Food Watch 1.0 (Fw1)

A consumer-focused food awareness application

July, 2015

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Document

About this Document

This document has been prepared to describe the **Food Watch 1.0** application for consumer awareness of food safety and recall items. This application is based on data obtained from the open FDA data sources. https://open.fda.gov/food/enforcement/

Food Watch 1.0 is being driven by the FDA customer need statement of:

"Provide consumers with useful information they can use based on the food data we have available through openFDA"

For the purposes of this prototype, the above need statement was fabricated to provide context to the rest of the project. In IPT's "Agile Vi" process, this single driving statement is garnered as part of Envisioning with the customer during the initial customer meeting.

Assumptions

The assumptions for **Food Watch 1.0 (Fw1)** are as follows:

- Fw1 is a prototype based on readily available data from Open FDA
- Fw1 will be built on open source JS platforms
  - Durandal
  - Require
  - Knockout
  - Bootstrap
  - JQuery
  - Kendo
  - D3
- Fw1 will utilize responsive design patterns primarily utilizing bootstrap
- Fw1 will only read data for the initial prototype and will not store any user persisted data

- Fw1 will be built using the SPA pattern
- Fw1 initial deployment will not focus on SEO

Personas

Overview

A Persona is a fictional individual that represents a user or group of users who will have a role within the new solution or associated business processes. The following personas have been identified through analysis of current and desired business processes, and then interviewed by IPT's team:

- Connie the Consumer

Consumer

Name: Connie the Consumer

Description: Connie is a concerned food consumer within the United States. Connie cares about what kinds of food she is buying for her family, and ultimately the safety of that food and the reliability/reputation of providers of that food. Connie wants to be aware of recent recalls as well as be able to see what historical safety concerns there have been with certain kinds of foods, and also see which companies are "riskier" from a food provider perspective.

Business Objectives:

- Find information on food types Connie is interested in
- Find information on companies that provide food Connie is interested in

Trust Level:

Connie is trusted to perform all consumer focused activities within

Use Cases

Overview

This section contains use cases that have been identified relative to the interaction of the personas with the system. We do not attempt to list every possible use case, but focus on the most common and critical interactions that the personas have with the system. From these use cases we are able to begin to identify concrete requirements for the solution.

UC1 - Connie the Consumer wants to see all recent recalls

Primary Persona: Connie
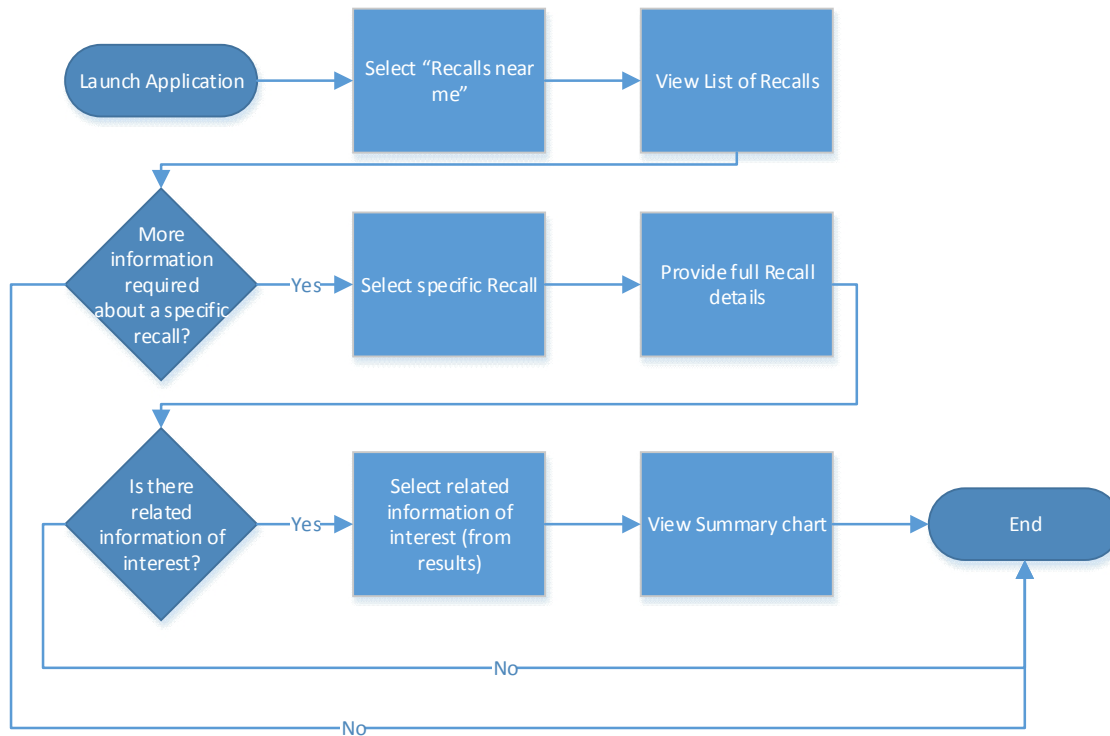
Alternate Persona: None

