Good morning and welcome to my 3rd year project viva. Today I will be describing the motivations behind my 3rd year project, and the process I have undertaken to undertake it.

This project is borne from the fundamental shortcoming of loudspeaker operation – they are all run uncompensated. This means that low-cost systems are prone to multiple non-linearities and distortions that makes the sound they produce unacceptably poor, and that good sound quality costs an unreasonable amount of money in most cases.

Using electronic open- and closed-loop circuits, these non-linearities and distortions can be reduced, and, unique to subwoofers, the bass response can be extended without changing the physical design and build of the system. Making both the enthusiast and mainstream audio markets aware that these techniques exist will have the net result of improving the average quality of an average audio system, and consumers can pay less money for good quality audio.

The process of the project requires a subwoofer system to be designed and manufactured carefully from scratch. Assuming that this process is