



# BuddySystem

**HCDE 536 Project 1**

**Project 1. A Mobile Information Service**

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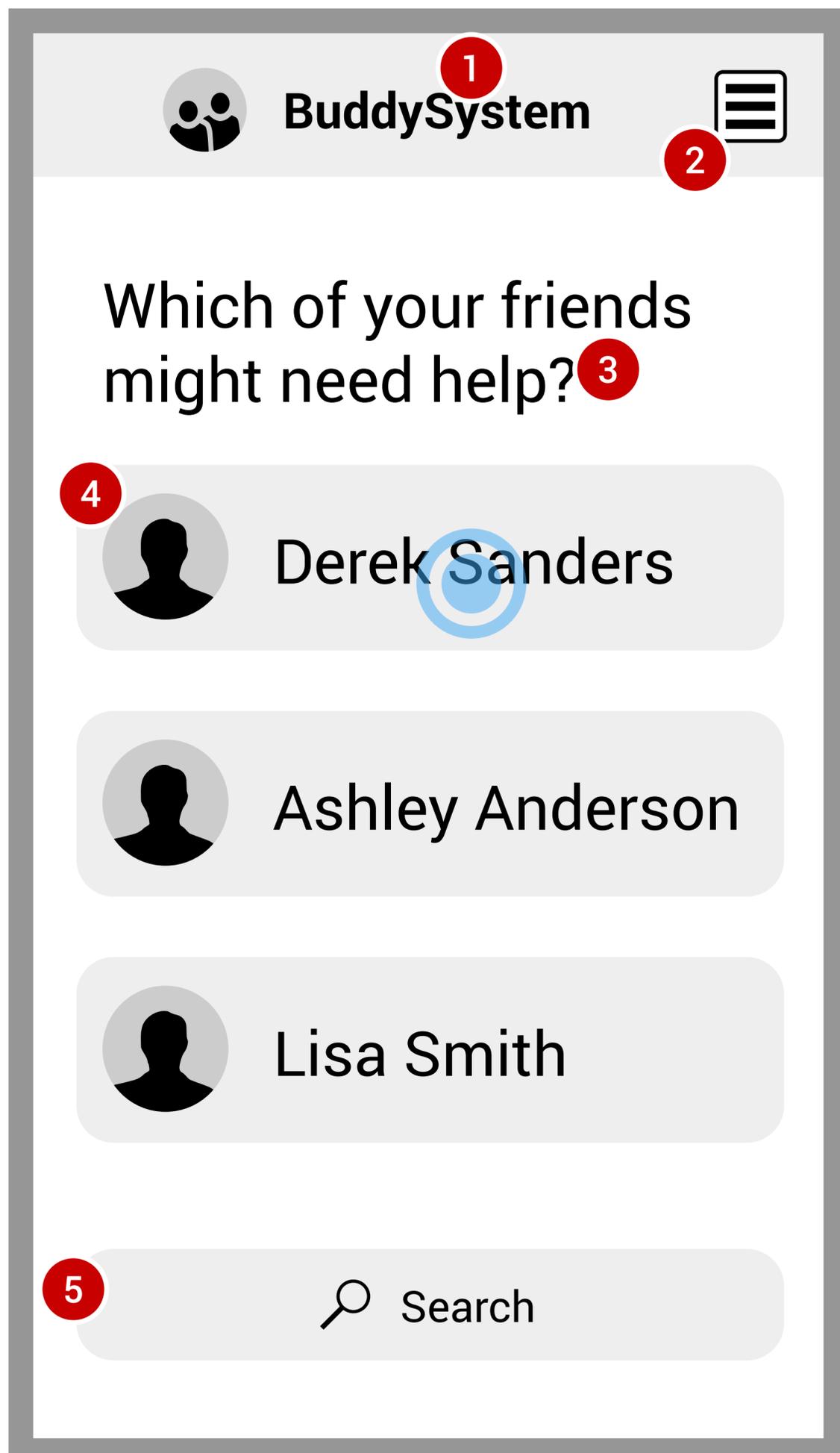
**Matt Soave**

# Scenario 1: Helping a Diabetes Patient

In this scenario, Blake notices that his friend Derek seems tired and confused during a late-night studying session. He knows that Derek has diabetes, but doesn't really know what to look for, so he launches BuddySystem and enters the symptoms that he sees in Derek.

The app tells him that it's not an emergency, but offers some ways he can try to help. After Blake gives Derek some sugary food, he notices that Derek's symptoms have improved. The app instructs him to keep an eye out for certain signs.

# Home screen



1

## Title bar

This bar is non-interactive text that informs the user the page he or she is viewing within the app. On the home page, it displays the name of the app. It appears on each page to keep the user oriented in the app's information hierarchy (feedback).

2

## Menu ("hamburger") button

This icon is an established symbol for a menu button. When the user taps it, as their previous experience with menu buttons would tell them to do, the screen will slide towards the left, revealing a menu of settings and other administrative functions within the app vertically along the right side.

3

## Question (instruction)

This non-interactive text asks which patient the user needs more information about, indicating that the user needs to do something to answer it.

