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**B.TECH EMBEDDED PROJECT LIST  
(PROJECTS BASED ON 8051, AVR AND PIC MICROCONTROLLERS)**

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**NETWORKING BASED:**

1. Embedded web server
2. Embedded web server for wireless sensor networks
3. Server & client Based Data Acquisition system using TCP/IP protocol
4. TCP/IP based industrial automation (Ethernet & MODBUS)
5. Ethernet based data acquisition system
6. Ethernet based home automation
7. Temperature Monitoring and equipment control (ON/OFF) through Ethernet

**GSM BASED:**

8. Automated System for Fault Analysis in Industries and intimation through SMS
9. Vehicle parking slot booking system using RFID and GSM
10. PIR + GSM based Home Security System
11. GSM based digital notice board and voting system
12. Intelligent system for hazardous gas, Human detection and temperature monitor control using GSM technology
13. GSM based industrial protection system using Temperature, Smoke sensors and Light Dependent Resistor
14. SMART CARD and GSM based security system
15. Streetlight power cable monitoring system based on wireless sensor networks
16. Mobile based voting system design
17. Microcontroller Based System Shutdown, Restart, And Log off Using Wireless (GSM) Technology
18. Cell phone based street light control system
19. Home Automation And Security Using GSM Modem With SMS



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20. Development of Smart Notice Board – Active information Display system using SMS
21. Payment Automation At Tool-Gate Using RFID With SMS Alert
22. GPS based data logger and real time vehicle tracking using GSM technology
23. GPS & GSM based Accident Alarm System (GSM, GPS & Accelerometer sensor)
24. GPS based train location tracking system with SMS facility
25. Advanced vehicle security system with theft control and accident notification
26. The Design of the Scene of the Accident Alarm System Based on GSM, GPS and accelerometer sensor
27. Design and implementation of mobile based electrical appliances control for industrial automation with high security
28. Patient Health Monitoring And Alert System Using Mobile Technology
29. Advanced patient monitoring and alert system using ZigBee and GSM
30. Design & Implementation of a Wireless Remote Data Acquisition System for Mobile Applications
31. Electronic eye with security system using SMS alert and automatic door lock facility
32. Remote Motor Speed Control using Cell Phones
33. Remote Controlling of Home Appliances using Mobile Telephony
34. GSM security alert system for Fire and LPG Gas leakage
35. Dam Water Level Intimation & Alerting System Using GSM
36. SMART CARD and GSM based security system
37. Real-time industrial process monitoring & control using GSM phone
38. Anti theft alert and auto arresting system for museums and jewelry shops
39. GSM based Secured ATM Banking
40. SMS sending to user defined number with out mobile using PS/2 and GSM
41. SMS based weather report information system
42. Design and development of remote parent care system using RFID and GSM
43. A remote measurement and control system for Greenhouse based on GSM-SMS



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### **AUDIO BASED:**

- 44. Microcontroller based mp3 player
- 45. Fm based college notice annunciated system

### **IR BASED:**

- 46. Remote control cum path finder
- 47. An infrared remote controlled robot
- 48. password entry from the remote to access the devices and door
- 49. PIR + GSM based Home Security System
- 50. Anti theft alert and auto arresting system for museums and jewelry shops
- 51. PICK and PLACE robot using TV remote

### **RF BASED:**

- 52. Design and Implementation of Automated car parking system using wireless communication
- 53. RF based automated electricity bill generated system
- 54. Wireless recharge application for EB (electricity billing)
- 55. RF based Remote control robot
- 56. PC Controlled Wireless Robot Using RF Module with Feedback Sensor To Detect Fire, Temperature And Human
- 57. Design and implementation of RF controlled Robotic arm for industrial and commercial applications
- 58. PC Controlled Wireless Robot (RF + PC)

### **BLUETOOTH BASED:**

- 59. Bluetooth Enabled Home/Industrial Automation
- 60. Bluetooth based Wireless Device control for Industrial Atomization



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61. Bluetooth communication system for control of a mobile robot
62. Smart phone Android Operated Robot
63. Smart phone Android Operated device control

### **SENSORS BASED:**

64. Ultrasonic based distance measurement
65. Ultrasonic based Path Planning for the Blind Person
66. Position location and navigation aid for blind (Using RFID and Ultrasonic module)
67. Intelligent system for hazardous gas, Human detection and temperature monitor control using GSM technology
68. GSM based industrial protection system using Temperature, Smoke sensors and Light Dependent Resistor
69. PIR + GSM based Home Security System
70. Design & Implementation of a Wireless Remote Data Acquisition System for Mobile Applications
71. Automated System for Fault Analysis in Industries and intimation through SMS
72. PC based Wireless Weather monitoring System – Data updating using RTC
73. PC based data acquisition system by stimulating SPI and i2c protocol implementation
74. PC based data acquisition system by stimulating 1-wire and i2c protocol implementation

