**INNOVATIVE & APPLICATION ORIENTED PROJECTS ON EMBEDDED SYSTEMS---------2012

WE ARE OFFERING MINI PROJECTS ON 8051/AVR/PIC MICROCONTROLLERS

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INTERFACING PROJECTS

The interface list contains the basic list of the modules that are required in common for all projects ranging from entrainment, automobile, aerospace, medical, gaming and many other applications. All the projects contain the basic modules like display modules, input devices sensors and actuators but these may vary based on the complexity and the sophistication but the basic interface concept remains the same. The devices mentioned in the list below shall be interfaced to the basic 8 bit microcontroller, this helps to gain the knowledge on modular design required in designing the complex applications. The Concepts related to the hardware design, developing the basic hardware modules, testing, cross compilers and the firmware development shall be explained in detailed along with cases studies.

- Flash memories,
- ADC
- Sensors
- keypads - 4X4, IBM keypad
- Displays - 2X16 , Graphical and protocol based
- IR Based communication
- SPI and I2C Protocols

MICROCONTROLLER BASED SIMPLE APPLICATION PROJECTS

The list mentioned below contain the basic application that require a basic intelligent device along with the supporting peripherals to make a complete circuit. The basic intelligent device shall be a micro controller or a microprocessor that can be programmed according to the application. The micro controllers or the microprocessor are selected based on the applications.

1. 60 SEC VOICE RECORD INTEGRATED CHIP INTERFACE WITH MICROCONTROLLER USING APR9600.
2. 8051/AVR GENERAL PURPOSE PROJECT BOARD
3. 8-CHANNEL DATA ACQUISITION SYSTEM.
4. A LIVE HUMAN BEING DETECTOR IN WAR FIELDS.
5. AC LOAD CONTROL THROUGH TRIAC USING PC.
6. AC MOTOR SPEED CONTROL USING IR REMOTE.
7. ACCIDENT IDENTIFICATION SYSTEM
8. ANTI BAG SNATCHING ALARM.
9. ANTI THEFT ALERTING SYSTEM FOR VEHICLE (2 WHEELER).
10. ANTI THEFT SECURITY FOR PC
11. ANTI THEFT SYSTEM FOR ELECTRONIC GADGETS.
12. ARIFICIAL VISION SYSTEM FOR BLINE PEOPLE.
13. AUDITORIUM CONTROLLING SYSTEM USING IR(PHILIPS TV REMOTE)
14. AUTOMATED CAR (PARKING SYTSEM) WITH AUTO GATE OPENING.
15. AUTOMATIC ADVANCED RAILWAY GATE CONTROL SYSTEM.
16. AUTOMATIC CAR PARKING LIGHT.
17. AUTOMATIC COLLEGE BELL (AT89S8252 & DS1307) (TOTAL 8- BELLS).
18. AUTOMATIC CONTROL OF RAILGATE.
19. AUTOMATIC DOOR OPENING USIGN IR SENSORS.
20. AUTOMATIC ENGINE LOCKING SYSTEM FOR DRUNK AND DRIVERS.
21. AUTOMATIC FIRE DETECTOR
22. AUTOMATIC HUMIDITY CONTROL FOR REFRIGERATOR.
23. AUTOMATIC IRRIGATION SYSTEM.
24. AUTOMATIC PLANT IRRIGATION (AT89C8051)
25. AUTOMATIC ROOM LIGHT CONTROLLER WITH VISITOR COUNTERS USING (IR SENSOR).
26. AUTOMATIC ROOM LIGHT CONTROLLERS WITH VISITORS COUNTER(LDR SENSOR)
27. AUTOMATIC SHOPPING MALL VISITOR COUNTER.IR BASED COUNTER.
28. AUTOMATIC STREET LIGHT ON-OFF CONTROLLER

