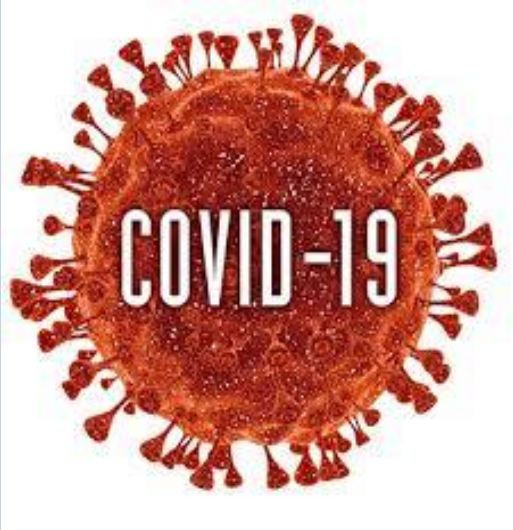
COVID-19 HOME CARE KIT

- GROUP ID: 777

GROUP MEMBERS:

- Akshay Shinde (B00813062)
- Charuhas Daware (B00815646)
- Parneet Lnu (B00816285)

MOTIVATION



WHY?

- COVID-19 is still spreading across the world and monitoring it in remote areas is still a tedious task

HOW?

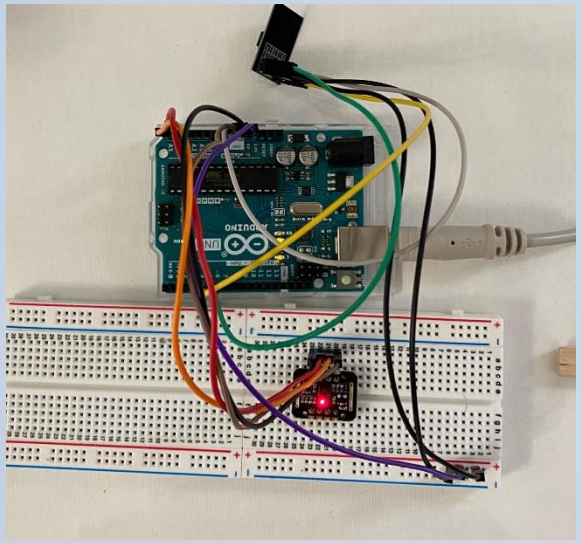
- Take remote health measurements and monitor them from anywhere at anytime

