

Cardano RnR Smart Contact Test Scenario:

This suite of test scenario ensures that the **Cardano Review and Reputation (RnR)** smart contract logic behaves as intended. The goal is to test scenarios for the primary actors (e.g., Business User (Hotel) and End User (reviewers)) while validating that unauthorized actions are prevented.

Test No	User Stories	Conditions	Steps	Expected Output	Accepted Output	Result
1.	Business User (Owner) Submits a Review With Valid Data	<p>Business User has a valid PubKeyHash. Review contains a valid overall Rating between 1 to 5. reviewId: A unique identifier. reviewReferenceId: Optional reference ID. timestamp: Current POSIX time. totalScore: Initial total score. ratingCount: Initial rating count. reputationScore: Initial reputation score.</p>	<p>Create a valid Review datum with all required fields. Sign the transaction using the reviewer's private Sign key. Lock it at script address. Unlock with Valid Redeemer. Unlock will happen with valid Pubkeyhash by which it gets Locked.</p>	<p>The validator script passes. Review is accepted. The new reputation score is calculated and checked with the inline datum. Transaction succeeds datum Unlocked with Valid Redeemer.</p>	<p>UTXO with inline datum is successfully created and appears at validator script address</p> <p>Transaction succeeds datum locked.</p>	Pass <input checked="" type="checkbox"/>

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• srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 0b76981aa18e4931a8ab019d96f722fe1c4dc7b7ba061ace5626f2bf966ec040#1 has 9959307724 lovelace
Selected UTx0 for locking funds: 0b76981aa18e4931a8ab019d96f722fe1c4dc7b7ba061ace5626f2bf966ec040#1
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7: Waiting for a new payment UTx0 to appear...
Found new payment UTx0: ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b#1 (txid: ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b)
Step 8: Waiting for a matching script UTx0 (with txid ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b) to appear...
Step 9: Complete:
    Selected script UTx0: ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b#
    Selected collateral UTx0: ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b#1
Step 10: Building unlocking transaction using automatic fee calculation...
Estimated transaction fee: 397081 Lovelace
Step 11: Signing the unlocking transaction...
Step 12: Submitting the unlocking transaction...
Transaction successfully submitted.
Step 13: Querying final UTxOs at the payment address...

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TxHash	TxIx	Amount
ac3c434b4727ac075eb6f6b55ced7fc54474f0fb7d8d1b1cb6b52875fec1c431	0	200000000 lovelace + TxOutDatumNone
ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b	1	9949134655 lovelace + TxOutDatumNone
b9d28175509817cbc2ac45742fc0cfdbfbfe69eaab0990584a785ffdc01a18d2	1	1519850 lovelace + TxOutDatumNone
e95f184b8c60655b7b806467ed7a47cc65f78e1ec5fd14fd71af4337fbe9fcc	0	1142150 lovelace + TxOutDatumInline BabbageEraOnwardsConway (Has hableScriptData "\216y\159\DC1\DC1\ETBfP\144\216z\128\ENQ\SUB\130\227I\CAN\SOHX\FS\ESC u+D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\ 241C9\163\200r\189\255" (ScriptDataConstructor 0 [ScriptDataBytes "DC1\DC1\ETBfP\144", ScriptDataConstructor 1 [], ScriptDataNumber 5, ScriptDataNumber 1619190601, ScriptDataNumber 45, ScriptDataNumber 13, ScriptDataNumber 1, ScriptDataBytes "\ESC u+D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\241C9\163\200r\189"]))
e95f184b8c60655b7b806467ed7a47cc65f78e1ec5fd14fd71af4337fbe9fcc	1	8475220 lovelace + TxOutDatumNone
efb5840702e47a842d3c644762b7ad881db7fb7d2930cc826989734e2d50dfd	0	1142150 lovelace + TxOutDatumInline BabbageEraOnwardsConway (Has hableScriptData "\216y\159\DC1\DC1\DC1f'\a\DE\216z\128\ENQ\SUB\130\227I\CAN\SOHX\FS\ESC u+D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\241C9\163\200r\189\255" (ScriptDataConstructor 0 [ScriptDataBytes "DC1\DC1\DC1f'\a\DE", ScriptDataConstructor 1 [], ScriptDataNumber 5, ScriptDataNumber 1619190601, ScriptDataNumber 60, ScriptDataNumber 16, ScriptDataNumber 1, ScriptDataBytes "\ESC u+D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\241C9\163\200r\189"]))

