
LITTLE BROTHER LLC

Securing Conversations by EaveStopping

NOTE: Our company was awarded the grant during the last cohort in 2019, but was deferred due to a technicality on our cost volume.

Company Information

DUNS Number: 117227354

CAGE Code: 8FGX1

SBA Number: SBC_001642585

Topic Number/Name: X20A-TCSO1 - 'STTR Open Topic Phase 1

Technical Abstract: Our EaveStopping technology over-saturates device microphones rendering outside parties from listening capabilities null, without interfering with other desirable device functions and connectivity

Overview: During phase 1 we will analyze Modern Security protocols among varying degrees of information and security clearance levels to validate and size our market opportunity within the air force

Technical Merit: By exploiting the directionality of parametric speakers in combination with INAUDIBLE ultrasonic waves, we can encrypt audio data in real-time without disruption of smartphones and internet of things devices

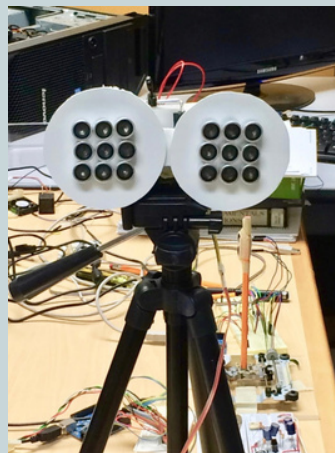
Team: Our team is partnered with the University of Delaware Horn Entrepreneurship program providing well-equipped professionals from technical and business backgrounds- committed to driving results

Commercialization: Increased audio protection is expected to become an industry-standard for consumers, businesses, and governments. Our niche solution will be a first-mover within a growing market.

Product Development

SCIENTIFIC RESEARCH

University of Chicago and University of Illinois research validate inaudible noise as a solution to encrypt audio data



UNIVERSITY OF ILLINOIS
BACKDOOR TECHNOLOGY



UNIVERSITY OF CHICAGO
JAMMER BRACELET

CURRENT SOLUTIONS

Our analysis led us to conclude existing audio cybersecurity solutions are not aligned with current needs. The solutions we examined fall into a few groups:

- High cost, highly secure, and poor user experience (e.g. SCIF rooms, EMI)
- Medium cost, highly secure, and poor user experience (e.g. software)
- Low cost, poor security, and good user experience (e.g. mic blockers)

LITTLE BROTHER

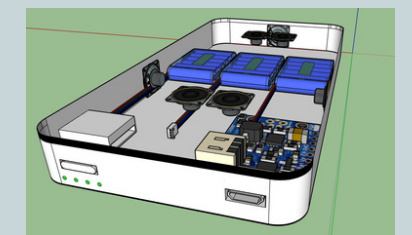
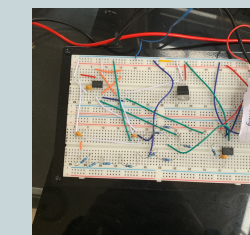
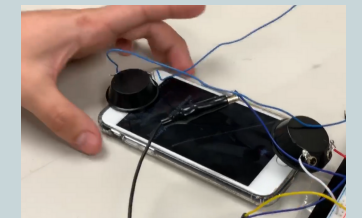
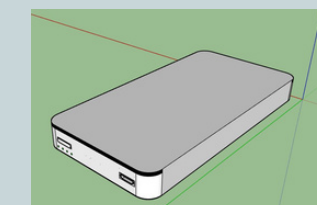
By combining our learnings from University research and extensive market research, we are working with an OEM to supply our initial MVP, while working towards our own differentiated, proprietary solutions that feature:

- The implementation of inaudible acoustics creates physical encryption without device losing functionality
- Using the acoustic principles of parametric speakers, bespoke designs can be tailored to meet the needs of any environment
- Low-cost relative to substitute products



