Mines Crowdsourcing System MCS 4.0
A Crowdsourcing Web Application for Supporting Research at Mines and the Beyond

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Project:
Crowdsourcing systems (e.g., Amazon Mechanical Turk, or MTurk) enable job requesters to post Human Intelligence Tasks (HITs) for crowd workers to complete and get paid. They are widely used by researchers, companies, and governments to perform important studies (e.g., behavior related ones), respond to crises (e.g., natural disasters), and obtain labeled data for AI models. MCS is a crowdsourcing system that aims to initially support the research work at Mines and the region, and later broadly support job requesters and crowd workers over the Internet.

A team of four Field Session students developed the first version (i.e., v1.0) of MCS in Fall 2019. MCS 1.0 had the basic features such as job posting, searching, and submission of a typical crowdsourcing system. It also had the basic security and privacy protection features such as user authentication. It was developed by using Django, a Python-based modern Web framework. Two students improved MCS in Spring 2020 and developed its second version (i.e., v2.0), in which features such as advanced searching and user account management were implemented. Three students improved MCS in Fall 2020 and developed its third version (i.e., v3.0), in which user interface was improved and container-based deployment was established.

In this project, students will continue to design new features and build the fourth version (i.e., v4.0) of MCS by using modern Web development and security protection techniques.

Primary Goals:
- Design, implement, and evaluate a gift-card based payment channel in MCS 4.0
- Design, implement, and evaluate job submission and management features in MCS 4.0
- Design, implement, and evaluate requester-worker communication features in MCS 4.0

Secondary Goals:
- Improve the user authentication functionality of MCS 4.0
- Improve the scalability (e.g., evaluated via stress testing) of MCS 4.0

Stretch Goals:
- Add basic access control features to MCS 4.0

Technologies:	Team Size:	Location:
• Web development frameworks such as Django • HTML/CSS/JavaScript/SQL • Security and privacy protection	3~5	Mines Campus

Ownership of Intellectual Property:
Students working on this project need to assign ownership of intellectual property to the client.