



Department of Computer Science  
Faculty of Engineering, Built Environment & IT  
University of Pretoria

COS301 - Software Engineering

## Coviduous

User Manual

August 19, 2021

**Team Name:** **CAPSlock**

**Team Members:** \* - indicates team leader

Name	Surname	Student Number
Njabulo*	Skosana*	u18089102*
Rudolf	van Graan	u16040865
Clementime	Mashile	u18139508
Peter	Okumbe	u18052640
Chaoane	Malakoane	u18202374

# Contents

<b>1</b>	<b>Introduction</b>	<b>4</b>
<b>2</b>	<b>Home</b>	<b>4</b>
<b>3</b>	<b>Login</b>	<b>5</b>
3.1	Reset password . . . . .	6
<b>4</b>	<b>Register</b>	<b>8</b>
4.1	Register as an admin . . . . .	8
4.2	Register as a user . . . . .	10
<b>5</b>	<b>Visitor homepage</b>	<b>13</b>
5.1	Complete health check . . . . .	13
5.2	View permissions . . . . .	14
5.3	View company guidelines . . . . .	15
<b>6</b>	<b>User homepage</b>	<b>17</b>
6.1	Bookings . . . . .	18
6.1.1	Book an office space . . . . .	19
6.1.2	View current bookings . . . . .	24
6.2	Health . . . . .	25
6.2.1	Complete health check . . . . .	26
6.2.2	View permissions . . . . .	27
6.2.3	View company guidelines . . . . .	28
6.2.4	Upload COVID-19 test results . . . . .	29
6.2.5	Upload COVID-19 vaccine confirmation . . . . .	30
6.2.6	Report COVID-19 infection . . . . .	31
6.3	Announcements . . . . .	32
6.4	Notifications . . . . .	33
6.5	Manage account . . . . .	34
6.5.1	Update account information . . . . .	35
6.5.2	Reset password . . . . .	36
6.5.3	Delete account . . . . .	37
<b>7</b>	<b>Admin homepage</b>	<b>39</b>
7.1	Floor plans . . . . .	40
7.1.1	Add floor plan . . . . .	41
7.1.2	Modify floor plan . . . . .	46
7.2	Shifts . . . . .	46
7.2.1	Create shift . . . . .	47
7.2.2	View shifts . . . . .	54
7.3	Permissions . . . . .	59

7.3.1	View permissions . . . . .	60
7.3.2	Grant permissions . . . . .	62
7.3.3	Contact trace . . . . .	63
7.4	Reports . . . . .	65
7.4.1	Office reports . . . . .	66
7.5	Announcements . . . . .	71
7.5.1	Create announcement . . . . .	72
7.6	Notifications . . . . .	73
7.6.1	Create notification . . . . .	74
7.6.2	View notifications . . . . .	77
7.7	Manage account . . . . .	78
7.7.1	Update account information . . . . .	79
7.7.2	Reset password . . . . .	80
7.7.3	Delete account . . . . .	81

# 1 Introduction

**Coviduous** is an app that companies and their employees can use to facilitate office space bookings during the COVID-19 pandemic. The app is divided into two distinct subsystems, related to the two different types of customers mentioned before, as well as a **Visitor** subsystem for visitors of the company. The **User** subsystem is how employees will interact with the app. They have the option to view available office spaces, book an office space, view their current bookings, view announcements that are made by their companies, view notifications sent to them, and manage their COVID-related health documentation. The **Admin** subsystem is how employers will interact with the app. They have the option to manage floor plans, manage employee shifts, manage company-wide announcements, send notifications to employees, view employees' health status, and view reports based on their company's statistics.

The following sections detail how to use the app in its current state.

## 2 Home

When first opening the app, you are greeted with the home screen. Here you can select whether you are a company member (such as an employee or employer) or a visitor. Clicking on the "company member" button will take you to the login screen. [Figure 1]

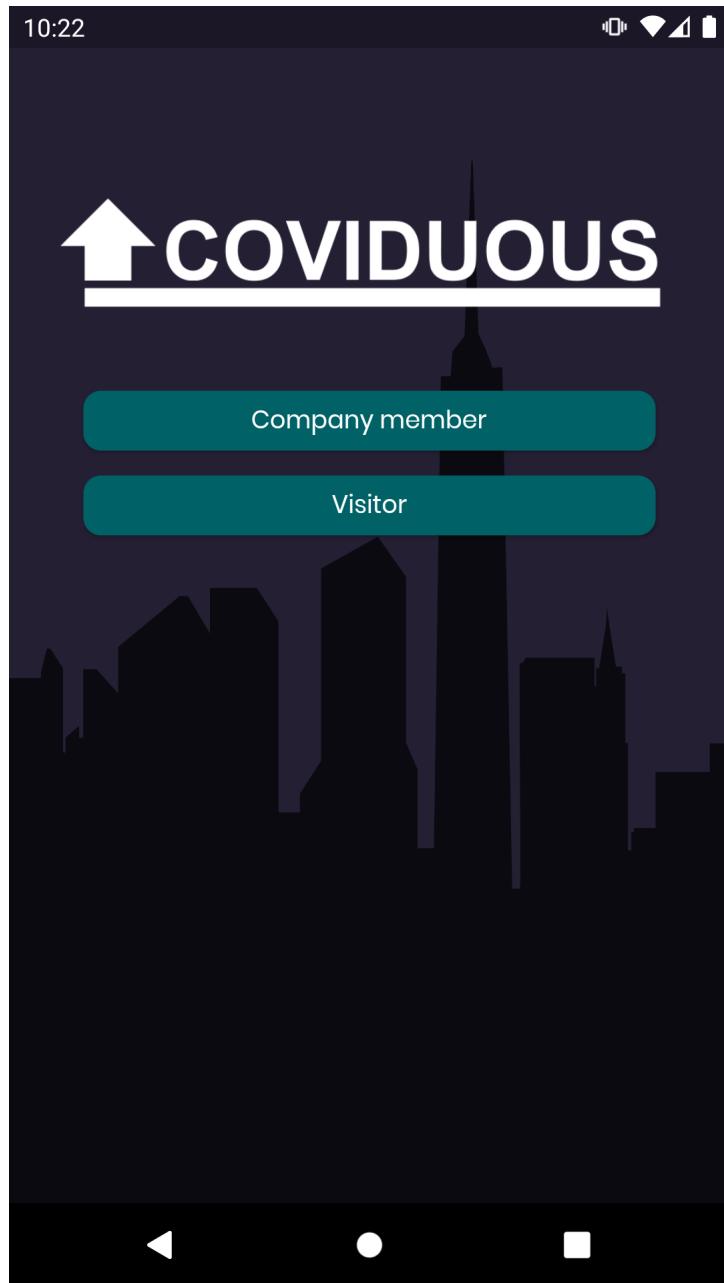


Figure 1: Home screen

### 3 Login

If you already have an account, you can enter your email address and password, and tap on the "Submit" button. Depending on your detected user type (user or admin), you will be taken to either the user homepage or admin homepage. Admins are the employers in charge of a company and users are the employees. Tap on the back button to return to the home screen. [Figure 2]

If you forgot your password, you can tap on the "Forgot password?" text to take you to the password reset screen.

If you do not have an account, you can tap on the "Register" button in the top right corner of the screen, which will take you to the main registration screen.

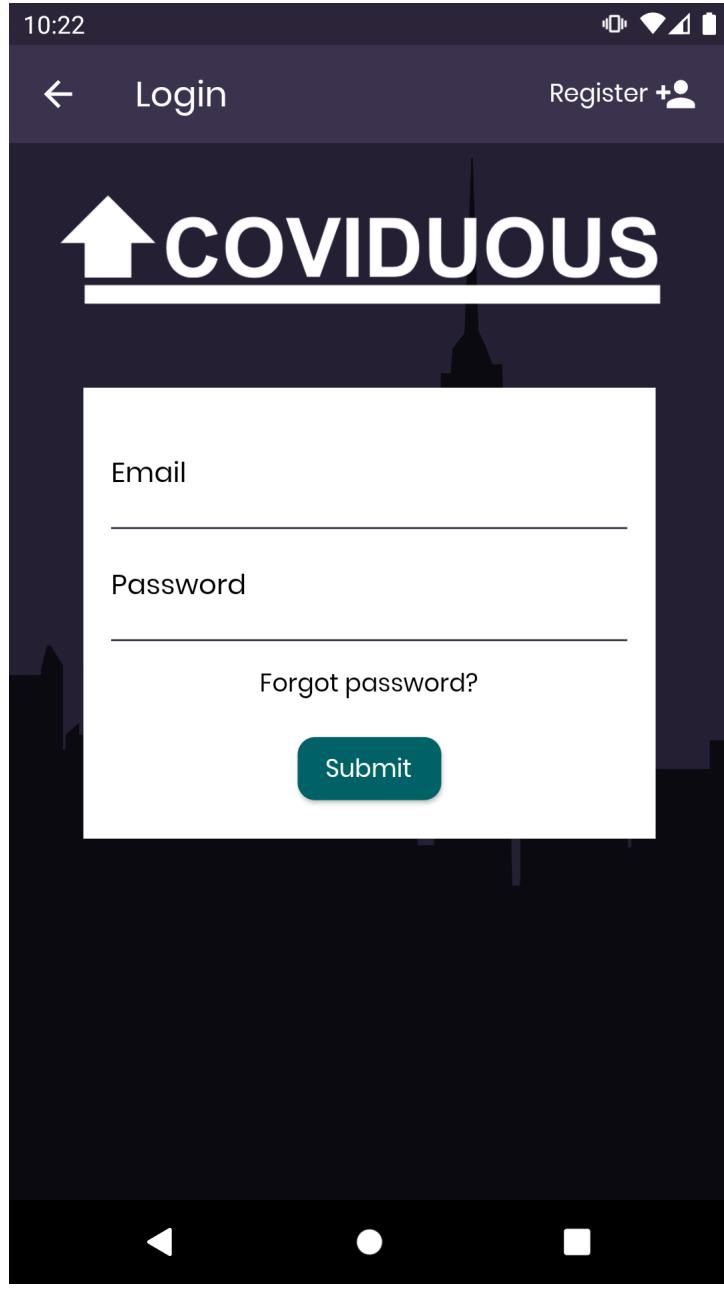


Figure 2: Login screen

### 3.1 Reset password

To reset your password, enter the email address you registered with, and tap "Reset password". An email will then be sent to you, containing instructions on how to reset your password. [Figure 3]

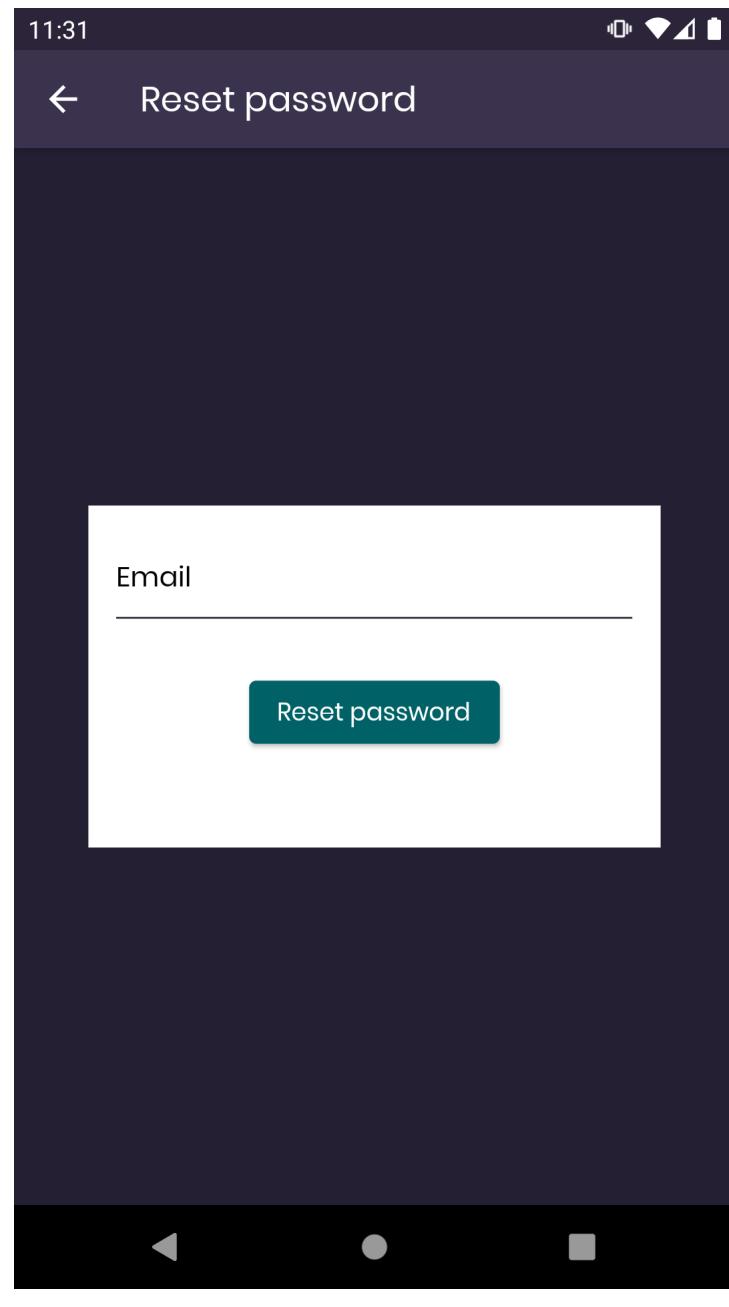


Figure 3: Reset password screen

## 4 Register

This page gives you the option to register as either an admin or a user. Tap on either button to go to the appropriate registration page. Tap the back button to return to the home screen. [Figure 4]

Tap on the "Log in" button in the top right corner of the screen to return to the login screen.

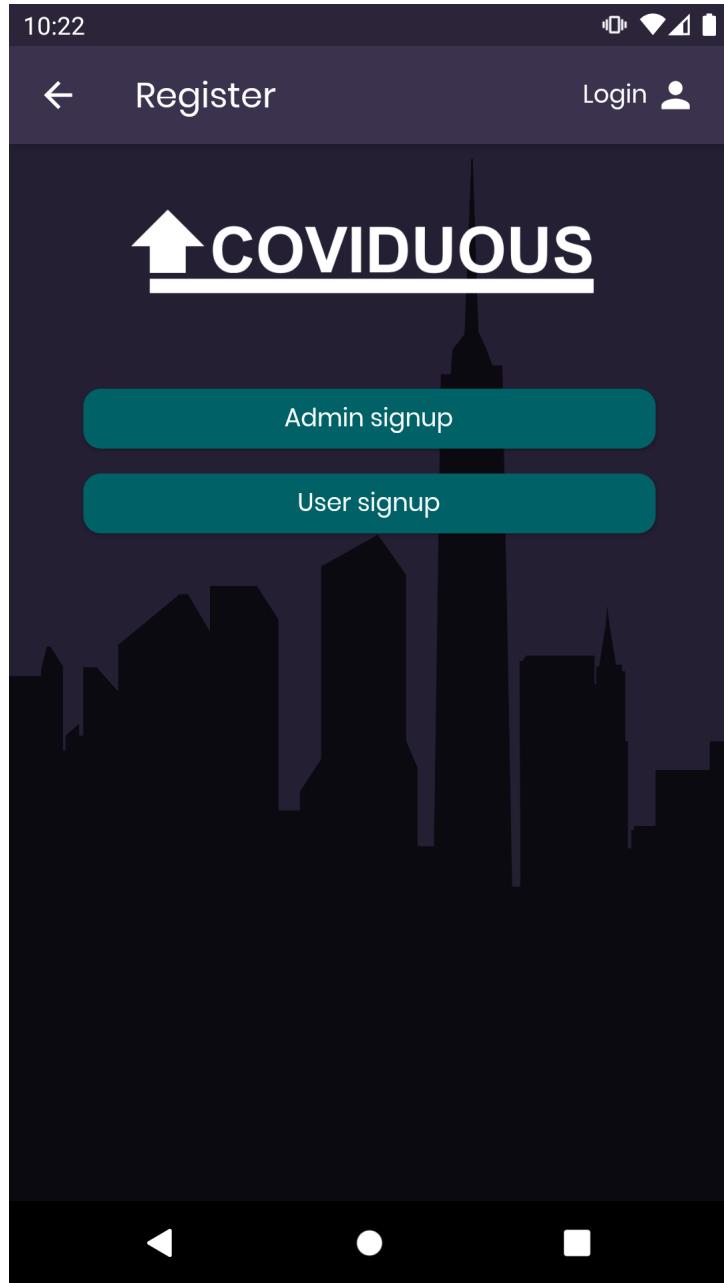


Figure 4: Registration screen

### 4.1 Register as an admin

To register a new account, enter your first name, last name (family name), email address, a username, a password, a company ID, your company name, and your company address. Confirm your password in the "confirm password" box as well, and then select "Submit". If your account creation was successful, you will be redirected to the login screen to sign in. Tap on the back button to return to the main registration screen. [Figure 5] [Figure 6]

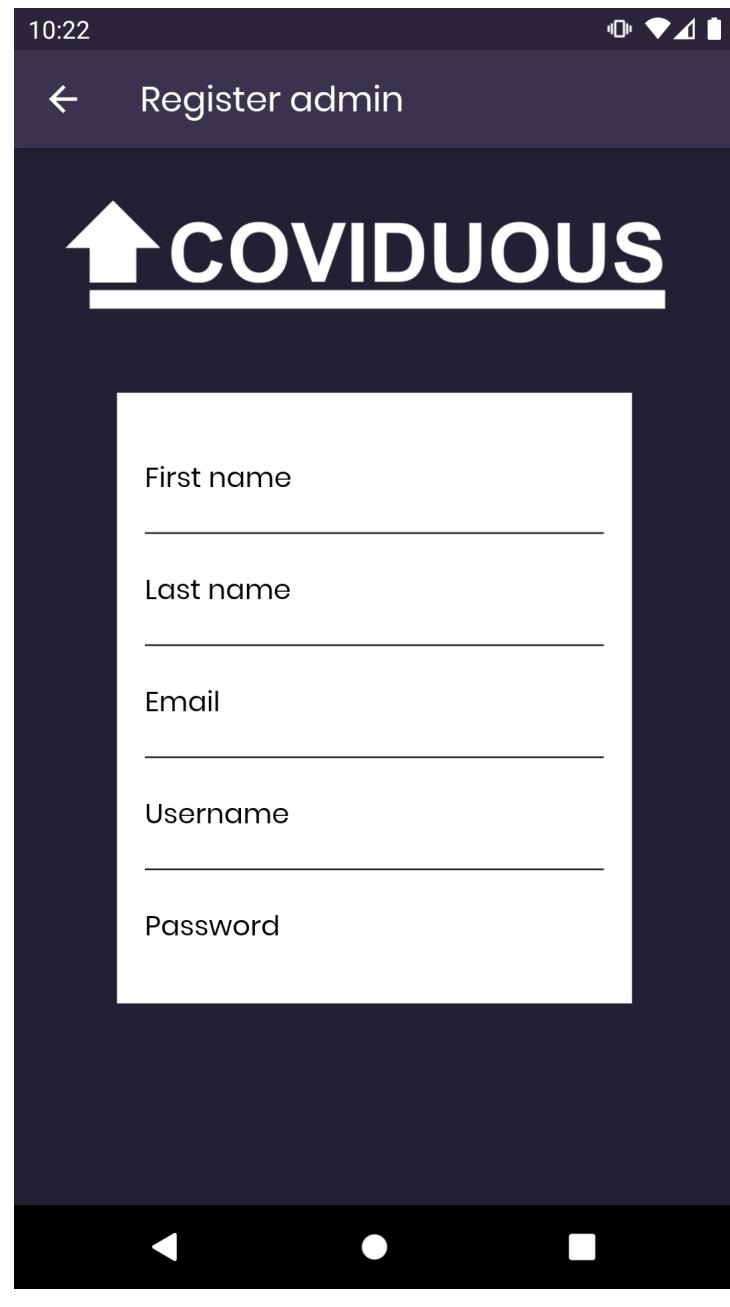


Figure 5: Admin registration screen

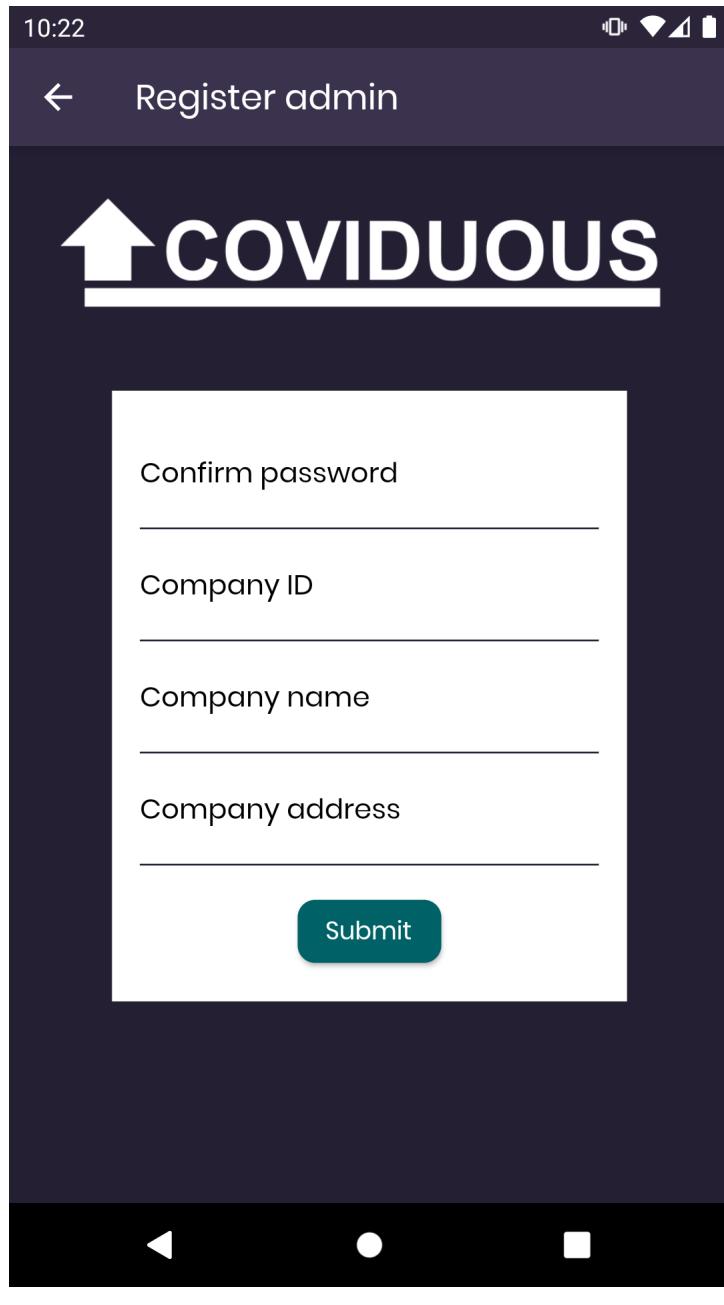


Figure 6: Admin registration screen

## 4.2 Register as a user

Similarly to the admin registration page, enter your first name, last name (family name), email address, a username, a password, and the company ID provided by your admin. Confirm your password in the "confirm password" box as well, and then select "Submit". If your account creation was successful, you will be redirected to the login screen to sign in. Tap on the back button to return to the main registration screen. [Figure 7] [Figure 8]

