DAMG 7275
Final Group Project

Project Team 3

Team Members:

- Aditya Pande (NUID: 002762581)
- Ankita Patil. (NUID: 002792576)
- Keshni Mulrajani (NUID: 002792728)
- Shalom Daniel (NUID: 002746121)

Topic: Garden/Farm Environmental Monitoring System

Target Platform: Microsoft Azure

Objectives / Scope:

- To build an IoT application for tracking and monitoring the environmental conditions of a garden or a farm.
  For this application, we'll consider sensor data from three types of IoT devices - soil moisture sensors, weather stations and a camera.

- To gain valuable insights into garden/farm conditions and improve decision-making with the help of data visualisations (PowerBI / Tableau)

- To streamline the monitoring process and reduce manual effort by automating data collection & analysis tasks.

- To maintain optimal environmental conditions for plant growth & health.

- Set alerts based on sensor data to improve efficiency & reduce excess water consumption.
  Eg: set alerts if soil moisture drops below a threshold.

Data Model: Relational + Graph + Document

- Sensor data (JSON, CSV, XML) can be stored in Azure CosmosDB
- Camera images of garden/farm (JPEG, PNG) can be stored in Azure Blob Storage.
- Image metadata can be stored in Azure Sql Database.
- Graph data model representing relationship between different entities can be stored in the Cosmos DB with Gremlin API