Narrative

In her role as a consumer, Connie is curious as to whether there are any recent recalls on foods she purchases. Connie would like to see what (if any) recalls affect her near where she lives. These should be recalls that have local distribution, or nationwide affect.

Connie would like to select something like "Recalls near me" and see a list of all recalls that affect her. She would like a summary of the recall and then be able to get more detailed information about that recall.

Connie would also like the ability to see more recall related information based on the results she is shown, for example, if Connie is presented with a recall of Chicken from Perdue, she'd like to potentially see more information on either Chicken or Perdue.

Process Flow

Figure 1- UC1 Process Flow

Business Requirements

- Provide a summary list of recent recalls
- Provide the ability to get full details on any given recall
- Provide the ability to "mine" data from a presented recall (ex. select the food presented, or the company) (see UC2 for full use case details)

Data Requirements

Data required:

Summary

- Product description
- Status
- Date Initiated
- Classification

Full Details

- Recall Event ID   6
- Reason for Recall
- Recall Status
- Recall Classification
- Recall Initiation Date
- Recall Distribution Pattern
- Product Description
- Product Quantity
- Product Code Info
- Mandatory or Voluntary Recall
- Recalling Firm
- Recalling Firm State
- Recalling Firm City
- Recalling Firm Country

UC2 - Connie the Consumer wants to see all recalls based on food type/company

Primary Persona: Connie

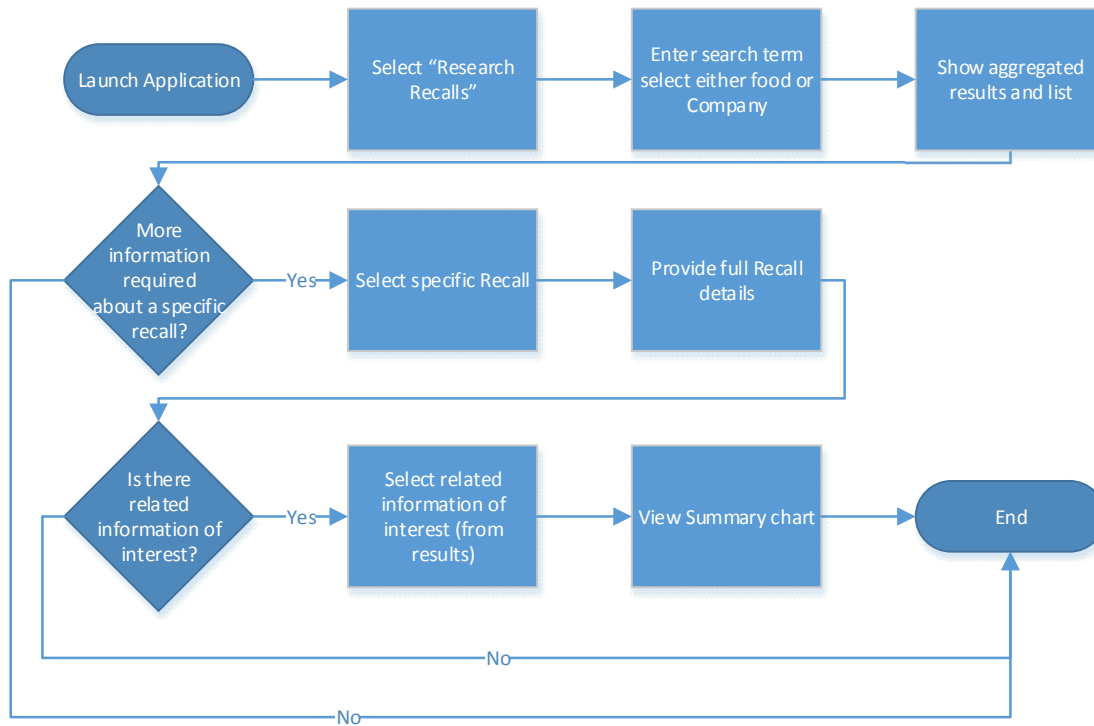**Alternate Persona:** None

Narrative

In her role as a consumer, Connie would like to do some research on either a specific food type or a company / product

