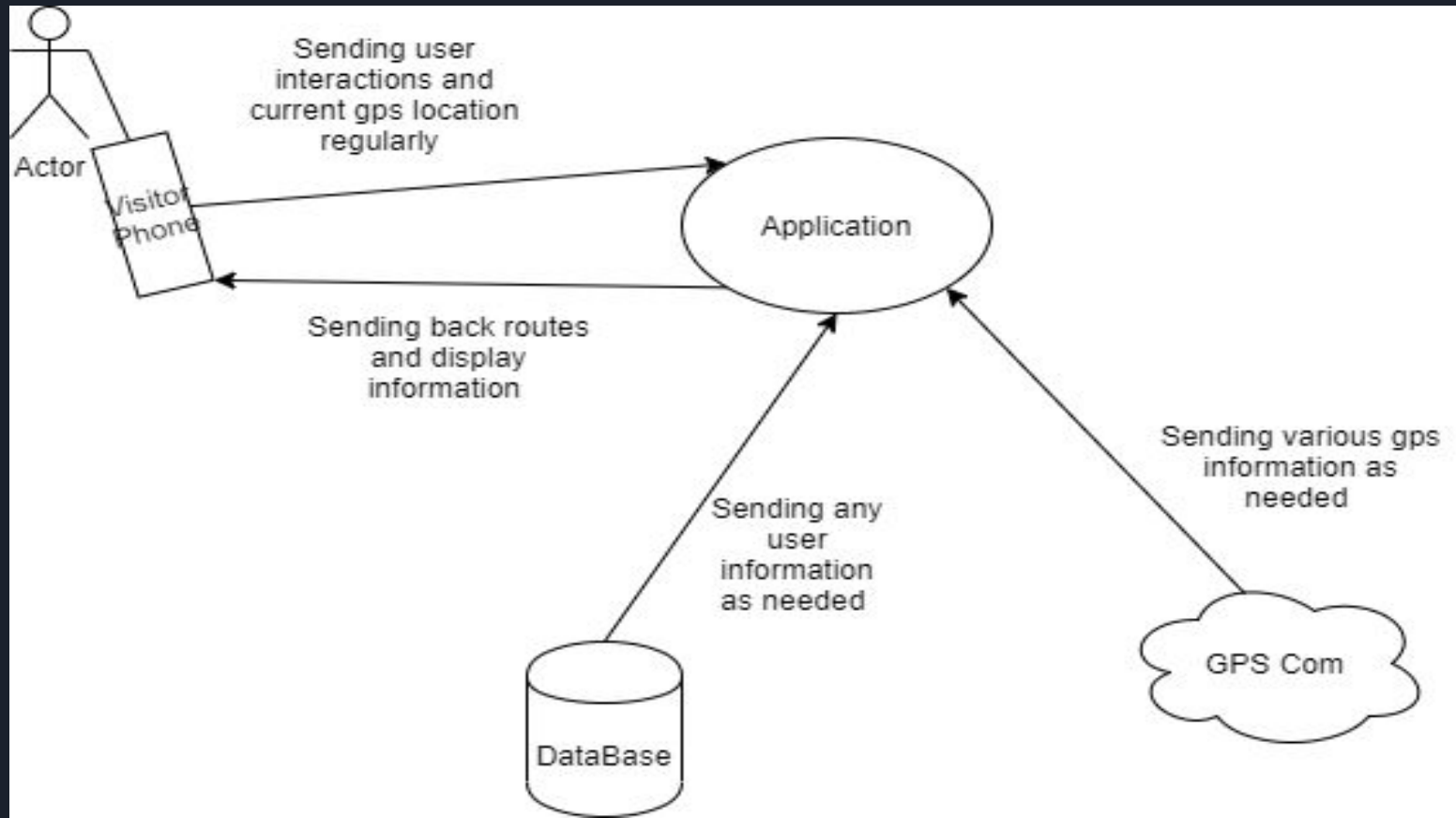# GPS Trail

Group 1: Fade Abdeljaber, Chris Lenell, Deonvell Shed, Luke Wittenkeller
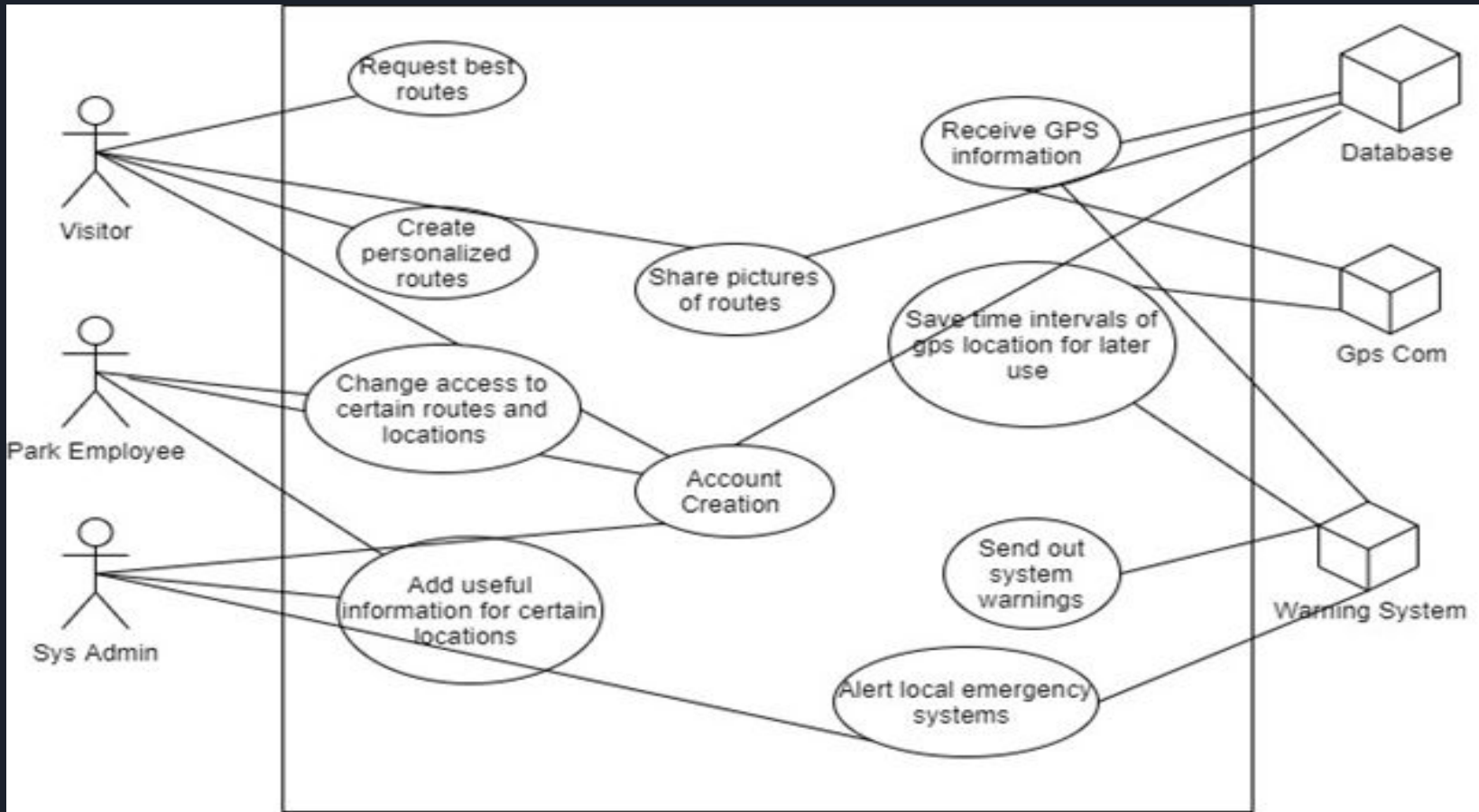
Refresher

- Smartphone app to be used inside national parks
- GPS map of the trails in National Parks and forests
- User inputs what landmarks they want to see, and app generates a path which includes all of them.
- Users can then choose upload their path to their profile along with any pictures they took.

