Google Ads API Integration Design Document

# 1. Overview

This tool provides a command-line interface for technical users to authenticate via OAuth 2.0 and make authorized requests to the Google Ads API. It is designed to operate in Test Mode using the provided developer token. The tool validates authentication and authorization procedures by retrieving mock campaign data from the Google Ads Sandbox environment. This setup is intended for prototyping and validation purposes only.

# 2. Features

- OAuth 2.0 authorization using Google’s official `google-auth-library`.

- Persistent token storage using local JSON files.

- Sandbox-compatible Google Ads API query implementation.

- CLI-based interaction for streamlined developer workflows.

# 3. Technical Stack

Language: JavaScript (Node.js)

Dependencies:

- google-auth-library

- node-fetch

# 4. Usage Flow

1. User runs the CLI tool.

2. If not previously authenticated, a browser is opened for user login.

3. User pastes the authorization code into the terminal.

4. The token is exchanged and stored for future sessions.

5. A POST request is made to the sandbox API endpoint to simulate campaign data retrieval.

# 5. Configuration

Project directories include:

- /auth: Stores Google OAuth credentials.

- /config: Stores static configuration (e.g., developer token, account IDs).

- /token: Stores issued tokens for re-use.

- /src: Script logic including API interaction.

# 6. API Usage and Limits

This tool operates within Google's published guidelines for developer token use. All API requests are restricted to the Sandbox environment unless Standard Access is granted.

# 7. Security Considerations

Tokens are stored locally in plaintext for simplicity in the test environment. In production, this should be encrypted and protected. User secrets are not committed to source control.

# 8. Intended Use

This application is intended for internal development and prototyping purposes by a Google Ads API developer. It does not interact with live customer data and is not used for scraping or automation outside the bounds of Google's terms of service.