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Final Project Idea

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FireWatch

Introduction

FireWatch is a web application designed to promote community engagement with wildfire prevention and crisis management teams. As seen in the recent Panhandle wildfires, common circumstances that lead to wildfires – such as downed power lines – are sometimes known to be issues prior to the wildfire but are not reported to the appropriate wildfire management agencies - precluding any possible preventative measures that could have been taken. This application aims to bridge this gap in communication by allowing members or organizations within the community to report activities or factors that historically have led to wildfires – such as downed power lines, unprescribed or illicit burns, use of pyrotechnic devices, etc. – online. Additionally, the FireWatch application may be used by members of the community to determine their area’s wildfire risk and view any advisories that they may currently be under.

User Requirements

This application requires frequent data updates from multiple sources: those agencies that collect data concerning wildfire risk in a region and determine its risk levels, and those organizations – typically governmental – that issue wildfire advisories for a region. Additionally, incoming data from the community must be validated and maintained by the wildfire management and prevention agency(s) that are using it. The primary end users for this application are members of the community and is intended to promote wildfire risk awareness and timely reporting of wildfire risk factors.

Business Rules

Database:

1. A region is an administrative unit managed by a local, tribal, state, and/or federal government agency. A region may or may not contain one or more sub-regions within it. A region may be a sub-region to at most one larger region. A region should be classified by the scope of governance. For example, a town is a region governed by a local government agency and is part of a larger county region governed by state and county officials. A region is managed by one governing body. A region should contain the following attributes: Region Identifier (Identifier), Name, and Risk Level.

2. A governing body is an agency, council, office, or individual that manages one or more regions and issues wildfire advisories for each region as needed. A governing body should have the following attributes: Governing Body Identification (Identifier), Name, Type, Public Contact, Public Contact Phone Number.

3. A wildfire advisory is a warning or order from a governing body concerning steps that residents of a region need to take concerning wildfire. Each wildfire advisory is issued by one governing body, though a governing body may issue multiple advisories. A wildfire advisory may be applied to multiple regions, and a region may be under multiple advisories at a time. A wildfire advisory should have the following attributes: Wildfire Advisory Identification (Identifier), Name, Date, Time, Description, and Status.

4. A report is a form submitted by a member of the community concerning a wildfire risk. A report is linked to one region, and a region may have several reports linked to it. A report should include the following attributes: Report Identification (Identifier), Risk Type, Risk Description, Risk Location, Date of Discovery, Time of Discovery, and Risk Status. Optionally, a report may contain the following attributes: Reporter’s Name, Reporter’s Phone Number, Reporter’s Email Address, and Risk Image.

Application:

5. A user may submit a report of a wildfire in their area to the web application. A user is required to provide the type of risk, a description of the risk, the region this occurred in, the date of discovery, the estimated time of discovery, as well as a general description of the risk’s location. A user may also provide their name and contact information for further follow-up, as well as an image of the risk if available.

6. A user may search for and view the current risk level of any region within the application’s scope. A user may also search for and view the current advisories that a given region is under.