**Progressive Education Society’s**

**Project ID: A13**

**Modern College of Engineering, Pune-411005**

**Department of Electronics and Telecommunication**

T**.E. E & TC -2021-22**

**Project Title: Scrolling display using neopixel LED matrix**

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**Objective:**  To display the information using neopixel LED matrix.

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| **Methodology:**  After turn ON the power supply fix message get scrolling on the Led matrix display.  ▪ Take the text message from PC into input buffer of microcontroller through USB to TTL converter.  ▪ Microcontroller Convert this text message into Led matrix display format. ▪ After conversion of text message into matrix format, Display it on LED matrix.  ▪ Fix image can be display or animated which is stored into microcontroller memory.  ▪ We can program each led separately with the help of fast led library we can create different animations. | **Block Diagram:**              **ATMEGA32**      **USB to TTL**  **Converter**    **Power supply**    **Input message**  **Source (pc)**    **Neopixel LED**  **Matrix** | | | **Flowchart:**  Convert this ASCII text into Matrix format and fill into buffer  Scroll this buffer Data on LED Matrix Display  Take the Input Data which is display on LED Matrix  Initialize LED Matrix, RTC  Define Controller Port Pin to LED Matrix Data Pin, Led Matrix Size, LED Matrix Parameter  Include the required Library |
| **Testing & Debugging:**   1. Include the required Library. 2. Define Controller Port Pin to LED Matrix Data Pin. 3. Define Led Matrix Size. 4. Define LED Matrix Parameter. 5. Initialize LED Matrix. 6. Initialize RTC. 7. Take the Input Data which is display on LED Matrix. 8. Convert this ASCII text into Matrix format and fill into buffer. 9. Scroll this buffer Data on LED Matrix Display | **Specifications / Features:**   * Neo WS28128B :- LED Matrix * 256 Brightness Display * 16777216 Color full display * Scan frequency :-400Hz/s * Power supply:- 6.0 A , 12V * ATMEGA 328:- Prosser * DS1307:- Real Time Clock IC * USB to TTL Converter * PCB Board | **Results:**  C:\Users\Vision\Desktop\miniproject\WhatsApp Image 2022-05-27 at 11.51.11 AM (1).jpeg |  |

**Conclusion:** Microcontroller with neopixel led matrix can perform various scrolling pattern which are attractive as well as informative. Thus, this project is very suitable for small scale as well as medium scale information display.