**The measurements Fragments**

The communication between the hardware kit, the server and the mobile application is one of the main focus points of this project and no fragment in the application capitalize on that connection as the measurements fragment.

The fragment is designed to display the latest measurements their status in multiple ways that gives different insights. The measurements can be displayed in a list with cool and coloured icons where the user can scroll to view the old ones, a table that focuses more on the latest measurements and display them in rows comparisons can be made in an easy way or a chart that provides good visualization and help focus on measurements in certain time period.

But receiving and displaying the measurement isn’t the main function, as the main focus is to take automatic actions based on these values received from the hardware to communicate with the doctor directly on his mobile phone by calling or sending SMS if needed or call for an ambulance if the case is that serious. a UML class diagram for the fragment is shown in figure (x).

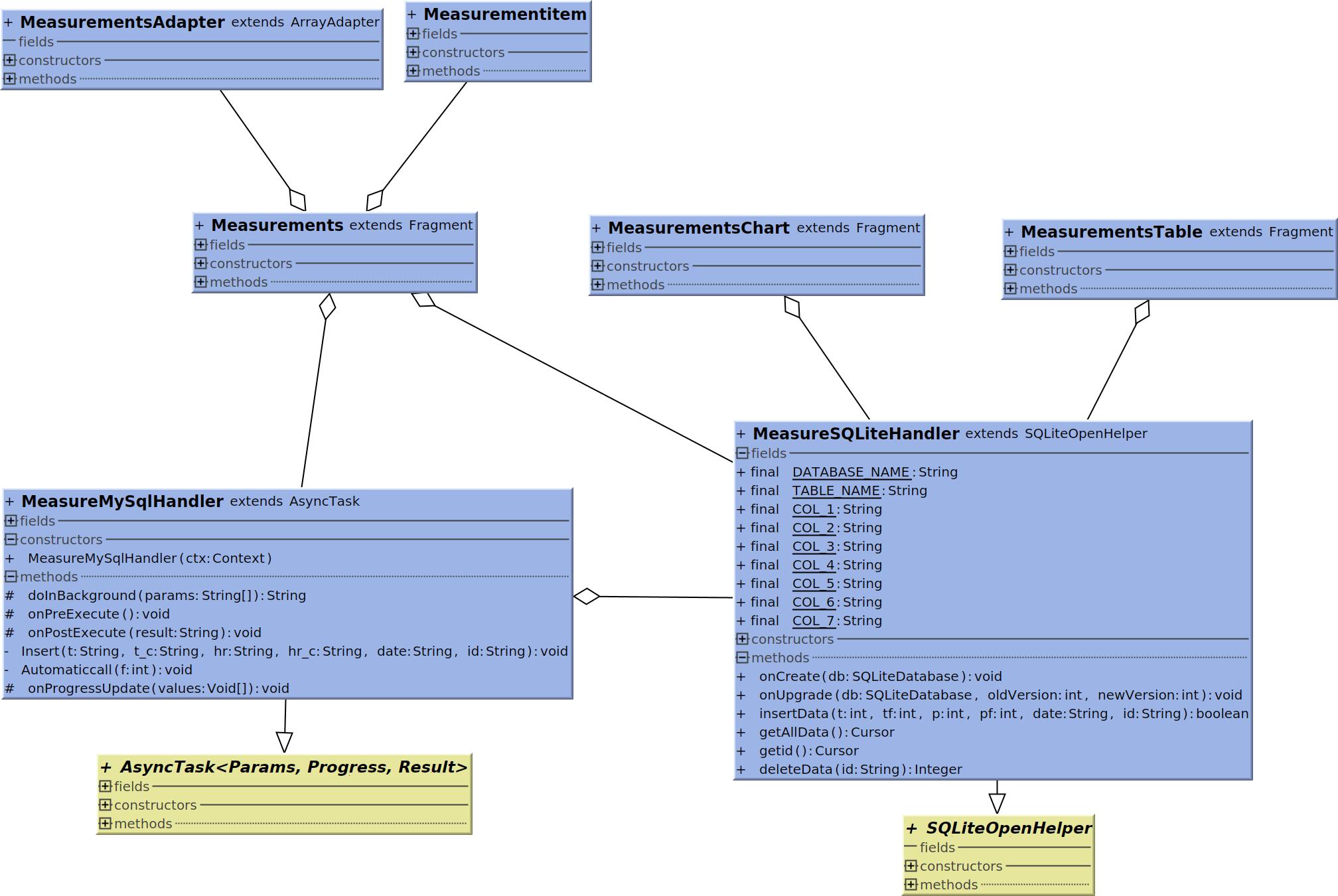


Figure x: Class diagram for measurements.

