lazik-alps:

Lazic et al propose a system that use a combination of ultrasound and Bluetooth to obtain precise localizatoin in small and medium sized areas using a TDOA. The system was designed using time synchronized ultrasonic signal

Range-based approaches use measured distances or angular

estimates between known anchor points to compute a position.

Range-free approaches on the other hand typically attempt

to match either synthetic or naturally occurring signatures

to a particular location.

TOA and TDOF systems both require bidirectional

coordination between the infrastructure and the

device being tracked which generally limits scalability.

[An Ultrasonic Multiple-Access Ranging Core Based on

Frequency Shift Keying Towards Indoor Localization]

Our ultrasonic ranging system is composed of one receiver (Figure 1) and multiple transmitters.

The transmitters emit an orthogonal ultrasonic coded signal, which is received and processed by the

receiver. Both transmitters and receiver are equipped with an embedded FPGA, which has two major

purposes. On the one hand, it facilitates the generation of the orthogonal ultrasonic signal, while on the

other hand, due to the high degree of parallel processing capabilities, the FPGA enables the real-time

embedded processing of the orthogonal ultrasonic signals. Transmitters and receiver are synchronized

by means of a wire, which minimizes the synchronization error during the experiments.

[Design and Implementation of a Fully Distributed Ultrasonic

Positioning System]

This is the basic idea of iterative

multilateration.

[Distributed FPGA-based architecture to support indoor localisation and

orientation services]

one of the most promising approaches in

localisation/orientation of users in indoor environments is the

analysis of video streaming from the consumer electronic devices

that users carry

[Gradient-Based Fingerprinting for Indoor

Localization and Tracking]

Localization can be achieved by

performing lookups within a pre-established database. On the

basis of basic fingerprinting, Horus [46] adopts a probabilitybased

inference model, where the RSSI from an AP is modeled

into a random variable in both time and spatial domains

Another issue of fingerprinting is the time-varying signal

strength and biased observations reported by heterogeneous

devices

[GSM indoor localization]

This paper demonstrated that accurate indoor GSM-based localization is possible

thanks to the use of wide signal-strength fingerprints that include readings of up to 29

GSM channels in addition to the 6-strongest cells. We also showed that the localization

performance can be further improved by carefully selecting a subset of highly relevant

channels to be used for fingerprinting matching.

[Robust wireless signal indoor localization]

an approximation method using Bluetooth signals in conjunction with a fuzzy classifier. Bluetooth RSSI

[Indoor Localisation Using a Context-Aware Dynamic]

RSSI/ We used the ZigBee/

802.15.4 wireless communications protocol to implement

our smart meter network. ZigBee is a low data rate wireless

communications protocol that can operate on devices with

limited computing or power res

[Performance of time-difference-of-arrival ultra

wideband indoor localisation]

The

Gaussian pulse generator, which is triggered by the 10 MHz

clock, generates a UWB pulse with centre frequency around

4 GHz.

[Ultra-wideband-based multilateration technique for

indoor localisation]

proposed solution as time reflection of arrival (TROA). They demonstrate in this

study how the position estimation error is improved upon by carefully considering the inherent properties of the UWB technology

and the reflection properties of transmitted UWB signalsThis paper presented a novel UWB-driven multilateration

technique for position estimation in an indoor environment.

The presented approach exploits the inherent properties of

UWB signal propagation and its definition is in conjunction

with the operational principles of the lesser studied TSOA

position estimation technique

[TDOA-Based Localization Using Interacting

Multiple Model Estimator and Ultrasonic

Transmitter/Receiver]

360 mobile transmitter, receiver anchors

[INDOOR LOCATION BASED ON IEEE 802.11 ROUNDTRIP

TIME MEASUREMENTS WITH TWO-STEP NLOS

MITIGATION]

In this paper, a complete location scheme based on RTT measurements

is proposed, analyzed and put into practice in a rich multipath indoor

environment. The PCB proposed in [12] has been taken as RTT

measuring system, and an IEEE 802.11 wireless infrastructure, already

deployed, has been used as indoor wireless technology.

[Implementing Primary Synchronization Channel in Mobile Cell

Selection 4G LTE-A Network]

In this paper, we presented an Implementing PSS in

mobile cell searching 4G, which has been proposed

cell search and selection for 4G LTE-A system. The

proposed includes synchronizations and cell

identification by using the Zadoff-chu Algorithm and

standard roots , when the based on P-SCH and S-SCH

cell specific pilot symbols, respectively. Frequency

synchronization performance can be improved through

oversampling SCH at the receiver