Survey of Hybrid Vanet Design for Provisioning Infotaintment Appplication

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Abstract—The purpose of this paper is to present a design of a home security system which is economical, energy efficient and portable. The system provides the user complete control over its functionalities. The setup of the home security system involves the use of a Raspberry Pi 3 model B to which a Passive Infrared Sensor (PIR sensor) and a webcam are connected. The Raspberry Pi 3 model B uses a 1.2 GHz quad-core ARM Cortex-A53 for processing, while the PIR sensor is used to detect motion and the webcam is used to perform face detection and image capturing processes using OpenCV image processing library and Python programming language.

Index Terms—Raspberry Pi 3 model B, PIR Sensor, ARM Cortex- A53 processor, Python, SMTP, MIME, OpenCV, IoT.

I. INTRODUCTION

Home security Eq.1 systems have become predominant in the everyday life of modern society. Home security is a concept that consists of using hardware and software technologies to implement security systems that would secure and protect the assets within its secure environment. The advent of Internet of things (IoT) has further improved Eq.2the features provided by security systems. Based on a report by MarketsAndMarkets the security solutions market is expected to grow from USD 206.69 Billion in 2016 to USD 372.90 Billion by 2022. Hence it has become crucial that security systems become less expensive and more efficient.

II. EQUATIONS

A. Single Equations

$a + b + c$

B. Subscripts and Superscripts

1) *Subscripts:* $a_1 + a_2 + a_3 + \ldots a_i$
2) *Superscripts:* $a^2 + b^2 + 2a \cdot b$

C. Inserting Equation

$$(a + b)^2 = a^2 + b^2 + 2a \cdot b \tag{1}$$

$$a = b + c - d + e - f \tag{2}$$

D. Inserting fractions

$$f(x) = \frac{1}{x} + \frac{1}{x^2} + \frac{1}{x^3} \tag{3}$$

$$\begin{pmatrix} a & b \\ c & d \end{pmatrix} \tag{4}$$

E. Mathematical Symbols

$$5\alpha + 6\beta + 7\gamma = 20 \tag{5}$$

F. Inserting Summation and Integration

$$\int_0^1 x^2 + y^2 \ dx \tag{6}$$

$$x = \sum_{i=0}^{z} 2^i Q \tag{7}$$

III. INSERTING FIGURE

Fig. 1. Raspberry pi image side view

IV. INSERTING TABLES

TABLE I
TABLE OF SUBJECTS

Sl.No	Subject	Subject Code	Number of students
1	Computer Networks	15CS365	56
2	Operating Systems	15CS461	45

SL.No.	National Symbol	Image
1	Flower	
2	Flag	
3.	Emblem	

A. Inserting figures inside the table

The images can be inserted inside the table using includegraphics without figure environment. The table shown in Table.II has images. Table always appears on top unless mentioned

B. Multicolumn table

A multi column table can be created as shown in Table.III

State	Birth Rate			Natural growth Rate		
	Total	Rural	Urban	Total	Rural	Urban
Karnataka	19.2	20.2	17.5	12.1	12.1	12.1
Delhi	17.8	19.7	17.5	13.6	15.0	13.4
Tamil Nadu	15.9	16.0	15.8	8.3	7.8	8.9
Kerala	14.8	14.8	14.8	7.8	7.7	8.1

V. FLOWCHARTS

Flowcharts can be included within figure environment

- tikz package has to be included.
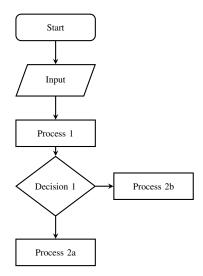- The general flowchart is shown in Fig.2.
- Include caption and label just like in figure environment.

Fig. 2. General Flowchart