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**Professional and Ethical Responsibilities of Triangulation of Signals**

The Triangulation of Radio Frequency(RF) signals involves monitoring regions of the RF spectrum for the signal you want to locate. Since RF signals are ubiquitous and one of the major modes of communication, monitoring and localizing signals that reside in these regions can bring up many professional and ethical issues. In this essay, we primarily consider issues regarding information and location privacy as well as the legality of doing so.

In regards to legality, we will restrain the argument to signals falling within the radio band of 902MHz to 928Mhz range. Within this radio range, transmission is allocated on a secondary basis to the amateur service subject to not causing harmful interference to the operations of Federal stations authorized in this band or to Location and Monitoring Service (LMS) systems.[[1]](#footnote-0) This issue is not a difficult one to bypass since it is rather easy to acquire an amateur radio license and we are in the process of acquiring one. However, if our project goes commercial, there is the potential for it to monitor and localize signals in a large portion of the VHF and UHF spectrum. However, the legality of these issues is beyond the scope of our project and shouldn’t become a large issue since location services already exist.

The major ethical issue regarding our project would be the privacy component. The right to privacy includes the right to not have one’s location be tracked. If our project becomes a service, there are a few options to explore. If our project is applied to military purposes, ethical issues are not very severe, since our project largely involves getting information - and militarily, this could be of friendlies and hostiles.On the other hand, if the project becomes of use for monitoring civilian activity and their whereabouts, privacy becomes a large issue. How can we ensure that we do not overstep the bounds into another’s privacy? We believe the ethics of this issue can be relaxed if we restrict the localization to permission based. Much like the current location services in action, by allowing consumers to buy into and allow tracking, we can maintain an ethical high ground in terms of privacy as well as.

The last issue regards the information privacy in the sense of data transfer. Since we will be monitoring the spectrum certain bands, there is a potential of seeing the information that resides within. However, our project is primarily focused on the localization of signals, so none of the actual data will be saved except for the estimated phase.

When it comes to the professional and ethical consequences of privacy, our project manages to avoid most of their pitfalls. We learned about the ubiquity of professional and ethical responsibility and had to consider many factors that we weren’t apparent before.The right to privacy has many implications in a more and more integrated world, especially with the rise in integrability of devices and internet of things.

1. FCC Title 47 Section 2.106 [↑](#footnote-ref-0)