Design Challenge

Bryson | Danielle | Mercedes | Michael | Robert | Honorary Members

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Everybody knows someone who's been robbed...

'I set up a security camera to check up on the cats while I was on vacation...I think they're onto me.'

Insights

Meet Mary

They broke into her house and stole her irreplaceable family heirlooms. The police came to investigate, but because there were no witnesses, she never heard back from the police after that. The family was devastated.

- To feel some security, she installed security cameras.
- The problem is her camera sends her daily email alerts because of light changes in the room.

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Insights

How current DIY Security Cameras Work

- Spend an hour setting it up.
- Program when and what time you'll be home. If you get home too early, you trigger the sensors and it starts pinging you.
- Program when and what time you'll be away from home. If you leave too early, the camera is left disarmed until the time specified.
- Camera spams you with email notifications until you disarm it.

Why Home Security?
Security is LG's Trojan Horse into the Smart Home Market.

Big opportunities. Big market. And Security is today's major use for smart home systems.
- From Parks Associates Report

Opportunity:
DIY Home Security Systems Today Are Not Intelligent

#1 DIY consumers experience too many false alarms
#2 Security systems make people feel isolated & helpless

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Insight #1

False Alarms Make Users Distrust The System

When DIY users experience enough false alarms, they either start ignoring them, or stop using the system all together. Consumers then becomes frustrated and start to distrust their security system.

*41% of residences with alarm systems are turned off during burglaries.

*An estimated 36 Million false alarms occur in the US annually. Costing about $1.8 Billion. (2002)

Insight #1

Top Cause of False Alarms

Manual Arm/Disarm

Software relies on manual programming to arm/disarm itself.

It becomes cumbersome to maintain.

Insight #2

Security Systems Leave People Feeling
Isolated & Helpless

You're being robbed, what do you
do next? Who can you turn to?
People often feel that they're on
their own.

Information in isolation, as it
exists today, is not useful.

*Burglary is one of the least solved crimes, with
only 12.7% of cases solved in the US (2005).
Over 50% of burglaries are never reported.

Insight #2

Things That Makes Users Feel Isolated & Helpless
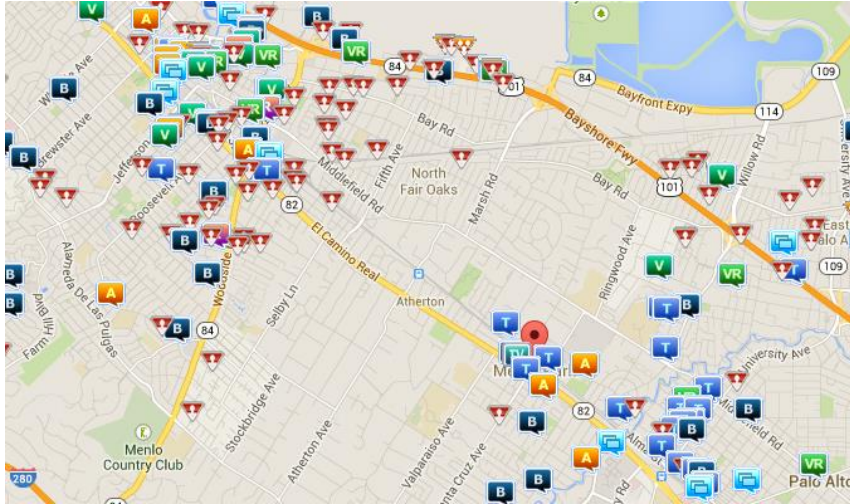
People are not aware of the dangers around their community

Knowing that your neighbor was burglarized could have made you more alert & double check your doors and windows.

People don't know what to do next or who to turn to during/after an incident

People are usually in a state of shock and panic. They need help to make sense of what just happened & what steps to take.

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What Exists Today?

Large companies have spent little to no time improving the experience of owning security cameras. Startups are now eyeing the smart home security space but they are still years away from penetrating and creating a wholistic product line.

Market Analysis

Competitive Matrix

High-End / Monitoring

Standard

Learning

DIY / Self Contained
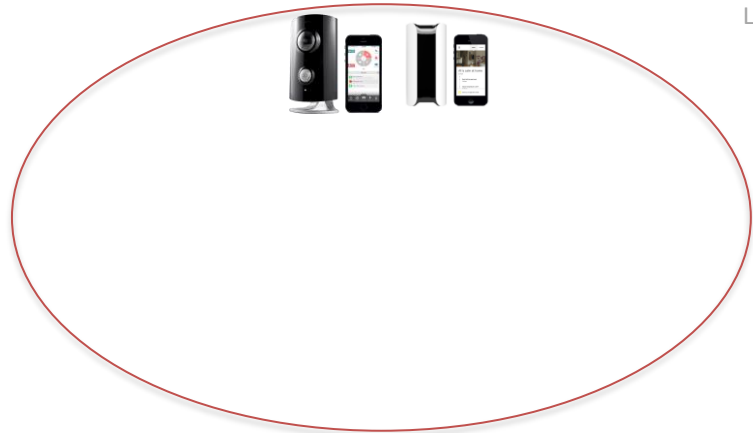
Competition

- Learns over time to reduce false alarms
- Packed with environment sensors (humidity, temperature, light, & sound)
- Has not shipped their products yet

Concept: EinSight Camera & App

LG Smart Home Security System for the DIYer.
Knows who's home, and empowers yourself & others.

Entire family is away from home. Mom's at work.

Mailman arrives. Camera takes a picture & continue to record for archiving.

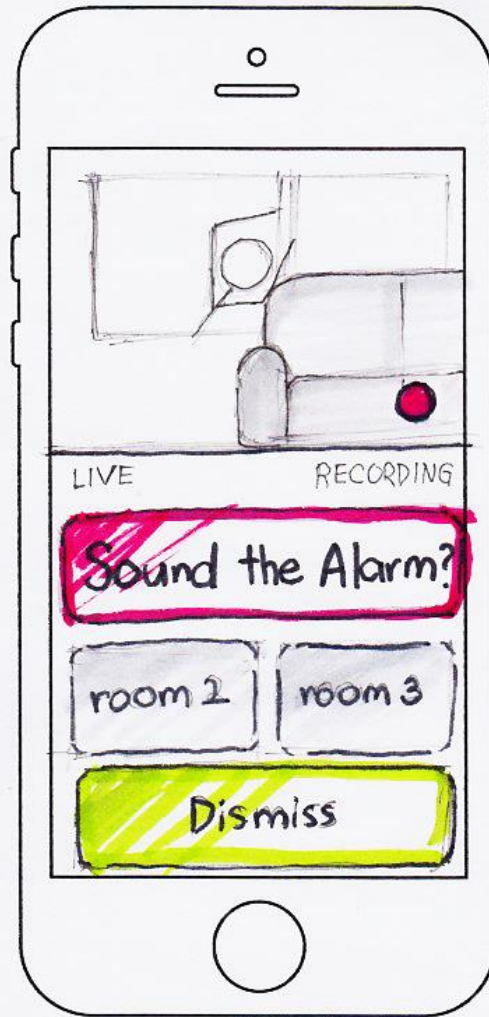Another person arrives & lurks around. Camera takes a picture & continue to record for archiving.

Camera picks up motion inside the living room. Sends alert to trusted circle.

Mom notices the alert on her phone. Sees the intruder. Sounds the alarm.

Siren scares intruder, who grabs a few items before running away.

App sends out alert to neighbors. Neighbor notices alert, looks out her window.

Wife calls 911 then warns family.

Minutes later, police arrives at the scene.

Wife & husband reaches home and talks to police.
Wife shows police the pictures & videos of the intruder.
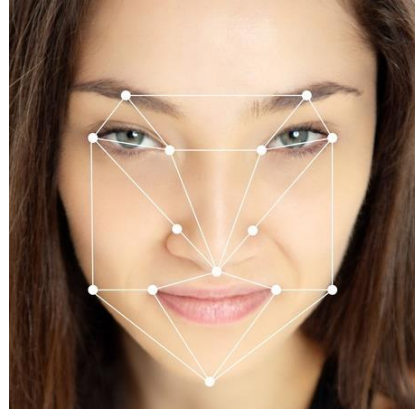
Know Who's Home

Pillar #1

Location Aware

Camera automatically arms/disarms itself as it tracks your mobile location.

