**Chapter One**

**Introduction**

**1.1 Background and Motivation :**

The library is a place to study, research and read books it is supposed to be calm and not noisy so to keep it like that is part of the librarian's job. in 2019 the largest libraries in the world nowadays having A huge Numbers of visitors for example ( Britsh Library with 1.75 million visitors per year (British Library at Boston Spa, 2019), Library of Congress with 1.9 million visitors per year), (Library of Congress, 2019)even in small libraries and small countries the number of visitors increased a lot in the past decade which makes it louder inside library than before.

Self-awareness is required but sometimes people don't have it or they don't be aware of their voice loudness level.

There is no successful solution for the loudness in libraries in Palestine.

Most of the systems that try to solve this problem are not very successful, the reason is that it does not give specific details of the direction of the noise (like the table number).

**1.2 Aims and Objectives :**

The main objective of this system is to give the visitors and indicators of the loudness of their voices, make the librarian's job easier give the judgment of librarian more fairness and make the library a better place for study and reading.

This all will be achieved through and device that will be placed on every table that when some conditions are met will notify the librarian of the noisy table.

**1.3 Problem Statement :**

In most libraries there is no noise detection system even in libraries that has one it is a big sensor placed on every hall cell and is wired connected to the librarian computer the problem is that this way is not flexible for librarian and sometimes the librarian does not know for sure the specific source of noise and does not give the visitors the ability to self monitor their selves.

**1.4 Contribution :**

We are researching the current existing Sound Alarm, to add to our system.

Our device will be placed on every table it will have a sound sensor and three levels of sound loudness for each one a LED will glow if the loudness level got exceeded the first LED is the acceptable loudness the second if glows for a certain amount of time it will notify the librarian's phone and if the third LED glow it will immediately notify the librarian’s phone.

# References

*British Library at Boston Spa*. (2019). Получено из British Library at Boston Spa: https://www.bl.uk/visit/reading-rooms/boston-spa

*Library of Congress*. (2019). Получено из Library of Congress : https://www.loc.gov/about/general-information/