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## Bibliography

- 1. The 8051 Microcontroller And Embedded Systems Using Assembly And C, 2/E ISBN: 8131710262, 9788131710265
- 2. <a href="http://pcbheaven.com/wikipages/How\_Key\_Matrices\_Works/">http://pcbheaven.com/wikipages/How\_Key\_Matrices\_Works/</a>
- 3. <a href="http://www.learningaboutelectronics.com/Articles/How-does-a-matrix-keyboard-scanning-algorithm-work">http://www.learningaboutelectronics.com/Articles/How-does-a-matrix-keyboard-scanning-algorithm-work</a>
- 4. http://www.engineersgarage.com/tutorials/how-to-make-a-pcb-at-home
- 5. http://www.ingeniumblog.net/2010/06/20-best-pcb-making-techniques/
- 6. http://www.embeddedmarket.com
- 7. <a href="http://www.onlinetps.com">http://www.onlinetps.com</a>
- 8. http://vishaworld.com
- 9. <a href="http://www.google.co.in/url?sa=t&rct=j&q=p89v51rd2&source=web&cd=1&cad=rja&sqi=2&ved=0CC4QFjAA&url=http%3A%2F%2Fwww.keil.com%2Fdd%2Fdocs%2Fdatashts%2Fphilips%2Fp89v51rd2.pdf&ei=LAZCUYBdw9StB4LzgeAL&usg=AFQjCNEyUhNb1OOWxT2R1o1W5mhlQatc-A&bvm=bv.43287494,d.bmk</a>
- 10. <a href="http://www.flashmagictool.com/">http://www.flashmagictool.com/</a>
- 11. <a href="http://www.esacademy.com/blog/category/flashmagic/">http://www.esacademy.com/blog/category/flashmagic/</a>
- 12. <a href="http://www.google.co.in/url?sa=t&rct=j&q=ft232rl&source=web&cd=1&cad=rja&sqi=2">http://www.google.co.in/url?sa=t&rct=j&q=ft232rl&source=web&cd=1&cad=rja&sqi=2</a>
  &ved=0CC4QFjAA&url=http%3A%2F%2Fwww.ftdichip.com%2FProducts%2FICs%2F
  FT232R.htm&ei=agZCUd7XC5CsrAfmj4GIDg&usg=AFQjCNGpVGg1DjvkQO3rhqGO
  pB-n6jA83A&bvm=bv.43287494,d.bmk
- 13. <a href="http://www.google.co.in/url?sa=t&rct=j&q=ft232rl&source=web&cd=2&cad=rja&sqi=2">http://www.google.co.in/url?sa=t&rct=j&q=ft232rl&source=web&cd=2&cad=rja&sqi=2</a>
  &ved=0CDMQFjAB&url=http%3A%2F%2Fwww.ftdichip.com%2FDocuments%2FData
  Sheets%2FICs%2FDS\_FT232R.pdf&ei=agZCUd7XC5CsrAfmj4GIDg&usg=AFQjCNGa
  mi1T1YXLF1U9kCK2hDTudVhVnQ&bvm=bv.43287494,d.bmk

Above are some links which are our source of information and based on which we have developed the *Programmer's Keyboard* project.