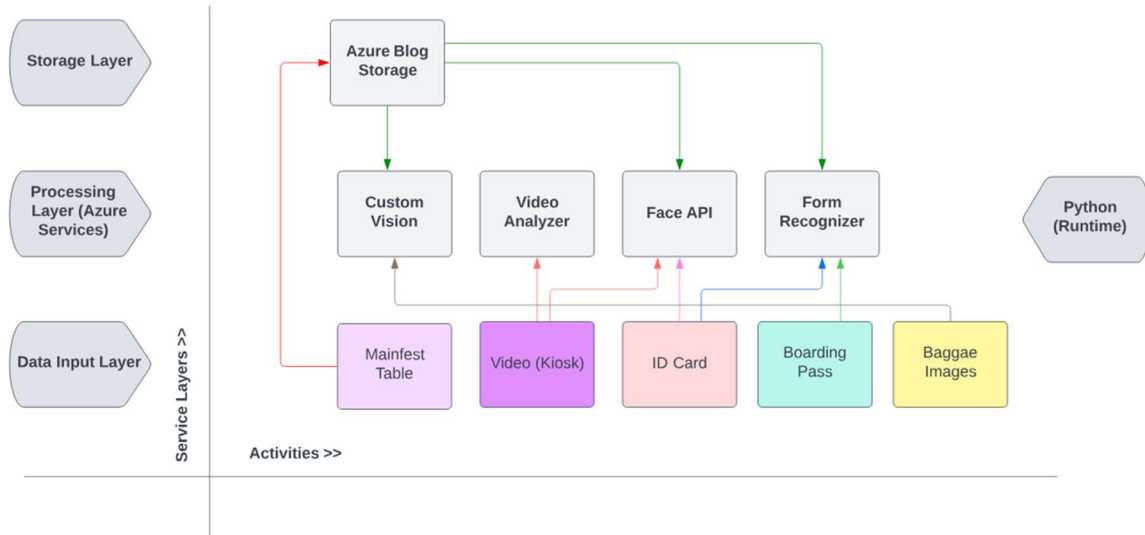


Project Architecture



Architecture Diagram Overview

The Architecture diagram shows the different components used by the Passenger On boarding Flight Kiosk application. The application takes advantage of many different Azure AI Cognitive Services.

The main storage layer of the application is a flight manifest table that tracks the flight manifest for a flight. The storage account is used for storing test images and documents that are used to build the Azure AI models.

The following Azure AI Cognitive Services are used:

- Azure Form Recognizer is used for identifying passenger data from Digital IDs and boarding passes. The out of the box Azure Form recognition digital ID service is used to extract passenger information from their digital ID. A custom form model was built for extracting information from the passenger boarding pass.
- Azure Video Analyzer service is used to extract the passenger face from a recorded video.
- Azure Face API is used to extract the passenger face from their digital ID. The Azure Face API is then used for comparing the extracted face from the video and digital ID to determine if there is a match.
- A custom vision model is used to check passenger's carryon luggage for restricted items, such as lighters. The custom vision model was trained with sample lighter images and sample luggage images are used by the kiosk for validation.

The Azure AI Python SDK is used for interacting with the different Azure AI Cognitive Services and Azure Table storage. Custom Python code was written to validate the passenger against their digital ID, boarding pass, face extracted from their video and digital ID and checking their luggage for restricted items.

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