

# TagRadar

A mobile accessory that helps locate tagged items in indoor space.

## Introduction

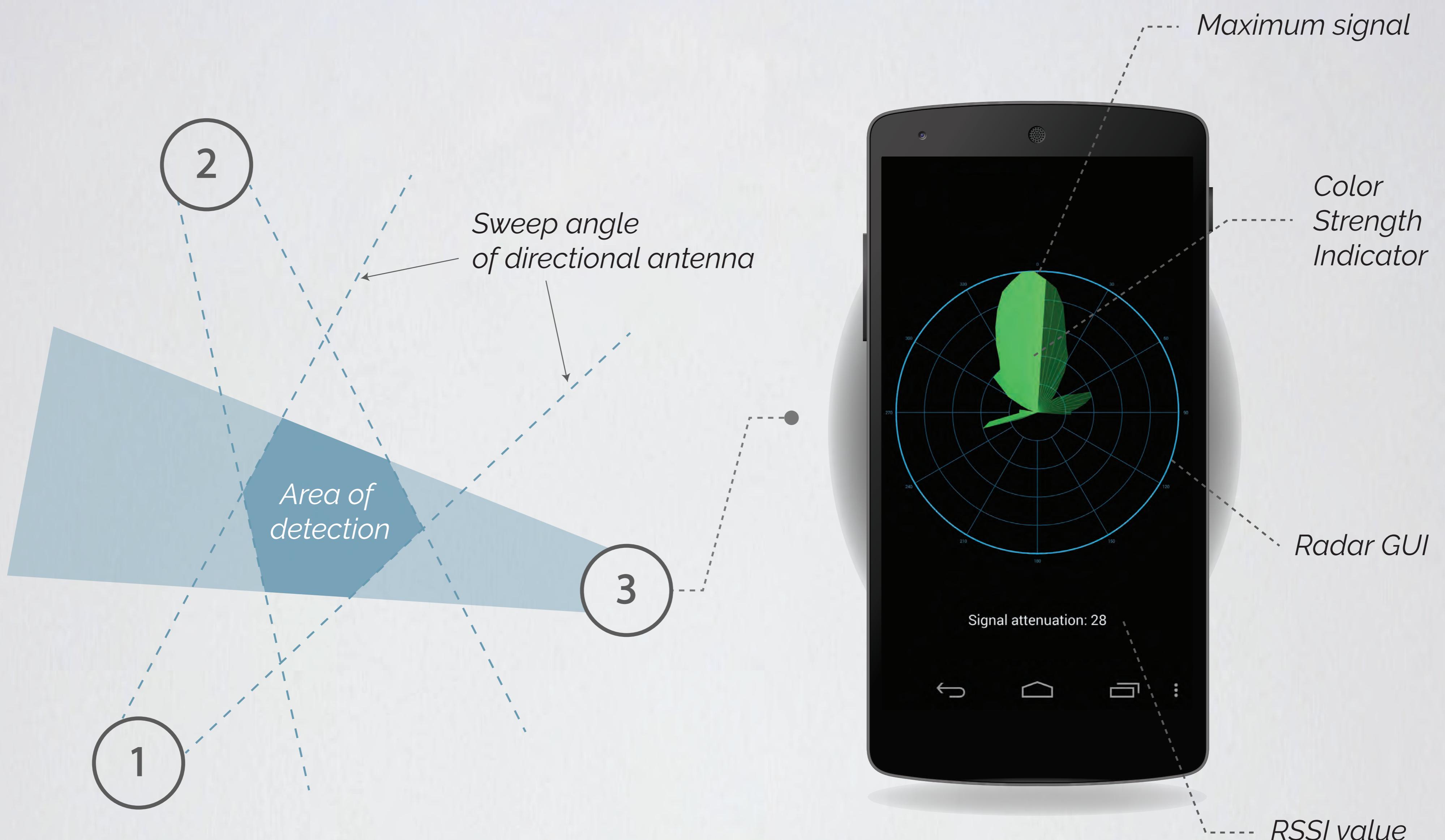
With the increasing number of devices owned per user, it is often difficult to keep track of the whereabouts of our belongings. GPS and other tracking systems help with outdoor navigation but what about indoors? The TagRadar accessory allows users to locate objects indoors by utilizing the familiar concept of radars.

## Concept

The TagRadar system is comprised of two parts, the handheld mobile accessory and an identification tag. It uses the radio bandwidth and a directional antenna to visualize the direction of the relative strongest signal. With a few "sweeps" with the device, objects can be located.

## Future Work

This system opens opportunities for not only localization but also for automated navigation. Target users can range from the common smartphone user to seniors with illnesses such as alzheimers.