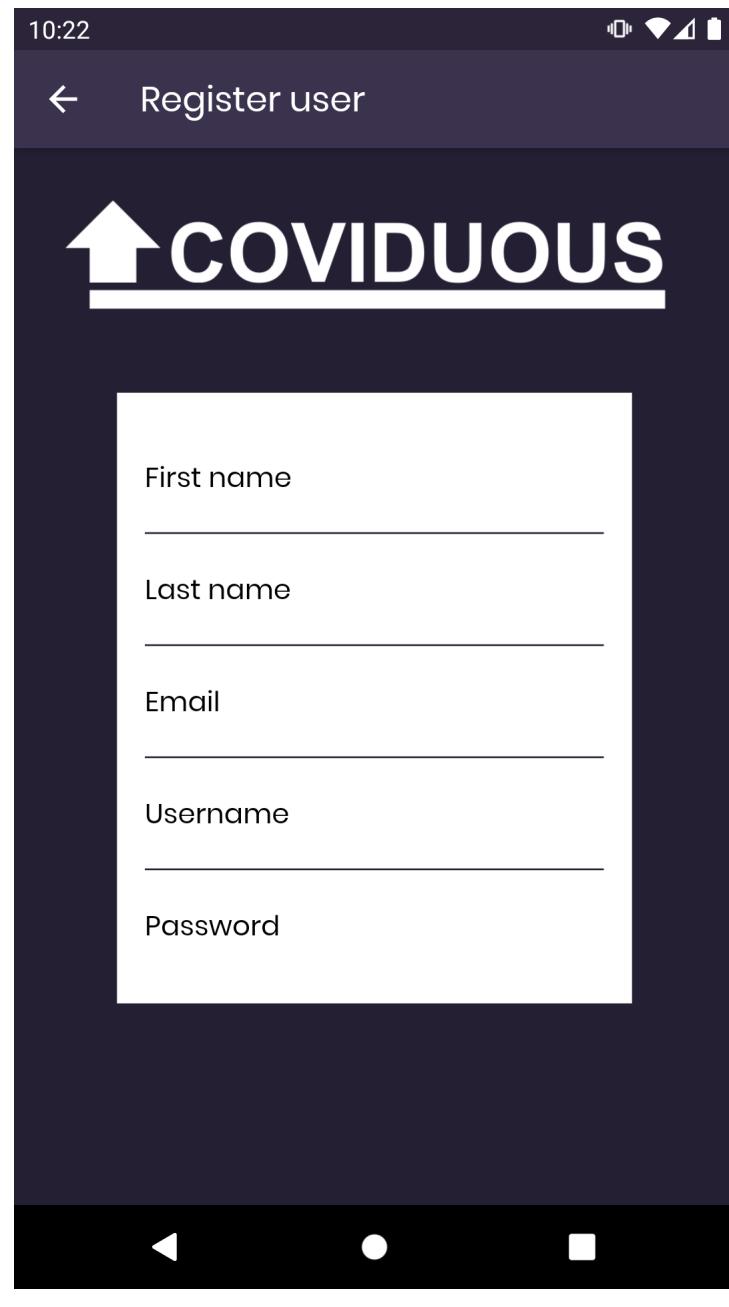


Figure 7: User registration screen

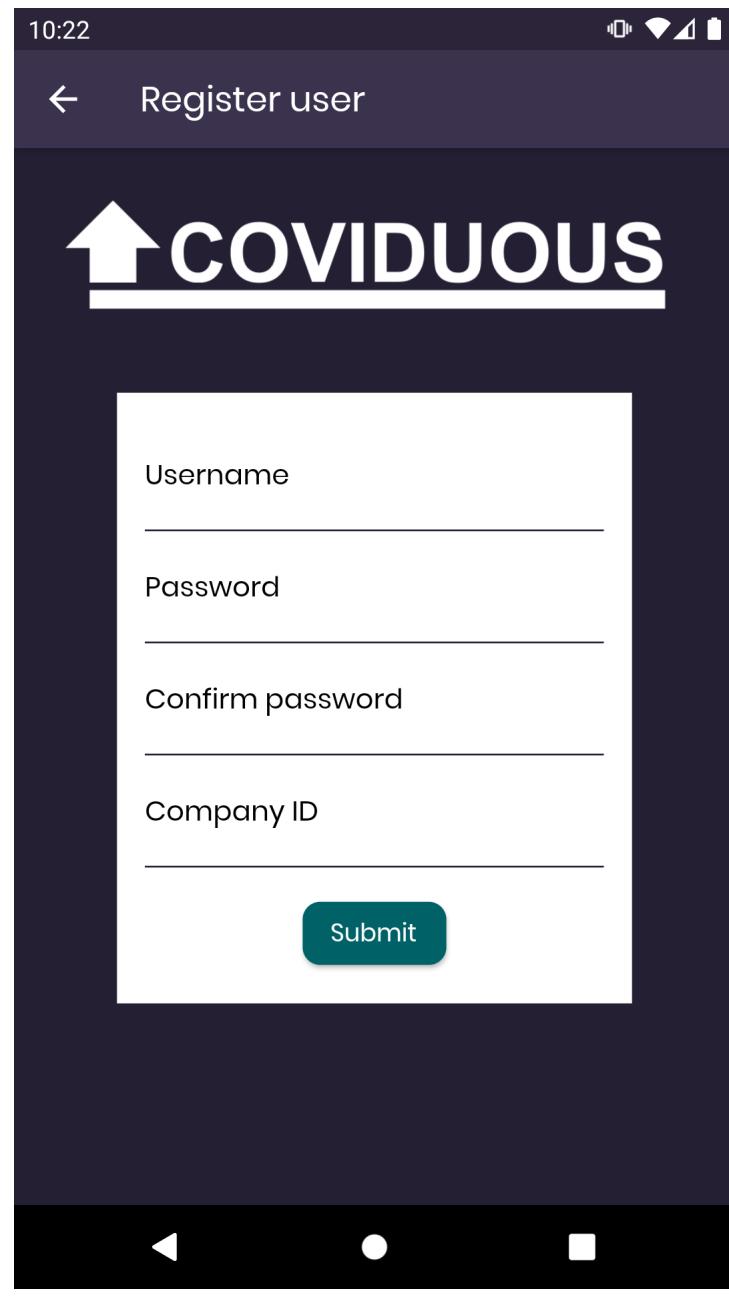


Figure 8: User registration screen

## 5 Visitor homepage

On the visitor homepage, you have the option to complete a health check (which is a questionnaire that determines whether you are allowed into a building or not), view permissions assigned to you, or view a company's health guidelines. [Figure 9]

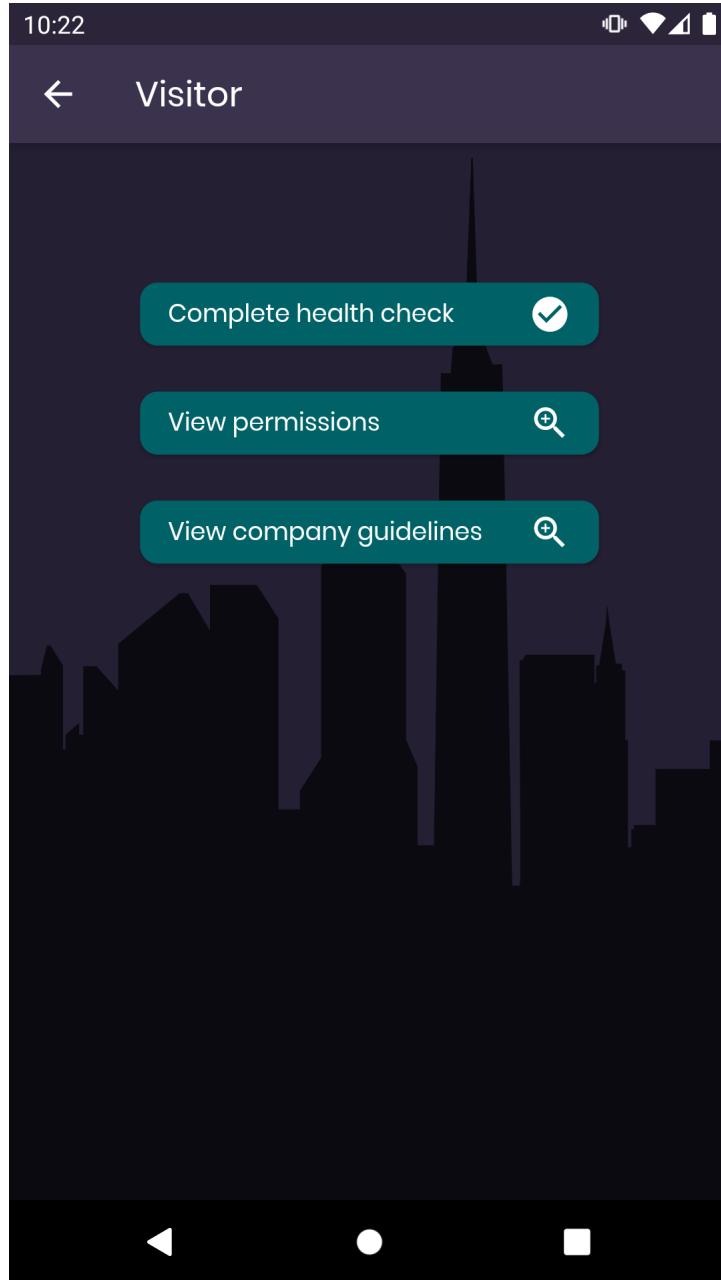


Figure 9: Visitor homepage

### 5.1 Complete health check

Here, you can complete a health questionnaire and submit it, which will then be sent to an AI for evaluation. You can then find your results in the "view permissions" page. [Figure 10]

You can tap the back button to return to the visitor homepage.

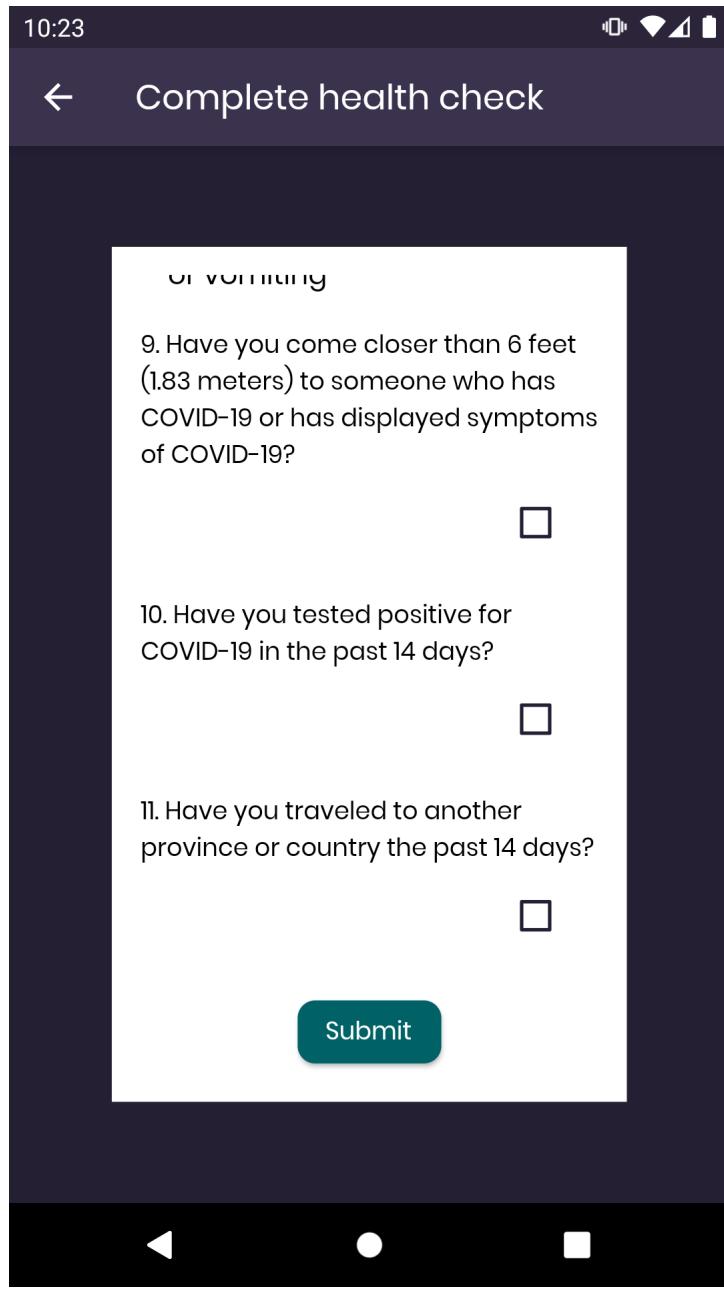


Figure 10: Complete a health check

## 5.2 View permissions

On this page, you can view any permissions that have been assigned to you, such as whether you are allowed into a building or not. [Figure 11]

You can tap the back button to return to the visitor homepage.

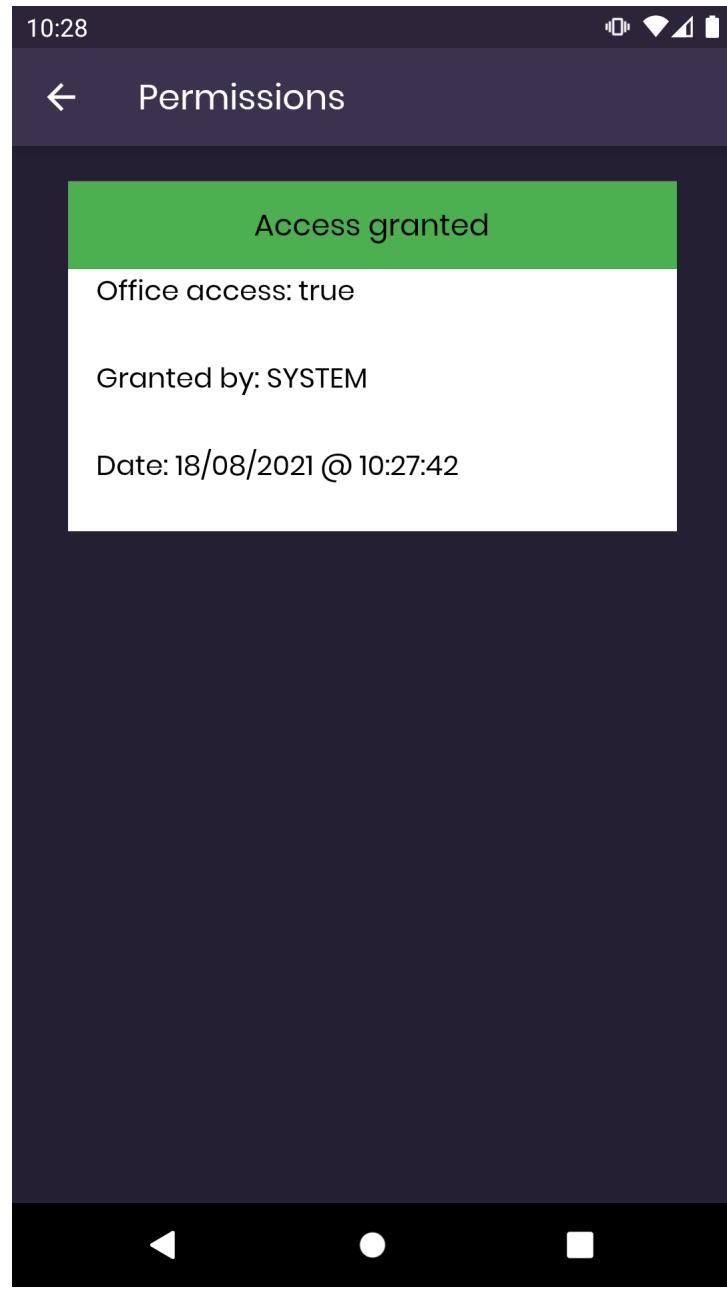


Figure 11: View your permissions

### 5.3 View company guidelines

On this page, you can view general health guidelines. This will detail the procedures to follow that have been defined by the government. [Figure 12]

You can tap the back button to return to the visitor homepage.



Figure 12: View health guidelines

## 6 User homepage

On the user homepage, you are given a selection of buttons, which will take you to different parts of the app. [Figure 13] On the top left you will find a button to open the sidebar (or you can alternatively swipe in from the left side of the screen). The sidebar includes buttons to view announcements, view notifications, manage your account, and log out. [Figure 14]

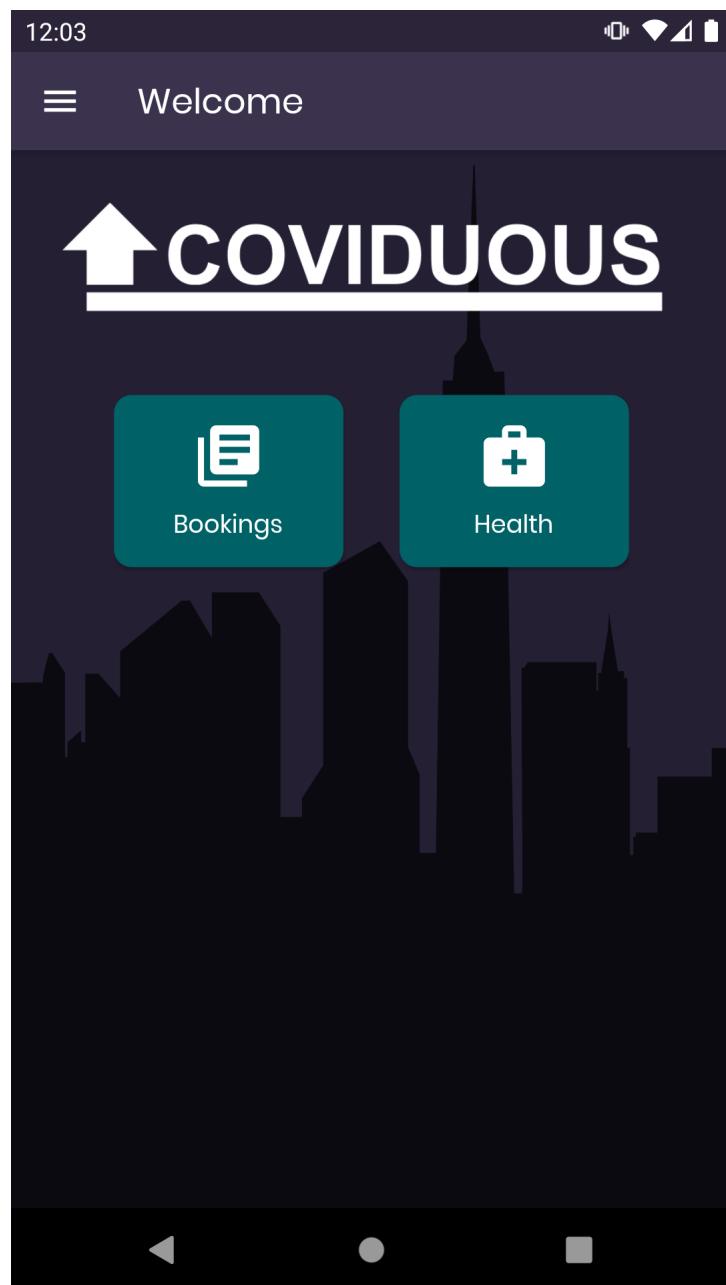


Figure 13: User homepage

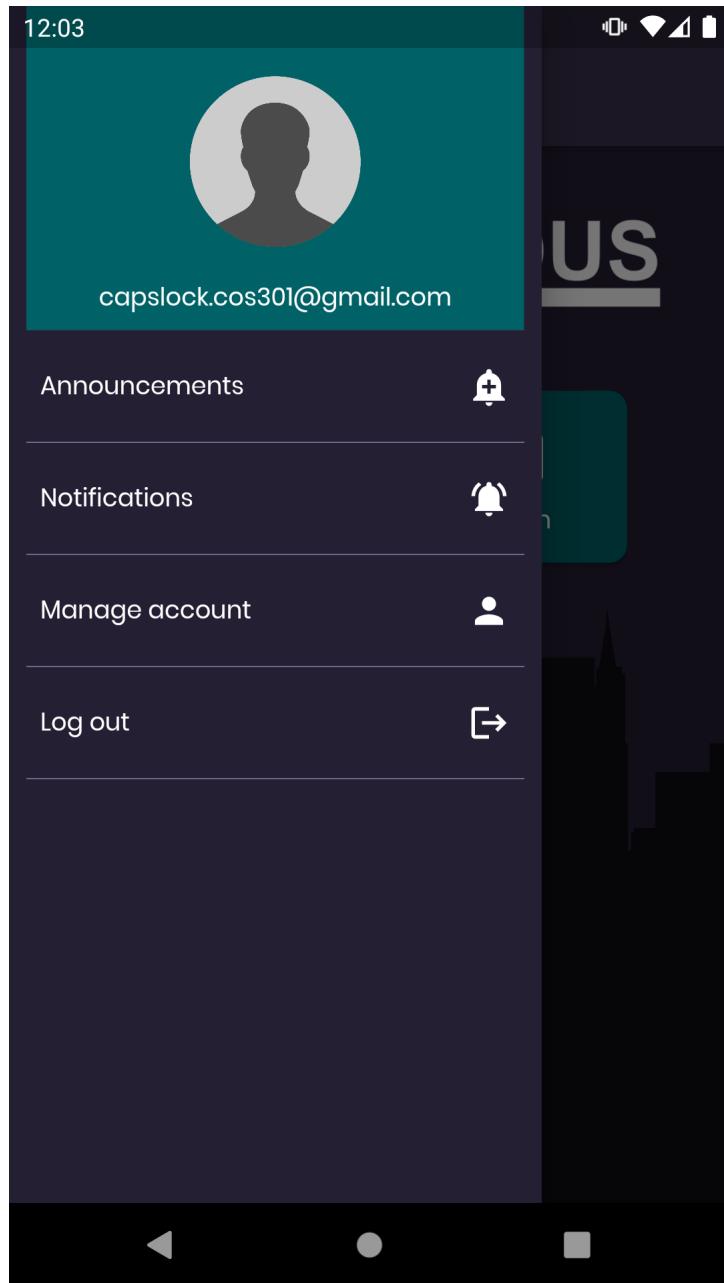


Figure 14: User homepage sidebar

## 6.1 Bookings

On this screen, you can tap the "Book office space" button to take you to the list of office spaces that are available to book, or you can tap the "View current bookings" button to view and manage any spaces you have booked so far. [Figure 15]

Tap on the back button to return to the user homepage.

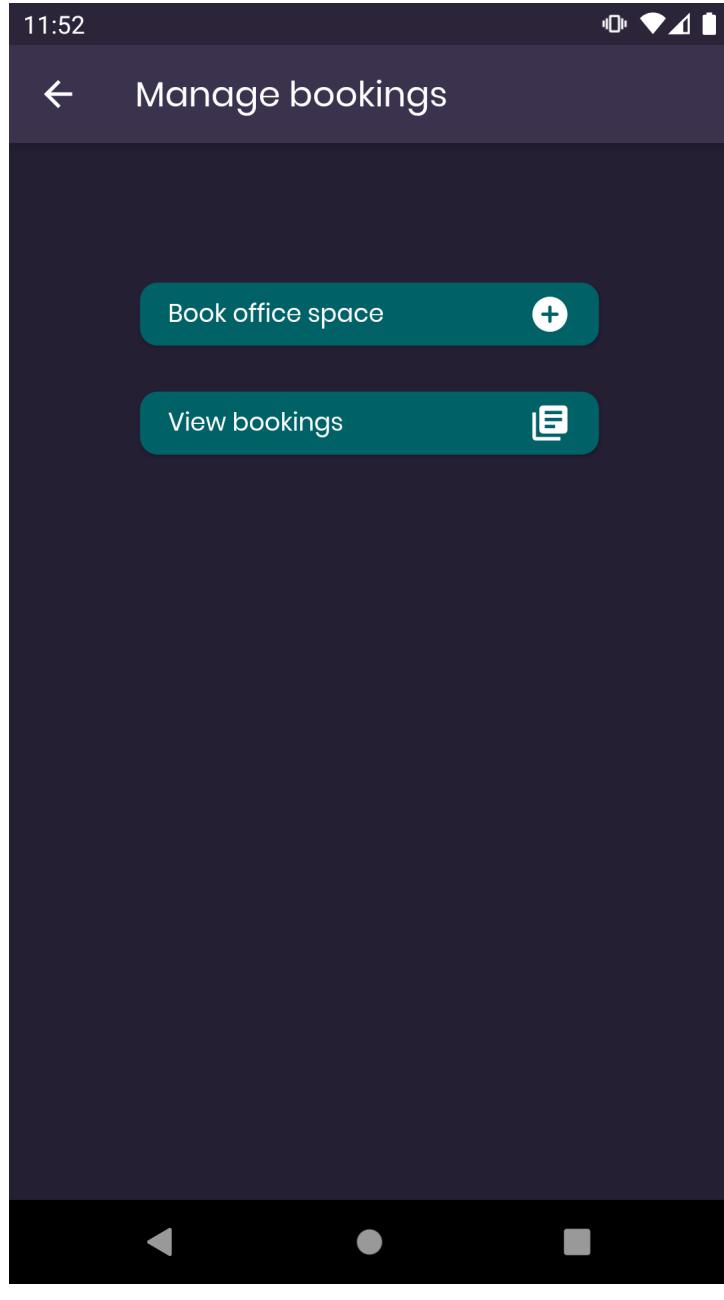


Figure 15: **Booking homepage**

#### 6.1.1 Book an office space

On this screen, you can view office spaces (floor plans) your company has created. If there are none, a message will be displayed to inform you. In that case, please contact your admins or wait for your company's floor plans to be registered. You can tap the back button to return to the booking homepage.