2.	Business User (Owner) Submits a Review With InValid Data	<p>Business User has a valid PubKeyHash. Review contains an Invalid overall Rating > 5. reviewId: A unique identifier. reviewReferenceId: Optional reference ID. timestamp: Current POSIX time. totalScore: Initial total score. ratingCount: Initial rating count. reputationScore: Initial reputation score.</p>	<p>Create an Invalid overallRating > 5, Review datum with other Valid required fields.</p> <p>Sign the transaction using the reviewer's private Sign key.</p> <p>Attempt to Lock it at script address.</p> <p>Unlock will not happen with valid Pubkeyhash and Review ID by which it gets Locked.</p>	<p>Transaction fails with "Invalid Rating! Must be between 1 and 5"</p>	<p>Validation error thrown</p>		Pass <input checked="" type="checkbox"/>

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@srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 95e72f6953198c204190053cea6583c315fc41ca174dce470e77a47cd6122e6#1 has 9979653862 lovelace
Selected UTx0 for locking funds: 95e72f6953198c204190053cea6583c315fc41ca174dce470e77a47cd6122e6#1
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: 2c2e77dda7ca462c473a1abbbdef1eladea8cabae79411a4b74d70e370abff70#1 (txid: 2c2e77dda7ca462c473a1abbbdef1eladea8cabae79411a4b74d70e370abff70)
Step 7b: Waiting for a matching script UTx0 (with txid 2c2e77dda7ca462c473a1abbbdef1eladea8cabae79411a4b74d70e370abff70) to appear...
Step 7 Complete:
  Selected script UTx0: 2c2e77dda7ca462c473a1abbbdef1eladea8cabae79411a4b74d70e370abff70#0
  Selected collateral UTx0: 2c2e77dda7ca462c473a1abbbdef1eladea8cabae79411a4b74d70e370abff70#1
Step 8: Building unlocking transaction using automatic fee calculation...
Command failed: transaction build  Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Invalid Rating! Must be between 1 and 5
Validation Failed!

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3.	Business User (Owner) Submits a Review With InValid Data	<p>Business User has a valid PubKeyHash. Review contains a valid overall Rating between 1 and 5.</p> <p>reviewId: A unique identifier.</p> <p>reviewReferenceId: Optional reference ID.</p> <p>timestamp: Current POSIX time.</p> <p>totalScore: Initial total score.</p> <p>ratingCount: Initial rating count.</p> <p>reputationScore: Invalid reputation update.</p>	<p>Invalid reputation update in Review datum with other Valid required fields.</p> <p>Sign the transaction using the reviewer's private Sign key.</p> <p>Attempt to Lock it at script address.</p> <p>Unlock will not happen with valid Pubkeyhash and Review ID by which it gets Locked.</p>	<p>Transaction fails with "Invalid reputation update!"</p>	<p>Transaction fails with "Invalid reputation update!" Validation error thrown</p>	Pass <input checked="" type="checkbox"/>

```

srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputations ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 40a7879d540c70169079136f442a7942dfbf74b1e4fe3199171fe0d9b4d47e58#1 has 159307724 lovelace
Selected UTx0 for locking funds: 40a7879d540c70169079136f442a7942dfbf74b1e4fe3199171fe0d9b4d47e58#1
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: aac364f6acb258aa036e1b43c4520cf1b5ce8baba9fa3459bef7eae176a3329f#1 (txid: aac364f6acb258aa036e1b43c4520cf1b5ce8baba9fa3459bef7eae176a3329f)
Step 7b: Waiting for a matching script UTx0 (with txid aac364f6acb258aa036e1b43c4520cf1b5ce8baba9fa3459bef7eae176a3329f) to appear...
Step 7 Complete:
    Selected script UTx0: aac364f6acb258aa036e1b43c4520cf1b5ce8baba9fa3459bef7eae176a3329f#0
    Selected collateral UTx0: aac364f6acb258aa036e1b43c4520cf1b5ce8baba9fa3459bef7eae176a3329f#1
Step 8: Building unlocking transaction using automatic fee calculation...
Command failed: transaction build Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Invalid reputation update!
Validation Failed!

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4.	Business User (Owner) Submits a Review With Invalid Data	Business User has a valid PubKeyHash. Review contains a valid overall Rating between 1 and 5. reviewId: A unique identifier. reviewReferenceId: Optional reference ID. timestamp: Current POSIX time. totalScore: Invalid Total Score! ratingCount: Initial rating count. reputationScore: Initial reputation score.	Invalid Total Score in Review datum with other Valid required fields. Sign the transaction using the reviewer's private Sign key. Attempt to Lock it at script address. Unlock will not happen with valid Pubkeyhash and Review ID by which it gets Locked.	Transaction fails with " Updated inline datum not found!"	Transaction fails with " Updated inline datum not found!" Validation error thrown	Pass <input checked="" type="checkbox"/>

