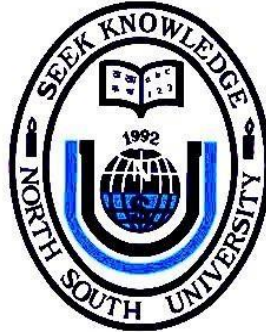


North South University



Senior Design Project Report

Prototype of an Eye Gesture Controlled Wheelchair for Paralyzed and Physically Handicapped People

Submitted By

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In consideration of the partial fulfillment of the requirements for the degree of

BACHELOR OF SCIENCE in

ELECTRICAL AND ELECTRONIC ENGINEERING Department

of Electrical and Computer Engineering

Summer, 2019

Declaration

This is to declare that no part of this report or the project has been previously submitted elsewhere for the fulfillment of any other degree or program. Proper acknowledgement has been provided for any material that has been taken from previously published sources in the bibliography section of this report.

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Approval

The Senior Design Project entitled “**Prototype of an Eye Gesture Controlled Wheelchair for Paralyzed and Physically Handicapped People**” by Uttam Kumar Saha (ID#1520611043) , Md. Shazzad Hossan Chowdhury (ID#1521488643) & Sameul Bashar (ID#1411270043) has been accepted as satisfactory and approved for partial fulfillment of the requirement of BS in EEE degree program on summer 2019.

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Abstract

Paralyzed and physically handicapped people either need assistance of others or requires a smart wheelchair to move from one place to another. As for wheelchair, the system needs to be gesture controlled since it is not easy to move body parts of physically handicapped and paralyzed people.

This project presents a prototype of eye gesture detection based wheelchair driving system .For applying the instructions obtained from user's eye movement, a Bot has been utilized as prototype of wheelchair. Moreover, an obstacle sensor has been added in order to avoid accident when any obstacle comes in front of the wheelchair. A webcam has been utilized in this project for obtaining user's eye movement based instructions and Raspberry Pi B+ has been used as the central controller and processor for decoding and encoding instructions, image processing and system control.