Test Plan

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# Overview

## Application under Test (AUT)

ENSEK Automation Candidate Test website <https://ensekautomationcandidatetest.azurewebsites.net/>

## Scope

Functional and readability testing to be undertaken across all pages, links and features available within the site, including:

* **T1:** Top-level menu
* **T2:** Registration process
* **T3:** Login process
* **T4:** The Home page
* **T5:** Energy Purchase process
* **T6:** Sell Energy page
* **T7:** About Us page
* **T8:** Contact page

The following specialist tests will be treated as out of scope and are not included in the test plan:

* Portability and responsiveness tests (multiple browsers and devices)
* Performance tests
* Security tests
* Accessibility tests
* Style (colours, font, layout etc.)

There will be only one cycle of testing, completed for the scope.

## Deliverables

* This Test Plan
* A Test Execution log, containing all tests completed and their Pass/Fail status
* A log of all bugs found, including information necessary to replicate and investigate

## Test Environment

Tests will be run using the latest version of Chrome, running on a Windows 11 PC. The viewport will be maximised in a standard definition display at 1920 x 1080 resolution at 100% zoom.

This was chosen as Chrome is the most popular web browser and 1920 x 1080 is the most popular desktop screen resolution.

## Tools

Few tools will be required. The log of bugs will be written using Microsoft Word and will include screenshots captured with Lightshot. Calculations may be checked with the Windows Calculator application where necessary.

## Defect Management

As mentioned above, all bugs identified will be recorded in the log, to be delivered alongside the test execution results. Bugs must include the test being run when they were identified, page they were identified on, steps to reproduce, actual and expected results and a screenshot as a minimum. Any relevant information from the browser logs and network data may be included where necessary.

## Risks

There are no real-world users of this application as it is creating purely for testing purposes. As such, the only risks may be:

* the application becoming unreachable if my internet connection goes down
  + if this occurs and lasts a long time I could run out of time, in which case I may request an extension to the assessment. This risk is quite small
* testing is prevented due to the triggering of a catastrophic bug which corrupts or brings down the application
  + if this occurs I will need to contact ENSEK to request application be restored. I assume the risk of this occurring is negligible

# Test Scenarios and Steps

The test steps in each test are intended to be executed in the order they are written.

## **T1:** Top-level menu

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| **Ref** | **Test Objective** | **Actions** | **Expected Result** |
| T1.1 | Top-level menu is available | Open the AUT in the browser and check the menu | The application opens to the Home page and the menu contains links for:   * Home * About * Contact * Register * Log In |
| T1.2 | Menu items open the correct pages | Click each menu item in turn and verify the page navigated to | Home -> Opens the ENSEK welcome page  About -> Opens the About ENSEK page  Contact -> Opens the page containing contact information  Register -> Opens the page containing a registration form  Log In -> Opens the page containing a login form |

## **T2:** Registration process

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| **Ref** | **Test Objective** | **Actions** | **Expected Result** |
| T2.1 | The registration form is clearly readable with no spelling errors | Open the Register page from the menu and inspect the text on the page | All text on the page is clearly readable and there are no spelling errors |
| T2.2 | A user can register using valid credentials | Populate all form fields with valid data and submit | The user’s form data is accepted and they are shown a message informing them their account is now registered |
| T2.3 | The user’s email address must be in a valid format | Attempt to register a new account with valid passwords, using the following email addresses:   * @test.com * john@ * john@test * !pete@test.com * alex(f)gee@test.com * jane@beale@test.com * bree”tay”lor@test.com * fox owl@test.com * doc\page@test.com * first.name.middle.name.last.hyphen.names@myinternetwebsite.org.uk | The user is prevented from registering with any of these email addresses. They are returned to the registration form and shown an error message |
| T2.4 | The user’s password or confirm password must not be blank | Attempt to register a new account with a valid email address but with only password populated, then with only email and confirm password populated | The user is prevented from registering without populating both password and confirm password. They are returned to the registration form and shown an error message |
| T2.5 | The user’s passwords must match | Attempt to register a new account with a valid email address but with non-matching strings in password and confirm password | The user is prevented from registering without populating both password and confirm password with the same string. They are returned to the registration form and shown an error message |
| T2.6 | The password must meet complexity requirements | Attempt to register a new account with a valid email address, using the following passwords in both fields:   * aB£d3 * LetMeIn * 123456 * pa55w0rd * PA$$WORD | The user is prevented from registering. They are returned to the registration form with a message informing them of the complexity requirement that has not been met:   * At least 6 characters long * At least one non-letter or digit character * At least one digit * At least one upper-case character * At least one lower-case character |
| T2.7 | The user must not be able to register with the same email twice | Attempt to register again with the same email address used in T2.2 and a new password | The user is prevented from registering with the same email address again. They are returned to the registration form and shown an error message |

