SCORE
Student Code Online Review and Evaluation

Team: Charlie Collins, Tommy Gingerelli, Logan Klaproth, Michael Komar

Advisor/Client: Dr. Mohan

FLORIDA TECH

FLORIDA'S STEM UNIVERSITY

Goals and Motivations

Goals

- Develop a more robust submission platform
  - Automatic testing
  - Test case specific feedback
- Streamline the submission process
  - TRACKS student authentication
    - No control code
  - Canvas integration
- Develop skills in full-stack development

Motivations

- Student perspective
  - Dislike the use of control codes
  - Seperate from Canvas
  - Lack of immediate feedback

- Professor perspective
  - Difficulty with Canvas submission file names
  - Kattis doesn’t support custom problems

Approach (Features)

Auto Testing

- Student
  - Code is automatically tested against hidden test cases

- Professor
  - Configures the auto-testing environment
  - Supplies sample (visible) and hidden test cases
  - View scores for student submissions

Immediate Feedback

- Student
  - View the number of test cases passed/failed
  - View case specific feedback from the professor
  - View all previous submissions scores

- Professor
  - Attach helpful feedback to specific test cases
  - Control how much feedback a student receives

Grading Portal

- Professor
  - Modify scores to match grading criteria
  - Have grades automatically uploaded to canvas
  - Export grades as a .CSV file

MOSS Integration

- Professor
  - View a student submissions MOSS score
  - Set acceptable limits to the MOSS score

User Authentication

- Acces the platform through TRACKS
- Students will not have to register and maintain a control code

Web-App / Shell Client

- Student
  - Upload C, C++, Java, or Python files
  - View assignment grades
  - View auto test scores and feedback

- Professor
  - Create new assignments, test cases, and feedback
  - View student submissions with auto test scores
  - View a submission’s MOSS score

Novel Features

- User Authentication
  - Neither the submit server nor Kattis allow for TRACKS user authentication
- Assignment creation
  - Kattis does not allow the professor to create new assignments
- Test case feedback
  - None of the platforms allow professors to attach feedback to test cases

Potential Tools

- MERN - MongoDB, Express, React, Node
- Django
- API
  - Canvas
  - MOSS
  - TRACKS
- Python
- Rust
- Ubuntu Linux

Technical Challenges

- Long term storage of submissions
- Canvas class integration
- Student authentication through TRACKS

Milestone 1

- Select tools for server implementation, web development, file transfer, and user authentication
  - Provide small demos of the tools
- Resolve technical challenges
- Create Requirement Document
- Create Design Document
- Create Test Plan

Milestone 1 Task Matrix

Task	Tommy	Logan	Michael	Charlie
Select Tools	User Auth	Web Stack	Server	File Transfer
Demo Tools	25%	25%	25%	25%
Resolve Challenges	20%	20%	35%	25%
Select collab tools	25%	25%	25%	25%
Requirements	35%	20%	15%	30%
Design	35%	25%	35%	15%
Test	5%	35%	25%	35%

Milestone 2

- Implement the shell application
  - Creating assignment within the shell
  - Submitting assignments within the shell

Milestone 3

- Implement auto testing
- Implement immediate feedback
- Implement server-client interaction