Tyler Butler

11/15/18

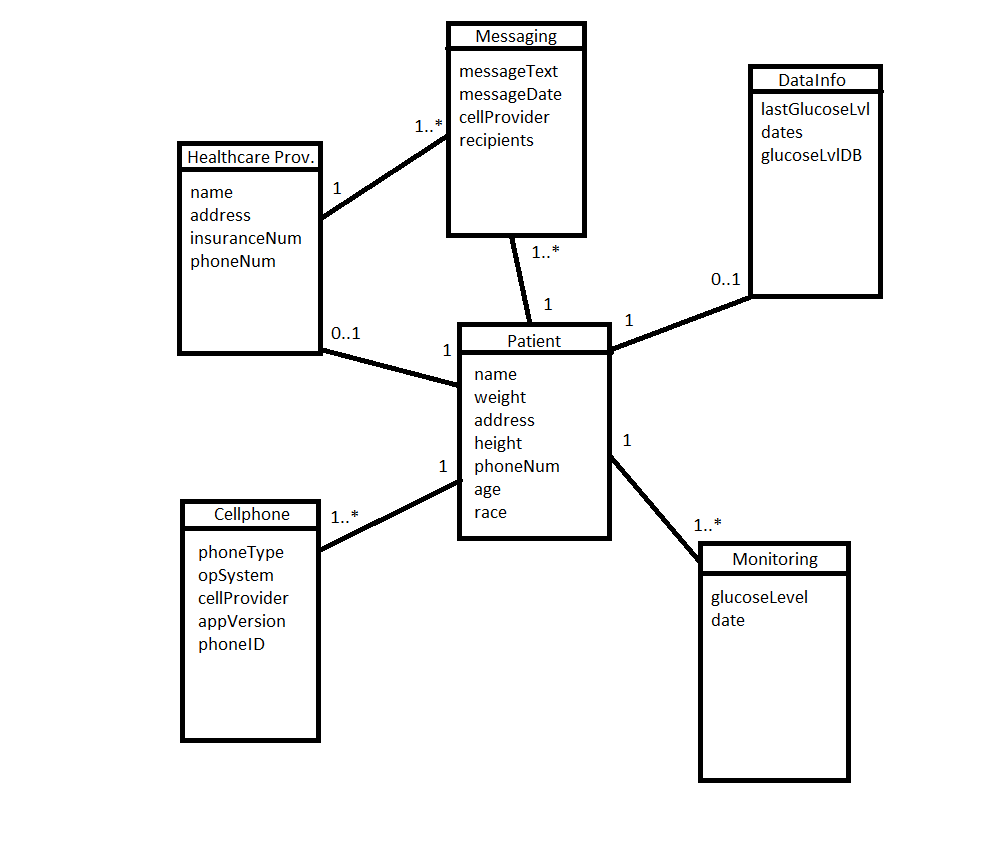
IT Analysis

Final Project

**Milestone #1:**

1. Using information from chapter 8 and previous information from the running case study paragraphs over the previous chapters, list at least five domain model classes that form the core functionality of the system.

* Patient
* Healthcare provider
* Monitoring
* Messaging
* DataInfo
* Cellphone



2. List at least five tables corresponding to the domain model classes above. Include the following information for each of the tables: primary key, foreign keys to other tables, and other attributes that you think is needed to characterize the class. Also include whether or not the table is in third normal form or not - and why.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Patient | | | | | | |
| (PK)phoneNum | Name | Weight | Address | Height | Age | Race |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Messaging | | | | |
| (PK)recipientID | (FK)phoneNum | messageText | messageDate | cellProvider |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Healthcare Provider | | | | |
| (PK)providerID | (FK)phoneNum | Name | Address | insuranceNum |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CellPhone | | | | | |
| (PK)phoneID | (FK)phoneNum | phoneType | opSystem | cellProvider | appVersion |

