**ANDROID APP CONTROLLED PROPELLER CLOCK**

**Abstract:**

This project is a different view of holographical clock construct in linear array arrangement. It will be the coordination of electrical, electronics and some mechanical engineering. This “illusion” is based on inertia of human eye. The motor spins at a constant rate such that the LEDs rotate around a center pivot point. As the LEDs spin around they light up sequentially such that they will display the current time. The motor spinning fast enough that the human eye will perceive all of the display is on at once, and the viewer will be able to read the time constantly. If LED formed digits will periodically and frequently enough flash, they will appear solid and steady. A microcontroller is used to keep the time and blink the LEDs in an appropriate pattern to show the numbers. It has to be programmed so that it will both keep time and also send the appropriate signals to the LEDs to light them in the correct sequence. Its looks like the digital numbers are floating in the air. And all this thing we can control by our Android Phones using Bluetooth technology.

A picture containing wall, object

Description generated with very high confidence

**Propeller Clock:**

The propeller clock is a linear array of light emitting diodes, rotating at a high angular velocity to generate a circular screen. Now by synchronizing these light emitting diodes, and keeping in mind the concepts of persistence of vision & limit of resolution, we can display a clock. The persistence of vision, “What we see is a blend of what we are viewing and what we viewed a fraction of a second before”. The mechanical scanning mechanism, which is performed in the clock when the motor is turned on, the connected seven LEDs are scanned line by line at a very fast speed which makes the observer to observe those led display clock.

**Hardware used:**

1. Atmega328 Microcontroller

2. PCB board (35mm x 150mm)

3. 3mm LED x 8

4. 220 ohm Resistor x 8

5. 100 ohm Resistor x 1

6. 10k ohm Resistor x 2

7. Opto sensor

8. Transistor BC337 (NPN)

9. 500mah LiPo Battery

10. Dc Motor

11. Bluetooth Module

**Software used:**

1. Arduino IDE
2. MIT App Inventor

**Advantages of Android App controlled Propeller:**

* Uses very less power
* Very much attractive
* Simple to use
* Controlled using an Android App
* Can be used for business Marketing

**Future Scope:**

We can improvise this project in the following ways:-

1. We can make 3-Dimensional version of this display.

2. Using 3-D version of this display, a very effective representation of earth’s globe can be made

3. Can be used in Restaurants and shops to attract customers and have a great marketing profit.