TEST PLAN :

OILSERVICES WEB APPLICATION

PREPARED BY DEBBIE PAPPAS

JULY 18, 2021

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1.0 Overview

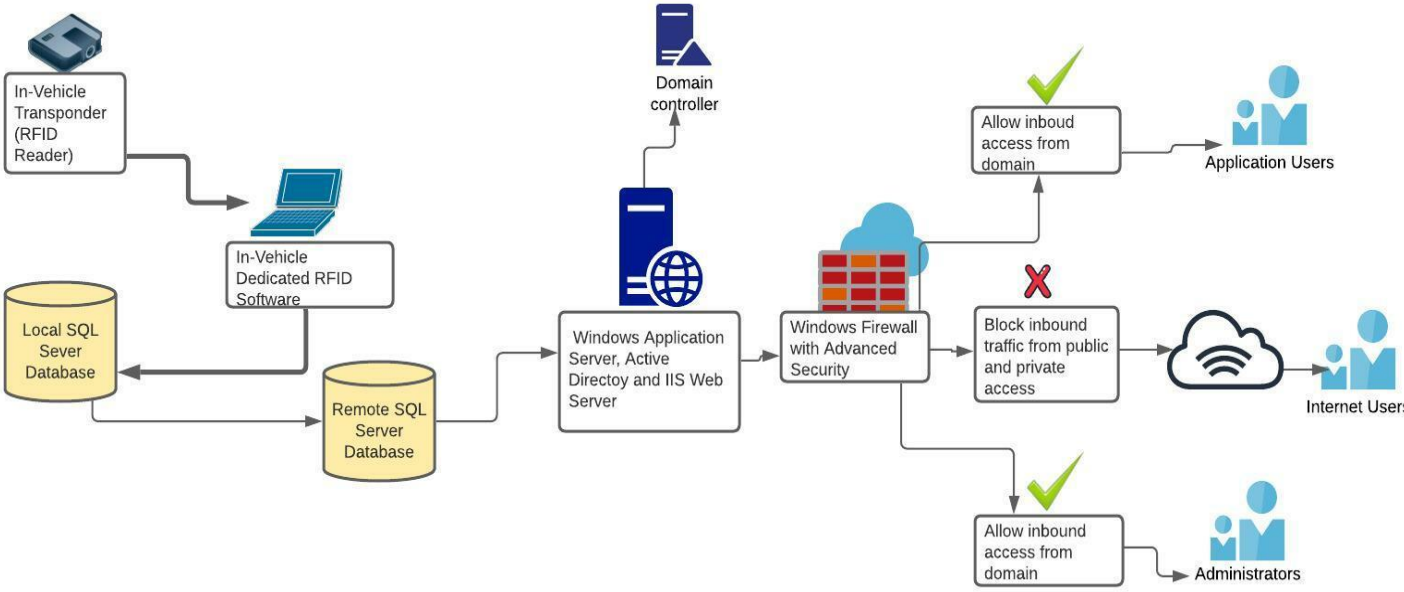
As part of the project, 'Allied Oil Company' has asked Debbie Pappas to test new functionalities of the http://oilservices.com/test web application.

This document serves as a high level test planning document with details on scope of the project, test strategy, test schedule and resource requirements, test deliverables, and schedule. Some key components are as follows:

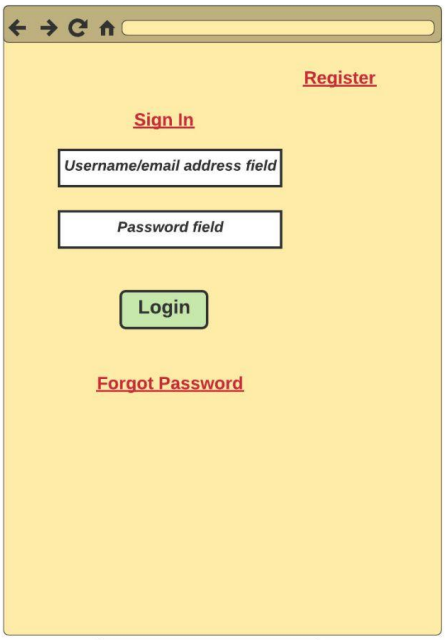
- Each truck will have a transponder that will report its location, speed, direction, and cargo (wastewater, chemicals, explosives, and radioactive materials.
- The application will be hosted internally and will not be reachable via the Internet.
- Authenticated users and administrators will be able to access the internal network (company Intranet).

The purpose of the new application is to track the movement of all of the company's trucks throughout the United States. Management will use this application to start saving money by making the routes more efficient.