29. AUTOMATIC STREET POWER SAVING SYSTEM WITH LIGHT DEPENDENT RESISTOR
30. BANK LOCKER SECURITY SYSTEM.
31. BIOMEDICAL HEART BEAT MONITOR WITH MICROCONTROLLER 8051
32. BLIND STICK WITH AUDIO INTERFACE.
33. CAR AUTOMATION AND CHILD LOCK.
34. CAR PARKING MONITORING SYSTEM
35. CELLPHONE OPERATED ROBOT
36. CELLPHONE-BASED DEVICE CONTROL
37. CENTRALIZED WIRELESS MONITORING IN TEXTILE INDUSTRIES
38. CLOSED LOOP MOTOR SPEED CONTROLLER USING CELL PHONE.
39. DC MOTOR CONTROL USING PC (PULSE WIDTH MODULATION TECHNIQUE).
40. DC MOTOR SPEED CONTROL USING PWM TECHNIQUE.
41. DENSITY BASED ROOM LIGHT CONTROLLER.
42. DENSITY BASED TRAFFIC SYSTEM USING IR SENSORS
43. DESIGN AND IMPLEMENTATION OF OBJECT COUNTER FOR INDUSTRIAL AUTOMATION
44. DESIGN OF A DIGITAL VOLTMETER.
45. DESIGNING A DIGITAL THERMOMETER BY USING A SELECTED TEMPERATURE SENSOR
46. DESIGNING OF ELECTRONIC CIRCUIT FOR STRONG ROOM SURVEILLANCE.
47. DETECTIING POWER GRID SYNRONIZATION FAILURE ON SENSING OUT OF RANGE FREQUENCY OR VOLTAGE.
48. DEVELOPMENT OF ADVANCED EMBEDDED SYSTEM FOR ACCIDENT AVOIDENCE SYSTEM.
49. DEVELOPMENT OF EMBEDDED SYSTEM FOR ENERGY SAVING OF STREET LIGHT
50. DEVELOPMENT OF PC BASED PWM FOR DC MOTOR SPEED CONTROL
51. DEVICE CONTROLLING THROUGH PC (VISUAL BASIC)
52. DEVICE CONTROLLING THROUGH PC.
53. DIAMOND SECURITY SYSTEM IN MUSEUM WITH LOUD SPEAKER.
54. DIGITAL CODE LOCK WITHVOICE OUTPUT

55. DIGITAL ELECTROIC COMBINATION LOCK, MICRO CONTROLLER WITH KEYPAD CAN BE USED TO LOCK AND UNLOCK THE DOOR.
56. DIGITAL REALTIME CLOCK IMPLEMENTATION WITH MICROCONTROLLER AND LCD.
57. DIGITAL SOIL MOISTURE TESTER
58. DIGITAL THERMOMETER WITH LCD DISPLAY
59. DIGITAL UP/DOWN COUNTER (AT89S52)
60. DIRECT HIGH CURRENT MEASUREMENT FOR INDUSTRIES.
61. DISTRIBUTED CONTROL SYSTEM
62. DRIP IRRIGATION SYSTEM USING LM324.
63. DTMF CONTROLLED MOTOR
64. DTMF BASED DEVICE CONTROLLING.
65. DTMF BASED DOOR SECURITY SYSTEM.
66. DTMF BASED HOME AUTOMATION SYSTEM.
67. DTMF BASED INDUSTRIAL AUTOMATION SYSTEM.
68. DTMF BASED ROBOT.
69. DTMF BASED VOTING MACHINE.
70. DUAL TEMPERATURE DISPLAY.
71. E-HOME AUTOMATION.
72. ELECTRONIC AUTOMATED SCHOOL BELL.
73. ELECTRONIC CIRCUIT BREAKER
74. ELECTRONIC EYE WITH SECURITY SYSTEM.
75. ELECTRONIC HOUSE – A WELL EQUIPPED MODERN HOUSE.
76. ELECTRONIC VOTING MACHINE USING LCD DISPLAY AND EPROM FOR MEMORY INTERFACE
77. ELETRONIC VOTING MACHINE.
78. ELEVATOR LIFT CONTROL FOR THREE STORIES WITH MICROCONTROLLER 8051
79. EMBEDDED BASED DISTANCE MEASUREMENT SYTEM.
80. EMBEDDED BASED ELECTRONIC VOTING MACHINE.
81. EMBEDDED BASED ELEVATOR CONTROL SYSTEM.

