

**DEVELOPMENT OF A WIRELESS PORTABLE HAND GESTURE ORIENTED  
DEVICE FOR LCD PROJECTOR**

Undergraduate Design Project  
Submitted to the Faculty of the  
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## ABSTRACT

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A study was conducted to develop a wireless portable hand gesture oriented device for LCD projector. Specifically, it aimed to design and construct the hand gesture control system; design and construct the hand gesture receiving unit; develop software to control the system; use the constructed device to edit text using on screen keyboard; test and evaluate through pilot testing and technical analysis of the prototype's parameters; and conduct a cost analysis.

The study focused in improving the quality of conducting presentation with the use of the gesture of the hand instead of using the traditional remote.

The design project was composed of a PIC microcontroller, flex sensor, gyroscope and accelerometer sensor, RF transceiver, Arduino Micro, and a 3.7V rechargeable battery. The system is divided into two subsystems: the control unit and the receiving unit.

The study was subjected to technical and user evaluation to determine the device's overall user acceptance, functionality, accuracy, responsiveness, and range. Based on the results of the evaluation, the device was able to send and receive data and perform the tasks successfully. The device met the expected objectives. According to the participants, The system is easy to use, functional, and accurate. Also, the participants preferred to use the device instead of the traditional remote.



The most significant recommendation was to improve the design and make the device much smaller. The project cost was P 7399.00.

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