

**UNIVERSITY OF MANAGEMENT AND TECHNOLOGY**  
**SCHOOL OF SCIENCE AND TECHNOLOGY**



**FINAL YEAR PROJECT REPORT**

**Solar Tracking System**

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**UNIVERSITY OF MANAGEMENT AND TECHNOLOGY**

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**FINAL YEAR PROJECT REPORT**

**Solar Tracking System**

*In Partial fulfillment of the requirement for the award of Degree of*

**BACHELOR OF SCIENCE**

**IN**

**Electric Power and Energy Systems**

## **DEDICATION OF ORIGINALITY**

**We declare that this project “SOLAR TRACKING SYSTEM “is created by us and is performed under supervision of our respected advisors and teaching members in our department.**

## **ACKNOWLEDGEMENT**

First of all thanks to Allah Almighty who gave us chance to complete this degree and reach to the final year project. Thanks to our all supporters and advisors who make this journey of Final Year project easy for us.

This final year project report is made for School of System and Technology, University of Management and Technology.

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## **ABSTRACT**

Solar energy is considered to be the best and clean source of energy throughout the world. Solar energy is pollution free solution and has long life. Solar panels are getting more reliable and efficient as advancement in technology is done.

Pakistan is a country with sufficient level of sunlight availability throughout the year. The new era of solar power production which started in 2010 is at its peak nowadays. As there is huge energy crisis in our country solar power plants is the main focus of private as well as Government sector. Although world is using this source of power but our country is blessed in solar power due to availability of sunlight throughout the year.

Solar power systems require efficient management which results in proper power deliverance from solar panels to the attached load.

This is only possible by having a system which has all proper functions. Solar tracker is the most important part of efficient solar system because when sun moves from one side to another and shadow caused losses the solar light thus provides no or less power.

In this case solar tracker follows the sun and provides maximum power till evening.

This effectiveness is achieved in our case by microcontroller based stepper motor controlled solar tracking system.

All the efficient systems in the world has solar trackers installed in them to get optimum performance

# Table of Contents

<b>Chapter 1</b>	<b>Introduction</b>	<b>1</b>
1.1	Introduction to Solar Power	1
1.2	Background	2
1.3	Factors affecting Solar efficiency	2
1.4	Problem statement	3
1.5	Proposed Solution	3
1.6	Potential Benefits	4
1.7	Software Used	4
1.8	Objectives of Project	4
1.9	Economics of Project	5
<b>Chapter 2</b>	<b>Working of System</b>	<b>4</b>
2.1	Working Principal	4
2.2	Working of Hardware	5
2.3	Working of Software	5
<b>Chapter 3</b>	<b>System description</b>	<b>6</b>
3.1	Solar Panel	6
3.2	Arduino Nano	7
3.3	Stepper Motor Driver	8
3.4	Stepper Motor	9
3.5	LDR	10
3.6	Watt Meter	10
3.7	Dry Battery	11
3.8	Voltage Regulator	11

<b>Chapter 4 Hardware Components.....</b>	<b>12</b>
4.1 Stepper Motor NEMA-17.....	12
4.2 Motor Driver DIV 268N .....	13
4.3 Arduino Nano.....	14
4.4 Variable Resistor.....	15
4.5 Voltage Regulator.....	15
4.6 Heat Sink.....	16
<b>Chapter 5 Testing of system and Results.....</b>	<b>17</b>
5.1 Testing of motor and driver.....	17
5.2 Testing of Software .....	18
5.3 Testing of Hardware .....	18
5.4 Results .....	19
5.5 Commercial Implementation of our Project.....	20-21
<b>Chapter 6 Simulation and Coding.....</b>	<b>22</b>
6.1 Simulation 3d image front.....	22
6.2 Simulation 3d image back.....	23
6.3 Simulation 3d image top.....	24
6.4 Pcb layout Proteus .....	25
6.5 Pcb Design .....	26
6.6 Code of Arduino.....	27-29
<b>Chapter 7 Block diagram and Project Images.....</b>	<b>27</b>
7.1 Block Diagram.....	27
7.2 Comparison Table.....	28
7.3 Project Images .....	29-32
<b>Chapter 8 Appendix.....</b>	<b>32</b>
8.1 Code of Project.....	32-34
<b>References.....</b>	<b>31</b>

## List of Figures

Figure 1 Shadowing on Solar Panels.....	2
Figure 2 Working Principal.....	4
Figure 3 Solar Panel.....	6
Figure 4 Arduino Nano.....	7
Figure 5 Stepper Motor Driver.....	8
Figure 6 Stepper Motor.....	9
Figure 7 LDR.....	10
Figure 8 Watt Meter.....	10
Figure 9 Dry Battery.....	11
Figure 10 Voltage Regulator.....	11
Figure 11 NEMA-17.....	12
Figure 12 Driver Div 268-.....N.....	13
Figure 13 Arduino.....	14
Figure 14 Variable Resistor.....	15
Figure 15 7805.....	15
Figure 16 Heat Sink.....	16
Figure 17 Driver Testing.....	17
Figure 18 Hardware Testing.....	18
Figure 19 Pcb Layout.....	18
Figure 20 Commercial System.....	20
Figure 21 3d Image front.....	22
Figure 22 3d Image back.....	23
Figure 23 3d Image top.....	24

Figure 24 Pcb layout proteus.....	25
Figure 25 Pcb Design.....	26
Figure 26 Block Diagram.....	27
Figure 27 Hardware Project.....	28
Figure 28 Circuit board.....	29
Figure 29 Stepper Mounting.....	30
Figure 30 Stepper Mounting.....	32

## List of tables

Table 1 Budget of project .....	5
Table2 Description of Arduino Nano 328 .....	14
Table3 Comparison of Power W and W/o tracking.....	28

# Chapter 1

## Introduction

Our main purposed of this project is to increase the efficiency of Solar Power system, as the sun moves from East to West, surface area exposed to sun rays decreases and shadow effect hinders the maximum power delivery. So we are implementing a system which will follow the sun path thus maximum efficiency is achieved.