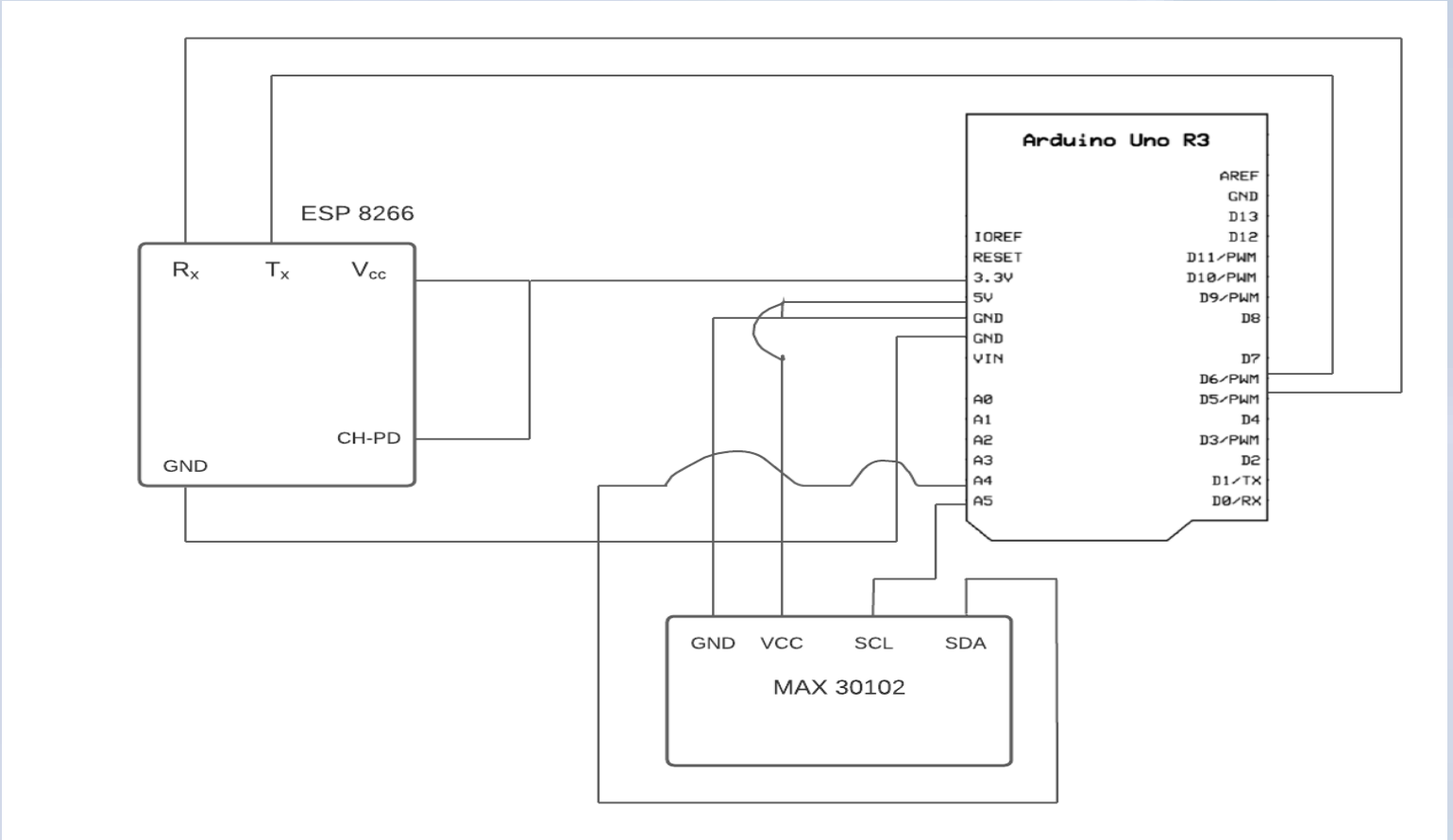
BACKGROUND

- This is a new technique intended to collect health stats, such as body temperature, heart rate and oxygen level of every individual who posses the kit and make it available to the medical advisor or health centers remotely so as to examine a COVID suspected patient
- With this medical device - incorporated with remote sharing technology, no individual will have to leave their houses for health checkup.

