POLLUTION CHECK

MINISTRY OF ROAD TRANSPORT & HIGHWAYS

Air pollution is very high In many cities of INDIA. Due to resource constrain the Pollution check is not captured. A solution to this problem needs to be developed which is effective and efficient.

TEAM:

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CONTENTS

- INTRODUCTION
- WORKING
- BLOCK DIAGRAM
- HARDWARE SPECIFICATIONS
- SOFTWARE SPECIFICATIONS
- FEATURES
- ADVANTAGES
- KEY POINT
- CONCLUSION

INTRODUCTION

Now a days due to resource constraints pollution check is not captured . so to overcome this problem we have evolved a method that is we have designed an app which gives us pollution percentage in a particular area and basing on the pollution levels it gives some suggestions like:

- USE MASK WHILE DRIVING TO GET RID OF LUNG DISEASES.

If we implement this , So just by using this app we can analyse pollution through out India .

WORKING

- This is an embedded project. Here we have used mainly arduino board ,air quality sensor and IOT module to link up with the app. When the pollution levels increases air quality sensor captures the voltage levels and the variations in voltage levels tells us the quality of air. we have developed the code that converts voltage levels into percentage levels. we have to dump the code into the arduino board .so the it views the pollution percentage .

- Now the main step in the project is the we have to dump the main IOT code to the IOT module .so that we can access the app and transmit information through wireless. As we are updating day to day percentage data base may increase so to overcome that problem it will aggregate the values for two or three days after that it aggregates per week and after per month so that data base may decrease.

TOTAL NETWORK OF POLLUTION CHECKING & MONITOR
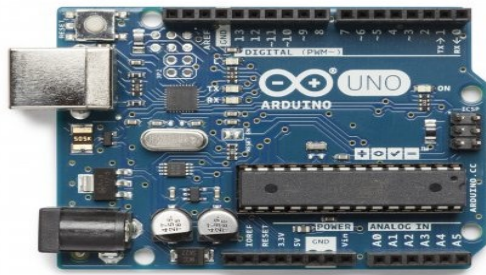
Pollution sensor:

HARDWARE SPECIFICATIONS
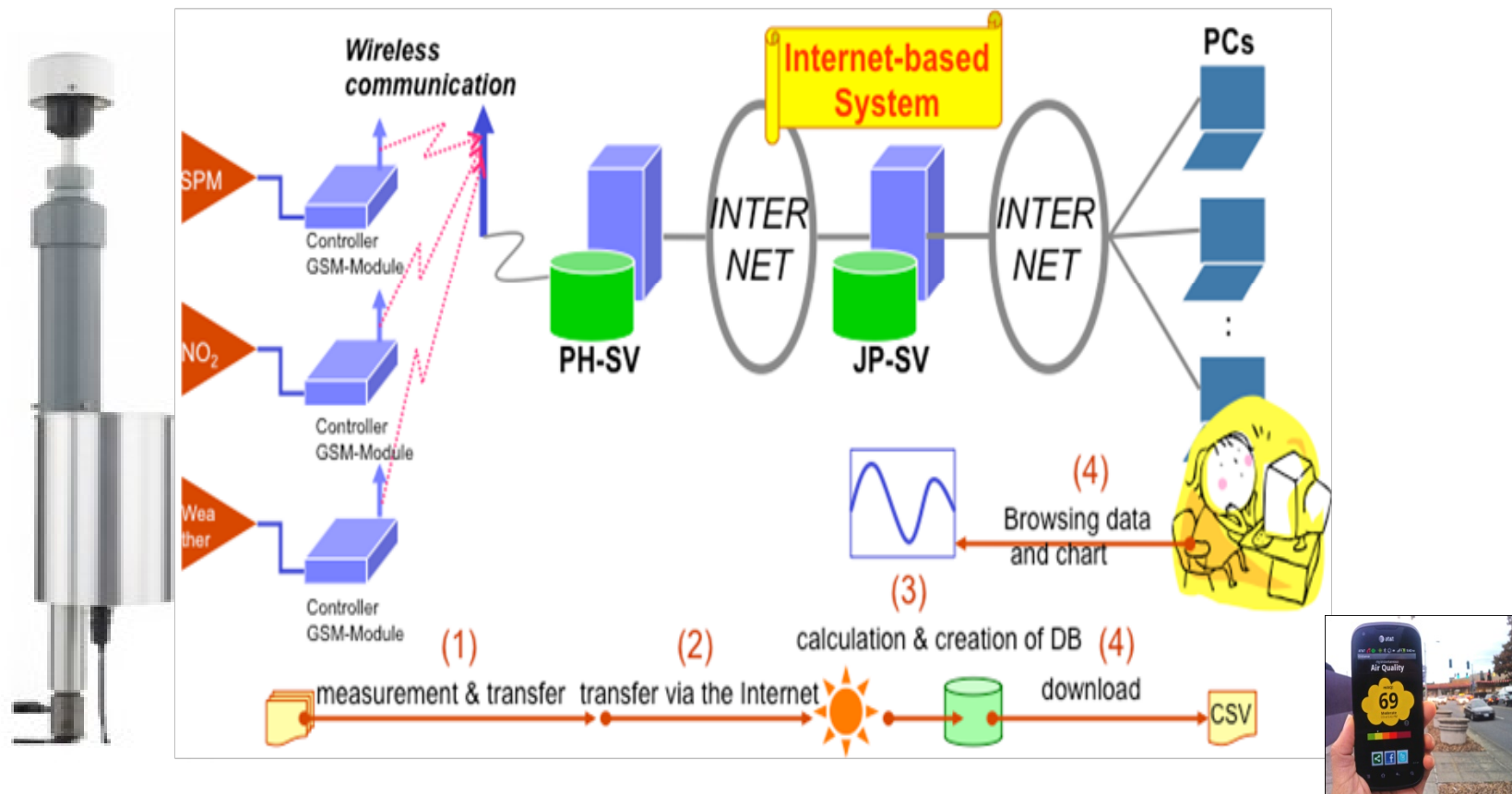
2.AEROQUAL SERIES 500

1.SMOKE DETECTOR MQ-2

- 2.Resistors--   100k ohms------1no
                       10k ohms -------1no

- Arduino UNO :

-   3.Patch chords

TECHNICAL SPECIFICATIONS :

Microcontroller	ATmega328P
Operating Voltage	5V
Input Voltage (recommended)	7-12V
Input Voltage (limit)	6-20V
Digital I/O Pins	14 (of which 6 provide PWM output)
PWM Digital I/O Pins	6
Analog Input Pins	6
DC Current per I/O Pin	20 mA
DC Current for 3.3V Pin	50 mA
Flash Memory	32 KB (ATmega328P) of which 0.5 KB used by bootloader
SRAM	2 KB (ATmega328P)
EEPROM	1 KB (ATmega328P)
Clock Speed	16 MHz
LED_BUILTIN	13
Length	68.6 mm
Width	53.4 mm
Weight	25 g

SOFTWARE SPECIFICATIONS

- ARDUINO IDE(1.8.1)

- ESP8266 BOARD & Libraries

- ANDROID STUDIO

ADVANTAGES

- Automatic pollution updates.
- Easy access.
- Low cost.
- Less maintenance required.
- Complexity in updating is reduced.
- Suggestion messages are sent to user.
- By averaging the values we can reduce the data base than it required.

KEY POINT

❑ The main advantage of this app is we get a alert message when pollution percentage cross certain limit that we have predefined.

❑ Basing on the type of pollution and percentage of pollution user will get an alert message so that some what health assurance can be done through this app.

CONCLUSION

- By using this app we can get the pollution percentage along with the suggestion messages.

- And the data we have collected day to day will convert to aggregate for certain interval i.e., per one week aggregate after that it convert into monthly average and 6 months average later yearly average like that so that data base reduces.