Connie would like to select a "research" option and then enter the information she is interested in, and then be presented with some historical results based on her criteria. For example, if Connie were to select "chicken" she would want to see all recalls that involve chicken, how many there have been over time, where they are most frequently located, and who the companies are that are involved with these recalls.

As in Use Case 1, Connie would also like the ability to see more recall related information based on the results she is shown, for example, if Connie is presented with a recall of Chicken from Perdue, she'd like to potentially see more information on either Chicken or Perdue.

Process Flow

Figure 2 - UC2 Process Flow

Business Requirements

- Provide aggregate summary of researched recalls
- Provide list of matching recalls
- Provide the ability to get full details on any given recall
- Provide the ability to "mine" data from a presented recall (ex. select the food presented, or the company)

Data Requirements

Data required:

Aggregate
- Count by state
- Count over time

Summary
- Product description
- Status
- Date Initiated

- Classification   9

Full Details

- Recall Event ID
- Reason for Recall
- Recall Status
- Recall Classification
- Recall Initiation Date
- Recall Distribution Pattern
- Product Description
- Product Quantity
- Product Code Info
- Mandatory or Voluntary Recall
- Recalling Firm
- Recalling Firm State
- Recalling Firm City
- Recalling Firm Country

UC3 - Connie the Consumer wants alerts based on her keywords

For the purposes of this prototype, UC3 is out of scope, it would be a "Release 2" item, but we wanted to capture it to show how we group and bucket the functionality to get capability to market in reasonable and useful chunks while still understanding the ultimate end goal.
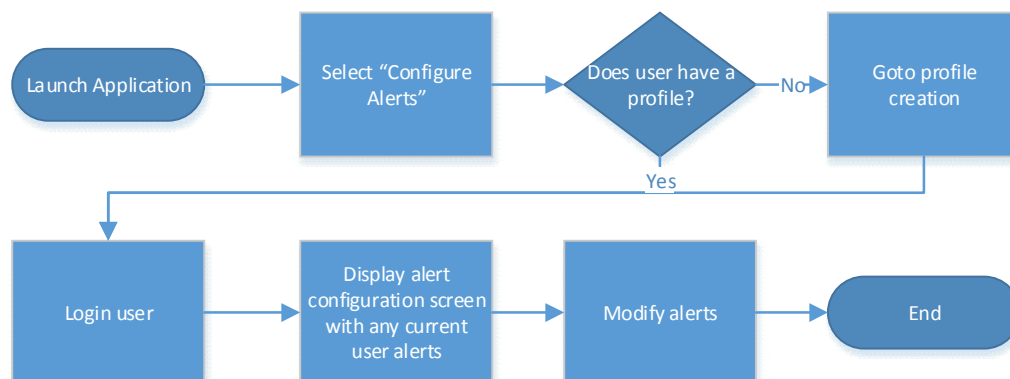
Primary Persona: Connie

Alternate Persona: None

Narrative

In her role as a consumer, Connie would like to have the system actively alert her when new recalls come out that match predefined terms she has, or are occurring in her geographical area and may affect her.

