

## PROJECT

REAL-TIME  
MOTION CAPTURE  
OF RFID TAGS IN  
3D SPACE.

## TRANSMITTER

WIRELESSLY POWERS  
PASSIVE RFID TAGS.

## RX ARRAYS

TWO RECEIVER  
ARRAYS EACH  
FIND ANGLES OF  
ARRIVAL (AOA)  
FROM RFID TAGS  
TO THE ARRAY.  
AOA INFORMATION  
FROM BOTH  
ARRAYS  
TRIANGULATES  
THE TAGS.

## DISPLAY

TAG POSITION UPDATED  
IN 3D GRAPHICAL  
ENVIRONMENT.

## PROGRESS

A FULL  
PROTOTYPE RF  
FRONTEND PCB  
HAS BEEN  
DESIGNED AND  
ORDERED.

VERILOG CODE  
FOR DIGITAL IQ  
DEMODULATION  
AND CORRELATION  
MATRIX  
GENERATION  
TESTED ON FPGA.

C++ CODE FOR  
AOA ESTIMATION  
AND  
LOCALIZATION  
TESTED ON FPGA.

## FPGA

FPGA BACKEND PERFORMS  
COMPUTATIONS REQUIRED  
TO LOCALIZE THE TAGS.

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