**Project Objective**

The project aims to develop an AI-powered Command Line Interface (CLI) agent that automates the process of setting up a development environment on Linux or macOS systems. Traditionally, developers must manually install tools, configure settings, and verify versions, a repetitive and error-prone process. This project proposes replacing those steps with a natural language interface where users can issue plain English commands (e.g., “Upgrade Java to version 17”), and the agent will interpret and execute the appropriate system operations.

At its core, the agent combines system-level automation with Natural Language Processing (NLP), ideally leveraging Large Language Models (LLMs) like GPT-4 or open-source alternatives. The agent should support tasks across at least three categories, such as software installation, system configuration checks, and development tool setup (e.g., installing VS Code, setting environment variables, or configuring Git). It must handle OS-specific variations (like using apt vs. brew) and execute safely prompting for confirmation when necessary and gracefully managing errors.

The project serves both a practical and educational purpose. Practically, it simplifies onboarding and environment setup for developers. Educationally, it offers experience in integrating AI with system operations, designing reliable software, and making thoughtful technology choices. Deliverables include a working CLI agent, documentation, a demonstration video, and a GitHub repository with code and usage instructions.

Ultimately, the project showcases how AI can make complex technical workflows more intuitive, efficient, and accessible through natural language interaction.