### **MEDICAL BASED:**

75. Patient Health Monitoring And Alert System Using Mobile Technology
76. Advanced patient monitoring and alert system using ZigBee and GSM for hospitals and old age home's
77. ZigBee Network for Remote Patient Monitoring on General Hospital



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### **GPS BASED:**

78. GPS based data logger and real time vehicle tracking using GSM technology
79. GPS & GSM based Accident Alarm System (GSM, GPS & Accelerometer sensor)
80. Trace out the latitude, longitude, time, date, number of satellites in view and speed using GPS and updating to PC
81. GPS based train location tracking system with SMS facility
82. GPS based universal clock (Gets the time from satellites and displays on Graphical LCD)
83. Advanced vehicle security system with theft control and accident notification
84. The Design of the Scene of the Accident Alarm System Based on GSM, GPS and accelerometer sensor

### **ZIGBEE BASED:**

85. SMART Cursor Movement: Computer Cursor movement based on Movement of Your hand in the Air or Hand Gestures
86. ZigBee based street light automation system
87. ZigBee based automated irrigation system
88. ZigBee Based Intelligent Helmet for Coal Miners
89. ZigBee based industrial monitoring system
90. ZigBee based wireless electronic notice board with multiple receivers (with in campus)
91. Design and Implementation of Automated car parking system using wireless communication
92. Wireless digital energy meter
93. Wireless recharge application for EB (electricity billing)
94. Development of a ZigBee based wireless sensor network node for automatic data acquisition and transfer
95. Messenger Development without Internet Using ZIGBEE



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96. Wireless medical interface for patient monitoring using ZigBee technology
97. Touch screen based wireless mouse
98. Touch screen based system shutdown, restart and logoff using ZigBee technology
99. Forest Fire Detection System based on a ZigBee Wireless Sensor Network
100. Development on Gas Leak Detection and Location System Based on Wireless Sensor Networks

### **INDUSTRIAL BASED:**

101. Design & Implementation of a Wireless Remote Data Acquisition System for Mobile Applications
102. Automated System for Fault Analysis in Industries and intimation through SMS
103. Intelligent system for hazardous gas, Human detection and temperature monitor control using GSM technology
104. GSM based industrial protection system using Temperature, Smoke sensors and Light Dependent Resistor
105. Real-time industrial process monitoring & control using GSM phone
106. Detecting the conditions of remote areas through data acquisition system using RF (XBee) module (more than one sensor)
107. A Wireless Data Acquisition and Transmission System Design
108. Industrial automation using MODBUS protocol
109. CAN protocol based data acquisition system
110. CAN protocol Implementation for Industrial applications
111. Design and development of data monitoring and recording system using microcontroller

### **RFID BASED:**

112. Automatic travel bill generation system using passive RFID (radio frequency identification)
113. Vehicle parking slot booking system using RFID and GSM



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- 114.Design & Implementation of RFID based Multi Usage / Purpose Card System
- 115.An integrated solution of Ultrasonic Obstacle Avoidance and Blind Navigation System using RFID for Indoor Environments
- 116.Design prepaid electricity billing system using RFID technology
- 117.Automatic travel bill generation system using RFID
- 118.RFID based office attendance logger
- 119.RFID based prepaid card for petrol bunks
- 120.Payment Automation At Tool-Gate Using RFID With SMS Alert
- 121.Sophisticated Multipurpose Card using RFID
- 122.Position location and navigation aid for blind (Using RFID and Ultrasonic module)
- 123.Library Books Maintenance by RFID Tags
- 124.Design and development of remote parent care system using RFID and GSM

### **SMART CARD BASED:**

- 125.Integrated real-time ATM system design using Microcontroller (Fingerprint & Smart Card)
- 126.Design and implementation of a smart card based health-care information system
- 127.Smart card based Prepaid Electricity Billing system
- 128.Smart card based attendance system
- 129.SMART CARD based prepaid card for petrol bunks
- 130.SMART CARD and GSM based security system
- 131.Unique ID card design for personal data transactions using smart card technology
- 132.Sophisticated Multipurpose Card using SMARTCARD

### **ELECTRICAL BASED:**

- 133.RF based automated electricity bill generated system
- 134.Smart card based Prepaid Electricity Billing system
- 135.Design prepaid electricity billing system using RFID technology



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136. Wireless recharge application for EB (electricity billing)

