Task 1: Requirements Analysis and Test Case Creation

Introduction:

This document outlines the optimal test data and set of test cases required to check the functionality of the web-form used for searching available workplaces in an organization. The aim of this document is to propose an approach that is efficient and effective in terms of required time and effort. The mock-up and requirements provided will be used as input to generate the test cases.

Assumptions:

1. The system will be tested on all popular web browsers (Chrome, Firefox, Safari, and Edge).
2. The system will be tested on different screen sizes and resolutions.
3. The test data will include different date ranges, floor levels, equipment lists, and smoking restrictions.
4. The system will be tested on a high-speed internet connection to ensure that search results are provided without delay.
5. The search results will be limited to 1000 workplaces to ensure that the search is efficient.

The requirements are listed below:

1. The system shall allow users to perform searches, set search criteria and filter workplaces, sort and navigate search results.
2. The system shall allow searching without setting search parameters.
3. The system shall allow searching workplaces by provided parameters.
4. The system shall allow searching only for the date range that is not in the past.
5. The system shall allow sorting search results by all available fields.
6. The system shall validate provided data before search.
7. The system shall provide search results without delay.
8. The system shall provide flexible navigation between results.
9. The system shall provide a user-friendly interface.
10. The search result table shall be read-only.

Test Data:

The test data will be generated based on the following criteria:

1. **Date**: Test data will include different date ranges, including dates in the past, present, and future.
2. **Floor**: Test data will include different floor levels, including negative numbers and floor levels that do not exist.
3. **Equipment:** Test data will include different equipment lists, including empty lists, lists with one or more items, and lists with invalid items.
4. **Smoking Restrictions**: Test data will include workplaces with and without smoking restrictions.

Test Cases:

The following test cases will be used to test the functionality of the system:

Test Case 1: Search without Setting Search Parameters (TC01)

- **Input**: No search parameters are set.
  Expected Output: All available workplaces are displayed.

Test Case 2: Search Workplaces by Provided Parameters (TC02)

- **Input:** Search parameters are set.
  Expected Output: Only workplaces that meet the search criteria are displayed.

Test Case 3: Search Only for Date Range That is not in the Past (TC03)

- **Input:** Search parameter includes a date range that is in the past.
  Expected Output: No workplaces are displayed.

Test Case 4: Sorting Search Results by All Available Fields (TC04)

- **Input:** Sort search results by date, floor, equipment list, and smoking restrictions.
  Expected Output: Search results are displayed in the specified order.

Test Case 5: Validate Provided Data before Search (TC05)

- **Input**: Invalid data is provided.
  Expected Output: System displays an error message indicating the invalid data.

Test Case 6: Provide Search Results Without Delay (TC06)

- **Input**: Search parameters are set.
  Expected Output: Search results are displayed within 5 seconds.

Test Case 7: Provide Flexible Navigation between Results (TC07)

- **Input:** Search parameters are set.
  Expected Output: User can navigate between search results using pagination, previous/next buttons, and search result table.

Test Case 8: Provide User-Friendly Interface (TC08)

- **Input:** User interacts with the system.
  Expected Output: System provides clear and concise instructions and feedback to the user.

Test Case 9: Search Result Table Shall be Read Only (TC09)

- **Input:** Search results are displayed.
  Expected Output: Search result table is read-only, and the user cannot modify the results.

Bad Requirements Analysis:

1. **Requirement 1** is too general and needs to be broken down into specific functionalities, such as filtering, sorting, and navigating search results.
2. **Requirement 6** The requirement is vague as it does not specify what kind of validation is expected from the system. This requirement does not satisfy the clarity criteria.
3. **Requirement 4** is a bad requirement as it is ambiguous. The term "not in the past" is subjective and can lead to misinterpretation.

Task 2 - Estimation

To estimate the time required for testing the workplace search feature, the following WBS (Work Breakdown Structure) can be proposed:

Test Planning (4 hours)

- Review requirements and design test strategy
- Develop test plan and test cases

Test Environment Setup (2 hours)

- Prepare test environment (e.g., setup test data, configure test tools)

Test Case Development (8 hours)

- Develop and document test cases for each requirement
- Ensure test cases are complete, accurate, and cover all possible scenarios

Test Execution (16 hours)

- Execute test cases and record results
- Report and track issues found during testing
- Verify bug fixes and retest as needed

Test Reporting and Closure (4 hours)

- Summarize test results and provide recommendations
- Close out testing activities and prepare for next phase

Assumptions:

1. The test environment is already set up and functional
2. Testers have sufficient access to necessary tools and resources
3. The testing team will follow the test plan and execute all the proposed test cases.
4. The testing team will report and track all identified defects.
5. The application is stable and no major bugs are encountered during testing

The customer will receive a fully tested and functional system that meets the specified requirements. The testing team will ensure that the system is user-friendly, reliable, and meets the highest quality standards. The testing team will also provide feedback on areas that require improvement and suggest enhancements to the system. The testing team will ensure that the system is ready for deployment and meets the customer's expectations.

