The Providence System

Purpose

To make the world a safer place by enabling quicker, more accurate responses, and eliminating human error in public security.

Price of a gun in the US

Assault rifles like the ones reportedly found in Paddock's room = Approximately **$1500** = Macbook

Handguns, which were also reportedly among Paddock's arsenal = Approximately **$200** = Chromebook

BBC

https://www.washingtonpost.com/graphics/2018/national/mass-shootings-in-america/

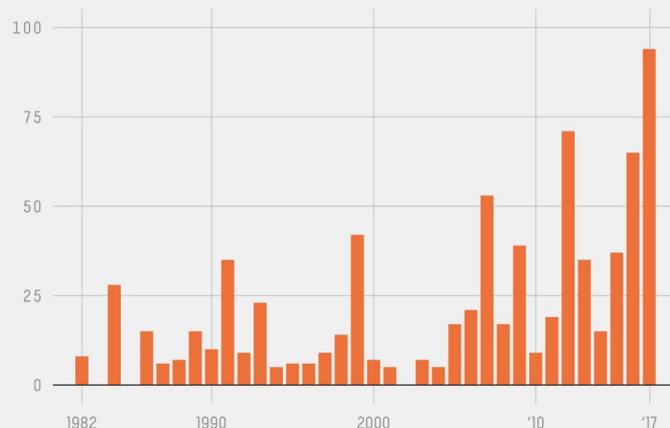**Mass shooting deaths have risen in recent years**
People killed per year in mass shootings, according to Mother Jones

2017 numbers are through Sunday, Nov. 5

FiveThirtyEight   SOURCE: MOTHER JONES

Problem

Human latency and procedural errors have reduced response effectiveness in mass shootings.

For example:

- Appropriate security protocols were not taken after a student notified personnel about an individual with a gun during the Parkland incident. (64)
- A delay of seven minutes occured between the first shots fired by Cruz and for security personnel to run into the north end of Building 1. (54)

http://www.fdle.state.fl.us/MSDHS/CommissionReport.pdf (section 3.3)

Solution: Providence AI

An **artificial intelligence** based **surveillance system** powered by cameras that have the ability to **detect**, **prevent**, and help **mitigate and neutralize** active shooter threats.

The Providence System has an accuracy rate of over 95%.

1) When a firearm enters the camera frame, the system detects its presence in under 100ms.
2) First responders are then notified with the time, location, and a visual of the shooter.

Solution

When **the Providence System** detects a threat, an **alarm** is **triggered**, security **officials** and law-enforcement are **notified**, and lockdown **procedures commence**.

For example:

> In situations such as the shooting event at Stoneman Douglas high school where it took minutes for the police to be alerted **the Providence System** would have **substantially reduced** the response time, saving **lives**.

Further, by providing the time and last known location of the shooter, police and first responders can **better execute** offensive **tactics** and **neutralize** the **attacker.**
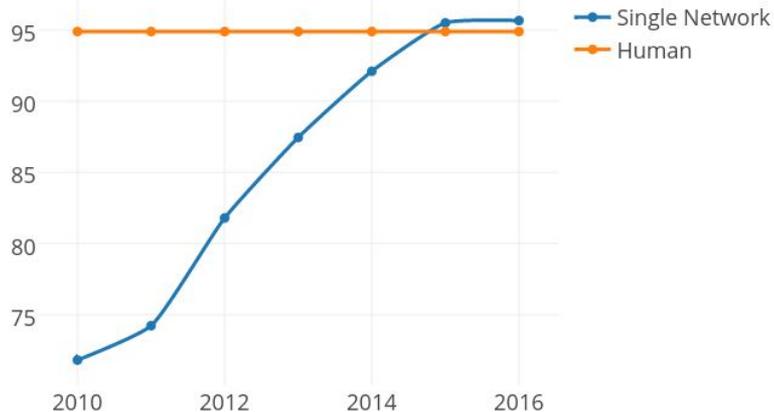
AI Detection

Why Now?

New advances in machine learning object detection have enabled a solution to the epidemic facing the public.

Calls for action in the wake of recent mass shootings have driven a new focus to find an answer.

ImageNet Large Scale Visual Recognition Challenge Accuracy

Market Potential

Approximately 139,000 educational institutions with the potential to expand to over 65 million security cameras in the United States alone.

