

Release Plan

Product Name: Code Performance Analyzer

Team Member	Role
Philip Pesic	Backend Developer
Adwaith Madadi	Backend Developer
Rohit Mandal	Backend Developer
Michael Pimentel	Frontend Developer
Juan Alvarez Sanchez	Frontend Developer

High Level Goals

- Enable profiling of a method or codebase for Big-O performance with a single click.
- Display reports directly in the editor or as inserted code comments.
- Provide a test suite that can showcase real performance metrics at scale.
 - Example: “This method will scale logarithmically,” predict runtimes / memory usage.

Sprint 1

1.1: As a user, I want to run a simple model that can analyze Python code through a local script so I can get an initial Big-O complexity estimate.

1.2: As a user, I want to see a mocked complexity annotation inside the editor UI so I can preview how the extension will eventually present feedback.

Sprint 2

2.1: As a user, I want the extension to return a relatively accurate time-complexity estimate so that the extension is useful.

2.2: As a user, I want the extension to clearly display complexity in an editor annotation, terminal, and sidebar.

Sprint 3

3.1: As a user, I want to be able to generate a test script to profile real performance metrics like execution time and memory usage.

3.2: As a user, I want to submit code through the extension and have the locally hosted model instantly return real complexity results so the extension becomes functional.

Sprint 4

4.1: As a user, I want to be able to use the model without downloading it or using my computer's resources.

4.2: As a user, I want the interface to highlight inefficient patterns and show a visual performance chart so I can understand and improve my code's behavior over time.

Release Sanity

Team Member	Hours/Week
Philip Pesic	10
Adwaith Madadi	8
Rohit Mandal	8
Michael Pimentel	10
Juan Alvarez Sanchez	10
Total	46

Minimum Viable Product (MVP)

- Calculate complexity and display results in-editor
- Provide profiling and performance test generation
- Simulate performance at scale
- Fully local functionality

Wants (Not Guaranteed)

- Cross function complexity analysis
- Cloud Deployment

Stretch

- Database Integration