4

## List of friends

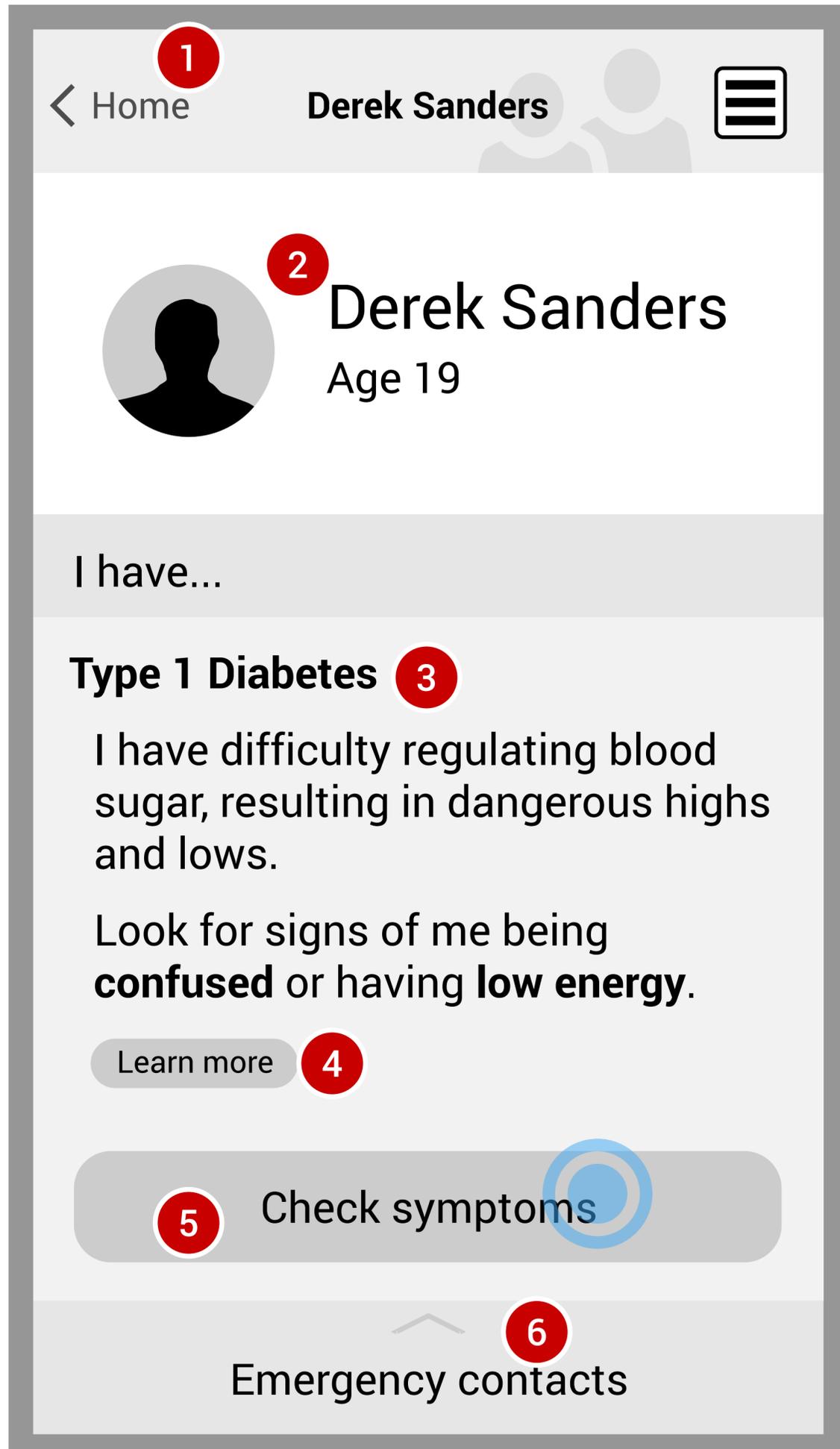
Each name rectangle is a button connecting the user to a patient in their social circle. The user taps the name button to view that patient's profile. The button uses rounded corners to imply that it can be pressed, following similar standards across modern mobile UIs.

5

## Search

If the user has many friends in the application, they can use the search functionality to narrow down the list. This is important because they may need to access a friend's information quickly. This button uses a standard search icon for recognizability.

# Friend profile



## 1 Back button

Using the standard page placement and arrow associated with a “back” button, the user taps this text button to return to the previous page. To help the user during navigation, the text will state the name of the previous page.

## 2 Basic information

This non-interactive text shows the user the patient’s name, age, and a photo. The patient enters this information when they create their profile.

## 3 Condition description

The user can view the name of the medical condition for which the patient wants support. The patient selects the condition(s) when they set up their profile, and the app populates the details of that condition. It shows the name, a simple explanation, and one or two common symptoms.

## 4 Learn more

The user taps this button to be brought to a new page with a more detailed explanation of the condition, its known causes, how it works, and other information. The amount of information available may vary widely among different conditions.

## 5 Check symptoms

The user taps this button when he or she suspects that the patient is experiencing difficulties with their condition and wants to assess the patient’s symptoms. The primary function of this app is to support patients in suspected medical emergencies, so this is on the patient’s profile page for easy access.

## 6 Emergency contacts

Using the established convention of a bottom bar with an upward arrow to denote a slider, the user drags his or her finger vertically from the bottom of the screen to view this slider. This will bring up a list of global emergency numbers, such as 911 and poison control, as well as up to five emergency contact numbers, such as a family member, that the patient has entered into the app. The user can tap any of the numbers on this list to call them. It appears on all pages past the Home Page, because it is important and patient-specific.

