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Smart Public Transport Using Bt5

Anup Kashyap[1], N. Satya Sai Abhijith[1], Shivam Gambhir[1], Mugelan R.K[1]

[1]School Of Electronics Engineering, VIT University, Vellore, India

Corresponding Author mail id: anupkashyap7@gmail.com

Abstract— In today's world, time plays a major role in everyone's life. The wastage of time by waiting for a bus at a particular bus stop can be reduced by discovering methods which help people to acquire information about public transport. People using inner city public transport would want to know what bus stop they are in, what buses come to the particular bus stop, when the bus arrives, the route it takes, when it reaches the destination, etc. They would like to know the travel timings of the bus both while waiting at the bus stop and also while travelling. So, it will be very useful if a product is made which can be used to know all the information related to the bus. In this work, a Smart Public Transport Information system using Bluetooth 5 is developed which helps users to connect to the app very easily as it doesn't require an active internet connection. This is developed as a very reliable and a power efficient system using the latest technology Bluetooth 5. An IoT sensor kit named, Nordic Thingy 52 is the main component in this project. We implemented it in a way to connect the city buses to users' phones, which can process information in an interface they are comfortable with. It is believed that the use of public transport will increase once this product is released, because it solves many of the present problems which stop people from using public transport.

Keywords— IoT, Nordic Thingy 52, Bluetooth 5, Public Transport Information.

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A 0.48 mW High Performance 4-Bit Flash ADC for SoC Applications in 90 nm CMOS Silicon Technology

Sanjay Kumar[1], Vidushi Goel[1], Deepak Prasad[1] and Vijay Nath[1]
[1]Department of ECE, Birla Institute of Technology, Mesra Jharkhand, India
Corresponding Author mail id: sanjaysurishetty@gmail.com

Abstract— In the current research article, a completely new design of 4 bit flash ADC is proposed and discussed. The proposed flash ADC can be integrated with CMOS sensors where obtained outputs are analog in nature. This paper presents the design of 4-bit Flash ADC using TIQ (Transistor Inverter Quantization) comparator is far better comparator than power hungry conventional resistive ladder network. The proposed flash ADC is showing better results over previously designed ADCs in terms of power consumption, error and performance. The flash ADC has been designed in such a way that it works fine with consumption of low power and high accuracy in the system on chip (SoC) sensors where the analog output from the sensor unit will be the fed to the analog to digital converter. The differential non linearity (DNL) and integral non-linearity (INL) have been tested and found to be 0.42 LSB and 1.76 LSB which are well within the acceptable limits. The FFT analysis has also been done using Cadence tools. To check the robustness of proposed design in real environment, process corner analysis has been performed. In the above analysis dynamic parameters being used are ENOB (Effective Number of Bits), SNDR (Signal to Noise Distortion Ratio) and THD (Total Harmonic Distortion). The presented 4 bit flash ADC utilizes an active area of 0.0107 mm^2 with 0.48 mW power consumption. The proposed temperature sensor is implemented in Cadence virtuoso analog and digital design environment using 90nm CMOS technology. For the proper operation of the circuit, a power supply of +1V is used.

Keywords— MOSFETs, ADC, DNL, INL, FFT, ENOB, SNDR, THD, TIQ .

Opinion Mining of Restaurant Reviews and Comparison of Different Classifiers

Ananya Sinha[1], Manila Oraon[1], Sneha Anand[1], and Vandana Bhattacharjee

[1]Dept.of Computer Science and Engineering, Birla Institute of Technology, Mesra, Ranchi, India

Corresponding Author mail id: ananya.sinha093@gmail.com

Abstract—The growth of internet world wide, social media and networking sites, blogs, discussion forums, e-commerce websites have gained a huge importance these days and have provided platform for users to express and share their views on entities and their features and aspects. Most of the users critically review anything on the internet specially food items, services and ambience in restaurants to showcase their humble and actual opinion. These true opinions are of great value in decision making process to other users. Retrieving and analyzing the actual opinion throughout these reviews manually is difficult and tiresome since there are large numbers of reviews available in the various aspects. So, an automated methodology is needed to solve this problem. Opinion mining or sentiment analysis is such methodology to analysis these reviews and classify topics as positive, negative and neutral. We presented lexicon based sentiment analysis, that is, classical and VADER method for opinion mining for restaurant reviews and sentence relevance score based method for opinion summarization. We also implemented different machine learning classifier algorithms for the classified data. This detailed analysis hopefully provides insights into choosing the most appropriate restaurant.

Keywords— Opinion Mining, Text Mining, Sentiment Analysis, Machine Learning Classifier Algorithms