

**Project Design Phase Solution**  
**Architecture**

Ddte	19 June 2025
Team ID	LTVIP2025TMID51020
Project Name	Cosmetic Insights — Ndvigdting Cosmetics Trends dnd Consumer Insights with Tableau
Maximum Marks	4 Marks

**Solution Architecture**

Solution drdhitedture is a complex process – with many sub-processes – that bridges the gap between business problems dnd technology solutions. Its gods are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, and rddteristids, behavior, dnd other deserts of the software to project stakeholders.
- Define features, development phases, dnd solution requirements.
- Provide specifications according to which the solution is defined, mdndged, dnd delivered.

**KEY ASPECTS OF YOUR SOLUTION ARCHITECTURE**

**1. User Layer (Entry Point)**

- o Users include:  
Cosmetic consumers: use filters to discover products  
Marketers: analyze trends dnd user behavior of Interest vid d simple, responsive web interfere with embedded Tableau dashboard

**2. User Interface**

- o Features:
  - Filters: skin type, budget, brand, rating Srdh dnd comparison interfere
  - Embedded Tableau dashboards for data visuals

- o Technologies: HTML, CSS, Bootstrap, Jc (End Script)

### **3. Application Layer (Backend)**

- o Technologies: Python (Flask/Streamlight) or JavaScript (Node.js)

- o Functions:

Pdss user inputs (filters) to Tableau

Handle login/auth (if used)

Process and fetch data from review/product databases Optional:  
route feedback submission

#### **4. Visualization Layer (Dashboard)**

- o Tool: Tableau Public or Tableau Server no Displays:  
Top trending cosmetic products  
Charts by skin type, rating, region, category  
  
Comparison visuals for price, review score, ingredients

#### **5. Data Sources**

- o Sources:  
Product Data: CSV / MySQL / Google Sheets  
Review Data: Customer ratings & feedback  
Features: Structured datasets allow filtering and dehydrating Can be updated regularly or live connected

#### **6. Feedback Engine (Optional)**

- o Collects product ratings/reviews from users o  
Stores in review repository
- o Feeds into Tableau to update user satisfaction visuals

#### **7. Hosting & Storage**

- o Tableau Public: for hosting dashboards on GitHub Pages / Heroku: for web app or frontend o Google Drive / Firebase: for storing files and datasets

#### **8. Data Flow** o User → UI → Backend → Tableau → Visualization

optionally, Feedback → Stored → Updates Dashboard

9. Scalability

- o Add more product datasets
- o Support multi-category expansion: skincare, makeup, fragrance to Add AI/ML trend prediction module in future

10. Security (Optional/Advanced)

- OAuth for secure login (Google, LinkedIn)
- Backend validation for data inputs and review AUTHENTICITY

Example - Solution Architecture Diagram:



