

## **Project Milestone 1**

**Team Number:** 101-2

**Team Name:** Team Search and Rescue

**Team Members:** Devin Murray, Namita Pasupuleti, Omar Kaheel, James Singer, Amaica Webb, Marissa Zuyus

**Application Name:** CU Lost and Found

### **Application Description:**

As of now, the University of Colorado at Boulder's lost and found system is a strange mess of boxes in each building (not guaranteed in any building), each with different policies and overseers. Any items of value are supposed to be turned in to the CU police department and while some buildings have a policy of turning in items to CUPD, not all do. The necessary solution is to create a universal system that connects every building on every Boulder campus to a unified lost and found network. With our network students don't need to take responsibility for any lost items they've found, simply contribute what they know.

The CU Lost and Found application is a modern solution to lost and found, reconnecting students with their misplaced property in a more dynamic approach. With a forum style network of lost items, the application serves as a straightforward and accessible tool. By compiling all information on lost items into one place, this application eliminates the need for students to run around campus trying to relocate their belongings. This one-stop-shop also creates an immutable ledger of items found, who found them, and where they were last seen. This is to encourage trust in the network and its effectiveness at aiding in finding lost items.

With this app, students can post when an item is either lost or found. Postings include a location tag, a brief description, and any additional information that may be useful. All posts are then sorted by location, name, description, or any other quality a post may have in order to narrow down the search. This application requires a valid school email in order to verify that all people using the application are affiliated with the school.

**Vision Statement:** CU Lost and Found is an online resource for CU students to catalog missing/found items campus wide. Unlike current systems in place, that requires either going to the CU police department or knowing a building specific procedure, CU Lost and Found will be a way for CU students to directly contact the party of the missing/found item.

### **Version Control:**

Three repositories for our team in git:

1. Team meeting logs
2. Milestone submissions
3. All project code/components

SCREENSHOT OF REPOSITORY AND SHARED ACCESS TO TEAM MEMBERS AND TA

### **Development Method:**

For the development we will be using agile for picking and implementing different parts of the project. We will work with a weekly sprint cycle. We will use a standard github organization to manage the project, while maintaining a timeline on the project repo itself. Branches will be used to manage different features and we will distribute pull requests and code reviews or do them as a group depending on what is logistically possible. We will do Bi-weekly pull requests to merge onto master and we will do code reviews during our weekly meetings. We will assign dev tasks to whoever is most familiar with the relevant tool and provide help as needed via slack.

### **Communication Plan:**

Our team will communicate with each other during the course of the project through Slack and through texting. Slack will be used for general information, plans, communication, and other tools that may help us throughout the course of our project. Texting will be used to communicate meeting plans and more urgent things. These urgent messages may be about if someone cannot make it to a meeting, if someone is running late, quick project updates, etc.

### **Proposed Architecture Plan:**

Our team will use NodeJS to develop a backend. The backend will use hyperledger fabric to save current items and store a history of items on the network. This architecture easily allows for participants (CU students and administration), assets (lost items), and its biggest strength is its ability to record events (such as posted items, found/returned items, and participant actions, and much more). Fabric is quite modular so how we choose to display the information on a console is determined by what we do with `get_information()` functions. The world state of a fabric network is accessible through couchdb and leveldb (couchdb seemingly the obvious choice for a web-based app). Whatever the team feels more comfortable with or interested in learning will be used to interact with the database.

### **Meeting Plan:**

The team's agreed-upon meeting schedule is to meet every Sunday at 2pm. We will meet for 2 hours in person. If we cannot all meet in person for some reason such as weather, travel, holiday, or another reason, we should communicate with the team and maybe meet with the rest of the team through video chat or phone call if possible.