Basics of System
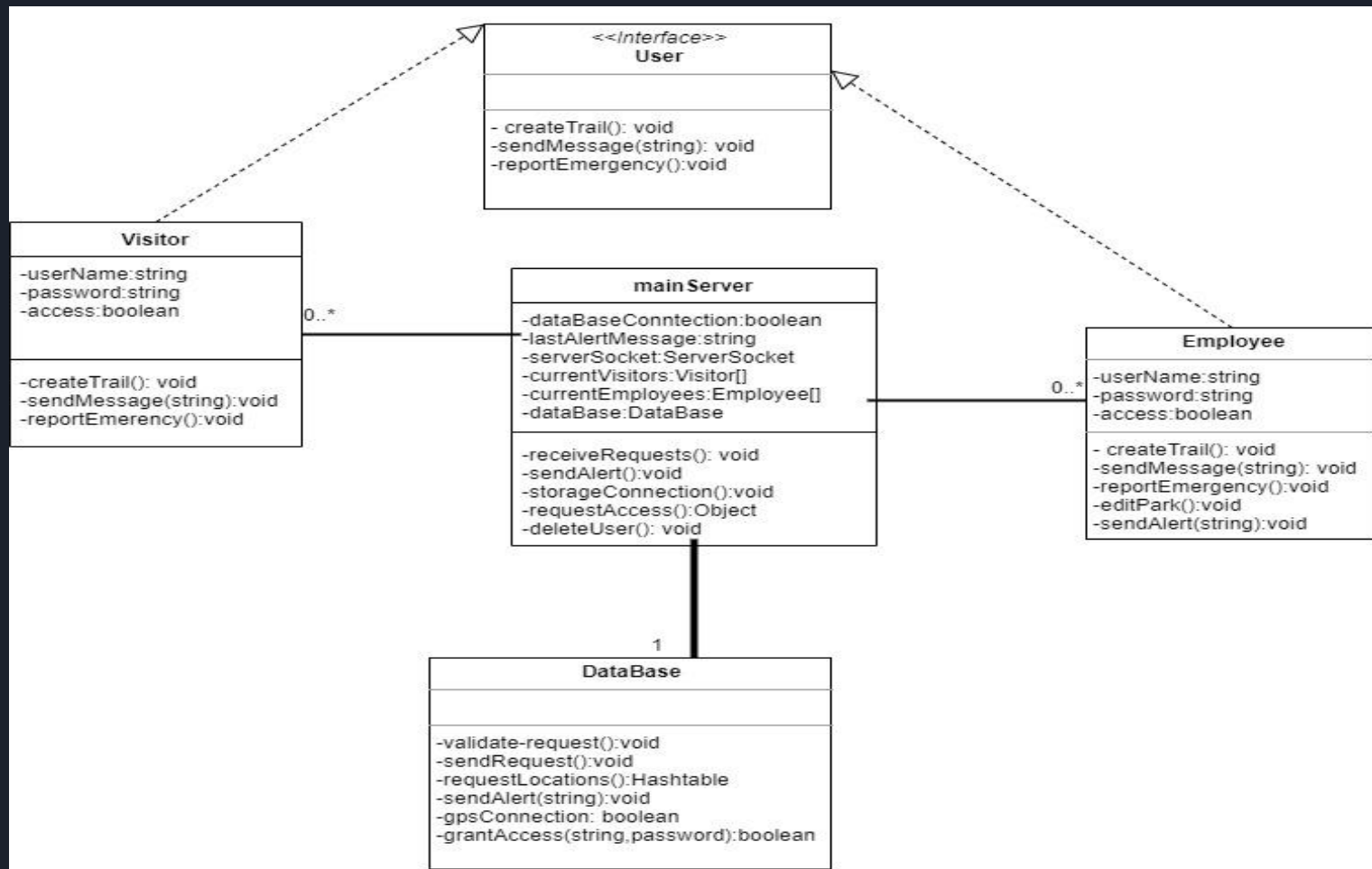

Sending user interactions and current gps location regularly

Actor

Visitor Phone

Application

Sending back routes and display information

Sending any user information as needed

DataBase

Sending various gps information as needed

GPS Com

Use Case Diagram

Main Application UML

Scenarios

- Find the Best Route

- Edit an Path

- Edit Prohibited Areas

- Recommended Areas

- Path Traffic

Functional Requirements

- Example: Trail Map
  - Trails that are generated are overlaid on top of the park's map
- Trail object contains information about the path
  - Distance
  - Landmarks
  - Longitude and Latitude

Dependability Requirements

Connection loss:

- The app is run some functionality and shows previous data should there be no internet connection.
- The app is able to save important information should the system go down.
- If connection is ever lost, the current data is stored on the user's device until it reconnects and uploads it to the database.

GPS:

- A check is implemented to ensure that the system is actively saving GPS information.

Data Requirements

Popular Routes:

- The most popular route based on user votes will be shown.
- All votes for routes will be saved in the database.

Route Comments:

- Users can view the comments others have left on a specific route.
- Comments users have left will be saved in a database.

Maintainability Requirements

Server Maintenance

- The servers may need to undergo some maintenance , so an admin will be able to restart the server and apply small patches.

User Support Page

- The app will need a way for users to report issues or bugs they encounter.
- A user will be able to create a ticket which will be sent to the admins to handle.

Model-View-Controller (MVC)

- The app uses the model-view-controller design pattern.
- Using MVC allows for scalability should more feature be added in the future.

Decorator Design Pattern

- Trail view will implement the decorator design pattern
    - Base layer of the park map
    - Trail map is put on top
    - Additional info is added as needed