### **AUTOMOBILES BASED:**

137. Speedometer Implementation using CAN

138. CAN based Collision Avoidance System for Automobiles

139. Windscreen wiper control using can bus (humidity based)

140. View mirror console controlling using can bus

141. Seat adjusts controlling using can bus

142. Dash board design using can bus (speed, temp & fuel)

143. Vehicle Safety Application Using Can

144. Implementation of a CAN-Based Multi Controller Digital Driving System for a Vehicle

145. CAN protocol based robot (autonomous) controlling system

### **DTMF BASED:**

146. DTMF (Dual-tone multi-frequency) based device / home appliances control

147. DTMF (Dual-tone multi-frequency) based robot control

### **SECURITY BASED:**

148. Access control system using I-button with secret lock system

149. Electronic eye with security system using SMS alert and automatic door lock facility

150. PIR + GSM based Home Security System

151. SMART CARD and GSM based security system

152. GSM security alert system for Fire and LPG Gas leakage

153. Anti theft alert and auto arresting system for museums and jewelry shops

154. Embedded password based security door lock system



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### **PC BASED:**

- 155.PC Based Hi-Tech industrial automation with auto / manual modes of operation
- 156.PC based Wireless Weather monitoring System – Data updating using RTC
- 157.PC based data acquisition system by stimulating SPI and i2c protocol implementation
- 158.PC based data acquisition system by stimulating 1-wire and i2c protocol implementation
- 159.PC Controlled Wireless Robot Using RF Module with Feedback Sensor To Detect Fire, Temperature And Human
- 160.Touch screen based wireless mouse
- 161.Touch screen based system shutdown, restart and log off using ZigBee technology

### **FINGERPRINT BASED:**

- 162.The Electronic Passport and the Future of Government-Issued RFID-Based Identification
- 163.Integrated real-time ATM system design using Microcontroller (Fingerprint & Smart Card)
- 164.Finger Print Based Voting System for Rigging-free Governing
- 165.Biometric finger print identification based bank locker security system
- 166.Finger Print Authenticated, Access Control & Automated Door Opening System
- 167.Finger Print based Authentication and Controlling System of Devices
- 168.Fingerprint and keypad based security access control system

### **PROTOCOL BASED:**

- 169.Server & client Based Data Acquisition system using TCP/IP protocol
- 170.Access control system using I-button with secret lock system
- 171.Speedometer Implementation using CAN



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172. CAN based Collision Avoidance System for Automobiles
173. Windscreen wiper control using can bus (humidity based)
174. View mirror console controlling using can bus (closed loop control system)
175. Seat adjusts controlling using can bus
176. Dash board design using can bus (speed, temp & fuel)
177. Vehicle Safety Application Using Can
178. Implementation of a CAN-Based Multi Controller Digital Driving System for a Vehicle
179. PC based data acquisition system by stimulating SPI and i2c protocol implementation
180. PC based data acquisition system by stimulating 1-wire and i2c protocol implementation
181. Industrial automation using MODBUS protocol
182. Modular robot using i2c protocol
183. CAN protocol based robot (autonomous) controlling system

### **VOICE BASED:**

184. Design and implementation of voice based electrical appliances control for industrial automation
185. Home automation for disable persons using his personal voice tag
186. Voice operated robot
187. voice based door accessing and devices ON/OFF control system
188. Voice Recognition Based Wireless Home Automation System

### **DISPLAY BASED:**

189. Accelerometer based display positioning system design
190. Real time clock display on graphical LCD (Digital Clock + Images)
191. Digital clock implementation on LED PROPELLER DISPLAY (with different texts and possible images)



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192. Interfacing 128x64 graphical LCD to Microcontroller to display image with up and down scrolling
193. Clock implementation on graphical LCD (Analog Clock + Digital Clock)
194. Digital clock implementation on nokia3310 display
195. Data acquisition system using nokia3310 display
196. Microcontroller based single channel data acquisition with graph plotting on GLCD (temperature vs. time)
197. Touch Screen, GLCD based Digital Devices Control System

### **USB BASED:**

198. SMART Cursor Movement: Computer Cursor movement based on Movement of Your hand in the Air or Hand Gestures
199. USB based data acquisition system
200. USB to UART converter

### **GENERAL:**

201. A real time clock implemented embedded system for medicine reminder alarm system through audio announcement drive
202. Integrated real-time ATM system design using Microcontroller (Fingerprint & Smart Card)
203. Finger Print Based Voting System for Rigging-free Governing
204. Biometric finger print identification based bank locker security system
205. Mobile based voting system design
206. Anti theft alert and auto arresting system for museums and jewelry shops
207. The Electronic Passport and the Future of Government-Issued RFID-Based Identification
208. Automatic travel bill generation system using passive RFID (radio frequency identification)
209. Vehicle parking slot booking system using RFID and GSM