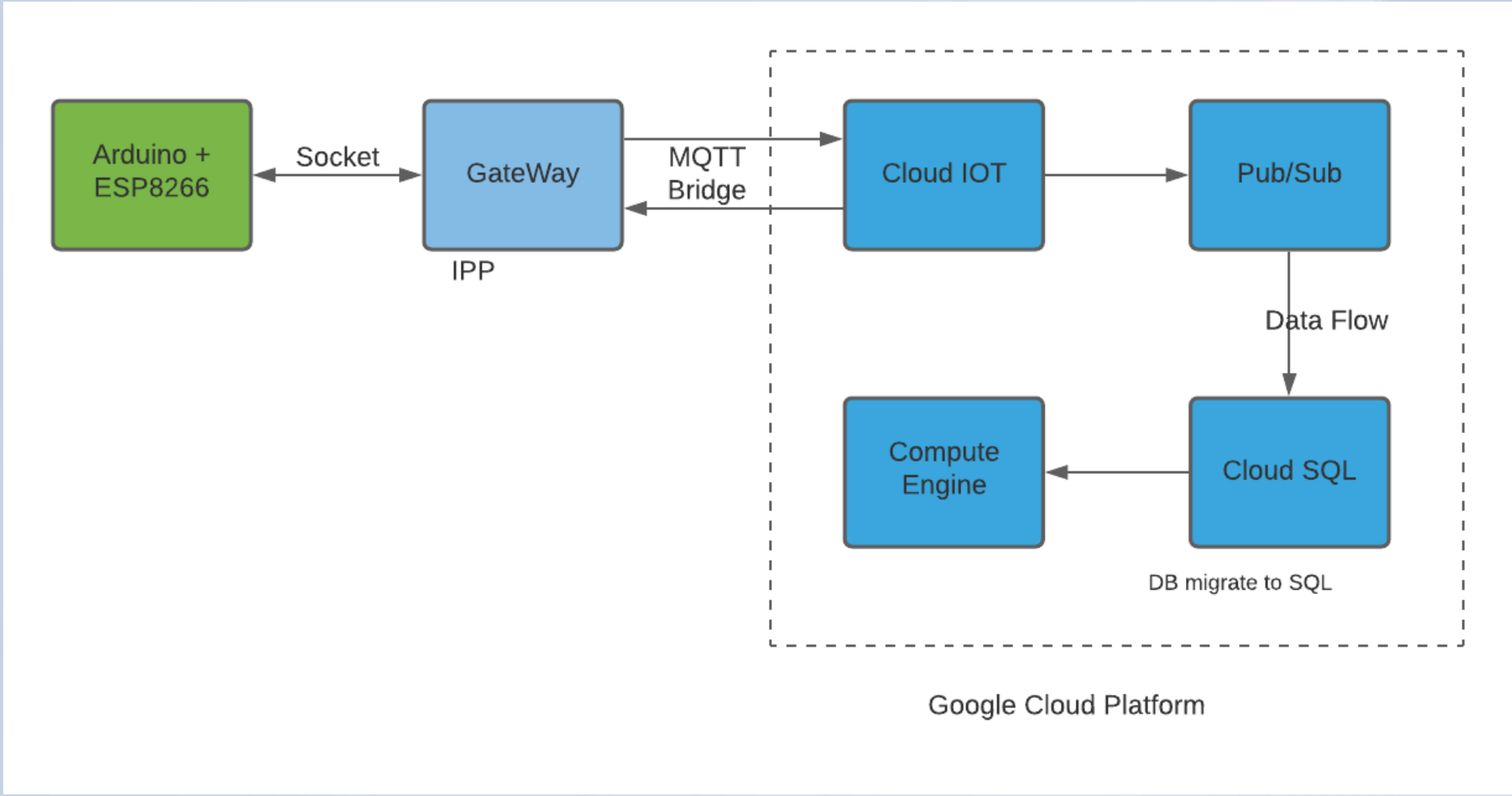
Hardware Specifications

- Arduino microcontroller (Arduino Uno R3)
- Breadboard
- Heartbeat sensor module (MAX 30102)
- Blood Oxygen sensor module (MAX 30102)
- Temperature Sensor (MAX 30102)
- WiFi module (ESP8266)