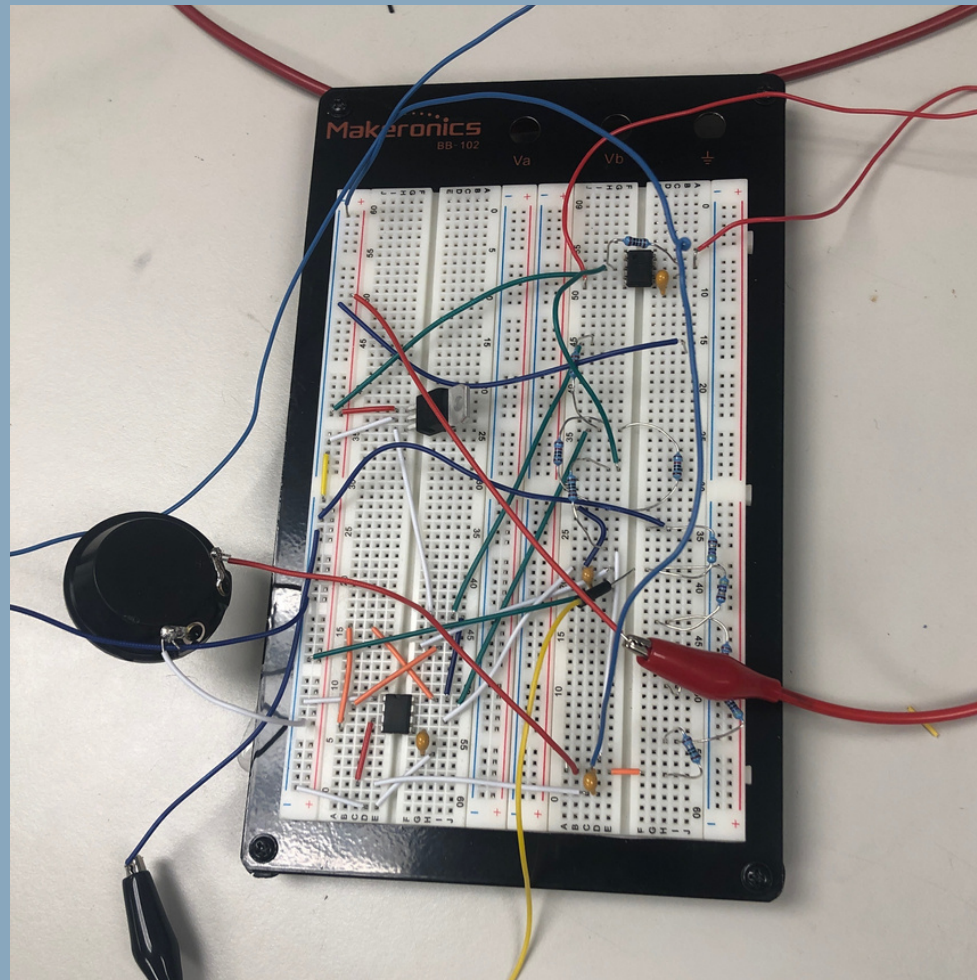
Ultrasonic microphone jammer

OEM solution that utilizes ultrasonic jamming technology to protect from eavesdropping. Retail price of \$1000-\$1500