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- 210.Design & Implementation of RFID based Multi Usage / Purpose Card System
- 211.Unique ID card design for personal data transactions using smartcard technology
- 212.Sophisticated Multipurpose Card using SMARTCARD
- 213.Digital vehicle speedometer with password enabled speed limit setting.
- 214.Library Books Maintenance by RFID Tags
- 215.Real Time Clock based industrial automation using Dallas RTC and I2C protocol

### **ROBOTICS BASED:**

- 216.A Hands Gesture System of Control for an Intelligent Wheelchair
- 217.An infrared remote controlled robot
- 218.Design and implementation of pc based robot control for industrial applications
- 219.RF based Remote control robot
- 220.Ultrasonic Based Accident Avoid Robot
- 221.ZigBee based remote controlled robot with wireless video camera mounted on it  
(3600 camera rotation)
- 222.Target catching robotic arm manipulator
- 223.Autonomous Robot with artificial vision for obstacle detection
- 224.Design and Development of Line Follower Robot using the Principle of  
Reflection of Light Rays
- 225.PC Controlled Wireless Robot (RF + PC)
- 226.Design and implementation of RF controlled Robotic arm for industrial and  
commercial applications
- 227.Remote control cum path finder
- 228.Voice operated robot
- 229.Wireless path finder cum gas detection robot
- 230.Robots for part loading and unloading
- 231.Robot with wireless camera (1800 camera rotation)
- 232.Wireless Crane Control System using PC
- 233.Alive human being detector in war fields using wireless technology
- 234Automatic floor cleaning robot



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235. Development of live person detection robot under the debris for earth quake rescue
236. A Hands Gesture System of Control for an Intelligent Robot
237. PC Controlled Wireless Robot Using RF Module with Feedback Sensor To Detect Fire, Temperature And Human
238. Implementation of Obstacle Avoidance and ZigBee Control Functions for Omni Directional Mobile Robot
239. Accelerometer Based Robotic ARM ( Being Controlled Wirelessly )
240. PICK and PLACE robot using TV remote
241. Walking robot with four legs
242. CAN protocol based robot (autonomous) controlling system
243. Smart phone Android Operated Robot
244. Hazardous Gas Detecting Method Applied In Coal Mine Detection Robot
245. The Intelligent Embedded Control Warning System for Car Reversing

### **TOUCH SCREEN BASED:**

246. Automatic Touch screen based vehicle Driving system
247. Touch panel based automation
248. Touch screen based wireless mouse
249. Touch screen based system shutdown, restart and logoff using ZigBee technology
250. PASSWORD entry from the touch screen to access the robot for different applications



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## ARM BASED PROJECTS

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251. Interfacing the graphical LCD to the ARM Controller LPC2148
252. Design and implementation of RFID based door accessing system using LPC2148
253. Design and implementation of digital clock using LPC2148
254. ARM7 Based Finger Print Authentication System
255. High temperature alert to the doctor using ARM (LPC2148) and GSM modem
256. Design and development of SMARTCARD based security system using LPC2148
257. Design and implementation of data acquisition system using LPC2148 (multiple sensors)
258. Accident recognition system using GSM and ARM (LPC2148)
259. Advanced vehicle security system with theft control and accident notification
260. MMC card interface to the ARM controller
261. ARM7 based embedded web server
262. Design and implementation of Fingerprint based security system using LPC2148
263. ATM system design using LPC2148, Smartcard Reader/Writer and Fingerprint
264. A Wireless Data Acquisition and Transmission System Design
265. Blue-tooth based industrial automation using LPC2148
266. The Electronic Passport and the Future of Government-Issued RFID-Based Identification
267. PIR + GSM based Home Security System by using LPC2148
268. Bio-metric based authentication system using LPC2148
269. PASSWORD entry from the system to enable the devices access for house hold or industrial applications using LPC2148
270. Trace out the latitude, longitude, universal time and Altitude values using GPS and LPC2148



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- 271.PC based data acquisition system using LPC2148
- 272.LPC2148 Based System Shutdown, Restart, And Log off Using Wireless (GSM) Technology
- 273.Development of Smart Notice Board using LPC2148 – Active information Display system using SMS
- 274.LPC2148 and GPS based data logger and real time vehicle tracking using GSM technology
- 275.Electronic eye with security system using SMS alert and automatic door lock facility using LPC2148
- 276.Remote Controlling of Home Appliances using LPC2148 and Mobile Telephony
- 277.LPC2148 based Real-time industrial process monitoring & control using GSM phone
- 278.Unique ID card design for personal data transactions using LPC2148 and smart card technology
- 279.GPS based universal clock using LPC2148 (Gets the time from satellites and displays on Graphical LCD)