Project Architecture



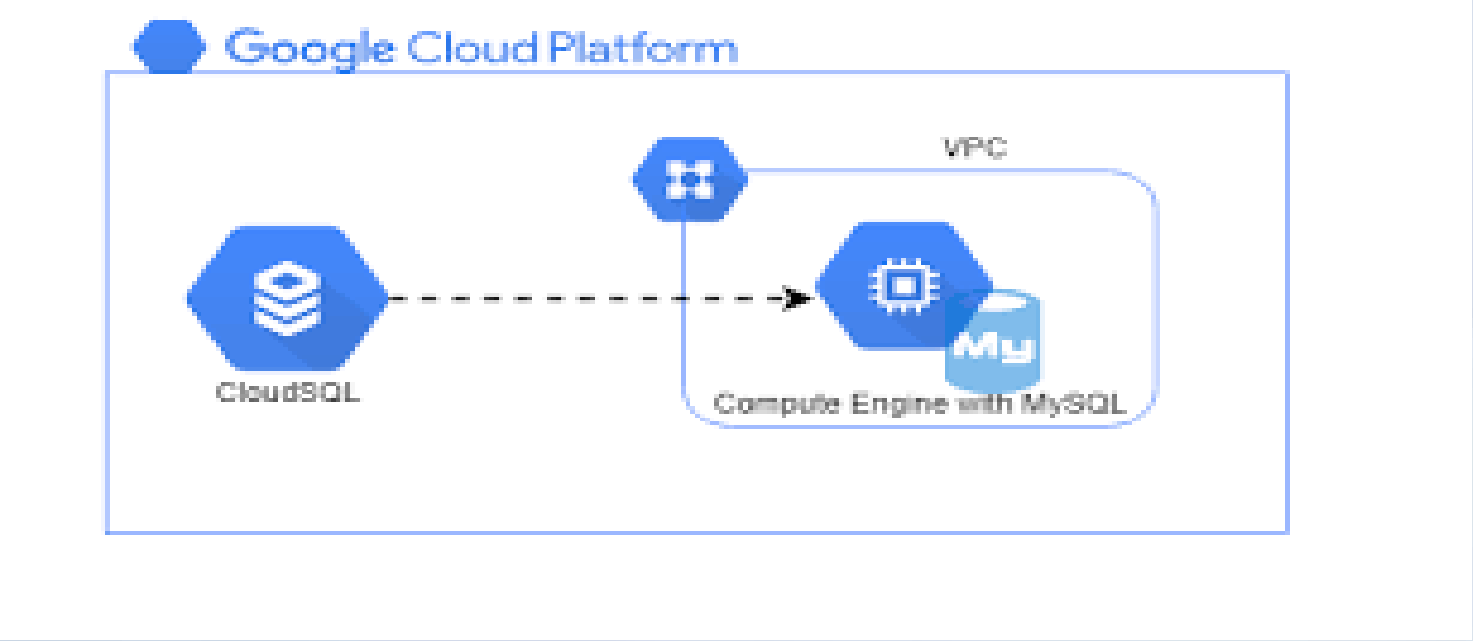
Cloud Technologies Used

Compute Engine – It is an Infrastructure as a service component using which we hosted our website.

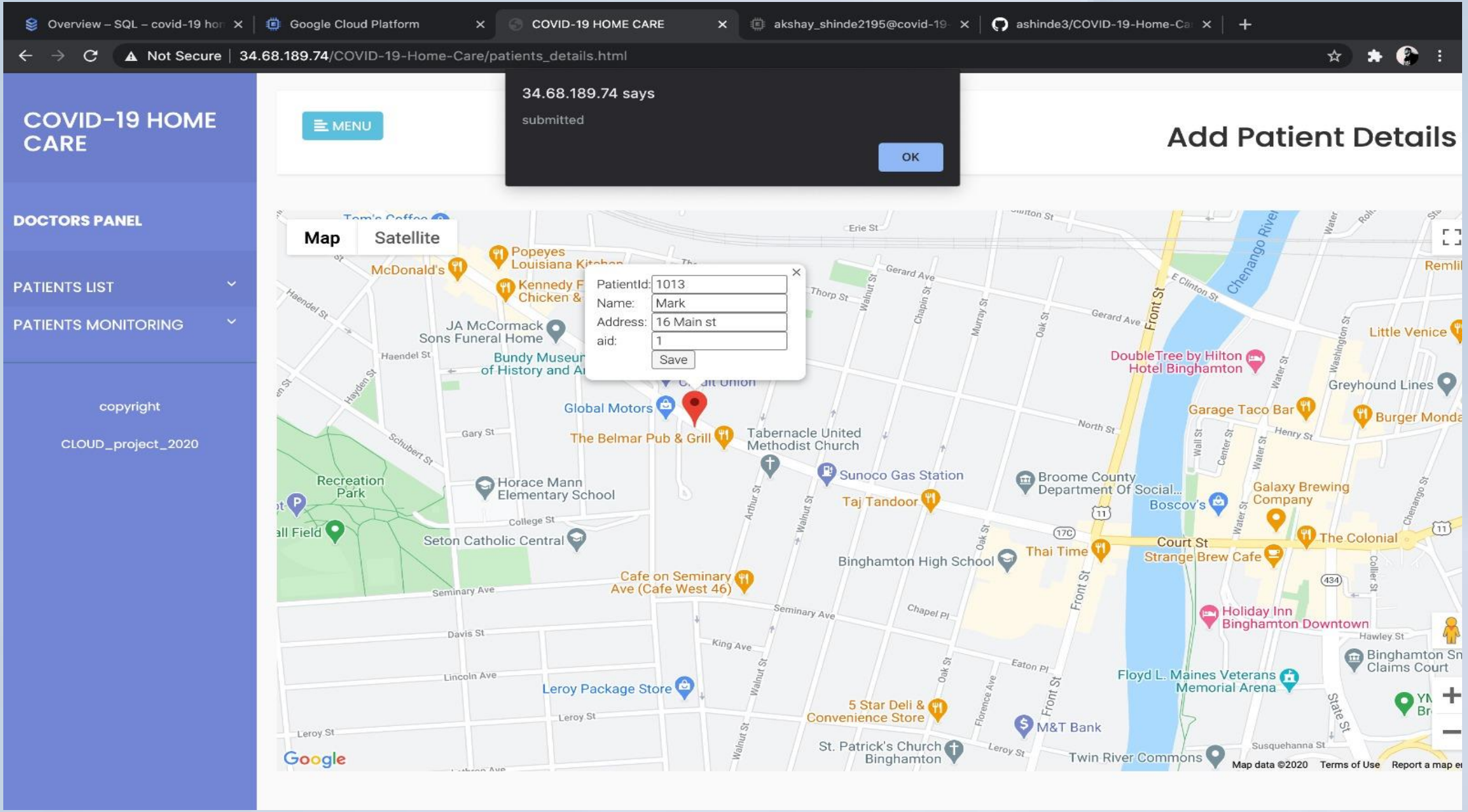
CloudSQL -It is fully managed database service that helps to maintain setup and administer MySQL database. We used this service of GCP to maintain database for our website.

