**CRACK THE COVID-19 CRISIS BY NASSCOM FUTURE SKILLS AND IBM**

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**SOLUTION BRIEF OVERVIEW:**

In the present pandemic situation, all the frontline health workers and garbage collectors are risking their lives in treating patients and keeping the premises clean. The medical waste from the hospitals and quarantine centres are equally dangerous compared to the affected person. Single pin from the hospital may contain the virus which can affect the frontline waste collectors or staff of hospitals. With the danger of COVID-19 looming large in the country, sanitation workers are being exposed to the increasing risks because of the pandemic. The workers of the Corporation continue to work without protective gear even as panic grips populations across the world due to the highly infectious disease. These workers are yet to receive any of the protective gear entitled to them for the past two years. When utmost care is being advised to prevent a community spread, the government has neglected the basic needs of these workers.

The demands of protective gears for all health workers are being raised by many, as they are more prone to getting exposed to the threat.

Where the whole nation is in lockdown these workers are keeping municipalities and cities clean. Workers are not educated to take proper precautions in some areas which can disturb social distances. There is a chance of spreading the virus through medical waste or other from quarantine centres. Taking an example of present Dharavi in Mumbai where maximum people are such workers affected much which is causing a rise in cases. Here we propose a **sanitize bin** which is enabled with UVD (Ultraviolet disinfect) tubes and a system to intimate the level of waste in the bin. The UVD tubes emit a narrow spectrum of ultraviolet-C (UVC) light, called far-UVC, at a wavelength of about 222 nanometers. For a short time of exposure can kill around 98% of viruses and bacteria, this includes airborne such as H1N1 influenza. This light penetrates bacteria, viruses and emits enough energy to break the structure of DNA or RNA of any microorganism. These bins are centralized each to a society where all the garbage from houses get collected and stored until disinfected then taken to yards. This system monitoring can be done using Watson IoT platform of IBM cloud.

* **Existing system:-**

In the present system, workers come to collect garbage daily whether there is garbage or not. Medical waste from the hospitals and quarantine centres are not segregated and getting mixed with common garbage of houses of municipalities. There is no monitoring in garbage collection and for the overflow of garbage. There is a high chance of workers get affected and the outbreak of new infections from the garbage. The only sanitizing method used is spraying chemicals in surroundings which are not enough to control. The animals may also get affected (Covid-19 is not affected by animals) to other infections.

* **Proposed system:-**

In our proposed system, which is the IoT based smart garbage monitoring system; there is real-time monitoring with alerting facility. Overflow of waste can also cause the spread of infections, so here we are using a UV sensor for indicating the garbage level. Monitoring can be done using a microcontroller enabling four LED’s which indicates the level of waste. A shutter mouth is also present to the bin which can be controlled using hydraulics of smaller level. The microcontroller present controls the shutter mouth, indicates the level of garbage through LED’s, sends an alerting message to authorized official using GSM module and also controls the emission of UVD tubes. These all functions can be monitored or controlled using Watson IoT platform. We can develop an application where we can perform such functions mentioned above.