Project Estimated Duration Document

Project Name: Puma Programming Language Compiler Development
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1. Introduction

This document outlines the estimated duration for developing the Puma programming language compiler, following a test-driven methodology. The project will be executed in three phases: Puma-to-C/C++ translation, full self-hosting, and direct LLVM IR generation. Additionally, the development includes writing a standard library to support essential programming needs. Estimated durations are determined based on complexity, debugging needs, and unit testing to ensure stability at each stage.

2. Project Timeline Overview

Phase	Description	Estimated Duration
Phase 1	Develop Puma-to-C/C++ translation and integrate LLVM compilation.	12 months
Phase 2	Rewrite the compiler in Puma to enable self-hosting.	6 months
Phase 3	Replace C/C++ intermediate representation with LLVM IR.	12 months
Standard Library	Develop a standard library for the Puma Programming Language.	4 months

Total estimated project duration: **34 months**

3. Conclusion

This estimate provides a structured approach to building the Puma compiler with iterative improvements in translation, self-hosting, and IR generation. Regular reviews and testing will ensure successful implementation and refinement.