Colorado GeoTours

Client: The Colorado Geological Survey (CGS). We are a non-regulatory state agency that operates as a department in the Colorado School of Mines. Our mission is to help reduce the impact of geologic hazards on the citizens of Colorado; to promote responsible economic development of mineral and energy resources; to provide geologic insight into water resources; and to proffer sound geologic advice and information to a variety of constituencies. This project is part of our outreach initiative to engage with the public.

Proposed Project: We would like the students to develop a Colorado field trip mobile phone app called Colorado GeoTours. The app will have virtual field trips, or GeoTours, that feature content based on a user's geographic location (i.e., field trip stop). Types of content may include short videos (2–3 minutes), photographs, text, and interactive content such as trivia questions. GeoTours will focus on Colorado geology and geologic hazards, with additional context from the State's history of resource extraction, geologic engineering, and hazards. For example, one GeoTour might utilize a short hiking trail at Red Rocks Amphitheater. One stop could encourage users to examine a particular rock outcrop, providing photos and text describing the rock type, while another stop at a vista could feature a video explaining how the tectonic history of the area formed the landscape. If the user shares their location with the app, the app will show which GeoTours are closest to them and provide navigation directions. Supplemental information, such as trip distance and hiking difficulty, will also be included for all GeoTours. In addition to the GeoTours, the app will contain a few Basic Geologic Skills modules teaching basic field skills, such as how to read a geologic or topographic map and how to use a compass. Content will be provided by the CGS, but we are open to input from the student group.

Skill Set:
- Interest in consumer apps
- Design skills
- App Coding Language – decided with input from student group – potentially:
  - Swift
  - C#
  - HTML5 (with CSS and Javascript)
  - Java
- Map/location implementation

Preferred Team Size: 2-4 Students

Internship Potential: Yes, if the prototype app is approved to go live by CGS director, a paid internship maybe offered to a student to help support and grow the app.

Preferred Work Location: Remote / On Campus. CGS has offices on campus that can be used for meetings.

Intellectual Property: The app and all content will be the intellectual property of The Colorado Geological Survey and the Colorado School of Mines.