Mines CS Summer Field Session Project Proposal

Company Background

ICR was founded with a mission to identify and solve complex engineering and operational problems within the Intelligence and Defense Communities through true partnerships with our customers. Despite our advanced degrees and heavy R&D focus, it is our hands-on experience that enables us to create practical and reliable solutions. At ICR, we aim to establish an employee-owned company where top talent in their fields want to work. Our employees take ownership of our customers' problems, fostering a culture of stewardship and calculated risk-taking. We are committed to mentoring and developing future leaders from within our ranks.

Project Description

In the rapidly changing digital landscape, APIs are frequently updated or redesigned, presenting challenges for developers who must quickly adapt to maintain compatibility. Traditional methods like manual documentation reviews fall short due to the swift pace of updates. The "Changing API Tracker" (C.A.T.) project aims to address these challenges by using web scraping techniques to automate data collection from API documentation (Swagger Pages) and providing a dedicated UI for visualizing and comparing different API versions. This solution will enable developers to efficiently track route and data model changes across versions, reducing compatibility issues and streamlining the development process.

Project Features

- **Automated Data Collection:** A Cron job that scrapes Swagger pages, extracting metadata about each available version of an API.
- **Version Comparison UI:** An interactive user interface that allows developers to compare changes between different versions of an API, focusing on routes and data models.
- **API Version Serving:** A server capable of serving any requested version of the API along with managing multiple stored APIs.
- **Configurability:** The tool offers configurability from the UI, allowing users manage and add APIs and their scraping schedules.
- **Change Visualization:** Visual representations of how APIs have evolved over time, highlighting significant modifications in endpoints and data structures.

These features outline a good project. We want your ideas and creativity to make this tool a great project! Your insights can help us enhance its functionality and usability.

Desired Skills

We seek driven individuals open to learning new technologies. Experience with **Angular, Python, Node (Typescript), or Java Spring** will be beneficial but is not required.

Team Size

A team of 2-4 students will suffice for this project.

Location

Students will work at the CSM campus or an agreed-upon location and meet weekly in person or via teleconferencing software like Microsoft Teams with their ICR contact.