## **T3:** Login process

Dependency: This should be run only after T2, as a valid account will be required for some tests.

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| **Ref** | **Test Objective** | **Actions** | **Expected Result** |
| T3.1 | All text in the page is clearly readable with no spelling errors | Open the Login page from the menu and inspect the text on the page | All text on the page is clearly readable and there are no spelling errors |
| T3.2 | Links within the page take the user to the correct page | Links included in the page include ‘this article’ and ‘Register as a new user’. Use both of these links in turn | Clicking ‘this article’ takes the user to a Microsoft help guide on setting up ASP.NET applications.  Clicking ‘Register as a new user’ takes the user to the Register page in the test application |
| T3.3 | A user can log in using valid credentials | Ensure the user is not logged in. Populate all form fields with valid data (using the previously registered account) and submit, leaving ‘Remember me?’ unchecked | The user’s form data is accepted and they are shown a page informing them their account is now registered |
| T3.4 | User must supply both an email and password | Ensure the user is not logged in. Attempt to log in by supplying only a valid email address, then attempt again by supplying only a valid password | The user is prevented from logging in. They are returned to the login page and shown an error message |
| T3.5 | User cannot log in with an incorrect password | Ensure the user is not logged in. Attempt to log in with a valid email address and invalid password | The user is prevented from logging in. They are returned to the login page and shown an error message |
| T3.6 | User cannot log in with correct password and incorrect email | Ensure the user is not logged in. Attempt to log in with an invalid email address and using the correct password for the registered account | The user is prevented from logging in. They are returned to the login page and shown an error message |
| T3.7 | User’s login state is remembered | Ensure the user is not logged in. Log in with valid credentials and ticking the ‘Remember me?’ tickbox. Once the user is logged in, close and reopen the browser and navigate back to the application. | The user’s session is remembered and they remain logged in after closing and reopening the browser |

## **T4:** The Home page

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| **Ref** | **Test Objective** | **Actions** | **Expected Result** |
| T4.1 | All text in the page is clearly readable with no spelling errors | Open the Home page from the menu and inspect the text on the page | All text on the page is clearly readable and there are no spelling errors |
| T4.2 | Buttons within the page take the user to the correct page | Click each of the 4 buttons in the page in turn and check their results | Each button takes the user to a new page as follows:   * ‘Find out more’ -> the user is taken to the ENSEK company website home page * ‘Buy energy’ -> the user is taken to a screen allowing them to purchase energy * ‘Sell energy’ -> the user is taken to a screen allowing them to sell energy * ‘Learn more’ -> the user is taken to the About screen in the test application |

