

Celloc: Cellular Localization

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Project Concept

- Quick Description
- Revolutionizing the Car Personalization Experience
- Bluetooth Localization
- Cellular Development
- Motivation



Market Analysis

- General Motors OnStar®
- Ford SYNC®
- Hyundai Blue Link®
- BMW ConnectedDrive

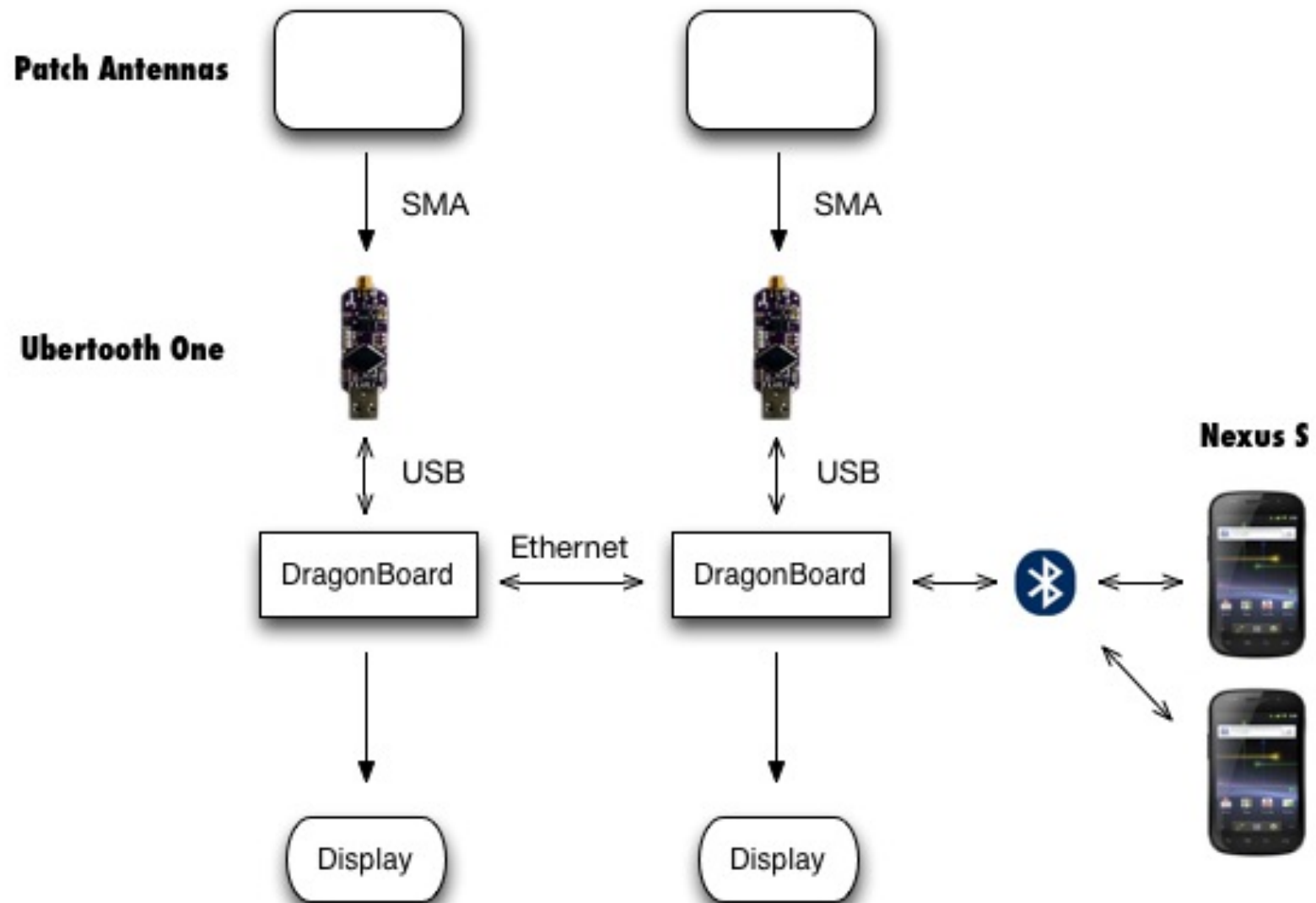




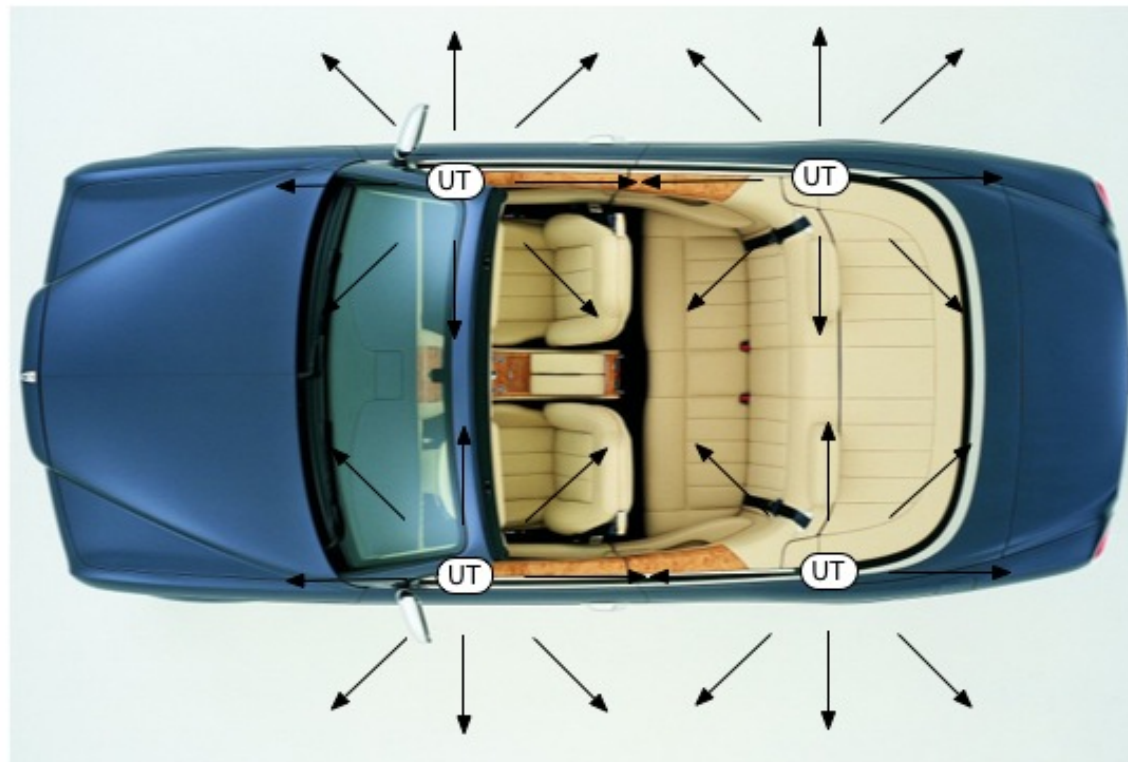
Requirements

- Seat-Granularity Localization
- Personal Mobile Media on Displays
- Minimum System Reaction Time
- Enhance Customer Experience
- Universal Across Android Platforms

Architecture



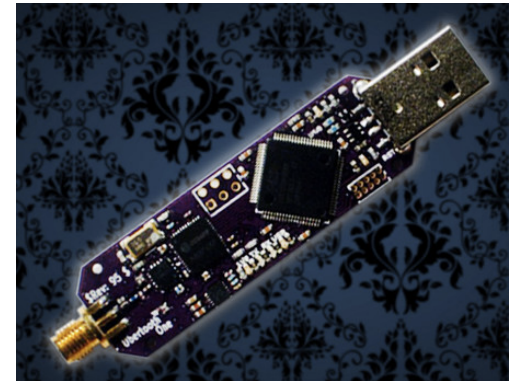
Car Layout



UT - Ubertooth

Technical Specifications

- Hardware
 - Android Phone with NFC (Nexus S)
 - Ubertooth One
 - Qualcomm Dragonboard™
- Software
 - Android 2.3
 - Ubertooth Firmware Modifications
 - Infotainment Software



Risk and Mitigation

Risk	Mitigation
Ubertooth Duck Antenna Insufficient	Create Patch Antenna
Bluetooth Signal Strength	Near Field Communication
Ubertooth Firmware Not Modifiable	Near Field Communicaiton
NFC Range Insufficient	Swipe In
Dragonboard Android 2.3 can't Utilize USB Host	Build Android 3.1 or Higher
Data Transfer from Nexus S to Ubertooth via Bluetooth Insufficient	Preloaded Information on DragonBoard



Questions?

For further information, please look at our website:
<http://www.ece.cmu.edu/~ece549/spring12/team21/>