

YAŞAR UNIVERSITY SMART HOUSE AUTOMATION



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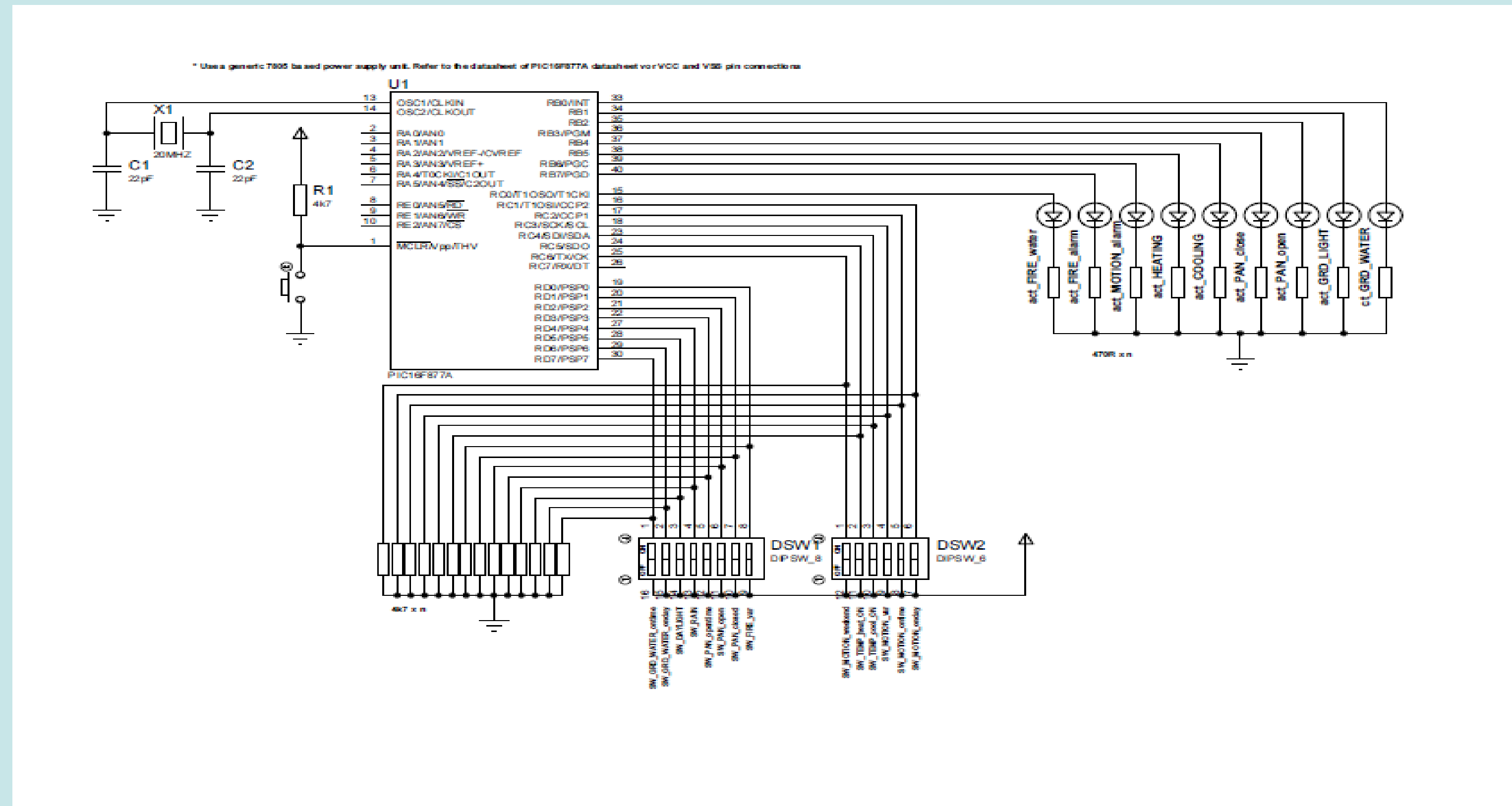
INTRODUCTION

Smart House thesis is a project that makes the life safety, comfortable and financially better. This smart house projects control security, weather conditions, lighting etc. This applications are controlled by a remote control or PCs.