The first screen shows the list of floor plans registered to your company, including the number of floors in each floor plan. If there are no floor plans, you will be informed. [Figure 16]

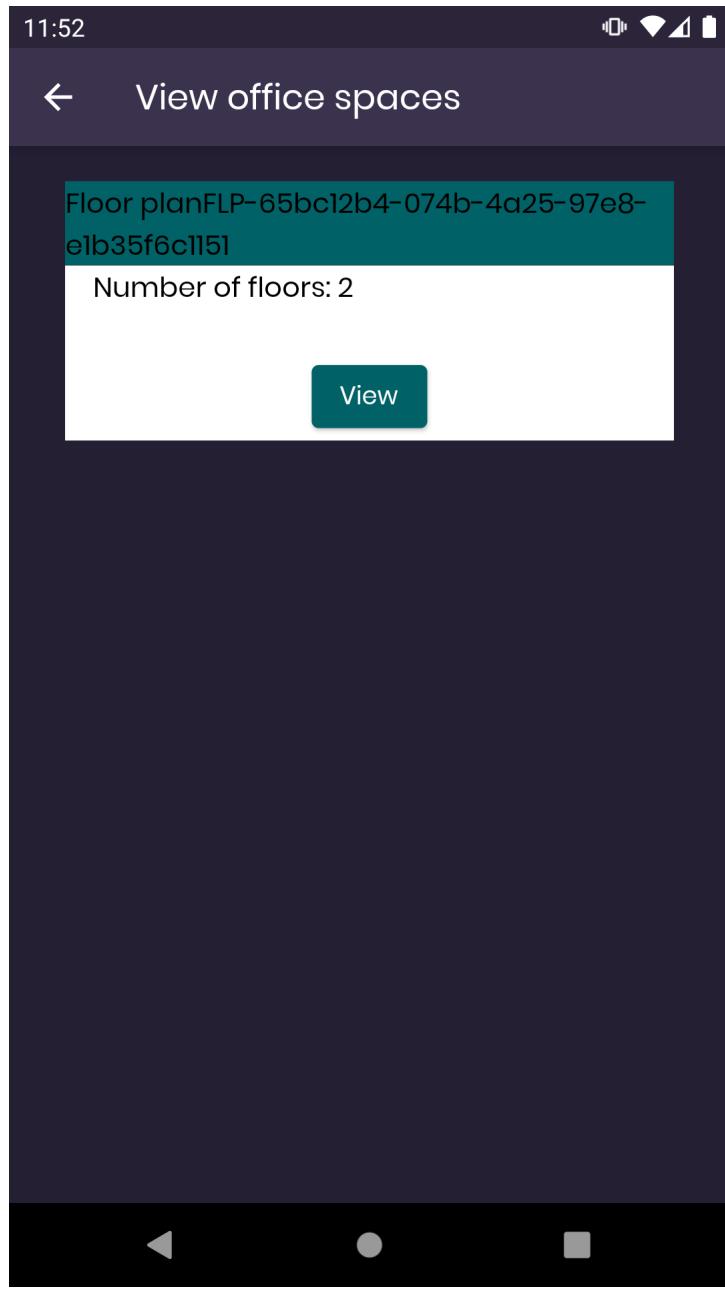


Figure 16: View available floor plans

Each space will be listed, showing the number of floors, the number of rooms, the maximum capacity of the building, and the current capacity. You can tap the "View" button on any of the floors to proceed. [Figure 17]

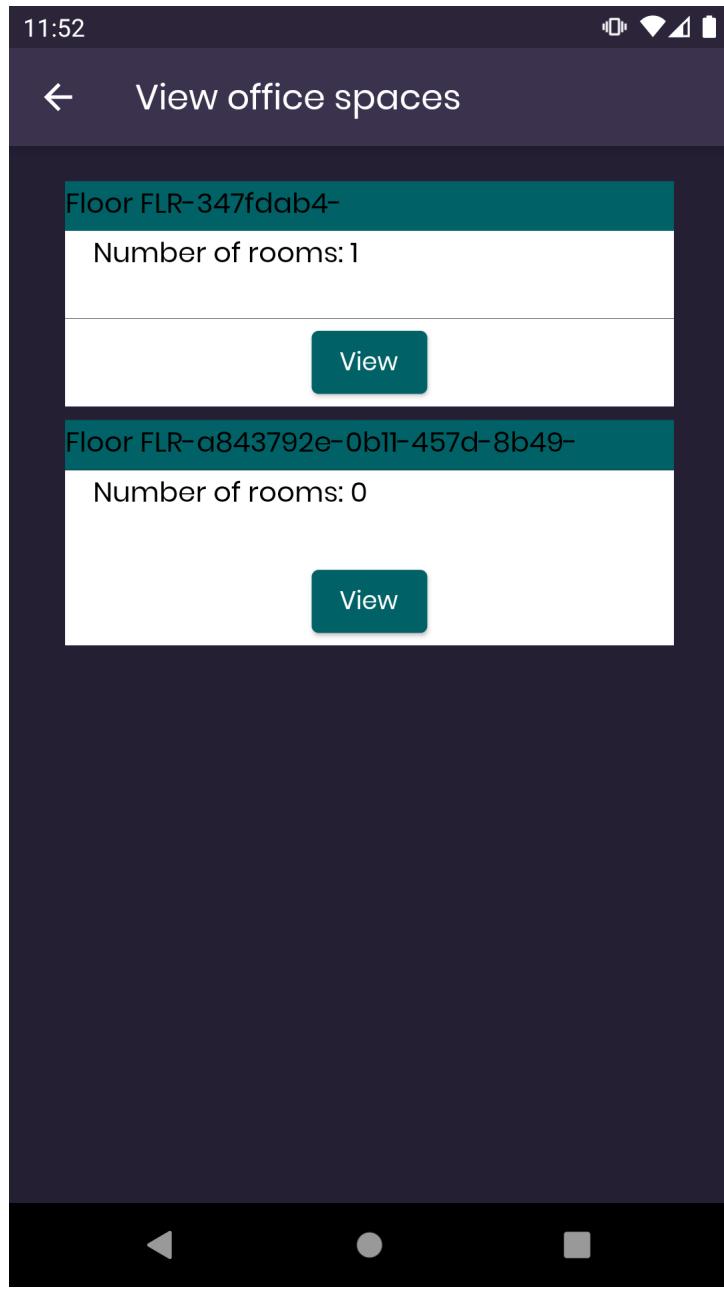


Figure 17: View available floors

Next, you will be shown a list of rooms that exist in the floor you selected, if they exist. If there are no rooms available, please contact your admins or wait for them to be added. You can tap on one of the "View" buttons as before, or tap on the back button to return to the previous page. [Figure 18]

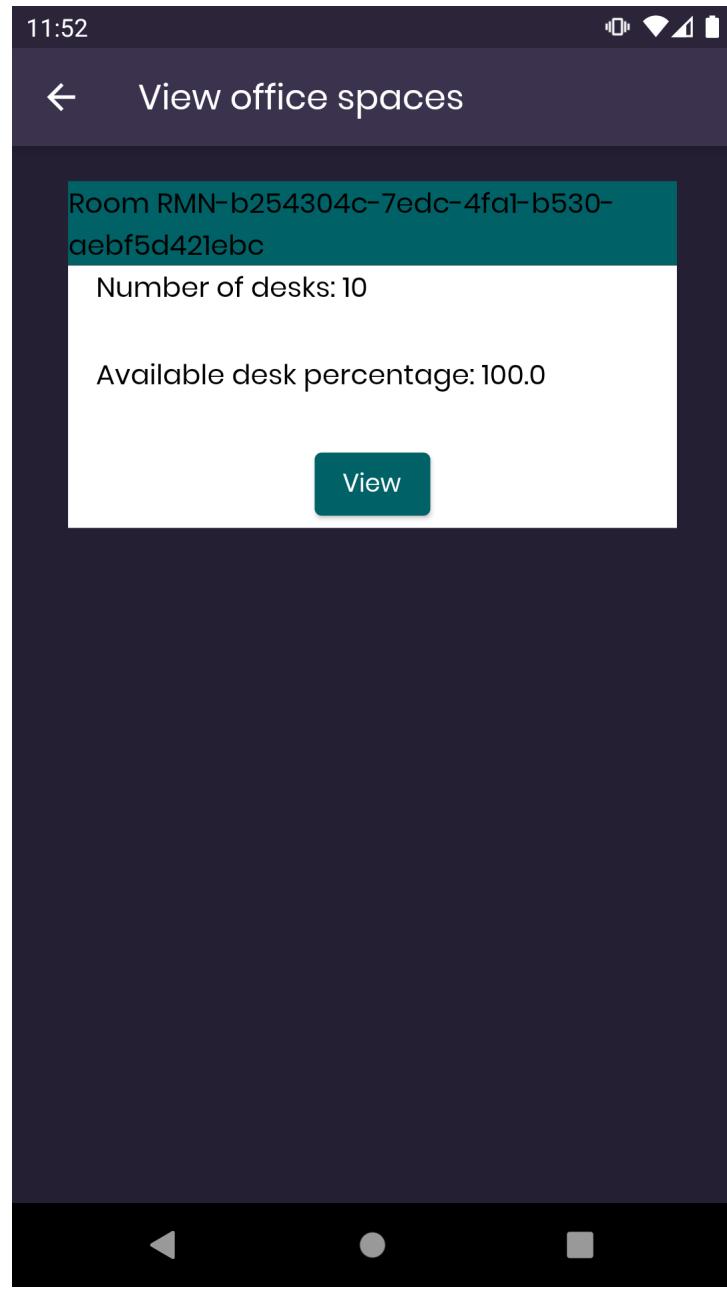


Figure 18: **View available rooms**

Next, you will be shown a list of available time slots that have been created for a particular room. Tap on the "View" button to book that time slot, or tap on the back button to return to the previous page. [Figure 19]

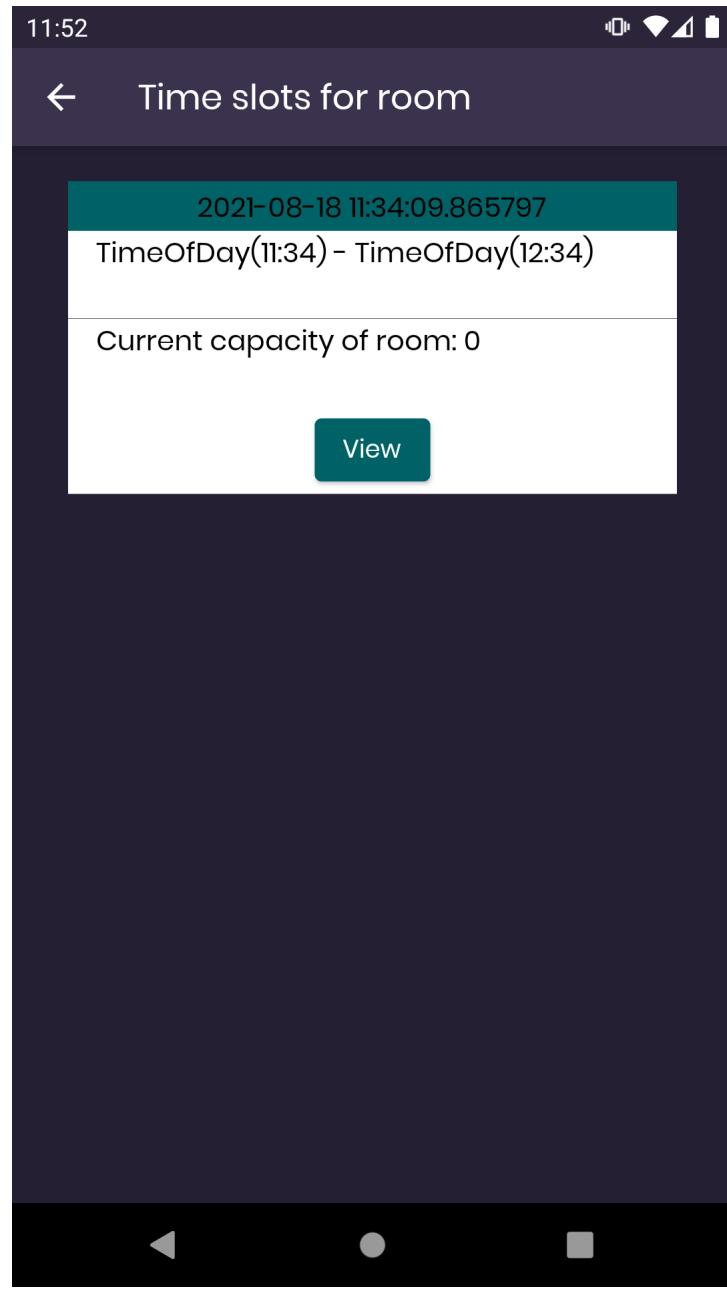


Figure 19: [View available shifts](#)

Finally, you will be shown a list of desks in that room. Tap on the "book" button on any of them to book the desk. [Figure 20]

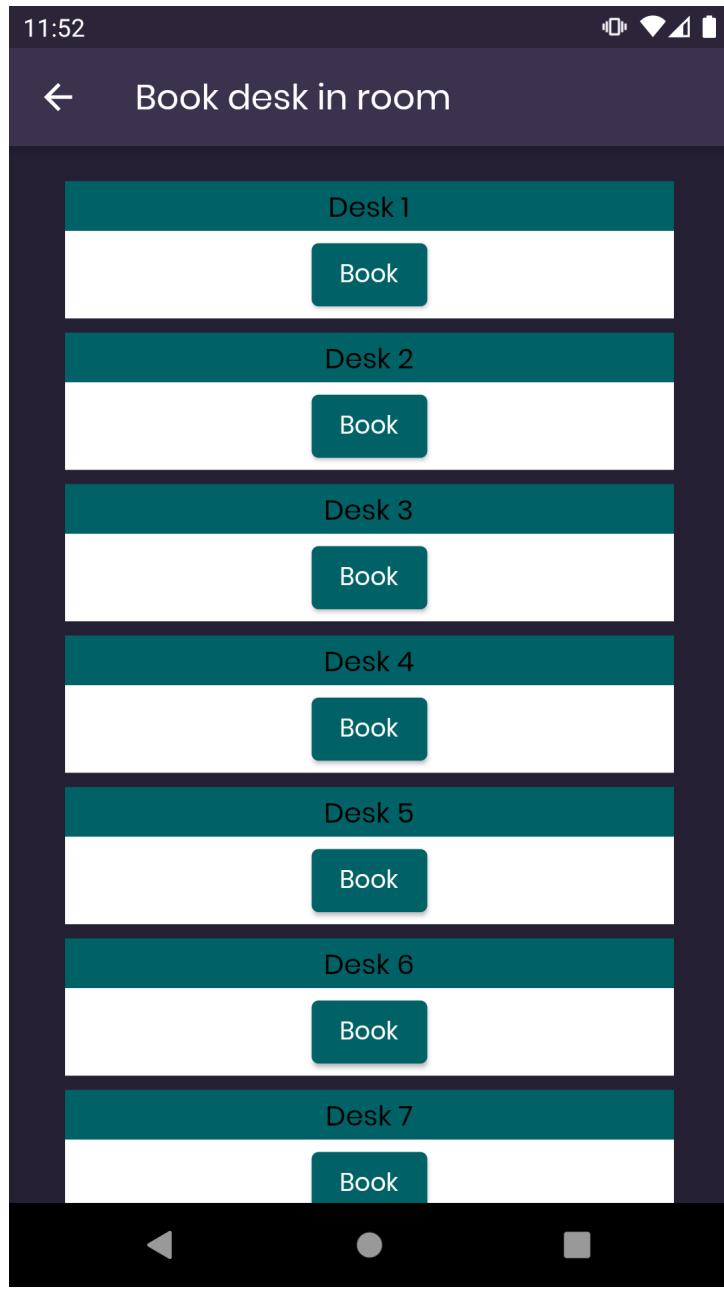


Figure 20: View available desks

#### 6.1.2 View current bookings

This screen will show your current bookings. It displays your username, the date you booked, and the space in the building you booked. [Figure 21]

You can tap the back button to return to the booking homepage.

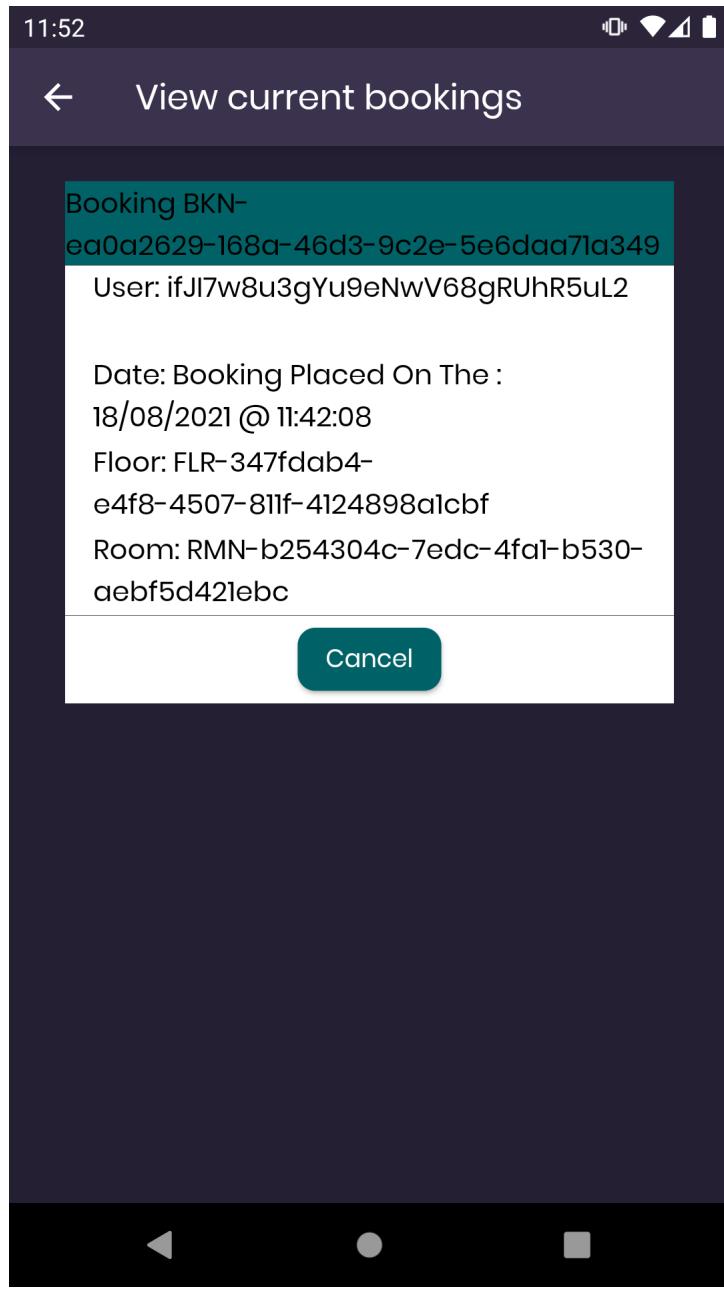


Figure 21: View current bookings

## 6.2 Health

This screen shows options available to you as a user to manage your health status within the company. You will be obliged to complete a health check before being allowed access to your company's office spaces. [Figure 22]

You can tap the back button to return to the user homepage.

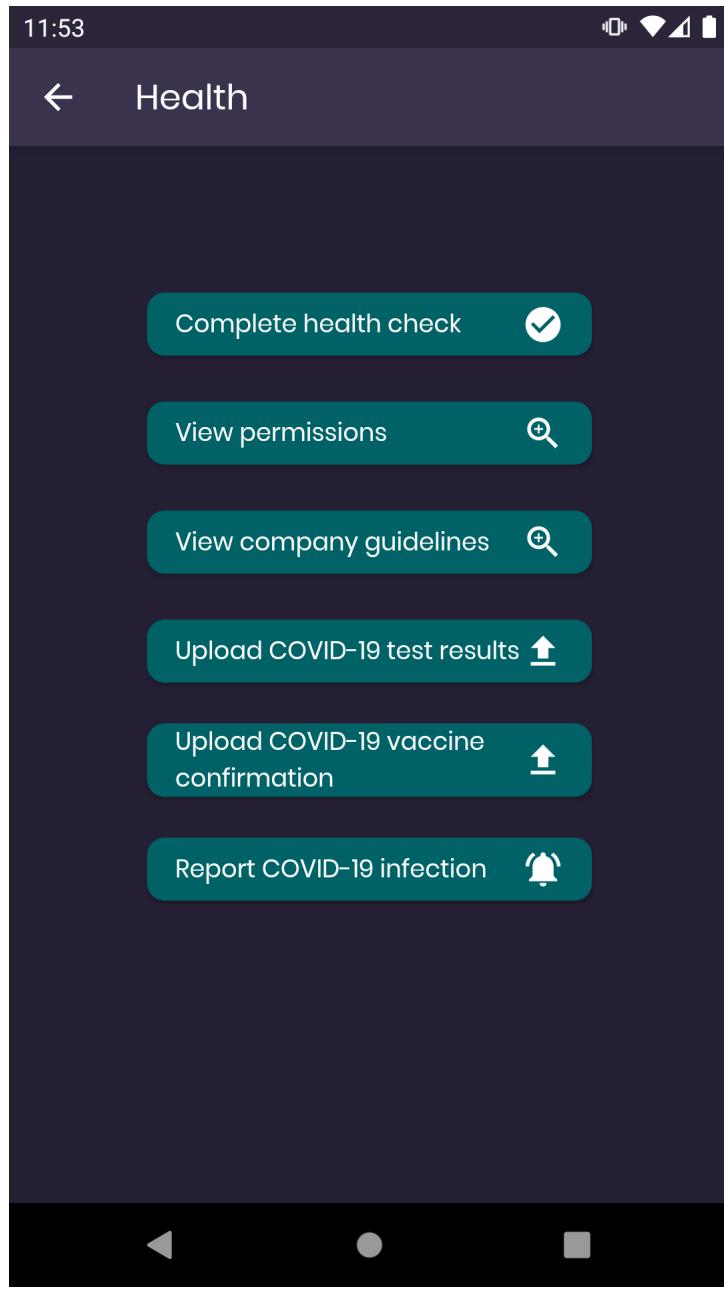


Figure 22: **User health homepage**

### 6.2.1 Complete health check

Here, you can complete a health questionnaire and submit it, which will then be sent to an AI for evaluation. You can then find your results in the "view permissions" page. [Figure 23]

You can tap the back button to return to the health homepage.

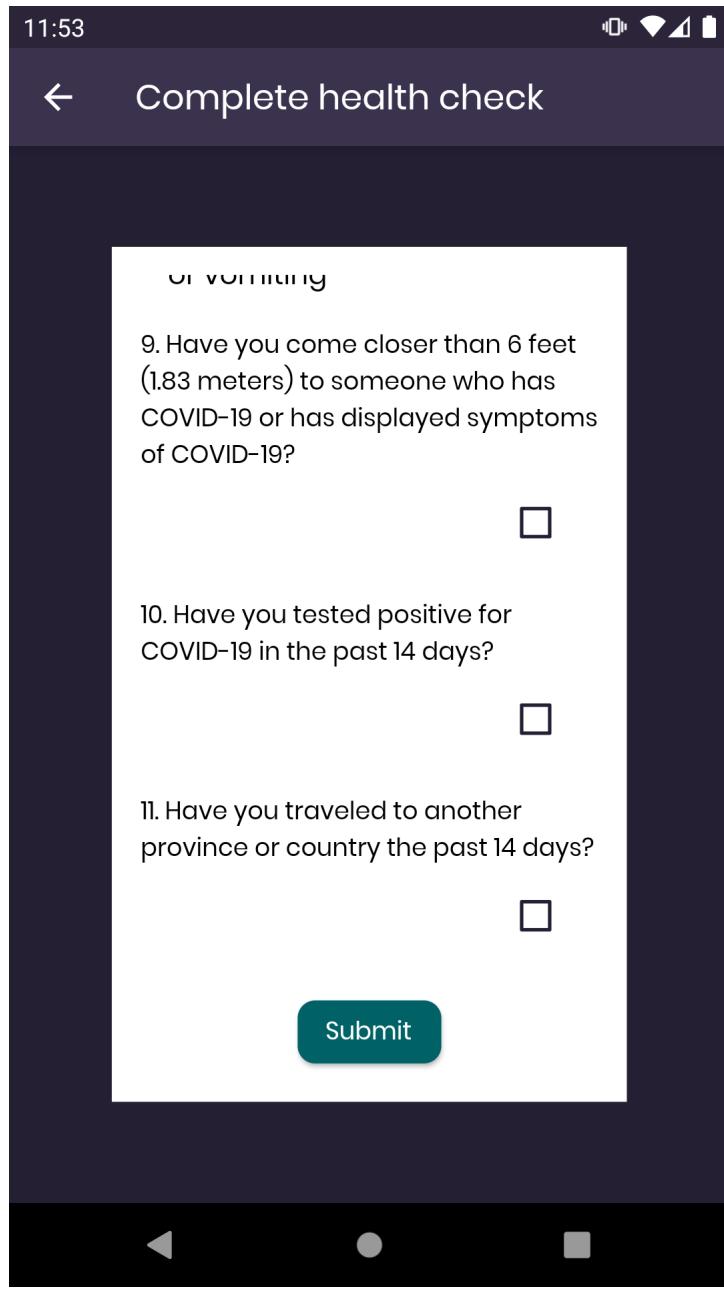


Figure 23: Complete a health check

#### 6.2.2 View permissions

On this page, you can view any permissions that have been assigned to you. If your access to the building was denied, you can request access from your admins by tapping the "request access" button. [Figure 24]

You can tap the back button to return to the health homepage.

