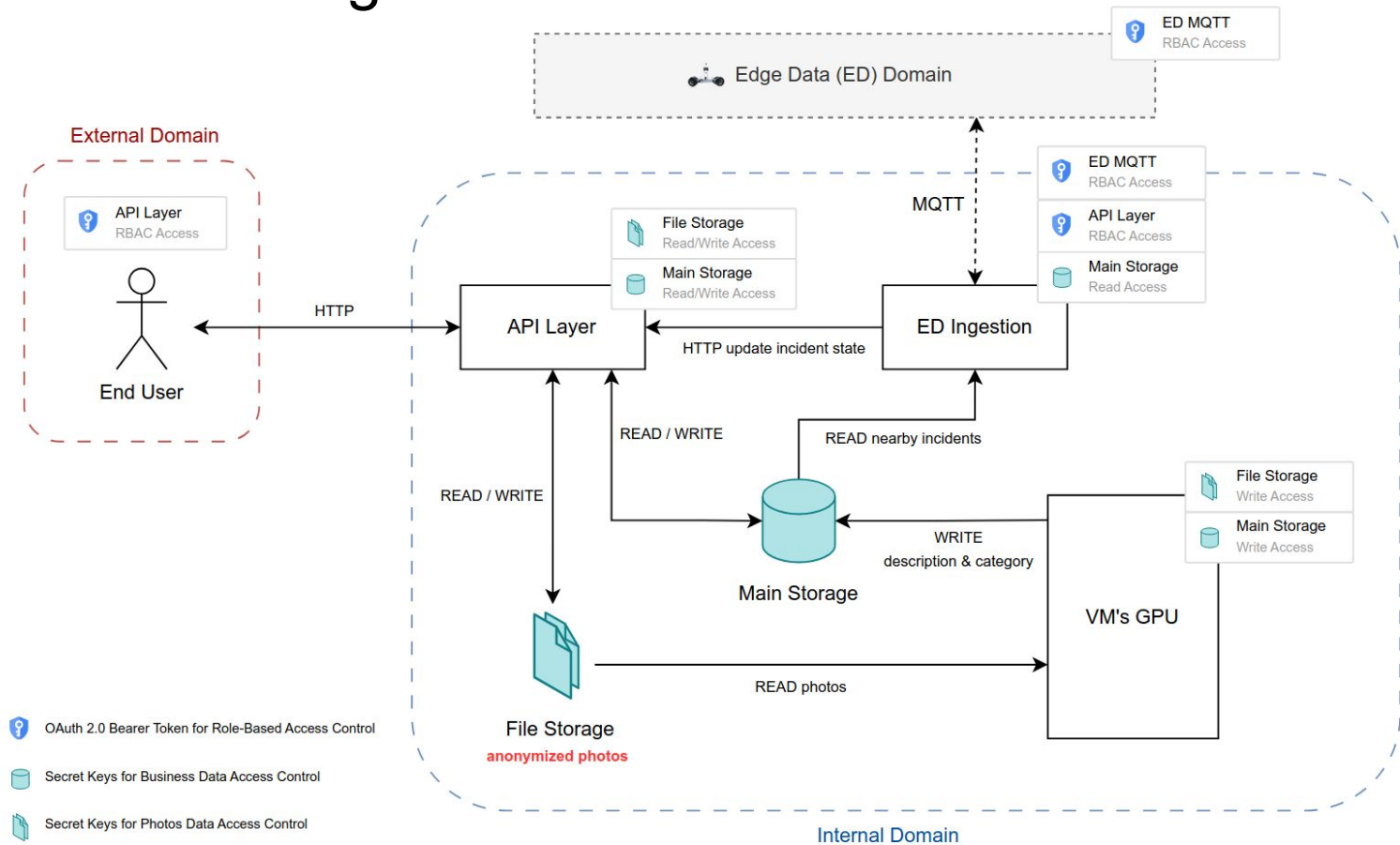



Data Access Diagram



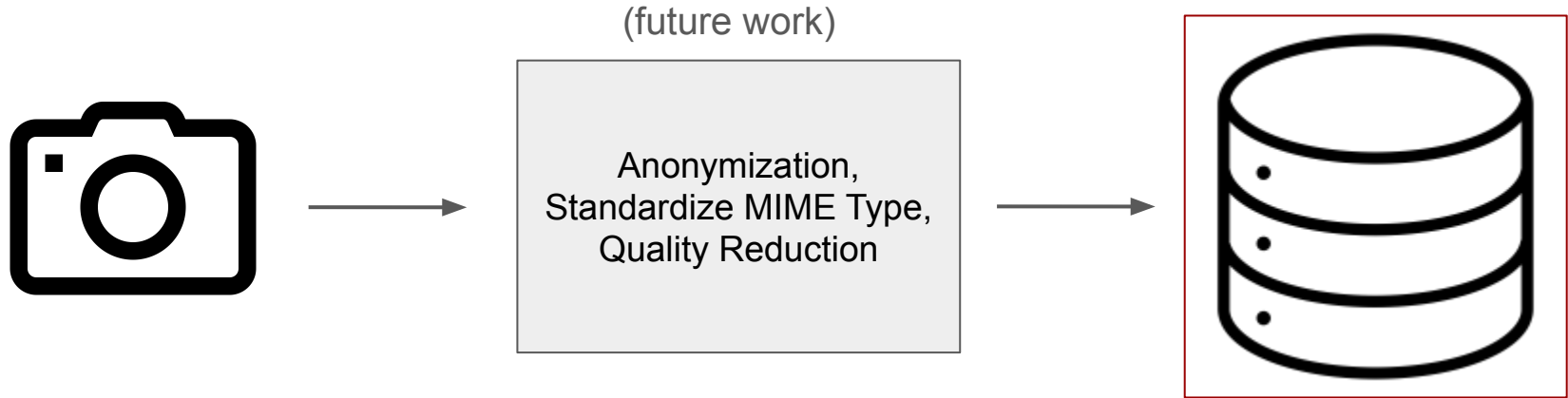
Contextualization

- **Already DONE**
 - Backend without Edge Data and AI
 - Frontend
- **To Do**
 - Frontend integration with API
 - Deploy