82. EMBEDDED BASED PREE-FALL DETECTION SYSTEM.
83. EMBEDDED BASED SECURITY SYSTEM USING IR SENSORS.
84. EMBEDDED PASSWORD BASED SECURITY DOOR LOCK SYSTEM USING 89S52.
85. EMBEDDED SECURITY SYSTEM(KEY PAD AND LCD DISPLAY)
86. EMBEDDED SECURITY SYSTEM.
87. EMPLOYEE LOGIN AND LOGOUT MANAGEMENT SYSTEM.
88. ENVIRONMENTAL MONITORING
89. FIELD IDENTIFICATION SYSTEM
90. FIRE FIGHTING ROBOT (AT89S52)
91. FIRE MONITOR USING MICROCONTROLLER
92. FIRE MONITORING SYSTEM.
93. FIRE SENSING ROBOT.
94. FLASHER FOR DEEPAWALI.
95. FRIENDLY HOME AUTOMATION SYSTEM USING CELLPHONE.
96. GAS AND SMOKE DETECTION ROBOT.
97. GREEN HOUSE MONIOTRING SYSTEM.
98. DTMF (MOBILE) BASED STEPPER MOTOR SPEED CONTROL.
99. DTMF BASED BUILDING AUTOMATION.
100. DTMF BASED DC MOTOR BI-DIRECTIONAL CONTROL.
101. DTMF BASED DC MOTOR SPEED CONTROL.
102. DTMF BASED HOME DEVICE CONTROLLING.
103. DTMF BASED HOME SECURITY SYSTEM
104. DTMF BASED INDUSTRIAL AUTOMATION
105. DTMF BASED INDUSTRIAL DEVICE CONTROLLING.
106. DTMF BASED SINGLE PHASE INDUCTION MOTOR SPEED CONTROL.
107. HEALTH MONITORING SYSTEM.
108. HEART BEAT MONITORING SYSTEM.
109. HEART BEAT MONITORING.
110. HITECH PROTECTION FOR CARS/VEHICLE USING TOUCH-SWITCH.
111. HOME / OFFICE SECURITY SYSTEM.

112. HOME AUTOMATION (AC/DC) USING PC INTERFACE.
113. HOME SECURITY SYSTEM.
114. HUMAN DETECTION ROBOT.
115. I2C PROTOCOL IMPLEMENTATION (RTC).
116. I2CPROTOCOL BASED REAL TIME CLOCK CONTROL APPLICATION.
117. IMPLEMENTATION MOBILE BASED HI-TECH DOOR LOCKING SYSTEM.
118. IMPLEMENTATION OF COLOUR SENSOR.
119. IMPLEMENTATION OF MOBILE BASED HI-TECH DOOR LOCKING SYSTEM.
120. IMPLEMENTATION OF RS485 PROTOCOL (DEVICE CONTROLLING).
121. IMPLEMENTATION OF SOLAR WATER PUMP CONTROL WITH FOUR DIFFERENT TIME SOLTS FOR POWER SAVING APPLICATIONS.
122. IMPLEMENTING CALCULATOR WITH MICROCONTROLLER 8051
123. INDUCTION MOTOR SPEED MONITORING & CONTROL USING PWM TECHNIQUE
124. INDUSTRIAL ADVANCED TEMPERATURE MONITORING AND CONTROL SYSTEM.
125. INDUSTRIAL AUTOMATION SYSTEM USING RF.
126. INDUSTRIAL CONTROL SYSTEM.
127. INDUSTRIAL CONTROL USING CELLPHONE
128. INDUSTRIAL CONVEYER BELT OBJECT COUNTING SYSTEM.
129. INDUSTRIAL DATA LOGGER.
130. INDUSTRIAL DEVICE CONTROLLING USING RF.
131. INDUSTRIAL PROTECTION SYSTEM USING FIRE SENSOR.
132. INDUSTRIAL PROTECTION SYSTEM USING LIGHT DEPENDENT RESISTOR
133. INDUSTRIAL PROTECTION SYSTEM USING SMOKE SENSOR
134. INDUSTRIAL PROTECTION SYSTEM USING TEMPERATURE
135. INDUSTRIAL PROTECTION SYSTEM USING TEMPERATURE, SMOKE SENSORS
136. INDUSTRIAL TRANSFORMER FAULT INDICATING SYSETM.
137. INFRARED REMOTE CONTROLLED HIGH VOLTAGE DEVICE SWITCHING WITH ELECTROMAGNETIC RELAY
138. INFRARED REMOTE SWITCH (6 DEVICES + 1 FAN) -AT89S52
139. INTELLIGENT AUTOMATIC STREET LIGHT CONTROL USING LDRS.