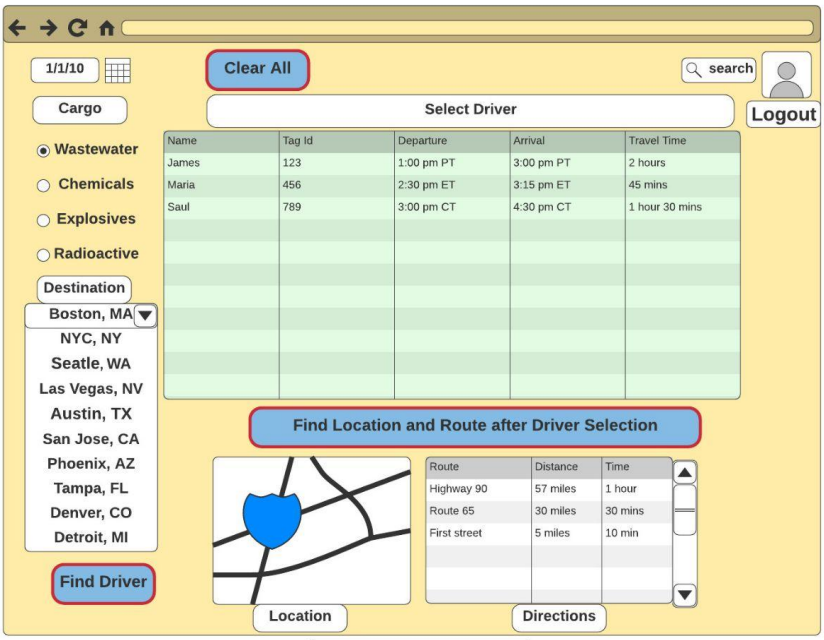
The infrastructure for Allied Oil Company is shown below:



The user interface for the oilservices.com Web Application is shown below:



Login Page



Home page

2.0 Scope

The scope of the project includes testing the following features of http://oilservices.com/test web application prior to go-live.

Inclusions:

- Register
- Login
- Logout
- Forgot Password
- Homepage
- Search
- Select Date from Calendar
- Select Cargo from menu options
- Select Destination from menu options
- Find Driver button
- Driver display table
- Select Driver
- Location display map
- Directions display table

Testing Environments:

- Windows 10 - Chrome
- Windows 10 - Firefox
- Windows 10 - IE 11
- Windows 10 - Edge
- Windows 10 - Safari
- Mac OS - Safari
- Linux OS - Firefox
- Android smartphone - Chrome
- iPhone smartphone - Safari

Exclusions:

All features except what is mentioned in “Inclusions”.

The following are such features :

- Administrator login and password creation through Remote Desktop
- Driver authentication for transponder usage
- Firewall configuration to prevent application users and administrators from accessing Allied Oil Company website (https://oilservices.com) .

3.0 Test Strategy

Debbie's project team has met with Allied Oil Company's management and has agreed to perform Functional Testing of all the functionalities which are mentioned in the above scope.

As part of Functional Testing, we are going to follow the process below for testing this project:

Step 1: Creation of Test Scenarios and Test Cases for the different functionalities that are in Scope.

- We will apply several Test Design Techniques while creating the Test Scenarios and Test Cases
    - ➢ Equivalence Class Partitioning
    - ➢ Boundary Value Analysis
    - ➢ Decision Table Testing
    - ➢ State Transition Testing
    - ➢ Use Case Testing
- We will also use our expertise in creating Test Scenarios and Test Cases by applying the below:
    - ➢ Error Guessing
    - ➢ Exploratory Testing
- We will prioritize the Test Cases

Step 2: Our Testing process, after we get the Application for Testing:

- First, we will perform Smoke Testing to check that the high level functionalities of the Application are working. An example is making sure the user can login with a valid username and password.
- If the Smoke Testing fails, we will reject the build and wait for the stable version of the application before performing in-depth testing of the application functionality.
- As soon as we receive a stable build, we will perform in-depth testing using the above created test cases.
- Multiple Test Resources will be testing the same Application on Multiple supported Test Environments simultaneously.
- Using the "JIRA" Bug Tracking Tool we will report any bugs and send you the defects found on that day in a status email at the end of the day.
- As part of the Testing, we will perform the below types of Testing:
    - ➢ Smoke Testing and Sanity Testing
    - ➢ Regression Testing and Retesting
    - ➢ Usability Testing , UI Testing and Accessibility Testing
    - ➢ We repeat the Test Cycles until we get the premium product.

Step 3: We will follow the below optimum practices to improve our Testing:

- Context Driven Testing - We will perform the testing based on the context of the Project.
- Shift Left Testing - We will perform testing from the development stages of the Project. That is, we will not wait until the application is ready before testing.
- Exploratory Testing - Using our expertise we will perform Exploratory Testing, apart from the normal execution of the Test Cases.
- End to End Flow Testing - We will test the end-to-end scenarios which will involve multiple functionalities to simulate the end user flows. That is, the flow from user login to displaying the map and directions will be tested.