Connie would like to select what concerns her and ask that the system alert her when there is a match. Connie would like to specify the type of alerts she would like to receive (delivery mechanism)

Process Flow

Business Requirements

- Provide the ability to create a profile
- Provide the ability to register for alerts
- Create mechanism to process alerts

Data Requirements

Data required:

Alert delivery type (delivery mechanism)

- Email
- Text

Alert Type

- Keyword
- Geographic
- "Any"

Requirements

The following section is an aggregation of all business requirements identified in the above use cases. Those requirements are then used as the basis for a functional requirement matrix which will then further translate into functional/technical design.

Business Requirements

BR #	Requirement
UC1.BR.1	Provide a summary list of recent recalls
UC1.BR.2	Provide the ability to get full details on any given recall
UC1.BR.3	Provide the ability to "mine" data from a presented recall (ex. select the food presented, or the company) (results of mining are UC2)
UC2.BR.1	Provide aggregate summary of researched recalls
UC2.BR.2	Provide list of matching recalls
UC2.BR.3	Provide the ability to get full details on any given recall
UC2.BR.4	Provide the ability to "mine" data from a presented recall (ex. select the food presented, or the company) (results of "mining" are UC2)
UC3.BR.1	Provide the ability to create a profile
UC3.BR.2	Provide the ability to register for alerts
UC3.BR.3	Create mechanism to process alerts

Data Requirements

Data required:

Aggregate

- Count by state
- Count over time

Summary

- Product description
- Status
- Date Initiated
- Classification

Full Details

- Recall Event ID
- Reason for Recall
- Recall Status
- Recall Classification
- Recall Initiation Date
- Recall Distribution Pattern
- Product Description
- Product Quantity

- Product Code Info
- Mandatory or Voluntary Recall
- Recalling Firm
- Recalling Firm State
- Recalling Firm City
- Recalling Firm Country

Alert delivery type (delivery mechanism)

