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Case study
Shopping assistance
Class diagram

Shopping Assistant·
Use Case

Shopping Assistant UseCase

Scan Barcode
Search by Name
Update item Manage
View Item Details
Compare Pieces Across Stores
Show Price
Scan Recipt
Update Store
Access via Web
Mobile Interface

User

Store DataBase
Price Service
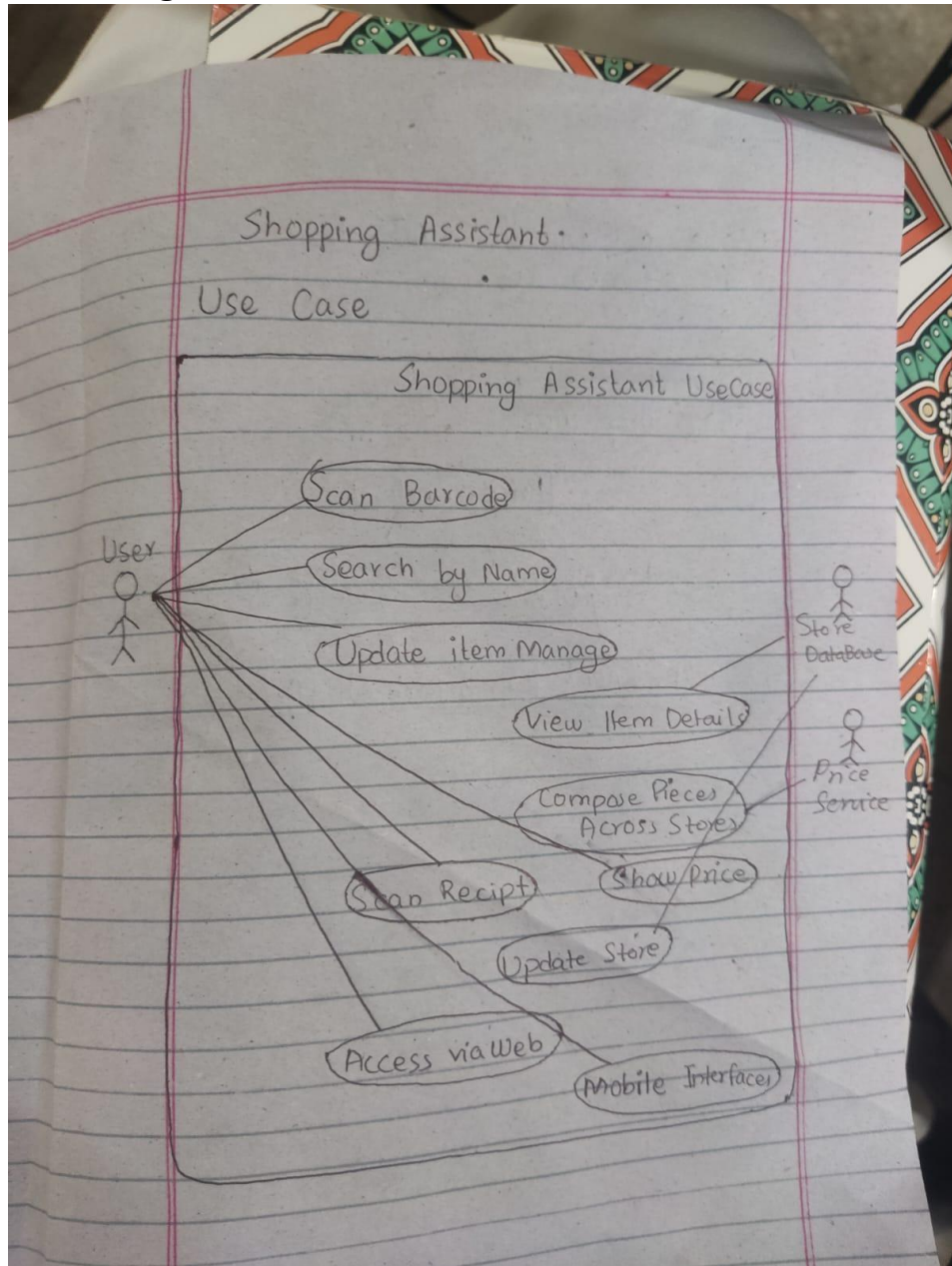
Sub usecase
Price moniter
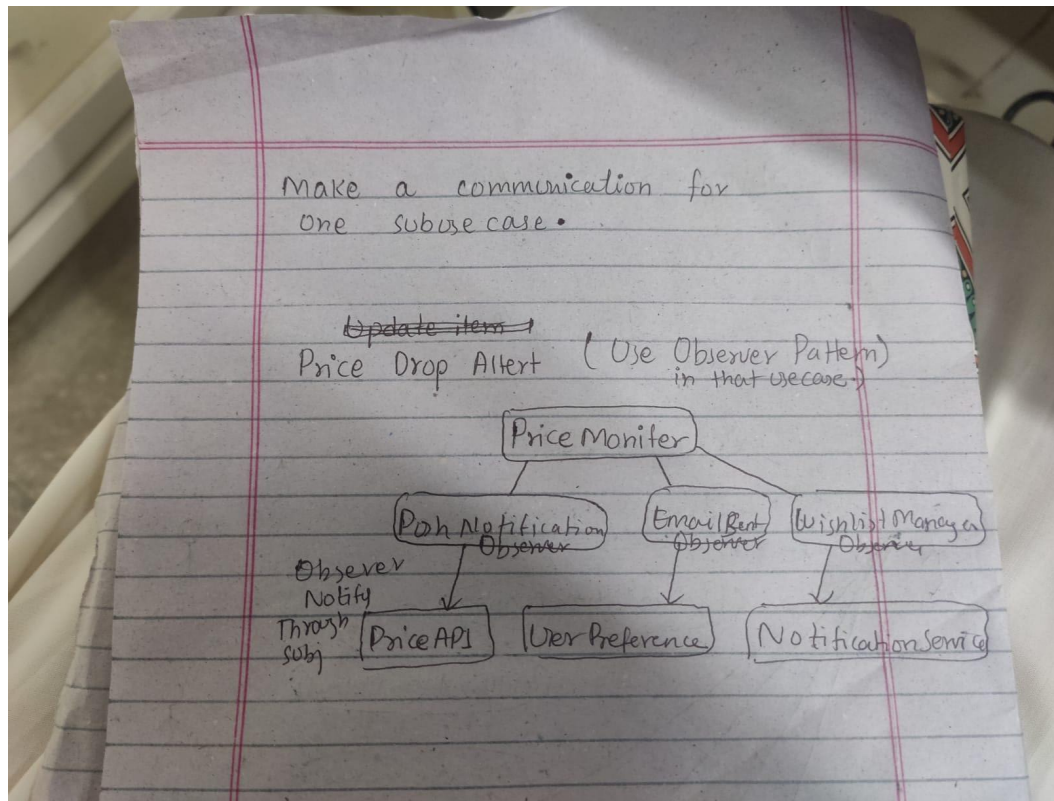
Principles and design pattern used in this
I used one pattern and two principal

Observer Pattern

When a price drops, the system automatically tells multiple notification services at once. It's like a teacher announcing news to the entire class - one announcement reaches everyone who needs to know, without the teacher having to speak to each student individually.

Single Responsibility Principle

Each part of the system has only one job to do. The push notification handler only sends phone alerts, the email handler only sends emails, and the banner handler only shows website messages. This is like having specialized workers - a cook only cooks, a waiter only serves, and a cashier only handles payments.

Open/Closed Principle The main price monitoring system can accept new types of notifications without changing its core code. It's like a power strip that can accept new devices being plugged in without rewiring the electrical system. You can add SMS alerts or social media notifications later without breaking what already works.