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|  | **HASAN KALYONCU UNIVERSITY**  **Computer Engineering Department** **COME 499 Project Proposal Form** |

**Part I. Project Proposer**

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**Part II. Project Information**

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| **Starting Term** | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 2 | 0 | 1 | 9 | / | 2 | 0 | 2 | 0 | |
| **Title of the Project** | Smart Dustbin - Smart Garbage Monitoring System |
| **Project Description** | |
| This project is to design an IoT (Internet of Things) based ‘Smart Garbage Monitoring System’. The problem that the cleaner face today is that they need to check all the dustbin whether it is full or not. Therefore, the time taken to clean the garbage and to check all the dustbin will increase.  The main objective of the proposed smart dustbin is to monitor the garbage level. For this the proposed system uses ultrasonic sensors placed over the bins to detect the garbage level and compare it with the garbage bins depth. This dustbin also can notify the cleaner when the dustbin is full, moreover it shows the status of the garbage. The microcontroller Arduino Uno will be used in this project. Blynk apps will be used to get the information from the dustbin and to notifying the cleaner about the dustbin garbage. Blynk will send the notification to the smartphone and status of the garbage. There are three status with three different reading values, namely, empty status where the reading value is 0%, half-full where the reading value is 50% and Full status where the reading value is 100%. The value of each statue depends on how far the garbage from the sensor. | |
| **Project Justification** | |
| **Novelty** | |
| **New aspects** | This undertaking of IoT Garbage Monitoring System is a very innovative scheme which will help to keep the cities clean and jerk. |
| **Complexity** | |
| **Challenging problem and issues** |  |
| **Related computer science fields and subfields** | Internet of Things, Software Engineering |
| **Tools** | The hardware required for this project are Arduino Uno, ultrasonic sensor, WiFi module ESP8266, LED, resistor and servo motor. The apps used is the Blynk. |
| **Risk involved** | |
| **Potential problems and alternative solutions** | System testing and documentation may take longer than expected due to last minute errors in implementation, calibration, and evaluation. So we are planning to perform unit testing as early as possible. |
| **Minimum work required** | 4 MONTHS |