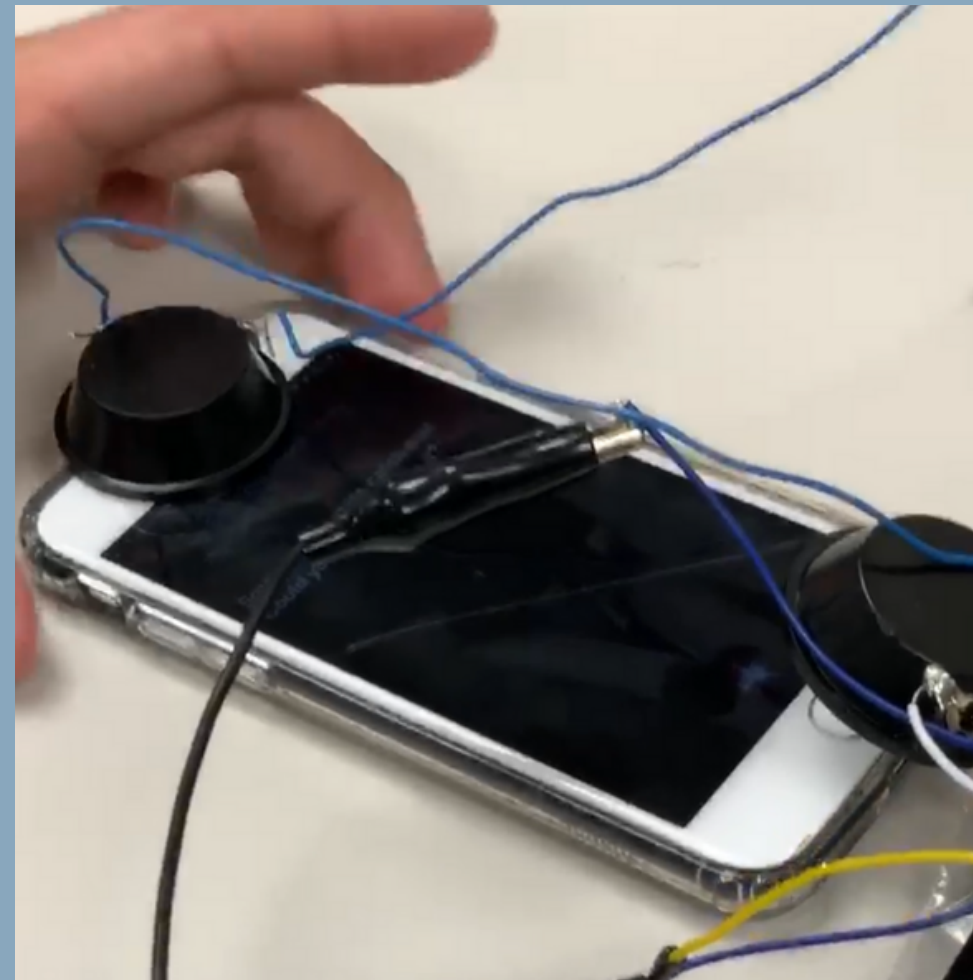
MVP: Securing an iPhone

The emitted frequency prevents the phone from being able to record sound or hear someone call "Hey Siri!" We can build one for under \$50



