**UNIVERSITY OF BARISHAL**

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***Project Proposal***

* COURSE TITLE :Peripherals and Interfacing
* COURSE CODE:CSE-3101
* TOPIC :Stepper Motor Interfacing with 8051

Microcontroller

SUBMITTED BY :

Tanjim Tanny

Roll:17CSE004

Tanjil Ahmed Limon

Roll:17CSE005

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Department Of Computer Science & Engineering

SUBMITTED TO :

Sohely Jahan

**L**ecturer

Department Of Computer Science & Engineering

University Of Barishal Date Of Submission:11/3/2021

**Project**

Stepper Motor Interfacing with 8051

Microcontroller

**Acknowledgement**

We are using this opportunity to express my gratitude to everyone who supported us throughout this project**.** We have the deepest appreciation to them for providing us to complete this project. We are highly indebed to Sohely Jahan our project supervisor for his guidance and constant supervision. We are also thankful to our senior brothers for their aspiring guidance, invaluably for constructive criticism and friendly advising during the project work. We would also thank our family who helped us a lot in finalizing this project**.**

**Abstract**

PCB Drilling Process is Manual, Labor operated and the Assembly units i.e. imported machines with high It is not suitable for small scale industries so it is necessary to automate process for Faster Response and effective drilling also in minimum cost.

**Introductions**

Drilling holes in a Printed Circuit Board (PCB) is a complicated task especially when the numbers of component mounting/soldering holes are more. The automated process of drilling holes in a PCB may not be a new idea as PCB milling machines generally is called as Computer Numerical Control (CNC) machines. It has a basic capability of drilling the holes automatically with minimal user inputs. A standalone PCB drilling machine is designed and implemented that can be used for drilling holes in PCB with ease.

**Relevance**

The demand for automation in industries is increased incredibly. At the same time, the cost of such automated devices also increases. The Indian industries (small scale/ large scale) have to depend mostly on imported machines. If we don’t want to invest on the cost, then we have to think of an indigenous.

**Proposed Work:Objective**

Objective of this work is to automate the existing human interaction drilling process with advanced drilling machine set-up to increase accuracy and productivity with low cost solution. The important constraint to deploy this system is low setup time with accurate result.

**Methodology**

For the working of complete project, it is needed to combine hardware and software then final implementation of the CNC machine will drill the holes on the PCB. The proposed project consist of mechatronic setup which can move the stepper motor in X,Y and Z direction with the help of driving software program. Software program will control over all operation of the machine.

**Design(Mechanical Hardware Design& software**

**Design)**

Mechanical Hardware Design

There are fixed joints to hold PCB at one origin on board. The PCB will be mounted on solid platform. The upper body and base joints are fixed to move easily together.

Software Design

The software Application will be designed to identify PCB layout file co-ordinates. The software application will prepare list of co-ordinates to be provided to Microcontroller. The serial data Transmission can be possible by interfacing software with machine.

**Conclusion**

Stepper motor and stepper motor driver is interfacing with Aurdino Uno. getting the output will stepper motor rotate in clockwise or anticlockwise direction, to get PCB layout image using any PCB design Software.

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