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PTO/SB/16 (12-04)

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c)

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Additional inventors are being named on the 1 *separately numbered sheets attached hereto*

TITLE OF THE INVENTION (500 characters max)

EMERGENCY PERSONAL PROTECTION SYSTEM FOR USE WITH CELLULAR DEVICES

113009 U.S.PTO 60/643865 011405

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ENCLOSED APPLICATION PARTS *(check all that apply)*

[X] Application Data Sheet. See 37 CFR 1.76
[ ] CD(s), Number of CDs _____
[X] Specification *Number of Sheets* 7
[ ] Other (specify) _____
[X] Drawing(s) *Number of Sheets* 1

Application Size Fee: If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

METHOD OF PAYMENT OF FILING FEES AND APPLICATION SIZE FEE FOR THIS PROVISIONAL APPLICATION FOR PATENT

[X] Applicant claims small entity status. See 37 CFR 1.27.
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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

[x] No.
[ ] Yes, the name of the U.S. Government agency and the Government contract number are: _____

SIGNATURE Samantha DiPerna Date January 14, 2005
TYPED or PRINTED NAME Samantha DiPerna REGISTRATION NO. _____
TELEPHONE 480-213-0179 (If appropriate) Docket Number 02

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

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Additional Page

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First Named Inventor	Samantha DiPerna	Docket Number 02	
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Number 2 of 2

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Form #79

Docket 02

Emergency Personal Protection Systems For Use with Cellular Devices

BUSINESS CONCEPT / STRATEGY

COMPANY OVERVIEW

S & S Safety Products is a new endeavor to help protect the millions of people that are assaulted each year. Protecting our loved ones and providing a self-defense mechanism to enhance safety in vulnerable situations is our purpose and ambition. Although concentrated on general safety, we plan to target a particular group which is most subjected to physical assault and violence – college women.

According to results obtained by the National Violence Against Women Survey, women are the primary victims of stalking. Being college women, we understand this statistics on a very personal level. Because of the traditional campus setting, there is a low dependency for the use of cars as primary transportation. College women walk almost everywhere. The highly active lifestyle requires students to walk to and from class, the library, the grocery store, and local hang-out areas. Every 2 to 3 minutes a women is assaulted. Clearly there is no time to waste. This type of crime is a serious threat to our citizens. Not to mention the enormous potential to expand to even greater numbers.

Over 80% of college students carry a mobile phone. S&S Safety Products will introduce two products designed to integrate with mobile phones and increase the safety of college students. Both products are great steps toward a future of greater safety and less harm. The first product, *Spray 'n Sprint,* is designed to assist women in escaping dangerous situations. This newly engineered pepper spray easily clips on mobile phones. When subject to an attack, the student can spray the perpetrator and sprint to safety.
The second product, *Snap 'n Sprint*, utilizes the camera on many new mobile phones to snap a picture of the attacker. The picture plus the victim's location is automatically sent to authorities when the panic button on the phone is pressed.

The two products compliment each other nicely to provide a powerful solution for anyone that needs to escape a dangerous situation. The key to these products is that they attach to something most college students have with them every moment of every day – their mobile phone.

THE PRODUCT

S&S Safety Products will introduce two products: Spray-n-Sprint and Snap-n-Sprint.

Spray-n-Sprint:

The *Spray-n-Sprint* product offers a protective leather case equipped with pepper spray to allow students to protect themselves in case they are the victim of an attack. The newly engineered pepper spray offers a smart design that is attractive, convenient, and effective. The Spray-n-Sprint product works with most mobile phones – a utility no college student is without. The one-

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A1

shot replaceable pepper spray bottle clips securely on the side pocket of the protective case making it easy to remove, if necessary.

The following tables summarize the product features and benefits to customers.

Features and Benefits for *Spray n' Sprint*:	
FEATURES:	**BENEFITS:**
Popular product embedded in a handy mobile phone.	Possibilities of dangerous encounters follow you everywhere, while a mobile phone is conveniently carried everywhere as well. This pepper spray can weaken the attacker and help you escape any situation.
Pepper spray fastens securely on the side of a fitted leather or other protector for mobile phone.	Its small portable features make it easy to use in high-stress situations. The pepper spray is secretly hidden so the attacker does not expect a challenge.

Snap-n-Sprint:

The *Snap-n-Sprint* product integrates with camera phones to send a picture of the attacker and the victim's location so help can be dispatched. This high-tech panic button offers a service similar to 911, but with much more specific detail. S&S's service will assist the existing 911 process to work with the local police departments to send help to the victims. The local authorities will be able to go right to the location and be ready with a photograph of the attacker.

In one embodiment the features of the *Spray-n-Sprint* product will be added to the *Snap-n-Sprint* to provide the victim with an ultimate escape solution. The combined product is very useful.

The *Snap-n-Sprint* product utilizes the features available in today's mobile phones. Although S&S can create and offer this service independent of a Mobile Operator or Original Equipment Manufacturer (OEM), we would also target working with them to ideally combine features that already exist as separate items to operate simultaneously at the touch of one button, or even the shout of voice command by the victim.