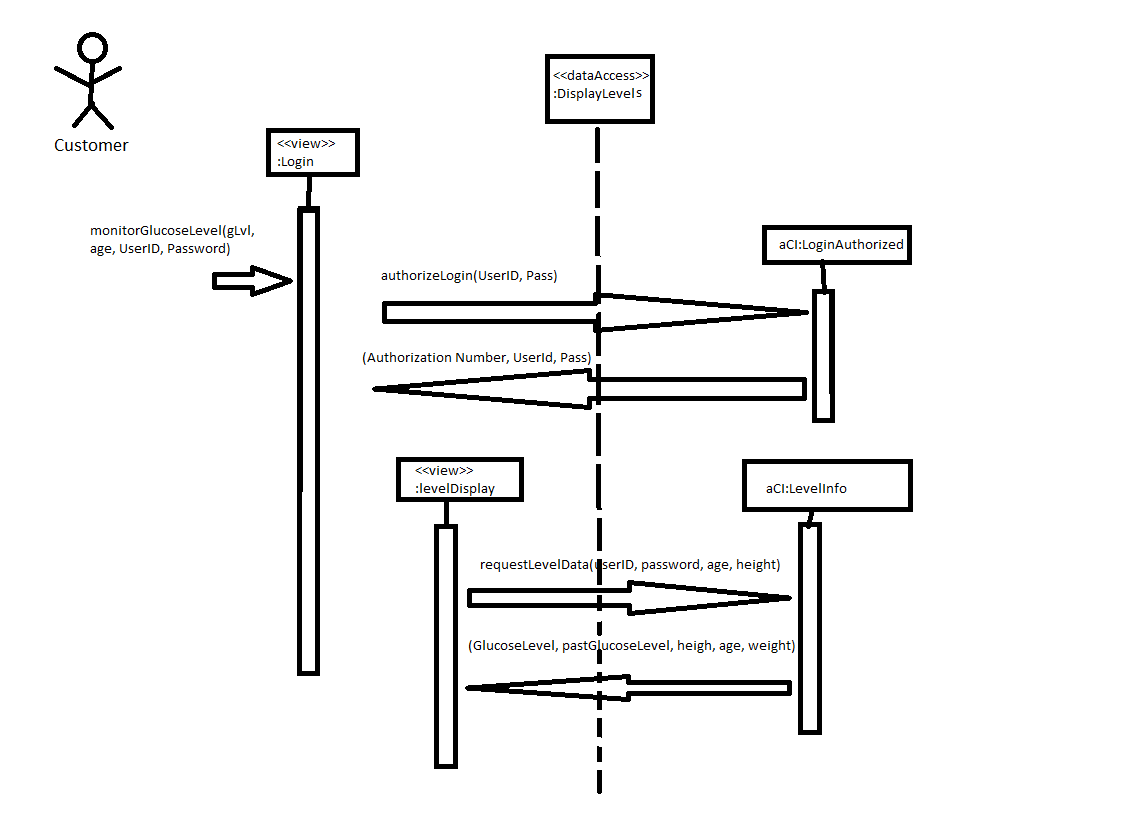
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Datainfo | | | | |
| (PK)glucodeID | (FK)phoneNum | lastGlucoseLvl | Dates | glucoseLvlDB |

|  |  |  |  |
| --- | --- | --- | --- |
| Monitoring | | | |
| (PK)monitorID | (FK)phoneNum | glucoseLvl | Date |

