



ANASTASIA LABS

Audit Tracker
OpShin Audit

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Project Name: OpShin Audit

URL: Catalyst Proposal

Project Name: Opshin Language Audit

Audit Period: Oct 27th,2024

Team Member(s) Assigned: Suganya Raju, Eric Lee

Audit Start Date: Oct 2024

Audit End Date:

Milestone1 - Project Kickoff and Planning

The milestone1 was approved in November 2024.

Milestone2 - Language Analysis Report

As part of Milestone2 we are required to submit a detailed analysis report on the OpShin Language.

Topics to cover

1. UPLC debugging Architectural Decisions
 - How types are mapped to UPLC types
 - Static type Inferencer-> How ATI is implemented within OpShin
 - Mapping of Python -> Pluto -> UPLC
 - Storage of variables in statemonads
2. Opshin compiler pipeline
 - rewrites - how effective it is written and area of improvement
 - optimization - how effective it is written and area of improvement
 - conversion -> pluto
3. Performance and script size testing
4. Overall language constructs

Areas Covered

1. UPLC debugger through Gastronomy
2. Tested Language constructs – output of opshin eval, eval_uplc,
3. Code Coverage - using Pytest -cov tool
4. Checked build artifacts
5. Tried to replicate aiken acceptance tests in opshin(only first 20 test cases)
 - Challenge - opshin supports only a limited language constructs, its a challenge to replicate most of the aiken acceptance tests.