



Background



Orchestrion

- Music roll
- Assortment of instruments
- Autonomous



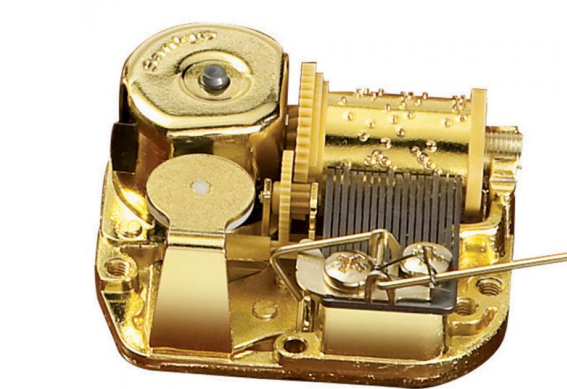
- Mechanical elements in conjunction with electrical elements
- Music roll
- Interactive

Wintergatan's Marble Machine



Calliope

- Music roll
- Simple, but not variable



Music box

Scan this code to see Wintergatan's Marble Machine in action!



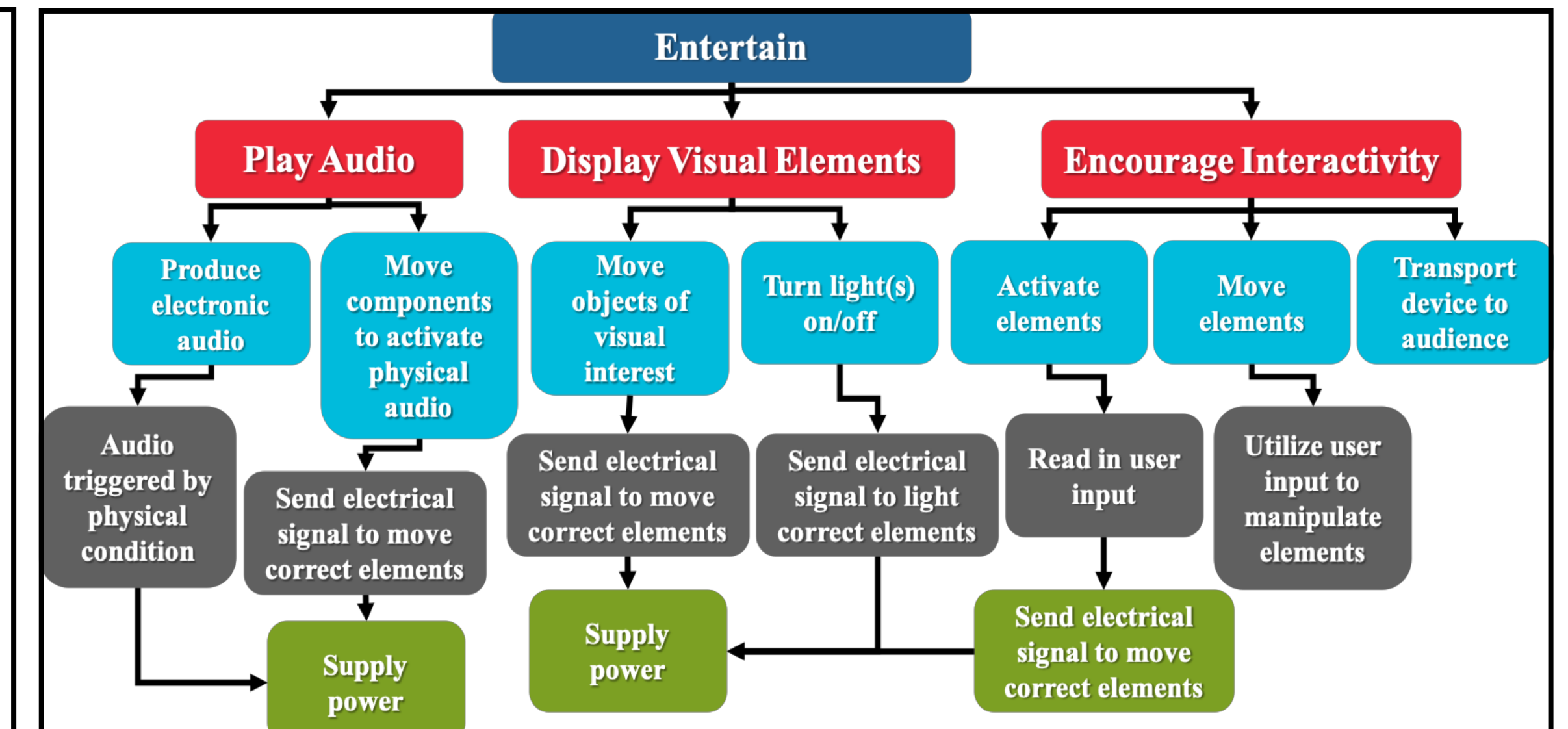
Objective

The objective of this project is a portable device which utilizes musical and visual elements to engage an audience for the purpose of representing the FAMU-FSU College of Engineering to the public.