```

@srijiit-sarkar@srijiit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 3cb7bc61367a6a6f723158022f0ff89291ad8380e888ef19d603906bd13ed6ba#1 has 189826931 lovelace
Selected UTx0 for locking funds: 3cb7bc61367a6a6f723158022f0ff89291ad8380e888ef19d603906bd13ed6ba#1
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#1 (txid: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353)
Step 7b: Waiting for a matching script UTx0 (with txid 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353) to appear...
Step 7 Complete:
    Selected script UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#0
    Selected collateral UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#1
Step 8: Building unlocking transaction using automatic fee calculation...
Command failed: transaction build  Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Updated inline datum not found!
Validation Failed!
```

5.

Business User (Owner)
Submits a Review
With **Invalid Data**

Business User has a valid PubKeyHash.
Review contains a valid overall Rating between 1 and 5.
reviewId: A unique identifier.
reviewReferenceId: Optional reference ID.
timestamp: Current POSIX time.
totalScore: Initial total score.
ratingCount: **Invalid Rating Count!**
reputationScore: Initial reputation score.

Invalid Rating Count in Review datum with other Valid required fields.
Sign the transaction using the reviewer's private Sign key.
Attempt to Lock it at script address.
Unlock will not happen with valid Pubkeyhash and Review ID by which it gets Locked.

Transaction fails with "
Updated inline datum not found!"

Transaction fails with "
Updated inline datum not found!"

Validation error thrown

Pass

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@srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 3cb7bc61367a6a6f723158022f0ff89291ad8380e888ef19d603906bd13ed6ba#1 has 189826931 lovelace
Selected UTx0 for locking funds: 3cb7bc61367a6a6f723158022f0ff89291ad8380e888ef19d603906bd13ed6ba#1
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#1 (txid: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353)
Step 7b: Waiting for a matching script UTx0 (with txid 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353) to appear...
Step 7 Complete:
    Selected script UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#0
    Selected collateral UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#1
Step 8: Building unlocking transaction using automatic fee calculation...
Command failed: transaction build  Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Updated inline datum not found!
Validation Failed!