The global threat detection systems market is expected to reach $119 billion by 2022.

https://nces.ed.gov/fastfacts/display.asp?id=84

https://www2.ed.gov/documents/school-safety/school-safety-report.pdf

Competition Landscape

- AthenaSecurity produces an AI security camera but their approach is focused on armed robberies.
- The AthenaSecurity system has a real-world accuracy of 60-70%.
- Their product is not widely implemented in any setting.
- Aegis AI is a new startup that appears to be a direct competitor in the Chicago area.

Business Model

Institutions pay an initial setup fee and a monthly per camera subscription based on the number of cameras thereafter.

Within 5 years, we expect to penetrate 50% of educational institutions followed by other "soft-target" environments (hospitals, malls, government facilities, etc.)

- After the Sandy Hook shooting, schools were quick to gain new school safety standards and funding. We believe that the Providence system will be quickly implemented by schools due to the significant value that surpasses the expense for school districts.

https://www.ncsl.org/research/education/school-safety.aspx

Financials - Current Addressable US Market

Available Customers

US Market	
Number of Schools	139,000
Number of Hospitals[1]	6,210
Number of Enclosed Shopping Centers[2]	1,100
Number of Outdoor Shopping Centers[2]	45,900
Number of Cinemas[3]	39,300
Number of Airports[4]	5,100
Number of Places of Worship[5]	350,000
Total	586,610

1: American Hospital Association
2: Columbia Encyclopedia, 6th ed
3: National Association of Theater Owners
4: Bureau of Transportation Statistics
5: Hartford Institute
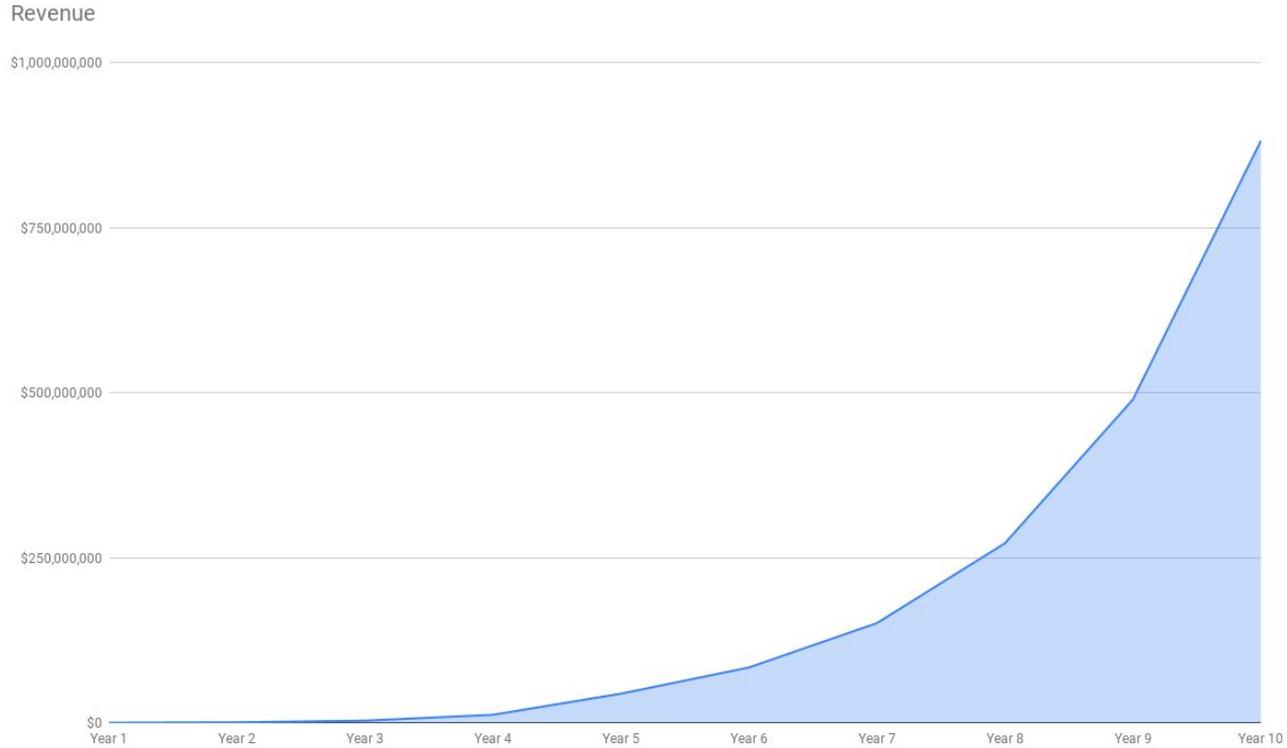
IP Security Cameras

