Problem Definition and Solution Strategy

1) Problem:
   At airport, people want to reducing customers at check-in desks then we will build automated passenger boarding kiosk to assist with pre-flight boarding procedures. The automated system will showcase the power of computer vision in executing a wide variety of business processes within the context of airline boarding operations, specifically identity verification to board the flight and automated customer feedback collection.

2) Data sources: digital id, boarding pass, customer face, target detected items.

3) Solving Problem:

- First we need to gather customer information from the Id card and boarding pass by using Azure Form Recognizer Service.
- Then we need to compare them with a video we captured them at Kiosk to validate that correct customer by using Face Service. Also we will gather customer experience when using Kiosk be capture their emotion and sentiment.
- After all we need to scan their luggage for dangerous items such as lighter, knife… by using train model to detect lighter object in passenger luggage.

4) Cognitive services used:
   Storage account ,
   Custom vision,
   Cognitive services multi-service account,
   Face API,
   Form recognizer,
   Computer vision

5) Measuring performance and threshold:
   _ We can use precision and recall to validate object detection and use accuracy to validate.
   _ After run model will return a confidence value from 0-1 and we will consider pass as over 0.5.