```

6.	Business User (Owner) Submits a Review With Invalid Data	<p>Business User has a valid PubKeyHash.</p> <p>Review contains a valid overall Rating between 1 and 5.</p> <p>reviewId: A unique identifier.</p> <p>reviewReferenceId: Invalid (Empty) reference ID.</p> <p>timestamp: Current POSIX time.</p> <p>totalScore: Initial total score.</p> <p>ratingCount: Initial rating count.</p> <p>reputationScore: Initial reputation score.</p>	<p>Invalid (Empty) reference ID in Review datum with other Valid required fields.</p> <p>Sign the transaction using the reviewer's private Sign key.</p> <p>Attempt to Lock it at script address.</p> <p>Unlock will not happen with valid Pubkeyhash and Review ID by which it gets Locked.</p>	<p>Transaction fails to Lock.</p>	<p>Transaction fails to Lock.</p>	Pass <input checked="" type="checkbox"/>

```

• aiquant@aiquant-HP-240-14-inch-G10-Notebook-PC:~/Downloads/ppbl2023-plutus-template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 59823aa0c80a513e6af7e23489dab80c91d1960ecc51b448f0b36eed058b489#0 has 1142150 lovelace
Payment UTx0 59823aa0c80a513e6af7e23489dab80c91d1960ecc51b448f0b36eed058b489#1 has 8474868 lovelace
Payment UTx0 617f44d8040aad6aba6462987950aca66f5e62e73a48e2c587ff90af61f25e51#0 has 1142150 lovelace
Payment UTx0 617f44d8040aad6aba6462987950aca66f5e62e73a48e2c587ff90af61f25e51#1 has 8424515 lovelace
Payment UTx0 675a9977dd3e033658af61d70ebdff23983a6f00f936189a1d89b88f61e123406#0 has 1142150 lovelace
Payment UTx0 675a9977dd3e033658af61d70ebdff23983a6f00f936189a1d89b88f61e123406#1 has 8474868 lovelace
Payment UTx0 6af56a5b996c26530b31514c77772009c09b808930c3d2e11ce0e2b10be08e2b#0 has 1142150 lovelace
Payment UTx0 6af56a5b996c26530b31514c77772009c09b808930c3d2e11ce0e2b10be08e2b#1 has 8424515 lovelace
Payment UTx0 7178e8a4e8b360778b0737e2d9e16d5cdab75502868b862e248d75edd09378a6#0 has 1142150 lovelace
Payment UTx0 7178e8a4e8b360778b0737e2d9e16d5cdab75502868b862e248d75edd09378a6#1 has 8474868 lovelace
Payment UTx0 868c8b9d829e0593c36c451f0c3ecac5640bab7703b7424de19c236d2d60fdc8#0 has 1142150 lovelace
Payment UTx0 868c8b9d829e0593c36c451f0c3ecac5640bab7703b7424de19c236d2d60fdc8#1 has 8424515 lovelace
Payment UTx0 916ed01085e0b56bb22e20fe416b2cd089507c49ec314e0db2455d2a6f2fda#1 has 10547669 lovelace
Payment UTx0 9ff753a153b958ca9d99724a1f353483f8b0cd49b61da9ddb259e26ffc229940#0 has 1142150 lovelace
Payment UTx0 9ff753a153b958ca9d99724a1f353483f8b0cd49b61da9ddb259e26ffc229940#1 has 8468415 lovelace
Payment UTx0 d0df4f713acde8d6ce7e011229cad653c80b2c700dca29438a3626403c168b8e#1 has 5052994 lovelace
Payment UTx0 d907a7fc6a6ce8ba68dd0105e2aa752643b10e6080486b6f10a9f29f5682fa3e#0 has 1142150 lovelace
Payment UTx0 ddbee50c8bd71f29faf25e8dedff9fff90758dffcf7c654622c313129f2d2c#1 has 159307020 lovelace
Selected UTx0 for locking funds: ddbee50c8bd71f29faf25e8dedff9fff90758dffcf7c654622c313129f2d2c#1
User gives a review in datum and Building locking transaction...
Estimated transaction fee: 173157 Lovelace
Step 5: Signing the locking transaction by the Owner...
Step 6: Submitting the locking transaction...
Command failed: transaction submit Error: Error while submitting tx: ShelleyTxValidationError ShelleyBasedEraConway (ApplyTxError (ConwayUtxowFailure (UtxoFailure (ValueNotConservedUTx0 (MaryValue (Coin 0) (MultiAsset (fromList []))) (MaryValue (Coin 159307020) (MultiAsset (fromList [])))) :| [ConwayUtxowFailure (UtxoFailure (BadInputsUTx0 (fromList [TxIn (TxId {unTxId = SafeHash "ddbee50c8b d71f29faf25e8dedff9fff90758dffcf7c654622c313129f2d2c"}) (TxIx {unTxIx = 1})]))])))

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	Business User (Owner) Submits a Review and updates reputation score	Valid review as Datum, score must change correctly	Submit review with updated score Script checks score logic	Validator allows transaction Score reflects change	Validator allows transaction Score reflects change	Pass <input checked="" type="checkbox"/>
7.						

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• srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 0b76981aa18e4931a8ab019d96f722fe1c4dc7b7ba061ace5626f2b966ec040#1 has 9959307724 lovelace
Selected UTx0 for locking funds: 0b76981aa18e4931a8ab019d96f722fe1c4dc7b7ba061ace5626f2b966ec040#1
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
Found new payment UTx0: ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b#1 (txid: ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b)
Step 7b: Waiting for a matching script UTx0 (with txid ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b) to appear...
Step 7 Complete:
    Selected script UTx0: ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b#0
    Selected collateral UTx0: ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b#1
Step 8: Building unlocking transaction using automatic fee calculation...
Estimated transaction fee: 397081 Lovelace
Step 9: Signing the unlocking transaction...
Step 10: Submitting the unlocking transaction...
Transaction successfully submitted.
Step 11: Querying final UTxOs at the payment address...