# Check symptoms

< Derek Check Symptoms

## Does Derek show any of these symptoms?

1  Dizziness info 2

Confusion info

Slurred speech info

Shortness of breath info

Shaking info

Tiredness/fatigue info

How can I help? 3

Emergency contacts

## 1 Symptom list

This page shows a list of symptoms associated with the patient's condition. The blank check boxes indicate that they can become checked, and the hair lines between each symptom reveals that the user can tap on each word. The user taps each symptom the patient displays, and the box to the left will check.

## 2 Info

The user taps the info button to the right of each symptom to be brought to a new page that will explain that symptom in greater detail. Depending on the condition and symptom, the page might explain what it is, how the condition causes it, or photos of the symptom.

## 3 How can I help?

The user taps this button to start the app processing the symptoms he or she has entered. The casual language of this button maintains the personal nature of the app, while reminding the user that they are not officially diagnosing the patient; they are merely helping in a reasonable way.

# Check symptoms (selected)

< Derek

Check Symptoms



Does Derek show any of these symptoms?

Dizziness [info](#)

Confusion [info](#)

Slurred speech [info](#)

Shortness of breath [info](#)

Shaking [info](#)

Tiredness/fatigue [info](#)

 How can I help?

  
Emergency contacts

# How to help

The screenshot shows a mobile application interface. At the top, there is a navigation bar with a back arrow, the text 'Check', the title 'How to Help', a profile icon, and a hamburger menu icon. Below the navigation bar is a yellow horizontal bar. The main content area features a grey triangle with an exclamation mark, followed by the word 'Caution' in bold black text with a red circle containing the number '1'. Below this is the text 'Derek may have low blood sugar. Here are some suggestions:'. A horizontal line separates this from a list of suggestions. The first suggestion is numbered '1' and reads: 'Ask Derek if you can help him **check his blood glucose**, if possible. If it is below 40mg/dL, seek immediate medical attention.' A second horizontal line follows. The second suggestion is numbered '2' and reads: 'Look for **carbohydrates** that Derek can consume. Avoid **foods** with high protein or fat. Help Derek find one of these or something similar:'. A blue arrow points upwards from a blue circle at the bottom towards the word 'carbohydrates'. Below the list are four bullet points: '• 4oz fruit juice', '• 4oz soda', '• 1 slice of bread', and '• 4 crackers'. At the bottom of the screen is a grey bar with a white upward-pointing chevron and the text 'Emergency contacts'.

< Check      How to Help

**!**      **Caution** **1**

**Derek may have low blood sugar.**  
**Here are some suggestions:**

---

**1** Ask Derek if you can help him **check his blood glucose**, if possible. If it is below 40mg/dL, seek immediate medical attention.

---

**2** Look for **carbohydrates** that Derek can consume. Avoid **foods** with high protein or fat. Help Derek find one of these or something similar:

- 4oz fruit juice
- 4oz soda
- 1 slice of bread
- 4 crackers

Emergency contacts

**1**

## Results

The user can view the suggested severity level of the symptoms they entered, which is communicated with text, a symbol, and a band of color at the top. This non-interactive text will provide a suggested explanation for the symptoms the patient is displaying.

The color uses the stop light convention – red, yellow, and green – to communicate risk level. Here, yellow indicates that there is not an urgent need, but the user should watch out and try to help. The language reminds the user that this is not a diagnosis, only suggestions.

**2**

## List of suggestions

The user can slide their finger vertically on the screen to scroll and view a list of suggestions for helping the patient. These suggestions will all be things that an untrained medical professional can do.

# How to help (scrolled)

< Check **How to Help**

below 40mg/dL, seek immediate medical attention.

---

**2** Look for **carbohydrates** that Derek can consume. Avoid foods with high protein or fat. Help Derek find one of these or something similar:

- 4oz fruit juice
- 4oz soda
- 1 slice of bread
- 4 crackers
- 5 pieces of candy

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**3** Continue to monitor symptoms over the next 15 minutes to see if carbohydrates have helped.

