DEPARTMENT OF ELECTRICAL ENGINEERING
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FINAL REPORT OF DIPLOMA PROJECT

DEVELOPMENT OF VOLTAGE SOURCE USING PHOTOVOLTAIC (P.V)

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ABSTRACT

P.V power supply is an electronic device that design to give a light without using a typical source. Like other ordinary light. This is because it is powered by a solar panel.

In this thesis, the solar module is the heart of the system. It transforms the sun's rays into useable electrical energy. Then the electrical energy will charges the rechargeable batteries by day light. At night, the light sensor will turn on the light. It has a manual ON/OFF switch. To operate this circuit, we need to turn the switch to 'ON' position. It will automatically turn on during the night time after it had charge.

The proposed project will provide a more reliable and more power by using a larger solar panel and a high capacity of recharge battery. So that it will supply a larger circuit like water heater or house equipment.

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CHAPTER 1: INTRODUCTION

1.1 Background

You've probably seen calculators that have solar cells -- calculators that never need batteries, and in some cases don't even have an off button. As long as you have enough light, they seem to work forever. You may have seen larger solar panels -- on emergency road signs or call boxes, on buoys, even in parking lots to power lights. Although these larger panels aren't as common as solar powered calculators, they're out there and not that hard to spot if you know where to look. There are solar cell arrays on satellites, where they are used to power the electrical systems.

You have probably also been hearing about the "solar revolution" for the last 20 years -- the idea that one day we will all use free electricity from the sun. This is a seductive promise: On a bright, sunny day, the sun shines approximately 1,000 watts of energy per square meter of the planet's surface, and if we could collect all of that energy we could easily power our homes and offices for free.

In this project, we will examine solar cells to learn how they convert the sun's energy directly into electricity. In the process, you will learn why we are getting closer to using the sun's energy on a daily basis, and why we still have more research to do before the process becomes cost effective.