Web Outage Viewer

Minor Project

INTRODUCTION

The purpose of this document is to define scope and requirements of a Web Outage Viewer for a leading Electric Company. The proposed system accepts power outage complaints, updates status and allows customers to view the status online on a map. The customers can now

1. Log in the complaints in their area and track the action by Service Company.

2. Field Service Crew can view the complaints online and assign appropriate status.

This document is the primary input to the development team to architect the solution the project.

System Users

Primary users of the Web Outage Viewer are Customers, Field Service Crew and Administrator of the Electric Company.

Assumptions

1. In a highly automated environment, typically the breakdown updates are received by the system from field via SMS of the Field Service Crew. In our case, to simulate such SMS we will accept these inputs on a simple web-based data entry screen.

2. The Master data for Cites, Sub-stations of the Electric company within a city will be uploaded using CSV by the Administrator.

REQUIREMENTS

The Outage Viewer will display the current status of outages reported for various sub-stations on a Google map along with the complete service coverage of the Electric Company.

Following example map shows locations serviced by the company in the State of Virginia in USA. For the project purposes use the city of your residence and various locations within the city for creating the data.
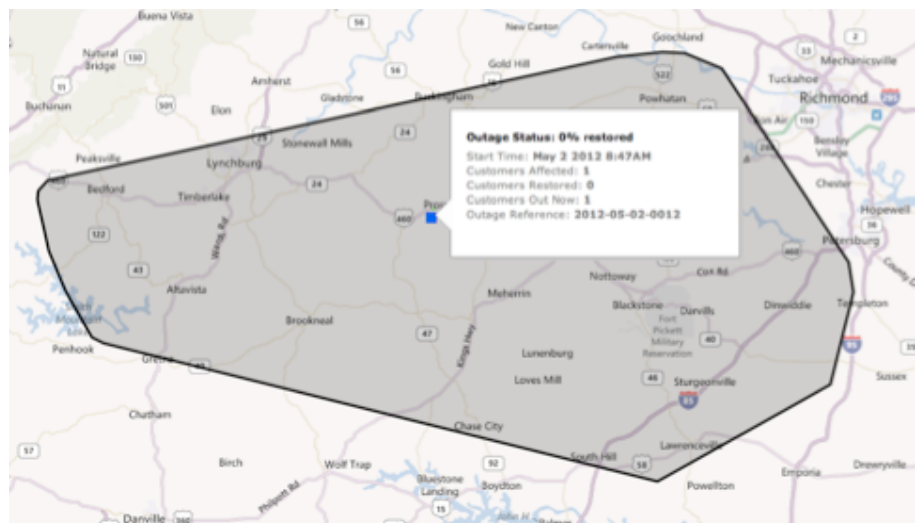
How to display status on the Map

The service area (Sub-stations covered by the Electric company within the city) on the map is displayed as black and grey.

The colored squares as legends represent outages that are occurring right now. Choose different colors to display the following three status of the power break down complaint.

1. Un-assigned
2. Work in progress
3. Crew Assigned

This page will update automatically every 2 minutes.

Mouse hover on the Legend should display the Outage details such as Start Time, and Expected time to resolve.

Basic System Operation

1. Customers can view the Outage Status on a Map by selecting the 'City' from a dropdown.

2. The system will display the last updated status of power cuts in various locations of the city on this map. This page will be continuously refreshing itself at regular interval (say every 2 minutes).

3. Another screen will allow manual update of power cut information for a location in the city of service. The new complaint will be in un-assigned state.

4. Field Service Crew updates the status complaints.

5. Every such update will show the new power cut locations with legend with appropriate status on the Google map on the next refresh.

Master Update

Cities are uploaded with a CSV format with single column City Name.

A city will have multiple locations, where the electric company is providing electric services. The location master will be uploaded as CSV with two columns, Location and City.

The electric services are controlled from the Sub-Stations. A single Sub-Station services multiple locations. This data is uploaded in the system as CSV with two columns, Station Id and Location.

Power Cut Entry

The form for power outage captures the following information:

1. City [Display Picker from the master]
2. Location [Display locations as a picker for the selected City]
3. Sub-Station for city and location select is displayed automatically
4. Problem is entered as text
5. Time [Default current time]

The above information can be entered by the Customer or the Field Service Crew from the website. At the time of recording the status is Un-assigned.

The system will add the Sub-station location to the outage viewer map for the above city.

Power Status Update

The Field Service Crew views the outage entries that are in Un-assigned or Work-in-progress status. The user selects one entry to update the status as follows:

1. Work in Progress and Estimated Completion Time
2. Crew Assigned and Estimated Completion Time
3. Resolved.

The system will update the status of Sub-Station location on the Outage Viewer Map.

DEVELOPMENT ENVIRONMENT

Web Outage Viewer will be developed as a web application using Java/JSP and DB2 database. Eclipse will be used as the IDE for the same. Google Maps will be used to create the mash up. Basic Google Map Parameter details can be found at http://mapki.com/wiki/Google_Map_Parameters URL. More details can be found at https://developers.google.com/maps/ URL. The student before proceeding with the development of this project should do an in-depth study of Google Maps API.