Web Development – Mr. Turner

Project – Emergency Enhancements

**Project Overview**

Enhance the Emergency Program in any of a number of ways.

**The Page**

You have already been given the working Emergency! simulation. Every 5 seconds, it creates a new emergency and shows it on screen. As the dispatcher, it’s the user’s job to send trucks to individual emergencies. The simulation is very rudimentary and could use some enhancements. Implement as many of these enhancements as you can. You may start with any one you like and do the rest in any order.

Please complete each enhancement using a fresh copy of the original Emergency!

***Do not implement more than one enhancement in the same version.***

**Varying Times**

Currently, the simulation is programmed so that an emergencies are created at ***intervals*** of 5 seconds. Change the program so that a new emergency appears every 1 to 10 seconds.

*Hint: An interval cannot work with a variable time. Even if you pass a variable into the setInterval function, it will only use the value of that variable at the time you call it. You will not be able to complete this enhancement with the setInterval function.*

**Varying Trucks**

The city council has determined that the number of trucks in the department is good enough for about 12 emergencies. As the number of outstanding emergencies increases, it may be necessary to supplement the department. For every 12 outstanding emergencies, add another truck to the pool. If the number drops below a multiple of 12, remove the extra(s) as necessary.

**Hazard**

Some emergencies have the potential to damage trucks and incapacitate first responders. Add a hazard property to each emergency object and start it at 0.

Each time the resolution timer checks the emergency, whether there are trucks there or not, add 1 to the hazard counter. When the hazard counter reaches 5, remove a truck from the scene. That truck does not go back to the pool. It is simply erased.

If there are no trucks on the scene when the hazard counter reaches 5, black out the emergency (it can no longer be selected). If the number of blacked out emergencies reaches 5, then the simulation stops because the city is destroyed.

**Severity**

The current program has a single formula for determining the resolution of an emergency, however the severity of a fire is much higher than the severity of a cat in a tree. Update the data file to include the following severities.

EMERGENCY\_SEVERITIES = [1, 3, 5. 9, 6];

Add the severities to the emergency objects created in the program.

Adjust the formula for resolving an emergency. Instead of dividing the number of trucks on the scene by 20, following this algorithm,

1. If a random number is less than (the number of trucks on the scene divided by the product of the severity and 20)
   1. Reduce the severity by 1.
   2. If the severity is 0.
      1. The emergency is resolved.

**Programming Requirements**

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| * You must code your own HTML and CSS. Use of a drag and drop interface or the usage of code downloaded from the internet is not permitted. |
| * Use of deprecated code is not permitted. Use an HTML 5 reference as your guide. |
| * Your home page must be named *index.html*. |
| * You must comment your name into the top of every page. |
| * Your code must be structured in a consistent and legible manner |
| * Your interface must be smooth and easy to figure out for a client. |
| * Your pages must be formatted using CSS. |

*You project is to be submitted via Moodle. Compress all of the necessary files into a zip file.*