



**THOMPSON RIVERS UNIVERSITY**

SENG 3210 - Applied Software Engineering

# VoxChoice - Testing Plan

Landon McKay (T00576244)

Junpeng Jiang (T00657653)

Marcus Hoang (T00646542)

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**1. List of the test cases**

<b>Test case ID</b>	<b>Title</b>	<b>Event Type</b>
TC_01	Verify that users can securely access the platform from remote locations using appropriate authentication protocols.	System
TC_02	Test the functionality for instructors to efficiently manage discussion topics, including the ability to create, edit, and delete topics as needed.	Business
TC_03	Test the system's capability to provide instructors with a real-time dashboard, presenting essential metrics, updates, and insights relevant to their roles and responsibilities.	System
TC_04	Verifying VoxChoice Application Meets Expected Performance Standards for Responsiveness, Speed, and Resource Efficiency Typical of Mobile Applications.	System
TC_05	Ensuring VoxChoice Implements Robust Data Protection Measures, Including User Authentication and Privacy Mechanisms, to Prevent Unauthorized Access, Modification, or Misuse.	System
TC_06	Ensuring VoxChoice Supports Multiple Simultaneous Polls with Varied Characteristics.	System
TC_07	Assessing VoxChoice's Intuitive Design for Accessibility Across Diverse User Groups.	Business
TC_08	Testing VoxChoice's Speed and Responsiveness Across Different Devices for Efficient Poll Updates.	System
TC_09	Ensuring Continuous Availability of VoxChoice Throughout the Trip Without Downtime or Issues.	System

## 2. Test Case Plans

### TC\_01:

<b>Test case ID</b>	TC_01
<b>Title</b>	Verify that users can securely access the platform from remote locations using appropriate authentication protocols.
<b>Description</b>	As a user attempting to access VoxChoice from a remote location, it is imperative to ensure that the platform offers secure authentication protocols to safeguard sensitive user data and prevent unauthorized access. When logging into VoxChoice, users will be prompted to provide their credentials, typically a username and password.
<b>Preconditions</b>	<ol style="list-style-type: none"> <li>1. The user should be logged in to the system.</li> <li>2. Required fields are filled in completely and correctly.</li> </ol>
<b>Postconditions</b>	<ol style="list-style-type: none"> <li>1. The user gains access to the main dashboard.</li> <li>2. The user will have two dashboards and different functionalities based on account type. <ol style="list-style-type: none"> <li>a. Admin - Option to manage polls.</li> <li>b. Student - Vote on created polls.</li> </ol> </li> </ol>
<b>Running steps</b>	<ol style="list-style-type: none"> <li>1. User attempts to access VoxChoice from a remote location:</li> <li>2. The user navigates to the VoxChoice platform through their mobile application.</li> <li>3. Upon reaching the VoxChoice login page, the user is prompted to enter their credentials to authenticate their identity.</li> <li>4. The user enters their username and password into the respective fields on the login form.</li> <li>5. After filling in the required fields, the user clicks on the "Login" button to initiate the authentication process.</li> <li>6. VoxChoice validates the entered credentials against the stored user database to ensure accuracy and authenticity.</li> <li>7. Upon successful authentication, the user gains access to the main dashboard of VoxChoice.</li> <li>8. The dashboard serves as the central hub for accessing various features and functionalities of the platform.</li> </ol>
<b>Actual output</b>	

