Class

SchoolBusSystem

*Members:*

Objects

schoolBusA

schoolBusB

studentPassenger

busDriver

userGuardian

studentFamily

Ideas

You have a schoolBus that carries studentPassenger(s) to the same destination. We want to notify userGuardian(s) about when their studentPassenger(s) arrives at the location. The studentPassenger and userGuardian will have a relationship where each will be given a unique pin that matches them to each other. This allows us to tell who studentPassenger(s) guardian is. This also allows for userGuardian to have multiple studentPassenger(s).

It should be noted that we should allow multiple userGuardians to have multiple studentPassengers. A limit on userGuardians and studentPassengers should be chosen.

Idea1:

Generate unique pins for every userGuardian and studentPassenger. A way to match userGuardians and studentPassengers with each other is by making certain digits the same as each other.

Ex. userGuardian has the PIN number 1234 and studentPassenger has the PIN number 1567. The first digit (1) matches the userGuardian to the appropriate studentPassenger.

Problems: Not unique enough, susceptible to hacking, and problem when having multiple studentPassengers to userGuardians.

The schoolBus has a max carrying capacity C for studentPassengers. The schoolBus object must have a limit on how many studentPassengers on allowed on.

The location of schoolBus must be always tracked, this means that studentPassengers must also be tracked when on the schoolBus. The studentPassengers must inherit this property from schoolBus.

Idea2:

studentFamily takes in studentPassenger(s) and userGuardians(s) where all the family members will have a unique identifier that connects all of them to one another. This will allow the userGuardian(s) to track their studentPassenger(s) simultaneously

Things to note:

The schoolBus will have to a have a unique PIN that connects the studentFamily.

Database consideration:

Create a database for the school bus system where each object has a relationship with one another.