- Email
- Text

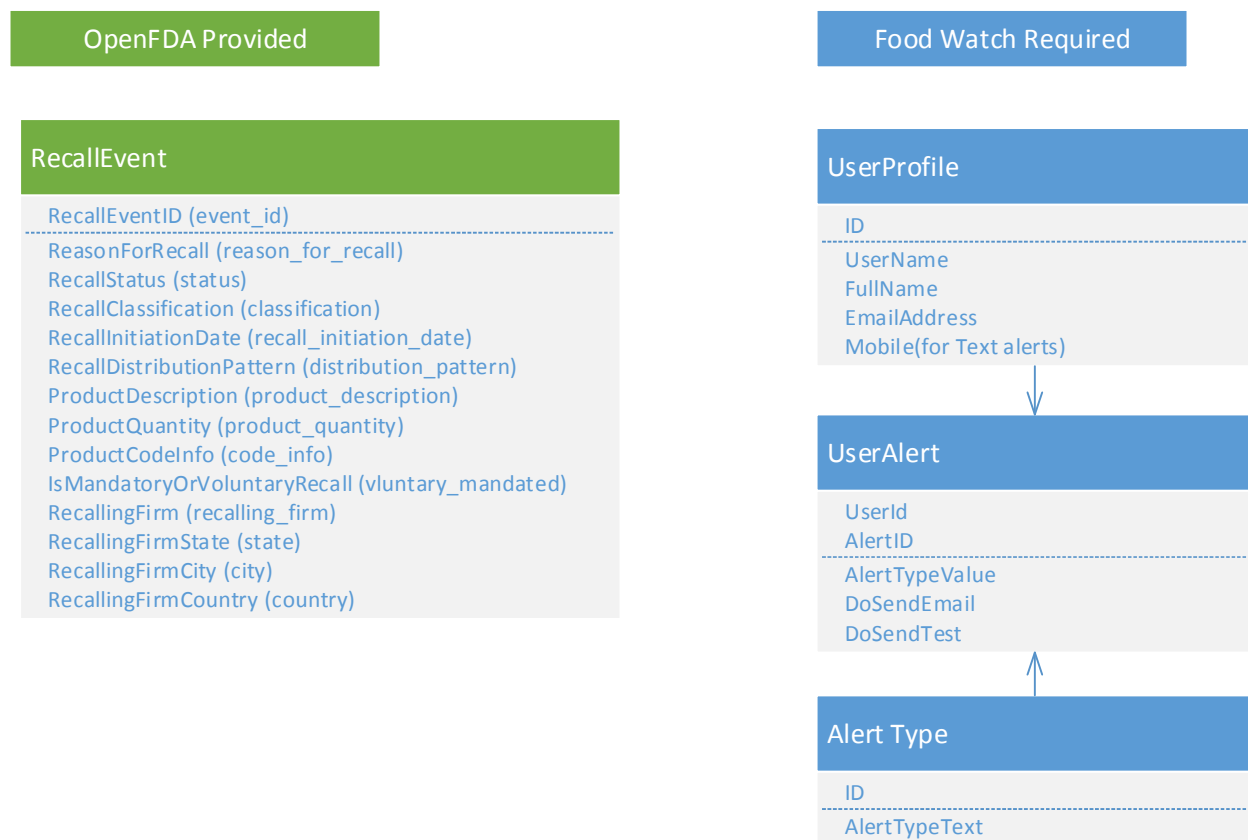Alert Type

- Keyword
- Geographic
- "Any"
-

Design

Design Goals

- Should be very consumer friendly
- Support rapid deployment and flexibility of solutions
- Leverage open source to the greatest extent possible (including proprietary but open licensing like Google Charts)
- Support responsive web styling
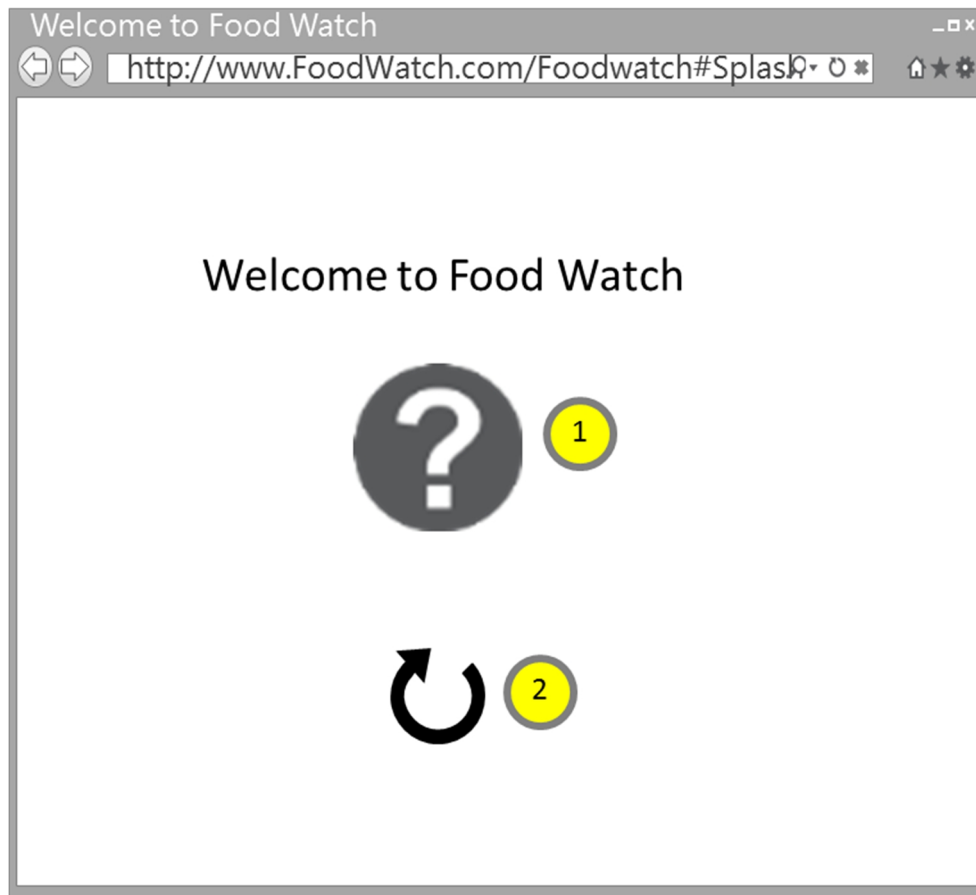- Support 508 Compliance