Calendar Sync

Camera knows when you're expecting visitors, like house cleaners, so it won't send you a high alert notification.
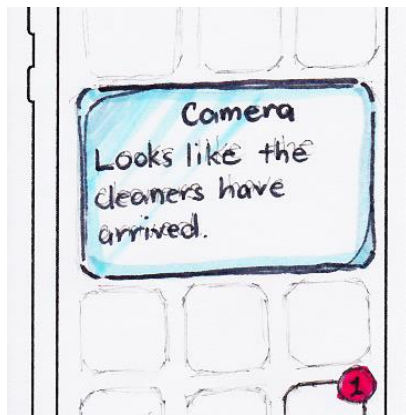
Facial Recognition

When the camera takes a picture of the intruder, it runs a quick match of your trusted circle's faces for verification.
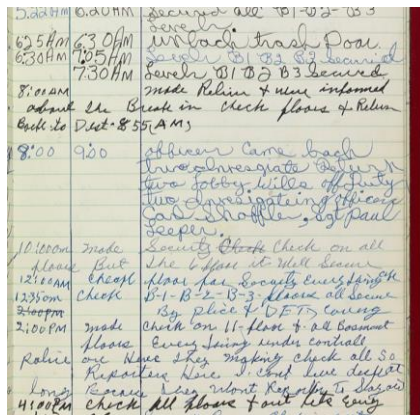
Be Informed

Contextual Push Notification

Sends you more validated info on movement around your house.

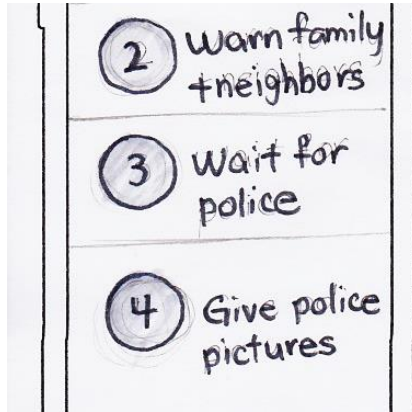## Picture Capture & Event Logging

App keeps daily logs of events recorded and user can see an overview.

Take Action

Guided Action Plans

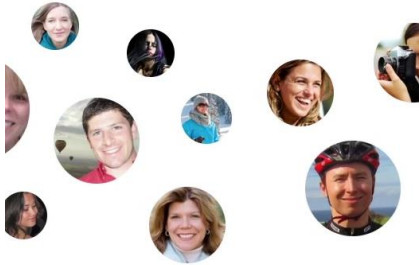List of things to do during/after a burglary, like a guardian angel guiding you each way.

One-Touch Call

We make it easy to dial out to 911 and to your family because every second counts.

Empower Yourself & Others

Pillar #4

My car was broken into last night.

We saw a group of suspicious men roaming.

Theft
03/04/2014
1900 Block SANTA CRUZ AV
Send To Friend

Theft
03/04/2014
300 Block MIDDLEFIELD RD
Send To Friend

Theft
03/04/2014
200 Block HEMLOCK AV
Send To Friend

Theft
03/04/2014
100 Block EL CAMINO REAL

Alert Trusted Circle

Choose who to alert in your trusted circle and give them access to watch over your home.
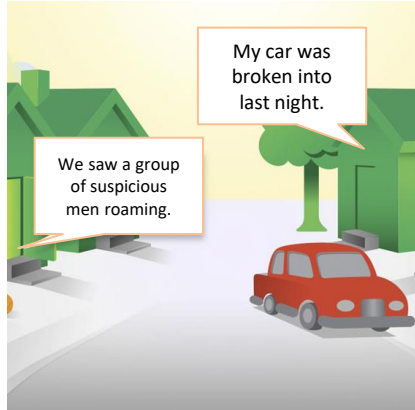
Community Alert

Send alert notifying the surrounding community of the burglary will help increase awareness and preparedness.

Community Incident Coverage

We're able to pull-in incident reports in your area.

