

# CMU University Contracts Office

## Community Partner

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## Student Project Team

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## Background

The Carnegie Mellon University Contracts Office (UCO) reviews all legal agreements for purchases made with third-party vendors. The office corresponds with the university when they receive requests from Carnegie Mellon faculty and staff who are interested in purchasing a service, such as new application software, and require contractual approval. While processing these requests, the office investigates the terms of service and other documents for legal risks, accuracy, and favorable terms to the university.

## Project Description

### Project Opportunity

When software requests are made to the University Contracts Office, contract specialist Brian Spoales is required to manually compare the old contract version with the updated version. As the office received over 14,000 requests in the last fiscal year, this process becomes complicated and inefficient. Since the recent General Data Protection Regulation (GDPR) will update privacy policies of numerous software agreements, the office will also experience an incredibly large influx of version changes that they will need to process. Additionally, the staff stores approved contractual data in a number of different places, such as email, an Excel spreadsheet, and an alphabetized folder system backed up on the CMU server. Because of the office's small size, there is a lack of technology planning or infrastructure.

### Project Vision

We propose creating a web application that performs "versioning," or a comparison of differences between software agreements by highlighting additions in green and removals in red. The application would be able to save agreements into the application database as well as allow for other features like software search, side-by-side document comparison, and commenting.

## Project Outcomes

Our team's Flask web application scrapes the Terms & Conditions from a software's website, performs word-by-word text comparison, and displays clear red/green visuals of version differences to help the contract specialist process agreements faster and at a higher volume. These contract versions are updated in a MySQL database automatically. Finally, our application offers a side-by-side comparison view, as well as an alternative method to manually upload and download text files with contract terms.

## Project Deliverables

Our project deliverables include:

- A private Github repo with our Flask application hosted on the PythonAnywhere web server (<http://uco.pythonanywhere.com/>)
  - Also included is a “backup” tool inside the web application that performs text comparison via manual text file upload, which does not rely on the database connection
- Login credentials to PythonAnywhere account, MySQL database, and more.
- System documentation including an Entity-Relationship Diagram (ERD) detailing our database, a list of APIs/modules used, and a Software Architecture Diagram
- Help documentation and demonstration videos.

## Recommendations

We recommend the client to reference our help documents and demonstration videos on the web application in order to troubleshoot and maximize use of the application.

We recommend that future development teams to consistently deploy their application in an agile manner to provide meaningful deliverables and demos each week to the client that focus on the client’s needs. We recommend writing technical documentation alongside development as well.

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## Student Project Team

**Dylan Hyun** served as a back-end developer on the team, focused on the web scraping and text comparison. He is a third year Information System major with minors in Human Computer Interaction (HCI) and Statistics. He will be working at Prudential this summer as a user interface designer.

**Julia Luo** served as the designer and front-end developer on the team; she is a third year Information Systems major with a double in Human Computer Interaction (HCI) and a minor in Design. She will be working at Venmo as a product designer this summer and plans to full time as a UX or Product Designer.

**Linda Xia** served as the project manager and a backend developer, focused on architecting the Flask application and integrating with the MySQL database onto the PythonAnywhere web server. She is a junior Information Systems with an additional major in Human Computer Interaction (HCI) and will be working at Salesforce this summer as a software engineering intern.