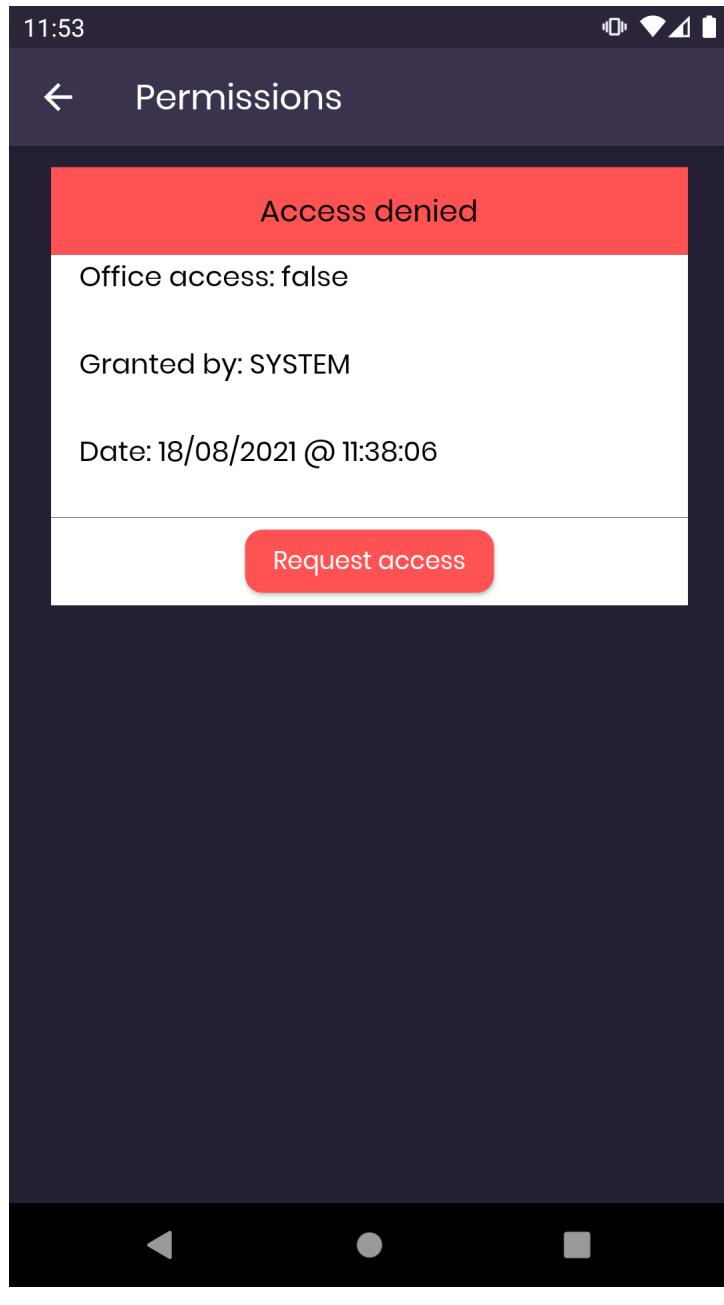


Figure 24: View your permissions

### 6.2.3 View company guidelines

On this page, you can view your company's health guidelines. This will detail the procedures to follow for your particular company with regards to how often a health check should be completed, how the permission process will work, and so on. [Figure 25]

You can tap the back button to return to the health homepage.

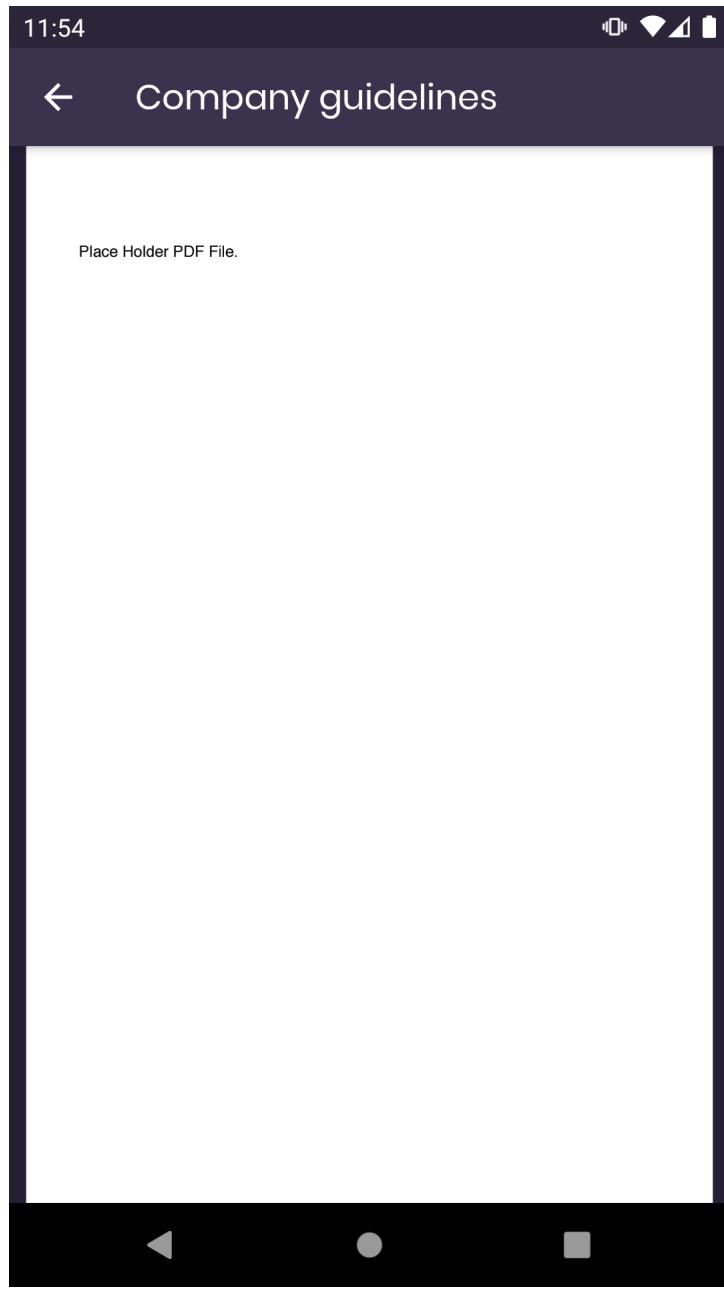


Figure 25: [View health guidelines](#)

#### 6.2.4 Upload COVID-19 test results

On this page, you can upload your COVID-19 test results, where applicable. [Figure 26]

You can tap the back button to return to the health homepage.

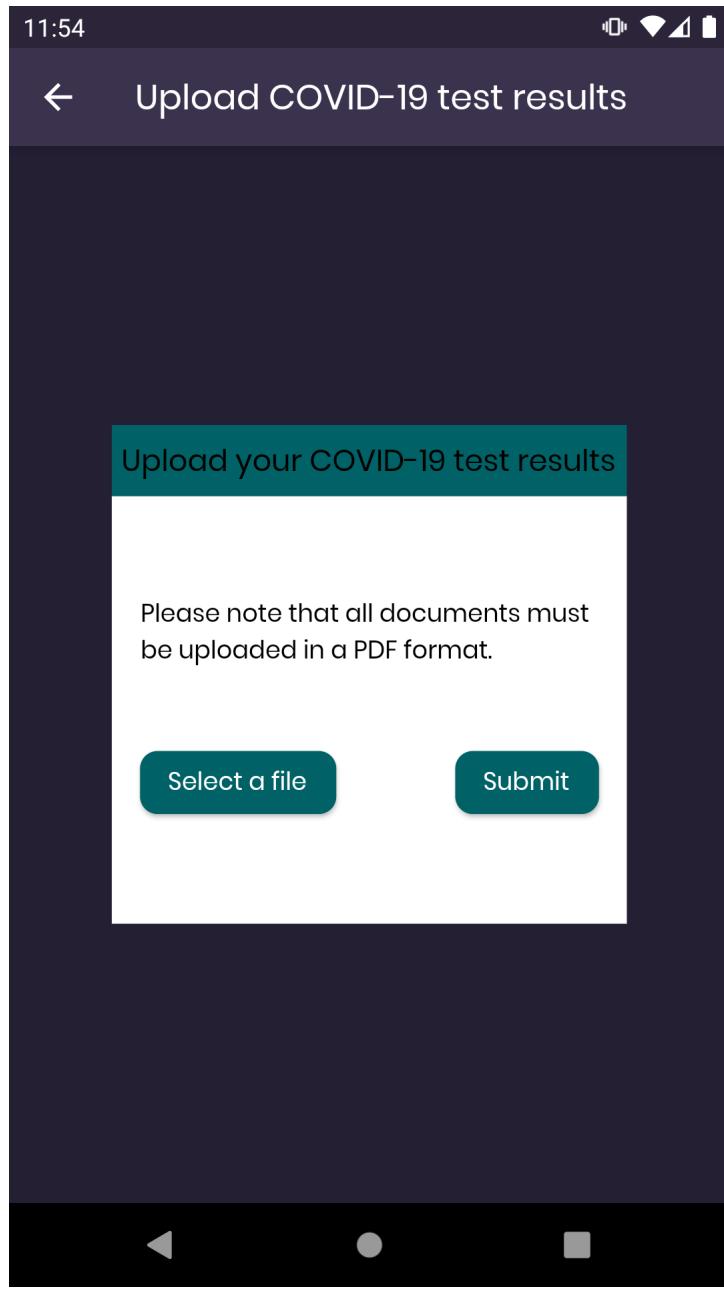


Figure 26: Upload COVID-19 test results

#### 6.2.5 Upload COVID-19 vaccine confirmation

On this page, you can upload your COVID-19 vaccine confirmation, where applicable. [Figure 27]

You can tap the back button to return to the health homepage.

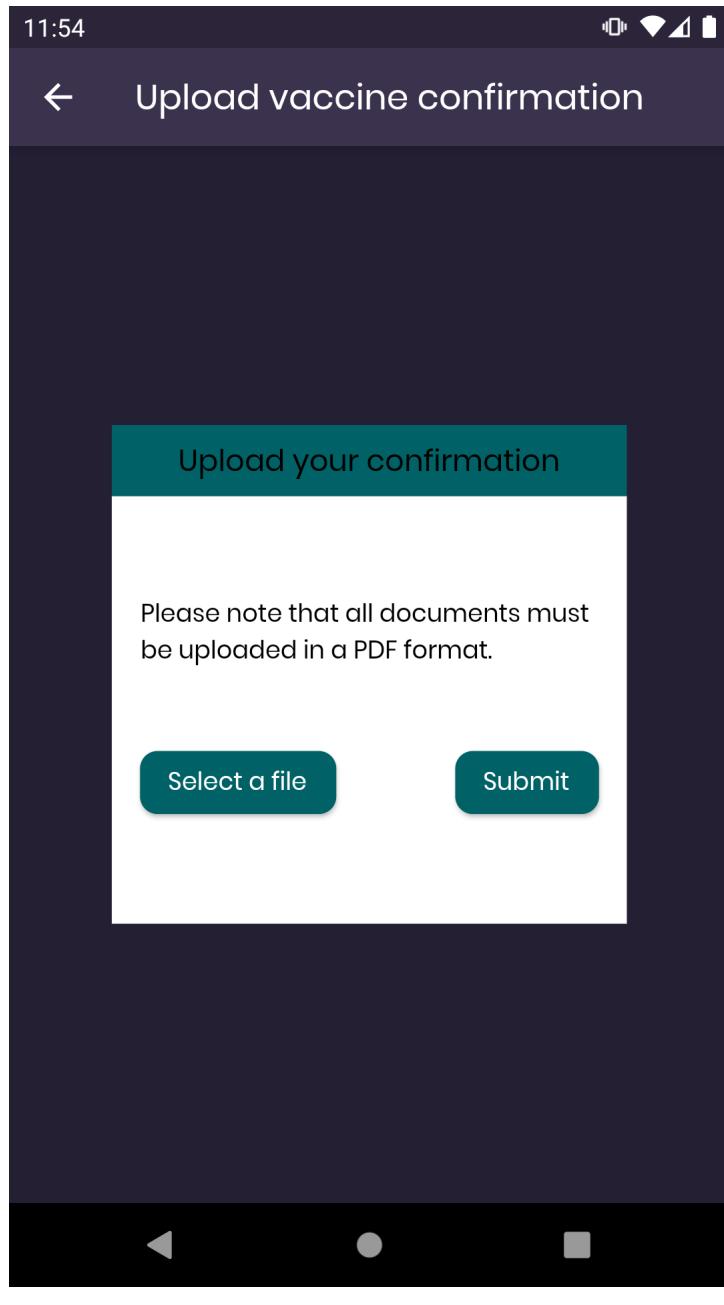


Figure 27: Upload COVID-19 vaccine confirmation

#### 6.2.6 Report COVID-19 infection

On this page, you can report if you believe you were infected with COVID-19, which will alert your company's admins. [Figure 28]

You can tap the back button to return to the health homepage.

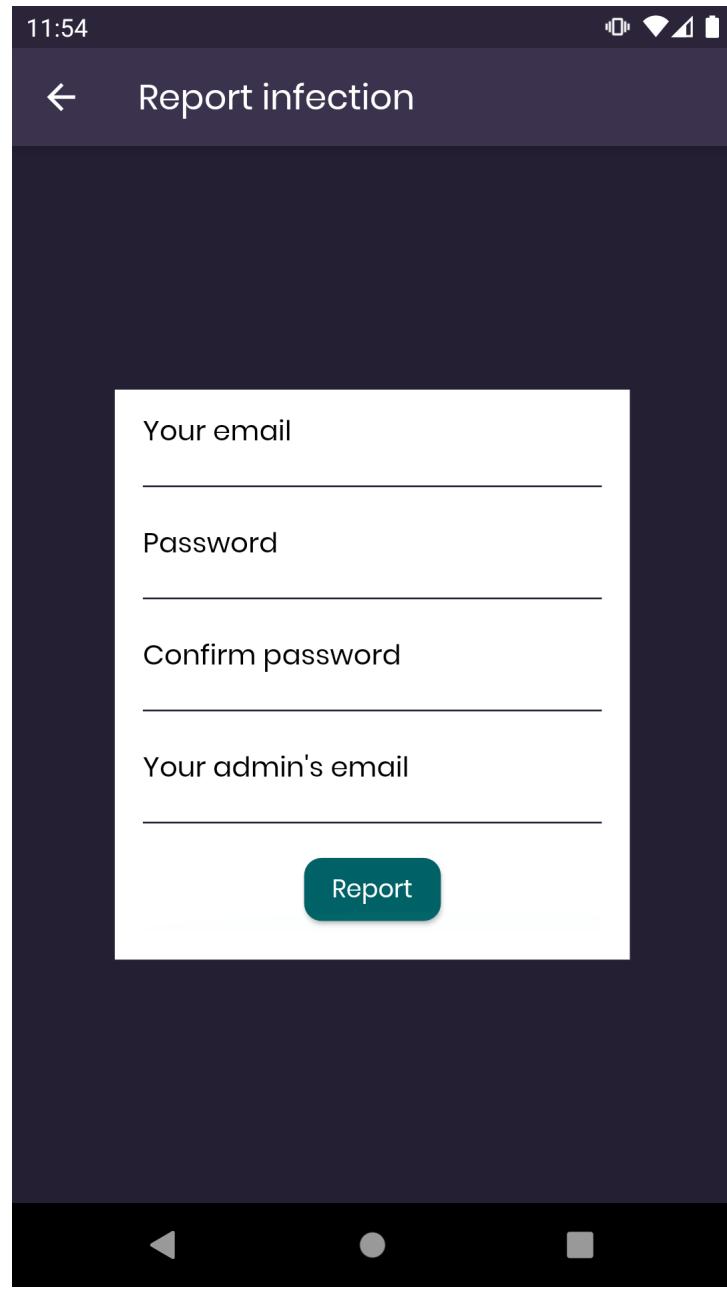


Figure 28: Report COVID-19 infection

### 6.3 Announcements

This screen will show announcements your company admins have made in a list format. Each list item shows the announcement type (general or emergency), date and message. [Figure 29]

You can tap the back button to return to the user homepage.

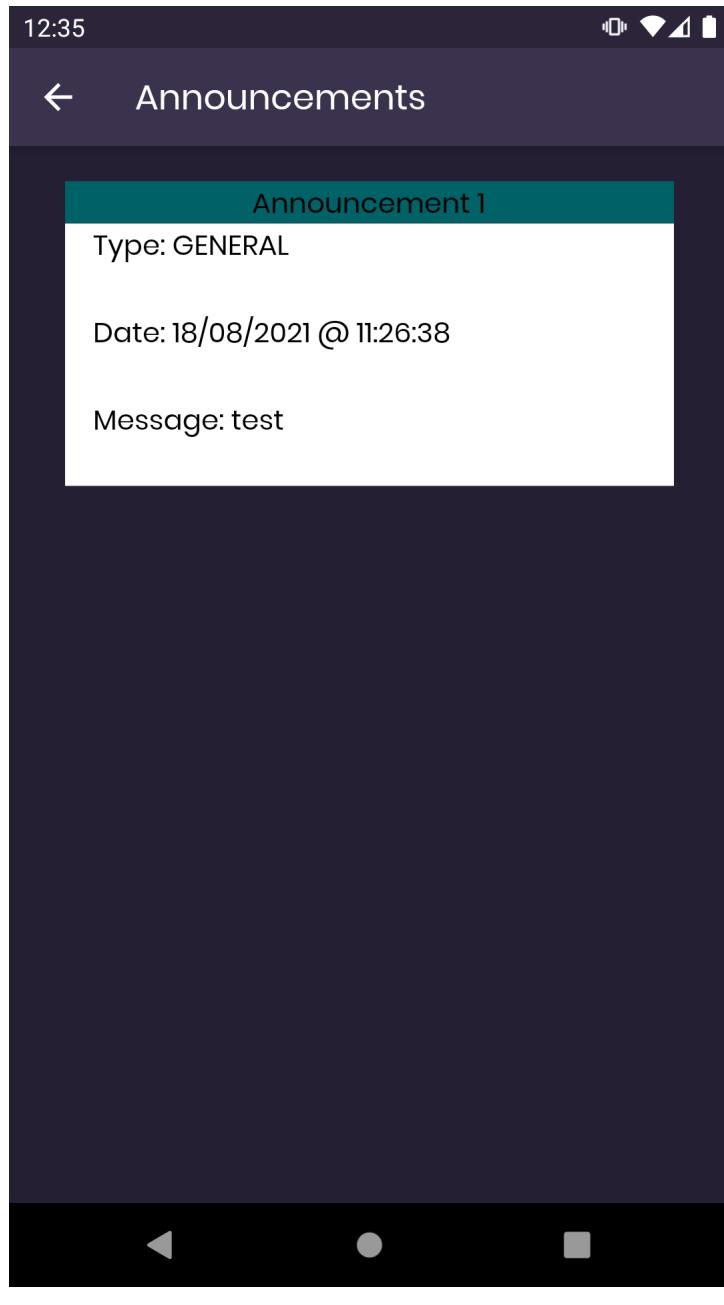


Figure 29: View company announcements

## 6.4 Notifications

This screen will show notifications a company admin has sent to you, specifically. Each list item shows the notification sender, date, and message. You can tap on one of the "Dismiss" buttons to dismiss a notification, or on the "Clear notifications" button to dismiss all of them. [Figure 30]

You can tap the back button to return to the user homepage.

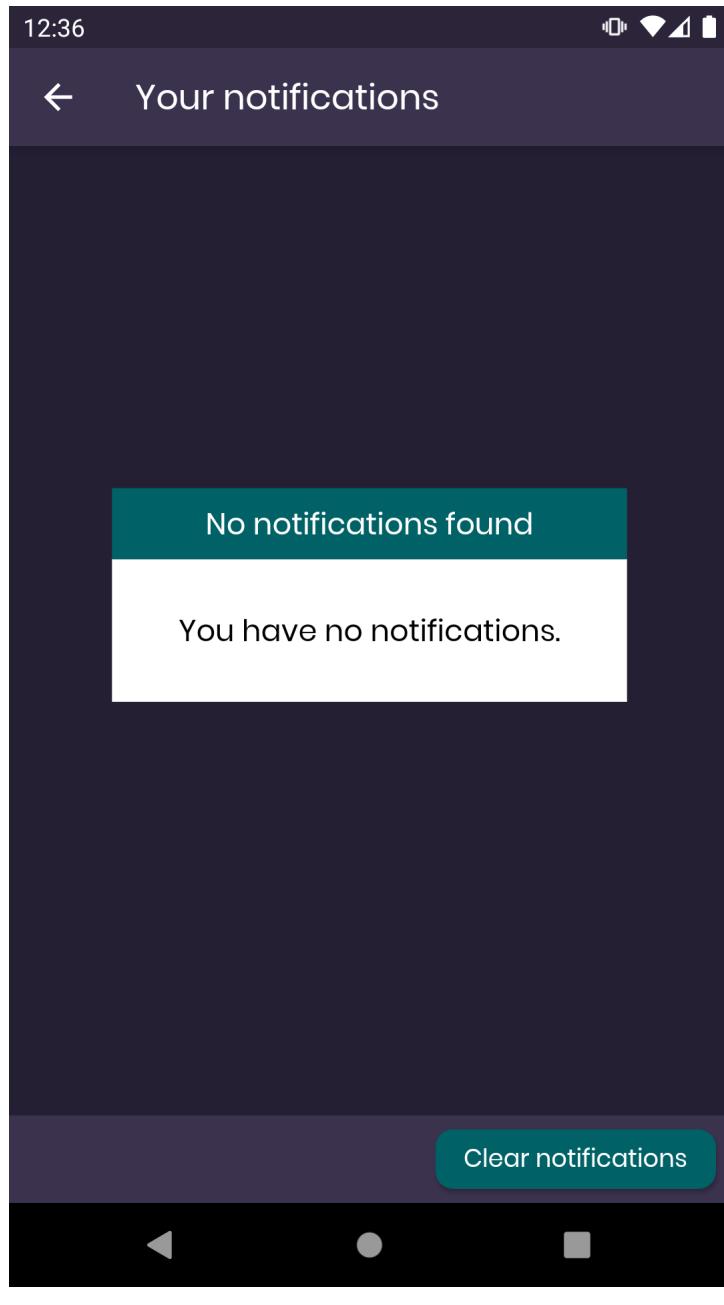


Figure 30: [View your notifications](#)

## 6.5 Manage account

On this screen, you can choose to update your account credentials (email, username, etc.), reset your password, or delete your account. [Figure 31]

You can tap the back button to return to the user homepage.

