SCOUT

MILESTONE ONE

University of Washington
Sponsored by Google

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“Unfortunately, nobody can stop crime or accidents from ever occurring.

You do have control over your own actions, however, and this is where prevention comes into play.

— Seattle PD

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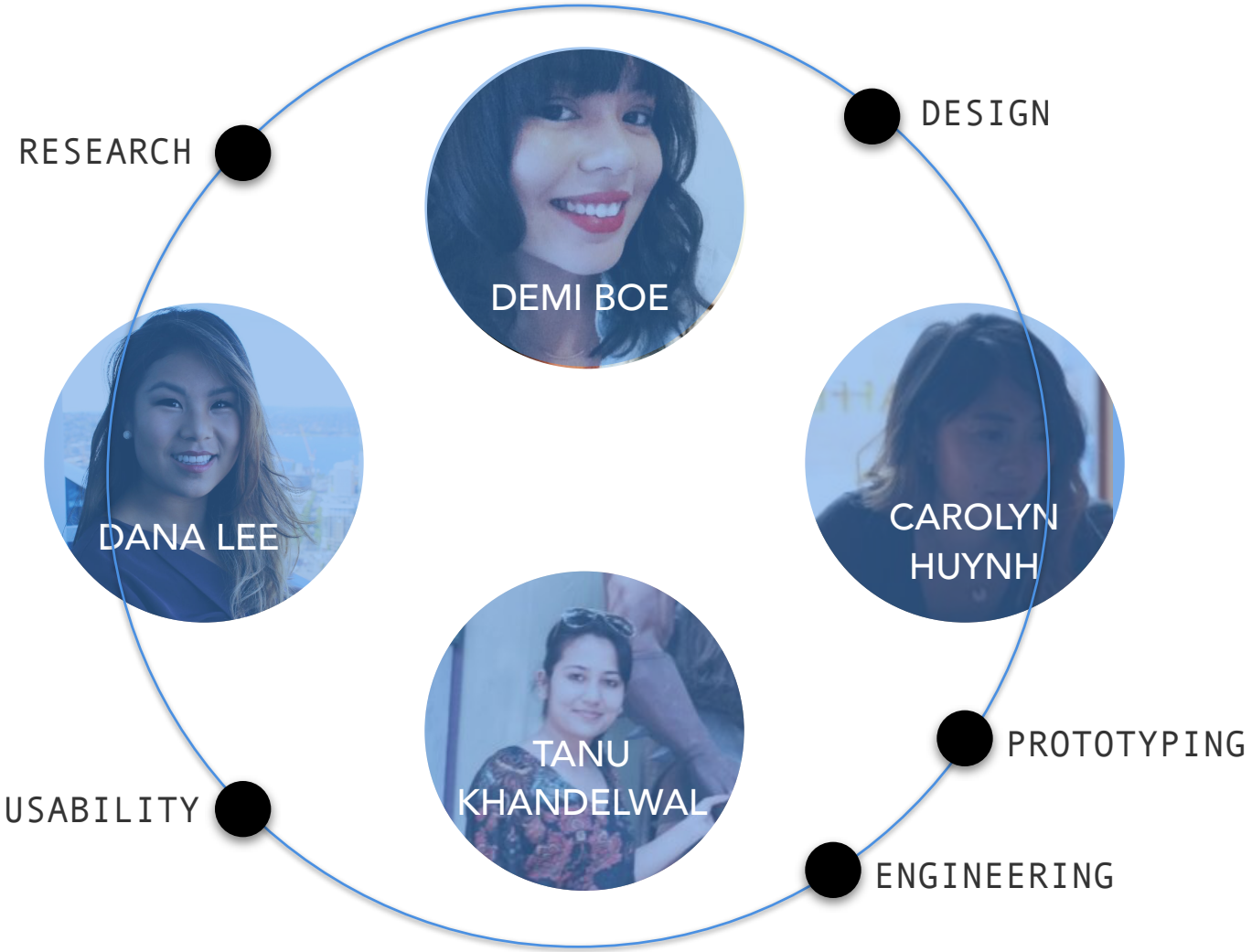


We are a team of four graduate students from the University of Washington in the Human Centered Design & Engineering and Information Management programs.

Together, the team has holistic backgrounds in journalism, web development, qualitative and quantitative research, project management, software engineering and education.

We are advised by Anna Mansour & Arunima Kashyap from the Google Cloud Platform UX team.

TEAM SCOUT 02

SCOUT'S MISSION

Strengthening your voice.

Scout is a service that dispatches drones when the user feels unsafe and needs an extra set of eyes in the sky to help them on their journey home.

We hope to empower those that have historically felt unsafe traveling by providing a way for them to take control of their personal safety.

