SW Engineering CSC 648/848
Section 02

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A Song of Plague & Fire -
WWW Site for Public Safety (COVID & Wildfier) for California
Team 05

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Milestone 4

11/10/2020

HISTORY TABLE

Date Submitted	**Date Revised after Instructor Comments**
11/10/2020	

Product Summary

Product Name: A Song of Plague & Fire (ASOPF)

Product Functionalities:

1. The website shall allow users to register and log in to their accounts
2. The website shall display statistics on COVID & wildfire for each county in California
3. The website shall permit administrative privileges to California health & safety officers
4. The website shall allow registered users to subscribe for alerts of when new data is up
5. The website shall display data in both verbose and graphical manners
6. The website shall have system security to keep it safe from hackers & malicious attacks
7. Admin users shall be able to upload data points to the website
8. Users shall be able to upload files to permitted locations (ie: avatar)
9. Users shall be able to customize a dashboard of statistics to monitor

Usability Test Plan

Major Function: Users shall be able to customize a dashboard of statistics to monitor

Test Objectives

To Be Tested	Why Test?
Access of personal dashboard	Users should be able to log on to their OWN dashboard, and see their own - not someone else's
Save personal dashboard state	Each time a user logs on, they should see their dashboard custom-tailored as they want
Efficacy of links	Each link on the dashboard page should lead somewhere
Range of data	All of the viewable data on our site should be accessible to view on the user's dashboard
Customization of data views	Users should be able to customize tables to be viewed in tabular, map, or graphical views
Readability of data	Does a certain depiction of data make sense? For instance, a chart make sense for a specific db table?
View hierarchy of dashboard	Is the most important information the easiest to read? Will the user be satisfied with what we have?
Customization of data points	Users should be able to choose which fields from each db table they want to use

Test Background & Setup

System Setup

Each user - “normal” user and admin - will have a dashboard view available to them. Within this dashboard, they will be able to modify their account information, set up their alert notifications, and most importantly: create a customized view of data from our website that best tailors their needs. Once a user has registered onto the website or logged in to their user, they will have access to this dashboard.

Starting Point

When a user first accesses our website, if they do not have a user already, they will have the option to register. If the user has an account but is not already logged in, they will need to log in. Once they have registered or signed in, they will be able to go to the profile dashboard page and access the features.

Intended Users

We have “normal” users and superusers (or admins). While normal users are just everyday people who register, admin users are those who register with emails associated to California Health & Safety departments. These admin users can use their dashboard for the same uses as normal users, but they can also submit files and data to add to our database.

URL of System to be Tested

<our domain>/dashboard/

Usability Task Description

Before filling out the survey below, please complete these steps:

1. Register or log in to your user on our website
2. Access the dashboard by using the provided URL
3. Create at least 3 views of data fields, based on what sounds interesting to you
4. Experiment with using the different view options for the data (map, chart, table, etc)
5. Save a dashboard you are satisfied with
6. Check to make sure you can click on each of the links on the dashboard menu
7. Ensure that you can edit the information for your user account
8. Log out then log back in and check to make sure your data view is exactly as you left it

Likert Survey

1. I found the dashboard easy to customize.
    a. Strongly Disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly Agree
2. The data available for me to customize was useful information.
    a. Strongly Disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly Agree
3. The customizable dashboard is a useful feature.
    a. Strongly Disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Strongly Agree

QA Test Plan

Test Objectives

Our QA test will also cover the User/Admin Dashboard on our site and verify if it meets the functional requirements laid out in previous milestones. Since the dashboard is used by both registered Users and registered admins we will need to verify that the page functions under both conditions. Our tester will run through our tests below as a user and an admin. The main objectives that will be tested are in the chart below.

Test Hardware Setup

Website is publicly available from an AWS instance. The Testers can use any supported web browser to access the site.

Test Software Setup

The Testers start on the dashboard page as either user or admin. Both roles will be tested so the feature tests will be run through twice.

URL of QA Test System

<our domain>/dashboard/

Feature to be Tested

User and Admin Dashboard

Test #	**Test Title**	**Test Input**	**Expected**	**Pass or Fail**
0	Covid Search	Search “Los Angeles”	Populate map and data for dashboard components	
1	Wildfire Search	Search “Los Angeles”	Populate map of wildfire data for dashboard components	
2	Wildfire Selection	Select “County”	Zoom and populate map for	
3	Search By Date	Type “2020-11-02” into date selection	Dashboard populates component data for given date for all counties	
4	Covid Graph	Change the stat	Graph updates the graph	

	Dropdowns	dropdown option on the graph element from “default” to “demographics->age”	information to covid by cases by age group	

Testing: Chrome & Firefox

Test #	Test Title	Test Input	Expected	Pass or Fail
0	Covid Search	Search “Los Angeles”	Populate map and data for dashboard components	Pass
1	Wildfire Search	Search “Los Angeles”	Populate map of wildfire data for dashboard components	Pass
2	Wildfire Selection	Select “County”	Zoom and populate map for	Pass
3	Search By Date	Type “2020-11-02” into date selection	Dashboard populates component data for given date for all counties	Pass
4	Covid Graph Dropdowns	Change the stat dropdown option on the graph element from “default” to “demographics->age”	Graph updates the graph information to covid by cases by age group	Fail

Code Review

Coding Style: We use camel case naming conventions in JavaScript and naming our HTML DOM's we use hyphen-case.

Self-Check

Security

Major Assets to be Protected (and how we are protecting them)

- User information (email, passwords, names)
    - Encrypting user's password and generally protecting our site against SQL injections
- Ensuring only authorized users modify covid/wildfire data
    - Using Passport, we check user authentication to hide or display "edit" fields for our data tables
- Protecting our database against SQL injections
    - Ensuring that all queries are built dynamically using variables rather than using a SQL query as a parameter
    - Ensuring that all connections to our database are handled through controllers on the back-end and not done through our public client-side javascript
- Protecting our server from getting hit by DOS or other malicious attacks
    - Nginx and reverse proxies protect us from such attacks
- Cross-site Scripting
    - Our request parameters are protected by using a plugin called helmet that checks for proper headers on a request

We do encrypt user password in the database
We have JavaScript validation for all forms & input fields

Adherence to Non-Functional Specs

Non-Functional Spec	**Status**	**Comments**
Reliability	DONE	
Built for Desktop Browsers, but compatible with mobile devices	ON TRACK	Several features right now break when on a non-desktop viewport, but that is because they were recently added & the front end team hasn't had a chance yet to fix it
Performance - how much time each page should take to load	ON TRACK	Some pages take longer to load than others (nothing more than 5-8 seconds), but once we implement pagination it will greatly reduce load times.

Scalability - will the system be able to handle large volume of users that keeps increasing	DONE	
Capacity - how much storage will be needed	DONE	
Availability - availability and downtime of the application	ON TRACK	Currently (for security reasons) we don't permanently keep our app running
Security - this includes security of the content and encryption etc.	ON TRACK	Developing securities in tandem with regular development, on track to be secure at final launch