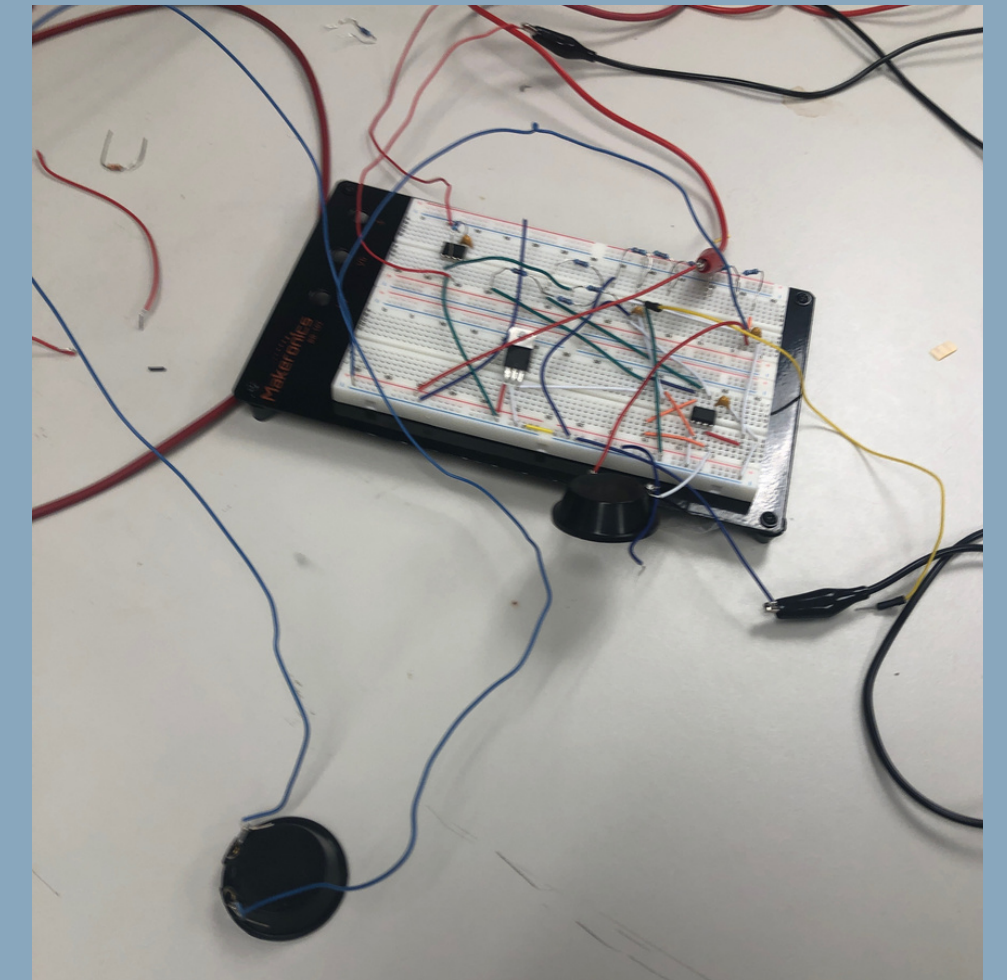
FULLY DISCONNECTED HARDWARE

Not linked to internet, software, or digital entry-point, simply requiring only a power-source



REAL-TIME ENCRYPTION

Audio blocked before ever hitting microphone. No training required and does not hinder functionality



WORKS IN ANY ENVIRONMENT

Flexibility of design allows us to create custom solutions based on customer needs.

Our work yielded an intuitive, low cost, and highly secure method to prevent recording or cybersecurity attacks on audio.

TRACTION

Our ability to achieve our goals and work towards commercial success in less than a year



UNIVERSITY OF DELAWARE SUMMER FOUNDERS PRE-ACCELERATOR

- 12-week deep dive into customer discovery and the lean startup approach
- Awarded \$7,500 grant



NATIONAL SCIENCE FOUNDATION PROOF OF CONCEPT GRANT

- \$10,000 grant awarded in 2 tranches
- Presented to panel of 12 local CEOs and investment boards



EXPRESSED INTEREST AND EFFORTS TO SIZE OPPORTUNITY OUTSIDE OF AIR FORCE

- Received commercial interest from the following firms:
 - Haug Partners LLP
 - Banz Capital
 - Grey Ops LLC
- Over 100+ customer discovery interviews, including:
 - Cybersecurity professionals, Red and Blue Team software engineers, Government contractors, Military personnel



TECHPORT UAS INCUBATOR

- Participant in TechPort UAS incubator at UMD in early 2020
- Opportunity to display technology to various military personal and local entrepreneurs



CYBERSECURITY EVENTS ATTENDED

- Dreamport, Columbia MD - PIA with US Cyber Command
- Defcon, Las Vegas
- Air Force Accelerator powered by Techstars Forum with Warren Katz, Army Applications Lab, NYC, NY

COMMERCIALIZATION POTENTIAL

After 100+ customer discovery interviews, we picked 3 non-government markets to dive deeper



Virtually any highly regulated or highly confidential vertical can benefit from this technology

CO-WORKING SPACES

We are initiating customer interviews at The Mill Space in Wilmington, DE, to understand the privacy needs of startups within shared workspaces

FINANCIAL SERVICES

Banz Capital, a crypto-hedge fund in NYC, is partnering with us to test our products in highly secure and regulated environments

LEGAL INDUSTRY

Haug Partners LLP in NYC, NY is allowing us to perform a case study on the audio security needs within legal services



Following these initial studies, we will maintain an iterative research process to continue identifying new customers and gather data to refine our product and target segments.