**TC\_02:**

<b>Test case ID</b>	TC_02
<b>Title</b>	Test the functionality for instructors to efficiently manage discussion topics, including the ability to create, edit, and delete topics as needed.
<b>Description</b>	The functionality for instructors to efficiently manage discussion topics in VoxChoice is crucial for facilitating effective communication and collaboration within the platform. Instructors need the ability to create, edit, and delete discussion topics as needed to ensure that discussions remain relevant and organized. This functionality enables instructors to adapt to changing circumstances.
<b>Preconditions</b>	<ol style="list-style-type: none"><li>1. The instructor must be authenticated and logged into VoxChoice with appropriate credentials before accessing the discussion management feature.</li><li>2. The instructor's account must have administrative privileges or permissions to create, edit, and delete discussion topics. This ensures that only authorized users can perform these actions.</li><li>3. The discussion management feature must be accessible and enabled within the VoxChoice platform.</li><li>4. There should be no existing conflicts or inconsistencies with discussion topics that could interfere with the instructor's ability to create, edit, or delete topics. This ensures that the instructor can perform these actions without encountering unexpected errors or conflicts.</li></ol>
<b>Postconditions</b>	<ol style="list-style-type: none"><li>1. After creating a new discussion topic, it should be successfully added to the list of available discussion topics in VoxChoice.</li><li>2. After editing an existing discussion topic, the changes made by the instructor should be accurately reflected in the updated version of the topic.</li><li>3. After deleting a discussion topic, it should be removed from the list of available topics, and any associated discussions or materials should no longer be accessible to students.</li></ol>

	<p>4. The overall state of the VoxChoice platform should remain stable and consistent after performing actions related to discussion topic management. There should be no unexpected errors, disruptions, or changes to other platform functionalities.</p>
<b>Running steps</b>	<p>1. Log in to VoxChoice with valid instructor credentials. Ensure that administrative privileges are assigned to the instructor account.</p> <p>2. Navigate to the section of VoxChoice dedicated to managing discussion topics.</p> <p>3. Click on the option to create a new discussion topic. Fill in the required fields such as title, description, and any additional details. Submit the form to create the new discussion topic.</p> <p>4. Check that the newly created discussion topic appears in the list of available topics.</p> <p><b>Two Options:</b></p> <p>Edit Discussion Topic:</p> <p>1. Select an existing discussion topic from the list. Choose the option to edit the selected topic. Make changes to the title, description, or any other relevant details. Save the changes to update the discussion topic. Ensure that the edited discussion topic reflects the changes made by the instructor. Confirm that the modifications are accurately reflected in the updated version of the topic.</p> <p>Delete Discussion Topic:</p> <p>2. Select a discussion topic from the list to be deleted. Choose the option to delete the selected topic. Confirm the deletion action when prompted. Confirm that the deleted discussion topic is no longer present in the list of available topics. Ensure that any associated discussions or materials linked to the deleted topic are inaccessible to students.</p>
<b>Actual output</b>	

**TC\_03:**

<b>Test case ID</b>	TC_03
<b>Title</b>	Test the system's capability to provide instructors with a real-time dashboard, presenting essential metrics, updates, and insights relevant to their roles and responsibilities.
<b>Description</b>	The real-time dashboard functionality in VoxChoice is designed to provide instructors with a comprehensive and dynamic overview of essential metrics, updates, and insights relevant to their roles and responsibilities within the platform. This feature enables instructors to monitor key performance indicators (KPIs), track student engagement, and stay informed about ongoing activities in real time.
<b>Preconditions</b>	<ol style="list-style-type: none"><li>1. The tester must have valid user credentials to log in to VoxChoice and access the real-time dashboard feature.</li><li>2. The instructor account used for testing should have administrative privileges or permissions necessary to view the real-time dashboard.</li><li>3. The real-time dashboard feature must be enabled and accessible within VoxChoice for the instructor to access during testing.</li><li>4. VoxChoice should be running in a stable environment without any ongoing maintenance or system issues that could affect the functionality of the real-time dashboard.</li><li>5. The system should have updated and relevant data available for display on the real-time dashboard during testing. This ensures that the dashboard accurately reflects the latest information and insights.</li><li>6. There should be no existing conflicts or inconsistencies with the real-time dashboard that could interfere with the user's ability to view or interact with the dashboard during testing.</li></ol>
<b>Postconditions</b>	<ol style="list-style-type: none"><li>1. The real-time dashboard is successfully displayed to the instructor upon accessing the designated section within VoxChoice.</li><li>2. Essential metrics relevant to the user's role and responsibilities are accurately presented on the real-time dashboard. Metrics such as student engagement levels, poll participation rates, and discussion activity are displayed correctly and reflect the latest data available.</li></ol>

