**WTWICTRecruitment**

**SDET Technical Test: Michael Walden**

Part 1

In the following questions, identifying tests is adequate, details of test data and expected results are not required where they can be inferred. Aim for an answer no longer than 1200 words for this entire section:

***1. Using the database and the GUI, how would you test the functionality of this form?***

Background:

Given that the database is populated and operational

And the main application form is accessible

Scenario: Valid conversion

Given a valid base currency is selected

And a valid target currency is selected

And a valid value for amount to convert has been entered

When the convert button is clicked

Then the currency conversion will be performed

And the conversion result value will be displayed in the text box ‘Amount in target currency’

Scenario: Maintain currencies menu option

Given the maintain currencies menu option is selected

Then the associated maintain currencies form is displayed

Scenario: Maintain commission rates menu option

Given the maintain commission rates menu option is selected

Then the associated maintain commission rates form is displayed

Scenario: Close button

Given the close button is clicked

Then the application is closed down in a graceful manner

Scenario: Help menu option

Given the help menu option is selected

Then associated help information is displayed

Scenario: Exit menu option

Given the exit menu option is selected

Then the application is closed down in a graceful manner

***2. What tests would you perform to test the operations supported by the “Maintain currencies” form?***

Background:

Given the maintain currencies menu option is available for selection

And the maintain currencies form is accessible

Scenario: Valid add currency

Given an add currency operation is selected

When the currency specified does not already exist

Then the currency is added to the database

And write a log message that the currency has been added

Scenario: Invalid add currency

Given an add currency operation is selected

When the currency specified already exists

Then inform user that the currency already exists

Scenario: Valid edit currency

Given an edit currency operation is selected

When the currency specified already exists

Then the currency is updated in the database

And write a log message that the currency has been updated

Scenario: Invalid edit currency

Given an edit currency operation is selected

When the currency specified does not exist

Then inform user that the currency does not exist

Scenario: Valid delete currency

Given a delete currency operation is selected

When the currency specified does exist

Then the currency is deleted from the database

And write a log message that the currency has been deleted

Scenario: Invalid delete currency

Given a delete currency operation is selected

When the currency specified does not exist

Then inform user that the currency does not exist

Background:

Given the exchange rates service is running

Scenario: Updated exchange rate

Given the currency is recognised

Then the exchange rate for the currency can be stored in the database

And write a log message that the exchange rate for the currency has been updated in the database

Scenario: Currency not recognised

Given the currency is not recognised

Then write a log message that the exchange rate for the currency cannot be updated in the database

***3. What tests would you perform to test the operations supported by the “Maintain commission rates” form?***

Background:

Given the maintain commission rates menu option is available for selection

Given the maintain commission rates form is accessible

Scenario: Valid minimum commission value

Given a minimum commission value operation is selected

When a valid minimum commission value is entered

Then the minimum commission value can be stored

And write a log message that the minimum commission value has been stored

Scenario: Invalid minimum commission value

Given a minimum commission value operation is selected

When an invalid minimum commission value is entered

Then inform user that an invalid value was entered

Scenario: Valid collection commission rates

Given a collection commission rates operation is selected

When a valid value range is entered

And a valid rate is entered

Then the value range and rate can be stored

And write a log message that the value range commission value has been stored

***4. What tests would you perform on the form above in order to test accessibility?***

Pre-requisite:

- On the assumption that the ‘form above’ refers to the main application form

Considerations:

- Base Currency:

- is presumed to be non-editable

- is selectable and contains all required values

- has values sorted alphabetically

- Target Currency:

- is presumed to be non-editable

- is selectable and contains all required values

- has values are sorted alphabetically

- Amount to convert:

- is enabled and characters can be entered into the text field

- allows entry of text characters (i.e. not CTRL characters) - and its contents would be validated upon entry

- include commission in calculation is selectable

- Convert button is enabled

Approach:

- Formulate a valid test scenario matrix covering values of base currency and target currency

- Matrix should consider commission included/excluded

- Where include commission is checked, verify correct commission rates is used (as per amount to convert)

- Application exits and re-starts correctly. Subsequent valid/invalid runs of the application are not an issue. No cacheing occurs with fields, default field values/behaviour is applied where applicable

- Determine negative test scenarios

- Null value combinations for Base Currency/Target Currency/Amount to convert

- Exchange rate for selected currency combination is not available

- Commission rate for amount entered not specified (where include commission is true)

- Exchange rate database not started

- Negative value of amount field

- Determine exploratory test scenarios

- Where base currency and target currency are the same

- Commission included but no commission rate specified for amount specified

- Decimal character used by amount field

***5. If you were automating the testing of this form for regression test purposes, what would you hope the developer had done that would make the automation easier?***

It would be preferable if all components were named as per any agreed coding standards, and additionally components were named meaningfully so that they are easily identifiable i.e menu options, buttons, fields etc… baseCurrency, targetCurrency, amount, include commission etc

***6. If this application were used internationally, what further tests would you perform?***

Verify that all text displayed on all forms are translated to that of the locale from where the application is running

***7. Looking at the screenshot of the form above, what user interface issues are immediately apparent (you may have mentioned some of these in previous answers)?***

- On the assumption that the ‘form above’ refers to the main application form

NOTE: I submitted an issue as I was unable to access the screenshot of the main application form:

https://github.com/wtwictrecruitment/SDET-TechnicalTest-Michael-Walden/issues/1

*Update: I was able to access the file via Git, and therefore could proceed.*

General UI issues:

- Base Currency: Ideally the default value could be the first value in the list, or possibly the currency symbol of the country that the application is being run from

- Target Currency: Ideally the default value could be the first value in the list, or the same value as Base Currency

- Amount to convert: Default value could be “0.00”

- Include commission in calculation: Default could be configurable to “checked”

- Convert button: Could only be available when all required fields are selected and contain valid values, else validation checks would be required to ensure required fields are populated i.e. Base Currency, Target Currency, valid value for amount to convert

- Amount in target currency: N/A value is cleared prior to a successful conversion result being displayed

- Invalid characters entered into ‘Amount to convert’ field

- Fields enabled correctly i.e. Convert button enabled after required fields have been selected

- Tab ordering of fields

- Required Behaviour of fields i.e. whether to reset\clear fields after a successful valid conversion (and after a selection of Base Currency or Target Currency)

- Close button is available at all times and exits the application cleanly, and any subsequent re-starts of the application are “clean”

- Help menu option operates as expected (providing version information, user guidance etc)

- Exit menu option behaves as per the Close button

- Forms not accessible (Maintain Currencies, Maintain commission rates)

- Forms and components not being scalable/resizable

- Internationalisation problems i.e. decimal character “.” or “,”

- Exchange rates not available for unrecognised currencies added via the currencies form