Exercise Payment Page

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# In Scope

Testing the Credit Card Payment method.

**Out of scope**

Testing Other Payment methods

Assumptions

1. The Payment service is integrated to main application.
2. The Payment service is either real or mock

|  |  |
| --- | --- |
| Story ID | 1 |
| Story Name | Exercise Payment Page |
| Requirement Reference | xyz.doc |
| Version# of Requirement | V1 |
| Pre-Conditions (Those applicable for all Test cases) |  |
| Other |  |
| Reviewed By | * Tester#2 * Developer#1 |

# Positive Test Cases

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test Case#** | **Module** | **Test Case Name** | **Pre-Condition** | **Test Data** | **Test Case Description** | **Expected Result** |
| 1 | App Initialization | Launch the page using breadcrumb | Main application is up and running and Cart, Customer Information, Shipping method pages are working as expected. | - | 1)Given I launch the main application.  2)Then Populate mandatory fields in the pages and proceed as per breadcrumb below.  Cart > Customer Information > Shipping method  3)I complete the shipping method and proceed to next page. | I expect that the Payment method page is launched and content is loaded. |
| 2 | Label & Fields | Verify Page content | User is on the Payment method page | - | Given I am on the Payment Page  I validate the contents of the page | I expect following  Tab Name: as per req  BreadCrumb on top of the page:  *Cart > Customer Information > Shipping method > Payment method*  Static Text:  *Payment method*  *All transactions are secure and encrypted*  ***Pay $xx.xx***  // 2 decimal places  Single default Radio Selection:  *Credit Card*  3 input fields with info text in them as below:  *Card number*  *Name on card*  *MM/YY*  *CVV*  Popular Card logo tiles alongside Credit Card Radio selection  *Visa Mastercard Amex Discover*  *Proceed to Payment* button is visible at the end and is green . |
| 3 | Label & Fields | Validating Help text and encryption symbol | User is on the Payment method page | - | Given I am on the Payment Page  I validate the help texts and symbols | I expect that the CVV input box should have help icon (?) on the far right inside the field.  I click the icon and verify that the content of the help text should suggest what needs to be entered in that field and other helpful material.  The Card number field should have a lock icon along side on the far right inside the field. |
| 4 | Labels & Fields | Validating Sizes of fields | User is on the Payment method page | - | Given I am on the Payment Page, I check the field sizes.  I enter field values till the field cannot take any value and count the size of the entered text. | I expect the field length should be as per requirement.  i.e  Card number: as per req(generally limited to 16 digits) etc. |
| 5 | Labels & Fields | Validating Datatype of fields | User is on the Payment method page | - | Given I am on the Payment Page, I enter following data in the respective fields  card number- 1234567890876543  Name on card- Raghavedra Reddy Gurrala  MM/YY – 02/20  CVV – 130  Click Procced to Payment button. | Check that no errors should be displayed when entering the details and also when I click the button. |
| 6 | Valid Cards | Check with Valid Card Details | User is on the Payment method page | - | Given I am on the Payment Page, I enter following valid sample card details data in the respective fields  *VISA;*  card number- 4111 1111 1111 1111  Name on card- Raghavedra Reddy Gurrala  MM/YY – 03/30  CVV – 737  *MASTER CARD;*  card number- 5555 4444 3333 1111  Name on card- Raghavedra Reddy Gurrala  MM/YY – 03/30  CVV – 737  *AMEX;*  card number- 3700 0000 0100 018  Name on card- Raghavedra Reddy Gurrala  MM/YY – 03/30  CVV – 7373  *DISCOVER;*  card number- 6445 6445 6445 6445  Name on card- Raghavedra Reddy Gurrala  MM/YY – 03/30  CVV – 737  Click Procced to Payment button after entering each card details. | I verify that all card details are accepted and everytime Proceed to Payment button is clicked the payment should go through without any errors.  Verify if any tick mark is displayed against card number field dynamically when a valid card number is finished entering.  Also verify any pop-up or payment successful message is displayed to the user after payment goes through. |
| 7 | Valid Cards | Corporate, gift ,international and premium cards | User is on the Payment method page | - | Given I am on the Payment Page, I enter following valid sample card details of a corporate type of card, a gift card,a premium card and other card types of interest.  Click Procced to Payment button after entering each card details. | I verify that all card details are accepted and everytime Proceed to Payment button is clicked the payment should go through without any errors. |
| 8 | Label & Fields | Verify Keyboard TAB movement between fields | User is on the Payment method page | - | Given I am on the Payment Page,I place the mouse pointer on card number field and hit TAB on keyword multiple times | I verify that the pointer moves between input fields everytime user hits TAB. Also check if the ENTER on keyword mimics clicking the Proceed to Payment button. |
| 9 | Label & Fields | Copy Paste content from notepad | User is on the Payment method page | Card details are present in notepad | Given I am on the Payment Page , I copy and paste the card details 1 by 1 in each field from notepad | I verify that the paste works as expected and the fields are populated.  Also when the CVV is transferred it should convert to bulleted character and not text in the page. |
