

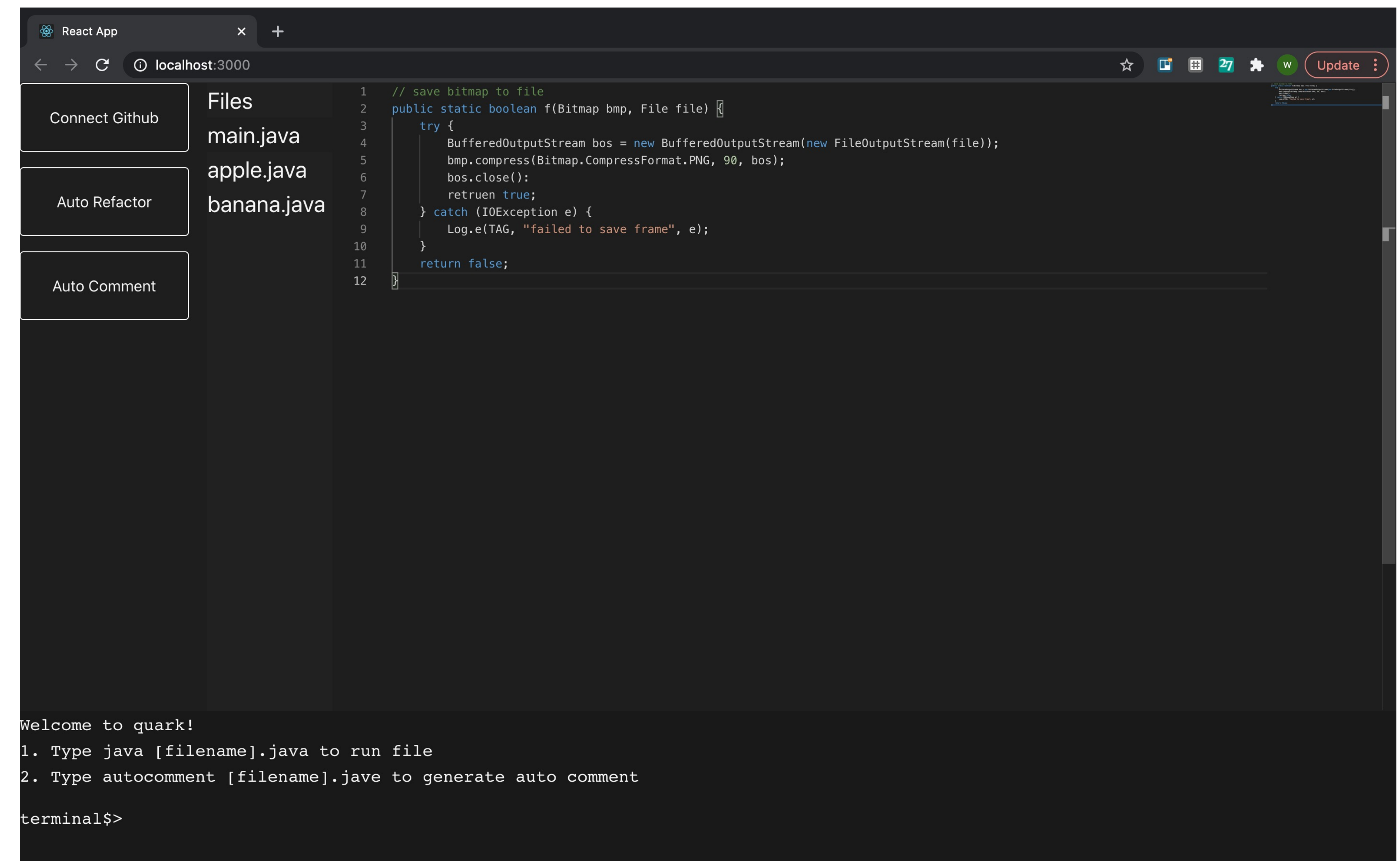


Quark (Team No. 19)

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Description & Purpose

- The purpose of our project is to let programmers code on their web browser regardless of the hardware they use and without having to waste time downloading libraries
- Therefore, our team built Quark: an in-browser IDE that allows users to write and run code on the web
- Our team also wanted to make a text editor that is better than average. Therefore, In order to ensure that users can write well-documented code without hassle, we implemented an auto comment generation tool using machine learning.



How we built Quark

- Frontend: React, JavaScript, HTML/CSS
- Backend: Qemu, Flask, Python
- Security: VM technology used to ensure servers were kept secure. This allows for compilation of code on the web without access to the rest of the server
- Comment Generation Tool: Applied a research project called Code2Seq. The research uses Machine Learning to extract the AST from a given method and guess which parts of AST to include the comment

Expanding the Project

- Currently, the comment generation tool only works for Java. We want to extend it to other programming languages.
- The compilation and running of other commonly used programming languages (C, C++, Python, etc)
- Connecting folders to a GitHub repository
- Add an auto-refactoring tool for large scale engineering projects