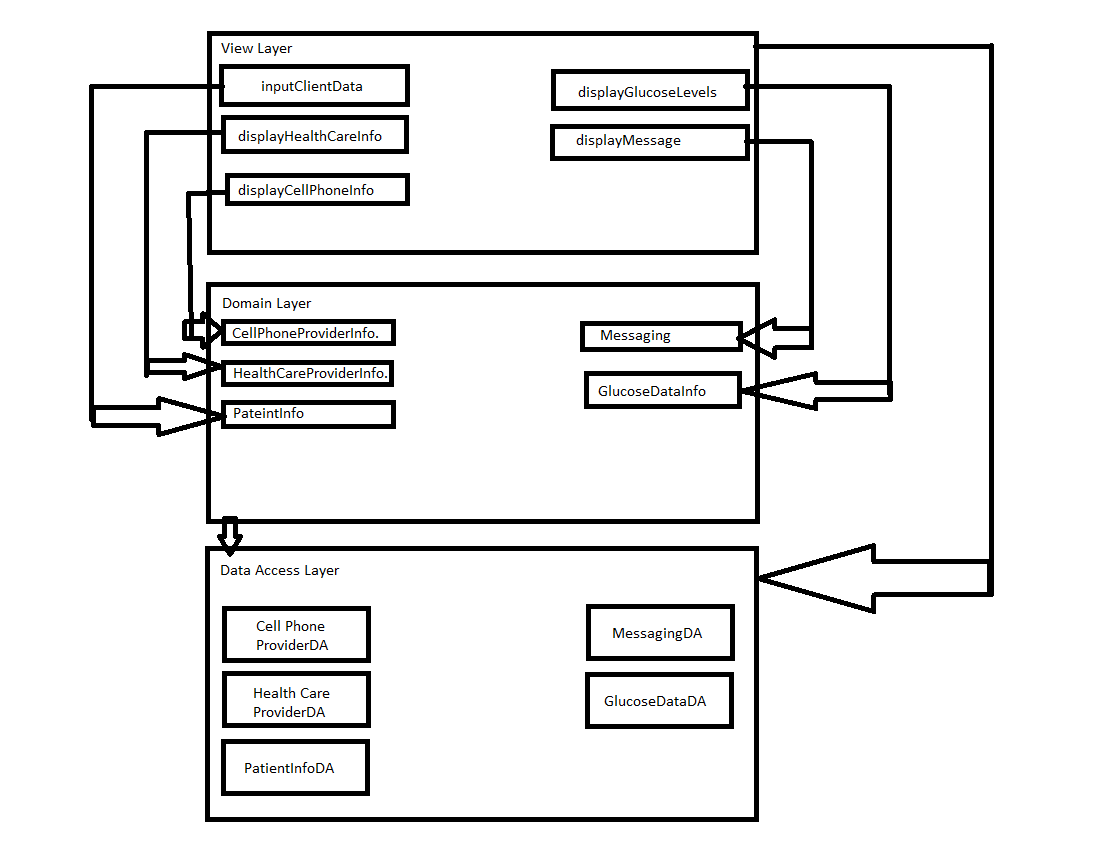
1. Patient: This table is in third normal form since all the non-key attributes are not functionally dependent upon each other.
2. Messaging: This table is in third normal form since all the non-key attributes are not functionally dependent upon each other.
3. Healthcare Provider: This table is in third normal form since all the non-key attributes are not functionally dependent upon each other.
4. Cellphone: This table is not in third normal form since this table is not in second normal form and is not dependent on the primary key
5. DataInfo: This table is in third normal form since all the non-key attributes are not functionally dependent upon each other.
6. Monitoring: This table is in third normal form since all the non-key attributes are not functionally dependent upon each other.

**Milestone #2:**

3. Develop a multilayer sequence diagram for the use case you fully developed in the midterm project that includes the domain classes and data access layers. This should be similar to the example shown in slide 42 from use case realizations lesson.



4. Develop a package diagram that includes all the problem domain classes and organized around the major subsystems. Use Figure 13-24 as an example of the diagram that is organized around the View, Domain, and Data Access layers.



5. (Option 1). In designing a deployment architecture for the system, what are at least five design considerations you would take to implement a scalable, highly available, and secure run time environment?

1. I would make the code Highly Cohesive to ensure that the classes are as trimmed as possible and are doing exactly what they need to be doing without any kind of bloat
2. Enforce low Coupling to ensure that not too many of the classes are reliant on each other to reduce the amount of rewriting you would need to do to affect these classes
3. Utilize Factory Design classes to allow the inherited classes to choose their parent classes
4. Utilize the protection from variations design so that you can keep classes that are relatively “final” away from classes that will likely change many times over the span of the class.
5. Using Indirection, This will allow classes that need to communicate the ability to use a filter class or a middle man class to speak between one another..