| 10 | Label & Fields | Verify if CVV and/or card number are hidden/encrypted(shown as bullet dots) when entered | User is on the Payment method page | - | Repeat scenario 9 above but this time copying the content from the payment page to the notepad | Check that the fields are copied and also the CVV is copied as bullets or unreadable text and not string. |
| 11 | Label & Fields | Multiple changes to input fields and verify that last details are sent through | User is on the Payment method page | - | Given I am on the Payment Page,I add card and other details.  Then I modify the details again couple of times.  Then I click on Proceed to Payment | I verify that only the last details that were entered before clicking on the Payment button should be saved and processed. |
| 12 | Accessibility | Accessibility of the Page(for blind and disabled) using axe tool | User is on the Payment method page | - | Given I am on the Payment Page,I run the axe report and see if there are any warnings or errors. | I validate that no errors or warnings should be displayed in the report and the page should confirm to accessibility standards. |
| 13 | Payment | Check if transactions are stored in DB and also card details | User is on the Payment method page | - | Given I am on the Payment Page, and I complete the payment. | Then I verify if the transaction and Payment details are stored in the DB against the user/order details. |
| 14 | Label & Fields | Fill the fields from auto-population or saved details in chrome browser | User is on the Payment method page | Card details are saved in the google chrome as Google Pay. | Given I am on the Payment Page, when I place the mouse pointer on the card number field.  I check if the google pay selection is displayed and I click on it. | Then I verify that the input fields are auto-populated with my card details that are saved in chrome. |
| 15 | Label & Fields | User details populated from application if he is signed in | User is on the Payment method page | - | Given I am a registered user of the application and I am logged in .When I reach the Payment Page, I check the input fields | Depending on requirement I verify if the payment details are pre-populated from the user account |
| 16 | Correspondence | Verify any correspondes/mails that are sent out after successful payment | User is on the Payment method page | - | Given I am on the Payment Page,I pay for the product using  1)Valid card  2)Invalid card | I validate that in both cases if correspondence is sent to external or/and internal users. |
| 17 | Label & Fields | Verify if fields are Mandatory and appropriate error message is shown when entered incorrect field or not entered a mandatory field. | User is on the Payment method page | - | Given I am on the Payment Page, I verify the fields are mandatory.  Also click on Proceed Payment button as well to see if the mandatoriness is enforced. | I validate the mandatory fields against the req. Generally Card number,CVV,Name,  Expiry date fields are mandatory |
| 18 | Payment | Validate Session timeout | User is on the Payment method page | - | Given I am on the Payment Page, I leave the page as is without performing any actions and check the time it takes for the session to go to timeout. | I validate the session timeout time is as per requirements. |
| 19 | Label & Fields | Verify if the right mouse click is disabled on the page. | User is on the Payment method page | - | Given I am on the Payment Page, I do a right mouse click and verify if I can view page source. | I verify if the right mouse click is disabled as per requirements as it raises more security issues. |
| 20 | Payment | Verify Payment using card that has exact available credit for 1 transaction. | User is on the Payment method page | Credit Card with same credit left/has that the user is charged for. | Given I am on the Payment Page, and I am charged x dollars. I pay using the credit card that has exactly x dollars of credit left.  I click on Proceed to payment | I verify the payment should be successful provided there are no vendor charges and x dollars is final amount. |
| 21 | Payment | Verify that the payment is redirected to OTP(one time password) page of the vendor(corresponding bank) if the card has additional security on it. | User is on the Payment method page | - | Given I am on the Payment Page, I entered details of CC that has additional authentication of OTP.  I click on Proceed to payment. | Then I verify that the page is redirected to the appropriate vendor or bank that has authorized the card transaction. |
| 22 | Labels & Fields | Check the URL and also if https is enabled on the page. | User is on the Payment method page | - | Given I am on the Payment Page, I check the application URL and protocol. | The URL should be as per requirement and should not expose any parameters like card numbers in the URL.  Also the page should be https and not http. |
| 23 | Payment | 0 dollars product selected | User is on the Payment method page | - | Given I select a 0$ product(promotion service) and proceed to payment page. When I pay for the service using credit card | I verify that the card should not be charged with any amount and the payment successful message should be displayed on the screen. |
| 23 | Payment | Cookie Policy | User is on the Payment method page | - | Given I am on the payment page, I verify if any cookies are stored | The cookies stored should be as per req.(generally cookie’s should not store any payment or private user details) |

