

The Implementation of Spectrum Sensing and Spectrum Allocation on Cognitive Radio

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Abstract— Cognitive Radio is a system designed to use radio spectrum in the most efficient way possible—as demands for radio spectrum have been heavily increased nowadays. The system works by allowing unlicensed users to use radio channel on the licensed users' spectrum without interfering with the licensed users. The system needs spectrum sensing to verify the usage of each specific spectrum and in ever-shifting environment, Reinforcement Learning is also used for establishing spectrum allocation as well.

Keyword— Cognitive Radio, Spectrum Sensing, Spectrum Allocation, Reinforcement Learning, USRP, LabView



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