

FMT 122 List of Potential Projects:

1. Traffic lights complete with turn lane, cross walk buttons & lights, automobile sensors in street – operate in both timed mode & triggered mode.
2. Washing machine with hot, warm & cold water cycles; large, medium & small loads; delicate, permanent press & heavy soil cycles; Off load switch & lid open switch.
3. Laundry dryer with delicate & heavy loads; hot, warm and air only cycles; timed & humidity sensor options.
4. Dish washer with pots & pans, normal, rinse & hold cycles; auto dry & energy saver options; water preheat options.
5. Refrigerator with energy saver & automatic defrost options – can be residential or commercial (walk-in).
6. Building environment control with zone heating, cooling and fresh air options – include blower & compressor controls as well as pilot & burner controls.
7. Fuel injector & ignition controls for a muscle car. Include ignition advance & transmission interface ... requires significant knowledge of current automotive technology.
8. Automotive
 - a. Turn indicators
 - b. Head lights with daylight sensor
 - c. Seat belt sensors & interlocks
 - d. Door locks
 - e. Electric windows
9. Music using relay clack as drum rhythm: any recognizable song.
10. Residential thermostat with four programmable “set backs” per day. Include weekday & weekend options.
11. VCR with programmable channel presents & future day & time recording.
12. Any equipment that could be controlled by a PLC ... pick something from your employer if possible.
13. Alarm clock with weekday & weekend options.
14. Factory automation ... bottling or canning
15. Factory automation ... conveyor belt control with IR product sensors & lane diverters.
16. Holiday lights (or possibly Christmas tree lights) that twinkle ... could combine with #8 & make them twinkle to music.
17. Model trains with sidings, station stops, etc.
18. Fire alarm system complete with siren (remember the telephone ringer?) & dial 911 options.
19. Security System – Building/Home
 - a. Windows
 - b. Doors
 - c. Motion detectors
 - d. Sound alarm – flashing lights
 - e. Buzzers / sirens
 - f. Dial 911 options.
20. Elevator controls (6 floors) with door obstruction sensor & emergency alarm button.
21. Automatic bottle filling ... pharmacy or food.
22. Electronic combination lock ... residential door, car door or bank vault.
23. Step through ASCII character codes with 1 second pause at each code.
24. Other sounds – we already have a ringer in answering machine project, simulate other sounds.
25. Four function calculator with switch click number entry.
26. Airport
 - a. Landing lights
 - b. Weather sensors