid inputs (Title, Author, optional CoAuthors, Genre, Language, Pages ≥ 1, Amount ≥ 0, valid cover image (.png ≤ 5MB), valid eBook (.pdf ≤ 50MB)).
   ○ Expected Output: Book uploaded successfully with a confirmation message.
2. **Invalid Required Fields:**
   ○ Leave Title, Author, or Genre empty.
   ○ Expected Output: Error messages telling please fill out required fields.
3. **Invalid File or Size:**
   ○ Upload an invalid cover image (e.g., .jpg or size > 5MB) or eBook (e.g., .docx or size > 50MB).
   ○ Expected Output: Error message indicating unsupported file format or size.
4. **Invalid Pages or Amount:**
   ○ Enter non-numeric pages/amount, pages < 1, or amount < 0.
   ○ Expected Output: Error messages indicating invalid numeric fields.

Expected Outputs:

● Successful upload results in a confirmation message and database entry.
● Errors displayed for invalid inputs (e.g., "Invalid file format", "Amount must be ≥ 0", "Title cannot be empty").