140. INTELLIGENT ELETRONIC VOTING MACHINE .
141. INTELLIGENT HIGH POWER LED STREET LIGHT CONTROL SYSTEM.
142. INTELLIGENT STREET LIGHT CONTROLWHILE VEHICLE PASSING.
143. INTELLIGENT SUPRVISERY VEHICLE SYSTEM.
144. INTERFACE OF MOBILE PHONE WITH MICRO-CONTROLLER
145. INTERFACING 4X4 MATRIX KEY PAD TO MICRO CONTROLLER
146. INTERFACING COLOR SENSOR WITH DIFFERENT WAVE LENGTHS TO MICROCONTROLLER
147. INTERFACING IBM KEY BOARD TO MICRO CONTROLLER
148. INTERFACING MICROCHIP SERIAL EEPROMS TO THE INTEL 8051 FAMILY OF MICROCONTROLLERS
149. INTERFACING OF GRAPHIC LCD MODULE TO AT89S52
150. INTERFACING OF REAL TIME CLOCK DS1307
151. INTRODUCTION OF DATA ACQUISITION AND CONTROL
152. INTRODUCTION OF SERIAL PORT RS-232 AND PC SERIAL COMMUNICATION WITH MICRO-CONTROLLER AT89S51
153. IR BASED APPLIANCE CONTROL SYSTEM
154. IR BASED OBSTACLE AVOIDANCE SYSTEM
155. IR REMOTE STEPPER MOTOR CONTROLLER.
156. IVRS COLLEGE AUTOMATION.
157. KEEP DISTNACE WARNING SYSTEM.
158. LIBRARY NOISE DETECTOR AND INDICATOR.
159. LIGHT BRIGHTNESS CONTROL DEPENDS UPON SUNLIGHT INTENSITY
160. LIGHT INTENSITY CONTROL USING PULSE WIDTH MODULATION USING AVR MICRO CONTROLLER
161. LINE FOLLOWER ROBOT.
162. IR BASED WHEEL CHAIR.
163. METAL DETECTION ROBOT.
164. MICRO CONTROLLER BASED TEMPERATURE LCD DISPLAY.
165. MICROCONTROLLER BASED CELLPHONE DETECTOR.

166. MICROCONTROLLER BASED CLAP SWITCHES.
167. MICROCONTROLLER BASED DAM WATER LEVEL INDICATOR SYSTEM.
168. MICROCONTROLLER BASED DIGITAL CLOCK WITH ALARM
169. MICROCONTROLLER BASED ELECTRONIC CODE LOCKSYSTEM.
170. MICROCONTROLLER BASED FIRE MONITORING SYSTEM IN PETROCHEMICAL INDUSTRIES
171. MICROCONTROLLER BASED INTELLIGENT COLLEGE BELL.
172. MICROCONTROLLER BASED INTELLIGENT TRAFFIC LIGHT SYSTEM.
173. MICROCONTROLLER BASED LEVEL INDICATOR.
174. MICROCONTROLLER BASED OBJECT FLOW COUNTER.
175. MICROCONTROLLER BASED WATER LEVEL MONITORING AND CONTROL SYSTEM.
176. MOBILE BASED HOME AUTOMATION.
177. MOBILE CONTROLLED ROBOT.
178. MOBILE LAND ROBOT.
179. MOBILE OR LANDLINE TELEPHONE BASED INDUSTRIAL PROTECTION.
180. MOBILE PHONE (DTMF) CONTROLLED ELECTRICAL DEVICE SWITCHING
181. MODERN HOME AUTOMATION (AC/DC) USING SERIAL COMMUNICATION THROUGH PC
182. MODERN HOUSE AUTOMATION (AC/DC) USING IR COMMUNICATION
183. MODULAR IR REMOTE CONTROL FOR INDUSTRIAL AUTOMATION.
184. MONITOR AND CONTROL OF GREENHOUSE ENVIRONMENT-GREENBEE
185. MONITORING AND CONTROLLING AGRICULTURE FIELD ENVIRONMENT.
186. MOVING MESSAGE 16 CHARACTER DISPLAY.
187. MOVING MESSAGE DISPLAY ON16X2 LCD DISPLAY SCREEN.
188. MULTI CHANNEL DATA ACQUISITION SYSTEM.
189. MULTI-LEVEL CAR PARKING SYSTEM (CARPARKING).
190. MULTIPATTERN RUNNING LIGHTS (AT89C2051)
191. NIGHT LAMP WITH MORNING ALARM.
192. NOISE AND VIBRATION DETECTORS
193. OBJECT DETECTION USING ULTRASONIC WAVES.