```

TxHash	TxIx	Amount
ac3c434b4727ac075eb6f6b55ced7fc54474f0b7d801b1cb6b52875fecc1c431	0	2000000000 lovelace + TxOutDatumNone
ad5e872093183858fce765869bef3f28713a856b7e963d72a1fd5535e9c7a64b	1	9949134655 lovelace + TxOutDatumNone
b9d28175509817cbc2ac45742fc0cfdbfbfe69eaab0990584a785ffdc01a18d2	1	1519850 lovelace + TxOutDatumNone
e95f184b8c06055b7b806467ed7a47cc65f78e1ec5ffd14fd71af4337fbe9fcc	0	1142150 lovelace + TxOutDatumInline BabbageEraOnwardsConway (Has hableScriptData "\216\159G\DC1\DC1\ETBF\p\144\216\128\ENQ\SUB\`130\227I\CAN\-\r\SOHX\FS\ESC u+\D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\241C9\163\200r\189\255" (ScriptDataConstructor 0 [ScriptDataBytes "\DC1\DC1\ETBF\p\144", ScriptDataConstructor 1 [], ScriptDataNumber 5, ScriptD ataNumber 1619190601, ScriptDataNumber 45, ScriptDataNumber 13, ScriptDataNumber 1, ScriptDataBytes "\ESC u+\D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\241C9\163\200r\189"])
e95f184b8c06055b7b806467ed7a47cc65f78e1ec5ffd14fd71af4337fbe9fcc	1	8475220 lovelace + TxOutDatumNone
efb5840702e47a842d3c644762b7ad881bd7bfb7d2930cc826989734e2d50dfd	0	1142150 lovelace + TxOutDatumInline BabbageEraOnwardsConway (Has hableScriptData "\216\159G\DC1\DC1\p\144\216\128\ENQ\SUB\`130\227I\CAN\-\r\SOHX\FS\ESC u+\D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\241C9\163\200r\189\255" (ScriptDataConstructor 0 [ScriptDataBytes "\DC1\DC1\p\144", ScriptDataConstructor 1 [], ScriptDataNumber 5, ScriptD ataNumber 1619190601, ScriptDataNumber 60, ScriptDataNumber 16, ScriptDataNumber 1, ScriptDataBytes "\ESC u+\D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\241C9\163\200r\189"])

8.	Validator unlocks review with correct validation logic	Datum is valid Score Calculated correctly Unlock signed TX	Prepare transaction to consume the review UTXO in Business Address Call validator script Submit signed transaction for Unlock	Review UTXO is consumed successfully, validation passes	Review UTXO is consumed successfully, validation passes	Pass <input checked="" type="checkbox"/>

```
• srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 9315b99341d133c5137b2918e8a3ceb9331b216b4518f5ba357556a88e8e6ab0#1 has 9989826931 lovelace
Selected UTx0 for locking funds: 9315b99341d133c5137b2918e8a3ceb9331b216b4518f5ba357556a88e8e6ab0#1
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: 95e72f6953198c204190053cea6583c315fcb41ca174dce470e77a47cd6122e6#1 (txid: 95e72f6953198c204190053cea6583c315fcb41ca174dce470e77a47cd6122e6)
Step 7b: Waiting for a matching script UTx0 (with txid 95e72f6953198c204190053cea6583c315fcb41ca174dce470e77a47cd6122e6) to appear...
Step 7 Complete:
    Selected script UTx0: 95e72f6953198c204190053cea6583c315fcb41ca174dce470e77a47cd6122e6#0
    Selected collateral UTx0: 95e72f6953198c204190053cea6583c315fcb41ca174dce470e77a47cd6122e6#1
Step 8: Building unlocking transaction using automatic fee calculation...
Estimated transaction fee: 397081 Lovelace
Step 9: Signing the unlocking transaction...
Step 10: Submitting the unlocking transaction...
Transaction successfully submitted.
Step 11: Querying final UTx0s at the payment address...
          TxHash           TxIx      Amount
-----+
95e72f6953198c204190053cea6583c315fcb41ca174dce470e77a47cd6122e6   1    9979653862 lovelace + TxOutDatumNone
ac3c434b4727ac075eb6f6b55ced7fc54474f0b7d8d1b1cb6b52875fecc1c431   0    200000000 lovelace + TxOutDatumNone
b9d28175509817cbc2ac45742fc0fdbfbfe69eaa0990584a785ffdc01a18d2   1    1519850 lovelace + TxOutDatumNone
e95f184b8c06055b7b806467ed7a47cc65f78e1ec5fdd14fd71af4337fbe9fcc   0    1142150 lovelace + TxOutDatumInline BabbageEraOnwardsConway (Has
hableScriptData "\216y\159G\DC1\DC1\ETBfP\va144\216z\128\EN0\SUB\`130\227I\CAN-\`SOHVFSESC u+D\161+S\246\245Z\DC4T\172\133\150e\164\RS\SIU\
241C9\163\200\`189\255" (ScriptDataConstructor 0 [ScriptDataBytes "\DC1\DC1\ETBfP\va144",ScriptDataConstructor 1 [],ScriptDataNumber 5,ScriptD
ataNumber 1619190601,ScriptDataNumber 45,ScriptDataNumber 13,ScriptDataNumber 1,ScriptDataBytes "\ESC u+D\161+S\246\245Z\DC4T\172\133\150e\164]
```