Currently on the market, there are plenty of drone options; however, they are geared towards those with interests in photography, sports, and other activities. Local governments in India and other areas have considered ways to utilize drones for personal safety usage, but few programs have been fully-enacted. Using drones for areas outside of the norm, like personal safety is a novel application in the drone space. As drones become more integrated into daily life (i.e. delivery drones), we will explore how they can be used in people's daily lives to empower them.

There is a niche in the market for allowing marginalized groups that may be more vulnerable to attacks (women, people of color, LGBTQ, religious) to truly empower themselves when it comes to safety. With the current political landscape at play, we hope to provide a futuristic look at what women's safety can look like one day with a thoughtful exploration into personal drones. We want to take a look at personal safety and how people can take action when they are being attacked, feeling unsafe, or wanting preventative measures through the usage of drones. We hope to create a functioning prototype to explore what a drone for personal safety might look like, and to assess current and future interactions between people and drones.

Given the current space and problems surrounding personal safety, we will explore how we can empower people to take control of own their personal safety. To understand what personal safety is and what it means to people, we want to better understand the factors that contribute to personal safety and the actions that people take when they feel unsafe. To address our research question, we will first conduct user interviews, which will feed into a survey, field study, and diary study.

It will be important to understand the attitudes and feelings around personal safety, so we hope to explore that through surveys and interviews. Since drones are novel, we also need to better understand and see how people feel and interact with drones, and accordingly field studies and diary studies will be imperative.

ABSTRACT


Future
Safety feat.
Coming to your aid
Reactive to Situations
Calls a robot to aid you
Alerts police to come to aid
Makes a Phone Call to police station or family
pinged to come help wherever the victim/drone is
Capture attackers into (name, address, ssn)
Create a projection of attackers action
Detects Gun or stick
gun loaded or not
Takes photo of the attacker
Attack
Crazy
Calls back up traces FU up
activated call twitch for extreme emergency
Predictive
People behavior
Violence
"telematics for ppl"
tells you which ppl/ friend to stay away from
knows when "friend" is being creepy
Capture
Drops a net on ya
Apprehends aggressor
Incarcerates on the spot
Physical Barriers
protective bubble like vid. games
Flashes light
Makes fake Police car noise
Scouting
Safer routing
Preventative features
Detects heartbeats by wearable band "gut"
Safety mode activation
detects danger
Both intimidating & distract
Prevents sexual assaults
Paperwork (information)
helps you get your stuff back

RESEARCH 05

Feature	Nixie*	Revolar	GoPro Karma	Safelet	Scout
Drone	✓		✓		✓
Wearable	✓	✓		✓	✓
Phone Application			✓	✓	✓
GPS Capabilites		✓		✓	✓
Unique Controller	✓		✓		
Camera	✓		✓		✓
Sound Recording	✓		✓	✓	✓
Personal safety aspects (Light, sounds, etc. to deter assailants)		✓		✓	✓

*Nixie: Their website has a message that explains that they are going through a redesign and reorganization.

C. ANALYSIS 06

“Despite your best plans, you can’t control every situation.”

“I WISH I WAS A HUGE MAN”

“Would be cool if someone else stuck up for me.”

We met with 4 participants (2 students and 2 professionals) all female identifying and between the ages of 18-27 years old. Using a semi-structured interview format, we elicited stories about when they felt unsafe.

This usually was stories about the participant traveling alone in a city and having unwanted interactions with others.

These interviews lasted for 30-40 minutes and consisted of questions about their lives, brainstorming around what tool would be useful, and feedback on drone usage.

INTERVIEWS 07

In our diary study, we recruited 8 women of varying ages and sexual orientation in Seattle, Singapore, New York, and St. Louis.

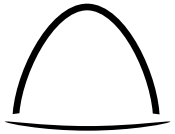
For the study, we asked our participants to notice moments in their lives when they feel either extremely safe and secure or extremely uneasy and endangered for a week.

At these moments, we requested that they either email or text us the situation and what aspects attributed to their feelings of security/insecurity.