Cloud Technologies Used

- Cloud IoT Core – It is fully managed service that helps to connect, manage and ingest data from IoT devices.



Demo


Overview – SQL – covid-19 hor
Google Cloud Platform
COVID-19 HOME CARE
akshay_shinde2195@covid-19
ashinde3/COVID-19-Home-Ca
Not Secure | 34.68.189.74/COVID-19-Home-Care/patients_details.html
COVID-19 HOME CARE
DOCTORS PANEL
PATIENTS LIST
PATIENTS MONITORING
copyright
CLOUD_project_2020
MENU
34.68.189.74 says
submitted
OK
Add Patient Details
Map
Satellite
PatientId: 1013
Name: Mark
Address: 16 Main st
aid: 1
Save
Popeyes Louisiana Kitchen
McDonald's
JA McCormack Sons Funeral Home
Global Motors
The Belmar Pub & Grill
Tabernacle United Methodist Church
Sunoco Gas Station
Taj Tandoor
Broome County Department Of Social...
Boscov's
Galaxy Brewing Company
The Colonial
Court St Strange Brew Cafe
Thai Time
Binghamton High School
Horace Mann Elementary School
Recreation Park
Seton Catholic Central
Cafe on Seminary Ave (Cafe West 46)
Leroy Package Store
5 Star Deli & Convenience Store
M&T Bank
St. Patrick's Church Binghamton
Twin River Commons
Floyd L. Maines Veterans Memorial Arena
Holiday Inn Binghamton Downtown
DoubleTree by Hilton Hotel Binghamton
Garage Taco Bar
Greyhound Lines
Little Venice
Chenango River
Front St
Seminary Ave
College St
Davis St
King Ave
Lincoln Ave
Leroy St
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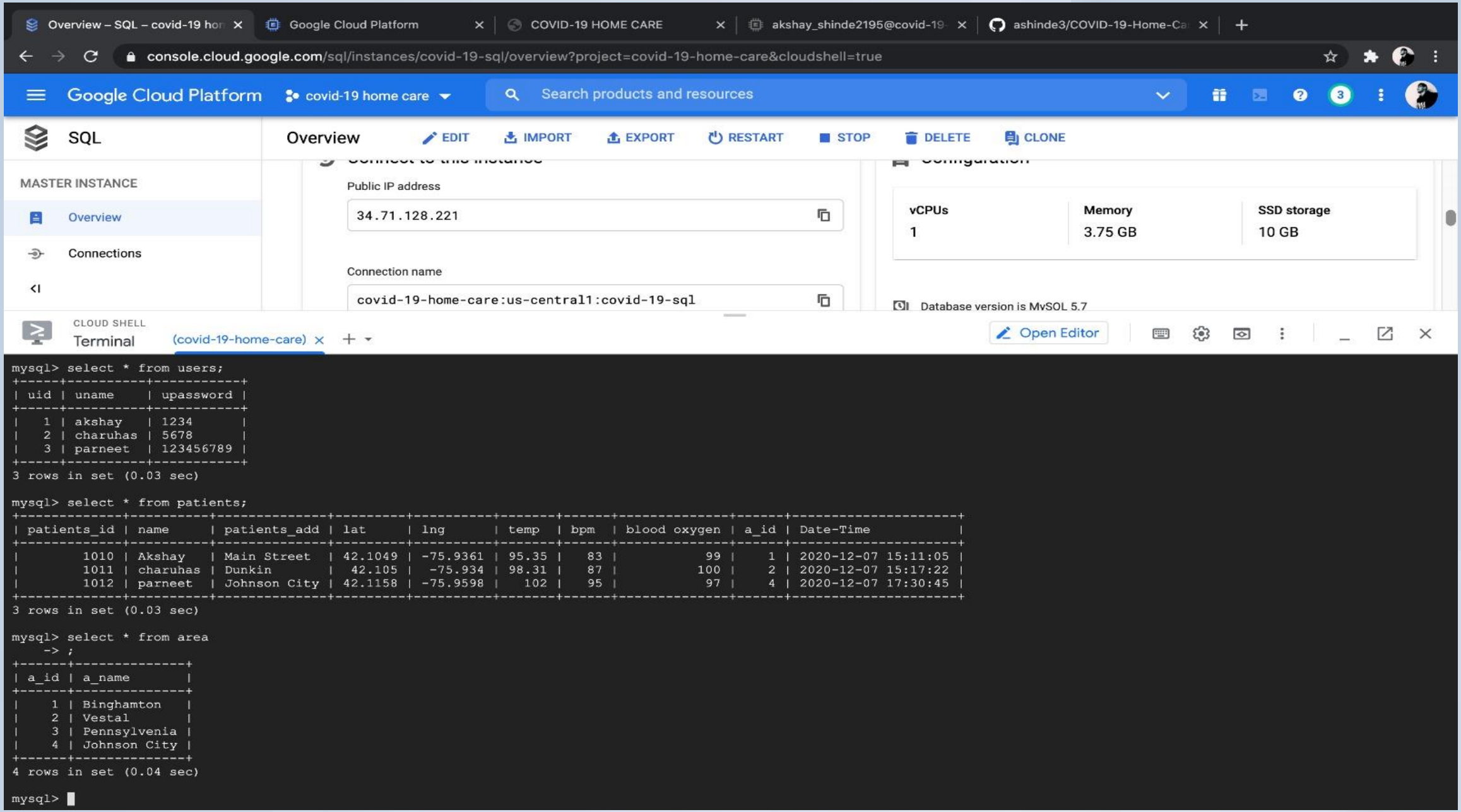
