

**Vide – A Obstacle Detection Camera App for Mild Visually Impaired Using Deep Learning Algorithm**

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Merced, Dioneto E.  
San Diego, John Carlo M.  
Valentino, Rusly B.**

**A Thesis  
In partial Fulfillment of the Requirements  
for the degree of Bachelor of Science in Computer Science  
College of Communication and Information Technology  
President Ramon Magsaysay State University  
Iba, Zambales**

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**APPROVAL SHEET**

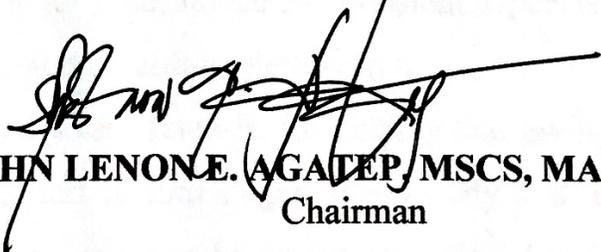
This study entitled “**Vide – A Obstacle Detection Camera App for Mild Visually Impaired Using Deep Learning Algorithm**” prepared and submitted by **Ebue, Gabriel Luis B., Madarang, Lloyd B., Merced, Dioneto E., San Diego, John Carlo M., and Valentino, Rusly B.** in partial fulfilment of the requirements for the degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE** are hereby recommended for oral examination.

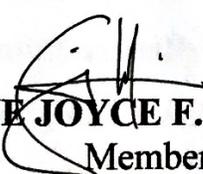
  
**CARL ANGELO S. PAMPLONA, MSCS**  
Subject Instructor

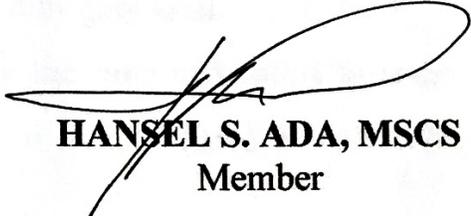
  
**DANIEL A. BACHILLAR, MSCS**  
Adviser

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Approved by the Panel of the Oral Examiners on June 21, 2023 with a grade of \_\_\_\_.

  
**JOHN LENONE E. AGATEP, MSCS, MAEd, Ed.D.**  
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Accepted and approved in partial fulfilment of the requirements for the degree of **BACHELOR OF SCIENCE IN COMPUTER SCIENCE.**

24 JUL 2023

Date Signed

  
**MENCHIE A. DELA CRUZ, Ph.D**  
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### EXECUTIVE SUMMARY

The application called Vide- A Obstacle Detection Camera App for Mild Visually Impaired Using Deep Learning Algorithm is an android application. Developing a obstacles detection camera application would be of great use to visually impaired people today. The main goal of this study is to create an obstacle detection camera app for persons with mild visual impairments, which will be utilized by people with mild visual impairments to detect obstacles. The creating of an Obstacles detection camera app for mild visually impaired was demonstrated using the input-process-output model. With the help of TensorFlow Lite, Google Text to Speech, Adobe Illustrator, and Android Studio, it proceeded from the application's conceptual development in terms of software quality to its implementation. The researchers conducted interviews with people who are mildly visually impaired before to developing this program to determine the design requirements or user-interface objectives. The application was evaluated using the ISO/IEC 25010:2011 Software Quality metrics in terms of its Functional Suitability, Performance Efficiency, Compatibility, Usability, Reliability, Maintainability and Portability. To test the application effectiveness, the researchers gathered data and interpreted following: in terms of Functional Suitability all items rated by respondents with a mean rating 3.55 with a qualitative rating of "Excellent". In terms of Performance Efficiency rated by respondents with a mean rating 3.72 with a qualitative rating of "Excellent".

Compatibility were rated by respondents with a mean rating 3.67 with a qualitative rating of "Excellent". Usability were rated by respondents with a mean rating 3.58 with a qualitative rating of "Excellent". Reliability were rated by respondents with a mean rating



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3.65 with a qualitative rating of "Excellent". Security were rated by respondents with a mean rating 3.56 with a qualitative rating of "Excellent". Maintainability were rated by respondents with a mean rating 3.76 with a qualitative rating of "Excellent". Portability were rated by respondents with a mean rating 3.63 with a qualitative rating of "Excellent".