In this thesis, definition of Smart House is firstly given. Then materials and code are discussed. Techniques and applications which are used in Smart House projects are discussed. Finally, our code is explained with every details.

The aim of the project is making life easier for humanity with low cost, as fast as it can in safe mood.

DESIGN



THEORY

This system includes all security precaution, minimum work for people living in the house. All applications apply to the system via sensors. Requirement circumstances following:

- In case of fire possibility alarm activated with smoke detector and fire extinction system activated.
- Alarm system activated with motion detector at weekend and night.
- Air condition activated when house temperature above 26 C0 and below 20 C0.
- Shutter activated when weather rainy or midday.
- Garden light activated when night with light detector.
- Garden watering system activated with water detector.

This project accomplish with PIC16P877A/IP microprocessor. Port C and Port C used for Inputs. PORT B used for outputs. Inputs connected to the dip switch and outputs connected to the led.

INPUTS & OUTPUTS

SWITCHES

- 6.1.-
- 6.2.SW_MOTION_ONTIME(between 12AM and 7AM)
- 6.3.SW_MOTION_WAR(motion sensor active)
- 6.4.SW_TEMP_COOL_ON(temputure above 25 C)
- 6.5.SW_TEMP_HEAT_ON(temputure below 20 C)
- 6.6.SW_MOTION_WEEKEND(weekend)
- 8.1.SW_FIRE_WAR(smoke sensor active)
- 8.2.SW_PAN_CLOSED(sunblind closed state)
- 8.3.SW_PAN_OPEN(sunblind open state)
- 8.4SW_PAN_OPENTIME(between 11PM and 14PM)
- 8.5.SW_PAN(rainy weather)
- 8.6.SW_DAYLIGHT(day time)
- 8.7.SW_GRD_ONDAY(mon,tue,thu,sat)
- 8.8.SW_WATER_ONTIME(between 9AM and 10AM)

LEDS

- LEDS
- 1.ACT_FIRE_WATER(fire extinguishing system)
 - 2.ACT_GRD_WATER(garden watering)
 - 3.ACT_GRD_LIGHT(garden lighting)
 - 4.ACT_PAN_OPEN(sunblinds opening)
 - 5.ACT_PAN_CLOSED(sunblinds clasing)
 - 6.ACT_COOLING(aircondition at cooling state)
 - 7.ACT_HEATING(aircondition at heating state)
 - 8.ACT_MOTION_ALARM(burglar alarm active)
 - 9.ACT_FIRE_ALARM(fire alarm active)

CONDITIONS

Switches	LEDS
8.1. SW_FIRE_WAR=on	9.ACT_FIRE_ALARM 5.ACT_PAN_CLOSED=off 4.ACT_PAN_OPEN 1.ACT_FIRE_WATER
6.6.SW_MOTION_WEEKEND=on or 6.6 SW_MOTION_WEEKEND=off and 6.2 SW_MOTION_ONTIME if 6.3 SW_MOTION_WAR=on	8.ACT_MOTION_ALARM
6.5 SW_TEMP_HEAT_ON ----- 6.4 SW_TEMP_COOL_ON=on	7. ACT_HEATING ----- 6. ACT_COOLING
8.3 SW_PAN_OPEN=on 8.4 SW_PAN_OPENTIME=on 8.5 SW_PAN 8.2 SW_PAN_CLOSED	5. ACT_PAN_CLOSED=on 5. off
8.1.SW_FIRE_WAR OR 8.4SW_PAN_OPENTIME 8.5.SW_PAN=off If	4.ACT_PAN_OPEN=on 4.ACT_PAN_OPEN=off
8.3.SW_PAN_OPEN=off 8.3.SW_PAN_OPEN=on 8.6.SW_DAYLIGHT=off 8.6.SW_DAYLIGHT=on	3.ACT_GRD_LIGHT=on 3.ACT_GRD_LIGHT=off
8.5.SW_PAN=off And 8.7.SW_GRD_ONDAY=on And 8.8.SW_WATER_ONTIME=on	2.ACT_GRD_WATER=on

The Schematic of isis and are files

