

**SignIN: A SIGN LANGUAGE TRANSLATOR APPLICATION USING DATAGLOVE
AND SPEECH-TO-TEXT INTEGRATION**

**A Thesis Proposal Presented to the Faculty of the
College of Communication and Information Technology
President Ramon Magsaysay State University
Castillejos Campus**

**In Partial Fulfillment for the Requirements for the Degree
Bachelor of Science in Computer Science**

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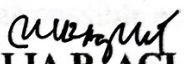
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Republic of the Philippines
PRESIDENT RAMON MAGSAYSAY STATE UNIVERSITY
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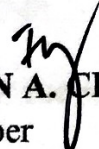
APPROVAL SHEET

The thesis project entitled **“SignIN: A Sign Language Translation Application using Dataglove and Speech-to-Text Integration”** was prepared and submitted by **Manuel, Vanessa Mae C., Amistoso, John Ace A., and Sabas, Ivy Rose M.** in partial fulfillment of the course requirements for the degree of **Bachelor of Science in Computer Science** has been examined and recommended for the oral examination.


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ABSTRACT

The use of sign language and hand gestures are the primary medium of communication of the Deaf community. As technology advances, different datagloves have been proposed to help the sign language users to express themselves more.

This study aimed to improve the communication of sign language and non-sign language users that previously invented datagloves cannot solve by integrating a dataglove that translates sign language to text and a speech-to-text enabled application called SignIN.

The study utilized an explanatory sequential research design to gather insights about the dataglove and application and evaluated it using the ISO 25010 quality standards in terms of accuracy, functionality, performance efficiency, usability, and reliability.

Two-hundred and forty-one respondents were chosen through the mixture of stratified random sampling and convenience sampling with the courses offered in President Ramon Magsaysay State University, Castillejos Campus.

The results show that the respondents strongly agree that the prototype met its intended quality in terms of accuracy, functionality, performance efficiency, usability, and reliability. This suggests that the dataglove prototype can be used to aid the communication process between sign language and non-sign language users. The respondents recommended integrating more hand signs and gestures on the dataglove, and making gloves for both hands to maximize the device's function. For the SignIN application, it is recommended to improve the user interface design and to improve the application's delays on displaying sign language and hand gestures from the dataglove.

Keywords: *dataglove, speech-to-text application, Sign language, hand gestures*