Market Size

Years 2012 through 2014 has been hot for Smart Home Security & Safety solutions.
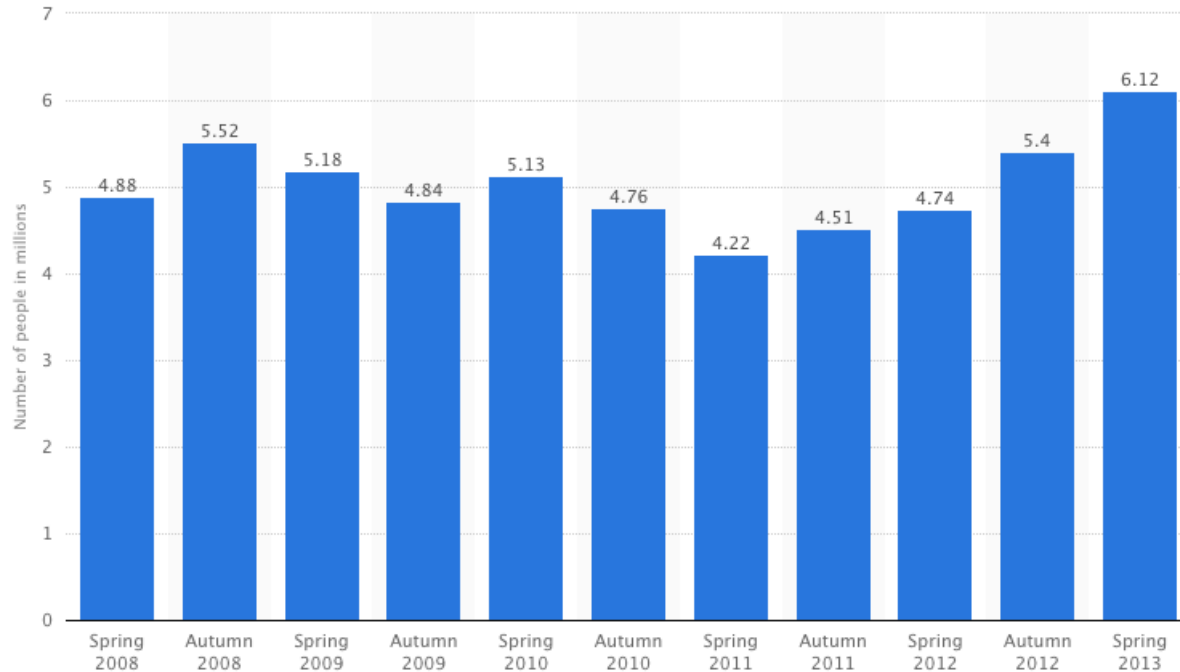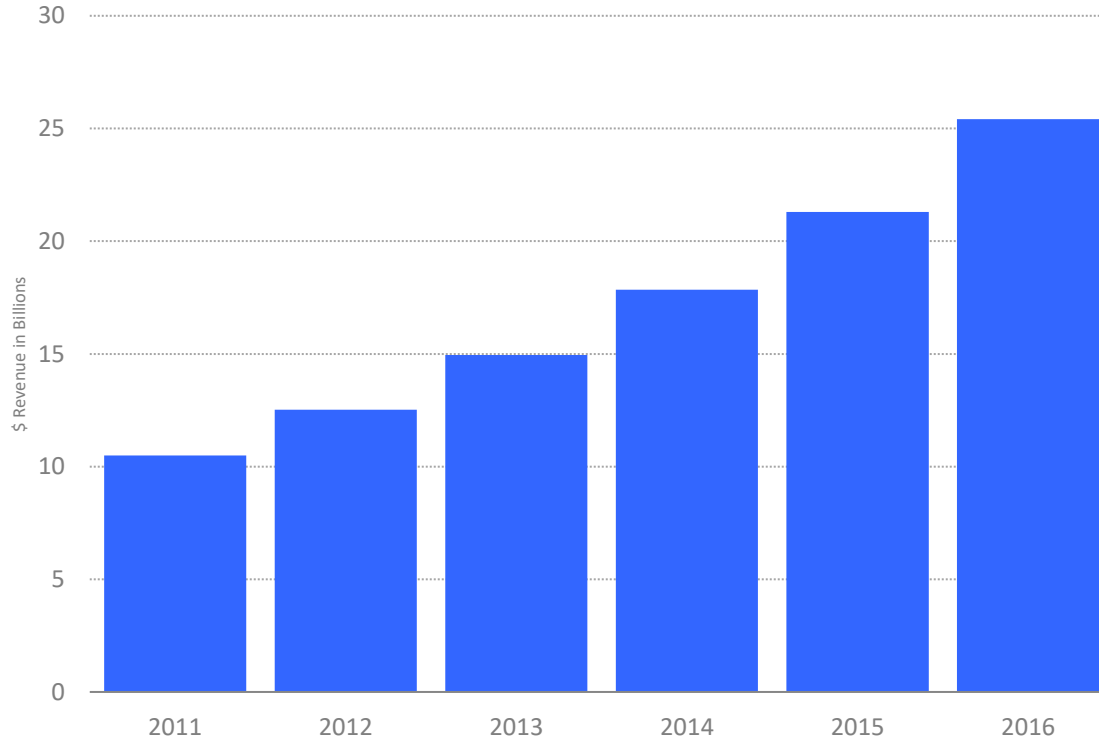LG should strike the iron while it's hot.

Market Size

There were 6.12 Million people in the US projected to buy a home security system in the next 12 months. – From Statista.com

Market Size

It's a Big Market

The total Video Surveillance Applications market is expected to reach $25.42 Billion by 2016.