# Negative Test Cases:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test Case#** | **Module** | **Test Case Name** | **Pre-Condition** |  | **Test Case Description** | **Expected Result** |
| 1 | Invalid Card | Verify payment using Card type that is not acceptable by the payment method. | User is on the Payment method page | - | Given I am on the Payment Page, I enter card details that are not accepted by the application. | I verify that a (x) is displayed alongside the card number field or an valid error is displayed on clicking Proceed to payment button. |
| 2 | Insufficient funds | Verify payment using a valid card but with insufficient available credit on the card. | User is on the Payment method page | - | Given I am on the Payment Page,I enter payment details of a valid card with insufficient credit available. | I verify that the payment fails and the user is shown appropriate error message. |
| 3 | Expired Card | Verify payment using card that is expired. | User is on the Payment method page | - | Given I am on the Payment Page, I enter details of an expired card. | I verify that the payment fails and the user is shown appropriate error message. |
| 4 | Payment | Click the ‘Proceed to Payment’ after session has timed out. | User is on the Payment method page | - | Given I am on the Payment Page and I enter valid card details. Now without submitting I wait for timeout to happen.  After the timeout I submit the page or refresh and submit | I verify that a timeout message is displayed to the user |
| 5 |  | Keep fields empty and try to submit the payment | User is on the Payment method page | - | Given I am on the Payment Page and click on Proceed to Payment without entering any input fields. | I verify that the Red highlighting happens on the fields that are mandatory and an appropriate error message is shown on the same screen. |
| 6 |  | Incorrect CVV | User is on the Payment method page | - | Given I am on the Payment Page and I enter valid card details except CVV | I verify that the payment fails and the user is shown appropriate error message |
| 7 |  | Incorrect Name | User is on the Payment method page | - | Given I am on the Payment Page and I enter valid card details except Name | I verify that if the requirement has verification of Name, then the payment should fail and user is thrown appropriate error message else the payment should go through. |
| 8 |  | Invalid month or year | User is on the Payment method page | - | Given I am on the Payment Page and I enter valid card details except Expiry month/year | I verify that the payment fails and the user is shown appropriate error message |
| 9 |  | Invalid datatypes on fields  check if card number field only accepts numbers,name field accepts numbers and alphabets  ,month field MM/YY only and CVV numbers | User is on the Payment method page | - | Given I am on the Payment Page and I enter  Alphabets in card number field  Numbers in Name field  String in CVV and Expiry date field.  Click on Proceed to Payment | I verify that the page should either not allowing input of the invalid datatypes on fields or should throw an appropriate error on click on the submit. |
| 10 |  | Add space and Tab to the card number,name,cvv and mm/yy fields and verify | User is on the Payment method page | - | Given I am on the Payment Page and I enter valid card details.I now add extra spaces/Tabs in 1 or more fields. | I verify that extra spaces in card number,expiry date and CVV should be trimmed while extra spaces in Name should be allowed while submission. |
| 11 |  | Partial Card number | User is on the Payment method page | - | Given I am on the Payment Page and I enter valid card details except that the card number entered is only partial(say missing last 2 digits) | I verify that the page validation happens and error is thrown to the user. |
| 12 |  | Check if there is a spending limit per transaction on the card. | User is on the Payment method page | - | Given I am on the Payment Page and I enter valid card details which has a spending limit less that the payment amount. | I verify that the payment fails and the user is shown appropriate error message |
| 13 |  | Add Card for which online transactions are blocked. | User is on the Payment method page | - | Given I am on the Payment Page and I add card details on which online transactions are blocked. | I verify that the payment fails and the user is shown appropriate error message |
| 14 |  | Click back button in browser after payment has gone through to see if user can submit the payment again | User is on the Payment method page | - | Given I am on the Payment Page and submit the payment with valid card details. Now after a Payment successful message is shown I click back button on the browser. | I verify that the transaction completed message should be shown or the user should be prevented to do the same transaction again. |