Remind me in 15 minutes

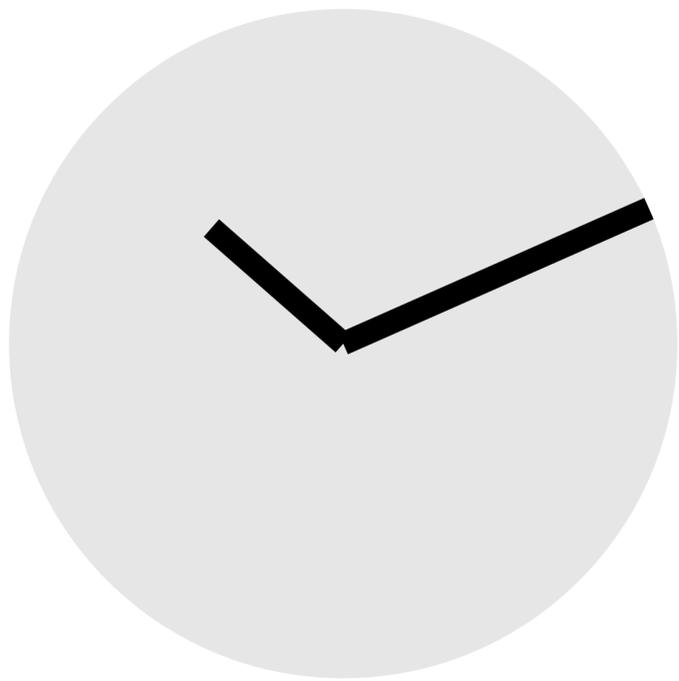
Emergency contacts

1

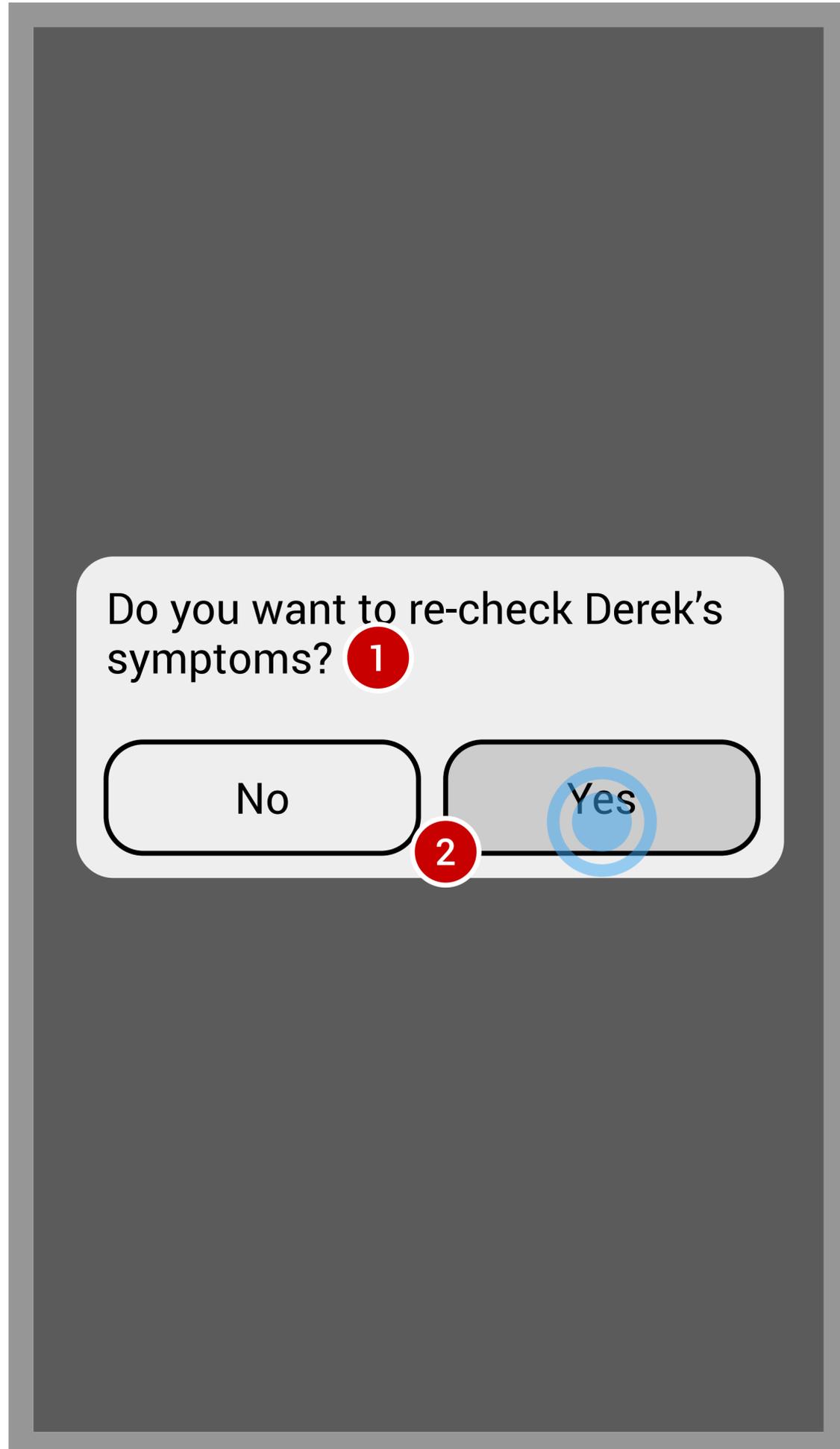
## Remind me

Once the user has engaged one or more of the suggestions on the list, the user taps this button to begin a timer. The time will vary depending on the condition (if applicable). In the case of diabetes, the patient's body will need time to process the sugar the user has helped them consume, and the user should recheck the patient after about 15 minutes have elapsed. The user can exit the app at this time if they wish, or go back to the symptom list and read more about the symptoms.

15 minutes pass



# Post-timer pop-up



## 1 Pop-up question

This non-interactive text pops up after the timer completes. It asks whether or not the user wants to re-check the patient's symptoms, indicating that the user needs to do something to answer it.

## 2 Yes/no buttons

Having been prompted by the question, the user will tap "Yes" to re-enter the app on the Recheck Symptoms page. Answering "No" will cancel the new request, presumably because the patient is noticeably better.

# Re-check symptoms

< Derek Check Symptoms

Does Derek still have these or other symptoms?

Dizziness info

Confusion info

Slurred speech info

Shortness of breath info

Shaking info

Tiredness/fatigue info

Re-submit (no changes)

Emergency contacts

1

## Question

This non-interactive text indicates that the user needs to do something to answer it. It suggests that the patient might still display the below symptoms, but also that different symptoms could have started.