*Environment management and convenience & lifestyle benefits respectively are the next common uses for smart home systems.
– From Parks Associates Report

$ Revenue in Billions

30

25

20

15

10

5

0

2011   2012   2013   2014   2015   2016

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Endless Possibilities

From Industrial Design to Software Engineering, there are much more areas we can expand this to that are related to security & safety

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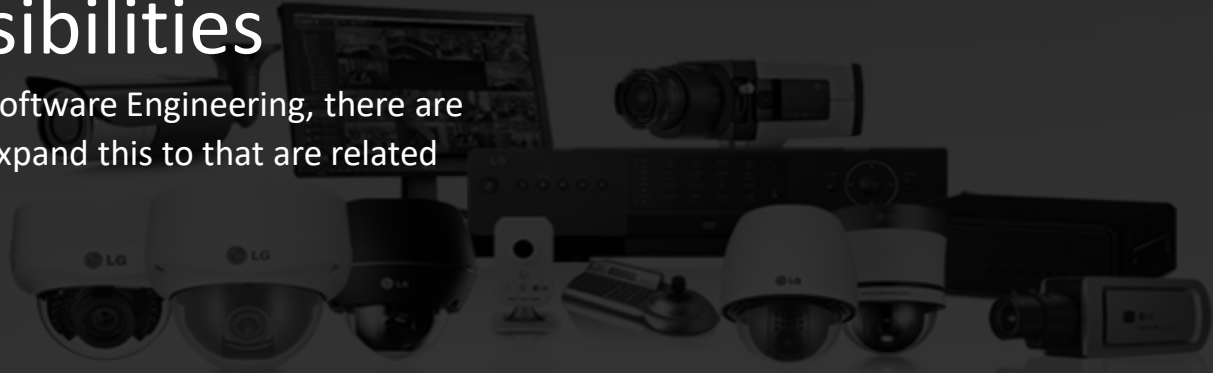
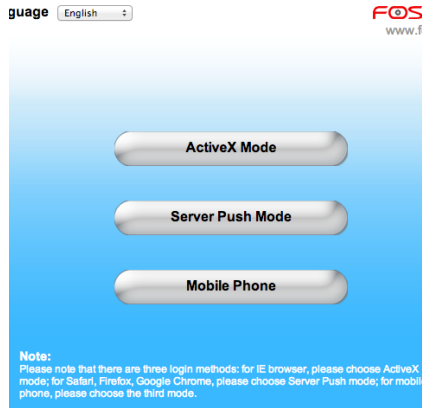# Thank You

Applause, applause!

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Other Problems

Problems With Home Security Cameras

Difficult Setup

Exaggerated claims of one-click setup. More like one-hour setup.

Not Portable

Usually fixed in one spot. Much to do on the Industrial Design.

Unsecure Encryption

Mid-level and DIY security systems have poor encryption. Creates mistrust.

Piece-Meal

Slow and difficult to create a truly connected home system, & open development platform.
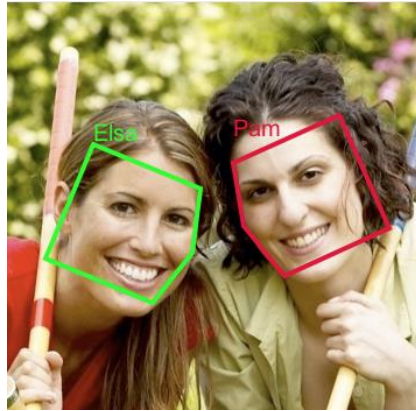
Other Solutions

There's Plenty Room for Growth

Disaster Aware
Combining smoke detectors with visual proof of where the fire started.
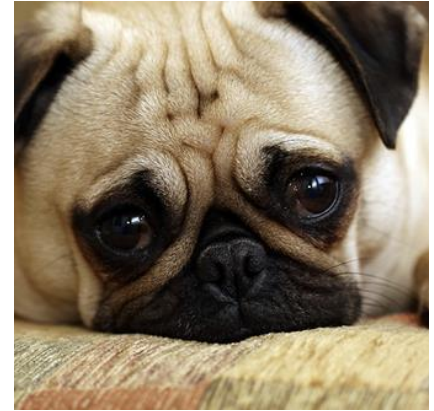

Computer Vision
Cameras can tell the difference between a friend and a foe.

Biomonitoring
Monitor levels of anxiety for life threatening situations.

Pet Monitoring
For those without children, or spouses, pets need some looking out too.

Other Solutions

There's Plenty of Room for Growth

Car Monitoring

Security cameras can prevent car theft & help police find the culprits.

Telepresence

Connect TV's to security cameras to enable two-way communication.