Project Report (23 to 30 July 2020)

The data stored on the server is sent by the meters in the form of JSON files (explained in the previous report). The app accesses the server and displays the data on a device. The majority of this week's work was towards fetching these JSON files from a server we created and displaying them. After initially facing difficulties, we were successful at showing the JSON data.

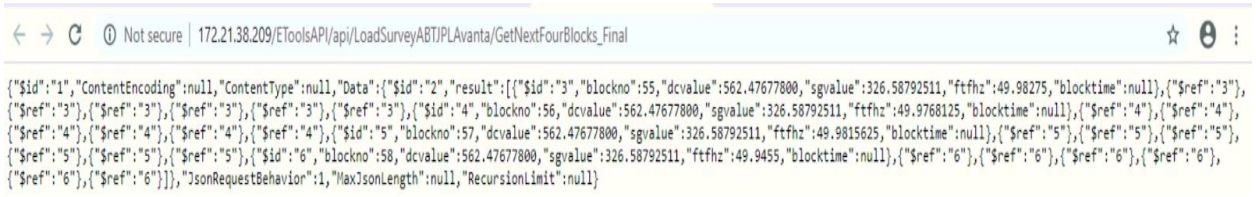
Finally, the only thing that is incomplete in the app is the login portal, required for authentication as well as to keep the user's session active. It is also the most challenging part for us since it requires some knowledge of networking (a topic unfamiliar to our team) and we are researching about it. We have outlined the method to create the login portal as follows:

> Cookies: these are small files which contain login information. After logging in by entering the username and password, if the login is successful, the server sends this file to the device. Then, the phone keeps sending back this file to prove its 'identity' to the server.

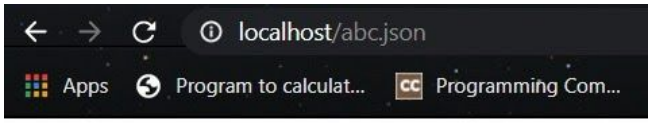
We were able to fetch cookies from the server. Additionally, we were also able to create a login portal locally (without the server) and were able to achieve session tracking on it. However, we are facing difficulties in making login on the server.

The following are the screenshots related to what we were able to achieve:

1. Data stored in the server (JSON format): information such as Block number, DC Value, SG Value and Block time are visible in the first line.



2. Sample Data which we hosted on our server (in the same format as the above data). We have added spacing for visibility.




```
{
   "TimeBlock":"12:00-12:15",
    "Data" : {
        "SG":400,
        "AG":200,
        "PreviousBlock":{
                        "SG":20,
                        "AG":30
                }
        },
    "Freq":50
}
```

3. Data Parsing, i.e. taking information such as values and storing them in their respective variables, e.g., the variable TimeBlock stores “12:00-12:15”.

```
Result after reading JSON Response
Time block- 12:00-12:15
Sg- 400
Ag- 200
Previous block Ag- 30
Previous block Sg- 20
Frequency- 50

BUILD SUCCESSFUL in 0s
2 actionable tasks: 1 executed, 1 up-to-date
```

Conclusion

As mentioned above, the creation of a login portal remains a challenging problem, but we are confident of working out a solution for it. Upon achieving this, we only need to assemble different components of our app into a coherent whole. This work is familiar to us and should take no time. We expect to complete the development of the app in two to three weeks