2

## Symptom list

The list will display the symptoms again exactly how the user submitted it previously, with the same symptom boxes checked. Having experienced this list before, the user knows he or she can check and uncheck boxes by tapping on symptoms.

3

## Re-submit (no changes)

The user can tap this button to re-submit the list without editing it. This may prompt the app to contact emergency services because the patient hasn't improved. Its exact behavior depends upon the condition.

# Re-check symptoms (after deselecting)

← Derek      **Check Symptoms** 

**Does Derek still have these or other symptoms?**

- Dizziness info
- Confusion info
- Slurred speech info
- Shortness of breath info
- Shaking info
- Tiredness/fatigue info

---

**Update symptoms** 1

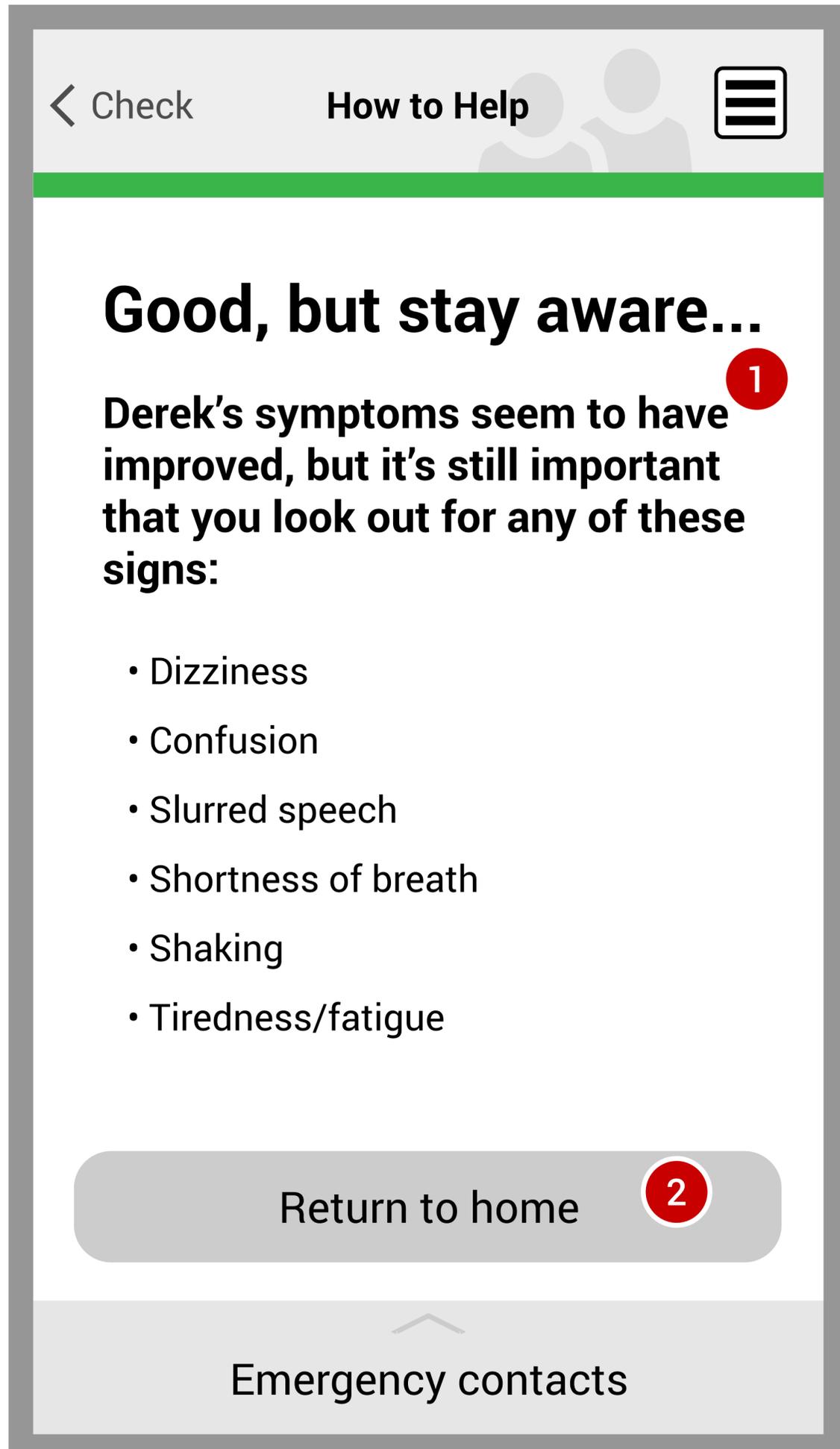
 Emergency contacts

1

## Update symptoms

If the user has edited the symptom list by checking or unchecking boxes, the “Re-submit (No Changes)” button text changes to “Update Symptoms”. This tells the user that the app will re-assess the patient’s condition, possibly updating the information he or she will receive. The user taps this button to begin that reassessment.

# How to help: Good, but...



1

### Result

This non-interactive text explains the result of the patient's resubmitted symptoms, with a color band indicating severity, and information on next steps the user may need to take. This will be different for different conditions. In this case, diabetes is not life-threatening when symptoms aren't present. Because neither the user nor this app is a doctor, this page will always be cautious, recommending vigilance even in the simplest cases.

2

### Return to home

The user taps this button to return to the Home Screen.