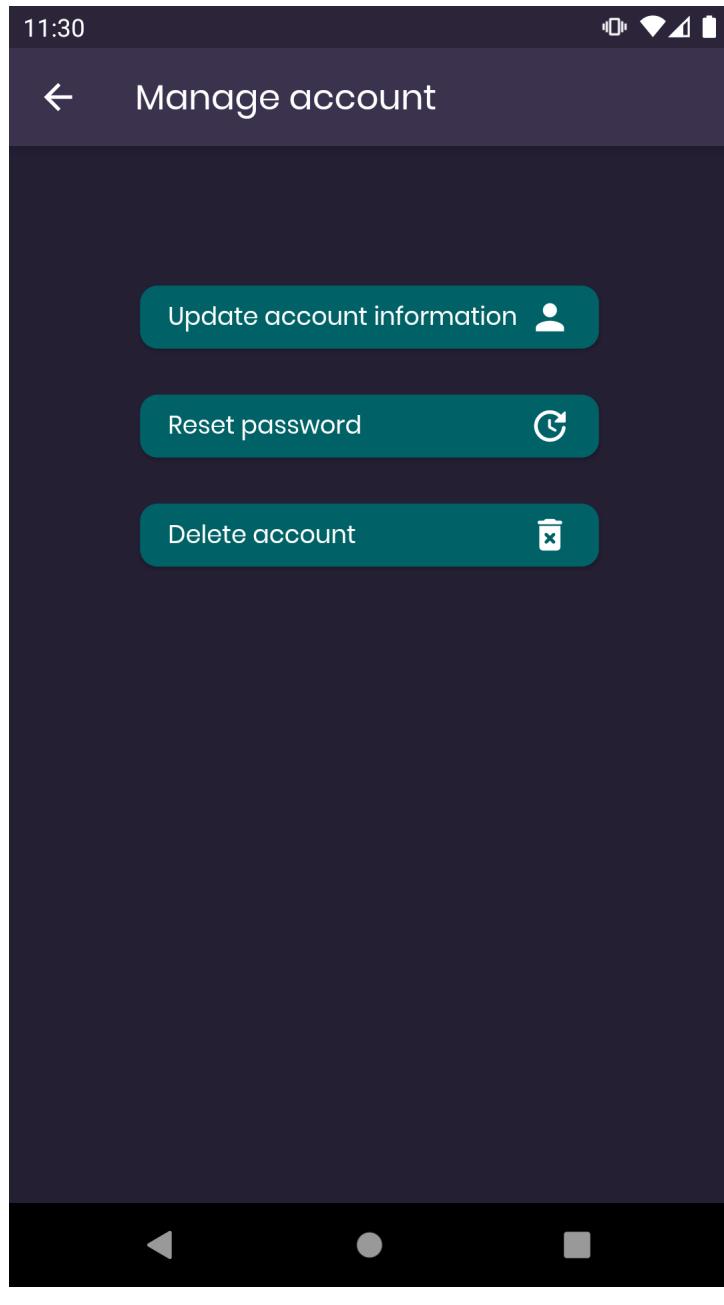


Figure 31: User manage account

#### 6.5.1 Update account information

On this screen, you can update your account information, such as your name or email address. You are also required to enter your current password and confirm that you allow these changes to be made. [Figure 32]

You can tap the back button to return to the manage account screen.

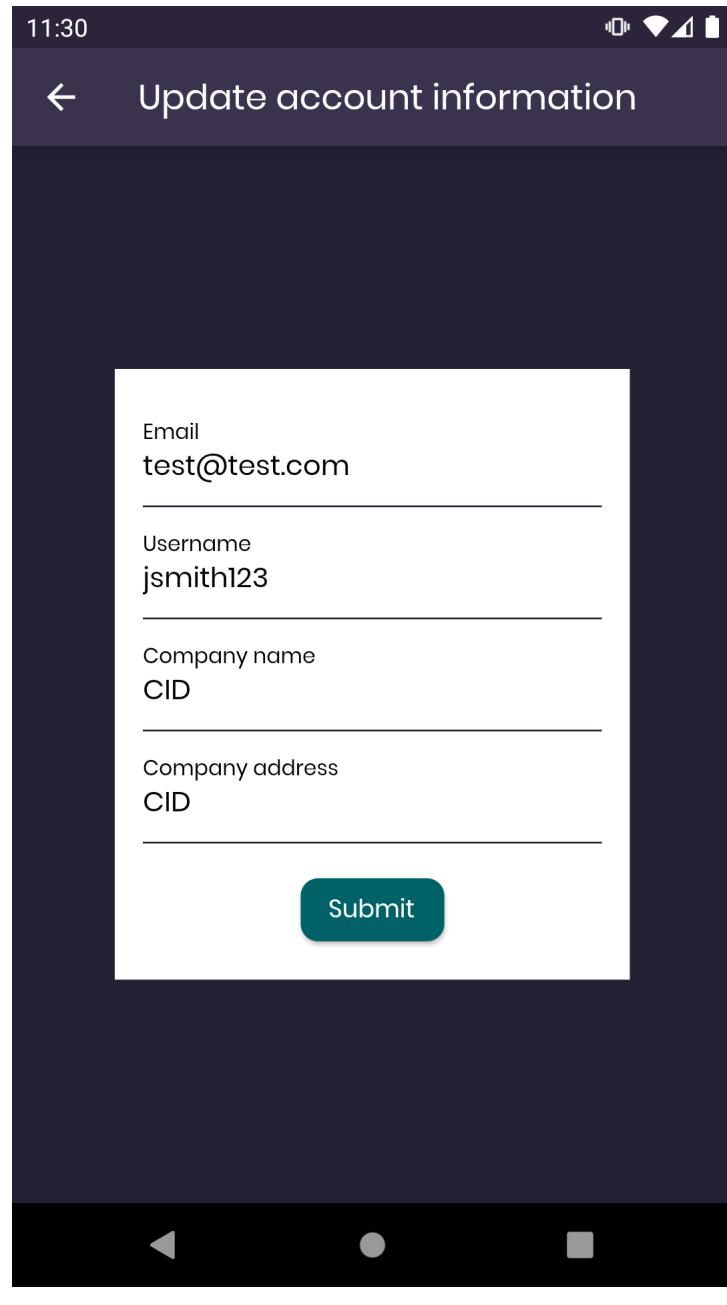


Figure 32: Update account information

#### 6.5.2 Reset password

To reset your password, enter the email address you registered with, and tap "Reset password". An email will then be sent to you, containing instructions on how to reset your password. [Figure 33]

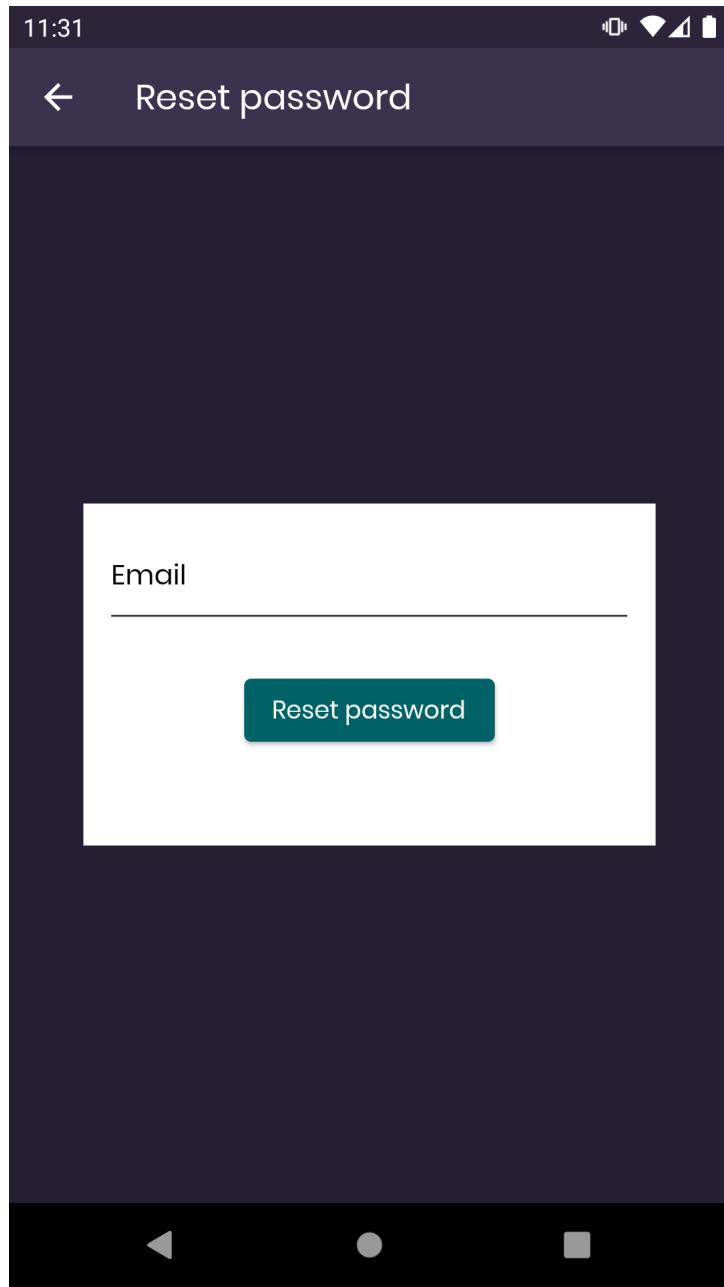


Figure 33: **Reset password** screen

#### 6.5.3 Delete account

To delete your account, enter your email, password, and company ID. A dialog box will pop up to confirm whether you really want to delete your account or not. Please note that this operation is **not reversible** if you choose to go through with it. After your account is deleted, you will be returned to the login screen. [Figure 34]

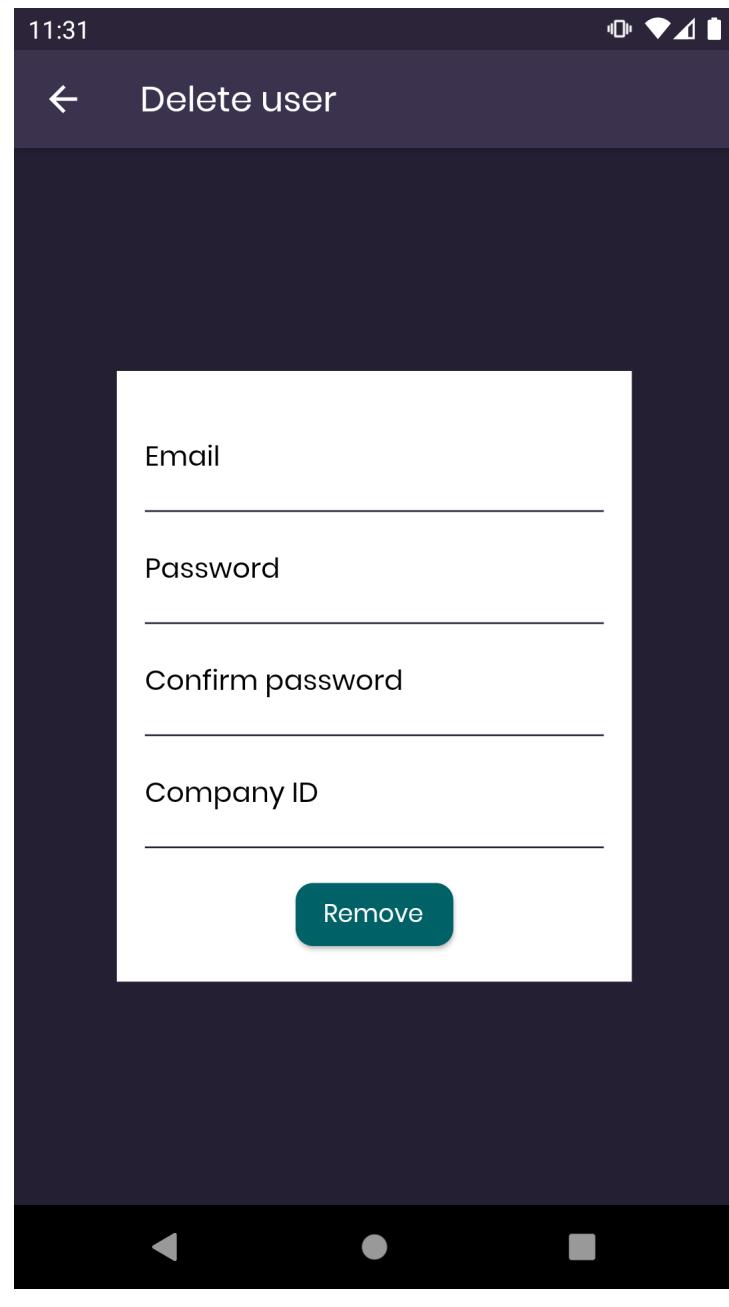


Figure 34: Delete account screen

## 7 Admin homepage

On the admin homepage, you are also given a selection of buttons, which will take you to different parts of the app, all of which are explained in the sections below. [Figure 35] You can also open the sidebar by tapping the button at the top left of the screen (or by swiping in from the left side of the screen). In the sidebar, you can manage announcements, manage notifications, manage your account, and log out. [Figure 36]

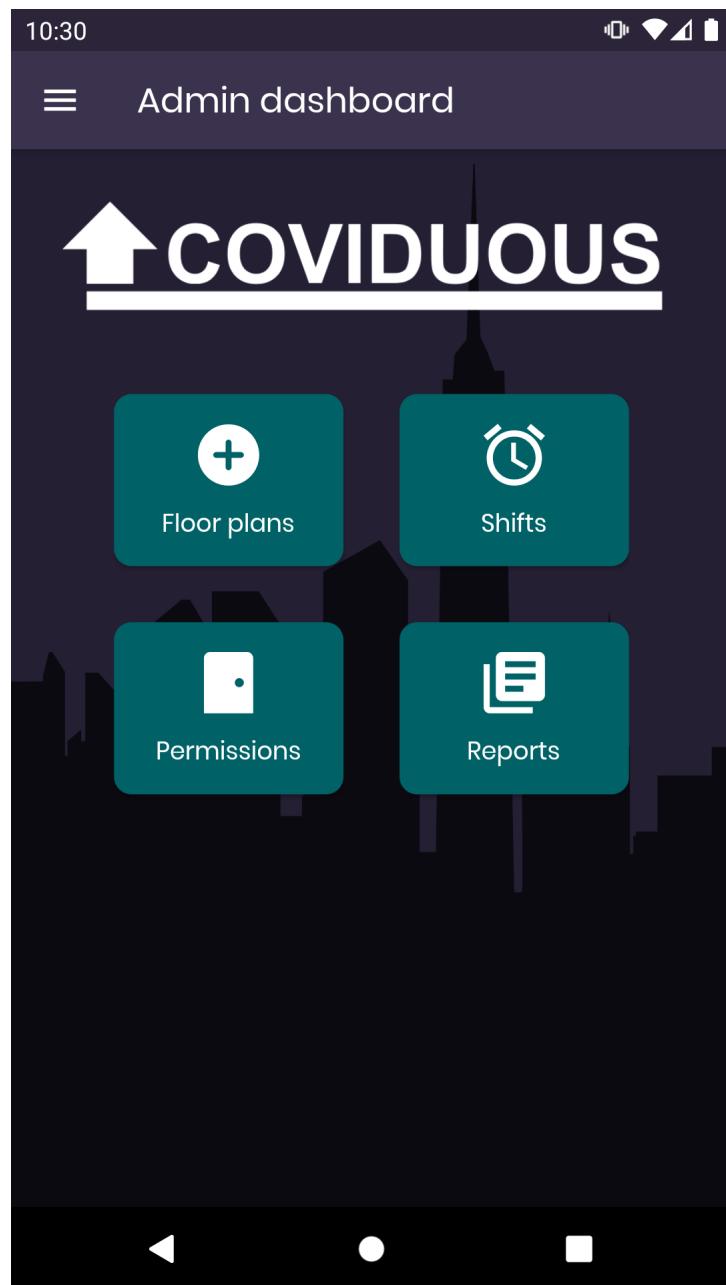


Figure 35: Admin homepage

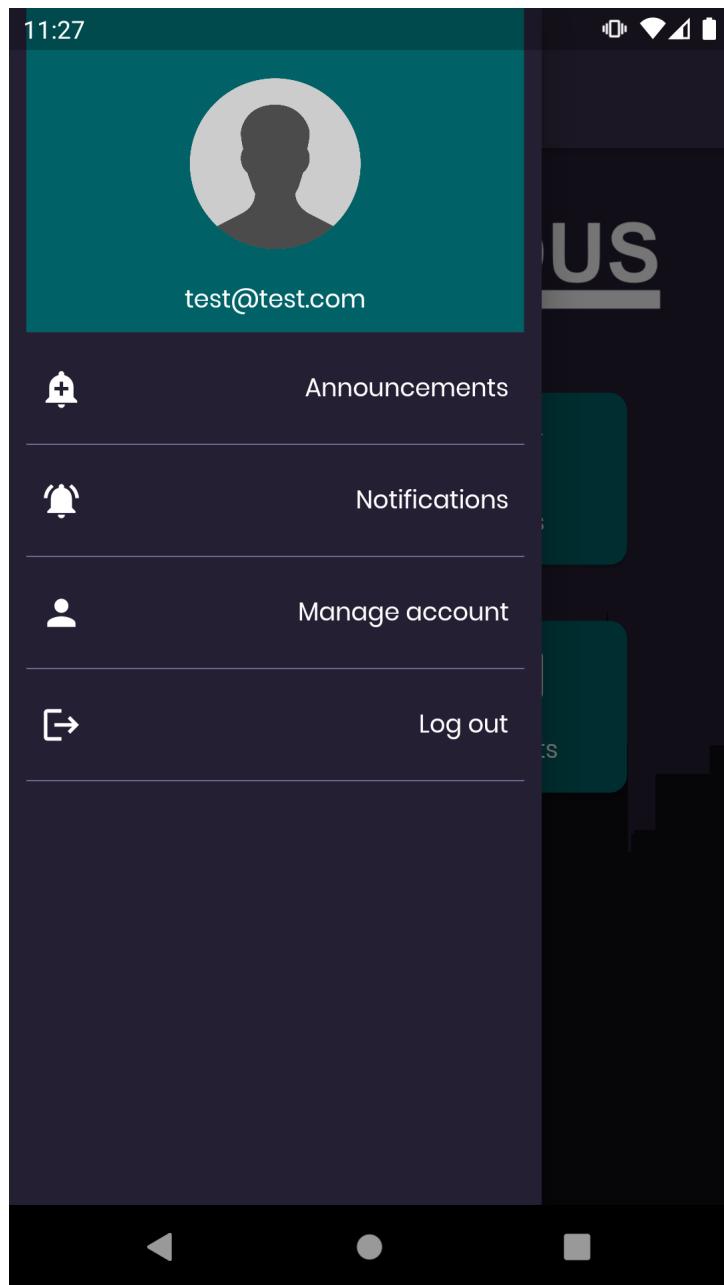


Figure 36: Admin homepage sidebar

## 7.1 Floor plans

Here, you will be given a selection of buttons that will allow you to either create a floor plan, modify a floor plan, or delete a floor plan. [Figure 37]

You can tap the back button to return to the admin homepage.

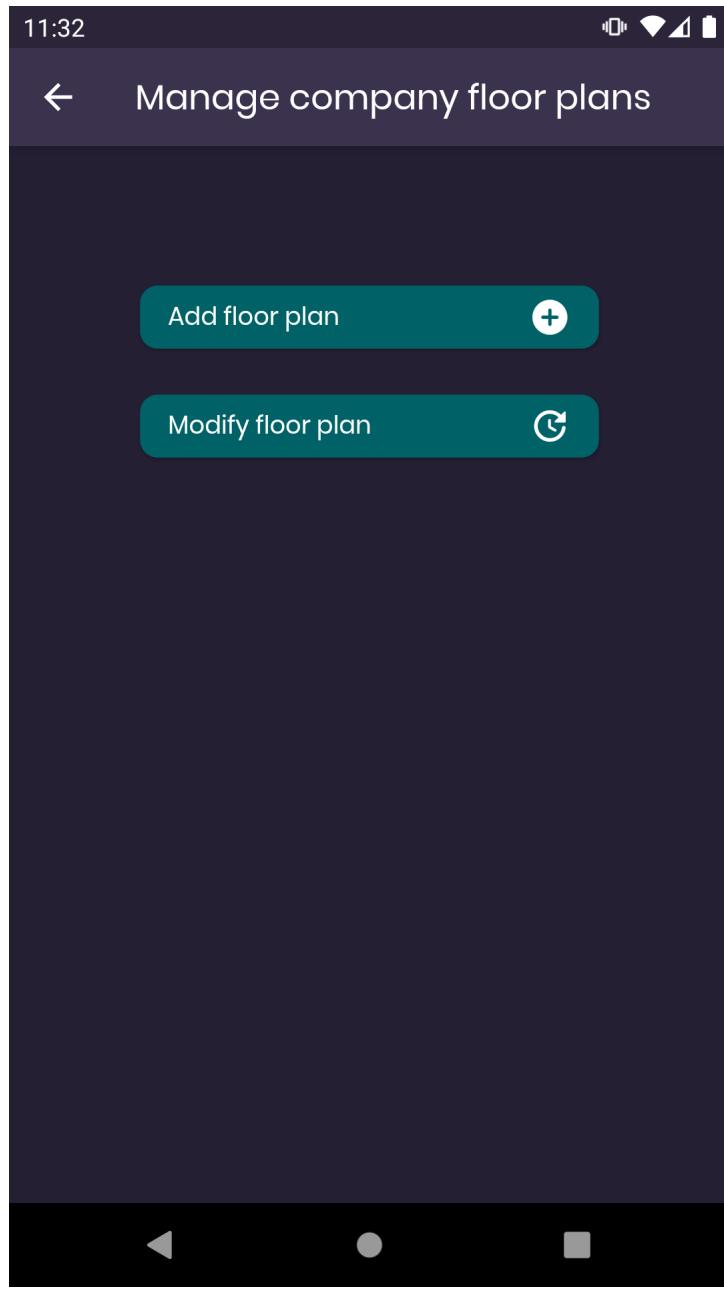


Figure 37: Floor plan homepage

### 7.1.1 Add floor plan

On this screen, you can add a new floor plan to your company through which employees can book. Enter the number of floors to generate a new floor plan. [Figure 38]

You can tap the back button to return to the floor plan homepage.

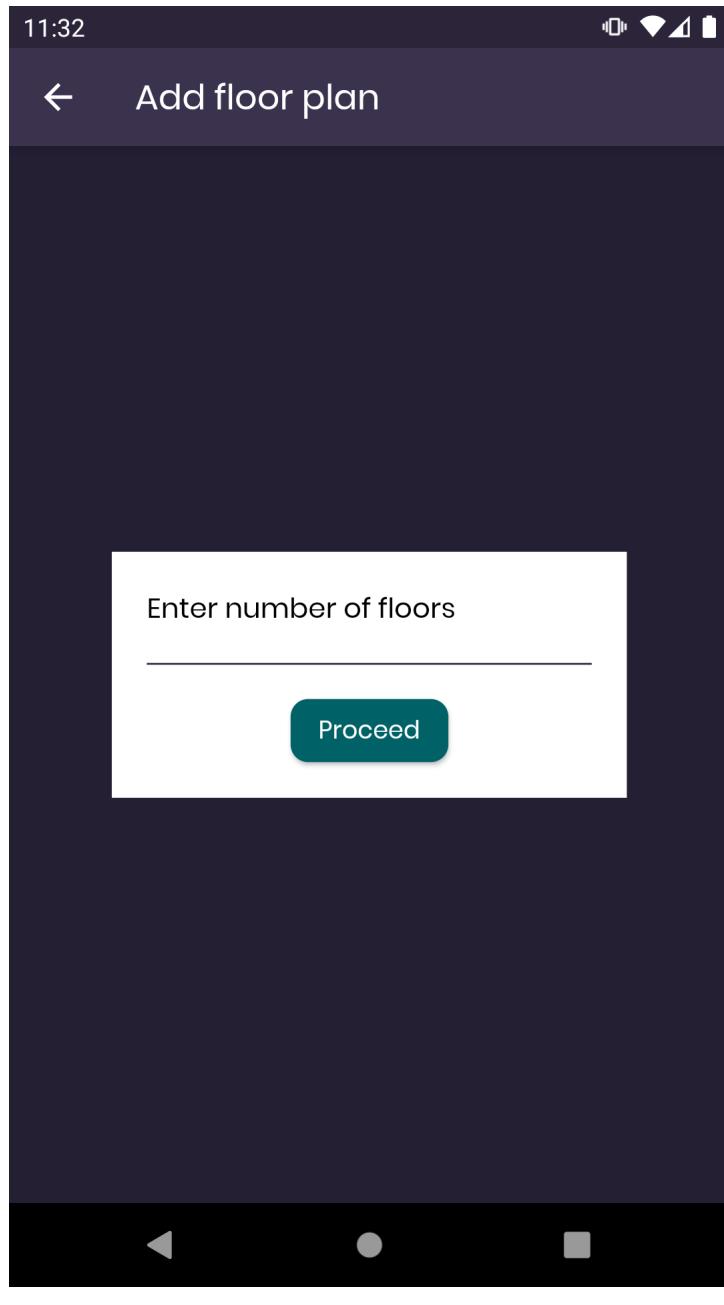


Figure 38: Add a floor plan

Next, you will be shown the list of floor plans that were generated. They all start off with no floors assigned to them. You can tap on one of the "Edit" buttons to edit a particular floor plan, or a "Delete" button to remove that floor plan. [Figure 39]

You can also tap the back button to return to the previous screen.

