

Database Design for IOB app

The database that will be use is MongoDB, because I could draw many pieces of information from multiple documents with userId's and have the web app return the insulin on board and the newly suggested bolus rate, while storing that information so the next time someone is trying to enter in the new bolus information the database has a record it can pull up from the previous bolus. With the added feature of a carb counter, it could then store that information the same way. The following would be documents in the MongoDB:

- Current bolus will be things entered in to calculate previous bolus which is strongly tied to the Last Bolus document.
- Last Bolus document will be the piece used between the Results and the Current bolus document. The Last Bolus will just keep the Last Bolus amt and at what time only, this is to be used in conjunction with the Current Bolus document to help calculate the iob.
- The Results document will hold just the results which will be used mainly for the bolus diary for users to look back on.
- Sensitivity ratios will hold on that specific users info to help calculate boluses based on carb amt and sensitivity factors during different times of the day. The user will need to obtain this information from a physician and be entered into the web app either themselves or by the physician.

Current Bolus

- how much active iob to subtract
- how many carbs to eat
- the newly suggested bolus amt
- current time (military)

Last Bolus

- How many units
- Time (military)

Results

- amount of insulin on board
- carb total to subtract after iob is subtracted
- newly suggested bolus amt
- time (military)

Sensitivity Ratios

- rates per different time of the day
- carb to insulin ratios for different times of the day