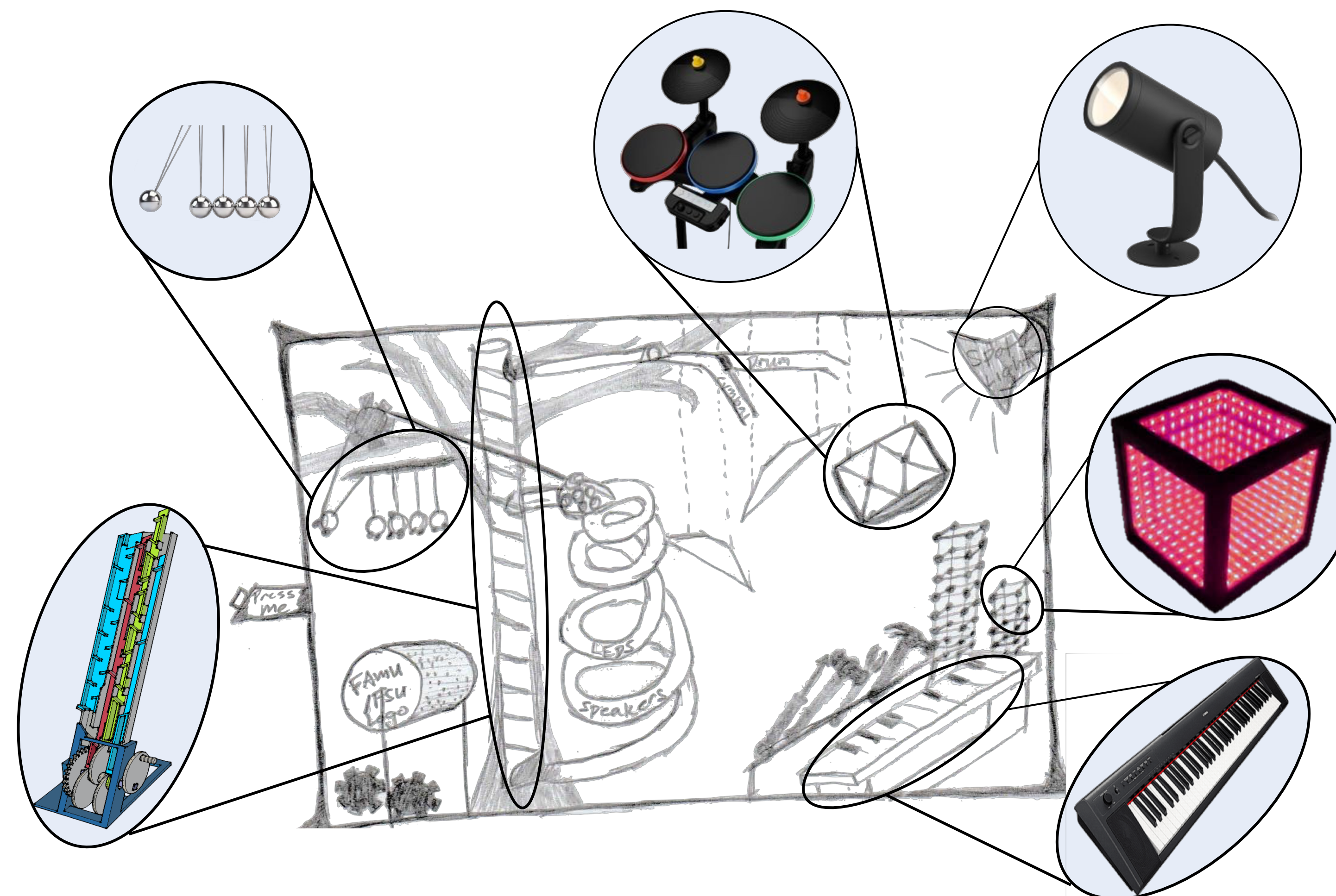
Key Goals

- Serves as a public relations tool
- Plays a recognizable tune
- Intrigues an audience
- Aesthetically pleasing
- Portable
- Incorporate mechanical and electrical components
- Self-explanatory

Simplified Functional Decomposition



Selected Design



Targets



Category	Need	Target	Number
Audio	Move physical components to produce audio	Audible volume	40-110 dB (Virosteak, n.d.)
		Audible range	5 m ² (Stierwalt, 2017)
	Recognizable song	Number of songs	1 song
Power source	Supply power	Corded/battery	12 V
Portability	Size	Volume	2.5 m ³
		Weight	22 kg
	Ease to move	Max length/width	1.98m X 0.61m
		Force required to start motion	220 N (Canadian Centre for Occupational Health and Safety, n.d.)

Acknowledgements

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