Project Design Phase-II
TechnologyStack(Architecture&Stack)

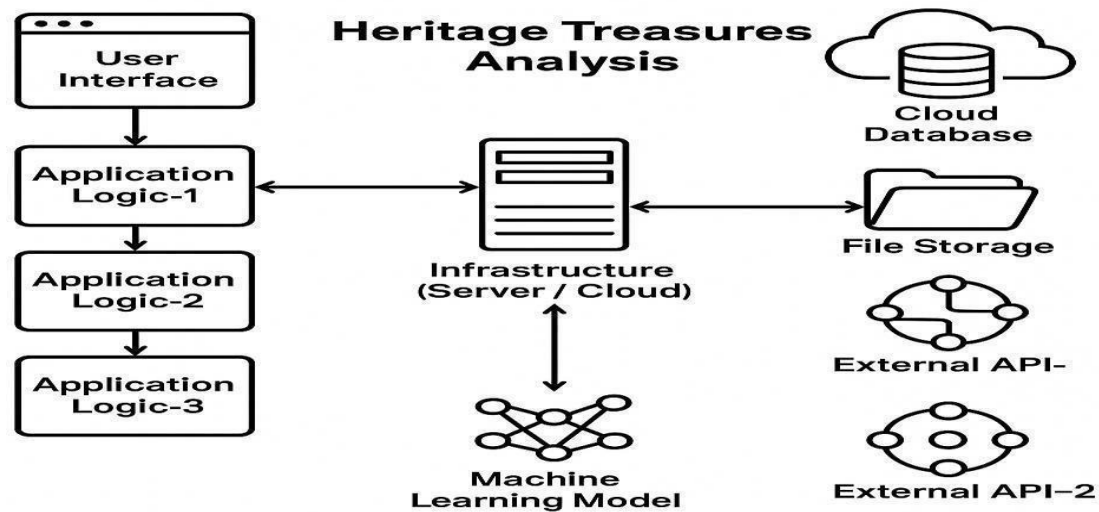| Date	2July2025
TeamID	LTVIP2025TMID48659
ProjectName	Heritage Treasures: An In-Depth Analysis of UNESCO World Heritage Sites
MaximumMarks	4 Marks

Technical Architecture:

Table1:Components&Technologies

S.No	Component	Description	Technology
1	UserInterface	Interfaceforresearchersandpublic to interact	ReactJS/HTML/CSS
2	ApplicationLogic-1	Processesanalysisrequestsand filters data	Python
3	ApplicationLogic-2	Speechtotextprocessingforvoice based input (if any)	IBMWatsonSTT Service
4	ApplicationLogic-3	Conversationalassistantforquery support	IBMWatson Assistant
5	Database	Storesheritagesitedata	MySQL
6	CloudDatabase	Cloud-basedbackupandscalability	IBMCloudant
7	FileStorage	Storesreportsandvisualassets	IBMBlockStorage

8	ExternalAPI-1	Fetches current environmental/weatherinfo	IBMWeatherAPI
9	ExternalAPI-2	Validatesuseridentity (optional)	AadharAPI

Table2:ApplicationCharacteristics

S.No	Characteristics	Technology
1	Open-SourceFrameworks	ReactJS,Scikit-learn, TensorFlow
2	SecurityImplementations	SHA-256,OAuth2.0,IAM Controls,OWASPStandards
3	ScalableArchitecture	MicroservicesandKubernetes-based deployment
4	Availability	LoadBalancers,Multi-zonecloud deployment
5	Performance	UseofRediscache,CDNs,optimized queries