	<p>3. The real-time dashboard provides timely updates and insights regarding ongoing activities, events, or changes within VoxChoice. Instructors receive notifications or alerts about new discussions, poll responses, or any significant events that may impact instructional planning or decision-making.</p> <p>4. The real-time dashboard is interactive, allowing instructors to drill down into specific metrics, view detailed information, and explore trends or patterns over time. Instructors can interact with the dashboard to access additional details, adjust settings, or perform other relevant actions as needed.</p>
<b>Running steps</b>	<p>1. Log in to VoxChoice using valid user credentials.</p> <p>2. Navigate to the section of VoxChoice designated for the real-time dashboard for users.</p> <p>3. Verify that the real-time dashboard is prominently displayed upon accessing the designated section.</p> <p>4. Check that the real-time dashboard presents essential metrics relevant to the user's role and responsibilities.</p> <p>5. Ensure that the real-time dashboard provides timely updates and insights regarding ongoing activities within VoxChoice.</p> <p>6. Validate the accuracy and relevance of the metrics displayed on the real-time dashboard.</p>
<b>Actual output</b>	

**TC\_04:**

<b>Test case ID</b>	TC_04
<b>Title</b>	Verifying VoxChoice Application Meets Expected Performance Standards for Responsiveness, Speed, and Resource Efficiency Typical of Mobile Applications.
<b>Description</b>	The verification of the VoxChoice application's performance standards is essential to ensure it meets the expected levels of responsiveness, speed, and resource efficiency typical of mobile applications. Performance testing evaluates the application's ability to respond promptly to user interactions, execute tasks quickly, and optimize resource utilization. By assessing factors such as app launch time, screen loading speed, and resource consumption,

	<p>performance testing aims to identify any bottlenecks or areas for optimization. Through comprehensive testing under realistic usage scenarios, VoxChoice can be validated to deliver a smooth, fast, and efficient user experience across various devices and network conditions, aligning with the expectations for high-quality mobile applications.</p>
<b>Preconditions</b>	<ol style="list-style-type: none"> <li>1. The VoxChoice application should be fully functional and accessible for testing purposes.</li> <li>2. The testing environment, including devices, network configurations, and testing tools, should be properly set up to accurately simulate real-world usage conditions.</li> <li>3. Sufficient test data should be prepared to simulate various user scenarios, including different levels of user activity, data loads, and network conditions.</li> <li>4. Baseline performance metrics should be established to provide a reference point for comparison during performance testing. This includes defining acceptable response times, speed benchmarks, and resource consumption thresholds.</li> <li>5. The version of the VoxChoice application being tested should be stable and representative of the production environment to ensure accurate performance assessment.</li> <li>6. Sufficient resources, including hardware, software, and testing personnel, should be available to conduct performance testing effectively.</li> </ol>
<b>Postconditions</b>	<ol style="list-style-type: none"> <li>1. Performance testing results, including response times, speed benchmarks, and resource consumption data, are analyzed to assess the application's performance against established criteria.</li> <li>2. Any performance bottlenecks, scalability limitations, or areas for optimization are identified and documented.</li> <li>3. The application's performance is validated against predefined acceptance criteria to ensure it meets the expected levels of responsiveness, speed, and resource efficiency.</li> <li>4. Confirmation that the VoxChoice application complies with performance standards and requirements specified for mobile applications.</li> <li>5. Performance testing results, including findings, recommendations, and any identified issues, are documented and reported to stakeholders for review and decision-making.</li> </ol>



<b>Running steps</b>	<ol style="list-style-type: none"><li>1. Ensure that the testing environment is set up properly, including devices, network configurations, and testing tools.</li><li>2. Establish baseline performance metrics and define clear objectives for the performance testing.</li><li>3. Define test scenarios that simulate various user activities, data loads, and network conditions representative of real-world usage.</li><li>4. Execute the defined test scenarios on the VoxChoice application, measuring key performance metrics such as response times, speed, and resource consumption.</li><li>5. Monitor the application's performance in real-time during test execution, capturing data on response times, server load, and other relevant metrics.</li><li>6. Collect performance data generated during test execution, including logs, metrics, and any observed issues or anomalies.</li><li>7. Analyze the collected performance data to identify any performance bottlenecks, scalability limitations, or areas for optimization. Evaluate the application's performance against predefined acceptance criteria and performance standards.</li><li>8. Address any identified performance issues by implementing optimizations, code improvements, or infrastructure changes as necessary.</li><li>9. Re-run performance tests after implementing optimizations or fixes to validate improvements and ensure that performance standards are met.</li><li>10. Document the results of performance testing, including findings, recommendations, and any actions taken to address identified issues. Prepare a performance testing report to communicate results and recommendations.</li></ol>
<b>Actual output</b>	

**TC\_05:**

<b>Test case ID</b>	TC_05
<b>Title</b>	Ensuring VoxChoice Implements Robust Data Protection Measures, Including User Authentication and Privacy Mechanisms, to Prevent Unauthorized Access, Modification, or Misuse.
<b>Description</b>	Ensuring that VoxChoice implements robust data protection measures, including user authentication and privacy mechanisms, is paramount to safeguarding user data and preventing unauthorized access, modification, or misuse. User authentication mechanisms, such as username-password, should be implemented to verify the identity of users and restrict access to authorized individuals only. By prioritizing data protection measures, VoxChoice can instill trust and confidence among users while safeguarding their privacy and security.
<b>Preconditions</b>	<ol style="list-style-type: none"> <li>1. The VoxChoice application must be fully functional and accessible for testing purposes.</li> <li>2. User authentication mechanisms, such as username-password authentication, should be properly configured and enabled within the VoxChoice application.</li> <li>3. Test user accounts with varying roles and permissions should be created within VoxChoice for testing authentication and access control mechanisms.</li> <li>4. Privacy mechanisms, such as role-based access control (RBAC) and data anonymization, should be properly configured and integrated into the VoxChoice application.</li> <li>5. The testing environment, including devices, networks, and testing tools, should be properly configured to accurately assess the functionality and effectiveness of data protection measures within VoxChoice.</li> </ol>
<b>Postconditions</b>	<ol style="list-style-type: none"> <li>1. Users are able to authenticate successfully using the implemented user authentication mechanisms, such as username-password authentication.</li> <li>2. Unauthorized users are prevented from accessing sensitive areas or functionalities within VoxChoice, ensuring that only authorized individuals can access and interact with the application.</li> <li>3. User data remains secure and intact, with measures in place to prevent unauthorized modification, tampering, or corruption of data stored within VoxChoice.</li> </ol>

	<p>4. Users have confidence in VoxChoice's data protection measures, knowing that their privacy and security are prioritized and that appropriate measures are in place to prevent unauthorized access, modification, or misuse of their data.</p> <p>5. Documentation of the implemented data protection measures, including user authentication mechanisms, is maintained and reported to stakeholders for review and compliance purposes.</p>
<b>Running steps</b>	<p>1. Ensure that the VoxChoice application is deployed in a testing environment and is accessible for testing purposes.</p> <p>2. Verify that the implemented user authentication mechanisms, such as username-password authentication, are functioning correctly.</p> <ul style="list-style-type: none"> <li>- Attempt to log in with valid user credentials to ensure successful authentication.</li> <li>- Attempt to log in with invalid or unauthorized credentials to verify that access is restricted.</li> </ul> <p>3. Test different user roles and permissions to ensure that access to sensitive areas or functionalities within VoxChoice is restricted appropriately based on user roles. Verify that unauthorized users are prevented from accessing restricted areas or functionalities.</p> <p>4. Test data integrity by attempting to modify or tamper with user data stored within VoxChoice. Verify that measures are in place to prevent unauthorized modification or corruption of user data.</p> <p>5. Verify that VoxChoice complies with relevant privacy regulations and standards, such as GDPR or HIPAA. Ensure that data protection measures align with regulatory requirements and industry best practices.</p> <p>6. Document the results of testing, including any identified issues or vulnerabilities, and report them to stakeholders for review and remediation.</p>
<b>Actual output</b>	