| 15 |  | Parallel session on different tabs using same user | User is on the Payment method page | - | Given I am logged in user in 2 different tabs of same browser of same system.  I complete the payment page in both tabs and submit the payment on both pages for same product. | I verify that the payment should go through only in 1 page as by the time the second payment hits the product would have already been purchased. |
| 16 |  | Parallel sessions in different systems using same user | User is on the Payment method page | - | Repeat scenario 15 above but now on different systems | I verify that the payment should go through only in 1 page as by the time the second payment hits the product would have already been purchased. |
| 17 |  | Bring Payment service down immediately after clicking Proceed to payment button. | User is on the Payment method page | - | Given I am on the Payment Page and make payment and bring down the payment service immediately after that.  Now spin up the service after sometime and check the payment status . | I verify that the payment should be successful and the transaction should be recorded in DB |
| 18 |  | Bring down DB instance immediately after submission. | User is on the Payment method page | - | Repeat the test case 17 above but this time bring down the DB service or internet connectivity once the payment button is clicked. Check the payment status and DB details. | The payment should go through and details should be saved after bringing it up. |
| 19 |  | Check if the failures are logged in DB and picked up for processing as end of day job (if any) | User is on the Payment method page | - | Given I am on the Payment Page and I complete the payment | I verify that the payment details and user transactions are updated in the DB.  If the payment fails or is in pending state then I verify if appropriate status is updated in DB and UI and validate if there are any end of day jobs that will pick the transactions for re-processing. |
| 20 |  | User immediately blocks the card between the time of user click on payment and successful payment. | User is on the Payment method page | - | Given I am on the Payment Page, I enter details of a valid credit card and click on Proceed to Payment.  Parallel to the click operation I will block the card for transactions. | Verify that depending on the time difference, either the payment has to go through and the card is deducted before getting blocked or the payment will fail. |
| 21 |  | User has only credit for 1 trans and 2 trans are opened in different browsers and are sent through at the same time. | User is on the Payment method page | - | Given I am logged in as registered user in 2 different browsers.  I make purchase of 2 different product in each browser.  I reach the payment page and submit the payment with valid card details | I verify that both the purchase orders go through and 2 payments are deducted. |
| 22 | Security | Do SQL injection on the fields by entering 1=1 in card number ,name or CVV field. | User is on the Payment method page | - | Given I am on the Payment Page and I try SQL injection on input fields | I verify that system throws appropriate errors and no DB details are exposed. |
| 23 | Security | Copy the url and paste it in another browser or system and see if it works. | User is on the Payment method page | - | Given I am on the Payment Page ,I copy the URL of this session and paste it in another browser and try to submit the form. | I verify that either the URL in different browser doesn’t open or the payment fails as the session id is not same. |
| 24 |  | Click F12 and search for hide and replace it with show and see if it gives any details regarding the page hidden attributes which the user is not supposed to know. | User is on the Payment method page | - | Given I am on the Payment Page,I click F12 to open DOM of the page.  I find for all hide references and change them to show | I verify that even after unhiding hidden attributes,the user should not be shown any untargeted details. |

# Exploratory Testing

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Case#** | **Exploratory Tests** | **Execution Notes** | **Status** | **Additional Comments** |
| 1 |  |  | _scroll_external/icons/check-87cdb5dd2ccca107784150ca4bd40882ffc705e4ed2de9f70b556d948a3e0bc6.svg |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |

# Residual Risk

|  |  |
| --- | --- |
| **Risk** | **Impact (High/Low/Medium)** |
| Security Testing needs to be performed | High |
| Performance Testing needs to be performed | Medium |