Database Write-up

Our group’s idea is to construct a web application that will be used internally at health insurance companies. The premise is that there exists some sort of device (in a similar vein to a FitBit or Apple Watch), which allows us to accurately monitor the lifestyles of customers. Customers will voluntarily consent to monitoring their own lifestyle habits, because the insurance company will reward a healthy lifestyle with lower premiums. In this sense, the premise is similar to dashcams, which you can attach to your car in exchange for cheaper car insurance rates.

Our application will take all of this data about the consumers lifestyle and use it to predict likely health of the customer in the future. Additionally, the system will determine eligibility of the customers for rate discounts. The value for the insurance companies is two-fold; first, they will be able to more accurately assess premiums for their customers, and second, they will be able to save money on medical expenses by incentivizing a healthier lifestyle.

There is no current device that collects the data we need, thus we will be simulating our own data for this project. Our data base will consist of a subscriber table, which will list metadata about the various people subscribing to an insurance policy. Since some subscribers may be related to each other and have group policies to acquire discounts, there will be a table to show these relationships. The database will also consist of a policies table, which will list the various insurance policies our insurance company offers. There will be a table to show which subscribers are subscribing to what policy. Additionally, there will be a table to show medical records for each subscriber, as this information can be used when determining what premium a subscriber can be offered.

The most important information for our project is the subscriber’s lifestyle information. This data will be stored in a health log table and will show information such as how much the subscriber exercises (through monitoring heart rate) and what kind of diet they have.

The various entities, attributes, and relationships are outlined in the attached ER diagram. As we develop, this diagram may be modified.