Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	18 June 2025
Team ID	LTVIP2025TMID48853
Project Name	Cosmetic Insights – Navigating Cosmetics Trends and Consumer Insights with Tableau
Maximum Marks	4 Marks

Technical Architecture:-

SNO	Component	Description	Technology
1	User Interface	Web UI for consumers and marketers	HTML, CSS, Bootstrap, JavaScript
2.	Application Logic-1	Filters, search & dashboard integration	Python or JavaScript
3.	Application Logic-2	Trend calculation logic	Python (Pandas/Numpy)
4.	Application Logic-3	Visualization rendering and export	Tableau Public
5.	Database	Store product data, trends, reviews	MySQL or Google Sheets
6.	Cloud Database	Hosting Tableau data source or CSV	Google Drive / Firebase .
7.	File Storage	Store uploaded product images (if any)	Firebase Storage or local drive
8.	External API-1	Optional – cosmetic product API	Skincare API (if available)
9.	External API-2	Optional – social login (Google)	Google Auth API

10.	Machine Learning Model	Trend prediction (optional future feature)	(Future) Sentiment Analysis model
11.	Infrastructure (Server / Cloud)	Hosting & dashboard deployment	Heroku, Tableau Public, AWS EC2

Table-2: Application Characteristics:-

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Used for frontend/backend	Bootstrap, Flask, React, etc.
2.	Security Implementations	Protect users data &feedback	Google Auth, SHA-256, Firebase IAM
3.	Scalable Architecture	Can scale with new users/products	3-tier (frontend → backend → data)
4.	Availability	Always accessible with Tableau Public or Heroku	Tableau Public, load-balanced hosting
5.	Performance	Fast dashboard load, filtered views	Caching, Google Sheets connected to Tableau