Ferrofluid Music Visualizer
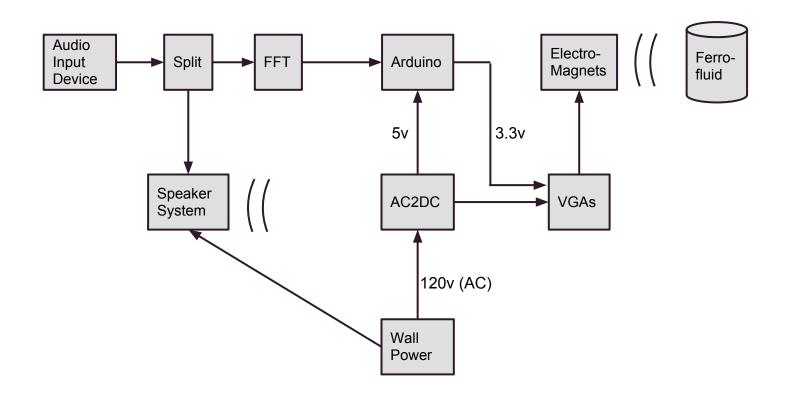

Group 5

18-549
Adu, Dan, Kunal, Moni

Updates

- Purchased and received ferrofluid.
- Arduino uno ordered, should be here by end of week.
- More discussion over hardware setup
- VGA hardware threshed out (use relays?)
- Need to experiment with power of electromagnets.
- Scheduled work session for Sunday to work with ferrofluid.

Architecture

Use Cases

- We envision that the ferrofluid music visualizer will come as a package with speakers sold in stores.
- It will provide a more entertaining method of listening to music by providing visual stimulation.
- We believe that it can be particularly successful at party venues and clubs.

Risks and Mitigation

Risks	Mitigation
Suspension fluid and ferrofluid interacting in unexpected ways.	Research liquid interaction (hydrophobic vs. hydrophilic)
Packaging is going to be biggest challenge	Have a source for custom plexi-glass containers.
Optimal positioning of the magnets on the packaging. (ex. not obstructing display)	Looking into donut shapes, tubes, multiple containers.
Kids drinking the fluid	Warning label.

Plan A, B, C

A. Ferrofluid reacts to many types of signals (can perform FFT on anything). Packaged well, only needs an outlet to run.

B. Ferrofluid reacts to music, linked to speakers, packaged well, only needs outlet.

C. Ferrofluid reacts to music, decent packaging, may need outlet and USB.

Division of Labor

Kunal - Packaging, Arduino programming

Dan - Arduino programming

Adu - Architecture, hardware, packaging

Moni - Filters, hardware