



Bluetooth Fox Hunt

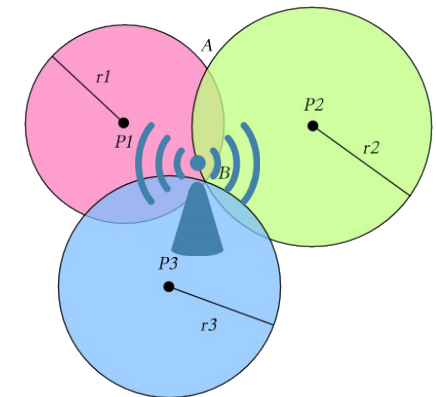
The goal of this project is to locate Bluetooth beacons by trilateration of the Bluetooth signal, i.e., measuring the signal strength at different locations.

First, you will setup the development toolchain for the Texas Instruments CC2650 microprocessor with integrated Bluetooth Smart core. Hardware evaluation kits will be provided. Yet, you will need to customize example code to spawn beacons.

Next, the Bluetooth signal quality has to be experimentally characterized based on different distance and orientation settings with respect to an Android smartphone.

Subsequently, you will develop an Android app which keeps track of the smartphone's current and previous locations based on inertial data. You will design and implement an algorithm which guides the user to the location of selectable beacons based on the gathered Bluetooth signal footprints.

You will demonstrate your app by locating beacons previously concealed in a room.



Project type	B.Sc. / M.Sc. seminar
Starting date	2016 summer term
Work distribution	30% experiments, 20% theory, 50% programming
Useful knowledge	<ul style="list-style-type: none">• Attended course Mustererkennung und Zeitreihenanalyse• Basic knowledge of C/C++• Intermediate knowledge of Android / Java
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