Number of Cameras	65,000,000
Growth Rate	13%

1:https://technology.ihs.com/583114/north-american-security-camera-installed-base-to-reach-62-million-in-2016

2:https://www.gminsights.com/industry-analysis/ip-camera-market

Financials - Projected Revenue

Financials - Income Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue										
Customers	50	180	648	2,333	8,399	15,118	27,212	48,982	88,168	158,702
Existing Customers	0	50	180	648	2,333	8,399	15,118	27,212	48,982	88,168
New Customers	50	130	468	1,685	6,066	6,719	12,094	21,770	39,186	70,534
Total Revenue	**$250,000**	**$950,000**	**$3,420,000**	**$12,313,000**	**$44,328,000**	**$83,989,000**	**$151,178,000**	**$272,122,000**	**$489,822,000**	**$881,678,000**
Expenses										
Employees	4	11	34	108	365	433	785	1425	2584	4690
Support	2	7	26	93	336	378	680	1225	2204	3968
Engineering	2	4	8	15	29	55	105	200	380	722
Salaries	-$392,000	-$1,078,000	-$3,332,000	-$10,584,000	-$35,770,000	-$42,434,000	-$76,930,000	-$139,650,000	-$253,232,000	-$459,620,000
Marketing	-100,000	-100,000	-100,000	-100,000	-100,000	-100,000	-100,000	-100,000	-100,000	-100,000
Capital Expenses	$0	$0	$0	$0	$0	$4,535,400	$8,163,600	$14,694,600	$26,450,400	$47,610,600
Total Expenses	**-$492,000**	**-$1,178,000**	**-$3,432,000**	**-$10,684,000**	**-$35,870,000**	**-$42,534,000**	**-$77,030,000**	**-$139,750,000**	**-$253,332,000**	**-$459,720,000**
EBITDA	-$242,000	-$228,000	-$12,000	$1,629,000	$8,458,000	$41,455,000	$74,148,000	$132,372,000	$236,490,000	$421,958,000
Tax	$0	$0	$0	$342,090	$1,776,180	$8,705,550	$15,571,080	$27,798,120	$49,662,900	$88,611,180
Net Income	**-$242,000**	**-$228,000**	**-$12,000**	**$1,286,910**	**$6,681,820**	**$32,749,450**	**$58,576,920**	**$104,573,880**	**$186,827,100**	**$333,346,820**

Financials - Asset Forecast

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets	$250,000	$950,000	$3,420,000	$12,313,000	$45,225,000	$93,344,000	$201,988,000	$397,080,000	$747,152,000	$1,375,498,000
Cash	$250,000	$650,000	$2,340,000	$8,425,000	$30,330,000	$33,595,000	$60,470,000	$108,850,000	$195,930,000	$352,670,000
Accounts Receivable	0	300,000	$1,080,000	$3,888,000	$13,998,000	$50,394,000	$90,708,000	$163,272,000	$293,892,000	$529,008,000
Liabilities	-$492,000	-$1,670,000	-$4,152,000	-$11,416,000	-$35,870,000	-$42,534,000	-$77,030,000	-$139,750,000	-$253,332,000	-$459,720,000
Cash	-$492,000	-$1,178,000	-$3,432,000	-$10,684,000	-$35,870,000	-$42,534,000	-$77,030,000	-$139,750,000	-$253,332,000	-$459,720,000
Accounts Payable	0	-$492,000	-$720,000	-$732,000	0	0	0	0	0	0
Equity	-$242,000	-$720,000	-$732,000	$897,000	$9,355,000	$50,810,000	$124,958,000	$257,330,000	$493,820,000	$915,778,000