**TC\_06:**

<b>Test case ID</b>	TC_06
<b>Title</b>	Ensuring VoxChoice Supports Multiple Simultaneous Polls with Varied Characteristics.
<b>Description</b>	Ensuring that VoxChoice supports multiple simultaneous polls with varied characteristics is essential to provide flexibility and adaptability to users conducting polls on the platform. This functionality enables users to create and manage multiple polls concurrently, each with unique attributes, such as different topics, question types, and voting criteria. By supporting multiple simultaneous polls, VoxChoice can cater to diverse user needs and accommodate various polling scenarios, such as conducting polls on different subjects, targeting specific audience segments, or running polls with different voting mechanisms. This feature enhances the usability and versatility of VoxChoice, allowing users to engage with polls effectively.
<b>Preconditions</b>	<ol style="list-style-type: none"><li>1. The VoxChoice application must be fully functional and accessible for testing purposes.</li><li>2. The functionality to create and manage polls within VoxChoice should be implemented and enabled.</li><li>3. Test users with appropriate permissions and roles should be created and authenticated within VoxChoice to conduct poll creation and management tasks.</li><li>4. Define the varied characteristics that polls can have, such as different topics, question types, voting criteria, and duration.</li><li>5. The testing environment, including devices, networks, and testing tools, should be properly configured to accurately assess VoxChoice's support for multiple simultaneous polls.</li><li>6. Prepare test data, including sample polls with varied characteristics, to simulate different polling scenarios and test the application's ability to handle multiple polls concurrently.</li><li>7. Ensure that the interface for managing polls within VoxChoice is accessible and functional, allowing users to create, edit, and delete polls as needed.</li></ol>
<b>Postconditions</b>	Successful Creation of Multiple Polls: Users are able to create multiple polls concurrently within VoxChoice, each with unique characteristics, such as topics, questions, and voting criteria.

	<ol style="list-style-type: none"> <li>1. Simultaneous Poll Management: VoxChoice provides users with the ability to manage multiple polls simultaneously, including editing, deleting, and monitoring poll activity in real-time.</li> <li>2. Users can interact with multiple polls concurrently, including viewing poll details, participating in voting, and viewing poll results.</li> <li>3. VoxChoice supports a diverse range of poll characteristics, including different topics, question types (e.g., multiple-choice, open-ended), voting mechanisms (e.g., single-choice, multiple-choice), and duration.</li> <li>4. VoxChoice demonstrates scalability and performance in handling multiple simultaneous polls, ensuring that the platform remains responsive and stable even under heavy usage.</li> <li>5. Users express satisfaction with VoxChoice's support for multiple simultaneous polls, finding the platform intuitive, reliable, and effective for conducting polling activities.</li> <li>6. Documentation of VoxChoice's support for multiple simultaneous polls, including any identified issues or recommendations for improvement, is maintained and reported to stakeholders for review and decision-making.</li> </ol>
<b>Running steps</b>	<ol style="list-style-type: none"> <li>1. Ensure that the VoxChoice application is deployed in a testing environment and is accessible for testing purposes.</li> <li>2. Log in to VoxChoice using valid credentials. Navigate to the poll management interface where users can create, edit, and manage polls. Create Multiple Polls:</li> <li>3. Create multiple polls concurrently, each with varied characteristics such as topics, questions, and voting criteria. Ensure that users have the ability to specify different attributes for each poll, such as question types (e.g., multiple-choice, open-ended), voting mechanisms (e.g., single-choice, multiple-choice), and duration.</li> <li>4. Edit and modify existing polls to test the application's ability to manage multiple polls simultaneously. Verify that users can edit poll details, such as changing the questions, options, or duration, without affecting other polls. Monitor Poll Activity:</li> <li>5. Monitor the activity of multiple polls in real time to ensure that users can interact with them concurrently. Verify that users can view poll details, participate in voting, and view poll results for each poll independently.</li> </ol>

	<p>6. Simulate heavy usage scenarios by creating and managing a large number of polls simultaneously. Assess VoxChoice's scalability and performance in handling multiple polls concurrently, ensuring that the platform remains responsive and stable.</p> <p>7. Verify the integrity of poll data by checking for any data corruption, loss, or inconsistencies. Ensure that measures are in place to prevent unauthorized access or modification of poll data.</p> <p>8. Document the results of testing, including any identified issues or recommendations, and report them to stakeholders for review and decision-making.</p>
<b>Actual output</b>	

