**Title:** Testing Report 2

**Date:** 14/04/2024

**By:** Adam Hussain

Introduction

In this report I will be reviewing the Lancaster Restaurant software created by the development team. The aim of software is to streamline the interactions between the three teams: front-of-house (FOH), kitchen and management. The focus of the testing is to evaluate the back-end features and functional requirements of the software. The screens and functions that will be tested are: staff, wine, menu, inventory and sales. The features that all these sections need have been decided through a mixture of specific needs from Lancaster’s Restaurant as well as customer interviews and development principles. I will be creating the evaluation criteria based on the features required. I will approach the testing from the perspective of someone in management using the software.

Evaluation Criteria

General User Functionality

1. Can a user successfully log in and out?
2. Can multiple users successfully log in and out with different roles, usernames and passwords?
3. Will logging in with the wrong password lead to an error?

Staff Functionality

1. Can the user add and remove staff holidays?
2. Can the user select a day and see which staff are and are not working?
3. Can the user set half hour limits as well as max dining limits?

Wine Functionality

1. Can the user add a wine to the inventory with the appropriate inputs? (i.e. name, vintage, price)
2. Can the user edit the stock levels of the wines?

Menu Functionality

1. Can the user edit an item on the menu?
2. Can the user add a wine to the dish on the menu?
3. Are allergens automatically added to the menu?
4. Can you see the menus for the next 4 weeks?
5. Does the menu give a suggested price?
6. Does the menu get approved before being sent?

Inventory Functionality

1. Can the user add allergens to the item
2. Can the user order selected items
3. Can the user clearly see what items have low stock?

Sales Functionality

1. Can the user visualise the most popular dishes of the day, week and month?
2. Can the user visualise the takings of the day, week and month?
3. Can the user visualise the online, phone and walk-in of the day, week and month?

Responsiveness and Performance

1. Do interactive elements perform as expected?
2. Can user inputs impede performance?
3. Does the GUI exhibit any graphical errors?
4. Does the program use a reasonable amount of system resources?

Input Validation and Error Handling

1. How does the system respond to errors?
2. How does the software deal with crashes?

Testing Approach

I will be testing all functions from the perspective of a member of staff, therefore I will be manually testing the software. The software will also be tested under black box conditions and I will be performing mostly functional tests with a few stress tests to see how the system deals with errors. Each screen has its own set of features that will be tested and after I will test the general usability of the software to make sure that it runs as it should.

Lastly to test the performance of the code I will monitor statistics such as CPU and RAM usage while the code is running. The CPU and RAM being used are not from a high-end system, they would be much more in line with a low end consumer system.

Test Cases

General User Functionality

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| Evaluation Criteria: General User Functionality | Criteria Number: 1 |
| Test Number: 1.1a | |
| Setup:  The software must be running and the user should be at the login screen. The VPN must be connected. | |
| Expected Result:  Using the correct username and password should lead to access of the main menu. | |
| Test:   1. Log into the software 2. Observe the software | |
| Result: PASS Logging into the software leads to the main menu screen. | |
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| Evaluation Criteria: General User Functionality | Criteria Number: 1 |
| Test Number: 1.1b | |
| Setup:  The software must be running and the user should be at the login screen. The VPN must be connected. | |
| Expected Result:  Clicking the logout button should result in the ability to logout and the next user to enter their details. | |
| Test:   1. Log into the software 2. Press the Logout button 3. Observe the software | |
| Result: PASS Pressing logout causes the user to be logged out and a new user can enter their details. | |
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| Evaluation Criteria: General User Functionality | Criteria Number: 2 |
| Test Number: 1.2 | |
| Setup:  The software must be running and the user should be at the login screen. The VPN must be connected. | |
| Expected Result:  The user should be able to login then logout allowing a new user with new login details to login. The user and role should update to reflect these changes | |
| Test:   1. Log into the software with a given admin username and password 2. Observe the “User” and “Role” in the top left of the screen 3. Log out 4. Log into the software with a different username and password for normal staff 5. Check the “User” and “Role” at the top of the screen | |
| Result: PASS Logging into the different accounts with different privileges will give the correct “User” and “Role”. | |
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| Evaluation Criteria: General User Functionality | Criteria Number: 3 |
| Test Number: 1.3a | |
| Setup:  The software must be running and the user should be at the login screen. The VPN must be connected. | |
| Expected Result:  Logging in with the wrong username and password should give an error. | |
| Test:   1. Try logging into the software with a random username and a given password | |
| Result: PASS The system did not allow a log-in and gave an error suggesting a wrong username or password. | |
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| Evaluation Criteria: General User Functionality | Criteria Number: 3 |
| Test Number: 1.3b | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  Logging in with the wrong username and password should give an error. | |
| Test:   1. Try logging into the software with a random password and a given username | |
| Result: PASS The system did not allow a log-in and gave an error suggesting a wrong username or password. | |
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Staff Functionality