4.0 Problem Tracking and Test Tracking Procedures

Defect Reporting Procedure:

During the test execution -

- Any deviation from expected behavior by the application will be noted. If it can't be reported as a defect, it should be reported as an observation/issue or posed as a question.
- Any usability issues will also be reported.
- After discovery of a defect, it will be retested to verify reproducibility of the defect. Screenshots with steps to reproduce are documented.
- Every day, at the end of the test execution, defects encountered will be sent along with the observations.

Note:

- Defects will be documented in a word document.
- Test cases will be documented in an excel document.

5.0 Roles/Responsibilities

Name	Role	Responsibilities
Joe Smith	Test Manager	➢ Escalations ➢ Review
Debbie Pappas	Test Lead	➢ Create the Test Plan and get the client sign offs ➢ Interact with the application, create and execute the test cases ➢ Report defects ➢ Coordinate the test execution. Verify validity of the defects being reported ➢ Submit daily issue updates and summary defect reports to the client ➢ Attend any meeting with the client.
Mary King	Senior Test Engineer	➢ Interact with the application ➢ Create and Execute the Test cases ➢ Report defects
Beth Jones	Test Engineer	➢ Interact with the application ➢ Execute the Test cases ➢ Report defects
Tony Peters	Non-IT Test User	➢ Interact with the application ➢ Report defects

6.0 Test Schedule

Task	Time Duration
• Create Test Plan	July 23, 2021 to July 25, 2021
• Test Scenarios and Test Cases Creation	July 26, 2021 to August 5, 2021
• Test Case Execution	August 6, 2021 to September 6, 2021
• Summary Reports Submission	September 7, 2021

7.0 Test Deliverables

The following are to be delivered to the client:

Deliverables	Description	Responsible Owner	Target Completion Date
Test Plan	Details on the scope of the Project, test strategy, test schedule, resource requirements, test deliverables and schedule	Debbie Pappas	July 24, 2021
Functional Test Cases	Test Cases created for the scope defined	Debbie Pappas	August 4, 2021
Defect Reports	Detailed description of the defects identified along with the screenshots and steps to reproduce on a daily basis	Debbie Pappas	NA
Summary Reports	Summary Reports - Bugs by Bug#, Bugs by Functional Area and Bugs by Priority	Debbie Pappas	September 7, 2021

8.0 Entry and Exit Criteria

The below are the entry and exit criteria for every phase of Software Testing Life Cycle:

Requirement Analysis

Entry Criteria:

- Once the testing team receives the Requirements Documents or details about the Project

Exit Criteria:

- List of Requirements are explored and understood by the Testing team
- Doubts are cleared

Test Planning

Entry Criteria:

- Testable Requirements derived from the given Requirements Documents or Project details
- Doubts are cleared

Exit Criteria:

- Test Plan document (include Test Strategy) is signed-off by Management

Test Designing

Entry Criteria:

- Test Plan Document is signed-off by Management

Exit Criteria:

- Test Scenarios and Test Cases Documents are signed-off by Management

Test Execution

Entry Criteria:

- Test Scenarios and Test Cases Documents are signed-off by the Management

Exit Criteria:

- Test Case Reports, Defect Reports are ready

Test Closure

Entry Criteria:

- Test Case Reports, Defect Reports are ready

Exit Criteria

- Test Summary Reports

9.0 Suspension and Resumption Criteria

Based on the Client decision, we will suspend and resume the Project.

We will expand and reduce down the resources as per Management needs.

10.0 Tools

The following are the list of Tools we will be using in this Project:

- JIRA Bug Tracking Tool
- SmartDraw Map Tool
- LightShot Screenshot Tool
- Google Docs and Sheets

11.0 Risks and Mitigations

The following are the list of risks possible and the ways to mitigate them:

1. Risk: Non-Availability of a Human Resource

   Mitigation: Backup Resource Planning

2. Risk: Power outage or natural disaster affecting the infrastructure

   Mitigation: Infrastructure Planning on the Cloud

3. Risk: Username and password SQL and LDAP injections

   Mitigation: Test code for input values that can result in malicious attacks

4. Risk: Passwords get hacked through brute-force attacks

   Mitigation: Password policies should be established to force users to create complex passwords, change passwords periodically, and enable user lockout on multiple login attempts.

5. Risk: Administrators need access to the website over the internet for emergencies during off hours. They will not be able to access the company's network over the internet because of firewall rules.

   Mitigation: Allow administrators access to the company’s network from the internet.

6. Risk: The local SQL Server database installed on the in-vehicle laptop will need to connect to the main remote SQL Server database through WiFi which is less secure than a wired network.

   Mitigation: Use WPA2 Enterprise for WiFi security.

7. Risk: “Search” input box is vulnerable to cross-site scripting.

   Mitigation: Test code for input values that can result in malicious attacks

8. Risk: Build URL components in scope are not working

   Mitigation: Human Resources will work on other tasks

12. Approvals

Debbie Pappas’s Test team will send different types of documents for Management Approval as shown below:

- Test Plan
- Test Scenarios
- Test Cases
- Reports

Testing will continue to next steps once these approvals are done.