



新北市政府

New Taipei City Government



# New Taipei City Public Pre-school Surveillance Cloud System

A Safer Environment for Infants and Children



# Background & Motivation

## The dispute on school improper discipline

- During the incident, the investigators demanded to check on the school surveillance video.
- However, the school proclaimed that the surveillance system has been malfunctioning, therefore caused the video loss on security cameras.
- The act has damaged trust between parents and public preschools also brought harm to children's rights.

## The integration challenges

- New Taipei City covers a wide area, which governs 75 public preschools and that's over half of the institution number in Taiwan.
- Moreover, the challenge lays in the implementation of the system, which is also restricted to the technical capability of each preschool.

## Diverse capabilities of equipment installation

- There was no surveillance solution aim to solve our use case of child care mistreatment, nor to provide an easy-to-use platform for surveillance cloud storage.
- The key factors are to solve variations such as different equipment installation environments, network setting, and electric power capabilities of preschools'.

# Concept and Goals

Public pre-school  
Competent  
authority



Decentralized  
Cloud Storage



Public  
Preschool



- The Public Pre-school Surveillance Cloud system collect video files from each center and distribute the video files to **decentralized cloud storage IPFS network**.
- Administrators are able to access into our website interface to **monitor the uploading status**.
- The system provides a single interface for authorized users to access, which can also **improve the stability of data storage**.
- It can **reduce the overall construction cost** and **easy expansion** to other institutions.

Target 1

The video file has been saved to the distributed cloud and can be downloaded when needed.

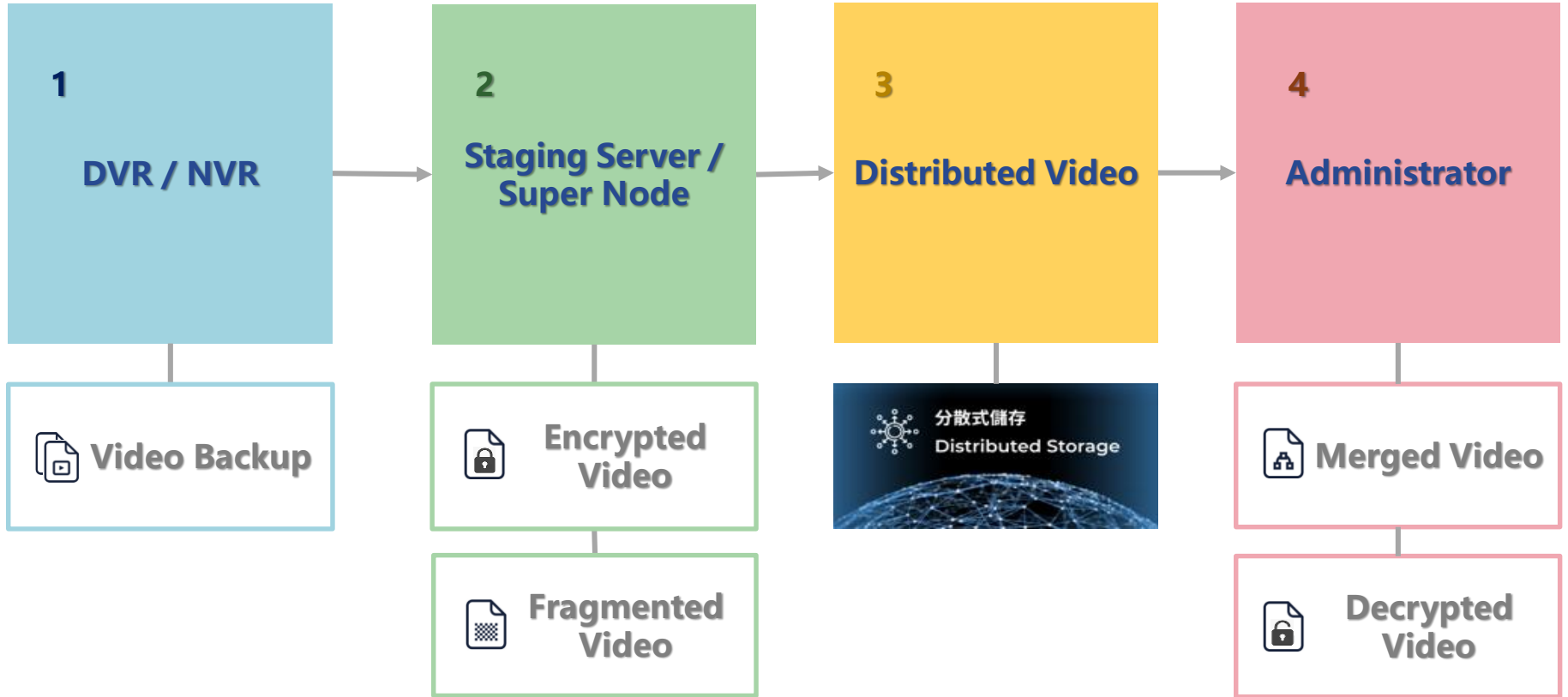
Target 2

Optimize the system to find suspicious incidents and prevent them from happening.

Target 3

Use the surveillance mechanism to build robust trust between parents and childcare centers also to reduce external costs.

# How this works



# Features and creative approach



## IPFS infrastructure used in preschool cloud (first case in Taiwan)



- This is **the first application in Taiwan**, to use cloud storage technology and distributed storage architecture of IPFS to improve the security of backup data.

## Combining innovation and technology, smart parenting policy



- It complies with the "Regulations Governing the Installation and Use of CCTV Surveillance Equipment at Baby Care Centers " formulated by the Ministry of Health and Welfare.
- It can effectively save image data for at least 30 days **in accordance with laws and regulations**, and provide **real-time alarm** function.

## Effective while smart to keep children safe



- There will be no need for regular examinations of video equipment therefore **a lot of manpower is saved**.
- When the incident occurs, we can **retrieve video files for analysis use** and protect the safety of children.



# Benefits and Extended Applications



## Future development

- ◆ Combine IoT applications (such as face recognition... etc.)
- ◆ Upgrade from active warning to timely notification to reduce the chance of accidents



## Management benefits

- ◆ Real-time surveillance equipment functioning monitoring and video quality guarantee.
- ◆ Distributed copies of files in case of file loss.
- ◆ Prevention loss of evidence.



## Expansion & Extension

- ◆ Integrated structure to speed up service introduction and lower the cost of installation evaluation.
- ◆ The extended use case of daycare centers, nursing homes, and more.