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|  | | Project Development Report. | | | | |  | |
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|  | | | | Shazam |  | | | |
|  | | | | June 3, 2025—Go—Achiket Kumar |  | | | |
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|  | INTRODUCTION | | | | | | |  |
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|  |  |  | Shazam is a mobile application by Apple inc. and is used to recognize and search songs, using audio fingerprinting. The song is given to app through mic or file. The audio is converted into processing format then , it is cleaned ,like removal of noise and other unknown sounds.  The processed sound is then converted into spectrogram then plotting is done and pairs of plotted dots is searched in database. | | |  |  |  |
| Decorative | | | | |
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Date: June 3, 2025

Day 1.

Setting up the project.

The project contains following project folder.

We will be using ffmpeg subprocess for audio handling and go-sox, beep.

FFT – Fast Fourier Transform

**FFT** stands for **Fast Fourier Transform**, an optimized algorithm for computing the **Discrete Fourier Transform (DFT)**.

### The DFT converts a signal from the **time domain** to the **frequency domain**. This means it transforms audio waveforms (amplitudes over time) into a set of **frequencies** that are present in the sound and their **intensities**.

June 4, 2025

Day 2.

Converting mp3 audio to wav was a challenge, but after learning about the audios and basic terms it seems easy.

Sample Rate – This was important and it means how many samples are collected in a sec.

Channels – This means how the audio is output, like mono means single speaker, duo means left and right speaker and 5.1 means surrounded