**EP1000 Digital Fabrication Fundamentals**

**Module Project**

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| **Group:** | Gp XX |
| **Adm No:** | pNNNNNNN |
| **Name:** | Steven Chew |

**Project Title:**

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| A Mood lamp which changes the lighting based on temperature. |

**What does it do?**

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| This is a mood lamp in the shape of a lantern. Vinyl cut stickers on the sides give off shadows which enhance the mood. You can select a variety of mood colors or have a combination or random display to light up your room. You can also select the color of the mood based on the ambient temperature of the room. |

**What are it's features?**

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| a. Provides different lighting moods  b. Select moods and functions using a push button switches  c. Side panels have vinyl cut patterns that enhance visuals  d. Mood color can be set using temperature sensor |

**What will you make?**

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| CAD Design, Graphics | Lantern design, CPU housing, Panel patterns |
| Laser cutting Vinyl cutting | Casing for lantern, pixel mounting Side panel patterns |
| 3D Printing | Neopixel mounting, CPU PCB mounting, switch holding |
| Processing | Clock, push-button presses, display, readings |
| Input devices | Push-button switches, LM35 Temperature sensor |
| Output devices | 8 unit Neopixel WS2812 string |

**Bill of materials**

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| **Sn.** | **Qty** | **Item Description** | **Approx Cost** |
| 1 | 1 | [Arduino Nano](https://shopee.sg/Atmega328-MINI-USB-Nano-V3.0-ATmega328P-CH340G-5V-16M-Micro-controller-board-for-Arduino-328P-NANO-3.0-CH340-i.321673055.8748012491) | $8.05 |
| 2 | 8 pcs | [WS2812 RGB Neopixel](https://shopee.sg/LED-Strip-Lights-RGB-2835-DC5V-Flexible-Light-Strip-with-24-Keys-Remote-Control-for-Home-Decor-1-2-3-4-5M-i.353689532.9451396734) | $5.40 |
| 3 | 1 | [Push-buttons (push to make)](https://shopee.sg/5-Pcs-x-Momentary-Dash-OFF-(ON)-N-O-Push-Button-Switch-Car-Boat-Truck-9V-12V-24V-i.118949267.1879364150) | $1.00 |
| 4 | 1 | [3mm indicator LED](https://shopee.sg/LED-Diode-Red-Green-White-Blue-Yellow-3mm-5mm-(Local-Stock-Fast-Shipping)-i.194871830.6139455047) | $0.20 |
| 5 | 1 | [LM35 Temperature sensor](https://shopee.sg/Precision-Centigrade-Temperature-Sensors-LM35-LM35DZ-TO92-TO-92-i.56539845.1007719955) | $1.35 |
| 6 | 1 | [5V DC power jack](https://shopee.sg/-technologyonsale-10-Pcs-5.5mm-x-2.1mm-Male-DC-Power-Plug-Connector-Screw-Lock-Female-Panel-Socket-i.293608857.9877832158) | $0.30 |
| 7 | 1 | A4 sized 3mm frosted acrylic sheet |  |
| 8 | 1 | A4 sized vinyl sheet assorted color |  |

**References:**

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| 1. [Arduino Project Hub: Mood Lamp Project](https://create.arduino.cc/projecthub/search?q=mood+lamp) |