FastAPI ^{0.10} ^{0.10.0} ^{0.10.0}

		Authorize 
Users		
GET	/api/v1/users/stats	Get User Stats
GET	/api/v1/users/occurrences-by-time	Get User Occurrences
GET	/api/v1/users/occurrences-not-resolved	Get User Occurrences Not Resolved
Occurrences		
GET	/api/v1/occurrences/{occurrence_id}	Get Occurrence Details
POST	/api/v1/occurrences/pre-submission	Pre Submit Occurrence
POST	/api/v1/occurrences/	Submit Occurrence
Incidents		
GET	/api/v1/incidents/map	Get Incidents Map
GET	/api/v1/incidents/{incident_id}/suggestions	Get Incident Suggestions
GET	/api/v1/incidents/{incident_id}	Get Incident Details
PATCH	/api/v1/incidents/{incident_id}/status	Update Incident Status
GET	/api/v1/incidents/list-by-time	List Incidents By Status And Optionally Category
GET	/api/v1/incidents/{incident_id}/occurrences	Get Incident Occurrences list
Auth		
POST	/api/v1/auth/log-in	Login For Access Token
POST	/api/v1/auth/sign-up	Sign Up
POST	/api/v1/auth/sign-out	Sign Out
GET	/api/v1/auth/users/me	Read Users Me
PUT	/api/v1/auth/user-profile	Update User Profile
Organizations		
GET	/api/v1/organizations/categories	Get Organization Categories
Photos		
GET	/api/v1/photos/{photo_id}	Get Photo

Problem Definition



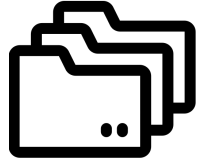
Database Storage



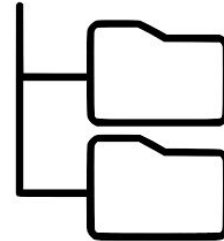
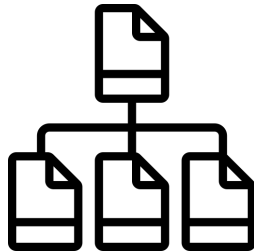
- **Database storage**
 - Directly store image files inside the database as BLOB (Binary Large Object) data type.
- **Disadvantages**
 - Increased Database Size In Specific Columns
 - Not optimized for storing large binary files
 - Complex Backup & Recovery



Filesystem Storage



- **Filesystem Storage**
 - File system storage organizes and manages files (such as images) in a hierarchical directory
- **Disadvantages**
 - Complex File Management
 - Unnecessary Structural File Management Complexity
 - Harder to Integrate with Cloud & Web Apps



Object Storage



- **Object Storage**

- Object storage stores data as objects rather than in a structured file system or database where each object consists of three main components: **Data**, **Metadata** and **Unique Identifier**

- **Advantages**

- High Scalability and Availability
- Durability & Redundancy
- Works well with APIs, making it easy to integrate with apps.














Comparison

Feature	File System Storage	Database Storage	Object Storage
Scalability	✗	✗	✓
Performance	✓	✗	✓
Data Structure	✓	✓	✗
Ease of Access	✓	✗	✓
Cost Efficiency	✓	✗	✓
Durability	✗	✗	✓

MinIO



 photos-bucket Created on: Wed, Mar 12 2025 23:01:38 (GMT) Access: PRIVATE 11.3 MiB - 12 Objects				Rewind ↶	Refresh ↺	Upload ↗
< photos-bucket				<input type="checkbox"/> Show deleted objects		Create new path ↗
<input type="checkbox"/>	▲ Name	Last Modified		Size		
<input type="checkbox"/>	 026ec0ef-05e2-4d38-853b-b04771c7251c	Today, 11:54		25.2 KiB		
<input type="checkbox"/>	 123e4567-e89b-12d3-a456-426614174000	Today, 00:16		99.0 B		
<input type="checkbox"/>	 1fb6ccb8-c38e-40e1-aa61-fae931f162de	Today, 10:59		19.2 KiB		
<input type="checkbox"/>	 8830d87a-e7f9-4f39-afa7-27d93512f8e7	Today, 11:57		26.2 KiB		
<input type="checkbox"/>	 9eb3e55c-759c-45e2-954b-775a692f7f8a	Today, 11:58		26.2 KiB		
<input type="checkbox"/>	 a8c63078-775e-40a5-9e88-8501d8d3fe8b	Today, 12:25		3.3 KiB		
<input type="checkbox"/>	 ab61b0a7-bf44-4018-97be-7d55face164a	Today, 11:58		26.2 KiB		
<input type="checkbox"/>	 abd00068-9569-4d51-80cc-3c044a4abf58	Today, 10:42		8.1 MiB		
<input type="checkbox"/>	 d7a59f05-995e-435e-abdc-98c7b4a26eda	Today, 12:30		3.3 KiB		
<input type="checkbox"/>	 e504d26b-5215-4602-984e-a07ede01a047	Today, 00:22		3.0 MiB		

<http://10.18.0.1/api/v1/photos/123e4567-e89b-12d3-a456-426614174000>

Data Access Diagram