**TC\_07:**

<b>Test case ID</b>	TC_07
<b>Title</b>	Assessing VoxChoice's Intuitive Design for Accessibility Across Diverse User Groups.
<b>Description</b>	Assessing VoxChoice's intuitive design for accessibility across diverse user groups involves evaluating the application's usability and navigability for users with varying abilities. Testers assess how easily users can interact with VoxChoice, considering factors such as keyboard navigation, screen reader compatibility, colour contrast, and font size. By conducting thorough evaluations, testers ensure that VoxChoice is accessible to all users, including those with disabilities, non-native language speakers, and individuals with limited technical proficiency. This assessment aims to identify any usability barriers and ensure that VoxChoice provides an inclusive user experience for all users, regardless of their backgrounds or abilities.
<b>Preconditions</b>	<p>1. The VoxChoice application must be fully functional and accessible for testing purposes.</p> <p>2. The testing environment, including devices, browsers, and assistive technologies, should be properly configured to accurately assess VoxChoice's accessibility features.</p> <p>3. Identify diverse user groups expected to use VoxChoice, including users with disabilities, different language preferences, and varying levels of technical expertise.</p>

	<p>4. Create test user profiles representing diverse user groups, including individuals with visual impairments, motor disabilities, cognitive impairments, non-native language speakers, and users with limited technical proficiency.</p> <p>5. Ensure that accessibility testing tools, such as screen readers, keyboard testing tools, color contrast checkers, and browser extensions, are properly set up and accessible for use during evaluation.</p> <p>6. Prepare documentation templates for recording evaluation findings, including usability issues, accessibility barriers, and recommendations for improvement.</p>
<b>Postconditions</b>	<p>1. A comprehensive report documenting the assessment findings, including usability issues, accessibility barriers, and recommendations for improvement, is generated.</p> <p>2. Usability barriers and accessibility issues hindering user interaction with VoxChoice are identified and documented.</p> <p>3. Recommendations for improving VoxChoice's accessibility and usability, based on assessment findings and best practices, are provided.</p> <p>4. User satisfaction with VoxChoice's accessibility features is evaluated through feedback from diverse user groups.</p> <p>5. Training sessions or materials are provided to VoxChoice developers and designers to increase awareness and understanding of accessibility principles and best practices.</p> <p>6. An accessibility roadmap outlining planned improvements and enhancements to VoxChoice's accessibility features is developed.</p> <p>7. Commitment to ongoing evaluation and improvement of VoxChoice's accessibility features to ensure inclusivity and usability for all users.</p> <p>8. By ensuring these postconditions are met, VoxChoice can enhance its accessibility and usability for diverse user groups, ensuring an inclusive user experience for all users, regardless of their backgrounds or abilities.</p>

<b>Running steps</b>	<ol style="list-style-type: none"><li>1. Ensure that VoxChoice application is deployed in a testing environment accessible for evaluation.</li><li>2. Identify diverse user groups expected to use VoxChoice, including users with disabilities, non-native language speakers, and individuals with varying levels of technical expertise.</li><li>3. Set up accessibility testing tools, such as screen readers, keyboard testing tools, and colour contrast checkers, to assist in the evaluation.</li><li>4. Define user scenarios representing common tasks performed within VoxChoice, tailored to each identified user group. Conduct user testing sessions with representatives from each identified user group. Observe users as they interact with VoxChoice, noting any usability issues or accessibility barriers encountered.</li><li>5. Perform usability testing to assess the overall user experience of VoxChoice, focusing on ease of navigation, clarity of instructions, and intuitiveness of design.</li><li>6. Collect feedback from users regarding their experience with VoxChoice, including any difficulties encountered and suggestions for improvement.</li><li>7. Analyze testing results and observations to identify usability issues and accessibility barriers. Document findings, including identified issues, recommendations for improvement, and user feedback.</li><li>8. Prepare a comprehensive report summarizing assessment findings and recommendations for enhancing VoxChoice's accessibility and usability. Provide actionable recommendations for improving accessibility features and addressing usability issues identified during testing.</li></ol>
<b>Actual output</b>	