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| Evaluation Criteria: Staff Functionality | Criteria Number: 1 |
| Test Number: 2.1a | |
| Setup:  The software must be running and the user should be at the home screen. | |
| Expected Result:  Adding a staff member holiday should result in their name appearing in the “On Holiday” section of the staff menu for the days submitted. The VPN must be connected. | |
| Test:   1. Log into the software 2. Click on the “Staff” button 3. At the top of the screen, use the first date option next to add holiday to set the “from” date 4. At the top of the screen, use the second date option to set the “to” date 5. Select a staff member to test in the final box 6. Click on “Add Holiday” 7. At the top of the screen, use the date to set the date to be in the period of the holiday set | |
| Result: PASS The system correctly added the right staff member to be on holiday on the right days. | |
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| Evaluation Criteria: Staff Functionality | Criteria Number: 1 |
| Test Number: 2.1b | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The staff holiday should be able to be removed. | |
| Test:   1. Log into the software 2. Click on the “Staff” button | |
| Result: FAIL The system is unable to remove staff holidays. | |
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| Evaluation Criteria: Staff Functionality | Criteria Number: 2 |
| Test Number: 2.2 | |
| Setup:  The software must be running and the user should be at the home screen. | |
| Expected Result:  The staff holiday should be able to be removed. | |
| Test:   1. Log into the software 2. Click on the “Staff” button 3. At the top of the screen, use the date to set the date to be in the period of the holiday set 4. Repeat for multiple dates | |
| Result: PASS The system correctly identifies which staff member are on holiday and who is working. | |
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| Evaluation Criteria: Staff Functionality | Criteria Number: 3 |
| Test Number: 2.3a | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to edit the half hour limit. | |
| Test:   1. Log into the software 2. Click on the “Staff” button 3. At the bottom of the screen, set the “Half Hour Limit” 4. Click on save changes 5. Click “Back” and then click on “Staff” again 6. Check to make sure the changes were saved | |
| Result: PASS The system correctly sets and saves the half hour limit. | |
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| Evaluation Criteria: Staff Functionality | Criteria Number: 3 |
| Test Number: 2.3b | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to edit the pre book limit. | |
| Test:   1. Log into the software 2. Click on the “Staff” button 3. At the bottom of the screen, set the “Pre Book Limit” 4. Click on save changes 5. Click “Back” and then click on “Staff” again 6. Check to make sure the changes were saved | |
| Result: PASS The system correctly sets and saves the pre book limit. | |
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| Evaluation Criteria: Staff Functionality | Criteria Number: 3 |
| Test Number: 2.3c | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to edit the max dining limit. | |
| Test:   1. Log into the software 2. Click on the “Staff” button 3. At the bottom of the screen, set the “Max Dining Limit” 4. Click on save changes 5. Click “Back” and then click on “Staff” again 6. Check to make sure the changes were saved | |
| Result: PASS The system correctly sets and saves the max dining limit. | |
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Wine Functionality