Data Design

Figure 3 - High Level Data Diagram

OpenFDA Provided

Food Watch Required

RecallEvent

- RecallEventID (event_id)
- ReasonForRecall (reason_for_recall)
- RecallStatus (status)
- RecallClassification (classification)
- RecallInitiationDate (recall_initiation_date)
- RecallDistributionPattern (distribution_pattern)
- ProductDescription (product_description)
- ProductQuantity (product_quantity)
- ProductCodeInfo (code_info)
- IsMandatoryOrVoluntaryRecall (vluntary_mandated)
- RecallingFirm (recalling_firm)
- RecallingFirmState (state)
- RecallingFirmCity (city)
- RecallingFirmCountry (country)

UserProfile

- ID
- UserName
- FullName
- EmailAddress
- Mobile(for Text alerts)

UserAlert

- UserId
- AlertID
- AlertTypeValue
- DoSendEmail
- DoSendTest

Alert Type

- ID
- AlertTypeText

Interface Design   15
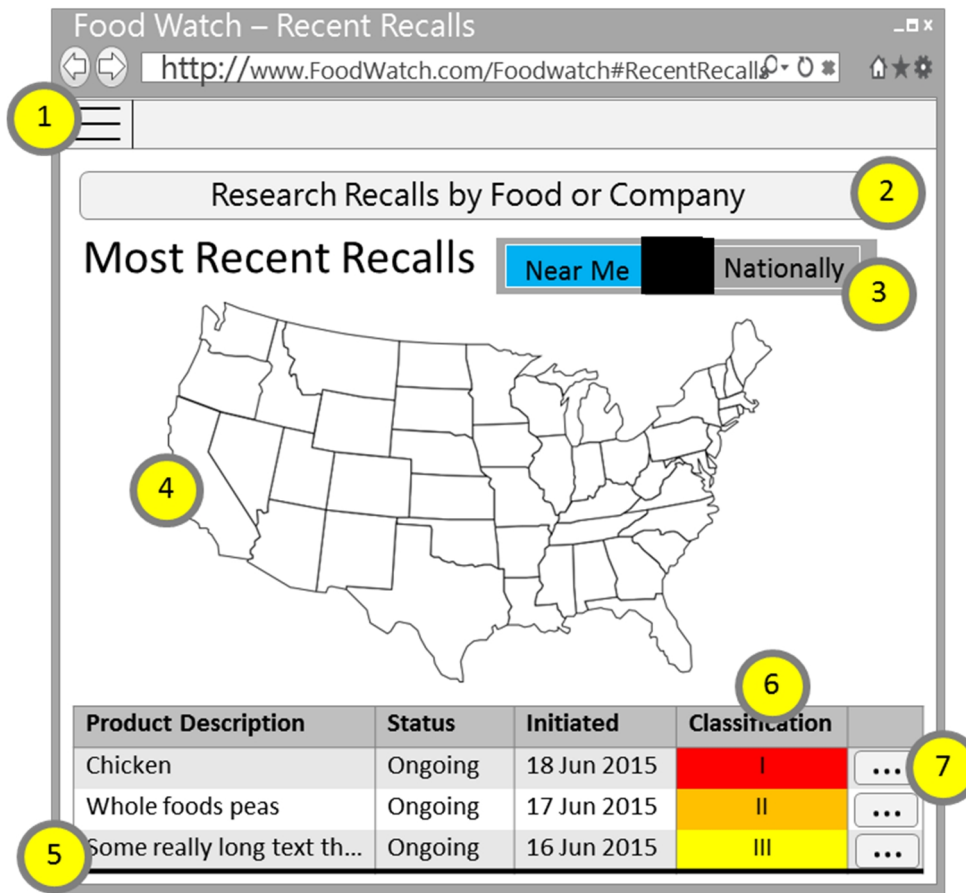
Splash Screen
Figure 4 - Fw1 Splash Screen

