**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

| Date | 16 junJune 2025 |
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| Team ID | LTVIP2025TMID14955 |
| Project Name | Traffic telligence:Ad Advance traffic volume estimation with Machine Learning |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

**Layer Purpose Common Technologies**

**Frontend (Client-side) Handles what users see and interact with HTML, CSS, JavaScript, React.js, Angular, Vue.js, Svelte**

**Backend (Server-side) Handles business logic, APIs, database ops Node.js, Express.js, Django, Flask, Ruby on Rails, Spring Boot, ASP.NET Core**

**Database Stores and manages application data MySQL, PostgreSQL, MongoDB, SQLite, Redis, Oracle DB**

**Version Control Tracks changes in source code Git, GitHub, GitLab, Bitbucket**

**DevOps / CI-CD Automates development & deployment processes Jenkins, GitHub Actions, GitLab CI/CD, Docker, Kubernetes, Ansible, Travis CI**

**Cloud / Hosting Hosts the application online AWS, Google Cloud, Microsoft Azure, Heroku, Vercel, Netlify, DigitalOcean**

**Authentication Manages user identity and access OAuth, JWT, Auth0, Firebase Auth, Passport.js, Okta**

**Testing Ensures code quality and correctness Jest, Mocha, Selenium, Cypress, JUnit, PyTest**

**API / Communication Enables data exchange between systems REST, GraphQL, gRPC, WebSockets, Axios, Apollo**

**Mobile For building mobile applications React Native, Flutter, Swift (iOS), Kotlin (Android), Xamarin**

**Monitoring & Analytics Tracks app performance and usage Google Analytics, New Relic, Sentry, Datadog, Prometheus, Grafana**