Pharmacy Medication System
User Documentation

Braeden Mercer, Stephen Badcock, Mimya Hafiz
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Introduction

The Pharmacy Medication System is a management system designed for pharmacies to be able to track and manage patients, doctors, medications, and prescriptions. The system allows the user to complete a wide range of tasks such as adding patients to the directory, managing doctors, tracking medications and assigned prescriptions, generating reports giving an overview of the data in the system. The system can also check for expired medications and restock inventory.

Classes

Person Class (Super)

Purpose

Represents a person (can be either a patient or a doctor)

Attributes

- id: Numeric value used to uniquely identify each person
- name: Name of the person
- age: Age of the person
- phoneNumber: Contact number of the person

Constructor

Used to initialize a person and their attributes

Patient Class

Purpose

Represents a patient, inherited from the person class

Constructor

Calls the person constructor to initialize the patient and their attributes.

Doctor Class

Purpose

Represents a doctor, inherited from the person class

Attributes

- specialization: A string describing the doctors area of expertise

Constructor

Initializes the doctor and their attributes

Medication Class

Purpose

Represents a medication available in the pharmacy

Attributes

- Id: Numeric value used to uniquely identify each medication

- name: Name of the medication
- dosage: The dosage of the medication
- stockQuantity: The amount of the medication in stock
- expiryDate: Expiration date of the medication

Constructor

Initializes medication with its required attributes

Methods

isExpired(): Checks whether the medication is expired

Prescription Class

Purpose

Represents a prescription issued by a doctor for a patient

Attributes

- Id: Numeric value used to uniquely identify the prescription
- doctor: The doctor who wrote the prescription
- patient: The patient that the prescription is for
- medication: The prescribed medication
- expiryDate: The expiration date of the medication

Constructor

Initializes the prescription with the necessary attributes and sets expiry date to one year from current date

MedicationTrackingSystem

Purpose

Manages the overall system

Attributes

- patients: A list of all patients
- doctors: A list of all doctors
- medications: All medications in stock
- prescriptions: All issued prescriptions

Methods

- addPatient(): Adds a new patient to the system
- addDoctor(): Adds a new doctor to the system
- addMedication(): Adds a new medication to the system
- addPrescription(): Adds a new prescription to the system
- searchByName(): Searches the system by name for patients, doctors, and medications
- generateReport(): Creates a report of the current saved data in the system
- checkExpiredMedications(): Checks and lists expired medications
- restockMedications(): Restocks all medications by add more units to each.

Starting & Accessing the System

Requirements

Java must be installed on the machine.

Running The Program

Open a terminal/command prompt and access the directory where the file is

Compile the java file by running the javac command,

After compiling, run the program with java command

Using the System

System starts by displaying a menu where you can decide if you would like to add a new person, edit an existing person or remove a person. You would also be given options to print all scripts for a specific person, check if medications are expired, restock drugs, or print system reports.. Once you make an initial selection, depending on what is selected it will open an additional menu (ex. Add Doctor or Add Patient after selecting the add person option). After navigating the menu to complete desired tasks you will be prompted to enter any required info to complete the task (ex. Patient Name and contact info). After completing desired task you will be able to repeat the above steps to complete additional tasks.

Class Diagrams

Persons Class

The superclass of both the Patient & Doctor classes

Patient Class:

Inherits from Person

Each patient can have many prescriptions (one-to-many)

Doctor Class:

Inherits from Person

Each Doctor can issue many Prescriptions (one-to-many)

Medication Class:

Medications can be linked to Prescriptions, Each prescription contains a medication.

Prescription Class:

Prescriptions are linked to one patient and one doctor (Many-to-one)

References a medication that is prescribed

MedicationTrackingSystem

Contains lists of patients, doctors, medications and prescriptions

Gives the user options to interact with the entries in the system.

Conclusion

Although simple it is a highly effective and important system used by pharmacies to manage all the necessary stored information for patients, doctors, medications and prescriptions. Giving the user the ability to efficiently manage the patients and doctors saved in the system and also access a report of all prescriptions and their expiry dates and also check stock levels of medications.