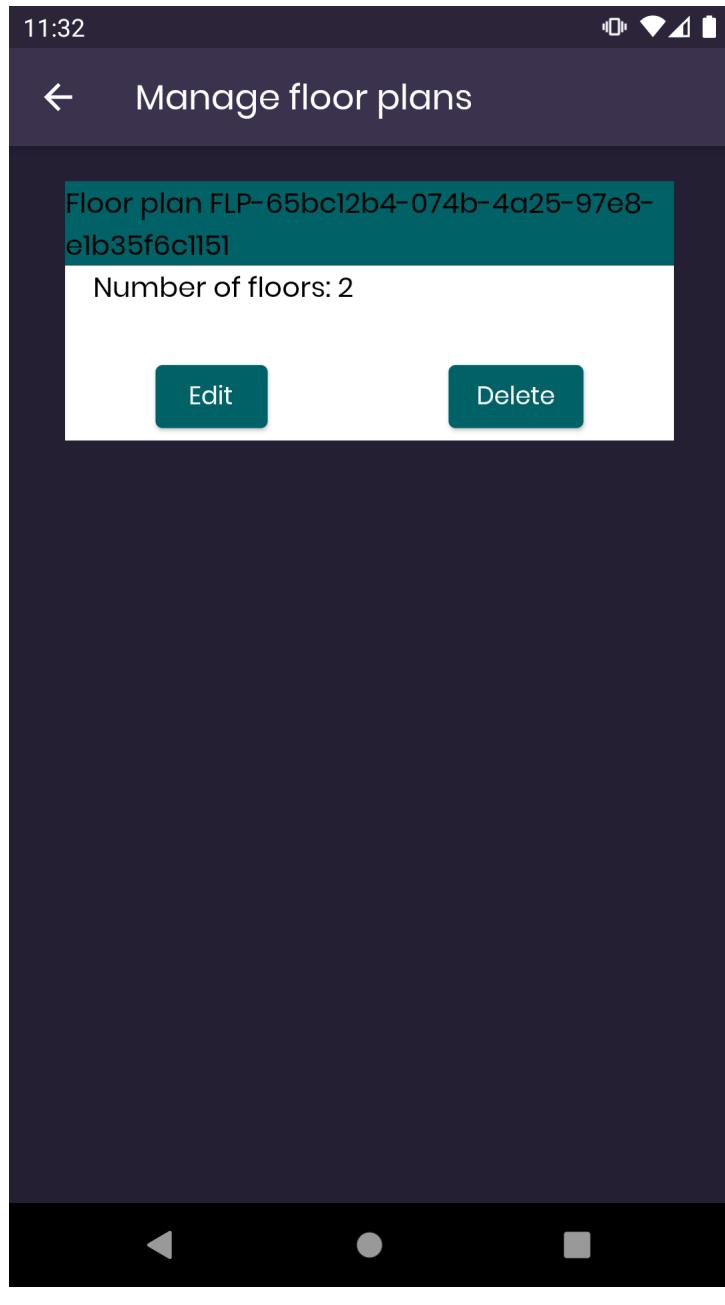


Figure 39: **Modify floor plans**

If you tap on "Edit", you will be shown a list of floors assigned to the floor plan, if they exist. You can tap on one of the "Edit" buttons to edit a particular floor, a "Delete" button to remove that floor, or "Add floor" to add a floor to the floor plan. [Figure 40]

You can also tap the back button to return to the previous screen.

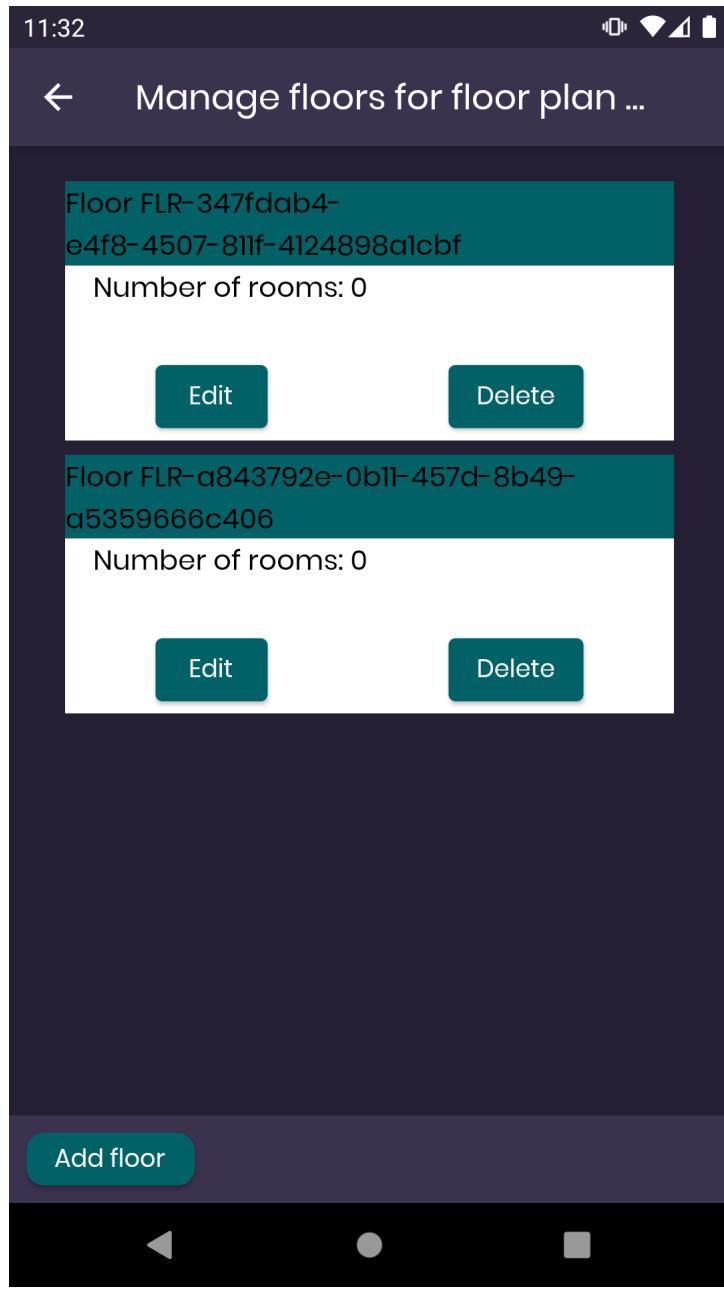


Figure 40: Modify floors

If you tap on "Edit", you will be shown a list of rooms assigned to the floor, if they exist. Like the previous screen, you can add, edit or delete rooms. [Figure 41]

You can also tap the back button to return to the previous screen.

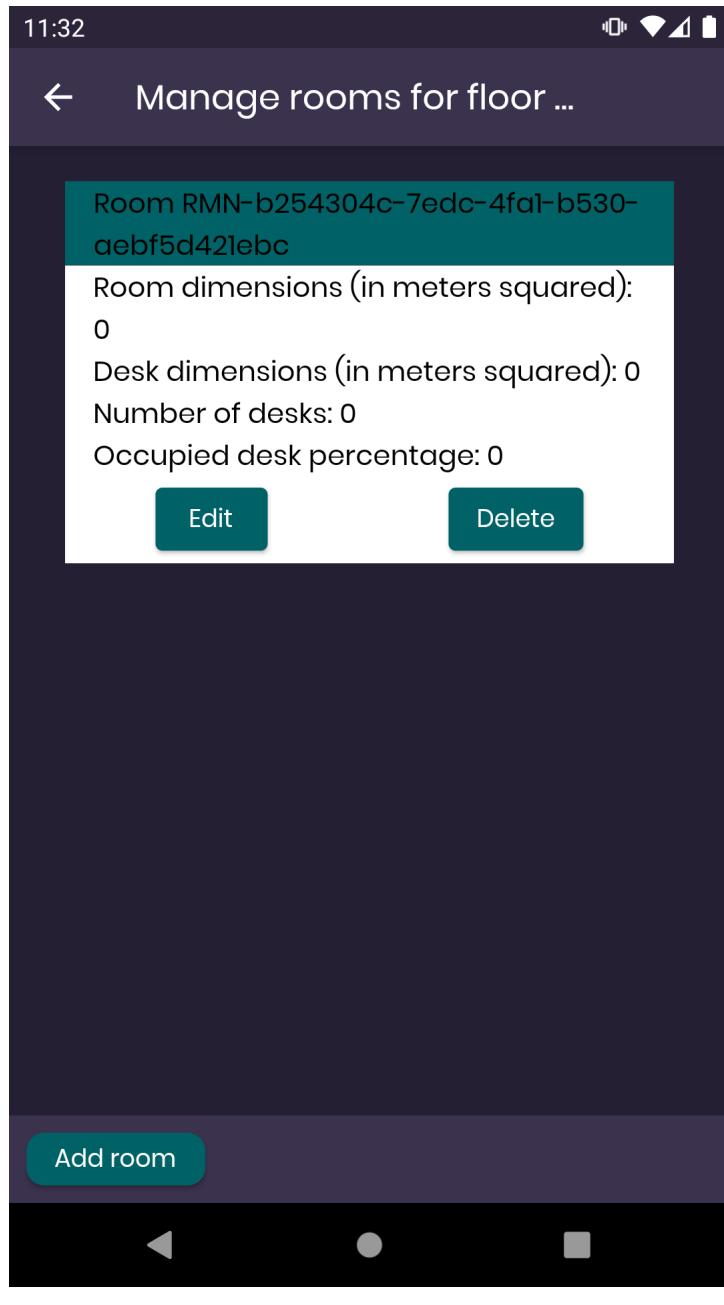


Figure 41: Modify rooms

If you tap on "Edit", you can edit a room's details, such as its number or name, its area, and information relating to the desks inside it. You will be prevented from saving the room's details if the room area, desk area, number of desks, or maximum capacity are zero (0), or if the room number is blank. [Figure 42]

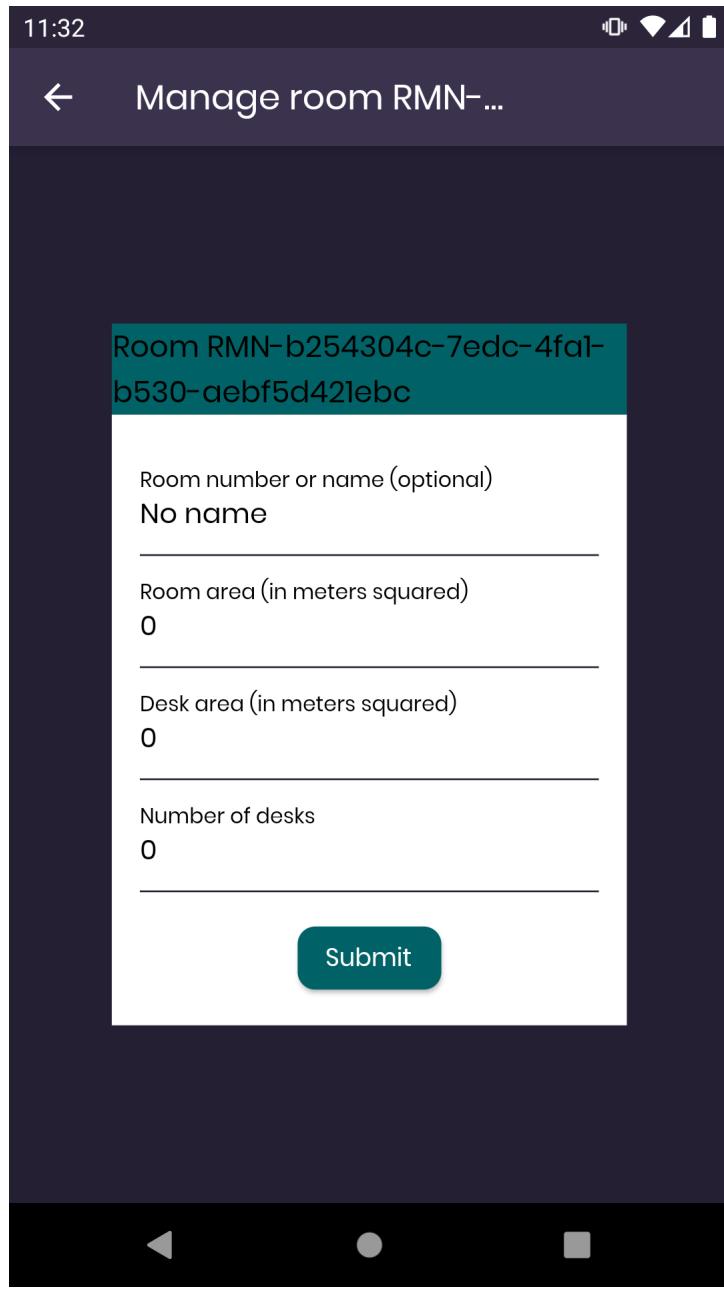


Figure 42: Edit room details

### 7.1.2 Modify floor plan

This section functions similarly to the add floor plan section, in that you are shown a list of floors and rooms to navigate through and edit. All of the screens look identical, but the extra step of creating a floor plan is not present.

## 7.2 Shifts

On this screen, you have the options to either create a shift or view current shifts you have created. A shift is a time slot in which an employee has been assigned to work. [Figure 43]

You can also tap the back button to return to the admin homepage.

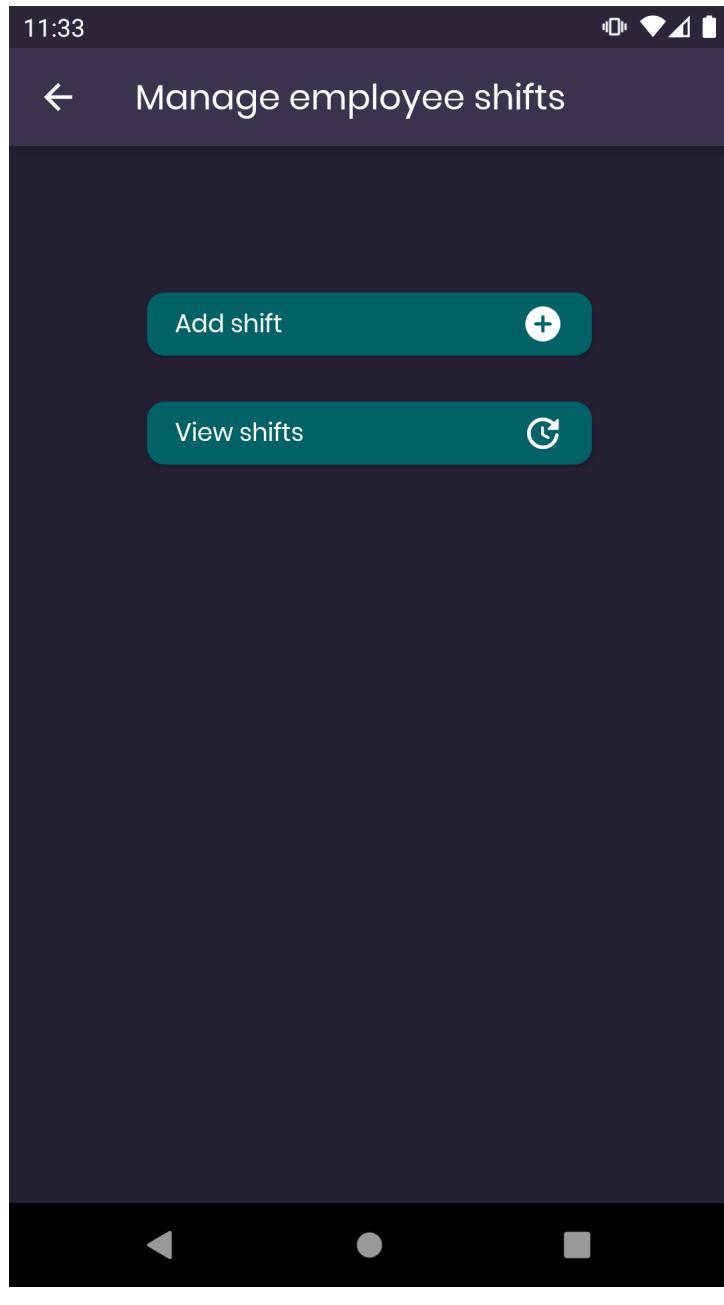


Figure 43: Shift homepage

#### 7.2.1 Create shift

On this screen, it follows a similar process to creating a floor plan. You enter the floor plan, floor and room you want to create a shift for, and then you will be presented with a screen where you can assign employees. [Figure 44] [Figure 45] [Figure 46] [Figure 47]

