

# Design Specifications

## INTRODUCTION

**Name:** Band Together

**Goal:** Help protect and reassure EMT workers walking into potentially threatening and dangerous situations

**Target Audience:** EMT workers on an ambulance run in the field

## BACK END REQUIREMENTS

### Wristband

- Two accessible buttons that can be pressed in a pinching motion
- Vibration motor to produce vibratory feedback
- Microphone to record sound
- Bluetooth capability to connect to iPhone

### Communications between Wristbands and Phones

- Each wristband connects to a single phone through Bluetooth
- Wristband communicates button presses to phone
- Phone tells wristband to vibrate

### Connecting with Other Users

- To connect, users will high five
- The wristbands will detect the noise made from the high five to activate connection procedure
- iPhone will establish a connection with other iPhone(s)
- iPhone will collect device ID of other teammates and store it locally

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## Communications between Phones

iPhones will communicate by using two methods:

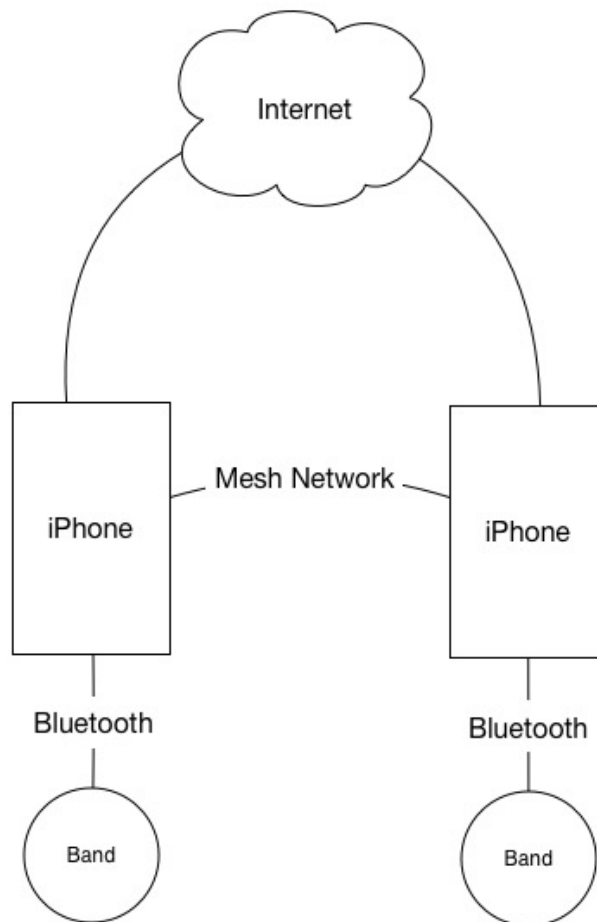
1. Mesh Networks

- This allows users to communicate when there is a lack of cell service

2. Apple Push Notifications

- This allows users to communicate when they are too far away for mesh networks to work.

Notifications will be sent to all device IDs stored locally on the iPhone.



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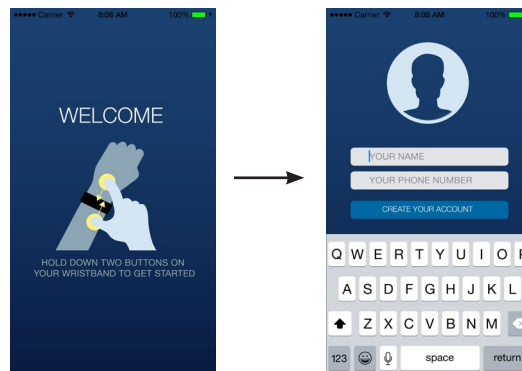
## FUNCTIONALITY

### Initial Setup

The user must first perform the following after installation:

- Provide name
- Provide phone number
- Sync band

All of the information is stored locally on the iPhone.



### Creating a Team

- To create a team, users high five using the hand with the wristband. (See back end requirements for details.)
- New team members are added to the app's Idle and In-Call pages.

### Idle State

The Idle State provides the following functionality:

- A link to the Settings page
- A list of current team members
- The ability to leave a group

If the user selects one of the team members listed on the screen, they will see

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that user's profile information.

After pressing the Leave Group button the following will happen:

- A pop up confirmation message will appear
- After confirmation all member IDs are purged

## Settings Pages

On the Settings page, there are three options:

- Profile - allows a user to edit personal information.
- Resync Band - lets the user sync a wristband to the app again.
- Disconnect Band - clears the device id of the currently connected wristband.

## Wristband Actions During Potential Threat State

The wristband has two buttons and a microphone for input.

When one button is pressed the following occurs:

- The threat is considered a warning
- A signal is sent to the user's teammates
- After teammates respond, the wristband begins sending audio

When both buttons are pressed the following occurs:

- The threat is considered an emergency
- A signal is sent to the user's teammates and emergency services
- After teammates respond, the wristband begins sending audio

The threatened user cannot end the audio recording state to avoid cases of coercion from the threatening parties.

## Phone Alerts

When a threat occurs, teammates will receive the following:

- A vibration from their wristbands
- Strobing from the iPhone camera light
- An alert sound (a high pitched metallic noise with a short ramp up from low to high volume)

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Alert design without Apple's notification restraints:

- Alert takes over the user's phone screen
- States which teammate is in trouble
- Prompts the teammate to swipe to answer the distress call.

Alert design with Apple's notification restraints:

- Alert appears like a normal phone notification
- Notification includes threatened user's name
- Normal slide to answer prompt

Once a teammate swipes the alert to answer the distress call, he or she will see the In-Call screen.

## **In-Call State**

Threatened User Information:

- Includes threatened user's name, picture, threat level, and an audiograph of the sounds recorded by the threatened user's wristband.

