Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	25 October 2023
Team ID	TEAM-591496
Project Name	BehavioralGuard: Enhancing Identity Verification with AI
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

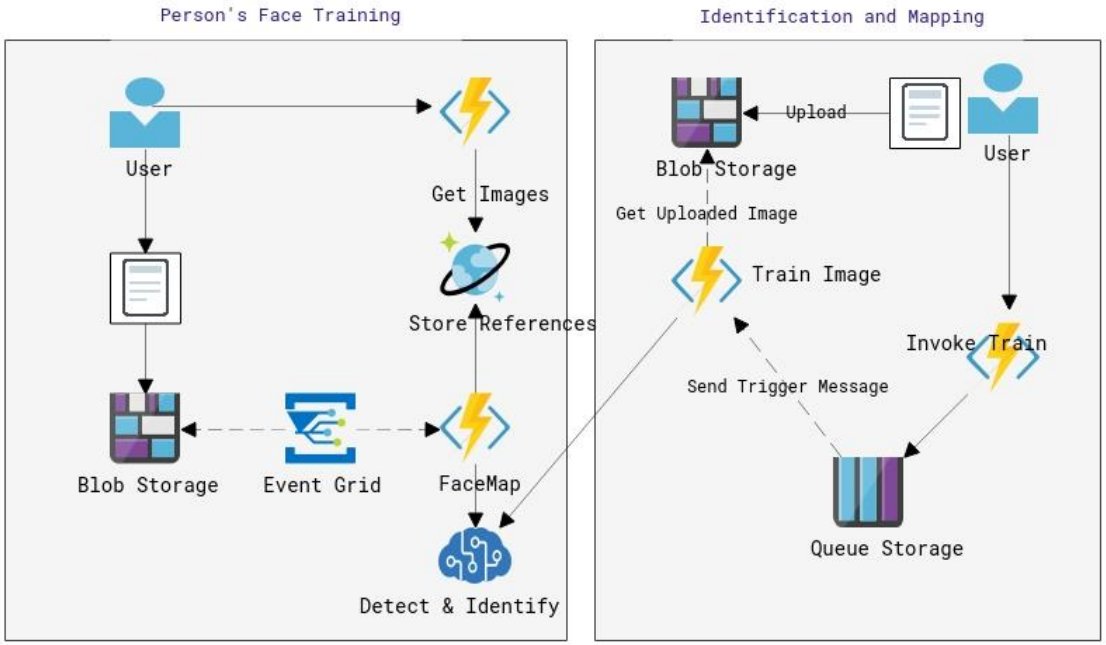
Person's Face Training
Identification and Mapping
User
Get Images
Store References
Blob Storage
Event Grid
FaceMap
Detect & Identify
Upload
Blob Storage
User
Get Uploaded Image
Train Image
Invoke Train
Send Trigger Message
Queue Storage

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Frontend Application	User interface for interactions and input data	Web technologies (HTML, CSS, JavaScript)
2.	Backend Application	Core logic, authentication, AI integration	Python, Java, Node.js, Django, Flask
3.	Identity Data Storage	Secure storage for user identity data	SQL (e.g., PostgreSQL), NoSQL (e.g., MongoDB)
4.	Machine Learning Models	AI models for behavior analysis and verification	TensorFlow, PyTorch, scikit-learn
5.	Authentication Service	Validates user identity based on behavior patterns	Custom-built or third-party libraries
6.	Data Processing	Cleans and preprocesses user behavior data	ETL tools, Python, Pandas
7.	API Gateway	Exposes APIs for external interaction	API Gateway solutions (e.g., Amazon API Gateway)
8.	Security and Compliance	Data encryption, access control, and compliance	SSL/TLS, Access Control Lists, GDPR compliance tools

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	User Authentication	Focuses on verifying user identities during login or verification	Usernames, passwords, multi-factor authentication
2.	Real-time Processing	Analyzes user behavior data in real-time for quick identity decisions	Stream processing, in-memory databases
3.	Scalability	Designed for horizontal scaling to accommodate growing user base	Load balancers, container orchestration (e.g., Kubernetes)

S.No	Characteristics	Description	Technology
4.	Security	Prioritizes data security, encryption, and compliance with regulations	Encryption protocols (e.g., AES), GDPR compliance tools
5.	Performance	Balances low-latency user verification with high accuracy	Performance monitoring tools, optimization strategies

References:

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