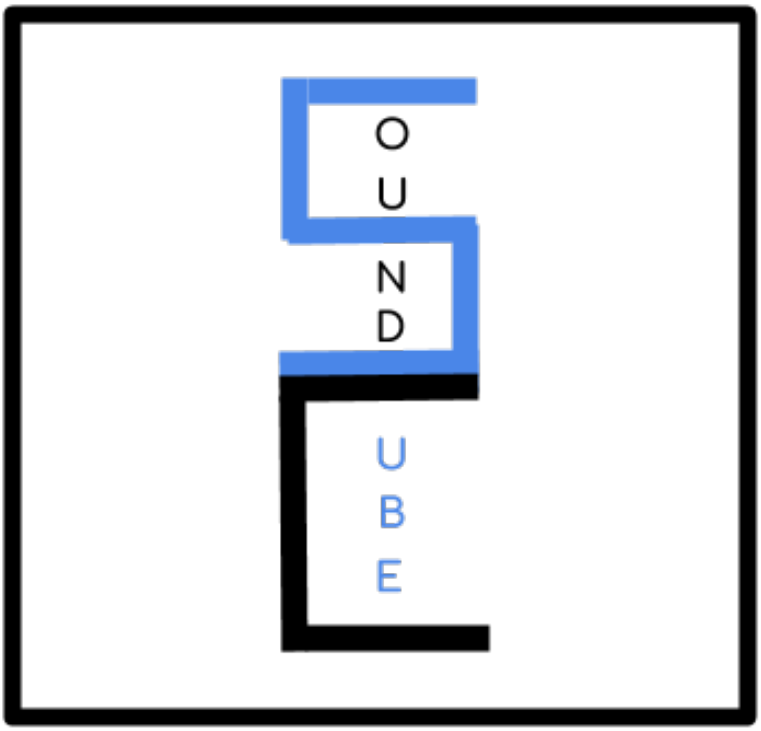

The SoundCube

FLiK Corp.

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The SoundCube – Executive Summary

We live in a noisy world. With the population bursting at the seams, finding a quiet place to reflect, study, work, meditate or just breathe is becoming increasingly difficult. People need a way to quiet the noise.

While many have adopted the fad of noise-cancelling headphones, this look sends the message of “don’t bother me” which can lead to social isolation. With noise-cancelling headphones, one cannot speak with others. The SoundCube changes all of that. Utilizing similar technology to noise-cancelling headphones and the practice of destructive interference, The SoundCube can provide space for group interaction without distracting others or outside disturbances.

Mission Statement: To silence the world when and where silence is needed.

Company Summary: FLiK Corp was founded in 2017 by AJ Ferrara, Brian Linton and Joey Kern for the sole purpose of designing, developing and producing products that address the needs of students on a physical, mental and emotional level. Our management team is comprised of the co-founders and co-presidents of FLiK Corp., AJ Ferrara, Brian Linton, and Joey Kern, all of whom are freshmen at JHU pursuing degrees in Electrical & Computer Engineering.

Customer/Market Analysis: We are heavily invested into the SoundCube due to that fact that we will be able to reach and dominate a large share of the market. One example is that there are thousands of college campuses in the US alone where the SoundCube’s technology will would be in high demand due to the value of silence for studying and learning. This is only one area of the market that we could tap into; office spaces and libraries are also a huge source for a potential market. In addition, in terms of market share, we are only competing with Beats-type products that deal with noise-cancelling - a very small share of the market.
This product appeals to many different populations and is limitless in its usage. Primarily, the launch will focus on students who are interested in creating a quiet zone in their dorm room or in a library. The applications in the future could encompass construction sites where engineers need to establish a quiet space to meet at a noisy site. It could also be leveraged in gyms and

workout areas where people crave quiet to practice yoga or participate in meditative activities. The SoundCube could also be used in the new open-space designed corporate environment to easily create quiet workspaces for people who need to concentrate. Apartment dwellers could also benefit from a SoundCube to block out the distraction of noisy neighbors.