9.	Reject if wrong Address signs (Redeem from Another Address)	PKH in datum ≠ TX signer PKH while Redeeming	Submit valid datum Unlock using wrong private key or by Another Address	Transaction fails: "Transaction not signed by reviewer!"	Transaction fails: "Transaction not signed by reviewer!"	Pass <input checked="" type="checkbox"/>

```

@srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 089e1c17b45d36bc20a4df24addc0e332dcc0655bb2bb7c15b7a91dd2ba8fb1b#1 has 9928788121 lovelace
Selected UTx0 for locking funds: 089e1c17b45d36bc20a4df24addc0e332dcc0655bb2bb7c15b7a91dd2ba8fb1b#1
User gives a review in datum and Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction by the Owner...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Locking transaction submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: 20529b8a7e61f06aac6ce004e245656bcab184d0534e61ee98dfb6bc2f253b60#1 (txid: 20529b8a7e61f06aac6ce004e245656bcab184d0534e61ee98dfb6bc2f253b60)
Step 7b: Waiting for a matching script UTx0 (with txid 20529b8a7e61f06aac6ce004e245656bcab184d0534e61ee98dfb6bc2f253b60) to appear...
Step 7 Complete:
    Selected script UTx0: 20529b8a7e61f06aac6ce004e245656bcab184d0534e61ee98dfb6bc2f253b60#0
    Selected collateral UTx0: 20529b8a7e61f06aac6ce004e245656bcab184d0534e61ee98dfb6bc2f253b60#1
Step 8: Building unlocking transaction using automatic fee calculation...
Command failed: transaction build Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Transaction not signed by reviewer!
Validation Failed!
```

10.	Reject if datum is malformed	Missing required fields in datum	Submit Datum in Script Address as new UTXO with corrupted or incomplete datum	The value in the field "bytes" does not have the type required by the schema.	The value in the field "bytes" does not have the type required by the schema.	Pass <input checked="" type="checkbox"/>
-----	-------------------------------------	----------------------------------	---	---	---	--

```

@srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 2c2e77dda7ca462c473a1abbdef1eadea8cabae79411a4b74d70e370abff70#1 has 9969480793 lovelace
Selected UTx0 for locking funds: 2c2e77dda7ca462c473a1abbdef1eadea8cabae79411a4b74d70e370abff70#1
Building locking transaction...
Command failed: transaction build Error: Error decoding ScriptData JSON value: JSON schema error within the script data: {"constructor":0,"fields":[{"bytes":234}, {"constructor":1, "fields":[]}, {"int":5}, {"int":1619190601}, {"int":60}, {"int":16}, {"int":1}, {"bytes":"1b20752b44a12b53f6f5a1454ac859665a41e0f55f14339a3c872bd"}]}
The value in the field "bytes" does not have the type required by the schema.
Unexpected value: 234
@srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$
```

11.	Validate reputation score updated correctly post-review	Multiple reviews are giving	Submit multiple reviews with scores Observe cumulative reputation update logic	Contract aggregates score correctly	Contract aggregates score correctly	Pass <input checked="" type="checkbox"/>
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12.	Customer End User Can Visit more than once and leave separate reviews but should be Different Booking ID	Multiple bookings for same customer Thus Different Booking ID generated , and They can Submit Review Once for Respective Booking ID.	Book Hotel multiple times Submit Review Once for Respective Booking ID.	Each booking allows separate review Through Off-Chain	All valid reviews accepted Through Off-Chain	Pass <input checked="" type="checkbox"/>
13.	A Business User (Owner) cannot review their own venue as a customer	Owner's pkh used as both Hotel and reviewer PKH, and no valid booking is found	Owner logs into the Dapp Attempts to submit a review The Dapp checks if the user has a valid booking Since no booking is found, UI prevents opening of Review Submission Form. (Off Chain)	Transaction Rejected	Transaction Rejected	Pass <input checked="" type="checkbox"/>
14.	Contract handles concurrent reviews gracefully	Multiple users submit reviews simultaneously	Simulate concurrent submissions	All valid reviews processed	No collision or overwriting All valid reviews processed	Pass <input checked="" type="checkbox"/>