**TC\_08:**

<b>Test case ID</b>	TC_08
<b>Title</b>	Testing VoxChoice's Speed and Responsiveness Across Different Devices for Efficient Poll Updates.
<b>Description</b>	Testing VoxChoice's speed and responsiveness across different devices aims to evaluate how efficiently the application updates polls on various devices. This testing ensures that users can interact with VoxChoice seamlessly. Testers assess the application's performance on different devices, that are Android based, to ensure consistent and optimal performance across platforms. By conducting this testing, potential issues such as slow loading times, laggy interactions, or inconsistent responsiveness can be identified and addressed. The goal is to ensure that VoxChoice delivers a smooth and responsive user experience for efficient poll updates, enhancing user satisfaction and engagement with the platform across diverse device types.
<b>Preconditions</b>	<ol style="list-style-type: none"><li>1. The VoxChoice application must be fully functional and accessible for testing purposes.</li><li>2. Prepare test data, including sample polls and user interactions, to simulate real-world scenarios for testing VoxChoice's performance.</li><li>3. Establish baseline performance metrics and criteria for assessing VoxChoice's speed and responsiveness, including acceptable response times and loading speeds for poll updates.</li><li>4. Define testing scenarios that simulate various user interactions and activities, such as creating polls, voting on polls, and viewing poll results, to evaluate VoxChoice's performance across different devices.</li><li>5. Ensure that accessibility features, such as screen reader compatibility and keyboard navigation, are enabled and functioning properly on all tested devices.</li></ol>
<b>Postconditions</b>	<ol style="list-style-type: none"><li>1. Analyze performance metrics collected during testing, including response times, loading speeds, and resource utilization, to assess VoxChoice's speed and responsiveness across different devices.</li><li>2. Identify any performance issues or bottlenecks observed during testing, such as slow loading times, unresponsive interactions, or inconsistent behavior across devices.</li></ol>

	<p>3. Provide recommendations for optimizing VoxChoice's performance based on testing findings, including suggestions for improving code efficiency, reducing network latency, or optimizing resource usage.</p> <p>4. Ensure that VoxChoice delivers a consistent user experience across different devices, with fast and responsive interactions for efficient poll updates.</p> <p>5. Gauge user satisfaction with VoxChoice's speed and responsiveness across different devices through feedback from testers and end-users.</p> <p>6. Document the results of performance testing, including identified issues, optimization recommendations, and user feedback, and report them to stakeholders for review and action.</p> <p>7. Establish a plan for ongoing performance monitoring and optimization of VoxChoice to maintain fast and responsive interactions across different devices over time.</p>
<p><b>Running steps</b></p>	<p>1. Ensure that the VoxChoice application is deployed in a testing environment accessible for evaluation. Set up a variety of devices representing different platforms, screen sizes, and processing capabilities.</p> <p>2. Establish baseline performance metrics and criteria for assessing VoxChoice's speed and responsiveness, such as acceptable response times and loading speeds for poll updates.</p> <p>3. Define testing scenarios that simulate common user interactions related to poll updates, such as creating polls, voting on polls, and viewing poll results.</p> <p>4. Conduct tests on each device, performing the defined testing scenarios to evaluate VoxChoice's performance across different platforms. Measure and record the time taken for poll updates, including response times for user interactions and loading speeds for poll data.</p> <p>5. Monitor VoxChoice's performance metrics during testing, including CPU usage, memory usage, and network latency, to identify any performance issues or bottlenecks.</p> <p>6. Analyze the collected performance data to assess VoxChoice's speed and responsiveness across different devices. Compare performance metrics between devices to identify any variations or inconsistencies in performance.</p>

	<p>7. Identify any performance issues or anomalies observed during testing, such as slow loading times, unresponsive interactions, or inconsistent behaviour across devices.</p> <p>8. Provide recommendations for optimizing VoxChoice's performance based on testing findings, including suggestions for improving code efficiency, reducing network latency, or optimizing resource usage.</p> <p>9. Evaluate the overall user experience of VoxChoice's speed and responsiveness across different devices, considering user feedback and satisfaction with the application's performance.</p> <p>10. Document the results of performance testing, including identified issues, optimization recommendations, and user feedback. Prepare a comprehensive report summarizing the findings and recommendations for stakeholders' review and action.</p>
<b>Actual output</b>	