Little Brother Team and Mentors



TYLER PSENICKSKA
Chief Financial Officer



JAMES MESAROS
Chief Executive Officer



ZACHARY GRANAT
Chief Sales Officer



FELICIA DOGGETT
Founder and CEO of
Metropolitan Acoustics



CHARLIE BROGAN
(ret) Managing Director,
Brandywine Capital



THOMAS LUGINBILL
TechPort Director,
University of Maryland



ALI BERKIN
Scientific Patent Attorney
Partner at Haug Partners LLP



NELSON NOVOA
Executive Director of IT,
Bristol Myers Squibb



JOHN IADELUCA
Founder and CEO,
Banz Capital

OUR OBJECTIVES

- Identify gaps where sensitive conversational data is at risk
- Determine the best candidates for deeper research
- Work closely with problem holders to iterate product to fit customer needs
- Determine 3 to 5 areas within Air Force where our tech provides most value

KEY METRICS

- Number of acquisitions via pre-sales and letters of intent
- Number of referrals within Air Force and to other branches of military
- Number of conversions per level of risk
- Total cost savings of our technology vs. current solutions of equal security

CHARLIE BROGAN
Startup Mentor
(ret) Managing Partner Brandywine Capital LTD

ADDITIONAL VALUE

In addition to our own research, we identified potential solutions through discussions at the Dover Air Force Base, Space Command, and Brigadier General Barlow

Market Segment

Hypothesized Pain

Custom Solution

CYBERWORX & CYBERCOMMAND

- *Gap in mid-level security (FOUO information)*
- *Highly confidential conversations require expensive solutions*

LOW SECURITY ROOMS OUTFITTED WITH CUSTOMIZED EAVESTOPPING SOLUTION

INTELLIGENCE SURVEILLANCE AND RECONNAISSANCE

- *Extremely sensitive information is dealt with conversationally*
- *Highly exposed due to interaction with foreign executive officials*

PERSONAL EAVESTOPPING JAMMER THAT PROTECTS CONVERSATIONS UP TO 80 DECIBELS IN VOLUME

EUROPEAN AND PACIFIC COMMANDS

- *Desired cyberattack targets due to international operations*
- *Highly decreased security when Airmen leave base*

BOTH PERSONAL JAMMERS AND CUSTOM ROOM-FITTERS EAVESTOPPERS

DEVELOPMENT STRATEGY

STEP GUIDE



STEP 1

Validation of potential government and non-government customers

TIME: 3-6 months

STEP 2

Select core market segments to focus and tailor product accordingly

TIME: 6-12 months

STEP 3

Commercialize product and scale across government, business, and consumer applications