MeasureSQLiteHandler is a subclass to SQLiteOpenHelper responsible for creating a database table to insert, update, view or delete data from. The measurements table is shown in in table y. the table main purpose is to keep the data so it can be displayed also compare its content to the content of the database on the server to be able to determine which measurements are new and receive only those.

There are only fields for the sensors in the hardware prototype kit but the more sensors the hardware can provide the more data can be collected this will help the users even more.

Table y: Measurements\_Table

|  |
| --- |
| Measurements\_Table |

|  |  |
| --- | --- |
| ID | IINTEGER PRIMARY KEY AUTOINCREMENT |
| TEMPERATURE | INTEGER |
| TEMPERATUE FLAG | INTEGER |
| HEARTRATE | INTEGER |
| HEARTRATEFLAG | INTEGER |
| DATE | TEXT |
| SQLID | INTEGER |

Measurements, MeasurementsChart and MeasurementsTable are three fragments each one provides a different style of displaying the data, the three fragments share one menu where the switching between the fragments takes place as explained in figure x and x+1.

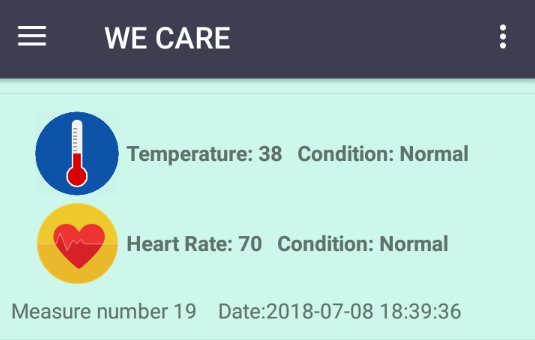
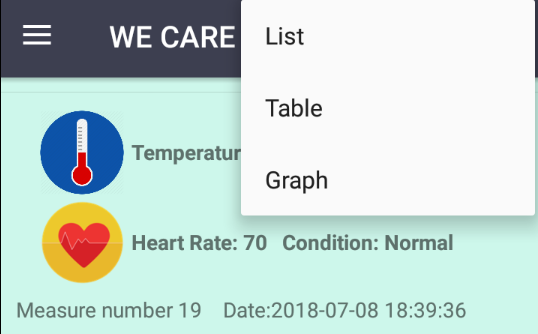
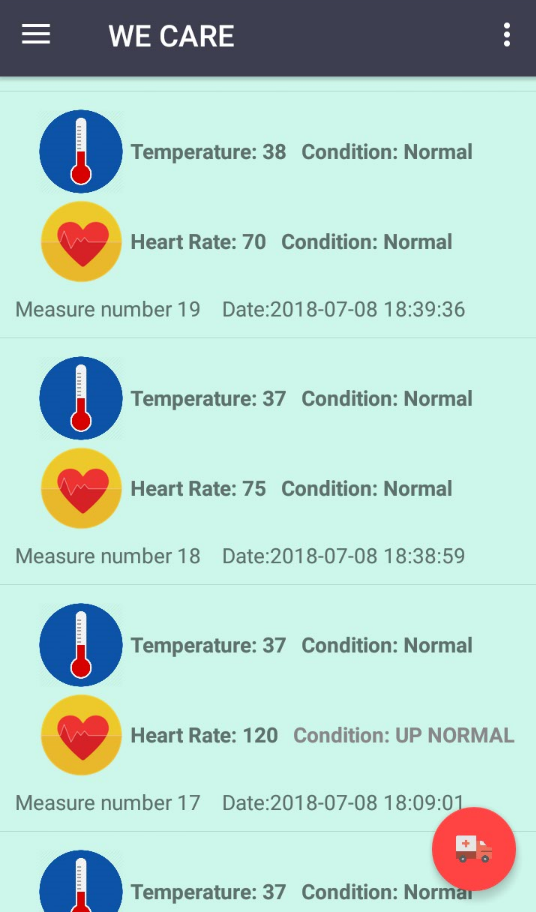
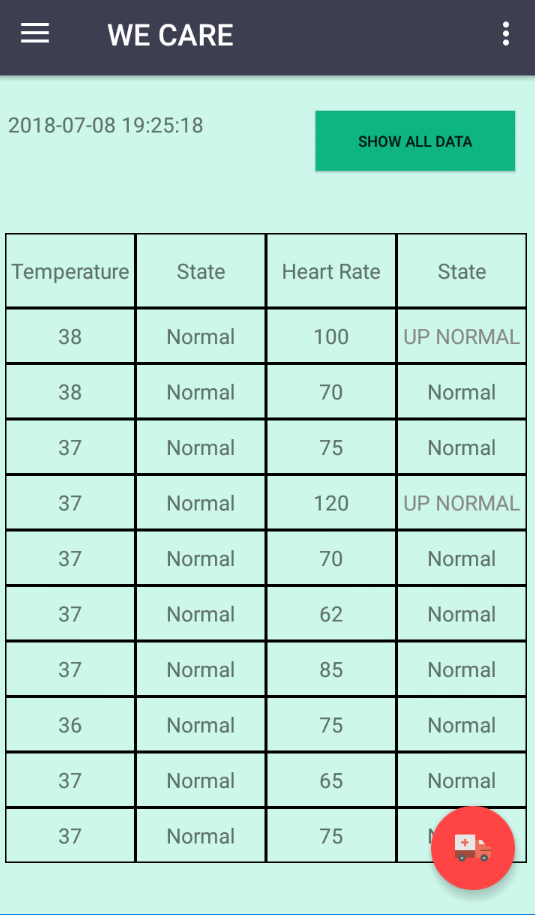
 