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| Evaluation Criteria: Wine Functionality | Criteria Number: 1 |
| Test Number: 3.1 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to add a wine with a chosen name, year and vintage. | |
| Test:   1. Log into the software 2. Click on the “Wine” button 3. At the bottom of the screen, enter the wine name, year and stock. 4. Click on the “Add Wine” button 5. Click “Back” and then click on “Wine” again 6. Check to make sure the changes were saved | |
| Result: PASS The system correctly saves the wine with all of the information. | |
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| Evaluation Criteria: Wine Functionality | Criteria Number: 2 |
| Test Number: 3.2 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to edit the stock level of the wine. | |
| Test:   1. Log into the software 2. Click on the “Wine” button 3. Decrease the stock level 4. Click “Back” and then click on “Wine” again 5. Check to make sure the changes were saved | |
| Result: PASS The system correctly saves the stock level of the wine. | |
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Menu Functionality

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| Evaluation Criteria: Menu Functionality | Criteria Number: 1 |
| Test Number: 4.1 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to edit the name and description for each item. | |
| Test:   1. Log into the software 2. Click on the “Menu” button 3. Click on any of the menu buttons to see the menu for a given week 4. Change the name and description of a dish 5. Click on “Save Changes” 6. Click “Back” and then click on “Menu” again and select the menu you edited 7. Check to make sure the changes were saved | |
| Result: PASS The system correctly allows the editing of all menu items | |
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| Evaluation Criteria: Menu Functionality | Criteria Number: 2 |
| Test Number: 4.2 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to add and remove a wine from a selected dish. | |
| Test:   1. Log into the software 2. Click on the “Menu” button 3. Click on any of the menu buttons to see the menu for a given week 4. Click on the Wine option and select a wine 5. Click on “Save Changes” 6. Click “Back” and then click on “Menu” again and select the menu you edited 7. Check to make sure the changes were saved | |
| Result: PASS The system correctly allows the editing of all menu items | |
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| Evaluation Criteria: Menu Functionality | Criteria Number: 3 |
| Test Number: 4.3 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to add and remove allergens in the inventory section and the changes should be applied to the menu. | |
| Test:   1. Log into the software 2. Click on the “Inventory” button 3. Make the allergens for all ingredients empty 4. Press the “Back” button and then press the “Menu” and select a random menu 5. Check to make sure there are no allergens in the menus 6. Go back to the “Inventory” screen and add an allergen to an ingredient 7. Go back to the “Menu” screen and check to make sure the allergen has been automatically updated | |
| Result: PASS The allergens are automatically updated in the menu section upon changing the allergens in inventory. | |
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| Evaluation Criteria: Menu Functionality | Criteria Number: 4 |
| Test Number: 4.4 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to see menus for the next four weeks. | |
| Test:   1. Log into the software 2. Click on the “Menu” button 3. Check the dates of the menu to see if they align with future dates | |
| Result: PASS The menus are correctly given for the right dates. | |
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| Evaluation Criteria: Menu Functionality | Criteria Number: 5 |
| Test Number: 4.5 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The menu should give a suggested price based on the ingredients. | |
| Test:   1. Log into the software 2. Click on the “Menu” button 3. Click on any of the menu buttons to see the menu for a given week 4. Check the suggested price | |
| Result: FAIL The external API to get ingredient prices is unavailable making it impossible to give a suggested price. | |
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| Evaluation Criteria: Menu Functionality | Criteria Number: 6 |
| Test Number: 4.6 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  Once the menu has been saved, there is a process to send the menu for approval before it’s sent to front of house. | |
| Test:   1. Log into the software 2. Click on the “Menu” button 3. Click on any of the menu buttons to see the menu for a given week 4. Change the name and description of a dish 5. Click on “Save Changes” 6. Click “Back” and then click on “Menu” again and select the menu you edited 7. Check to make sure the changes were saved | |
| Result: FAIL There is no way to send the menu for approval. | |
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Inventory Functionality

