



COLLEGE OF COMMUNICATION AND INFORMATION TECHNOLOGY

WHEEL ALIGNMENT AND TERRAIN AUTO-MONITORING

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A Project Design presented to the Faculty of the
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In Partial Fulfillment of the Requirements for the degree
Bachelor of Science in Computer Engineering
Ramon Magsaysay Technological University
Iba, Zambales


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COLLEGE OF COMMUNICATION AND INFORMATION TECHNOLOGY

CERTIFICATION


This project design entitled "**WHEEL ALIGNMENT AND TERRAIN AUTO-MONITORING**", prepared and submitted by Justine Louise C. Sison, Donald E. Edillor and Jairus E. Edulag in partial fulfillment of the requirements for the degree Bachelor of Science in Computer Engineering, has been examined and recommended for Oral Examination.


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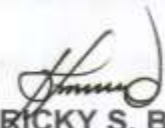
APPROVAL

Approved by the Panel of Examiners on Oral Examination on March 4, 2016.



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Abstract

Determining the angle position and turning direction of a car's wheel is essential before starting its engines to avoid accidents and unnecessary circumstances that could bring harm to people's lives.

This project was entitled "Wheel Alignment and Terrain Auto-Monitoring". It provides the driver a visual display of the wheel alignment of a certain car, and automatically monitor the terrain stability for better and safer driving experience.

By using the knowledge of circuits, sensors, Arduino Uno microcontroller and several display modules, the project has been made possible to accomplish.

The modules used by the researchers includes an Ultra Sonic Module for detecting the distance of the wheel, ADXL Accelerometer Module for detecting the angle of a certain object, 1.44in. Color TFT display module for displaying wheel alignment in real-time, 16x2 LCD display module for displaying the angle in degrees. This gave them the needed resources to produce this project.

The Project displays the wheel alignment by detecting the distance of the wheel using the ultrasonic sensor. The display shows if the wheel alignment faces left right and forward. While the Angled position of the automobiles is displayed in degrees. The display shows the side and front inclination.

The Project is found effective in terms of level of effectiveness of its accuracy in Wheel Alignment and Terrain Auto-Monitoring. This Project can be helpful to most drivers providing them with sufficient details to the users.