Problem Definition/Statement

The rapid growth of air passengers and air freight flows supported by globalization has increased the importance in the global system of airports. The traffic handled by an airport is directly influenced by the population. Hence, the demand for a quick, easy, convenient, and secure airport check-in process arises. Today, passengers need to arrive at the airport 2 hours before flight for proper check-in process to avoid missing their flight. What if airports are well equipped with technology to ease this whole experience?

**WHAT**

Our aim is to build an automated passenger boarding kiosk with pre-flight boarding procedures. This automated system will showcase the power of computer vision in executing a wide variety of business processed within airline boarding operations.

**WHY (BUSNESS CONSIDERATION)**

Here are few reasons we are developing the solution:

* Automation
* Time saving
* Use of technology to improve the boarding experience
* Security

**HOW (TECHNICAL CONSIDERATIONS)**

The following are some technical considerations:

Cloud technology

Image classification

Object detection

Text extraction technology

Form recognizer

Scalability

Secure environment

API management

Auditing and local government requirement

Facial recognition

Sentiment Analysis

Confidence rating

**HOW (ETHICAL CONSIDERATION)**

Data privacy & Security

Responsible AI

**DATA-SPECIFIC CONSIDERATIONS**

Entities: Kiosk, Passenger, ID card, boarding pass, luggage, scale, boarding experience

Relationship among entities: The kiosk has scales, Passenger identity validated by their face which in turn provides boarding experience

Data Schema: Customer –

DATA INPUT LOCATION

Data Input source: Camera, ID and Boarding pass Scanner, Passenger action

**SOLUTION STRATEGY WALKTHROUGH**

* When a passenger walks to the front of the kiosk, the identity of the passenger will be established with the face recognition technology.
* Whilst the passenger run their identification card by a scanner, identity validation is done to confirm match with facial recognition.
* The identification scanner also picks up information such as name, date of birth, and gender from the ID card.
* On a green light beep from an LED system, the passenger goes ahead to run their boarding pass on the scanner. A red beep will mean a mismatch with reason shown on an LCD.
* The scanner validates information from ID card with that on the boarding pass.
* Upon successful validation, passenger’s image, personal details, and flight details are displayed on an LCD with a goodwill message: “Safe Trip, [INSERT CUSTOMER FIRST NAME]”
* Additionally, passenger’s emotion is identified for negative or positive feedback.