The following tables summarize the product features and benefits to customers.

Features and Benefits for *Snap n' Sprint*:	
FEATURES:	**BENEFITS:**
Ability to take a picture of an offender and send it to authorities – at the press of a button.	Sending a picture aids in helping the police force positively identifying the offender.

12

Ability to send victim's location information to the authorities – at the press of a button.	Gives victims the ability to call for help without saying a word.

Each integrated feature on S&S Products is unique and easy to use. While designing these products we want the features to be simple enough for everyone to operate.

MARKETING STRATEGY

MARKET ANALYSIS

The market opportunity for S&S products is quite large. We will leverage the market created by the telecommunications industry and the overwhelming need for individuals to defend themselves. The following chart demonstrates the number of personal crimes committed in 2002 alone.

Table 2. Personal crimes, 2002: Download spreadsheet version

Number of victimizations and victimization rates for persons age 12 and over, by type of crime and gender of victims

	Rate per 1,000 persons age 12 and over					
	Both genders		Male		Female	
Type of crime	Number	Rate	Number	Rate	Number	Rate
All personal crimes	5,496,810	23.7	2,927,520	26.1	2,569,300	21.5
Crimes of violence	5,341,410	23.1	2,857,930	25.5	2,483,480	20.8
Completed violence	1,753,090	7.6	816,240	7.3	936,850	7.8
Attempted/threatened violence	3,588,320	15.5	2,041,690	18.2	1,546,630	13.0
Rape/Sexual assault	247,730	1.1	31,640	0.3	216,090	1.8
Rape/Attempted rape	167,860	0.7	22,610 *	0.2 *	145,240	1.2
Rape	90,390	0.4	4,100 *	0.0 *	86,290	0.7
Attempted rape/a	77,470	0.3	18,520 *	0.2 *	58,950	0.5
Sexual assault/b	79,870	0.3	9,030 *	0.1 *	70,840	0.6
Robbery	512,490	2.2	323,530	2.9	188,960	1.6
Completed/property taken	385,880	1.7	237,350	2.1	148,530	1.2
With injury	169,980	0.7	102,860	0.9	67,130	0.6
Without injury	215,890	0.9	134,490	1.2	81,400	0.7
Attempted to take property	126,610	0.5	86,180	0.8	40,430	0.3
With injury	42,600	0.2	31,470	0.3	11,130 *	0.1 *
Without injury	84,020	0.4	54,710	0.5	29,300 *	0.2 *
Assault	4,581,190	19.8	2,502,760	22.3	2,078,440	17.4
Aggravated	990,110	4.3	588,430	5.2	401,670	3.4
With injury	316,260	1.4	166,930	1.5	149,330	1.3
Threatened with weapon	673,850	2.9	421,510	3.8	252,350	2.1
Simple	3,591,080	15.5	1,914,320	17.1	1,676,760	14.0
With minor injury	906,680	3.9	405,670	3.6	500,910	4.2
Without injury	2,684,510	11.6	1,508,650	13.4	1,175,860	9.9
Purse snatching/Pocket picking	155,400	0.7	69,590	0.6	85,810	0.7
Population age 12 and over	231,589,260	...	112,241,930	...	119,347,330	...

Note: Detail may not add to total shown because of rounding.
*Estimate is based on about 10 or fewer sample cases.
...Not applicable.
a/Includes verbal threats of rape.
b/Includes threats.

**Chart taken from U.S Census Bureau

According to the chart above taken from the U.S Census Bureau, 231,589,260 people were victims to a crime in 2002. Of these victims, 119,347,330 were women. These women have been subject to awful crimes including violence, rape/sexual assault, robbery, and purse snatching, some injured and some threatened with a weapon. These 231 million people could have potentially escaped the situation had they been carrying *Spray 'n Sprint* and/or *Snap 'n Sprint*.

Next, we turn our attention to the size of the mobile phone market. There are more than 139 million subscribes in the United States. Figures from the top five competitive mobile phone companies are taken from the sec.gov and shown below.

Mobile Phone Market

	Subscribers	Sub Growth (2003-04)	ARPU	Churn	2003 Sales
Verizon	42,118,000	16.9	52	1.50%	$22,489,000,000
Nextel	15,300,000	10%	70	1.50%	$10,820,000,000
Sprint	23,200,000	26%	63	2.70%	$12,690,000,000

A 4

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Cingular	26,000,000	10%	48	2.70%	$15,483,000,000
AT&T Wireless	21,700,000	1.10%	59	3.40%	
Tmobile USA					
(2003)	10,000,000	51%*	50		$ 8,358,000,000
Boost (Nextel)	800,000				
Total	139,118,000				$69,840,000,000

**Numbers taken from sec.gov

There is little question that the mobile phone industry is a huge market. In 2003, the annual sales for just the top five mobile phone companies were approximately 70 billion dollars with 139 million subscribers. Of these subscribers, suppose 50% are women, and of these women, suppose 60% are between the ages of 18 and 23. Hence, our target market is approximately 42 million subscribers. If we were able to capture even 5% of these users, that would still be a whopping 2.1 million mobile phone subscribers.