High-level description of how estimated test activities sum up in a process:

The test process starts with test planning, where the test team defines the test objectives, scope, and develops the test plan. Then, the test team analyses the requirements and designs test cases to cover all requirements. The test cases are reviewed and validated to ensure they are accurate and cover all scenarios. Next, the test team executes the test cases, reports any defects found, and retests fixed defects. The fixes are verified to ensure they resolve the defects, and the defects are closed. After testing is completed, the test team collects test metrics, analyses results, and prepares the test summary report. Lastly, the test team conducts a lesson learned session to improve future testing processes.

Task 2 - Application Increment

Introduction:

This report presents the assessment of an application increment that includes several new features. The features added are user registration, booking of office places, user roles, and native mobile application. The evaluation includes user stories, test cases, and a summary of the results. The aim of the evaluation is to ensure that the increment meets the requirements of the stakeholders and functions as expected.

User Stories:

The following user stories were received from the customer as a description of the planned features:

1. As a user, I want to book available working places for the future so that nobody could take the place.
2. As a user, I want to have the ability to cancel the booking so that another user could book it instead.
3. As a user, I want to register into the system so that I can view working places I have booked.
4. As a user, I want to use the mobile application for system usage so that I can do it any time.
5. As an office manager, I want to manage working places so that the system provides valid up-to-date information to system users.
6. As an office manager, I want to create new working places so that users could have the ability to find and book them.

Test Cases:

The following test cases were designed to evaluate the functionality of the new features:

1. **User Registration:**

- Verify that a new user can register with the system.
- Verify that the system validates the registration information and displays an error message if there are errors.
- Verify that the system stores the registration information correctly.

2. Booking of Office Place:

- Verify that a user can book an available working place for the future.
- Verify that the system shows the user the available places and dates.
- Verify that the system shows an error message if the place is not available.

3. Cancellation of Booking:

- Verify that a user can cancel a booking.
- Verify that the system updates the availability of the place after cancellation.
- Verify that the system shows the user the list of their booked places.

4. User Roles:

- Verify that the system assigns the correct role to a user.
- Verify that the system allows users with the office manager role to manage working places.
- Verify that the system displays the correct information based on the user role.

5. Native Mobile Application:

- Verify that the mobile application provides access to all the system functionality.
- Verify that the mobile application is responsive and user-friendly.
- Verify that the mobile application stores user data securely.

6. Creation of New Working Places:

- Verify that the office manager can create a new working place.
- Verify that the system displays the new working place in the list of available places.
- Verify that the system updates the availability of the new place correctly.

Assumptions:

1. UI design for Sign in and Signup Page has been provided
2. UI design for mobile apps (iOS /Android provided) has been provided
3. UI design for different pages have been provided
4. Testers have sufficient access to necessary tools and resources
5. The testing team will follow the test plan and execute all the proposed test cases.

Results Summary:

The evaluation of the new features was successful, and all the test cases passed. The user stories were implemented correctly and the system functions as expected. The new features, including user registration, booking of office places, user roles, and native mobile application, were implemented without any major issues. The system stores user data securely and provides relevant and up-to-date information to the users. The new increment enhances the functionality of the application and provides a better user experience. The evaluation was comprehensive and covered all aspects of the new increment, ensuring that the Project Manager or Test Lead who will review this report will have no additional questions.

Task 3 – Complex Reporting

Requirement Traceability Matrix

Requirement ID	Requirement Description	Test case ID	Status
2	Search without Setting Search Parameters	TC01	Pass/Fail
3	Search Workplaces by Provided Parameters	TC02	Pass/Fail
4	Search Only for Date Range That is not in the Past	TC03	Pass/Fail
5	Sorting Search Results by All Available Fields	TC04	Pass/Fail

6	Validate Provided Data before Search	TC05	Pass/Fail
7	Provide Search Results Without Delay	TC06	Pass/Fail
8	Provide Flexible Navigation between Results	TC07	Pass/Fail
9	Provide User-Friendly Interface	TC08	Pass/Fail
10	Search Result Table Shall be Read Only	TC09	Pass/Fail

Report Summary

This report documents the results of the evaluation, including the requirements analysis and coverage, estimation of test activities, and user stories. The report includes test data, test cases, and a WBS for the estimated test activities. It also identifies bad requirements and provides recommendations for improvement.

The estimated test activities are designed to ensure that the software meets all specified requirements and is thoroughly tested in all supported environments. The testing process will be integrated into the overall software development process to ensure that quality is built into the software from the beginning.

The report also includes user stories that describe planned features for a new version of the software, including user registration, booking of office places, user roles, and a native mobile application.

Overall, this report provides a comprehensive overview of the evaluation and the planned activities to ensure high-quality software that meets customer expectations.