To address the problem, we propose the following:

Product Description: The SoundCube consists of eight small boxes, which make up the eight vertices of a cube. Each of these eight units house a sensor to pick up outside noise and an oscillator to produce a sound wave that is 180° out of phase to cancel noise. There is also constant, fast-blowing air between each sensor which helps to drown out the noise the consumer wants to cancel. The design is to have destructive interference waves on each side of the blowing air so that no matter which way the noise is coming from, it gets drowned out by the air and then the noise from the air gets canceled by the destructive interference wave on the other side of the air. *********There is no prototype at this time**********

Intellectual Property Status: Design is in progress, but not finalized. Plan is to seek out patent. Currently there is a patent on a certain type of noise-cancelling headphone, but no patent on a noise-cancelling device that is used outside the containment of a headphone.

Competitive Differentiation: Our major competition would be with companies that produce noise-cancelling headphones. But, we are different from our competitors in that no company that we know of has a device that can be noise-cancelling for an entire room.

Management Team/Advisors:

Management

1. AJ Ferrara
2. Brian Linton
3. Joey Kern

Advisors

1. Dr. Trac Tran, JHU Professor of Electrical and Computer Engineering
2. Pedro Julian, JHU Professor of Electrical and Computer Engineering

Simple Profit/Loss Statement: We could make the first units of the SoundCube for $50.00 each given the readily available, cheap, and common components (sensors, oscillator, etc.) that would be needed to make the SoundCube. We would then sell the SoundCube for $150.00 each. This is a fair price because medium-quality noise-cancelling headphones are priced at approximately $100.00 - $150.00, but they have to be worn and cannot cancel noise for an entire room. Producing and the selling SoundCubes at this price point would give us a good profit margin and allow us to quickly start turning a profit from the initial investment to make the first units of SoundCube.

Status of Company/Funding Obtained/Sought: The company is in its infancy and the SoundCube will be its first product. Once a prototype has been designed, additional funding will be sought through business contacts in the technology market and venture capitalist firms.

Value Created by the SoundCube

The SoundCube provides new value to the world of noise cancelling technology, as it provides an instant gateway to a private workspace, meeting place, or hangout spot. Unlike noise cancelling headphones, which simply block outside noise in the ears of the user, the SoundCube is unique as it creates a quiet space for multiple users at once. The SoundCube also blocks the noise of the users in the quiet zone from any outsiders, so meetings and gatherings can now happen anywhere at anytime without the fear of disturbing those in the vicinity.

The SoundCube satisfies a clear customer need for a portable quiet space that can be used anytime, anywhere. Across the nation, individuals search for quiet within college libraries, office buildings, and public hangout spots. The abilities of the SoundCube fill this need exactly.

The SoundCube provides an extremely service to customers and stakeholders alike. For customers, a product unlike any other on the market today gives tremendous value in all facets of life. The SoundCube can be utilized at work, at home, and while having fun, whether it be to create a quiet camp space or have a quiet table while out to dinner. Stakeholders have the privilege of investing in a product that has few limits to growth. The uses for the SoundCube are nearly limitless, and this potential to expand across a multitude of markets gives the SoundCube an opportunity for growth that few products offer.

The SoundCube consists of eight small boxes, which make up the eight vertices of a cube. Each of these eight units house a sensor to pick up outside noise and an oscillator to produce a sound wave that is 180° out of phase to cancel noise. There is also constant, fast-blowing air between each sensor which helps to drown out the noise the consumer wants to cancel. The design is to have destructive interference waves on each side of the blowing air so that no matter which way the noise is coming from, it gets drowned out by the air and then the noise from the air gets canceled by the destructive interference wave on the other side of the air.

Attractiveness of Market Opportunity

Market Segmentation Analysis Data (US)

Major Segment	Target Segment	Potential Market	Priority
Office Furniture	Cubicles	15 – 30 million units	A
Hospitality	Hotel Rooms	5 million units	B

OEM's	Housing Construction	~500 units/year	C
Government	Police, Military	n/a	B
Hospitals	Hospital Rooms	1 million units	A
Dining	Restaurants	500,000 units	B
Libraries	Libraries	100,000 units	A

Specifics for Priority A

Segment: Cubicles

Market Size:

There are between 15 – 30 million office cubicles in the United States alone.

Motivating Factors:

- Can be very loud and distracting at cubicles
- The SoundCube is designed to be optimally outfitted in a cubicle
- Is a huge market to break into

Sales Methods: X Manufacturers X Online X Licensing

Segment: Hospitals

Market Size:

There are around 1 million hospital rooms in the United States.