Approximately 2 million units of mace pepper spray products are sold each year in the United States. Suppose 35% of these are sold to customers of the age 18-23 years. That would leave a target market of 700,000 purchasers!

MARKET STRUCTURE

S&S Safety Products strive off an idea that no other competitor in its field has to offer. Spray n' Sprint and Snap n' Sprint are newly developed products for mobile phone with an element of self-defense and personal safety attached. Although these products do not have any direct competition, it is derived from a combination of two existing and very successful markets; the mobile phone industry and the safety product industry.

Here at S&S, we feel that having pepper spray attached to an easily accessible and extremely popular product, such as a mobile phone, is a great way to keep ourselves protected. This innovative idea is a great design because it is effective, convenient, and a subtle way to carry the protection you need. The attacker would not assume a mobile phone is a weapon. Pepper spray itself has been proven an effective deterrent against assault and battery type crimes. Determined by a study conducted through the National Institute of Justice programs under the U.S Department of Justice, pepper spray has reduced the number of injuries to police officers from assault, injuries to suspects from police use of force, and excessive force complaints against police since its introduction in1994*. Although already a great form of protection, pepper spray can maximize its potential if only attached to a more convenient accessory - a mobile phone! A mobile phone is something that now belongs to a person's attire, whether they wear it on their

N 5

belt buckle, in their pocket, or in a purse. Where ever it may be worn, it is now a product that is common for everyone to have on them and convenient to locate.

SALES STRATEGY

We hope our customers will not become victims of terrible crimes, however, S&S will also offer refills of, e.g., the one-shot pepper spray so it is not necessary for our customers to buy a whole new leather case if they are faced with a dangerous situation. In this case, they would just have to purchase the replacement container.

The sales strategy for the Snap-n-Sprint service will be quite different from the strategy described above. The Snap-n-Sprint service requires customers to pay a small monthly service charge. Initially, we plan to charge just $2 per month. Given the market size of 2.1 million mobile phone subscribers, we anticipate more than $50,400,000 per year in sales for just *Snap-n-Sprint.* This number increases everyday with the number of mobile phone subscribers increasing daily. We will work with the leading service providers to resell our service.

Other features of the present invention

The present invention in one embodiment communicates through a tcp/ip connection on the phone or through a multiple protocol (tcp/ip) that handles this. The present invention may also use an mms (multi media messaging) system, which is a mix between internet protocol and email protocol. This allows the present invention to take picture and send it to a specified location.

There are a number of ways to send a picture using the present invention, including the following:

1) through regular email to a dispatching place to a police station (for example).
2) Through a picture-based email system (mms). Mms uses WAP and sms (text protocol) to make the mms message.
3) through a regular tcp/ip (accesses the internet on a cell phone).

Most phones comply with e-911 which is emergency 911. Thus, if someone dials 911 then the dispatch operator can get the location. Location information for the present invention can be gotten from for example:

A) A tower-based location system. Cell towers triangulate and figure out where a person is.
B) A form of GPS on the device (GPS or AGPS, which is assisted GPS).

Location information for the present invention can be an x/y coordinate or close to it that the phone gets and transmits to 911. (Altitude information can be included as well.)

Pushing the "panic button" on the phone of the present invention can result in a picture being taken. Then the present invention wraps the picture up, sends it up to an emergency service with the x/y coordinates. Now the emergency service has a picture and the location of the attacker. Other features are included as well. For example, the picture, location, and/or mace can be triggered by a panic button or buttons or button sequence. This can also be triggered by, for example, a "code word" that the user shouts. Or it can be triggered more silently so that the attacker does not know that his picture has been taken and the location information has been transmitter. Also, the phone of the present invention could announce loudly through its speaker a warning message to the attacker (e.g. "911 has been notified and your picture has been taken!") or other messages, such as the location information, etc.

The panic button of the present invention could be tied to the mace button so that one or more features of the present invention (e.g. picture and location information transmitted, mace activated, warning sounds) occur at once.

According to another embodiment the panic button could be a big (e.g. red) button in the center of phone that the user holds down. This and others would safeguard against falsely triggering the device. The user could dial or say 911 and activate the device that way. Or the user could have their own special word.

The button could send a signal to a controller inside the device to activate this process.

The button could start the speech recognition process in one embodiment, to trigger the device.

Fig. 1 shows the present invention according to one embodiment.

Title: EMERGENCY PERSONAL PROTECTION SYSTEM FOR USE WITH CELLULAR DEVICES



Fig. 1

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Application Data Sheet

Application Information

Application Type::	Provisional
Subject Matter::	Utility
Title::	Emergency Personal Protection System For Use With Cellular Devices
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Small Entity?::	Yes

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