Test Cases for Web horizon

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| Test Case ID | Description | Preconditions | Test Steps | Expected Results | Test Data | Priority |
| ## Web Horizon UI Test Cases |  |  |  |  |  |  |
|  | Test Case ID | Test Case Description | Preconditions | Test Steps | Expected Results | Test Data |
|  | --- | --- | --- | --- | --- | --- |
|  | TC\_001 | Verify Navigation Bar Functionality | Web Horizon application is launched. | 1. Navigate to different sections using the main navigation bar (Algorithms, Data Structures, Tutorials, Resources, About Us, For Business, Log In, Sign Up). 2. Verify that each section correctly renders the intended content. | Each navigation link should correctly lead to the respective section. The content displayed should be accurate and consistent. | N/A |
|  | TC\_002 | Verify Hero Carousel Functionality | Web Horizon application is launched. | 1. Observe the hero carousel. 2. Navigate through the carousel using the controls. | Carousel should display images and text correctly, with smooth transitions between slides. Controls should work as expected. | N/A |
|  | TC\_003 | Verify Sign-Up Form Functionality | Web Horizon application is launched. | 1. Navigate to the Sign Up page. 2. Enter valid email and password. 3. Click the Sign Up button. | Successful account creation and redirection to appropriate page. Error messages if invalid data is entered. | Valid email, password; Invalid email (missing @), password (too short). |
|  | TC\_004 | Verify Login Form Functionality | Web Horizon application is launched. | 1. Navigate to the Login page. 2. Enter valid credentials. 3. Click the Log In button. | Successful login and redirection to appropriate page. Error messages for invalid credentials. | Valid credentials; Invalid credentials (wrong password, non-existent email). |
|  | TC\_005 | Verify Course Filtering and Recommendation | Web Horizon application is launched. | 1. Navigate to the course catalog. 2. Answer the 3 quick questions. 3. Observe the recommendations. | Recommendations should be relevant to the answers provided. | Various combinations of answers to the 3 questions. |
|  | TC\_006 | Verify Course Details Page | Web Horizon application is launched, user selects a course. | 1. Navigate to a course details page. 2. Verify the presence of course title, description, duration, difficulty level. | All course details should be displayed correctly. | Select multiple courses with varying attributes. |
|  | TC\_007 | Verify Algorithm Visualization | Web Horizon application is launched, user selects an algorithm. | 1. Select an algorithm (e.g., Bubble Sort). 2. Interact with the visualization controls (Start, Pause, Next, Prev). | Visualization should work correctly, with step-by-step demonstration. Controls should function as expected. | Bubble Sort, Selection Sort (test different algorithms). |
|  | TC\_008 | Verify Code Examples Functionality | Web Horizon application is launched, user views a code example. | 1. Navigate to a code example section. 2. Verify that the code is displayed correctly and is syntactically correct. | Code should be correctly formatted and displayed; Syntax highlighting should work. | Multiple code examples with different languages (if applicable). |
|  | TC\_009 | Verify Footer Links Functionality | Web Horizon application is launched. | 1. Click on links in the Footer (Company, About, Careers, Affiliates, Resources, Privacy Policy, Cookie Policy, etc.). | Each link should lead to the correct page/section. | All links in the Footer. |
|  | TC\_010 | Verify Responsive Design | Web Horizon application is launched on different devices/browsers. | 1. Access the application on different screen sizes (desktop, tablet, mobile). 2. Verify the layout and functionality across different devices. | UI should adapt seamlessly to different screen sizes, maintaining functionality and readability. | Different screen resolutions and browser sizes. |
|  | TC\_011 | Verify Error Handling (Empty Fields) | Web Horizon application is launched. Navigate to Sign Up/Login form. | 1. Submit the form with empty fields. | Appropriate error messages should be displayed for each empty required field. | Leave all fields empty for Sign-Up and Log-In forms. |
|  | TC\_012 | Verify Error Handling (Invalid Input) | Web Horizon application is launched. Navigate to Sign Up/Login form. | 1. Submit the form with invalid data (e.g., invalid email format, short password). | Appropriate error messages should display, indicating the specific errors. | Invalid email addresses, passwords that don't meet length requirements. |
|  | TC\_013 | Verify Tooltip Functionality | Web Horizon application is launched. | 1. Hover over elements with tooltips. | Tooltips should appear correctly displaying relevant information. | All elements with tooltips. |
|  | TC\_014 | Verify Tab Functionality | Web Horizon application is launched; User navigates to a page with tabs. | 1. Click on different tabs. | Correct content should be displayed for each tab. | All tabs on pages with tabbed interfaces. |
|  | TC\_015 | Verify Image Loading | Web Horizon application is launched. | 1. Check for image loading across all sections. | Images should load correctly without errors. | All images on the website. |
|  | TC\_016 | Verify Accessibility (Screen Reader Compatibility) | Web Horizon application is launched using a screen reader. | 1. Use a screen reader to navigate the application. | All elements should be properly labeled and navigable using a screen reader. | Use a screen reader (e.g., JAWS, NVDA) |
| This is not an exhaustive list, but it provides a solid foundation for testing the "Web Horizon" UI. More test cases can be added based on specific requirements and functionalities. Remember to tailor the test data to cover various scenarios and edge cases. |  |  |  |  |  |  |