Basic Software Requirements Specification

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1 Introduction and Overview

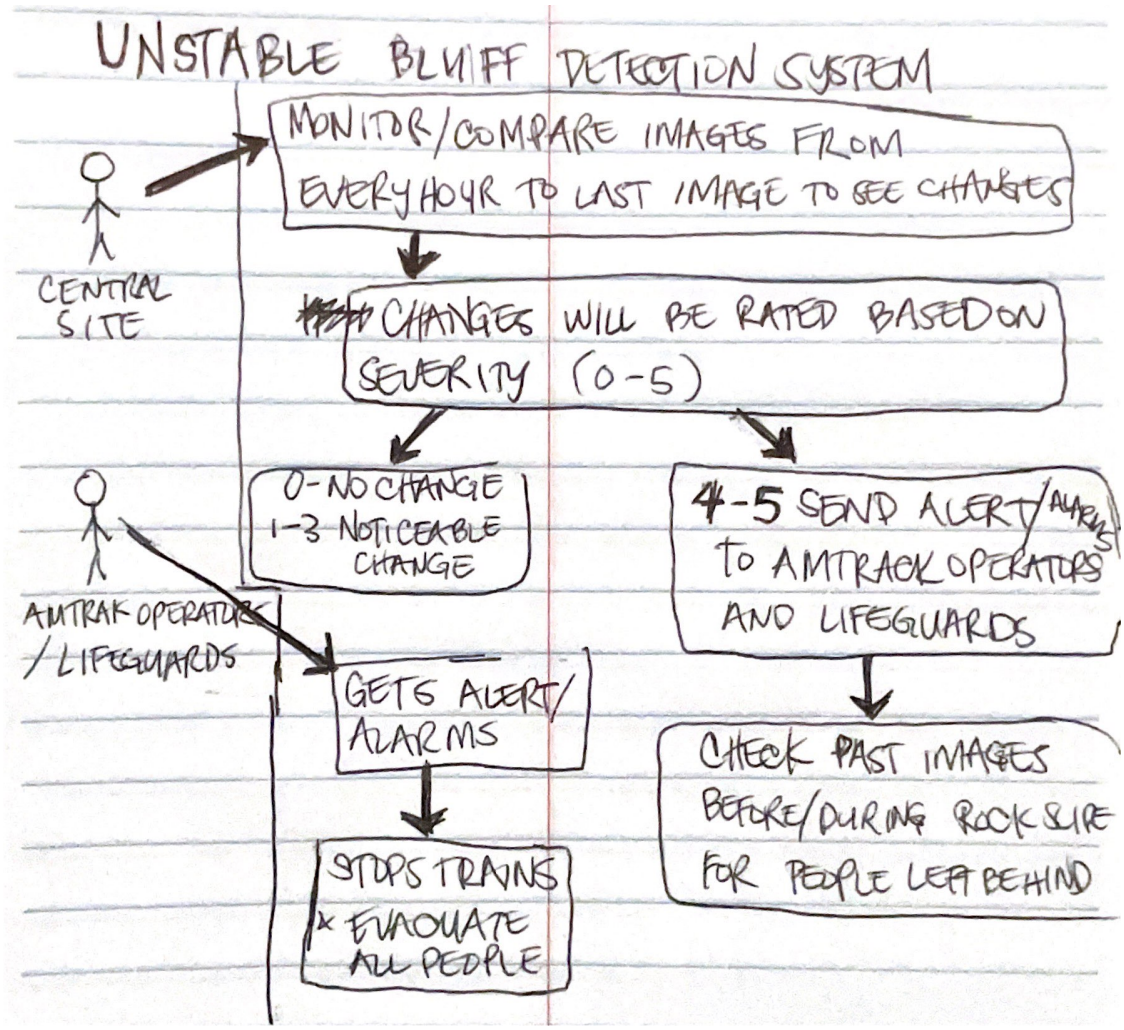
This document provides a plan for the development of the Unstable Bluff Detection System. The purpose of this system is to monitor the bluffs located in Del Mar that are known to be unstable at times causing rocks to fall on cars, trains, or even people. To prevent this from happening, the system will detect if there are any changes in the bluffs that would essentially put beach goers' lives in danger. This document will contain user requirements, system requirements such as functional and non-functional, as well as other necessary information regarding this new system.

2 User Requirements

One of the main users of this system would be the central site. The central site will need to compare the new image to the last image every hour to see any changes. Then, they will need to be able to rate the images on severity. The system should then allow the central site to send alerts and alarms to operators and lifeguards in the area. These operators and lifeguards are the only other users of this system therefore, they should be able to receive these messages and alarms.

3 System Requirements
3.1 Functional Requirements

Now knowing the overview and the main users of this system, these functional requirements will list what this system needs to do. This system will monitor about 300 feet of the bluffs by using 6 cameras placed onto poles along the area. These cameras will be able to capture a 50x50 feet area to fully capture the total 300 feet. The image captured will be sent to a central site every hour. This system also has a severity rating where 0 is safe, 1-3 is considered a potential rockslide, 4-5 is significant change where alarms go off and the Amtrak rail operators and lifeguards are alerted to block the roads and evacuate the people. Central site will then check the footage to see if any people were left behind.



Use case diagram

3.2 Non-functional Requirements

How these functional requirements will work is by the following non-functional requirements. Wireless networks send the images from the camera to the central site to the operators/lifeguards in lightning speed so that there is no delay in alerting them. The central site uses system or program that will automatically compare the images rather than an operator manually doing it. This system is also able to hold data of past images from one month to a year. The user interface for central site and alerts for operators and lifeguards should be easy to understand and straight to the point with no unnecessary designs that would distract them from the potential danger of the bluffs.

4 Other

In this section will be a list of any other necessary information that were not considered functional or non-functional. This would include the extra functions of camera such as audio or color settings and if the camera will have night vision. Regarding the main issue of safety, the alarms should alarm everyone in the general area and not just the lifeguards and operators just to make sure. Also, sending the images of the effected areas in the bluffs to the lifeguards and operators to help them know how bad the damage may be and where the people they need to evacuate are.