Weekly Technical Journal

Senior Project Design 2

Vladimir Nava (C856A927)

Week 1/30 – 2/05

Narrowed down more important details of the project.

> Delegated and re-defined project team roles, all team members retained their prior tasks

> Depending on time management, I may work on the front end of the project.

The back end only requires python and firebase database. Next week the team will discuss how the database will be structured and managed.

Items and the deliverables have also been discussed this week.
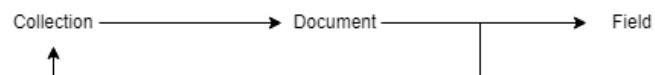
> Authentication is needed for users.

> A login page needs to be created.

> A user agreement page is also something that has previously not been discussed.

Week 2/06 – 2/12

This week was focused on the database and how it will be managed.

> The basic structure of a database within firebase is as follows:

> A collection contains documents which hold fields or another collection.

> What results is either several collections with a multitude of documents that hold fields or another "nested" collection.

> Data can be managed for our project in a multitude of ways.

> The two methods that I have presented to the group are illustrated in the following diagrams:
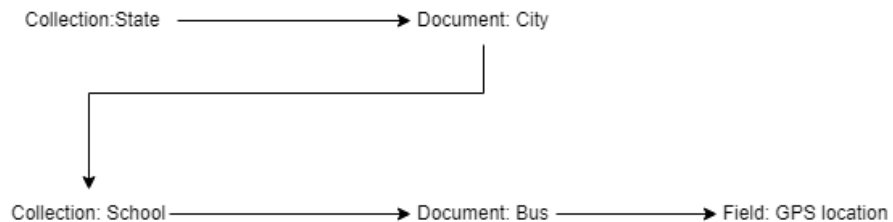
METHOD 1

Collection: Schools ⟶ Document: Buses ⟶ Field: GPS location

METHOD 2

Collection: Business Type ⟶ Document: Business Name ⟶ Field: Item to be tracked

METHOD 3

Collection:State ⟶ Document: City

Collection: School ⟶ Document: Bus ⟶ Field: GPS location

Method 1 was used in the first semester and worked just fine but lacks scalability and readability.

Method 2 fixes both issues but doesn't hold information that we want (i.e., the state, city, and school)

Method 3 was discussed as being a viable option as it gives us where the school is located, the city it is in, and the school's name. We can also hold other information about the bus relating to GPS location.

More about the front end was discussed and how we may need everyone on it.

As such, I may be working as a full stack developer for this project.

Next week we will report our findings on researching authentication as well as working with swift on a virtual machine.