**TC\_09:**

<b>Test case ID</b>	TC_09
<b>Title</b>	Ensuring Continuous Availability of VoxChoice Throughout the Trip Without Downtime or Issues.
<b>Description</b>	Ensuring continuous availability of VoxChoice throughout the trip without downtime or issues involves implementing robust measures to maintain uninterrupted access to the platform for users. This includes proactive monitoring, redundancy mechanisms, and disaster recovery plans to mitigate potential disruptions. The goal is to guarantee that VoxChoice remains accessible and operational at all times, even in the face of unexpected events such as server failures or network outages. By ensuring continuous availability, VoxChoice can provide a reliable platform for users to engage in polling activities throughout the trip without disruptions, enhancing user satisfaction and trust in the platform's reliability.
<b>Preconditions</b>	<p>1. The VoxChoice application must be fully functional and deployed in a stable production environment.</p> <p>2. Ensure that the server infrastructure hosting VoxChoice is properly configured, with adequate resources and redundancy measures in place to handle high traffic loads and potential failures.</p>

	<p>4. Set up a robust monitoring and alerting system to continuously monitor the health and performance of VoxChoice, including server metrics, application status, and network connectivity.</p> <p>5. Implement load balancing mechanisms to distribute incoming traffic evenly across multiple servers, preventing overloads and improving fault tolerance.</p> <p>6. Establish backup and recovery procedures to regularly back up VoxChoice data and configurations, ensuring that data can be restored quickly in case of data loss or corruption.</p> <p>7. Implement redundancy and failover mechanisms to automatically switch to backup systems or servers in the event of hardware failures, software crashes, or other disruptions.</p> <p>8. Validate the effectiveness of redundancy and failover mechanisms through thorough testing in a controlled environment, simulating various failure scenarios and ensuring that VoxChoice remains accessible and operational.</p>
<b>Postconditions</b>	<p>1. VoxChoice remains accessible to users throughout the trip duration without any unplanned downtime or service disruptions.</p> <p>2. The platform demonstrates high availability, with users able to access VoxChoice at any time, from any location, without encountering access issues.</p> <p>3. VoxChoice maintains consistent and reliable performance levels, with fast response times and minimal latency for user interactions.</p> <p>4. All data stored within VoxChoice remains intact and accessible, with measures in place to prevent data loss or corruption during the trip.</p> <p>5. The monitoring and alerting system effectively detects and notifies administrators of any potential issues or anomalies, allowing for prompt resolution and mitigation.</p> <p>6. VoxChoice demonstrates scalability to handle increased user traffic and activity levels during peak periods, ensuring that the platform remains responsive and accessible to all users.</p> <p>7. The platform is prepared to handle unforeseen events or disasters through robust backup and recovery procedures, ensuring that VoxChoice can quickly recover from any disruptions and resume normal operations.</p>

	<p>8. Users express satisfaction with VoxChoice's continuous availability and reliability throughout the trip, enhancing trust and confidence in the platform.</p>
<b>Running steps</b>	<p>1. Verify that all preconditions, including server infrastructure, network connectivity, monitoring systems, and backup procedures, are in place and functioning correctly.</p> <p>2. Activate the monitoring and alerting system to continuously monitor VoxChoice's health and performance, including server metrics, application status, and network connectivity.</p> <p>3. Conduct load testing to simulate peak traffic loads and ensure that VoxChoice can handle increased user activity without experiencing performance degradation or downtime.</p> <p>4. Test failover mechanisms to verify that redundancy and failover systems can automatically switch to backup systems or servers in the event of hardware failures or other disruptions.</p> <p>5. Simulate various disaster scenarios, such as server failures or network outages, to assess VoxChoice's resilience and ability to recover from disruptions.</p> <p>6. Document all testing activities, including results, observations, and any actions taken to ensure continuous availability of VoxChoice. Generate a comprehensive report summarizing the testing process, findings, and recommendations for improvement.</p>
<b>Actual output</b>	