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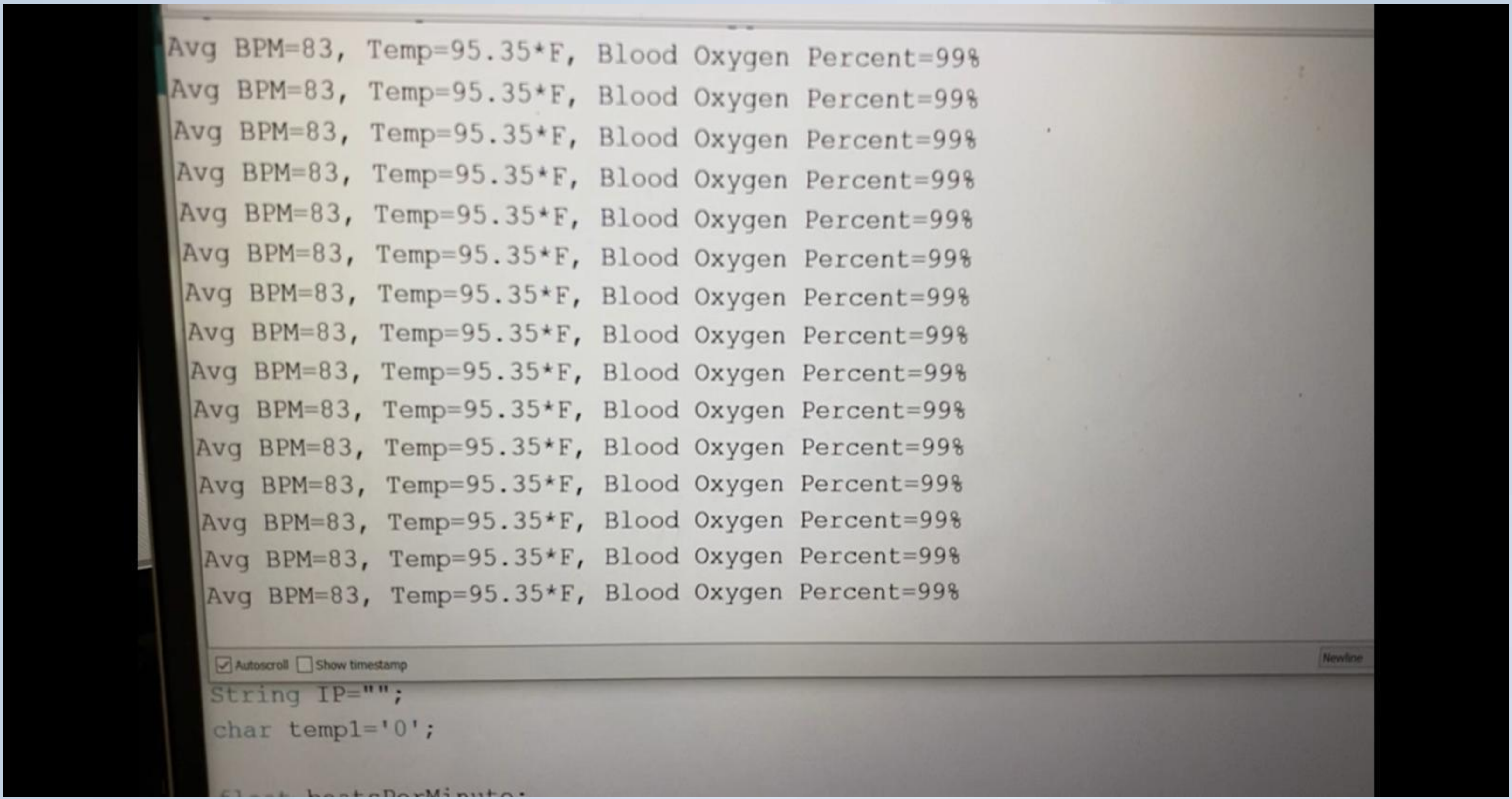
Google Cloud Platform
COVID-19 HOME CARE
akshay_shinde2195@covid-19
ashinde3/COVID-19-Home-Ca
console.cloud.google.com/sql/instances/covid-19-sql/overview?project=covid-19-home-care&cloudshell=true
Google Cloud Platform
covid-19 home care
Search products and resources
SQL
Overview
EDIT
IMPORT
EXPORT
RESTART
STOP
DELETE
CLONE
MASTER INSTANCE
Overview
Connections
Public IP address
34.71.128.221
Connection name
covid-19-home-care:us-central1:covid-19-sql
vCPUs
1
Memory
3.75 GB
SSD storage
10 GB
Database version is MySQL 5.7
CLOUD SHELL
Terminal
(covid-19-home-care)
Open Editor
mysql> select * from users;
+-----+----------+-----------+
| uid | uname | upassword |
+-----+----------+-----------+
1	akshay	1234
2	charuhas	5678
3	parneet	123456789
+-----+----------+-----------+
3 rows in set (0.03 sec)
mysql> select * from patients;
+-------------+----------+--------------+---------+----------+-------+------+--------------+------+---------------------+
| patients_id | name | patients_add | lat | lng | temp | bpm | blood oxygen | a_id | Date-Time |
+-------------+----------+--------------+---------+----------+-------+------+--------------+------+---------------------+
1010	Akshay	Main Street	42.1049	-75.9361	95.35	83	99	1	2020-12-07 15:11:05
1011	charuhas	Dunkin	42.105	-75.934	98.31	87	100	2	2020-12-07 15:17:22
1012	parneet	Johnson City	42.1158	-75.9598	102	95	97	4	2020-12-07 17:30:45
