DisasterGuard: Real-Time Natural Disaster Prediction and Safety Advisory App

Class Diagram

User
- username: String
- email: String
- password: String
languagePreference: String
isLoggedIn: Boolean

+ signUp()
+ signIn()
+ resetPassword()
# setLocationPermission()
# setNotificationPermission()

Location
- latitude: Float
- longitude: Float
address: String

+ fetchCurrentLocation()
# updateLocation()

Notification
- notificationID: String
- content: String
timeScheduled: DateTime
isEnabled: Boolean

+ sendNotification()
# scheduleNotification()
+ enableNotification()
+ disableNotification()

Contact
- contactID: String
name: String
phoneNumber: String
relationship: String

+ addContact()
+ updateContact()
+ notifyContact()

EmergenyReport
- reportID: String
- description: String
media: String
timestamp: DateTime
location: Location

+ submitReport()
+ viewReports()

Alert
- alertID: String
- type: String
- severity: String
- message: String
- location: Location
- disaster : Disaster

+ generateAlert()
+ sendAlert()
# displayAlert()

Temperature
- temperatureID: String
- value: Float
timestamp: DateTime
- location: Location

+ fetchTemperature()
# updateTemperature()

Disaster
- disasterID: String
type: String
severity: String
location: Location
startTime: DateTime
endTime: DateTime
description: String

+ getDisasterInfo()
# updateDisasterInfo()
+ fetchUpcomingDisasters()
+ fetchOngoingDisasters()

CheckList
- checklistID: String
tasks: List<String>
disasterType: String
status: Boolean

+ createChecklist()
+ updateChecklist()
# markTaskComplete()

Device
- deviceID: String
deviceType: String
status: String
location: Location

+ connectDevice()
+ controlDevice()
+ disconnectDevice()

Volunteer
- volunteerID: String
name: String
role: String
availability: String

+ signUpVolunteer()
+ viewOpportunities()
+ coordinateEfforts()

BackupData
- backupID: String
dataType: String
timestamp: DateTime

+ createBackup()
+ restoreBackup()
# scheduleBackup()

EducationalResource
- resourceID: String
- title: String
content: String
mediaType: String

+ viewResource()
# updateResource()

SafetyGuideline
- guidelineID: String
disasterType: Disaster
content: String
evacuationRoutes: String
emergencyContacts: List<Contact>

+ viewGuideline()
# updateGuideline()