

Android application

Create an Android application for grocery shop owners and customers. The app must support at least five distinct shop owners, each maintaining at least 30 items (with image and price). During the demo, the app must be able to display at least 150 items in total (30 items * 5 shop owners). Shop owners must be able to update item prices and stock quantities. Customers must be able to browse items, add items to a cart, and place an order only if all requested quantities are in stock. The app must compute the customer's relative distance to the selected shop and provide an estimated delivery time based on that distance.

Minimum requirement for obtaining positive marks

- Separate roles for shop owner and customer (simple login-based).
- At least five shop owner accounts populated with data for the demo. • Each shop owner has ≥ 30 items. Each item includes: name, description (optional), image, unit price, available quantity (stock), and a unique item ID.
- App must be able to display ≥ 150 items during demo ($30 * 5$).

Shop owner functionality

- Add / edit / remove items (images allowed).
- Update price and stock quantity for their own items.
- Simple dashboard showing current inventory and orders.

Customer functionality

- Browse by shop and across shops.
- Add items (with desired quantities) to the cart.
- Checkout/place order: Orders only succeed if all items in the cart are in stock (atomic check; partial orders not allowed unless user agrees).
- On successful order placement, stock quantities are reduced.
- Determine customer location (manual input or device GPS).
- Compute the relative distance to the chosen shop.
- Compute the estimated delivery time based on the distance, which is shown before placing the order.

Demo requirements

Show five shop owners with ≥ 30 items each (with images), and demonstrate placing at least one successful order that reduces stock correctly and displays estimated time.

Submission:

You are allowed to use any AI tool or programming language for this assignment. You can also form a new group. There can't be more than 10 members in a group. You need to download your code from Google Classroom and run it during the demo. Please submit your

entire code and a design document. In the design documentation, provide instructions on how to build and use your application. All groups can use the same images for items.