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TechFlow, Inc. Response to
Request for Quotation (RFQ)
4QTFHS150004
Agile Delivery Services (ADS I)

Test Approach

July 7th, 2015

TECHFLOW

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1.0 Purpose and Overview

The purpose of this document is to familiarize the reader with the test activities executed by TechFlow for the Food and Drug Administration (FDA) in support of the Drug and Risk Information (DARI) public information website. It includes the verification points of each user story grouped by product increment based on the acceptance criteria. It presents the objectives, scope, approach and focus of the testing effort for the DARI product.

During the development of the DARI product, for each product increment, Software Quality Assurance (SQA) will perform functional, end-to-end and regression testing to ensure that the overall business objectives outlined in the user stories are complete and stable.

The overall business objectives include:

- First product increment; Minimally Viable Product (MVP) – Basic Search
    - The user is able to search the Food and Drug Administration's (FDA) database for information about a drug that will help them make the best decision about its usage.
- Second product increment – Search Enhancements
    - The user is also presented with adverse events and number of occurrences of those events in the search results of a specified drug to further educate themselves on proper drug usage and potential side effects. The user is also presented with an auto-complete search feature intended to increase search efficiency.

The successful completion of the test activities for each product increment is dependent on ensuring the aforementioned business objectives are successfully implemented and that the Graphical User Interface (GUI) is Section 508(a) compliant.

2.0 Testing

Test activities will be based upon the verification points outlined in this document. Each test will be executed and evaluated on an individual basis. When the actual result does not meet the acceptance criteria, a possible failure occurs. The tester will explore the reason for failure and reproduce prior to reporting the system deficiency to the development team.

System deficiencies will be raised and managed on the scrum board.

2.1 Test Mission

The overall test mission of the DARI product includes validating the following.

- Basic Search:
    - A bug in this part of the system could cause the user community to not be able to search for the data corresponding to the drug they are researching, or could display inaccurate results that may lead to bodily harm.
    - Testing challenges: Large Data Set
    - Dependencies: None
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- A bug in this part of the system could display inaccurate results that may lead to bodily harm.
- Testing challenges: Large Data Set
- Dependencies: None

2.2 Test Thresholds

This section outlines the key metrics used to steer the product. These include values for test coverage and release criteria. These thresholds help testers focus on the most important aspects of the product with respect to test.

Planned Test Coverage / Release Criteria for:	Supporting Development	Challenging Product
Scenarios	*N/A*	*100% of the Scenarios will be tested*
Key Quality of Service Requirements (enumerate)	*N/A*	*N/A*
Key Risks	*N/A*	*N/A*
Defects	*High-Severity, High-Priority Defects Found during Development will be addressed during development or added to the product backlog*	*100% of the Defects Found during Testing will be addressed or added to the product backlog*
Build Verification	*Jenkins code check-in notification logs will be closely monitored for each build*	*N/A*
Configurations	*N/A*	*N/A*
Release	*N/A*	*Increments of the DARI product will not be submitted with any Severity Level 2 or Higher Defects*

2.3 Test Techniques

This section outlines the methods used to obtain some of the goals set forth in the test thresholds section.

Planned Test Techniques for:	Tests Supporting Development	Tests Challenging Product
Scenarios	*Manually testing the Integration of the code will be the responsibility of the Development Team*	*Manual Testing and Manual Exploratory Testing*
Key Quality of Service Requirements (enumerate)	*N/A*	*N/A*
Key Risks	*N/A*	*N/A*
Defects	*Defects will be tracked using the scrum board*	*Defects will be tracked using the scrum board*
Build Verification	*Jenkins code check-in notification logs will be closely monitored for each build*	*N/A*

2.4 Test Iteration Missions

This section contains the Test Mission, including goals and techniques, for each iteration of the DARI product. The section of the document will be updated to include the current iteration as the product progresses.

2.4.1 First Iteration Goals & Techniques (Minimally Viable Product)

The entrance criteria for the official test activities of the DARI product MVP include the following:

- The TF Development team provides confirmation that the code is ready for testing.
- The TF SQA team has confirmed that the Test Environment is prepared and test ready.
- The TF SQA team has updated to the latest version of Google Chrome (PC & Mobile), Microsoft Internet Explorer, and Mozilla Firefox; as these will be the platforms where the test execution will occur.

The goals and techniques of the DARI product MVP include the following:

- Search Returns Label Information
    - Verify that the user is able to input a drug generic name into a text box and initiate a search on that particular drug.
        - The text box is dependent upon an exact name match or partial match.
        - The text box is not case sensitive.
    - Verify that the user is able to execute a new search with existing search results displayed.
    - Verify that the system displays FDA provided drug label information for the drug queried.

    - Verify that the system displays the drug label with the following information when available:
        - Generic Name
        - Brand Name
        - Manufacturer name
        - Purpose
        - Indications and Usage
        - Adverse Reactions
        - Active Ingredients
        - Inactive Ingredients
        - Warnings
        - Stop Use
        - Do Not Use
        - Ask Doctor
        - Ask Doctor or Pharmacist
        - Dosage
- Disclaimer
    - Verify that the disclaimer is displayed at the bottom of every page.
    - Verify that the disclaimer text is indicative of sites with similar functionality.
        - The prescription drug related information on this website is meant for basic informational purposes only. It is not intended to serve as medical advice, substitute for a doctor's appointment or to be used for diagnosing or treating a medical condition. Users of this website are advised to consult with their physician before making any decisions concerning their health.
- Error Handling
    - Verify that the system provides an alert message on the interface that indicates a search failure has occurred.
    - Verify that the system provides a means to initiate a new search from the same interface after the message is displayed.

2.4.2 Second Iteration Goals & Techniques (Second product increment)

The goals and techniques of the second increment of the DARI product include the following:

- Search Return Adverse Events
    - Verify that the system displays FDA provided adverse event information for the drug queried.
    - Verify that the system displays search results aggregated by drug and event:
        - Adverse Event
        - Occurrences
- Search Returns Graphical Representation
    - Verify that the system displays a bar chart that demonstrates the FDA provided adverse event information for the drug queried.
        - Adverse events and aggregate the number of occurrences for each drug queried.
- Links Added to Footer

    - Verify that the system displays a link to the code repository and a link to the TechFlow main site.
- Auto-Complete
    - Verify that the search box lists suggestions for searching based upon the initial characters typed by the user.
        - Matches are based against brand names; generic matches will not be list
        - Users can select and search on suggested matches
        - User can elect not to select the suggestions and search on any string
        - When no matches, the auto-complete will relay no matches to the user
- Google Analytics
    - Verify that the system displays site traffic metrics to system admins.

2.5 Test Reporting

Each manual test will be executed and evaluated on an individual bases. When the actual result does not meet the expected result, the actual result will be recorded. The results of iterations of the execution of a test case is recorded on the scrum board.

A Test Analysis Report will be generated when TF SQA testing is complete. This report will contain the results and recommendations of the TF SQA team for the submission of each phase of the product for review.