Team 17 Project Backlog

Northrop Grumman Xetron Seismic Activity Map

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**Problem Statement**

Currently, seismic data is limited to specific organizations, government agencies, and people. There is no system in place that integrates all of this data to give real-time tracking of any seismic activity, specifically in the United States. Each party who utilizes seismic sensors have systems to analyze that data to achieve their goals. However, our system would go further by integrating all of these individual systems into an open sourced visualization of the data.

**Background Information**

* Our system is intended for users who may be interested in geology or seismic events, but may not be experts on the subject.
* Currently, no system is available for such casual users. All current seismic display systems are intended for experts in geology or seismic data.
* Casual users are unable to read and interpret data on current seismic systems which excludes them. Our system will address this problem by allowing them to understand the data.

**Requirements**

**Functional**

1. As a user, I want to be able to see markers representing current seismic activity.
2. As a user, I want to be able to view a list of previous seismic events so that I can study the data and form patterns.
3. As a developer, I want to implement a database of previous seismic events so that users can view previous events.
4. As a user, I want to select a specific seismic event and view details about that event so I better categorize the event.
5. As a developer, I want to read seismic data from public sensors so that I can add it to the map automatically.
6. As a developer, I want to only add seismic events to the map if they are beyond a certain seismic threshold so the map doesn’t get overcrowded with unimportant or irrelevant data.
7. As a developer, I want to calculate the epicenter of the seismic data.
8. As a developer, I want to calculate the predicted radius that the seismic event will affect.
9. *As a developer, I want to implement security features for our seismic database so that we can prevent unauthorized access (If Time Permitting)*
10. *As a developer, I want to implement a system that categorizes seismic events based on data it produces so that users can see what kind of event is probably occurring. (If Time Permitting)*
11. *As a developer, I want to standardize the information for the user about each seismic event in a uniform manner (If Time Permitting)*

**Non-Functional**

1. As a user, I want to have an easy-to-use interface for viewing database records of seismic events.
2. As a user, I want to see different colors for each intensity of seismic activity so that I can quickly determine the size of the seismic event.
3. As a user, I want to be able to see the epicenter of an event.
4. As a user, I want to see the predicted radius of an event on the map.
5. As a user, I want to have the option to see on the map where the seismic sensors are located.
6. As a administrator, I want to see the API for adding a new open-source seismic sensor to the system.
7. As a user, I want to be able to filter results that I see on the map.
8. As a user, I want to be able to select and deselect certain seismic sensors so that I can view certain regions of seismic activity.
9. As a user, I want to be able to see areas on the map that are void of seismic activity so that I can determine the best areas to test new sensors.