## **Scenario 2: Determining if a Symptom is from an Urgent Condition**

In this scenario, Blake notices that his friend Lisa, who has both a peanut allergy and asthma, is having difficulty breathing. He's not sure if it's related to her allergy or her asthma, so he uses BuddySystem to try to figure out what to do.

He enters her symptom, which immediately launches a pop-up telling him that he needs to call 911 because the symptom could be associated with either condition. He uses the app to call 911, then to call Lisa's mother to let her know what is going on.

# Home screen



BuddySystem



Which of your friends  
might need help?



Derek Sanders



Ashley Anderson

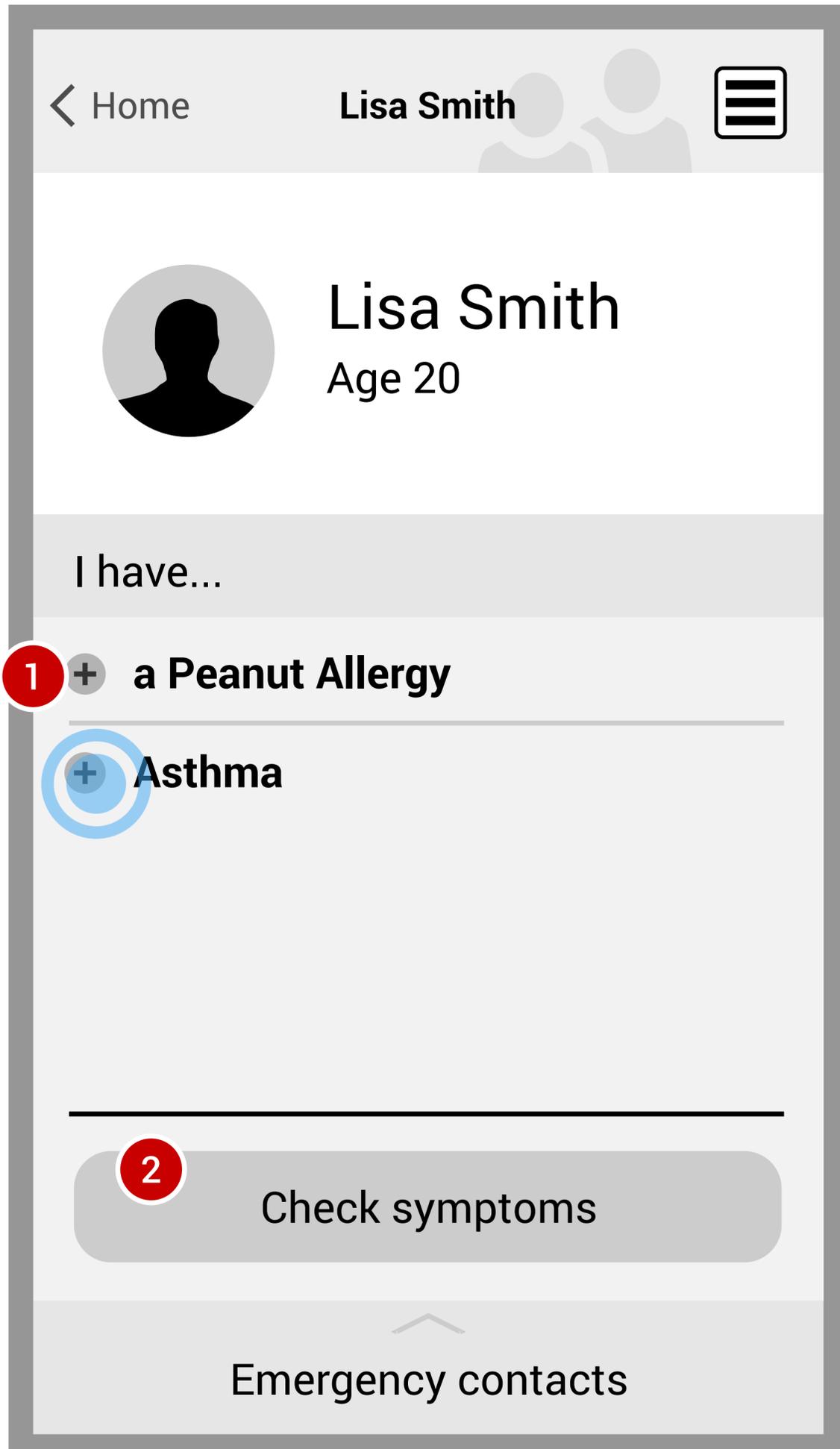


Lisa Smith



Search

# Friend profile



1

## List of conditions

If a user has multiple medical conditions the patient has posted that need to be monitored, they will appear on the profile page as a collapsed list. The plus sign to the left of each condition reveals that more information is available about each. The user can tap the plus sign to display the Condition Description of each.

2

## Check symptoms

In the case of multiple medical conditions, the user does not have to select a condition to check symptoms. Instead, the app aggregates the symptoms for each of the patient's conditions. He or she would tap the Check Symptoms button.

# Friend profile (expanded)

The screenshot shows a mobile app interface for a friend's profile. At the top, there is a navigation bar with a back arrow labeled 'Home', the name 'Lisa Smith', and a menu icon. Below this is a profile section with a silhouette icon, the name 'Lisa Smith', and 'Age 20'. A section titled 'I have...' lists two conditions: '+ a Peanut Allergy' and '- Asthma'. The 'Asthma' condition is expanded, showing a text description: 'I sometimes have shortness of breath and difficulty breathing. Look for signs of me struggling to breathe, such as heavy coughing or wheezing'. A red notification bubble with the number '1' is positioned above the first sentence of the asthma description. Below the text is a button labeled 'Check symptoms' with a blue circular icon. At the bottom, there is a button labeled 'Emergency contacts' with an upward-pointing arrow.

