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Top end mobile phones include a wide variety of sensors and are now ubiquitously in our city, which enables the novel paradigm known as participatory sensing. This empowers ordinary citizens to use their mobile phones to collect and share data about themselves and their surroundings. However, such applications bring a few threats especially on personal privacy, which may hinder people's participation.

This dissertation investigates the privacy threats associated to participatory sensing for noise mapping. Indeed, the collection of sound data may expose private information, such as the identity of users or the context of their conversation. To solve the mentioned problems, the Noise Manager uses the device number as the user ID which is known by the server whereas keeps anonymous with others. Additionally, this project only stores the noise level instead of the original recording to avoid users' audio recordings to be misused by adversaries. In this way, the Noise Manager enables users to probe, view and share the noise level without privacy concern. The evaluation was carried on by recruiting a few participants to install and use this application for one week and finally proved the high level of privacy protection by summarizing the user questionnaire.