

SpectrumWiki: A Framework for a Crowd-Sourced Repository of Information on Spectrum Usage

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The radio spectrum is used for an enormous number and variety of applications. Some are common and well-known (e.g., cell phones & TV broadcast), some are highly specialized (e.g., ionosondes & LoJack), and still others are of historic interest only (e.g., CONELRAD & Omega). As radio spectrum becomes more valuable and crowded, interest has grown in knowing who uses what bands for what purposes.

To this end, a specialized wiki (www.spectrumwiki.com) has been created to serve as a crowd-sourced repository of information on spectrum use. A wiki is very much like an electronic encyclopedia where all users have “edit authority” to improve and update the contents at any time. Perhaps the best-known example is Wikipedia.

SpectrumWiki has implemented a specialized framework to optimize the concept of a wiki for cataloging radio spectrum use. Essentially, all SpectrumWiki data and searches are keyed to frequency. Information on specific systems and applications can be entered, including the bands and services in which they operate. To query data, a frequency is entered and all systems and applications that use that frequency are returned in the search results.

Additional features include the ability to upload documents, images, links, and other materials, and key them to specific bands and services. They will then be returned when the relevant bands are queried. This capability is especially useful for band plans, occupancy measurements, and legislation, and for tracking regulatory proceedings that impact specific bands/services. Expanded search capabilities are being developed that will allow, for example, the quick identification of all FCC documents that impact the radio astronomy service within the range 30-60 GHz for which the comment deadline is approaching within the next two weeks.

At present, the basic wiki framework has been implemented, and a limited amount of data has been entered as a part of the development process. The site remains under continuous development and improvement, but data entry and queries, and suggestions for future features and bug fixes, are welcome. As with all wikis, the ultimate utility comes about when a significant number of users each enter a small amount of information in one or more areas in which they have specific knowledge. Anyone with an interest and/or expertise in radio spectrum use is encouraged to participate. The site is free and publicly accessible.