Project Design Phase – 2

Determine the requirements of Architecture

Team id	NM2023TMID06136
Project Name	Creation of Google Ads Campaign

Designing a comprehensive architecture for managing Google Ads campaigns involves considering various requirements to ensure the system's effectiveness and scalability. Here are the key requirements for architecting a Google Ads campaign management system:

1.User Authentication and Authorization:

Requirement: Implement a robust user authentication and authorization system to ensure that only authorized users can access and make changes to the campaigns. Use secure authentication methods like OAuth 2.0.

2.Google Ads API Access:

Requirement: Obtain access to the Google Ads API and manage API credentials securely. This includes acquiring developer tokens and client IDs for your application.

3.Campaign Management:

Requirement: Develop features for creating, modifying, and managing Google Ads campaigns, ad groups, keywords, and ad creatives programmatically.

4.Budget Control:

Requirement: Implement mechanisms for setting and managing campaign budgets to control ad spending within defined limits.

5.Scheduling and Automation:

Requirement: Enable campaign scheduling and automation to control when ads are displayed, pause or resume campaigns based on predefined rules, and adjust bidding strategies.

6.Ad Creation and Management:

Requirement: Allow users to create and manage various ad formats, including text ads, display ads, video ads, and shopping ads.

7.Keyword Management:

Requirement: Provide tools for keyword research, management, and optimization to improve ad targeting and relevance.

8.Reporting and Analytics:

Requirement: Integrate with the Google Ads API to fetch campaign performance data, including click-through rates, conversion rates, impressions, and other relevant metrics. Implement data visualization for insights.

9.A/B Testing:

Requirement: Enable A/B testing of ad creatives, ad copy, and landing pages to optimize campaign performance.

10.Audience Targeting:

Requirement: Support the creation and management of audience segments for precise ad targeting, such as demographics, interests, and behaviors.

11.Ad Extensions:

Requirement: Support the creation and management of ad extensions to provide additional information and improve ad visibility.

12.Geographic and Device Targeting:

Requirement: Enable geographic targeting to reach users in specific locations and device targeting to optimize ads for various devices, including mobile.

13.Multi-language and Localization:

Requirement: Support campaigns in multiple languages and localize ad copy and creatives as needed.

14.Compliance and Policy Checks:

Requirement: Ensure that ads and campaigns comply with Google Ads policies, and perform checks to prevent ad disapprovals.

15.Security and Privacy:

Requirement: Implement security best practices to protect user data and API credentials. Ensure that the architecture adheres to data privacy regulations.

16.Scalability and Performance:

Requirement: Design the system to handle a growing number of campaigns, ad groups, and ads while maintaining high performance and low latency.

17.Error Handling and Recovery:

Requirement: Implement robust error handling to gracefully manage API errors, and provide mechanisms for recovering from failures.

18.Monitoring and Logging:

Requirement: Set up comprehensive monitoring and logging to track the performance of the system, detect issues, and troubleshoot problems as they arise.

19.Documentation and Knowledge Transfer:

Requirement: Document the architecture, APIs, and system functionalities to facilitate knowledge transfer and onboarding of new team members.

20.Maintenance and Updates:

Requirement: Keep the system up to date with the latest version of the Google Ads API and adapt to changes in the advertising landscape.