Motivating Factors:

- Hospital rooms can be very loud due to machines
- Patients struggle to get needed rest due to noise
- The boxy nature of hospital rooms is optimally suited for the SoundCube

Sales Methods: X Manufacturers X Online Licensing

Segment: Libraries

Market Size:

There are around 100,000 libraries in the United States.

Motivating Factors

- Libraries' success is partially predicated on creating and maintaining silence
- People attend libraries for silence
- The SoundCube is modular; can create areas of silence and collaboration (normal)

Sales Methods: **X** Manufacturers **X** Online Licensing

MARKET SEGMENT	SEGMENT SIZE										
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
CUBICLES	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000	30,000,000
share assumptions	0%	2%	5%	10%	15%	20%	25%	30%	35%	40%	50%
potential units	0	600,000	1,500,000	3,000,000	4,500,000	6,000,000	7,500,000	9,000,000	10,500,000	12,000,000	15,000,000
HOSPITALS	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
share assumptions	0%	2%	5%	10%	15%	20%	25%	30%	35%	40%	50%
potential units	0	20,000	50,000	100,000	150,000	200,000	250,000	300,000	350,000	400,000	500,000
Libraries	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
share assumptions	0%	2%	5%	10%	15%	20%	25%	30%	35%	40%	50%
potential units	0	2,000	5,000	10,000	15,000	20,000	25,000	30,000	35,000	40,000	50,000

CUBICLES	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Units	0	600,000	1,500,000	3,000,000	4,500,000	6,000,000	7,500,000	9,000,000	10,500,000	12,000,000	15,000,000
Avg Selling price	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00
Revenue	$ -	$ 90,000,000	$ 225,000,000	$ 450,000,000	$ 675,000,000	$ 900,000,000	$ 1,125,000,000	$ 1,350,000,000	$ 1,575,000,000	$ 1,800,000,000	$ 2,250,000,000
Cost of Goods Sold	$ -	$ 30,000,000	$ 75,000,000	$ 150,000,000	$ 225,000,000	$ 300,000,000	$ 375,000,000	$ 450,000,000	$ 525,000,000	$ 600,000,000	$ 750,000,000
Gross Profit	$ -	$ 60,000,000	$ 150,000,000	$ 300,000,000	$ 450,000,000	$ 600,000,000	$ 750,000,000	$ 900,000,000	$ 1,050,000,000	$ 1,200,000,000	$ 1,500,000,000
Selling, General & Administrative Expenses											
Marketing Expenses	$ 3,000,000	$ 3,000,000	$ 2,000,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
Engineering Expenses	$ 2,000,000	$ 2,000,000	$ 1,500,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Administrative	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
SG&A totals	$ 5,500,000	$ 5,500,000	$ 4,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000
	6.1%	6.1%	1.8%	0.4%	0.3%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
Net Income	(Neg) 5,500,000	$ 54,500,000	$ 146,000,000	$ 298,000,000	$ 448,000,000	$ 598,000,000	$ 748,000,000	$ 898,000,000	$ 1,048,000,000	$ 1,198,000,000	$ 1,498,000,000

HOSPITALS											
Units	0	20,000	50,000	100,000	150,000	200,000	250,000	300,000	350,000	400,000	500,000
Avg Selling price	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00
Revenue	$ -	$ 3,000,000	$ 7,500,000	$ 15,000,000	$ 22,500,000	$ 30,000,000	$ 37,500,000	$ 45,000,000	$ 52,500,000	$ 60,000,000	$ 75,000,000
Cost of Goods Sold	$ -	$ 1,000,000	$ 2,500,000	$ 5,000,000	$ 7,500,000	$ 10,000,000	$ 12,500,000	$ 15,000,000	$ 17,500,000	$ 20,000,000	$ 25,000,000
Gross Profit	$ -	$ 2,000,000	$ 5,000,000	$ 10,000,000	$ 15,000,000	$ 20,000,000	$ 25,000,000	$ 30,000,000	$ 35,000,000	$ 40,000,000	$ 50,000,000
Selling, General & Administrative Expenses											
Marketing Expenses	$ 3,000,000	$ 3,000,000	$ 2,000,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
Engineering Expenses	$ 2,000,000	$ 2,000,000	$ 1,500,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Administrative	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
SG&A totals	$ 5,500,000	$ 5,500,000	$ 4,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000
Net Income	(Neg) 5,500,000	(Neg) 3,500,000	$ 1,000,000	$ 8,000,000	$ 13,000,000	$ 18,000,000	$ 23,000,000	$ 28,000,000	$ 33,000,000	$ 38,000,000	$ 48,000,000