15.	Validator ensures no double reviews for a single booking	Same booking ID used twice to give review	Submit a review for booking ID 123 Attempt to resubmit for same ID	Second Review get rejected Through Off-Chain	Second Review get rejected Validation fails Through Off-Chain	Pass <input checked="" type="checkbox"/>
16.	Third party fails to Redeem from the validator	Invalid Signer	Third party Actor attempts to Redeem review	Transaction rejected	Rejected, Validation fails due to wrong Signer	Pass <input checked="" type="checkbox"/>

```
● srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 50515d26e5b73a4488db542599763678af4cab7e29cbb30406586aa621338b9a#0 has 10000000000 lovelace
Selected UTx0 for locking funds: 50515d26e5b73a4488db542599763678af4cab7e29cbb30406586aa621338b9a#0
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: 9315b99341d133c5137b2918e8a3ceb9331b216b4518f5ba357556a88e8e6ab0#1 (txid: 9315b99341d133c5137b2918e8a3ceb9331b216b4518f5ba357556a88e8e6ab0)
t5ba357556a88e8e6ab0)
Step 7b: Waiting for a matching script UTx0 (with txid 9315b99341d133c5137b2918e8a3ceb9331b216b4518f5ba357556a88e8e6ab0) to appear...
Step 7 Complete:
    Selected script UTx0: 9315b99341d133c5137b2918e8a3ceb9331b216b4518f5ba357556a88e8e6ab0#0
    Selected collateral UTx0: 9315b99341d133c5137b2918e8a3ceb9331b216b4518f5ba357556a88e8e6ab0#1
Step 8: Building unlocking transaction using automatic fee calculation...
Command failed: transaction build Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Transaction not signed by reviewer!
Validation Failed!

Step 9: Signing the unlocking transaction...
Step 10: Submitting the unlocking transaction...
Command failed: transaction submit Error: Error while submitting tx: ShelleyTxValidationError ShelleyBasedEraConway (ApplyTxError (ConwayUtxoFailure (ExtraneousScriptWitnessesUTXOW (fromList [ScriptHash "e9feb59d5ec295780a05828836c33ee44664e065ea519e3ba7d350ad"]))) :| [ConwayUtxowFailure (ExtraRedeemers [ConwaySpending (AsIx {unAsIx = 0})])], ConwayUtxowFailure (PPViewHashesDontMatch (SJust (SafeHash "57c0eac00ff4c07f5a445562b55bf0f6eacdalem444c728584b2620456e4fba8")) (SJust (SafeHash "0b24e2342ff003d0bf8113d3751de2234ee3298920aedfc5faf820957f7ade24"))), ConwayUtxowFailure (UtxoFailure (ValueNotConservedUTxO (MaryValue (Coin 0) (MultiAsset (fromList [])))) (MaryValue (Coin 10000000) (MultiAsset (fromList [])))), ConwayUtxowFailure (UtxoFailure (BadInputsUTxO (fromList [TxIn (TxId {unTxId = SafeHash "485489ab42e3fe411c1a3c097a41512188054571ddd49fbce48fc2643deede7"}) (TxIx {unTxIx = 0})])))))))
```

17.	The validator checks the correctness of the output datum when a review is redeemed.	The transaction includes an output UTXO with an intentionally corrupted or incorrect reputation datum.	Submit a valid review to generate a review UTXO. Construct a redemption transaction with a manipulated reputation datum (e.g., wrong score or format). Submit the transaction for validation.	The validator should reject the transaction, detecting that the output datum is invalid.	The validator should reject the transaction, detecting that the output datum is invalid.	Pass <input checked="" type="checkbox"/>

```
srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0: 3cb7bc61367a6a6f723158022f0ff89291ad8380e888ef19d603906bd13ed6ba#1 has 189826931 lovelace
Selected UTx0 for locking funds: 3cb7bc61367a6a6f723158022f0ff89291ad8380e888ef19d603906bd13ed6ba#1
Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#1 (txid: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353)
Step 7b: Waiting for a matching script UTx0 (with txid 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353) to appear...
Step 7 Complete:
    Selected script UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#0
    Selected collateral UTx0: 7c76931b2330a77f818e5226c69548d2ac3cd7213e31e192fbecfd7dd302d353#1
Step 8: Building unlocking transaction using automatic fee calculation...
Command failed: transaction build Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Updated inline datum not found!
Validation Failed!
```

