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**FINAL REPORT OF DIPLOMA  
PROJECT**

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**TITLE : TAN TIMER CIRCUIT**

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## ABSTRACT

Actually, our circuit has use for present and future needs. It is called 'Tan Timer Circuit'. Tan Timer Circuit is the circuit that allows you by hearing the beep (*referring to Piezo Sounder*) according to specific time when tanning under the sun and it is useful for those who always tan their selves no matter where they are even, in beaches, houses or working under the sun. Researchers found that, extra-exposure to sunlight especially while tanning process in certain areas as specified, can course certain illnesses or skin cancer. That is why this circuit will provide them the specific time on how long to be under the sun. Indoors tanning offers many advantages to tanning outdoors. When tanning indoors, you can control the exact amount of tan that you want, you can tan in any weather or at any time, you are not subject the restrictions of time, season, geography, weather conditions, altitude, or the ozone layer. You perfect tan can be achieved quickly and safely. There are six difference criteria to determine your level. It is classified into six-color skin and timing sessions for every column respectively. We create the circuit to employ a tanning professional that will assist you in achieving person's benefit from the tanning experience while minimizing sunburn. However, let us gone through some basic points about it. The darkening of your skin caused by the oxidization is your skin's way of protecting itself against UV overexposure. About once every month these old cells are sloughed off, and since these cells have been previously exposed to UVA light, they contain the darkened melanin, which gave you your tan. Please remember that the best way to avoid overexposure and possibly a burn to acquire your tan gradually. All too often people are in a hurry to have that tanned appearance, and risk burning and actually impeding their progress. Please follow the schedules that are prepared for you by your Smart Tan Professional.

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## 1.0 INTRODUCTION

### 1.1 WHY WE ARE TANNED?

Why is it that if you go out on a bright summer day and spend an hour in the sun, you get sunburn? With a nice tan, you can go out in the sun and nothing happens. Of course, that does not apply if you have 'fair skin'. The fair skinned among us never gets a tan, so they always are sunburned. If you take the time to look at skin and sunlight in some detail, all of this actually does begin to make sense. You can learn a huge amount about your body in the process.

### 1.2 HOW TANNING WORKS

When you get a tan, what is actually happening is that the melanocytes are producing melanin pigment in reaction to ultraviolet light in sunlight. Ultraviolet light stimulates melanin production. The pigment has the effect of absorbing the UV radiation in sunlight, so it protects the cells from UV damage. Melanin production takes a fair amount of time - that is why most people cannot get a tan in one day. The pituitary gland is actually quite interesting - it is tied into the optic nerve, which means that it can sense light. In humans, light affects the pituitary gland as well and one result is the production of MSH.

### 1.3 HOW SKIN WORKS

Skin is one of the most amazing organs in the human body. It is hard for us to think about it as an organ, however. We tend to think of organs as boxy things. Your heart, liver, kidneys - those are obviously organs. Nevertheless, skin is an organ too, 'especially if you look at the dictionary definition of organ, like this definition from the Merriam Webster Collegiate Dictionary:

- a) Differentiated structure (*as a heart, kidney, leaf, or stem*) consisting of cells and tissues and performing some specific function in an organism