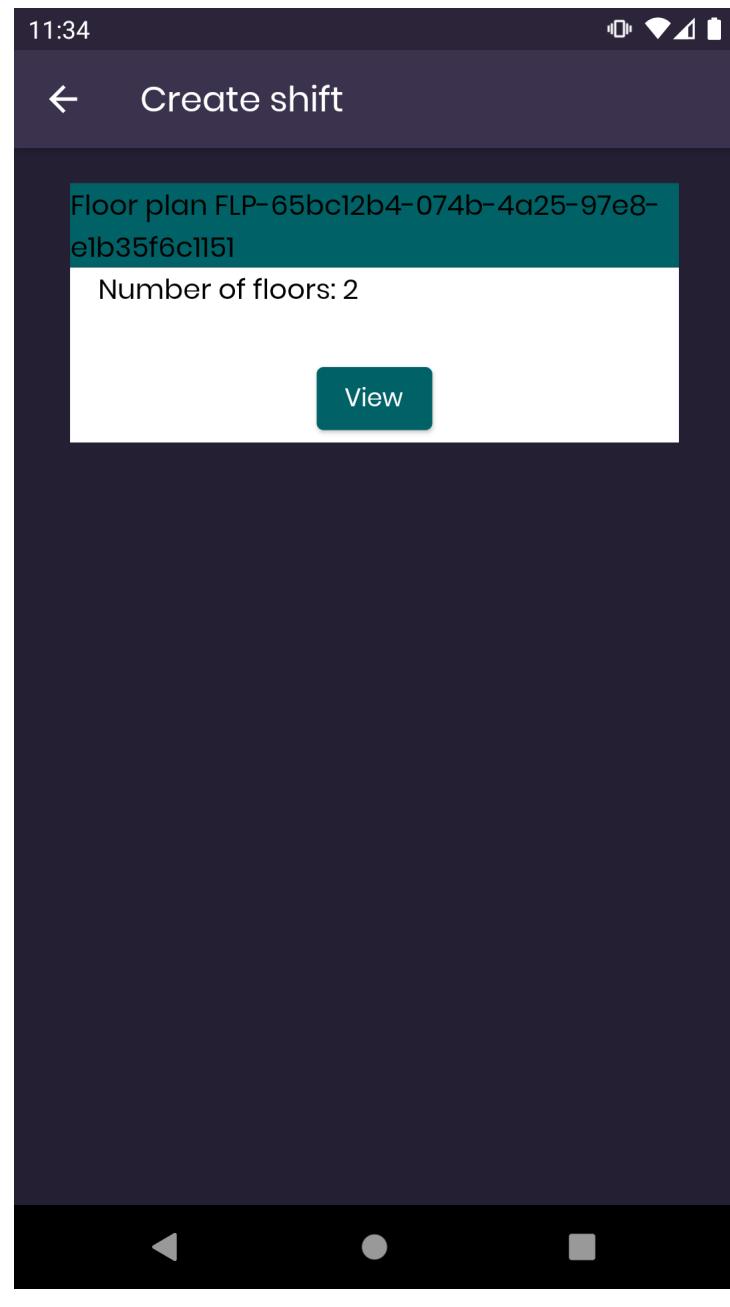


Figure 44: Create a shift

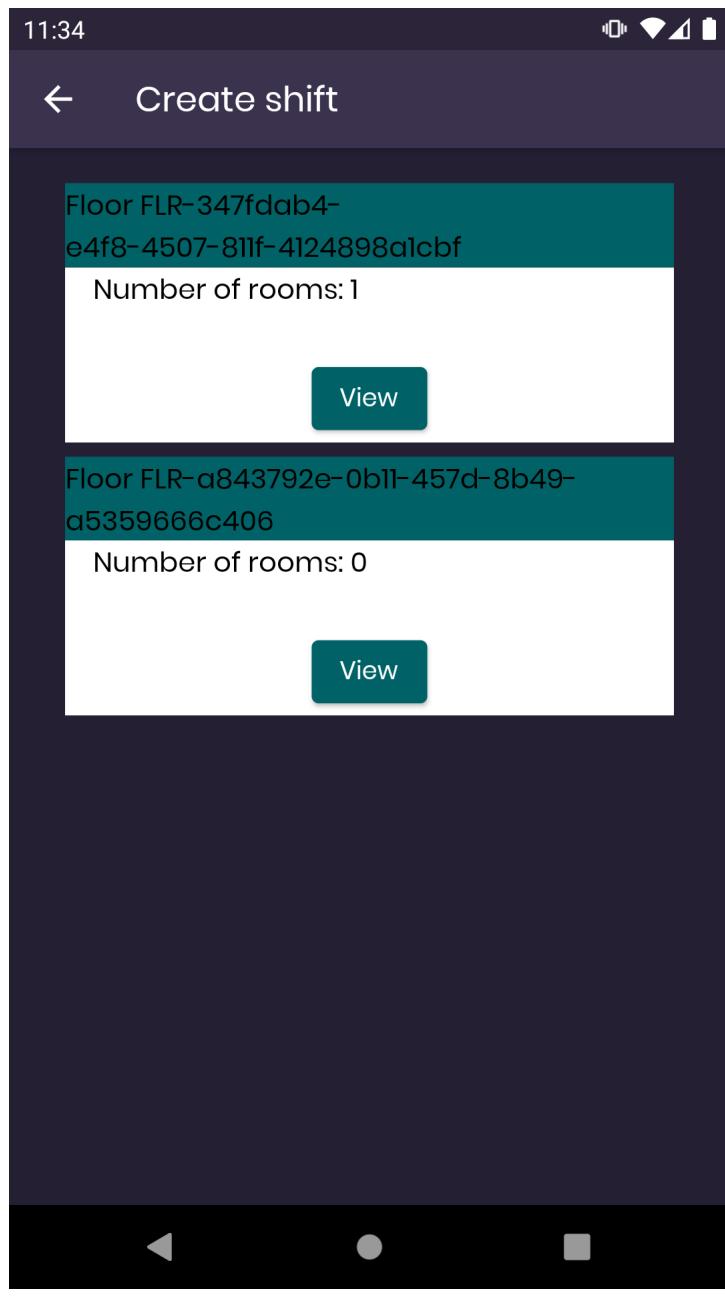


Figure 45: Create a shift

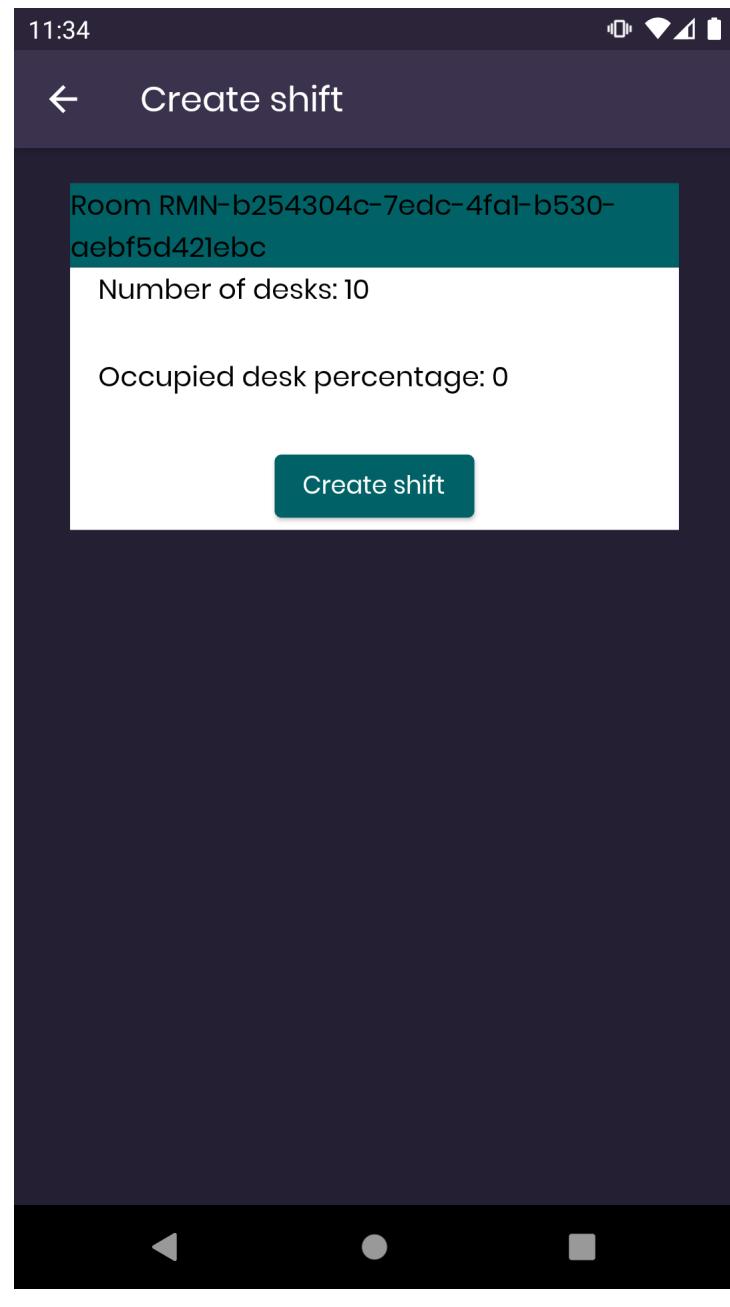


Figure 46: Create a shift

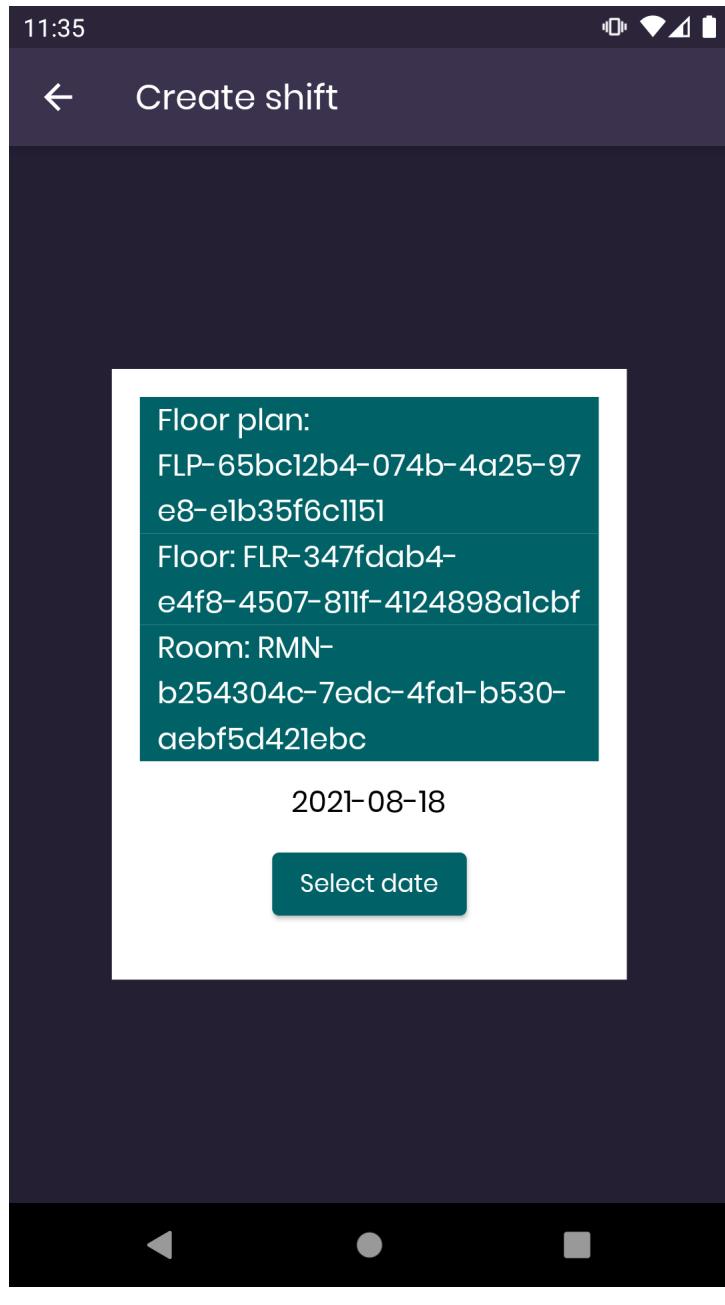


Figure 47: Create a shift

After selecting a shift location, you will then be allowed to review your choices before selecting a date, start time and end time. The end time must be after the start time. You should also enter a group name and description, which will apply to the employees assigned to this shift. [Figure 48]

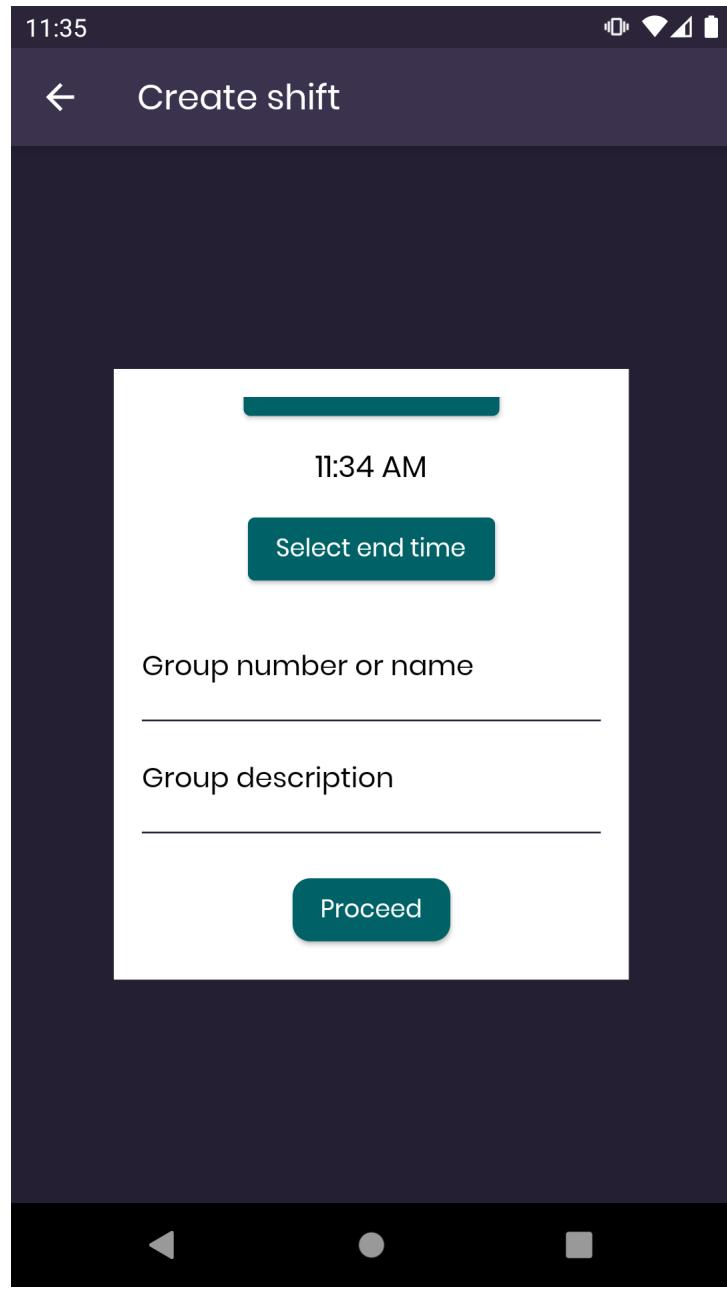


Figure 48: Review shift details and assign time

Add an employee to a shift by tapping the "Add employee" button at the bottom left of the screen. [Figure 49] [Figure 50]

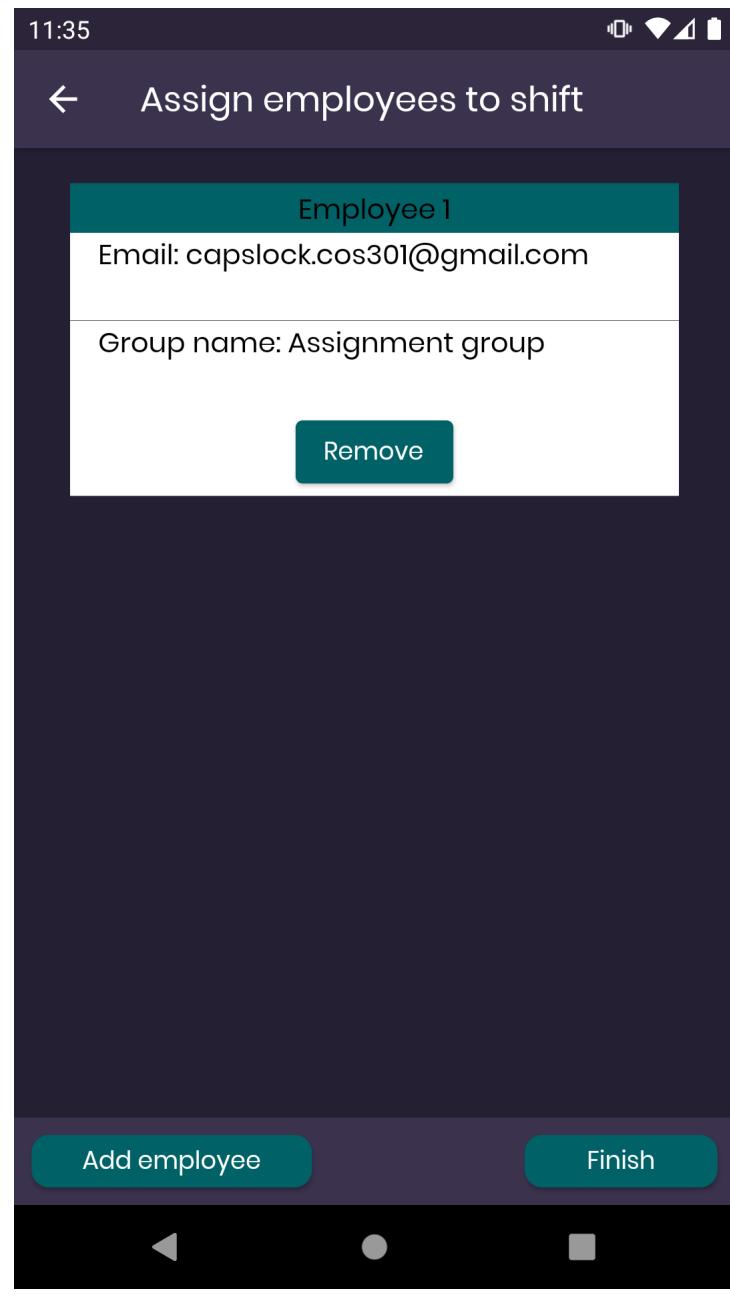


Figure 49: View employees assigned to shift

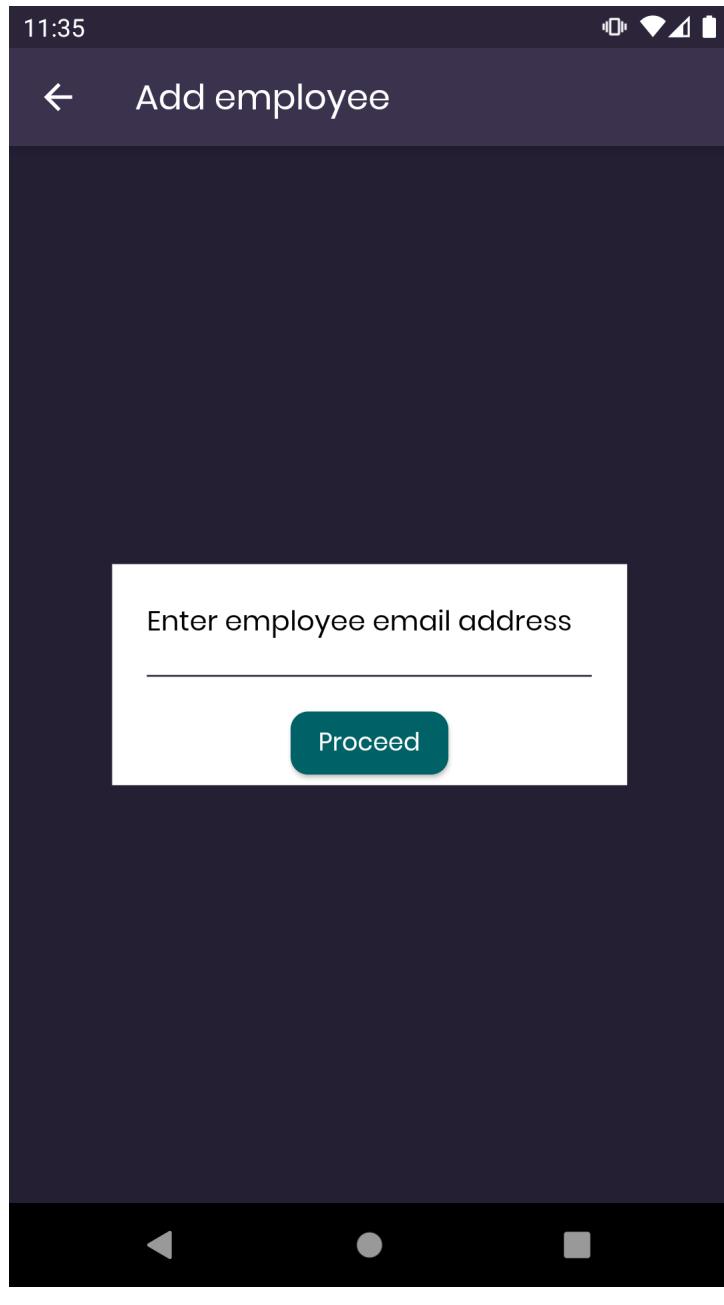


Figure 50: Add an employee to a shift

### 7.2.2 View shifts

On the following screens, you can select a shift by traversing through the company's floor plans, floors, and rooms. Then you can edit or delete a shift by tapping on its "Edit" or "Delete" buttons. [Figure 51] [Figure 52] [Figure 53] [Figure 54]

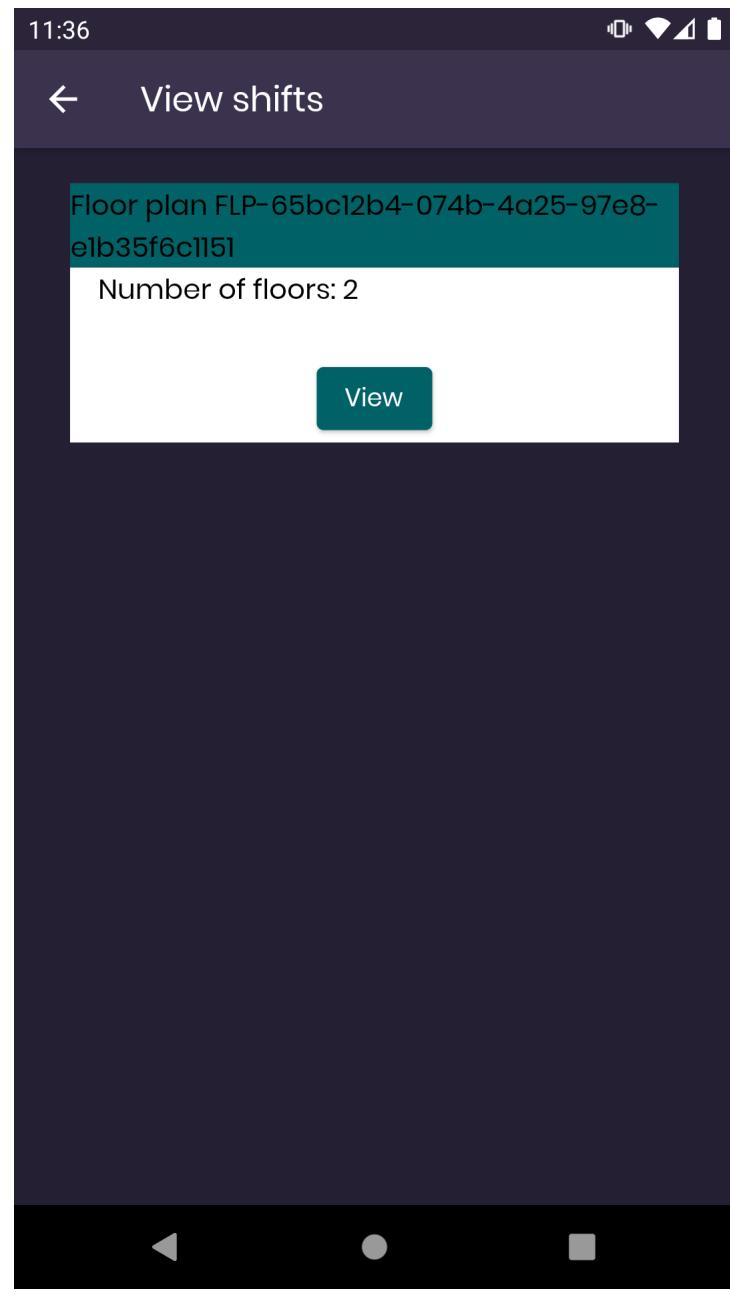


Figure 51: View shifts

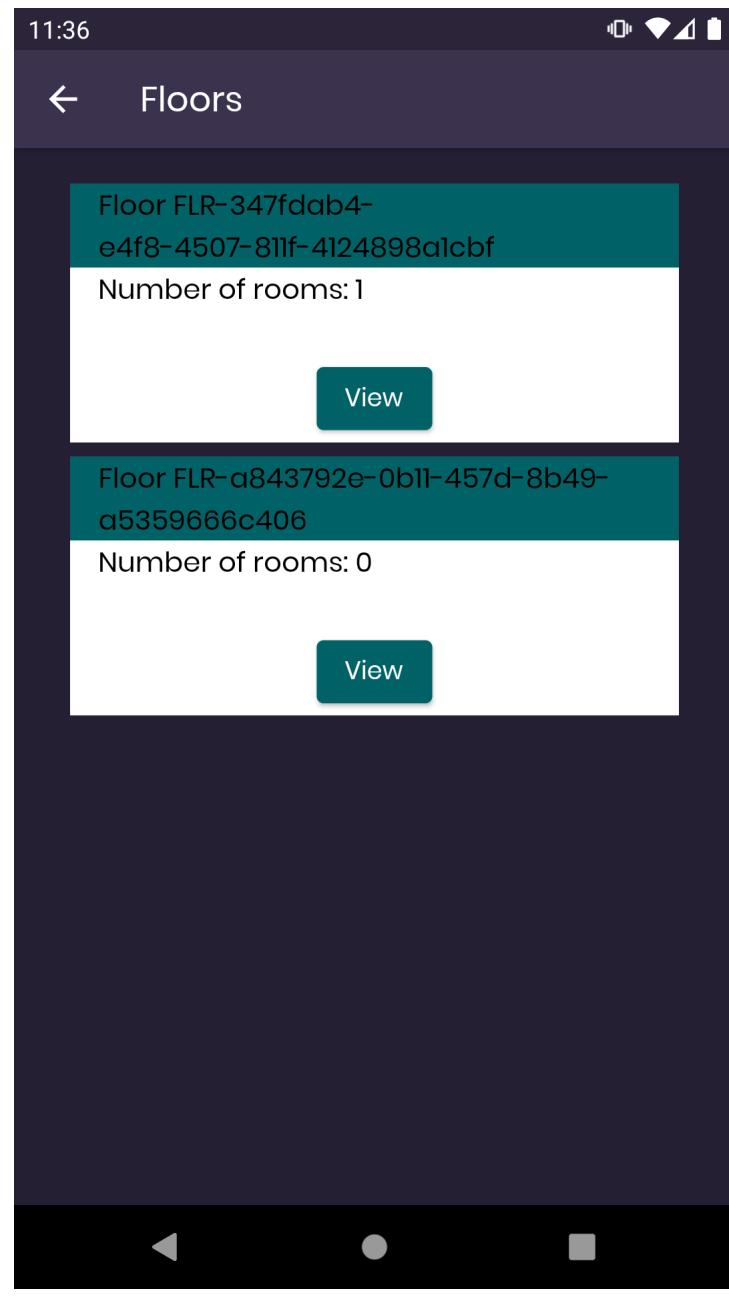


Figure 52: View shifts

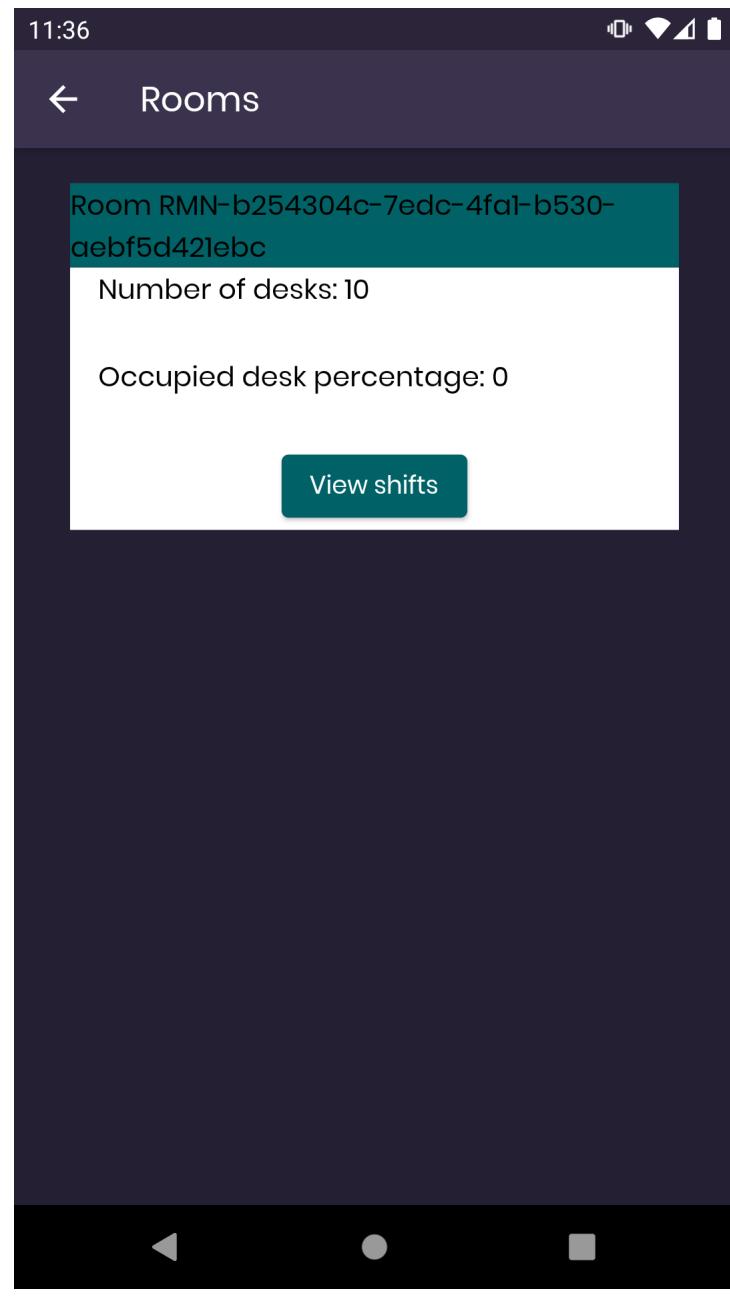


Figure 53: **View shifts**

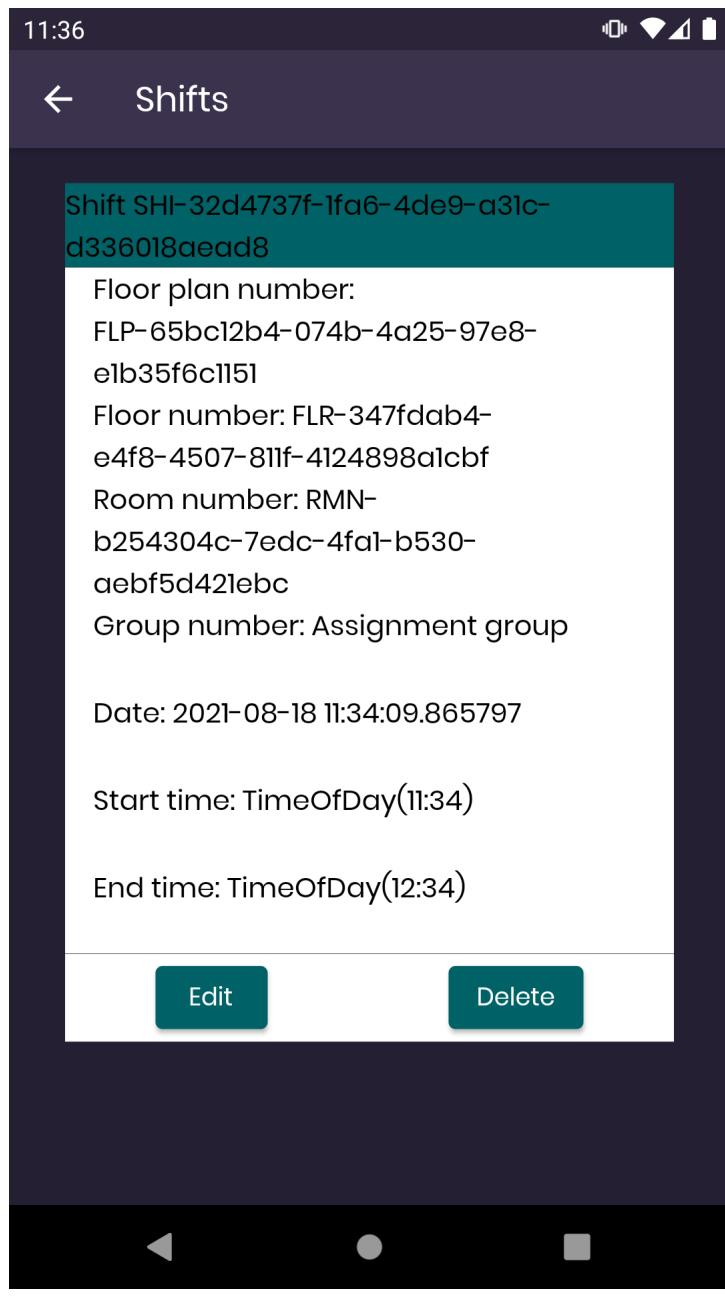


Figure 54: View shifts

On this screen, you can edit a shift's details by changing the start and end times. To apply the changes, enter your email for confirmation. [Figure 55]