18.	PKH in Datum ≠ PKH in Redeemer	Submit valid datum Unlock using wrong PKH in Redeemer	Submit valid datum. A malicious Actor wants to Unlock the Datum with the Redeemer which have another PKH thats Provide in the Datum	Unauthorized signer! Transaction Failed.	Unauthorized signer! Transaction Failed.	Pass <input checked="" type="checkbox"/>

```

@srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 52eb47e9db94048e5d6eb2766e21940b9e608d4d3024900b6ca47563ce7e13ee#1 has 9908441983 lovelace
Selected UTx0 for locking funds: 52eb47e9db94048e5d6eb2766e21940b9e608d4d3024900b6ca47563ce7e13ee#1
User gives a review in datum and Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction by the Owner...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Locking transaction submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: c8cdd1f19e7cdb6c5b25e7604748948e6a3c4eedc64e51630c8879ec1d278741#1 (txid: c8cdd1f19e7cdb6c5b25e7604748948e6a3c4eedc64e51630c8879ec1d278741)
Step 7b: Waiting for a matching script UTx0 (with txid c8cdd1f19e7cdb6c5b25e7604748948e6a3c4eedc64e51630c8879ec1d278741) to appear...
Step 7 Complete:
    Selected script UTx0: c8cdd1f19e7cdb6c5b25e7604748948e6a3c4eedc64e51630c8879ec1d278741#0
    Selected collateral UTx0: c8cdd1f19e7cdb6c5b25e7604748948e6a3c4eedc64e51630c8879ec1d278741#1
Step 8: Building unlocking transaction using automatic fee calculation...
Command failed: transaction build  Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Unauthorized signer!
Validation Failed!
```

19.	Redeem To Another Address not the Business Address	Submit valid datum, Unlock using Another Address to Redeem	Submit valid datum, Unlock means Redeem to Another Address the Datum.	Unlock Fail Transaction Failed, Incorrect address!	Unlock Fail Transaction Failed, Incorrect address!	Pass <input checked="" type="checkbox"/>

```

@srijit-sarkar@srijit-sarkar:~/Documents/SmartContract/MY Template/MY Template/src/Reputation$ ./RnRContractTest.sh
Step 4: Building transaction to lock funds at the script address...
Payment UTx0 7c934f422a1c8c05bc17b165fcebd441d58f795efac5e15a340ad2bfac3a9f12#0 has 1142150 lovelace
Payment UTx0 7c934f422a1c8c05bc17b165fcebd441d58f795efac5e15a340ad2bfac3a9f12#1 has 8460769 lovelace
Payment UTx0 93c048d40a351a3fcbac54e0a0663a712ed57ab10c28c287ad49c0cb173f6bec#0 has 1142150 lovelace
Payment UTx0 93c048d40a351a3fcbac54e0a0663a712ed57ab10c28c287ad49c0cb173f6bec#1 has 8460769 lovelace
Payment UTx0 aedb64b6118bf15333c4eb638b50c91e22daec9d50ea841e3980451f5a3907b3#1 has 9847402865 lovelace
Selected UTx0 for locking funds: aedb64b6118bf15333c4eb638b50c91e22daec9d50ea841e3980451f5a3907b3#1
User gives a review in datum and Building locking transaction...
Estimated transaction fee: 173069 Lovelace
Step 5: Signing the locking transaction by the Owner...
Step 6: Submitting the locking transaction...
Transaction successfully submitted.
Locking transaction submitted.
Step 7a: Waiting for a new payment UTx0 to appear...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
No new payment UTx0 yet. Sleeping for 5 seconds...
Found new payment UTx0: b36922d88d36d0bf8bc83bf9922a05fb709cea435bc5f141b2b59f4bc1065220#1 (txid: b36922d88d36d0bf8bc83bf9922a05fb709cea435bc5f141b2b59f4bc1065220)
Step 7b: Waiting for a matching script UTx0 (with txid b36922d88d36d0bf8bc83bf9922a05fb709cea435bc5f141b2b59f4bc1065220) to appear...
Step 7 Complete:
    Selected script UTx0: b36922d88d36d0bf8bc83bf9922a05fb709cea435bc5f141b2b59f4bc1065220#0
    Selected collateral UTx0: b36922d88d36d0bf8bc83bf9922a05fb709cea435bc5f141b2b59f4bc1065220#1
SmartContract/MY Template/MY Template/src/Reputation.zip • Untracked
Command failed: transaction build  Error: The following scripts have execution failures:
the script for transaction input 0 (in ascending order of the TxIds) failed with:
The Plutus script evaluation failed: An error has occurred:
The machine terminated because of an error, either from a built-in function or from an explicit use of 'error'.
Script debugging logs: Incorrect address!
Validation Failed!
```

20.	Customer End User Can Visit once and leave separate reviews, but it be for Once Booking ID	Single bookings for Customer Thus Booking ID generated, and They can Submit Review Once for Respective Booking ID.	Book Hotel Submit Review Once for Respective Booking ID. Again resubmit the Another Review by using Same Booking ID.	Another Review Submission be Failed Through Off-Chain	Another Review Submission be Failed Through Off-Chain	Pass <input checked="" type="checkbox"/>