1

## Condition details

More details are shown after expanding a single condition.

# Check symptoms

← Lisa      Check Symptoms

## Does Lisa show any of these symptoms?

- 1** Difficulty breathing info
- Blotchy/red skin info
- Puffyness info
- Itching around mouth info
- Coughing info
- Shortness of breath info
- Hives info

How can I help?

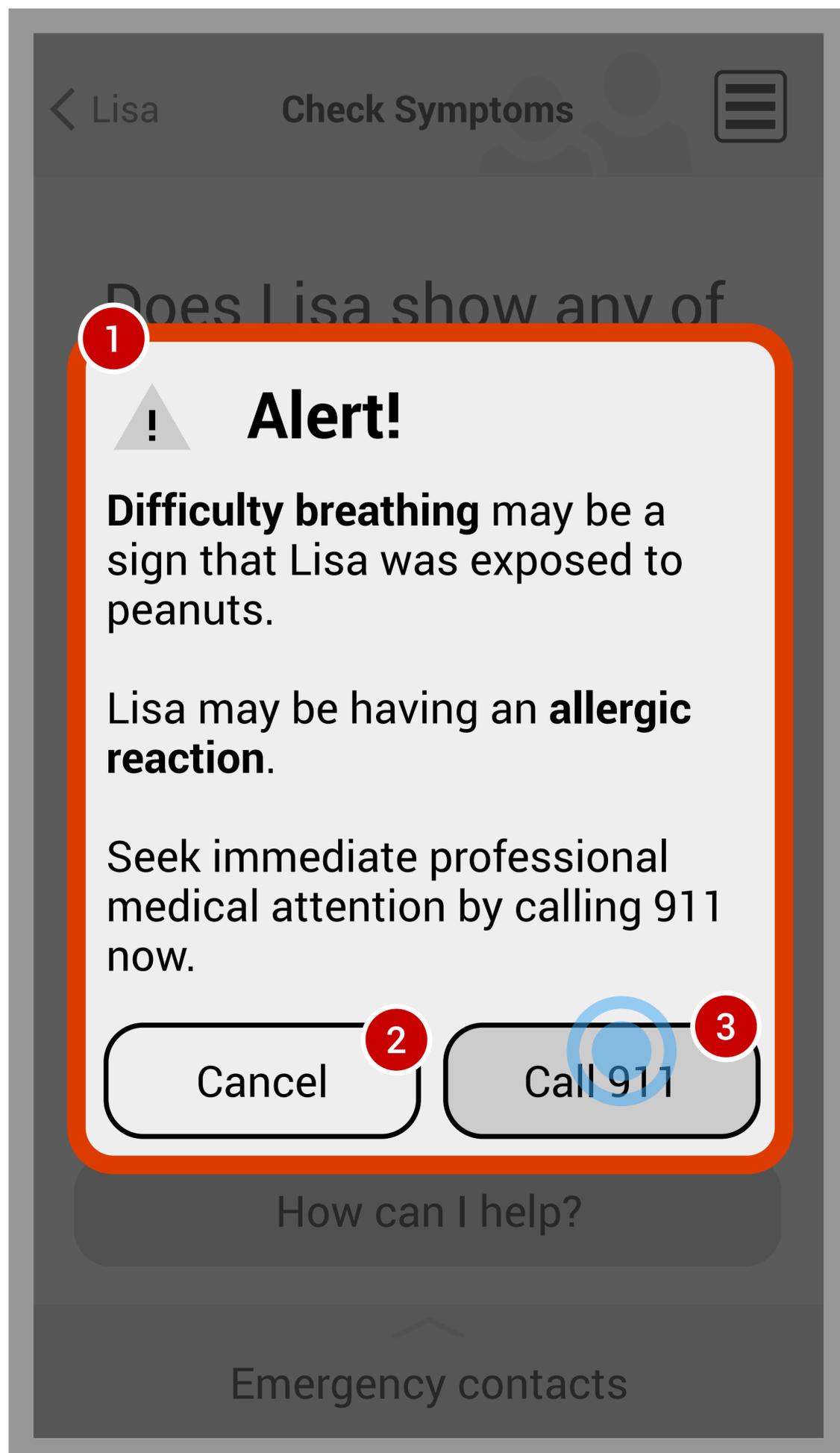
Emergency contacts

1

## Symptoms list

In the case of multiple conditions, the Symptoms List will display all symptoms of their multiple conditions. Because the user is not a medical professional, they cannot diagnose a patient who could be suffering from one of a number, or a combination, of conditions. By showing all symptoms the patient could be experiencing, it removes the risk of detecting and treating the wrong condition. The user taps all symptoms the patient is displaying.

# Alert



## 1 Pop-up

If any of the symptoms, or the combination of symptoms, the user submits are associated with a high-risk (for any of the conditions), a pop up appears immediately upon selecting the dangerous symptom.

The non-interactive text, red color, and the urgent nature of a pop up underscore the immediate need for trained medical attention. The app will not suggest action, because the untrained user might make the condition worse.