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| Evaluation Criteria: Inventory Functionality | Criteria Number: 1 |
| Test Number: 5.1 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  Allergens should be able to be added to each item in the Inventory. | |
| Test:   1. Log into the software 2. Click on the “Inventory” button 3. Click on the allergen box for an item 4. Select an allergen for each item 5. Click “Back” and then click on “Inventory” again 6. Check to make sure the changes were saved | |
| Result: PASS An allergen can be successfully assigned to an item. | |
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| Evaluation Criteria: Inventory Functionality | Criteria Number: 2 |
| Test Number: 5.2 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to order items from the inventory. | |
| Test:   1. Log into the software 2. Click on the “Inventory” button 3. Click on the items that need to be ordered by clicking the “Order” checkbox 4. Click on “Order Selected” | |
| Result: FAIL The external API does not work so items cannot be ordered. | |
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| Evaluation Criteria: Inventory Functionality | Criteria Number: 3 |
| Test Number: 5.3 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to clearly see what items have low stock. | |
| Test:   1. Log into the software 2. Click on the “Inventory” button 3. If any of the items are below the low stock threshold, they should appear red. | |
| Result: PASS All items below the threshold set appear in red. | |
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Sales Functionality

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| Evaluation Criteria: Sales Functionality | Criteria Number: 1 |
| Test Number: 5.1 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to visualise the report for most popular dishes. | |
| Test:   1. Log into the software 2. Click on the “Sales” button 3. Observe the “Most Popular Dish” graph 4. Click on “Day”, “Week” and “Month” to make sure they all generate graphs | |
| Result: PASS The graphs for day week and month are generated correctly. | |
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| Evaluation Criteria: Sales Functionality | Criteria Number: 2 |
| Test Number: 5.2 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to visualise the report for takings. | |
| Test:   1. Log into the software 2. Click on the “Sales” button 3. Observe the “Takings” graph 4. Click on “Day”, “Week” and “Month” to make sure they all generate graphs | |
| Result: PASS The graphs for day week and month are generated correctly. | |
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| Evaluation Criteria: Sales Functionality | Criteria Number: 3 |
| Test Number: 5.3 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  The user should be able to visualise the report to view booking numbers. | |
| Test:   1. Log into the software 2. Click on the “Sales” button 3. Observe the “Bookings Combined” graph 4. Click on “Day”, “Week” and “Month” to make sure they all generate graphs | |
| Result: PASS The graphs for day week and month are generated correctly. | |
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Responsiveness and Performance

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| Evaluation Criteria: Responsiveness and Performance | Criteria Number: 1 |
| Test Number: 6.1a | |
| Setup:  The software must be running and the user should be logged in at the home screen. The VPN must be connected. | |
| Expected Result:  Whenever a button is pressed to access a new screen, the expected screen is brought up. | |
| Test:   1. Log into the software 2. Press on the button that leads to the desired screen 3. Observe results 4. Repeat for all screens | |
| Result: PASS All buttons lead to expected screens. | |
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| Evaluation Criteria: Responsiveness and Performance | Criteria Number: 1 |
| Test Number: 6.1b | |
| Setup:  The software must be running and the user should be logged in at the home screen. The VPN must be connected. | |
| Expected Result:  Whenever the back button is pressed, the user is returned to the home menu. | |
| Test:   1. Log into the software 2. Press on a button that leads to a screen 3. Press the back button 4. Observe results 5. Repeat for all screens | |
| Result: PASS All buttons lead back to the main menu. | |
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| Evaluation Criteria: Responsiveness and Performance | Criteria Number: 2 |
| Test Number: 6.2 | |
| Setup:  The software must be running and the user should be logged in at the home screen. The VPN must be connected. | |
| Expected Result:  Opening another screen should not cause any delay in the opening of the software. | |
| Test:   1. Log into the software 2. Press on a button that leads to a screen 3. Press the back button 4. Observe results 5. Repeat for all screens | |
| Result: PASS No screens cause any extra delay when opening. | |
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| --- | --- |
| Evaluation Criteria: Responsiveness and Performance | Criteria Number: 3 |
| Test Number: 6.3 | |
| Setup:  The software must be running and the user should be logged in at the home screen. The VPN must be connected. | |
| Expected Result:  There should be no graphical errors running the software | |
| Test:   1. Log into the software 2. Press on a button that leads to a screen 3. Press the back button 4. Observe results 5. Repeat for all screens | |
| Result: PASS No graphical errors when running the software. | |
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| Evaluation Criteria: Responsiveness and Performance | Criteria Number: 4 |
| Test Number: 6.4 | |
| Setup:  The software must be running and the user should be logged in. Task manager should be opened to observe system resources. The VPN must be connected. | |
| Expected Result:  The software should use a small amount of system resources to run. | |
| Test:   1. Log into the software 2. Press on a button that leads to a screen 3. Press the back button 4. Observe task manager to see how much system resources are used 5. Repeat for all screens | |
| Result: PASS The software used at most 250MB of RAM and under 3% of CPU. This only peaked when changing screens, it was using less idling. Both values are a very reasonable amount. | |
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Input Validation and Error Handling