TIME: 12-24 months

FINANCES, BUDGET, & PRICING

FUNDING

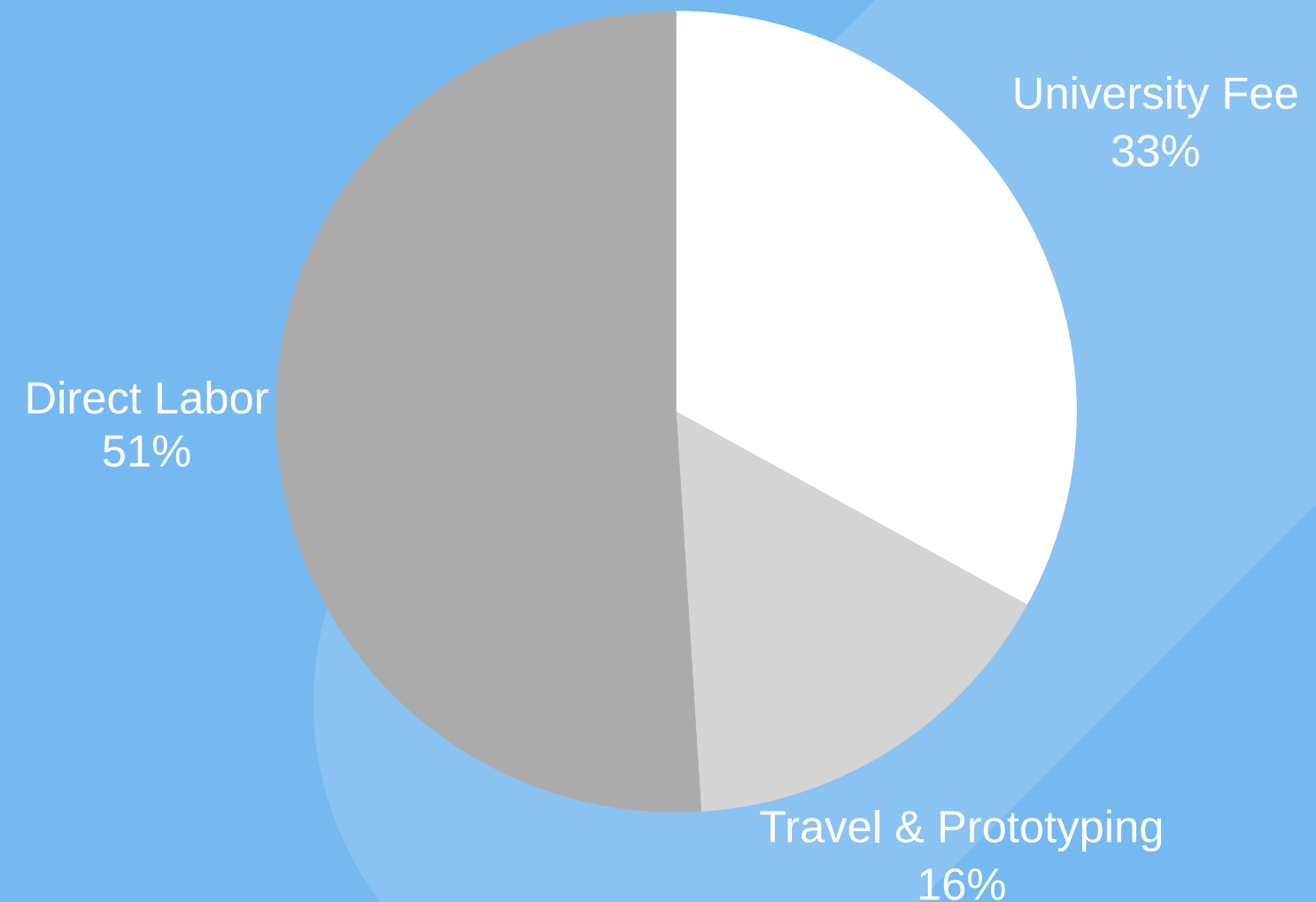
- **\$10,000** - National Science Foundation Proof of Concept
- **\$8,500** - University of Delaware's 2019 Summer Founder Pre-accelerator

PRICING

- OEM unit price: **\$1500**
- Cost to produce proprietary iPhone jammer: **<\$50**

BUDGET ALLOCATION

TOTAL BUDGET: \$50K



IP & Legal Progress

Advising attorneys:

HAUG
PARTNERS



1

Haug Partners performed a Freedom to Operate in October 2019 based on existing products and patents

2

We are in the process of filing a provisional patent on our proprietary work with Haug Partners

3

In talks with several Tech Transfer offices, Universities, and manufacturers for licensing agreements of related and complementary technologies