## 2 Cancel

If the user mistakenly entered a symptom, or is just walking through the app to learn it, they may not actually need to reach medical services. He or she can tap Cancel to return to the Check Symptoms page.

## 3 Call 911

In the case that the user reached this page in a real medical emergency, they can tap the Call 911 button to call emergency medical support. If there are some actions he or she can take to support the patient before trained help arrives, the 911 operator can walk him or her through that over the phone.

After the call...



# Check symptoms (after alert)

← Lisa      **Check Symptoms**      ☰

Does Lisa show any of these symptoms?

- Difficulty breathing      info
- Blotchy/red skin      info
- Puffyness      info
- Itching around mouth      info
- Coughing      info
- Shortness of breath      info
- Hives      info

How can I help?

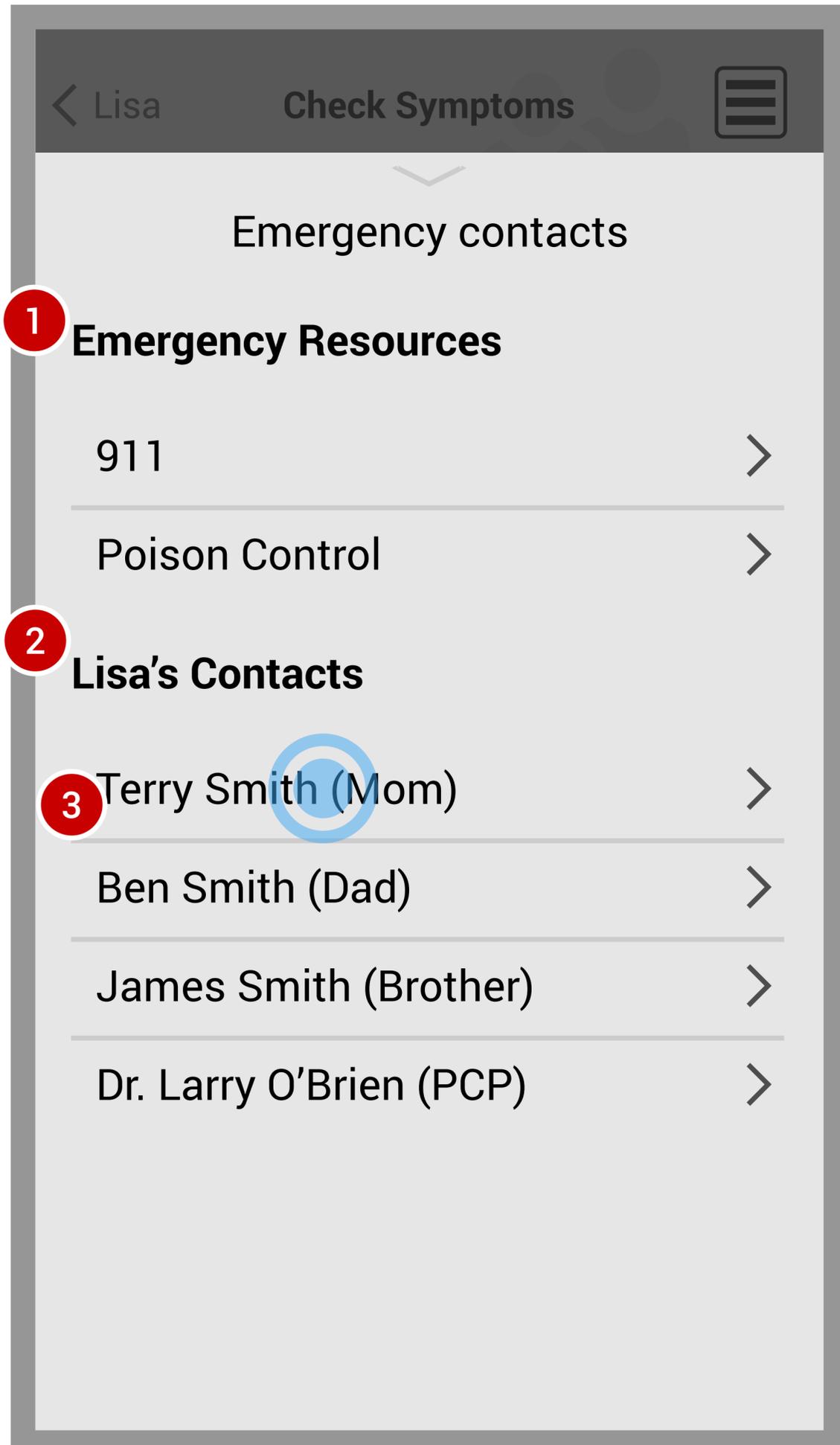
**1**      Emergency contacts

1

## Emergency contacts

When a 911 call is completed from this app and closes, the user will still be on the Check Symptoms page. This is a great time to use the Emergency Contacts slider. If the patient is going to be brought to a hospital, the user may want to use this to alert close friends and family.

# Emergency contacts



## 1 Emergency resources

This section lists general and specialized emergency resources, such as 911, poison control, and others (exact content TBD).

## 2 Patient's contacts

This section lists the patient's own personal contacts, such as relatives, close friends, or whoever else the patient deems is important to contact.

## 3 Contact name

Tapping on a contact's name will call them using the phone's dialer UI.

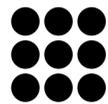
# Calling emergency contacts

Terry Smith

00:02



mute



keypad



speaker



add call



FaceTime



contacts

End