Current Threat Level:

- The threat level is also communicated through the background color of the In Call screen.
- Orange shows the initial threat level (warning) produced by a one button press threat report.
- Red indicates an elevated threat level (danger) produced by a two button press from the threatened user's wristband.

People in the Call:

- The names and images of the teammates currently connected to the call appear below the threatened user information.

Adding People to the Call:

- Below that currently unconnected teammates will be listed along with Emergency Services if the threatened user has not already requested that

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elevated call with the two button press method.

- Responding teammates on this In Call screen can click the unconnected teammates and Emergency Services buttons to send a notification to add them to the current call.

Audio:

- All responding users of the app can hear the audio from the threatened user.
- All responding users can hear the conversation between the other responding users in a group call format.

Ping:

- The threatened user cannot hear any audio, so the responding users can send feedback to the threatened user by pressing the Ping button at the top of the screen to send a vibration through the threatened user's wristband.
- Any member of the responding users can press the Ping button.
- Feedback about recent Pings appears on the app screen next to the name of the person who sent the ping for all responding users so that they can tell what the other responding users have done.

Ping indicators disappear once the feedback is no longer necessary (after a fixed amount of time).

End Call:

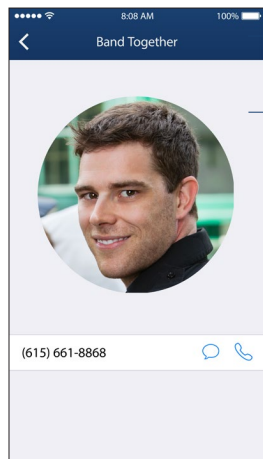
- Any responding member can also choose to end the call by pressing the end call button on the same screen.
- Ending the call returns the app screen for all members to the Idle screen.

## TOUCH REQUIREMENTS

- Users navigates by tapping.
- To end a call a user must swipe the end call screen
- Users communicate through the band with button presses

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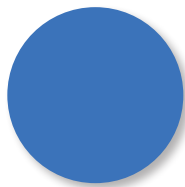


Gradient #101941---#1B4271

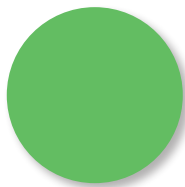
#EEEEEF3

### DESIGN REQUIREMENTS

#### Base Colors



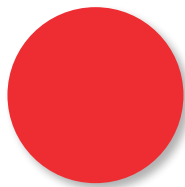
#4373B9



#4CD864



#FBAF3F



#EE3D33



#EEEEEF3

#### Gradients



#101941



#1b4271



#F15B26

#F69321

#791815

#A81E22

## BAND TOGETHER

# Design Specifications

Band Together

Settings

YOUR CONNECTIONS

Fred Miller

Fred Miller

WARNING

PING FRED MILLER

### *Banner Header*

Helvetica Neue Medium 34pt #FFFFFF

### *Banner Link*

Helvetica Neue Regular 34pt #FFFFFF

### *Section Header*

Helvetica Neue Regular All Caps 28pt #6e6d72

### *Row Text*

Helvetica Neue Regular 34pt #010101

### *Call Header*

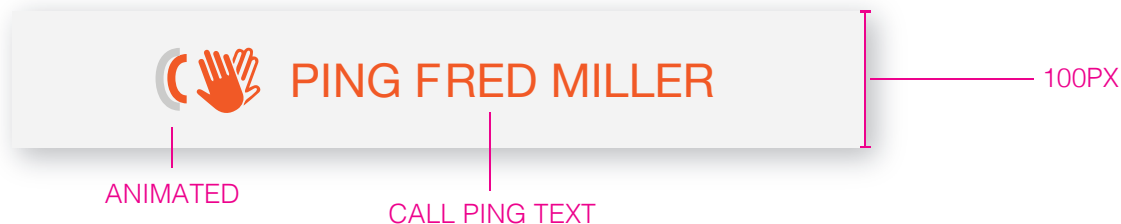
Helvetica Neue Light 66pt #FFFFFF

### *Call Subheader*

Helvetica Neue Bold 28pt #FFFFFF

### *Call Ping Text*

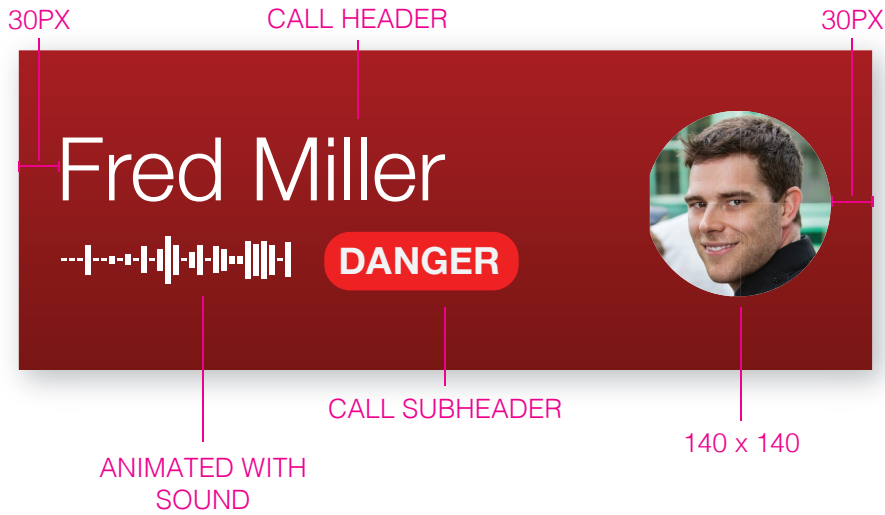
Myriad Pro Regular All Caps 35pt #F15B26





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## Caller ID



## Participant Row