+-------------+----------+--------------+---------+----------+-------+------+--------------+------+---------------------+
3 rows in set (0.03 sec)
mysql> select * from area
    -> ;
+------+--------------+
| a_id | a_name |
+------+--------------+
1	Binghamton
2	Vestal
3	Pennsylvenia
4	Johnson City
+------+--------------+
4 rows in set (0.04 sec)
mysql>


Avg BPM=83, Temp=95.35*F, Blood Oxygen Percent=99%
Avg BPM=83, Temp=95.35*F, Blood Oxygen Percent=99%
Avg BPM=83, Temp=95.35*F, Blood Oxygen Percent=99%
Avg BPM=83, Temp=95.35*F, Blood Oxygen Percent=99%
Avg BPM=83, Temp=95.35*F, Blood Oxygen Percent=99%
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Avg BPM=83, Temp=95.35*F, Blood Oxygen Percent=99%
Avg BPM=83, Temp=95.35*F, Blood Oxygen Percent=99%
Avg BPM=83, Temp=95.35*F, Blood Oxygen Percent=99%
Autoscroll
Show timestamp
Newline
String IP="";
char temp1='0';

Conclusion and Future Scope

This technology is another step towards remote medical services which is beneficial to the young, old, and the far located. It will help track the COVID patients around the globe leading to monitoring and controlling the spread of this pandemic.

Future Scope:

- Increase the count and quality of sensors.
- Make another portal for patients to login and track their data.
- Currently one device can record and update data for a single patient. This can be improved such that a single family can use a kit.

Technologies Used

Thank you!!