194. OBSTACLE DETECTION ROBOT.
195. OBSTACLE DETECTOR ROBOT.
196. OVER-HEATING INDICATOR FOR WATER PIPE
197. PASSWORD BASED DOOR LOCKING (AT89C2051)
198. PASSWORD OPERATED DEVICE CONTROL USING MOBILE.
199. PC BASED DATA ACQUISITION SYSTEM
200. PC BASED GRID CONTROL.
201. PC BASED HOME AUTOMATION
202. PC BASED ROBOT (AT89C2051)
203. PC BASED SINGLE CHANNEL DATA ACQUISITION.
204. PC BASED STEPPER MOTOR SPEED CONTROL.
205. PC BASED SYNCHRONIZING AND SPEED CONTROLLING OF DC MOTOR (WIRELESS).
206. PC BASED TEMPERATURE MONITORING & CONTROLLING.
207. PC KEYBOARD INTERFACING THROUGH MICROCONTROLLER.
208. PERIODICALLY ON-OFF MOSQUITO REPELLENT.
209. PICK AND PLACE ROBOT.
210. PIR BASED ENERGY CONSERVATION SYSTEM FOR CORPORATE OFFICES.
211. PLAY WITH ROBOTIC EYE(IR SENSOR).
212. PRE-PAID COMMERCIAL POWER CONSUMPTION USING COIN BOX.
213. PREPAID ENERGY METER (AT89S52)
214. PRE-PAID ENERGY METER USING RFID READER.
215. PROGRAMMABLE LED INDICATOR
216. PROGRAMMABLE STREET LINE CONTROL.
217. PROGRAMMABLE TIMER WITH PROGRAMMABLE ON/OFF DELAYS.
218. PWM BASED LIGHT INTENSITY CONTROL SYTEM.
219. RAILWAY TICKET BOOKING USING RFID AND KEYPAD.
220. REAL TIME CLOCK INTERFACING WITH MICROCONTROLLER.
221. REAL-TIME INDUSTRIAL PROCESS CONTROL & MONITORING USING GSM PHONE.
222. REMOTE APPLIANCE CONTROL THROUGH SMS
223. REMOTE CONTROL BASED AC LINE CONTROL USING PHILIPS TV REMOTE

224. REMOTE CONTROL HOME APPLIANCES.
225. REMOTE CONTROL HOME AUTOMATION (USING RC5 PHILIPS TV REMOTE).
226. REMOTE CONTROLLED DIGITAL CLOCK WITH DS1307 & AT89C2051
227. RF BASED (WIRELESS) TEMPERATURE MONITORING.
228. RF BASED EARTHQUAKE WARNING SYSTEM
229. RF BASED MULTIPLE DEVICE CONTROL USING SINGLE REMOTE.
230. RF BASED REMOTE CONTROL
231. ROBOT CONTROL USING DIFFERENT COLOURS OF LIGHT.
232. ROBOT CONTROL USING RF (WIRELESS) COMMUNICATION.
233. ROBOT CONTROL USING RF COMMUNICATION.
234. ROBOT CONTROL USING TV REMOTE.
235. ROBOT DIRECTION CONTROLLING USING RF COMMUNICATION.
236. RTC BASED ODING LIGHTINGS.
237. SCROLLING MESSAGE DISPLAY.
238. SEASON BASED AUTOMATIC STREETLIGHTS SWITCHING
239. SECURE DIGITAL ACCESS SYSTEM
240. SECURED DATA ACQUISITION SYSTEM
241. SECURED WIRELESS DATA COMMUNICATION (AT89S52)
242. SECURITY SYSTEM FOR MUSEUM
243. SHOPPING MALL SECURITY AND POWER MANAGEMENT USING IR SENSOR.
244. SHOPPING MALLS SECURITY & POWER MANAGEMENT SYSTEM USING IR'S
245. SIMPLE DIGITAL VOLTMETER USING 8051
246. SINGLE TOUCH ELECTRONIC WATER TAP DESIGN.
247. SMART CARD BASED PETRO CARD MANAGEMENT SYSTEM.
248. SMOKE ALERT SYSTEM FOR INDUSTRIES.
249. SMOKE DETECTION USING MICROCONTROLLER
250. SOIL MOISTURE CONTROLLER
251. SOLAR BASED ROBOT.
252. SOLAR TRACKING SYSTEM.
253. SOLAR TRAKING SYSTEM

