NORTHROP GRUMMAN
ENGINEERING & SCIENCE STUDENT DESIGN SHOWCASE
FLORIDA TECH

Student Code Online Review and Evaluation 2.0

Dorothy Ammons, Shamik Bera, Patrick Kelly, Rakan Alsharif

Faculty Advisor(s): Dr. Raghuveer Mohan, Dept. of Electrical Engineering and Computer Science, Florida Institute of Technology

Goals

The goal of this second rendition to S.C.O.R.E is to enhance the application by adding features such as cheat detections, roster imports, grade exporting, and customizable rubrics for automated grading.

Motivations

Our motivations lie in resolving areas that are lacking in the previous version, including but not limited to:

- Ease of development
- Tools related to Canvas implementation
- Tools to customize the grading process: rubrics, cheat detections

Implementation

- Web app: React + Node.js + Vite
- Database: Firestore
- Backend: Flask + Python
- Auto test management: Python
- Deployment: Docker

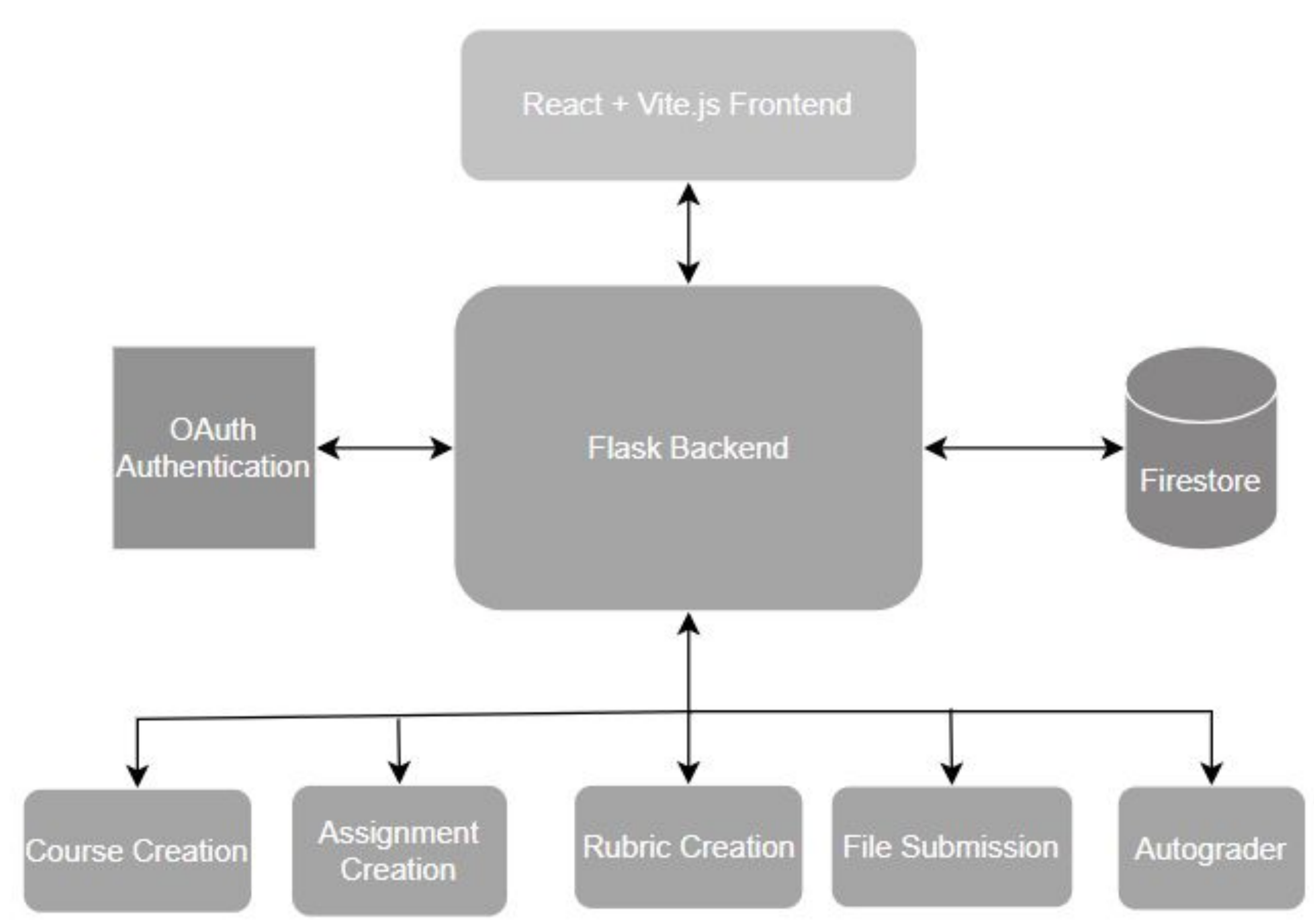
Limitations

- Limited coding languages supported
- Single file submissions
- Restricted threads allowed for autograding
- Stored submission files are limited
- Docker image required

Features

- Google OAuth login
- AI and Collusion detection
- Automated rubric based grading:
  - Late penalties
  - Point allocations
- Canvas style roster importing
- Canvas style grade exporting

System Architecture



Future Improvements

- Hosting provided by Florida Institute of Technology
- Improved AI detection and visuals
- Improved collusion detection and visuals
- CMD Line interface

Interface