Project Design Phase-**||**

**Requirement Analysis (Functional, Operational, Technical) / Flow Charts**

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| NAME | NAVEEN. V |
| NM ID | C259747173E9454BEE44375156B7964E |
| PROJECT | SEARCH ENGINE OPTIMIZATION |

**FUNCTIONAL REQUIREMENT:**

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| **Requirement** | **Description** |
| Campaign Setup | - Create a new campaign. - Define campaign name and objectives. - Specify budget and bidding strategy. |
| Ad Group Creation | - Create ad groups within the campaign. Define ad group names and targeting options. |
| Ad Copy Management | - Create ad copies with headlines, descriptions, and display URLs. - Manage ad variations for A/B testing. |
| Keyword Selection | - Research and select relevant keywords. - Organize keywords into ad groups. - Define negative keywords. |
| Landing Page Selection | - Specify landing pages for ads. Ensure landing page quality and relevance to ads. |
| Bid Management | - Set keyword bids and bid strategies. Adjust bids based on performance data. |
| Audience Targeting | - Define audience targeting options, such as demographics and interests. |
| Ad Scheduling | - Schedule ad display times and dates. |
| Conversion Tracking | - Implement conversion tracking to measure campaign success. |

**OPERATIONAL REQUIREMENT:**

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| **Requirement** | **Description** |
| User Authentication | - Implement user authentication to access the campaign management system. |
| Notifications | - Send real-time notifications for campaign updates and issues. |
| Monitoring and Alerts | - Continuously monitor campaign performance.<br> - Generate alerts for budget overspending, policy violations, or low-quality ads. |
| Reporting and Analytics | - Generate reports with key performance metrics.<br> - Provide insights and recommendations for optimization. |
| Compliance | - Ensure compliance with Google Ads policies and guidelines to avoid violations. |

**TECHNICAL REQUIREMENT:**

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| **Requirement** | **Description** |
| Google Ads API Integration | - Interface with the Google Ads API to create and manage campaigns. |
| Data Storage | - Store campaign data, user profiles, and performance metrics securely. |
| Security Measures | - Implement data encryption, access control, and user authentication. |
| Web Application Development | - Develop a user-friendly web application for campaign management. |
| Database System | - Utilize a database system (e.g., MySQL, PostgreSQL) for data storage. |
| Containerization and Orchestration | - Use containerization (e.g., Docker) and orchestration (e.g., Kubernetes) for resource management. |
| Notification Service | - Integrate a notification service for real-time alerts. |
| Monitoring and Logging | - Implement monitoring tools (e.g., Prometheus and Grafana) for system health. |