Figure x figure x+1

MeasureMYSqlHandler is a inheriting the super class AsyncTask and handles the networks operation by receiving the new measurements from the database and pass the received values to be stored and take actions based on the condition, all this happens in a new thread to execute side by side with the other functions the application provides instead of putting every thing an hold till the data is received.

As mentioned above the three fragments provide different ways to display the data in figures x, x +1 and x+2 the three layouts that Measurements, MeasurementsChart and MeasurementsTable inflates is shown. Figure x+2 shows how the chart allow the user to zoom in or out to view a specific period or vlues.



The functions this fragment provides are shown in figure x+3 to summarize its operation

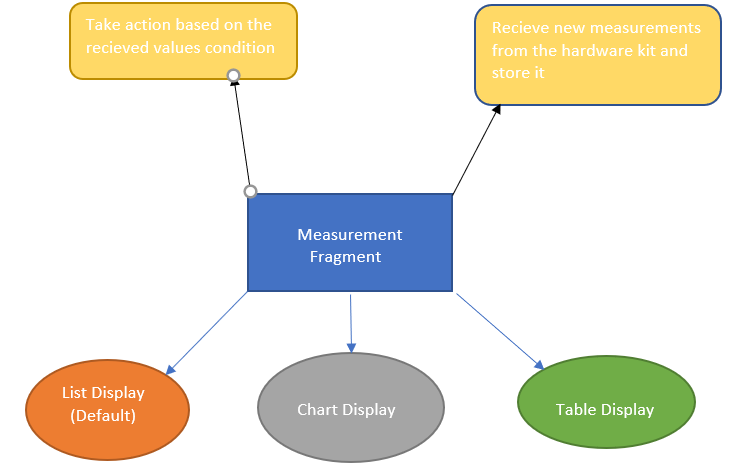


Figure x+3