1- TBD Food Watch Logo
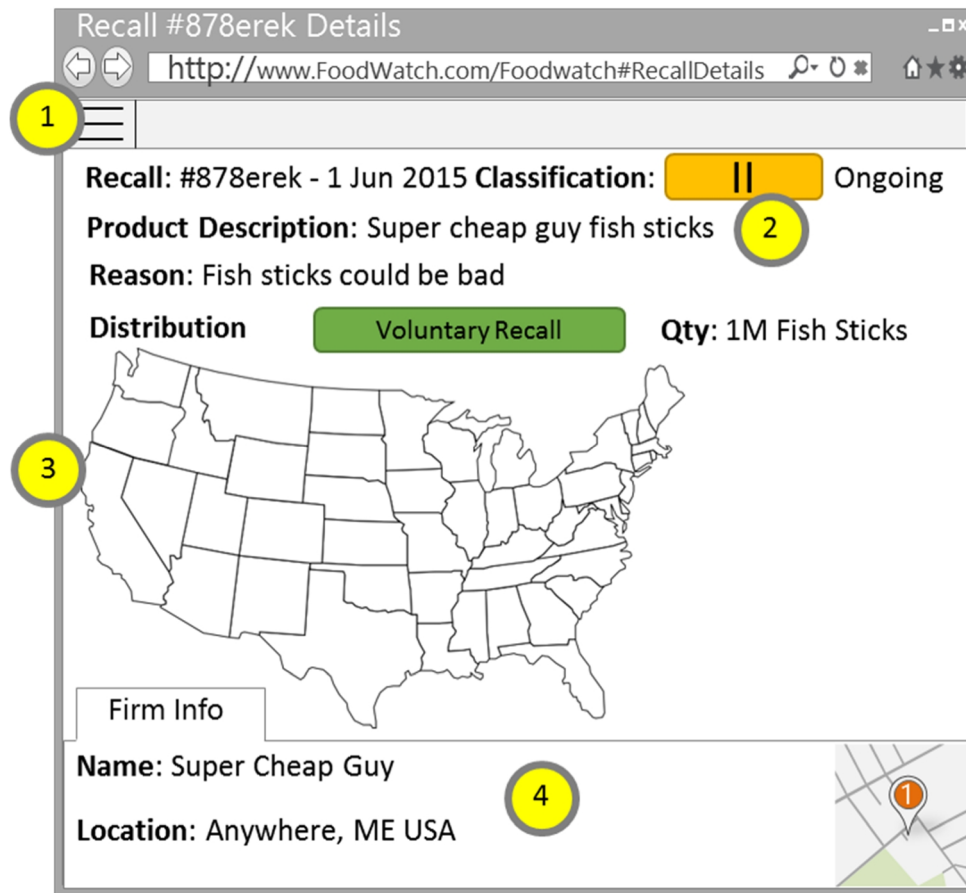2- Loading Status Indicator

Landing Screen
Figure 5 - Recent Recall (Landing) Screen

1 – Menu will contain links to home and Recall Research screen, as well as registration / Alerts settings in the future (post release 1)

2 – Button to launch the research page

3 – Near me / Nationally "GEO Scope" button. If location can be detected it will default to near me, if not it will default to nationally. If near me is selected and location cannot be detected it will prompt for state (since state is the granularity available in the data)

4 – A map of the US will show up with shaded areas for where the recalls are, and the color will be on the worst case classification. If hovered or clicked it will bring up a quick tooltip on count of recalls in the state by classification

5 – The product description can be really long, but no other short hand exists for the product, data will go in but truncate, a hover or click will provide popup to see full description. The grid itself will support infinite scroll for as long as there are list items that match the search scope