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| Evaluation Criteria: Input Validation and Error Handling | Criteria Number: 1 |
| Test Number: 7.1a | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  Logging in with the wrong username and password should give an error. | |
| Test:   1. Try logging into the software with a random username and a given password | |
| Result: PASS The system did not allow a log-in and gave an error of invalid login credentials. | |
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| Evaluation Criteria: Input Validation and Error Handling | Criteria Number: 1 |
| Test Number: 7.1b | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  Logging in with the wrong username and password should give an error. | |
| Test:   1. Try logging into the software with a random password and a given username | |
| Result: PASS The system did not allow a log-in and gave an error of invalid login credentials. | |
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| Evaluation Criteria: Input Validation and Error Handling | Criteria Number: 1 |
| Test Number: 7.1c | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  Exiting a menu without saving changes should give a prompt. | |
| Test:   1. Log into the software 2. Click on the “Menu” button 3. Click on any of the menu buttons to see the menu for a given week 4. Change the name or description of a dish 5. Press the “Back” button | |
| Result: PASS The system gave an error that there are unsaved changes. | |
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| Evaluation Criteria: Input Validation and Error Handling | Criteria Number: 1 |
| Test Number: 7.1d | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  Exiting the Staff after changing limits without saving changes should give a prompt. | |
| Test:   1. Log into the software 2. Click on the “Staff” button 3. Edit any of the limits 4. Press the “Back” button | |
| Result: PASS The system gave an error that there are unsaved changes. | |
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| Evaluation Criteria: Input Validation and Error Handling | Criteria Number: 2 |
| Test Number: 7.2 | |
| Setup:  The software must be running and the user should be at the home screen. The VPN must be connected. | |
| Expected Result:  Crashing should have no effect on the database or running of the system. | |
| Test:   1. Log into the software 2. Edit different features in all sections 3. Open Task Manager and click on “Java(TM) Platform SE Binary” and click “End Task” | |
| Result: PASS The system closes without saving changes or causing erroneous data to be generated. | |
| Date: 14/04/2024 | Tester: Adam Hussain |

Recommendations

Overall, the vast majority of tests passed, with the two major failings being the lack of functionality to remove staff holidays and the lack of connectivity to an external API. The external API was not provided to us, however after talking to the development team it became clear that our system is able to manage requests.

Conclusion

Overall, the software has met the functional requirements set out at the start of the project. The GUI meets the design requirements as shown in the previous testing report so all that was left was to create the functions for each button and this was done successfully. The software performs tasks as expected, is able to handle user inputs whether correct or erroneous and runs smoothly without crashing. To further improve on the software, a search feature in the inventory section may be useful to locate specific items would be useful.