

Person <Abstract>

- name: String
- age: int
- email: String
- phone: String
- gender: String

+ setName(String name): void
+ getName(): String
+ setAge(String age): void
+ getAge(): String
+ setEmail(String email): void
+ getEmail(): String
+ setPhone(String phone): void
+ getPhone(): String
+ setGender(String gender): void
+ getGender(): String
+ setName(String name): void
+ getName(): String

Doctor

- doctorID: String
- doctorType: String
- yearsOfExperience: int
- isAvailable: boolean
- email: String
- isFulltime: boolean

+ prescribeMedication(): void
+ performSurgery(): void
+ setDoctorID(String doctorID): void
+ getDoctorID(): String
+ setDoctorType(String doctorType): void
+ getDoctorType(): String
+ setIsAvailable(boolean isAvailable): void
+ getIsAvailable(): String
+ setIsFulltime(String isFulltime): void
+ getIsFulltime(): String

ClinicManagementSystem

- patients: HashMap<Integer, Patient>
- doctors: ArrayList<Doctor>
- appointmentsByDate: TreeMap<String, ArrayList<Appointment>>

+ ClinicManagementSystem()
+ addPatient(patient: Patient)
+ getPatient(patientId: int): Patient
+ removePatient(patientId: int)
+ getAllPatients(): HashMap<Integer, Patient>
+ addDoctor(doctor: Doctor)
+ getAllDoctors(): ArrayList<Doctor>
+ findDoctorByName(name: String): Doctor

+ scheduleAppointment(date: String, appointment: Appointment)
+ getAppointmentsByDate(date: String): ArrayList<Appointment>
+ getAllAppointments(): TreeMap<String, ArrayList<Appointment>>
+ saveToFile(filename: String): void
+ loadFromFile(filename: String): void
+ generatePatientReport(patientId: int): String
+ generateDailyAppointments(date: String): String

ReportGenerator <Interface>

+ generatePatientReport(patientId: int): String
generateDailyAppointments(date: String): String

Appointment

- ID: int
- year: int
- month: int
- day: int
- date: String
- hour: int
- minute: int
- doctorName: String
- goal: String

setID(int ID): void
getID(): int
setMonth(int month): void
getMonth(): int
setDay(int day): void
getDay(): int
setMonth(int month): void
getMonth(): int
setDate(String date): void
getDate(): String
setHour(int hour): void
getHour(): int
setMinute(int minute): void
getMinute(): int
setGoal(String goal): void
getGoal(): String
setDoctorName(String doctorName): void
getDoctorName(): String

FileOperation <Interface>

+ saveToFile(filename: String): void <<throws IOException>>
+ loadFromFile(filename: String): void <<throws IOException>>

Patient

- patientID: int

+ setPatientID(String patientID): void
+ getPatientID(): String

MedicalRecord

- prescription: String
- temperature: double
- diagnosis: String
- visitDate: Date
- doctorName: String

+ setTemperature(double temperature): void
+ getTemperature(): double
+ setVisitDate(double visitDate): void
+ getVisitDate(): Date
+ setDiagnosis(double diagnosis): void
+ getDiagnosis(): String
+ setPrescription(double prescription): void
+ getPrescription(): String
+ setDoctorName(double doctorName): void
+ getDoctorName(): String