Seattle

Singapore

New York

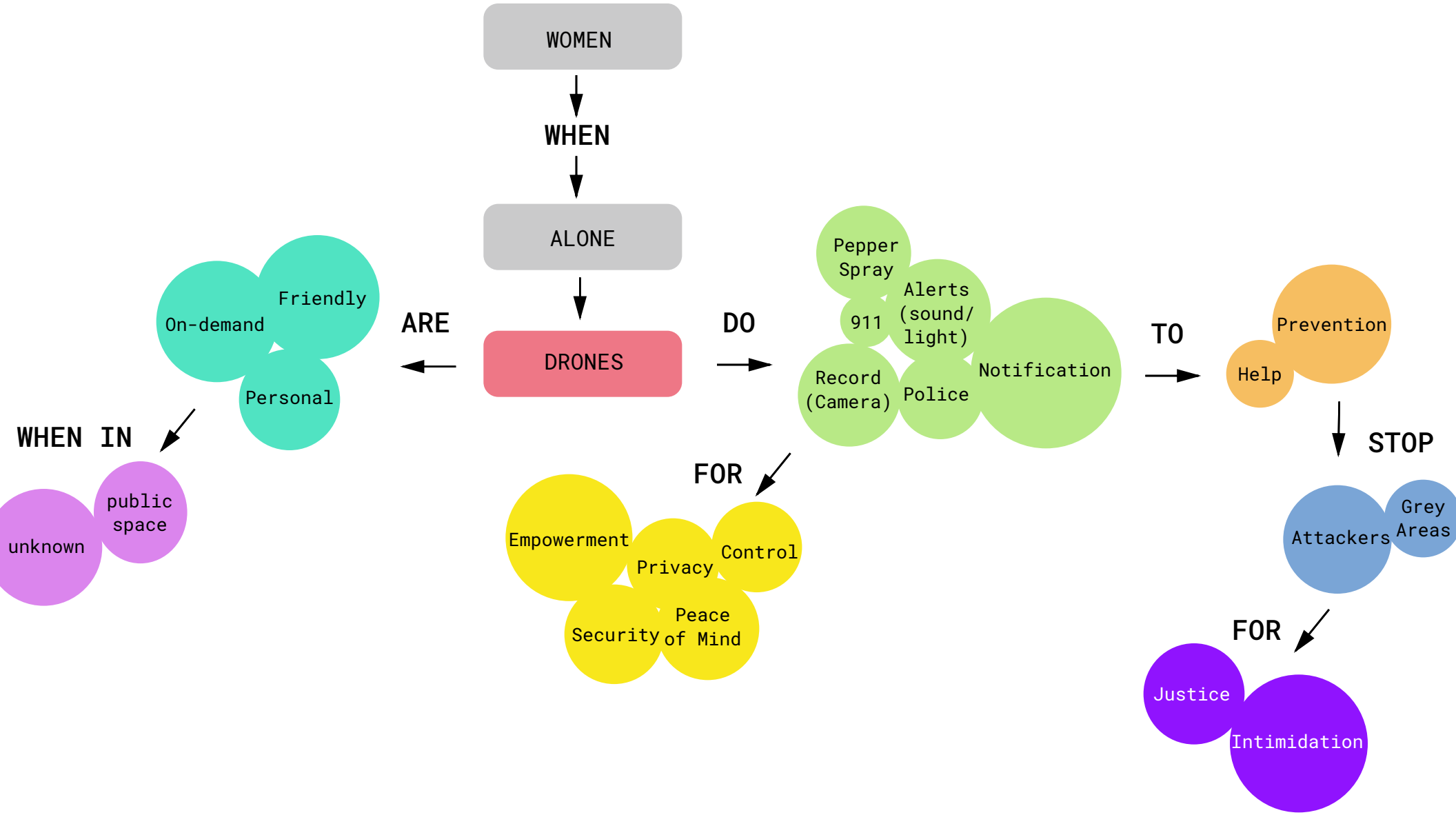


St. Louis

Email

Text

DIARY STUDY 08


WOMEN
WHEN
ALONE
DRONES
ARE
On-demand
Friendly
Personal
WHEN IN
public space
unknown
DO
Pepper Spray
911
Alerts (sound/ light)
Record (Camera)
Police
Notification
FOR
Empowerment
Privacy
Control
Security
Peace of Mind
TO
Prevention
Help
STOP
Attackers
Grey Areas
FOR
Justice
Intimidation

C. MAPPING 09

> By all means break the rules, and break them beautifully, deliberately, and well. That is one of the ends for which they exist.
>
> – Robert Bringhurst

The drone that we will be prototyping on will be the Parrot AR Drone. We chose this drone because there is already an active Parrot community and there are plenty of open source software and libraries that we can use.

Parrot AR Drone

Libraries

1. AR Drone-Webflight
2. Node AR Drone
3. CV Drone
4. Developer Parrot
5. Node Google Voice

Syma X5SW-V3

Parrot AR Drone

The Syma X5SW-V3 was used for field testing for design interviews. Based off asking our participants design questions, we were able to come up with features for our drone prototype.

Scout's features

1. Detects heart rate for signs of stress
2. Alerts
3. Siren
4. Lights
5. Calls 911 on the spot
6. GPS tracking
7. Routing
8. Live update stream
9. Voice command

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Op:30%

4990E2

007BC6

FFFFFF

EEFF41

SCOUT

The logo is inspired by the wings of a drone inside it's quad – shaped like an 'O'.

Shadow effect is inspired by Google's Material Design guidelines.

Fonts	Font Size	
Roboto Mono Regular	Text	10
Roboto Mono Light	Title	12
Avenir Book	Footer	100

DESIGN