



SDSU
presents
a thesis defense for
Master of Science
degree in
Computer Science

Friday,
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1:00pm
GMCS 405

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Effects of Debris Flows on the West Coast

Abstract

The aim of this thesis is to develop a web application which shows the impact of precipitation due to debris flows on lives and properties in the West Coast of the United States (California, Oregon and Washington states) over the last two and half decades. The goal is to build a web application which will display the complete information of a precipitation impact in terms of injuries occurred, loss of lives and damages to property. Additionally, some of the web application features are represented using google maps and dynamic visual charts. The application is implemented using the MEAN Stack (MongoDB, Express, AngularJS, and Node.js). It has many advantages, some of them being faster, light weight, easily scalable to larger applications and usage of the common language-JavaScript. Hence, there is no need to parse the data from client to the server side, as all the communication is done through the JSON. The application interface is built using HTML, CSS, Bootstrap and AngularJS where detailed information about events is displayed. Additionally, tables, charts and graphs are displayed using various technologies to represent the data. Google maps API shows the location or city where the disaster has occurred, which is marked on the map along with its relevant information in a window. MongoDB will be used to store the data; read and write operations are performed from the database based on the information requested by the user. The end goal is to make a fully functional standalone web application which displays and analyzes the data using HTML, CSS, AngularJS, Charts, graphs and google maps.

Thesis Committee

Carl Eckberg, Thesis Chair, Department of Computer Science
Alan Riggins, Department of Computer Science
Gary Girty, Department of Geological Sciences