6 – Classification will be shaded based on severity

7 – This button will bring the consumer to the full detail screen

Recall Details Screen
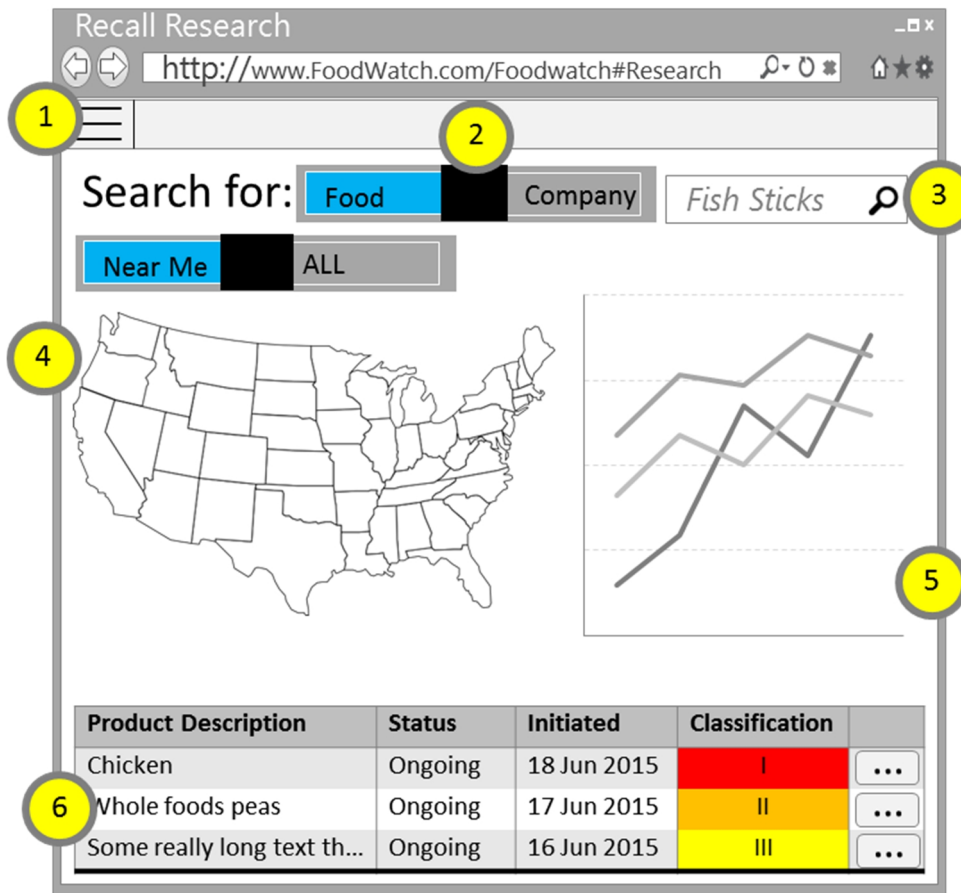**Figure 6 - Full Recall Details Screen**

1 – Menu

2 – Anything listed in the product description can be highlighted, which will bring up a "Research" button and launch the research screen with the highlighted text as the search criteria for the food category

3 – The distribution pattern will be highlighted on the map

4 – If the firm is selected it will launch the research screen with the firm as the search criteria for the company category

Recall Research Screen
Figure 7 - Recall Research Screen

1 – Menu

2 – This is the research type toggle, either food or companies (firms) can be researched

3 – This is the search term, if "drilled" from another page this will be prepopulated and executed

4 – This shows an aggregate of the distribution pattern and otherwise behaves like the map on the landing page, and also allows the research to be restricted to recalls near me or "All"

5 – This is a histogram of recalls over time by classification

6 – This is the list of results based on the research and behaves exactly as the grid does on the landing page

Alert Setup Screen
Figure 8 - Sign up for Alerts screen

For the purposes of this prototype, this screen is not in scope. It is shown here for the completeness of the design and it something that would be worked in (along with a profile service) in a later release.

1 – Alerts can be tailored for category and location

2 – All alerts can be deleted

3 – Based on what is setup in the profile service (TBD) a used can select email or text alerts

4 – New alerts can be added