



## Developing an IoT Video Monitoring Solution for a Video Recording Software & Equipment Provider

**Client:** Our client is a leading provider of video recording software and equipment, including digital and analog video cameras, network equipment, video intercoms, and other devices. They offer solutions for various industries and sectors, such as law enforcement, security, education, healthcare in the USA.

### Business Challenge:

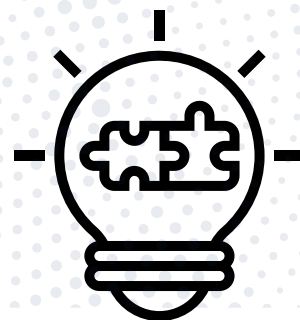
The client wanted to create a custom IoT-powered video monitoring platform that can be integrated with existing security systems. The platform should allow users to view live and recorded videos from CCTV cameras on their mobile devices, laptops, or desktops. The platform should also ensure high security and reliability of the video data transmission and storage.

### Solution Delivered:

We created a custom IoT video monitoring platform that allows users to view live and recorded videos from CCTV cameras on their devices. The platform uses microservices, Web API, Event Source Hub, and Azure IoT Hub to process and secure the video data. The platform also supports user and admin roles with different permissions and access levels.

- CCTV cameras that capture and stream video data to a network video recorder (NVR) or a software-based video management system (VMS) via the Internet.

- A web application that allows users to access the live and recorded videos from the NVR or VMS on their browsers and mobile application on smartphones and tablets.
- A cloud service that processes and stores the encrypted video data in secure data centers with a Tier 3 fault tolerance level.
- A microservice architecture that handles various functions such as data protection, notification, data processing, configuration, communication with Azure IoT Hub, and user data storage.
- The platform supports user and admin roles with different permissions and access levels. Users can view the video content according to their assigned cameras while administrators can manage the cameras, users, and settings.



## Business Benefits:

- Enhanced security and safety of the premises and people by enabling real-time monitoring and detection of suspicious activities or threats.
- Increased efficiency and convenience of accessing the video content from anywhere and anytime on any device.
- Reduced costs and risks of data loss or breach by using secure networks and cloud storages.
- Improved customer satisfaction and loyalty by offering a reliable and user-friendly solution.
- Expanded market opportunities and competitive edge by providing a unique and innovative solution.
- Multiple camera layouts and configurations
- Video rewind speed and period control
- Video upload to any medium
- Customization and maintenance

## Technologies Used:

### Back-End

.NET6, Entity Framework

### Front-end:

.NET MAUI, Angular, RxJS

### Databases

PostgreSQL

### DevOps

Azure DevOps

### Cloud

Azure App Service, Azure Blob Storage, Azure IoT Hub

### Network

RtSP, Open Network Video Interface Forum (ONVIF), IoT Edge

### QA

Qase, Postman, Swagger, TestFlight, Arduino, Thonny

### Version Control

Git

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