## **T5:** Energy Purchase process

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| **Ref** | **Test Objective** | **Actions** | **Expected Result** |
| T5.1 | All text in the page is clearly readable with no spelling errors | Open the ‘Buy Energy’ page using the button on the Home page and inspect the text on the page | All text on the page is clearly readable and there are no spelling errors |
| T5.2 | The correct time and day is shown in the page | Check the time and day shown in the text near the top of the page | The day and time are correct as at time of loading the page. The timezone reflects the current time in GMT |
| T5.3 | Correct units are displayed for each fuel type | Inspect the values in the ‘Price’ column for each fuel type | Gas is priced per m3, Nuclear is priced per MW, Electricity is priced per kWh, Oil is priced per Litre |
| T5.4 | The user can buy a small quantity of Gas | Enter a small number in the ‘Number of Units Required’ field for Gas, more than 0 but less than the ‘Quantity of Units Available’, then click Buy | The user is shown a message informing them their purchase was successful. The message also shows the correct number purchased, the correct fuel type and the correct number of units remaining. |
| T5.4a | The user can return to the fuel page | Click the ‘Buy more’ button | The user is returned to the ‘Buy Energy’ page. The ‘Quantity of Units’ available has been reduced by the purchased quantity |
| T5.5 | The user can buy quantities of Electricity and Oil fuel types | Repeat steps T5.4 and T5.4a for Electricity and Oil fuel types | The expected results are the same as in T5.4 and T5.4a for each fuel type |
| T5.6 | The Reset button restores the original values for all fuel types | Click the Reset button | The ‘Quantity of Units Available’ is updated to the following values:   * Gas has 3000 * Nuclear has 0 * Electricity has 4322 * Oil has 20 |
| T5.7 | Users cannot purchase negative quantities | For each fuel type, enter a negative number for that fuel type, then click Buy | The user is prevented from purchasing negative amounts. They are returned to the ‘Buy Energy’ screen and are shown an error message |
| T5.8 | Users are able to purchase the full quantity of available units | For each fuel type, enter an amount equal to the number available for that fuel, then click Buy | The user is shown a message informing them their purchase was successful. The message also shows the correct number purchased, the correct fuel type and the correct number of units remaining. |
| T5.9 | Users cannot purchase more than is available | For each fuel type, enter a number greater than the quantity available for that fuel type, then click Buy | The user is prevented from purchasing higher amounts than are available. They are returned to the ‘Buy Energy’ screen and are shown an error message |
| T5.10 | Users cannot purchase 0 units | For each fuel type, enter 0 for the ‘Number of Units Required’ and click Buy | The user is prevented from purchasing 0 units. They are returned to the ‘Buy Energy’ screen and are shown an error message |
| T5.11 | Users cannot purchase blank units | For each fuel type, remove the value for the ‘Number of Units Required’ and click Buy | The user is prevented from purchasing an unknown quantity of units. They are returned to the ‘Buy Energy’ screen and are shown an error message |
| T5.12 | Users can return to the Home page | Click the ‘Back to Homepage’ link at the bottom of the page | The user is returned to the home page |

## T6: Sell Energy page

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| **Ref** | **Test Objective** | **Actions** | **Expected Result** |
| T6.1 | All text in the page is clearly readable with no spelling errors | Open the ‘Sell Energy’ page using the button on the Home page and inspect the text on the page | All text on the page is clearly readable and there are no spelling errors |
| T6.2 | Users are informed the page is currently unavailable | Check the content on the page | A temporary graphic is displayed, showing users that the page is currently being worked on |

## **T7:** About Us page

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| **Ref** | **Test Objective** | **Actions** | **Expected Result** |
| T7.1 | All text in the page is clearly readable with no spelling errors | Open the About page from the menu and inspect the text on the page | All text on the page is clearly readable and there are no spelling errors |
| T7.2 | Buttons within the page take the user to the correct page | Click the ‘Find out more about us’ button | The user is taken to the ENSEK company website About Us page |

## **T8:** Contact page

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| **Ref** | **Test Objective** | **Actions** | **Expected Result** |
| T8.1 | All text in the page is clearly readable with no spelling errors | Open the Contact page from the menu and inspect the text on the page | All text on the page is clearly readable and there are no spelling errors |
| T8.2 | Information on how to contact ENSEK is shown to the user | Inspect the text on the page | Information on how to contact ENSEK is shown to the user |