LIBRARIES												
Units	0	2,000	5,000	10,000	15,000	20,000	25,000	30,000	35,000	40,000	50,000
Avg Selling price	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00	$ 150.00
Revenue	$ -	$ 300,000	$ 750,000	$ 1,500,000	$ 2,250,000	$ 3,000,000	$ 3,750,000	$ 4,500,000	$ 5,250,000	$ 6,000,000	$ 7,500,000
Cost of Goods Sold	$ -	$ 100,000	$ 250,000	$ 500,000	$ 750,000	$ 1,000,000	$ 1,250,000	$ 1,500,000	$ 1,750,000	$ 2,000,000	$ 2,500,000
Gross Profit	$ -	$ 200,000	$ 500,000	$ 1,000,000	$ 1,500,000	$ 2,000,000	$ 2,500,000	$ 3,000,000	$ 3,500,000	$ 4,000,000	$ 5,000,000
Selling, General & Administrative Expenses											
Marketing Expenses	$ 3,000,000	$ 3,000,000	$ 2,000,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
Engineering Expenses	$ 2,000,000	$ 2,000,000	$ 1,500,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Administrative	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
SG&A totals	$ 5,500,000	$ 5,500,000	$ 4,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000
Net Income	(Neg) 5,500,000	(Neg) 5,300,000	(Neg) 3,500,000	(Neg) 1,000,000	(Neg) 500,000	$ -	$ 500,000	$ 1,000,000	$ 1,500,000	$ 2,000,000	$ 3,000,000
TOTAL INCOME IN 10th YEAR FROM 3 SEGMENTS			$ 1,549,000,000								
KEY ASSUMPTIONS											
Constant SG&A Cost (Same for each segment)											
Product Production Price											
Product Selling Price											

Competitive Advantage

Direct Competitors

There are no devices currently on the market that destructively interfere with sound noise in an open environment. In the noise dampening industry, most devices use white noise to overwhelm background noise but results in no actual decibel of sound reduction. These devices are also usually incredibly bulky and can become an eyesore as they hang from the ceiling or are big towers in the area. The SoundCube offers a better alternative to these devices by clearing up some of these issues. First, the SoundCube uses actual destructive interference to result in physical noise destruction of 15-30 decibels. Second, the SoundCube can come in a portable or outlet-type allowing it to be tucked away, out of sight, for aesthetic appeal and unadulterated silence.

Indirect Competitors

People may argue that a noise dampening wall would be just as effective as a SoundCube but they are overlooking a key downside. A dampening wall is physical, solid object that one is unable to see through. This becomes an issue because it creates an impersonal feel and symbolizes solitude. In contrast, the SoundCube achieves on-par noise reduction while operating as a see-through “barrier”. The SoundCube allows one to experience silence while still being around their contemporaries. For example, to speak to someone, while utilizing a dampening wall, one may have to open a door, but not for the SoundCube, just walk up and talk to them.

Distribution Channel

The SoundCube is favorably positioned in the distribution channel as it is would be available at all offices and hardware stores, or on the SoundCube website. In addition, FLiK Corp. could partner with cubicle and office supply companies to have their items pre-outfitted with the

SoundCube, giving both entities a favorable situation: other companies profit from having state-of-the-art noise cancelling in their products and FLiK Corp. only has to supply SoundCubes to the companies and let the companies pass the product further down the distribution channel.

Market Leader

The SoundCube has the potential to be a market powerhouse for one main reason: A patented noise cancelling system that is unparalleled in its technology and noise cancelling ability.

Barriers to the Market

In our research, there are no barriers to the market aside from being registered and certified with the FCC, which is something that will only take up time before the release. Due to the highly coveted notion of silence, companies have been asking for a better noise-reduction device and will be eager to purchase and utilize the SoundCube as soon as it becomes available on the market.

