

Testing Plan

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Date :30/12/2024

#	Artifact Tested	Pre-conditions	Test Steps	Expected Result	Passed?
1	Customer app	Customer logged in	-Enter a valid parking spaceID -Click "start parking"	1-Display message: "Parking Started successfully " 2- new parking event is created in our database (ParkingEvents).	yes
2	Customer app	Customer logged in	-Enter an invalid parking spaceID -click "Start Parking."	Display message: "Invalid parking space. Please try again."	yes
3	Customer app	Customer logged in	-Enter a valid parking spaceID -customer already have parking event in start state -click "Start Parking."	Already parking event stopped and start a new parking event. Display message: " Parking Started successfully"	yes

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4	Customer app	Customer in	logged in	-Enter a valid parking spaceID. - spaceID is <i>already occupied by another customer</i> . -Click on "Start Parking"	-Display message: "Failed start parking event for an occupied space"	yes
5	Customer app	Customer in	logged in	Click on <i>stop parking for a valid active parking event</i>	<i>parking event stopped and parking space is freed</i>	Yes
6	Customer app	Customer in	logged in	Click on <i>stop parking for no active parking event</i> .	Display message: "Failed stop parking ,no active parking event."	yes
7	Customer app	Customer in	logged in	-Click on " show parking events"(that has events)	- Display message:" Display the actual parking events for the customer"	yes
8	Customer app	Customer in	logged in	-Click on " show parking events"(that has no events)	- Display message:" Display message : No parking events found for the provided vehicle id"	yes
9	PEO app	PEO logged in		-Click on " Check parking" for test legally parked in a valid space	Display message: " Parking Ok"	yes
10	PEO app	PEO logged in		-Click on " Check parking" for vehicle not legally parked.	Display message: " Parking not Ok" Issue new Citation	Yes

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11	MO app	MO logged in	Click on “ Generate Transactions Reports” generating transaction reports when transactions exist	Display list of all transaction	yes
12	MO app	MO logged in	Click on “ Generate Transactions Reports” generating transaction reports when transactions do not exist	Display an empty list of all transaction	yes
13	MO app	MO logged in	Click on “ Generate citation Reports” Generating citation reports when citations exist	Display list of all citation	yes
14	MO app	MO logged in	Click on “ Generate Citation Reports” generating citation reports when citations do not exist	Display an empty list of all citation	yes
15	Database Cluster	Database cluster with 3 nodes set up and running.	Simulate failure of a single database node. Attempt a query operation on the cluster.	Query succeeds by rerouting to an available node	yes

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16	Database Cluster	Cluster in recovery mode after a node failure	Restore the failed database node Perform query operations	Cluster restores functionality Queries are distributed across all nodes	yes
17	RabbitMQ Cluster	RabbitMQ cluster with quorum queues configured (3 nodes).	Simulate RabbitMQ node failure. Attempt to send a message to the queue.	Message is successfully routed to another available node in the cluster.	yes
18	RabbitMQ Cluster	RabbitMQ cluster restored after a node failure	Restore the failed RabbitMQ node. Send a message to the queue.	Message is processed successfully. Cluster synchronizes queues	yes
19	Recommender serve	<ul style="list-style-type: none"> - One recommender server is not connected. - The system is running with at least two active nodes 	<ol style="list-style-type: none"> 1. Disconnect one recommender server. 2. Customer clicks the "Recommend" button. 3. System fetches responses from available nodes. 4. Majority voting is applied to determine the best recommendation. 	<ul style="list-style-type: none"> - The recommender should still return a recommended parking space. - Display message: "Recommended space: __" 	yes
20	Recommender serve	<ul style="list-style-type: none"> - Two recommender servers are not connected. - The system is running with at 	<ol style="list-style-type: none"> 1. Disconnect two recommender servers. 2. Customer clicks the "Recommend" button. 3. The system collects responses from the single available node. 	<ul style="list-style-type: none"> - The recommender should not return a recommended parking space. 	yes

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		least one active node.	4. The best recommendation is returned.		
21	Recommender Service	<ul style="list-style-type: none"> - All recommender servers are connected. - One recommender server sends an incorrect recommendation. 	<ol style="list-style-type: none"> 1. One recommender server returns incorrect data. 2. Customer clicks the "Recommend" button. 3. Majority voting is applied to ignore the incorrect recommendation. 4. The correct recommendation is returned. 	<ul style="list-style-type: none"> - The recommender should return a valid recommended space (ignoring the incorrect response). - Display message: "Recommended space: __" 	yes
22	Recommender Service	<ul style="list-style-type: none"> - All recommender servers are connected. - Two recommender servers send incorrect recommendations. 	<ol style="list-style-type: none"> 1. Two recommender servers return incorrect data. 2. Customer clicks the "Recommend" button. 3. The system applies majority voting. 4. The correct recommendation is determined by the remaining valid server. 	<ul style="list-style-type: none"> - The recommender should not return a recommended parking space. 	yes