SmallSEOTools

PLAGIARISM SCAN REPORT

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1.3 Objectives of Project The objective of this project is to design the automatic braking system in order to avoid the accident. To develop a safety vehicle braking system using ultrasonic sensor and to design a vehicle with less human attention to the driving. The objectives of the project are listened below: • To detect an object in front of the vehicle. • To calculate the distance between the object and the vehicle. • To slow down vehicle to avoid an accident. • To capture the road signs on besides of roads. • To give guidelines according to captured road sign. This project is necessary to be attached to every vehicle. Mainly it is used when drive the vehicles in night time. Mostly the accident occurred in the night time due to long travel the driver may get tired. So, the driver may hit the front vehicle or road side trees. By using this project, the speed of vehicle get slowdown. So, we can avoid the accident. 1.4 Limitations and Scope The scope of this project is to develop an ultrasonic sensor to detect the obstacles and to process the output from the ultrasonic sensor to drive the servomotor an actuator. Vehicles can automatically brake due to obstacles when the sensor senses the obstacles. The focus of this project is designing an automatic braking system that can help driver to control the braking system of a vehicle. The automatically braking system also needs to work with an ultrasonic sensor, which produces light by Arduino. The ultrasonic wave is generated transmitter and sends to a Driver. The accuracy of the guideline system is depending on training data. Less amount of data gives less accuracy. And it is difficult to collect real-time datasets in huge amounts. During capturing road signs camera sensors can loss little accuracy due any environmental situations. 1.5 Timeline for Project TOPIC START DATE END DATE Domain Selection 30/07/2019 06/08/2019 Domain Finalization 06/08/2019 13/08/2019 Selection of Problem Statement 13/08/2019 20/08/2019 Finalization of Problem Statement 20/08/2019 03/09/2019 Study on Research Paper 03/09/2019 07/09/2019 Documentation of Synopsis 07/09/2019 14/09/2019 Requirement Analysis 14/09/2019 17/09/2019 System Requirement 17/09/2019 21/09/2019 Module Identification 21/09/2019 24/09/2019 System Architecture 24/09/2019 29/09/2019 Implementation 25% 29/07/2019 12/10/2019 Testing 25% 12/10/2019 15/10/2019 Implementation 50% 07/01/2020 28/01/2020 Testing 50% 28/01/2020 31/01/2020 Implementation 75% 31/01/2020 14/02/2020 Testing 75% 14/02/2020 22/02/2020 Implementation 100% 22/02/2020 02/03/2020 Testing 100% 02/03/2020 10/03/2020 Report Making 10/03/2020 21/03/2020 1.6 Cost of project: Sr No. Equipment Unit Price (Rs) 1. Arduino 1 345 2. Breadboard 1 70 3. LED 4 10 4. Jumping wire 1 Packet 100 5. 3-wheel Robo 1 400 6. Battery 4 120 7. Raspberry pi 1 5000 8. Raspberry pi camera 1 1000 9. HDMI cable 1 300 10. Data cable 1 200 11. Speaker 1 175 12. Ultrasonic sensor 1 250 TOTAL 7970 Estimated cost by considering other factors will be approx. - Rs. 8000/- 1.6.1 COCOMO Model In this project, the Cost Estimation based on COCOMO (Constructive Cost Model) the formula for this Model is follows: Effort = Constant × (Size) scale factor× Effort Multiplier – Effort in terms of person-months – Constant: 2.45 in 1998 based on Organic Mode – Size: Estimated Size in KLOC – Scale Factor: combined process factors – Effort Multiplier (EM): combined effort factors Functional Point Table The function point range in between 1-10 Conversion of Functional point to Lines of Code (LOC) Total function points = 6 □ Estimated Size – 300 LOC The basic COCOMO equations take the form Effort Applied (E) = ab (KLOC) bb [man-months] Development Time (D) = cb (Effort Applied) db [months] People required (P) = Effort Applied / Development Time [count] Where, KLOC is the estimated number of delivered lines (expressed in thousands) of code for project. The coefficients ab, bb, cb and db are given in the following table. Organic Mode: Effort Applied (E) = 2.5*(300) *1.15=862.5 Development Time (D) = 2.5*(4) *0.3= 3.0 People Required (P) = 862.5/3.0 = 3 people 2. BACKGROUND STUDY AND LITERATURE REVIEW 2.1 Technology review In the beginning, the system implemented with Arduino UNO, and it's going well. But there is some difficulty in between camera modules. So, in the next phase system implemented with Raspberry Pi. Now the whole system is comfortable with Raspberry Pi. We have a choice between distance sensors i.e. ultrasonic sensor and IR sensor. The system builds with an Ultrasonic sensor because it unaffected by Interference from light sources (e.g. sunlight, fluorescent tubes, etc.) and detection range is more than 1 meter, which is as compare to IR is very high (IR detects more appropriate an object closer than 10mm). 2.2 Literature review We found some of the literature papers based on smart vehicles that uses some technologies and devices that aims to this project. Some of the literatures are as follows- 2.2.1 Honda's idea of ABS which helps the rider get hassle free braking experience in muddy and watery surfaces by applying a distributed braking and prevents skidding and wheel locking. 2.2.2 Volvo launched XC60 SUV which was equipped with laser assisted braking. This is capable to sense a collision up to 50 MPS and apply brakes automatically. Drawbacks in the existing approaches: 2.2.3 ABS can only help if the rider applies it in right time manually and maintains the distance calculations. ABS have its own braking distance. Moreover, most of the commuter bikes in India don't have ABS because it's very expensive. 2.2.4 Volvo's laser assisted braking could not work

