Project Description

Objective

The objective of this project id to develop a computer vision and AI based passenger boarding kiosk which can help automate passengers' boarding process.

For passengers, the boarding process should include the following steps:

- Scan their ID cards and Boarding pass at the kiosk
- Take a 10 second video with the camera of the kiosk, with no cover on their face
- Put their carry-on baggage under the scanner

While the kiosk will execute the operations below:

1. Extract passenger information from their ID cards and Boarding pass
2. A series of validation:
    - Text information validation: Name, Date of Birth, Flight Details
    - Face validation: match the live person ad kiosk with the ID card
    - Luggage validation: detect lighter in passenger's carry-on baggage
3. If all the validations are passed, the kiosk greets passenger with a welcome message; else it will suggest the passenger to go to an airline representative to complete the boarding.

The Solution Strategy

	Function	**Input**	**Azure service**
1	Extract Document Text	Boarding Pass	Form Recognizer Service
2	Extract ID card text & image	Passenger ID card	Form recognition digital ID
3	Name, Date of Birth, Flight Detail validation		
4	Extract face photos from video	15-30s face video	Video Indexer
5	Face validation		Face Service
6	Lighter detection	Carry-on baggage photo	Custom Vision Service