

ASPIRATOR

**CMR College of Engineering & Technology**

***(Autonomous)***

***(NAAC Accredited with A+ Grade and NBA Accredited)***

**Kandlakoya , Medchal Road, Hyderabad 501401**

Centre for Engineering Education Research (CEER)

Social Innovation &Practice (A.Y:2023-24)

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| **TEAM DETAILS** |
| 1. B.Rishitha 22H51A6610 2. M.Venkatesh 22H51A6635 3. O.Shashank 22H51A6644 4. N.Srinidhi 22H51A6656 5. D.Manikanta 23H55A6605 |
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| **PROJECT OBJECTIVE** |
| * To enable the vacuum cleaner to move seamlessly with less effort and efficiently clean the dust on road with good suction |

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| **PROJECT COORDINATORS** |
| 1. Mr. P. MaheshBabu, Asst. Professor,CEER   /MECH   1. Mr. K.Ravi Kiran, Asst. Professor,CEER/ ECE 2. Mr. B. Venkateshwar Rao, Asst. Professor, CEER /ECE |
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| **EXISTING SYSTEM** |
| 1. Road vacuum cleaners 2. Leaf vacuums 3. Walk behind Vacuum cleaners |
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| **USER REQUIREMENT** |
| 1. Arduino UNO 2. L293D motor driver 3. Ultrasonic sensors 4. Gear motor 5. Robot wheels 6. Li – ion Battery 7. CPU fan |

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| **GAPS IN THE EXISTING SOLUTIONS** |
| * High cost * Unidirectional * Partial cleaning * High maintenance * Use of man power * Time consuming |

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| **ISSUE** |
| * Cleaning the streets / roads is difficult and challenging task for GHMC vehicles to clean the dust and collect the waste on both sides of the road . It is also a time consuming process to again turn the vehicle to clean on the other side of the road . The present GHMC vehicles does partial cleaning on the road , they just sweep the dust to the sides of road but does not collect them. |

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| **METHODOLOGY** | |
|  | When we on the vacuum cleaner vehicle  the direction of the wheels is in forward  direction . When the vehicle encounters a  divider or any obstacle in front of it ,  changes the direction to it and again sets to  forward direction . Simultaneous the  vacuum suction system is always in the  ON mode so that it continuously cleans the  dust thereby covering large area. |