DSCD Assignment 1 Part 1
README
Implementing Online Shopping Platform using gRPC

This project implements an online shopping platform using gRPC (Google's Remote Procedure Call framework) in Python. The platform consists of three main components-
-Market (central platform)
-Sellers
-Buyers
Each of these components communicates with each other via gRPC protocols.

Components:

1. Market (Central Platform):
   - The central platform connects sellers and buyers.
   - It maintains seller accounts, items for sale, transactions, and reviews, and handles notifications.
   - Deployed on a VM instance with a known address (ip:port).

2. Seller:
   - Sellers interact with the Market to manage their items and transactions.
   - Each seller resides at a different address (ip:port).
   - Sellers register, add/update/delete/view items, and receive notifications about purchases.

3. Buyer:
   - Buyers interact with the Market to search for and purchase items.
   - Each buyer resides at a different address (ip:port).
   - Buyers can search for items, buy them, subscribe to updates, and rate items.

Setup and Running Instructions:

1. Prerequisites:
   - Knowledge of Google Cloud, creating VMs, updating firewall rules.
   - Familiarity with Protocol Buffers and gRPC.
   - Python installed on your system.

2. Installation:
   - Clone this repository to your local machine.

- Ensure Python dependencies are installed (`grpcio`, `grpcio-tools`, `protobuf`).

3. Running the Components:
   - Start the Market (central platform) by running `market.py`.
   - Run `seller.py` for each seller instance to interact with the Market.
   - Run `client.py` for each buyer instance to interact with the Market.

4. Evaluation:
   - After running the files, the TAs will evaluate them in the specified order.
   - Ensure that all functionalities are correctly implemented and print statements match the expected outputs.

5. Additional Notes:
   - Make sure to configure firewall rules to allow communication between VM instances.
   - Use the provided Python code snippet for generating UUIDs.
   - Follow the gRPC tutorials and ensure proper implementation of Protocol Buffers for message passing.

File Structure:

- `market.py`: Implementation of the Market (central platform).
- `seller.py`: Implementation of the Seller component.
- `client.py`: Implementation of the Buyer component.
- `proto/`: Directory containing Protocol Buffer definitions for message types.
- `README.md`: This file, provides instructions and information about the project.