254. SONAR SENSOR BASED RANGE FINDER SYSTEM.
255. SPDT RELAY WITH UNDER/OVER VOLTAGE PROTECTION
256. SPEED CONTROL OF DC MOTOR USING PWM USING AVR.
257. SPEED CONTROL OF DC MOTOR WITH PULSE WIDTH MODULATION USING RF MODULATION AND
258. SPEED CONTROL OF MOTOR THROUGH CELLPHONE.
259. SPEED CONTROLLER FOR AC AND DC MOTORS.
260. SPEED SYNCHRONIZATION OF TWO DC MOTORS.
261. STEPPER MOTOR DIRECTION CONTROLLING.
262. SUPER INTELLIGENT ROBOT (LIGHT & FIRE SENSING)
263. SUPER INTELLIGENT ROBOT TO RECOGNIZE OBSTACLES AND CHANGE THE PATH BY ITSELF.
264. SUPER INTELLIGENT ROBOT USING SMOKE SENSORS AND LIGHT DEPENDENT RESISTOR.
265. TEMPERATURE & LIGHT MONITORING
266. TEMPERATURE CONTROLLED FAN.
267. TEMPERATURE DEPENDENT DC FAN SPEED CONTROL USING LM35
268. TEMPERATURE LEVEL MONITORING AND AUTOMATIC CONTROL IN BOILER.
269. TEMPERATURE MONITORING AND CONTROL
270. TEMPERATURE MONITORING AND RECORDING DEVICE
271. TEMPERATURE VOICE ANNOUNCEMENT SYSTEM
272. TIME AND ATTENDANCE SYSTEM USING RFID
273. TIME BASED POWER SAVING SYSTEM IN CORPORATE ROAD WAYS.
274. TIME OPERATED ELECTRICAL APPLIANCE CONTROLLING SYSTEM.
275. TIMER BASED INDUSTRIAL LIQUID PUMP CONTROLLER.
276. RAFFIC DENSITY ANALYZER CUM SIGNALING SYSTEM FOR METRO CITIES.
277. TRAFFIC LIGHT CONTROLLER
278. TRAFFIC PRIORITY FOR AMBULANCE.
279. TRAFFIC SIGNALS USING TIMERS.
280. VEHICLE INSIDE AND OUTSIDE TEMPERATURE MONITORING SYSTEM.

281. VERTICAL PARKING SYSTEM.
282. VIBRATION SENSING SYSTEM
283. VISITOR COUNTER CUM DISPLAY SYSTEM USING IR WITH 7 SEGMENTS
284. WATER PUMP CONTROLLER
285. WIRED ROBOT.
286. WIRELESS BIO-MEDICAL MONITORING SYSTEM.
287. WIRELESS CHATING SYSTEM USING RF COMMUNICATION.
288. WIRELESS DATA COMMUNICATION USING RF.
289. WIRELESS DC MOTOR CONTROL SYSTEM.
290. WIRELESS DC MOTOR CONTROL USING RF COMMUNICATION.
291. WIRELESS DIGITAL CODE LOCK WITH A STATUS DISPLAY.
292. WIRELESS EQUIPMENT CONTROL USING AT89S52
293. WIRELESS FUEL INDICATOR FOR CARS.
294. WIRELESS HOME SECURITY SYSTEM
295. WIRELESS MONITORING SYSTEM FOR COLD STORAGES.
296. WIRELESS MOUSE USING IR SENSORS.
297. WIRELESS NOTICE BOARD USING RF.
298. WIRELESS WATER-LEVEL INDICATOR