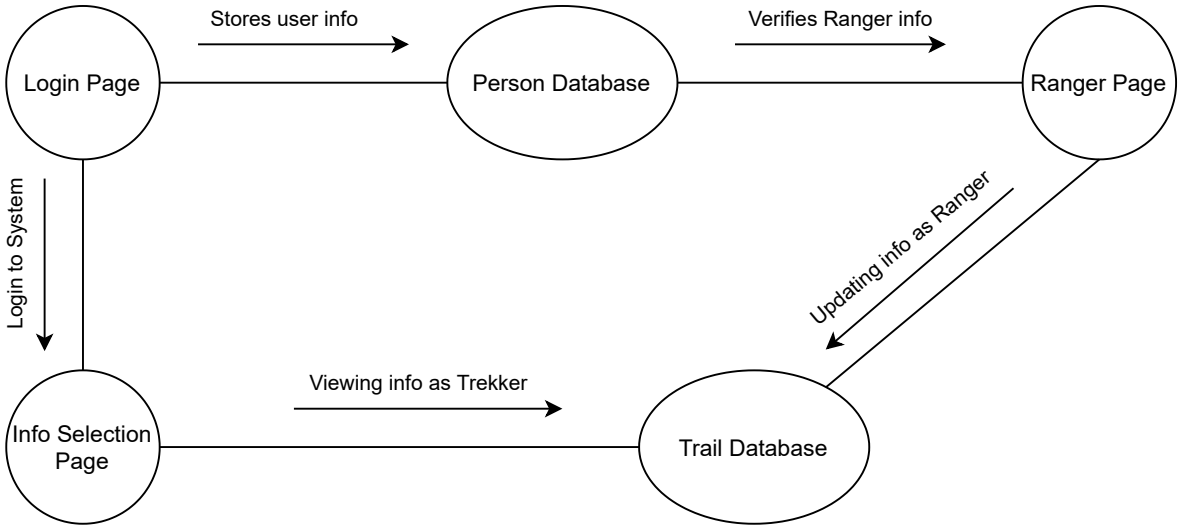
Kili Trekker Architecture Diagram



Kili Trekker Data Plan

Trail Database SQL

Trail
trailNum
location
status
country

Weather
trailNum
temperature
condition
date
time

Event
trailNum
name
location
date
time

Emergency
trailNum
extremeWeather
falseInfo
location
rebelActivity
correctionNotice
date
time

Person Database NoSQL
Document-Style

Trekker

name
ID
editAccess
readAccess

Ranger

name
staffID
stationID
editAccess
readAccess

Data Dictionary: Trail Database

Name: Trail
Desc.: Trail information
Type: Table
Primary Index: trailNum

Name: trailNum
Desc.: unique id for each trail
Type: Attribute/Int
Range: 1-12

Name: location
Desc.: location of the trail
Type Attribute/String

Name: status
Desc.: current status of the trail
Type: Attribute/String

Name: country
Desc.: country in which trail is located in
Type: Attribute/String

Data Dictionary: Trail Database

Name: Weather
Desc.: Weather information
Type: Table
Primary Index: trailNum

Name: trailNum
Desc.: unique id for each trail
Type: Attribute/Int
Range: 1-12

Name: temperature
Desc.: the temperature of the
trails in celsius
Type: Attribute/Int
Range: 10-40

Name: condition
Desc.: the weather condition
of the trails
Type: Attribute/String

Name: date
Desc.: current date
Type: Attribute/String

Name: time
Desc.: current time
Type: Attribute/String

Data Dictionary: Trail Database

Name: Emergency
Desc.: Emergency information
Type: Table
Primary Index: trailNum

Name: trailNum
Desc.: unique id for each trail
Type: Attribute/Int
Range: 1-12

Name: extremeWeather
Desc.: whether or not there is ongoing extreme weather
Type: Attribute/Bool

Name: falseInfo
Desc.: whether or not there is false info in the system
Type: Attribute/Bool

Name: location
Desc.: location of the emergency
Type: Attribute/String

Name: rebelActivity
Desc.: whether or not there is ongoing rebel activity
Type: Attribute/Bool

Name: correctionNotice
Desc.: correction notice for false information
Type: Attribute/String

Name: date
Desc.: date of the emergency
Type: Attribute/String

Name: time
Desc.: time of the emergency
Type: Attribute/String

Data Dictionary: Trail Database

Name: Event
Desc.: Event information
Type: Table
Primary Index: trailNum

Name: trailNum
Desc.: unique id for each trail
Type: Attribute/Int
Range: 1-12

Name: name
Desc.: name of the event
Type Attribute/String

Name: location
Desc.: location of the event
Type: Attribute/String

Name: date
Desc.: date of the event
Type: Attribute/String

Name: time
Desc.: time of the event
Type: Attribute/String

Person Database Description

The Person Database is a NoSQL document-style database that is split up into two components, the Trekker document and the Ranger document. We went with NoSQL because this database will be changing a lot in terms of people coming and leaving the trails so we wanted to be more flexible and adaptable with the document style which will make it easy to remove people once they leave the park.

The Trekker document will hold all of the info about a given hiker that enters the park, for example, the name of the individual a document pertains to - a trekker, as a string. The document will also hold the attribute of readAccess, in the form of a bool, so that they may have reading privileges while using the Kiki Trekker System. The document will also hold their attribute of whether they'll have editAccess: this is of importance as the system will use this as a check to prevent any writing or deletion of data coming from anyone that is not a ranger. Lastly, the document will hold an ID attribute, in the form of an int, which acts as their unique identifier in our document database.

In the Ranger collection, these respective documents will contain the necessary data for each individual ranger that works at the park. These documents will contain the name of the individual a document pertains to - a ranger, as a string. The document will also hold the attribute of readAccess, in the form of a bool, so that they may have reading privileges while using the Kiki Trekker System. The document will also hold their attribute of whether they'll have editAccess: this is of importance as rangers will be and should be the only individuals with the ability to write and delete information from the system. The ranger document will also contain the attribute of staffID, which will be an int, that will serve as their unique identifier in this document database. Lastly, the document will hold the attribute of a station, which will hold the data of what station they are posted at and will also be an int.