Time to Market

As stated before, once the SoundCube prototype is created, all it has to do is pass the FCC certification and production can begin so that distributors can take it to the market. We plan to have pre-orders on the SoundCube so we can quickly and seamlessly begin distribution. All things considered, the SoundCube should take a year or two to reach market from where it is in its current state.

Operational and Technological Viability

Production and Delivery

The first models of the SoundCube will produced by hand on the campus of Johns Hopkins University, while fabricating the design for factory production. Once the designs are optimized for factory production, they will be delivered straight from the manufactures/distribution plant (for online orders as well).

Distribution Channels

The distribution channels will go from the manufacturer straight to the consumer. Online orders will be filled through the manufacturer.

Intellectual Property

For the SoundCube, intellectual property is essential to success. Due to the technology being unparalleled, it is important to maintain exclusivity of the product. Companies with more capital and resources would love to produce a product like this, so we would need a patent for protection. This also ties into our exit strategy as we plan on selling the intellectual property rights and patent after 5-10 years.

Securing Rights to Property

To secure rights to property, we will apply for a United States Product Patent.

Regulatory Hurdles

The only regulatory hurdle that the SoundCube would have to face is getting clearance from the Federal Communications Commission (FCC). The FCC regulates the communications so they would have to approve the destructive interference mechanism.

Property Development

It will take a maximum of a year to develop the property.

Key Milestones

The key milestones are as follows: finished design, patent acquisition, production, sales, and national recognition.

Capability of Management Team

Team Members Roles

The current members of the SoundCube Team, AJ, Brian, and Joey will serve as executives for the product. In addition, they will serve on the head research and development team to optimize the product.

Filling Gaps in Management

We plan on filling gaps in management with the help and guidance of professors and other professionals at Johns Hopkins University.

Mitigating Key Risks

Some key risks that we have identified are funding and our knowledge base. Funding is a risk because the research and development behind the SoundCube might be a larger initial investment (even though it will pay dividends in the future). We have some connections through

our families with venture capitalists in the technology industry. Another risk is that since we are freshmen, our knowledge base to make key technological upgrades is not yet at the level needed.This is why we plan to work with specific professors at JHU.

Capital Requirements and Financial Forecast

We are seeking a monetary investment of $25,000 to aid in developing the initial prototype of the SoundCube as well as to allow us to begin preliminary marketing of the product.

The investment can be staggered, and will be utilized gradually as the SoundCube progresses through the development process.

Exit Strategies

The plan for an exit strategy for the company is relatively simple. We realize there are a relatively fixed number of cubicles, hospital room, libraries, etc., and our product is not subscription based or prone to needing replacement. Due to this fixed nature of sales, we plan to sell the SoundCube under FLiK Corp. for 5-10 years and then sell the product and patent to another company who can produce the SoundCube exclusively for the duration of the patent. A buyout from a foreign company would be ideal as they could extend the SoundCube and its capabilities overseas, achieving market coverage that was purposely left out by FLiK Corp.

Response to Judges' Questions from Last Round

1. Protection?
    a. We plan on getting an IP Patent once the designs are finished.
2. Unsure of Sales?
    a. The market that we have identified is incredibly large so if we can tap into even a portion of it, the SoundCube will be very profitable
3. Prototype?
    a. We currently do not have a prototype because at this point we do not have enough funding to create one.
4. Financials?
    a. Financials are included in this business plan.
5. Better than Noise Cancelling Headphones?
    a. It is better because the SoundCube makes it possible for groups to interact in their own quiet bubble rather than completely isolating communication from each other. Group work has never been easier.
6. Cost?
    a. We plan on the cost of one SoundCube to be $50.
7. How Does It Work?
    a. The SoundCube consists of eight small units, which make up the eight vertices of a cube. Each of these eight units house six sensors to pick up outside noise and six oscillators to produce a sound wave that is 180° out of phase to cancel noise.

Six is the magic number because there are three dimensions and two sensors for each dimension. There is also constant, fast-blowing air between each sensor which helps to drown out the noise the consumer wants to cancel. The design is to have destructive interference waves on each side of the blowing air so that no matter which way the noise is coming from, it gets drowned out by the air and then the constant noise from the air gets canceled by the destructive interference wave on the other side of the air.

Contact Info

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