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Web Application for Deploying COMPS Collaborative Problem-Solving Exercises

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Abstract

This project builds out the computer infrastructure of the COMPS project, turning it from purely a research tool to a facility that could have practical application. COMPS (Computer-Mediated Problem Solving) studies collaborative learning through problem solving dialogues. The web-hosted typed-chat collaboration tool has special features for student collaborations with involvement of teaching assistants.

This project adds a web application to support deploying COMPS exercises in college classes. Instructors can register their classes and upload class rosters. They can upload problems for the students to work on, assign students to collaboration groups, and manage lab times.

The web application has been built as a three-tier architecture which consists of web front end, back-end application, and database. The front end has been built on the Angular framework and backend has been built on the Java Spring Boot framework. We have used Postgres DB as a database for this application. This App/Site will be accessible to both students and professors. We have deployed it in the cloud during development and also on VU servers. Using freely available software running on industry-standard platforms, the application should be costeffective, scalable, and easy to use.