Minutes winter meet 2 dated 6th December
Agenda - Send final hardware requirements to TI

We need to ensure 3 antenna router has small size
intel antenna has 3 antenna - cost 1000 rupees

Pramey read a paper today :
Already used wifi routers have been used as a receivers, wifi enabled device like mobile used as a hotspot, **super resolution algorithm,** time of flight **sanitization** causes error, have a formula from which they correct it, a matrix CSI matrix sent to central server, time of flight and angle hass to be estimated, normal

You can get a TOA estimate from the CSI matrix directly, thus u may no need the whole ultrasound and TDOA hardware to implement the TDOA. U can use the TOA values form the CSI matrix to implement the TDOA. Though there is a possibility of error in the TOA calculated via CSI matrix, but since we're using a learning based model , that thing can be overlooked . TDOA is more relevant than just TOA
The benefit of using estimated TOA form the CSI matrix, we will get rid of the ultrasound hardware, will be very good.

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Specification of transmitter ->
The central device can be MObile or NodeMCU
The central device needs to be one which can create a hotspot, it has to be broadcasted, it has to be a router,
NodeMCU can be used, phone can be used ?? The end device needs to be very small, fabricated
**In order to use phones, we need to search for apps and how to create a wifi
NodeMCU use then we have all things sorted - but the final product level has to have a mobile phone , so it is **better to use MOBILES abhi se hi
Node MCU can be used just for testing purposes meanwhile

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WiFi routers -> all 3 receivers need 3 antennas
Receiver will give the CSI matrix to a server, we need 3 routers,
1) intel 350 - each has 3 antenna -- Router should not be programmed
2) atheros - doesn't have 3 antenna (1 or 2) -- can it programmed?? do we need Rpi ,
Atheros ditch

routers can be used as a receiver, to locate 1 device we need 3 receiving devices, we can use 3 routers in this case, or intel 5300

Intel 5300 is a network interface card, used in laptops , can be used as a transmitter as well as a receiver.

INTEL WE NEED TO CHECK IF IT IS A STAND ALONE DEVICE, which is mostly not the case, we need to use RPi in that case, hardware needs increase, model ditch

WE ARE USING BEAGLEBONE

But if u use a router, you need to code the routers to tell them to receive the CSI matrix, Sukumar need the localization of drones, so let's keep that the main focus on it ,

We need to figure out a fixed problem statement - fix ur localization statement , don't go general, different products will have mostly the same base technology, but they will have slight changes, so choose a fixed problem, ??drones?? or ??malls??

Now we don't need the TDOA ultrasound hardware

The object u need to localize will be a transmitter, even 1 antenna will do, it just need to broadcast,

?? 3 receivers and 1 transmitter, how will the receiver receive it , **does it need to be necessarily connected to the transmitter**, or it can just extract the CSI and signal strength values without being connected

@Akash trehan

FINAL LIST
5-6 beaglebone
4-5 intel 5300
1 normal router
3 router 3 antenna wale

Total bill is 13000 rupees