effectively in rainfall and snowfall season and laser are easily affected by atmospheric conditions. 3. REQUIREMENT ANALYSIS 3.1 Functional requirements 3.1.1 Module: Object Detection Input: Ultrasonic waves Output: Object Detected Description: 1. The Ultrasonic waves transmitter transmits ultrasonic waves. 2. if any object detected then ultrasonic wave sends back to the ultrasonic receiver receives.

Sources	Similarity
Automatic Braking System To Avoid Road Accidents the objective of this project is to design the automatic braking system in order to avoid the accident. pneumatic auto braking system. scope: this project is necessary to be attached to every vehicle. mainly it is used when drive the vehicles in night time. https://learnmech.com/automatic-braking-system-to-avoid-road-accidents/	30%
Design and Implementation of Automatic Emergency Braking System to design a vehicle with less human attention to the driving. scope of project is to develop an ultrasonic sensor to detect the obstacle and to process the output from the ultrasonic sensor and to drive the pneumatic cylinder as an actuator. working principle the system is consist of two... https://learnmech.com/design-and-implementation-of-automatic-emergency-braking-system/	10%
Automatic braking system whole project documentation.docx pdf vehicles can automatically brake due to obstacles when the sensor senses the obstacles. the focus of this project is designing an automaticallythe distance value at which automatic braking should start is already stored in the microcontroller. when the measured distance reaches this value... https://pt.slideshare.net/SyedmuhammedHussainabbas/automatic-braking-system-whole-project-documentationdocx-pdf	5%
Microsoft PowerPoint - CISC322_09_Cocomo_Example [Compatibility...] cocomo ii. effort = constant × (size)scale factor × effort multiplier. – effort in terms of person-months – constant: 2.45 in 1998 – size: estimated size in kloc – scale factor: combined process factors – effort multiplier (em): combined effort factors. https://research.cs.queensu.ca/home/ahmed/home/teaching/CISC322/F08/slides/CISC322_09_Cocomo_Example.pdf	4%
C code for Basic Cocomo Model | Coders Hub: Android Code... development time (d) = cb (effort applied)db [months]. average staff size (ss) = effort applied / development time [person]. productivity (p) =kloc/effort applied [kloc/pm]. where, kloc is the estimated number of delivered lines (expressed in thousands) of code for project. https://www.coders-hub.com/2013/05/c-code-for-basic-cocomo-model.html	8%
Estimating SAP Software Development Projects Using Customized... people required (p) = effort applied / development time [count]. where, kloc is the estimated number of delivered lines (expressed in thousands) ofonce the weighting is applied to the count of each component, we get the estimation factors. a rating is then performed on 14 influencing factors... https://www.methodsandtools.com/archive/estimatingsap.php	4%
Synopsis | Anti Lock Braking System | Brake this is capable to sense a collision up to 50 mps and apply brakes automatically [1] drawbacks in the existing approachesin this formula the condition of brakes and the road conditions are not considered for coefficient of friction μ. table showing braking distance https://www.scribd.com/document/334270935/Synopsis	3%