



PLATINUM JUBILEE
Celebrating 75 years of WCE & 20 years of Department



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Department of Information Technology

EVEN SEMESTER AY 2021-22

Report on Security System for Luxurious Apartments

Under the guidance of Ravindra Rathod Assistance Professor Information Technology,
WCE-Sangli

Submitted by

Name: Om Gharge

PRN: 2020BTEIT00041

Contact Number: 9730369761

Department of Information Technology

2021-22

Table of Contents

1. Introduction	3
a. Purpose of this document	
b. Scope of this document	
c. Overview	
2. General Description	3
3. Functional Requirements	4
4. Interface Requirements	5
5. Performance Requirements	5
6. Design Requirements	6
7. Non-functional Attributes	6
8. Preliminary Schedule and Budget	6
9. References	7

Report on: Security System for Luxurious Apartments

1. Introduction:

In today's world, it is not just about the aesthetics and amenities that you look for in an apartment. You should also consider security. We all know that with the growing number of crimes in urban areas, it is mandatory to have the highest quality security features in the apartment. While most of the time we only consider other amenities over security as we underestimate the security threat that may occur anytime soon. We must be ready for such an unwanted occurrence.

1.1 Purpose of this document:

The purpose of this SRS document is to provide safety to the residents of the apartment and security to the infrastructure.

1.2 Scope of this document:

The document covers safety by using cameras and storing data of the residents in the database.

1.3 Overview

The document covers the Security systems that work on the simple concept of securing entry points into homes with sensors that communicate with a control panel or command centre installed in a convenient location somewhere in the home and their benefits and requirements.

2. General Description:

Providing security to a communal living space like an apartment building is essential. This Security system for Luxurious apartment buildings is designed to protect people and property. They are well worth the investment. Making sure that residents feel safe when they are at home is one of the most effective ways that a building manager can retain good tenants.

Truly protecting your apartment building goes beyond just installing cameras. If you really want first-rate, dependable security you should consider installing our comprehensive, IP-based (internet

protocol) security system. The best apartment building security systems are designed specifically to meet the unique needs of each facility. They are then installed according to exacting specifications by IT experts.

Having a set of security cameras in place is a good start toward safeguarding an apartment building and its surroundings, but this is only the first of many-layered options. Here is a list of some of the features and equipment that apartment building owners and managers can utilize in order to protect their residents, their property, and the facilities themselves.

- IP Security Cameras

- IP Door Access Control

- IP Video Intercom Systems

- IP Gate Control Systems

- IP Paging and Audio Systems

3. Functional Requirement

The functional requirements of the security system are to Authenticate User ID and password, Alarming Upon detection of intrusion, Alarming Upon detection of intrusion, Monitoring And Cloud Services and Reports Generation.

3.1.1 R1-Authenticate User ID and Password: The homeowner can enter the home or activate and deactivate the system when they log in successfully throughout the control panel. If the user enters the wrong id and passes five times the system is locked and activated after 30 minutes.

3.1.2 R2-Arm and Disarm the system: ADT pulse module totally depends on the user login whenever the user login successfully this module is activated, then this module can show the option to the user to arm and disarm the system if the user enters arm the system this module can create the session for the user otherwise, they can disarm the system.

3.1.3 R3-Alarming Upon detection of intrusion: An audible alarm generates whenever the sensor detects the motion, water level increase, fire, and smoke detector.

3.1.4 R4-Contact with Home Owner, Fire, and Police department: Without delay, Whenever the alarm generates the system notify the user, police, and fire departments via message and call. In that case, the Homeowner can also deactivate the burglar alarm. All alarm details are automatically saved on the cloud database services.

3.1.5 R5-Monitoring and Cloud Services: All events that occurred by sensors and actuators are stored in cloud service via the corporate smart home server. IP cameras recording is also

monitored by the monitoring companies as well. All reports are generated whenever the user demands.

3.1.6 R6-Reports Generation: The system works in this sequence that whenever a homeowner wants to view the reports of sensors and actuators events the system allows the user to download the reports through the control panel. These reports are generated after every 7 hours. So, the user has the facility to view and download the reports when they want.

3.1.7 R7-Disarming the Alarm: In case the user is at home or away from home, the system can activate the burglar alarm for some reason, then the user has the facility to disarm the alarm.

4. Interface Requirement:

Communications Interfaces:

The customer workstation shall be connected to the local development network.

Customer workstation shall be internet capable.

Customer workstations shall have USB connection slots available.

The system shall connect with the telephone line

Hardware Interfaces:

Customer workstation shall have keyboard input.

Customer workstation shall have roller ball mouse input.

The customer workstation shall have minimally a 19-inch monitor.

All interfaces on the customer workstations shall be scale able in information display size.

Customer workstation shall have appropriate hardware for network connection.

5. Performance Requirement:

Performance requirements: Static requirements: 1. The Smart Home security software requires only 30 MB of memory on the run time. 2. The control software for smart homes is limited to 200MB of hard disk space of the main processor for installation. 3. The hard disk for the recorded video files requires only 20 GB. Dynamic Performance: 1. In User Mode when the sensors of heat, Motion, water, CO2, and others are active and detect intruder, the system report to the user in just 1000 milliseconds. 2. When the user watches camera monitoring procedures the

delay between image and displaying an image is less than 500 milliseconds. The video codec is MPEG-5 requiring 0.7 GB for 7 hours of recording with 7 frames.

6. Design Requirement:

All communication between devices and the central processor must be via the wireless 802.11b protocol and these are encrypted. Because the homeowner can control the settings through a control panel special care of security should be implemented so as to prevent the outsiders from hacking and possibly disarming the whole system and robbing it. In that case, someone tries to break the security system before beginning inside the system by default notification is sent to the user.

7. Non-Functional Attributes:

Security: All the data will be on the admin device no other application will have access to the application data

Maintainability: The development team will follow best practices for clean code and software modularity in order to make the application as maintainable as possible.

8. Preliminary Schedule and Budget:

Whether you decide to go with a DIY system or opt for a professionally installed system, you'll have to pay a monthly or annual fee if you require monitoring, and in some cases, you'll be hit with a monthly fee to pay off the cost of hardware components. With most DIY systems, you purchase the hardware outright and can avoid any monthly fees if you decide to self-monitor. If you add monitoring, fees will vary.

References:

1. Information regarding Security systems available for apartments
<https://www.quora.com/What-are-the-security-facilities-a-luxury-apartment-must-provide>
2. Industry Solutions present
<https://pom-tec.com/industry-solutions/multi-unit-residential-security/>
3. Security Systems for tall buildings
<https://popcenter.asu.edu/sites/default/files/library/crisp/security-tall-buildings.pdf>
4. Use Case diagram:
<https://www.researchgate.net/profile/Finsa-Nurpandi/publication/329298350/figure/fig3/AS:698937744822272@1543651152879/Use-Case-Diagram-2-Class-Diagram-Residence-Monitoring-and-Automation-System-has-four.ppm>