## MOTIVATION

### Why is it important?

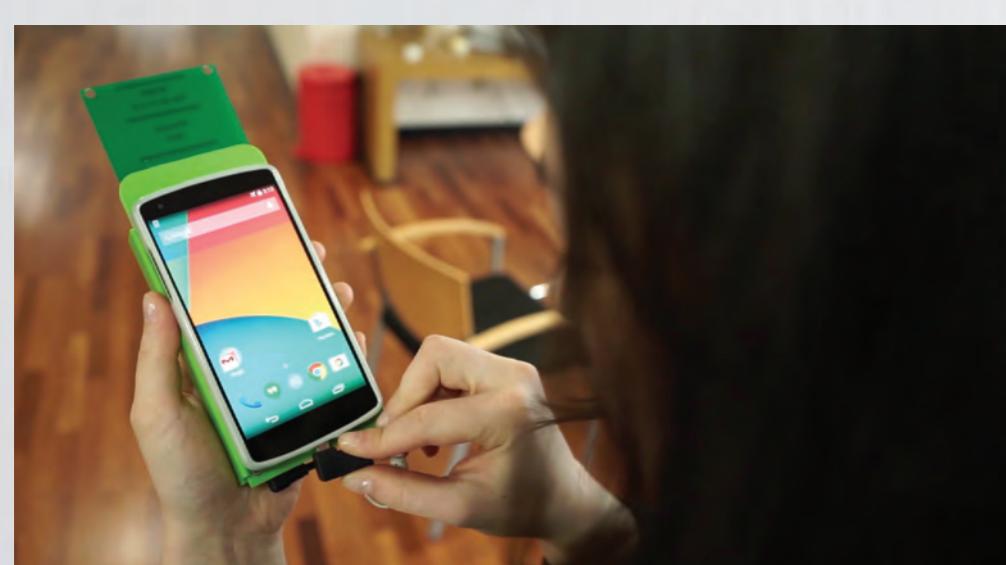
We misplace our belongings more often at home or office than we do when we are outdoors. There are already a few solutions that target this issue however they are based on detecting object proximity.

In contrast to current existing solutions, TagRadar uses a directional antenna which provides location heading instead of simple distance. It has been proved to be more efficient and accurate.

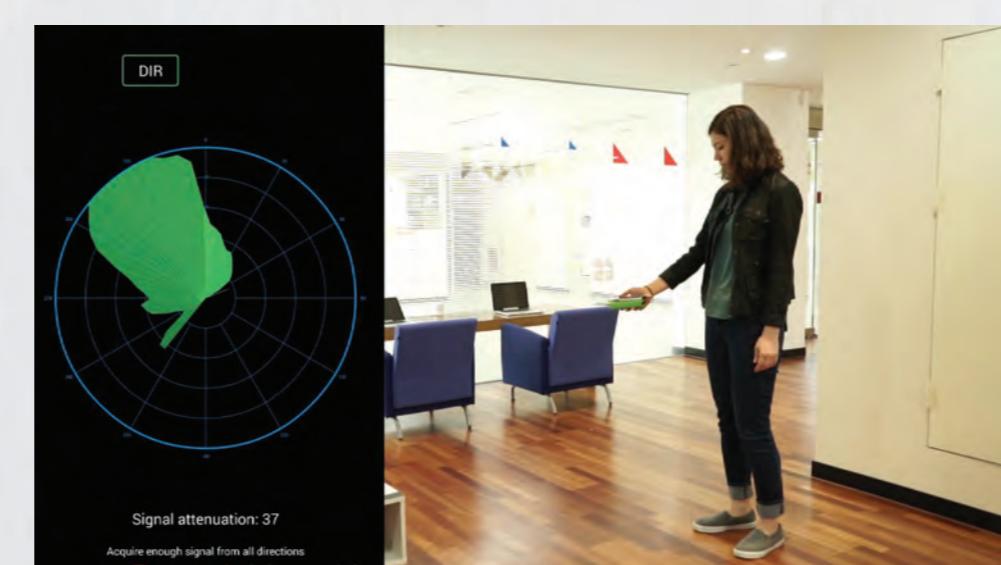
### What is the design goal?

To provide users a new and efficient way of locating their belongings indoors with minimal frustration levels. Target user needs are minimum physical exertion, cost effectiveness, accuracy, low energy consumption, and mobility.

## USER SCENARIO



User connects phone to accessory and opens application.



User sweeps with mobile device in hand while noting direction of highest received signal. User sweeps at multiple locations to pinpoint location. This method is similar to trian-

## IMPLEMENTATION