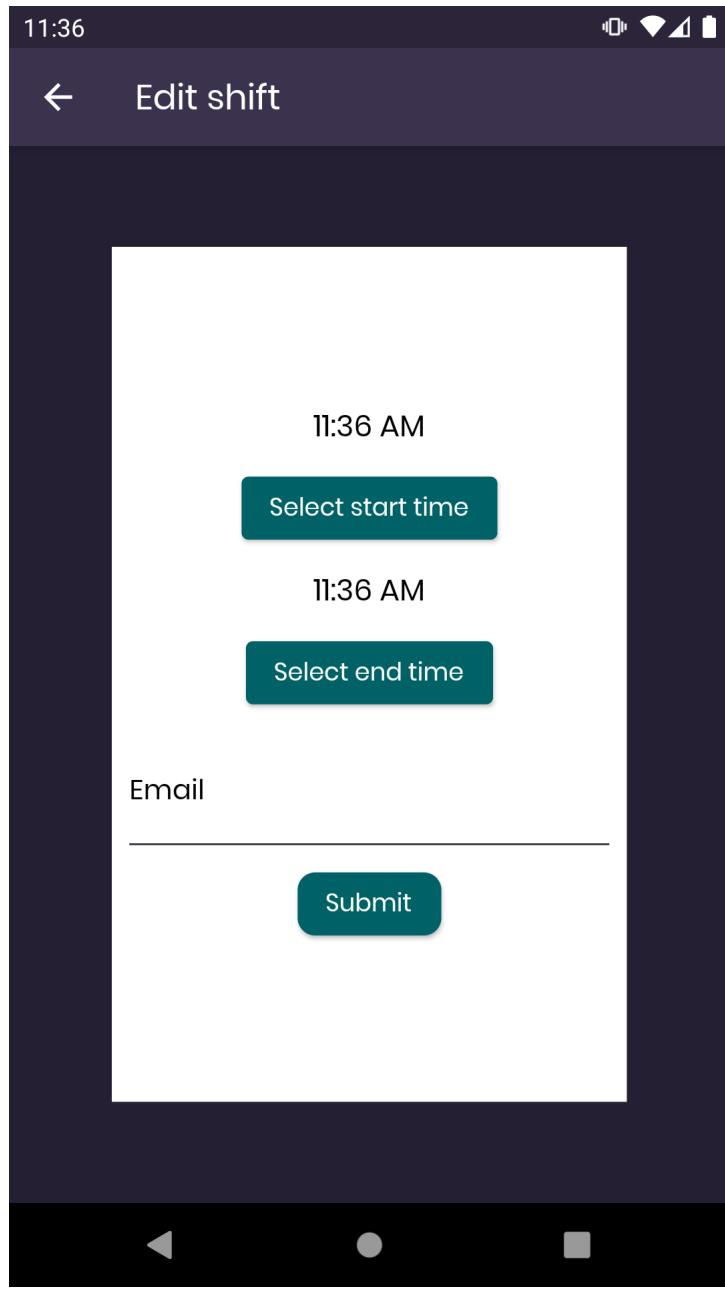


Figure 55: View shifts

### 7.3 Permissions

On this screen, you have the options to view permissions for an employee, grant permissions to employees, or contact trace an employee. [Figure 56]

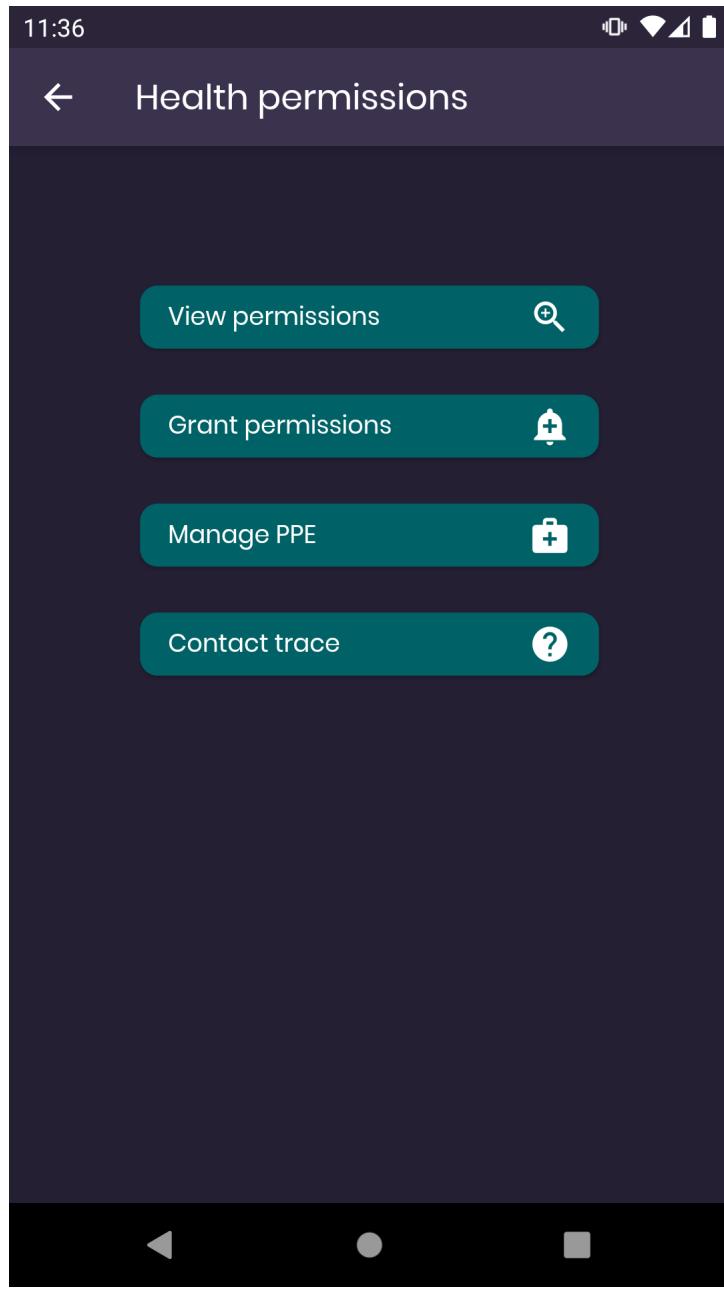


Figure 56: Permissions homepage

### 7.3.1 View permissions

Here, you can enter an employee's email to be shown all the permissions that have been granted to them. [Figure 57] [Figure 58]

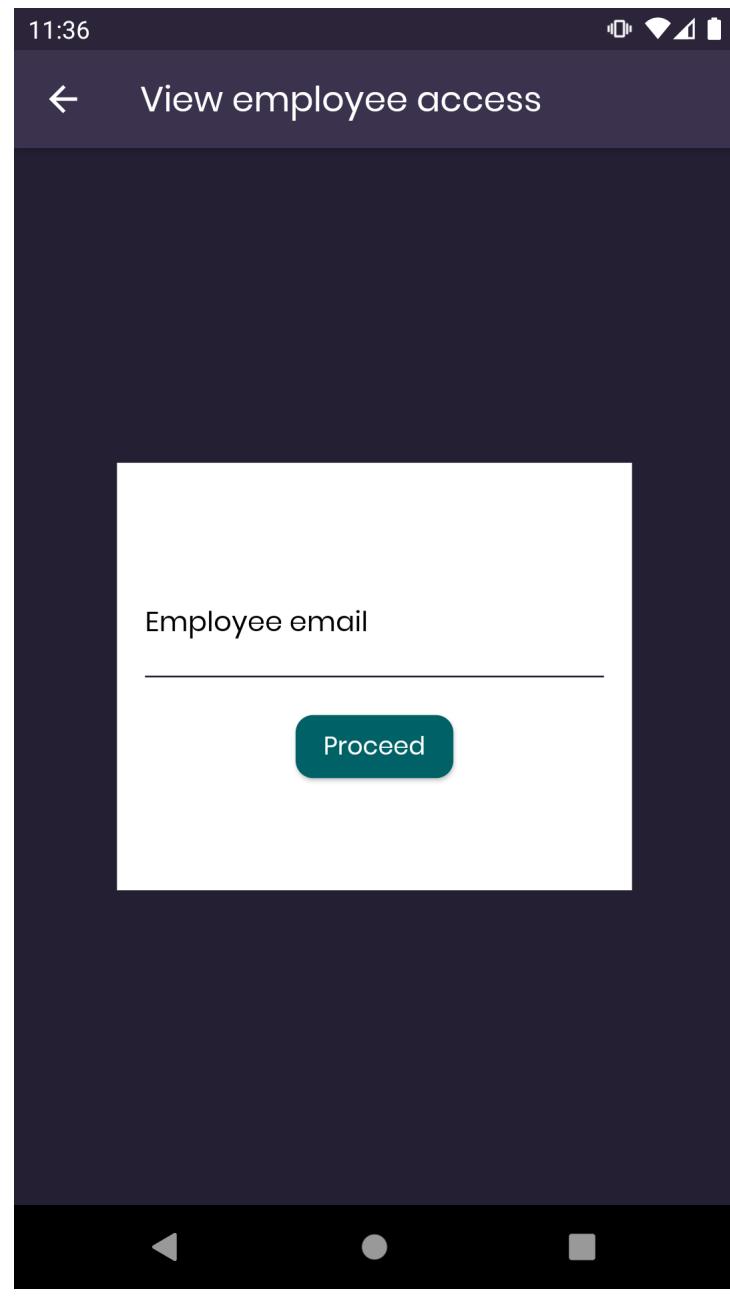


Figure 57: Enter an employee's email

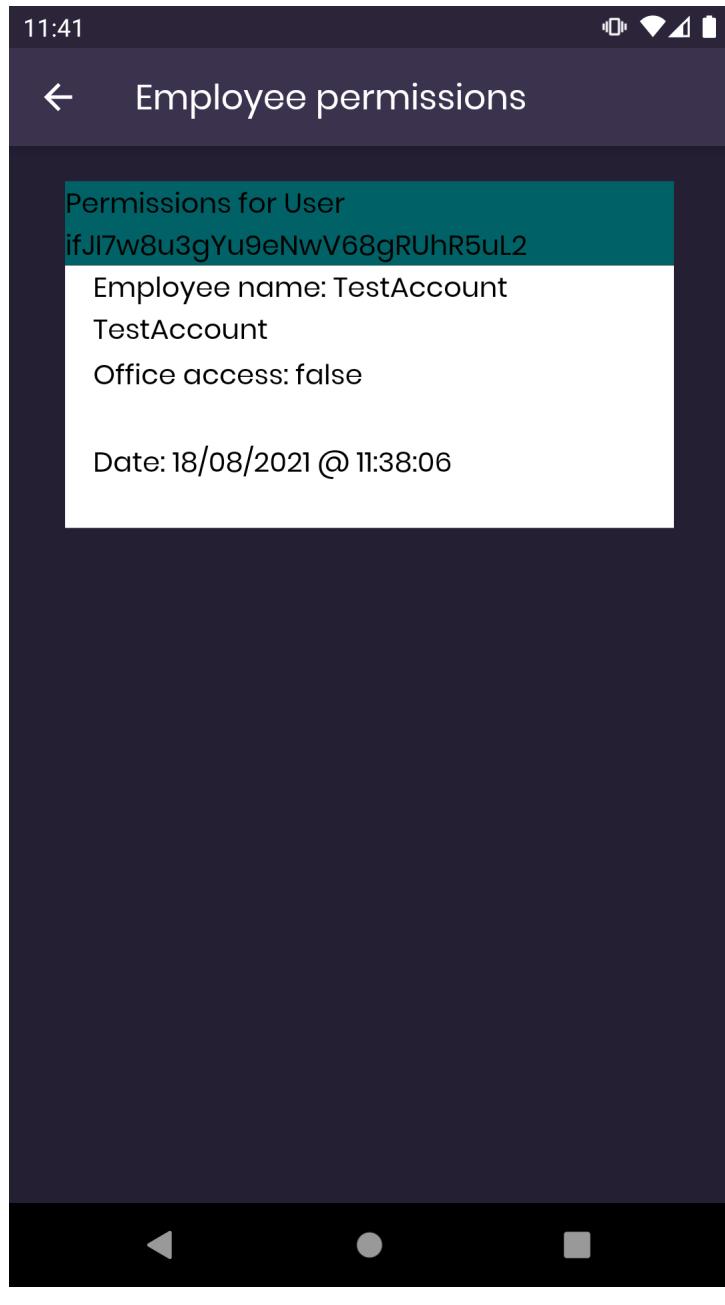


Figure 58: View the employee's permissions

### 7.3.2 Grant permissions

Here, you can view all the access requests that have been submitted to you by an employee, if they have been denied access. You can then choose to either allow or deny them access. [Figure 59]

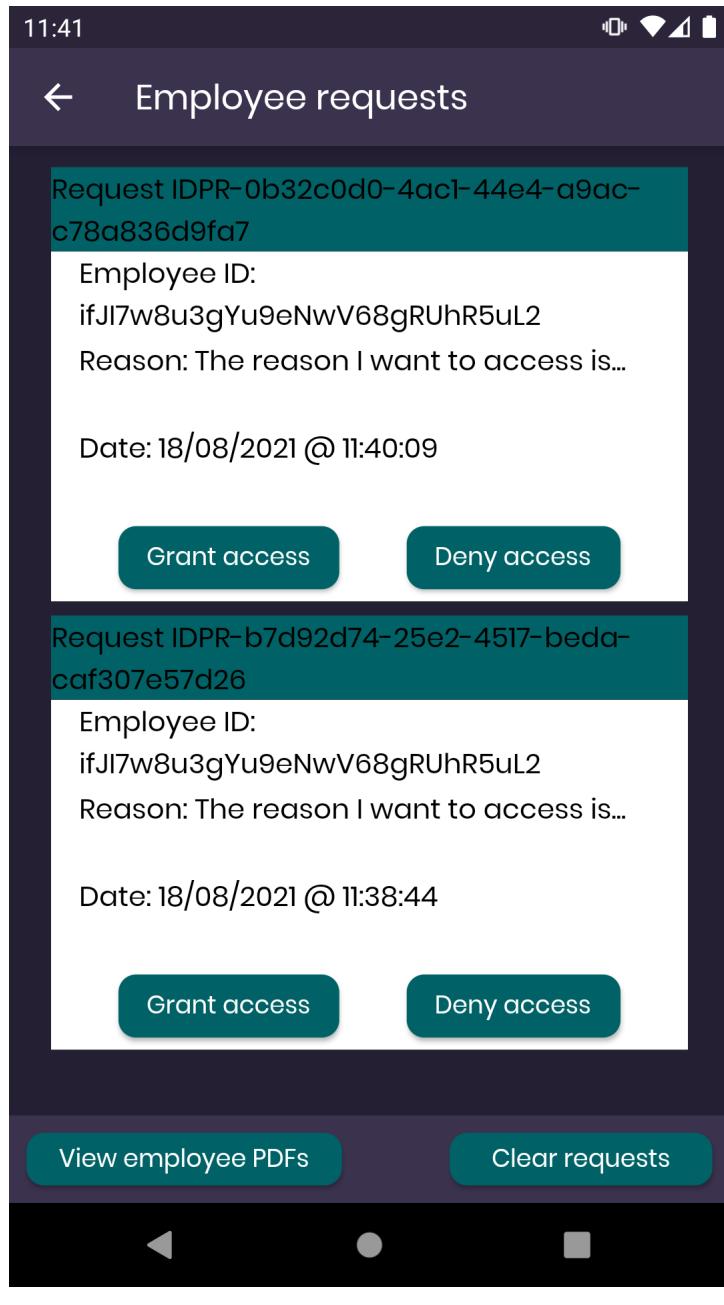


Figure 59: **Grant permissions to employees' requests**

### 7.3.3 Contact trace

Here, you can trace every employee a potentially ill employee has been in contact with, and print out the results of your search to a PDF. You can also notify affected employees of their risks. [Figure 60] [Figure 61]

11:42



## ← Shifts for employee

Shift SHI-32d4737f-1fa6-4de9-a31c-d336018aead8

Floor plan number:

FLP-65bc12b4-074b-4a25-97e8-e1b35f6c1151

Floor number: FLR-347fdab4-e4f8-4507-811f-4124898a1cbf

Room number: RMN-b254304c-7edc-4fa1-b530-aebf5d421ebc

Date: 2021-08-18 11:34:09.865797

Start time: TimeOfDay(11:34)

End time: TimeOfDay(12:34)

[View employees](#)

Figure 60: Contact trace

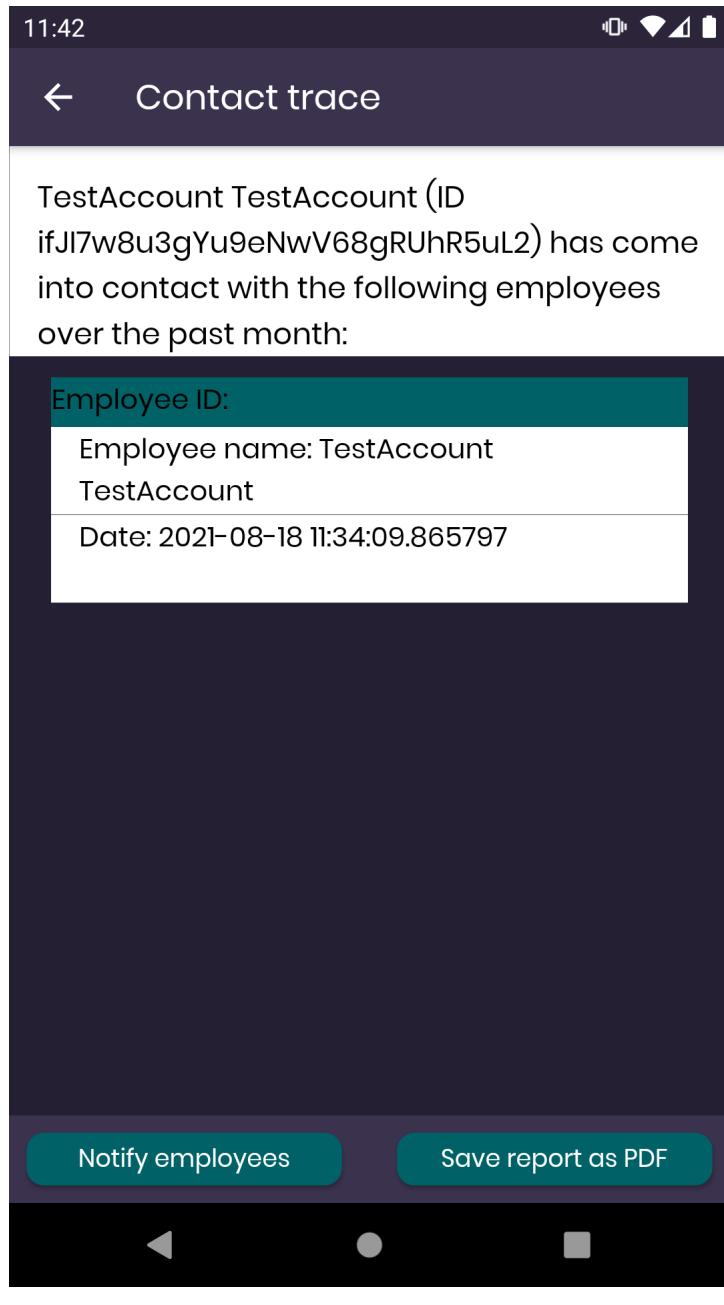


Figure 61: Contact trace

## 7.4 Reports

This screen allows you to generate reports for the status of your company. You can either access office reports or health reports. [Figure 62]

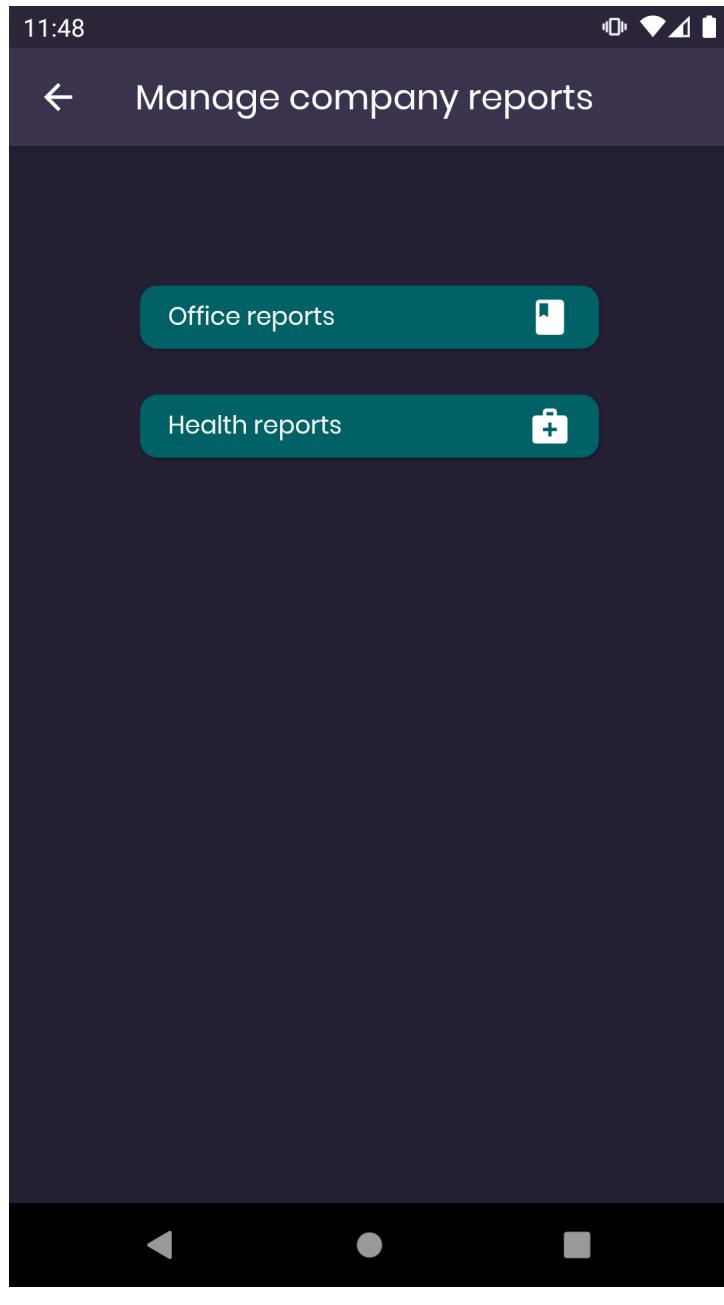


Figure 62: Reporting

#### 7.4.1 Office reports

Here, you can traverse through your company's floor plans, floors, rooms, and shifts to show all employees who have been assigned to a particular shift. Then, you have the option to print out the results to a PDF. [Figure 63] [Figure 64] [Figure 65] [Figure 66] [Figure 67]

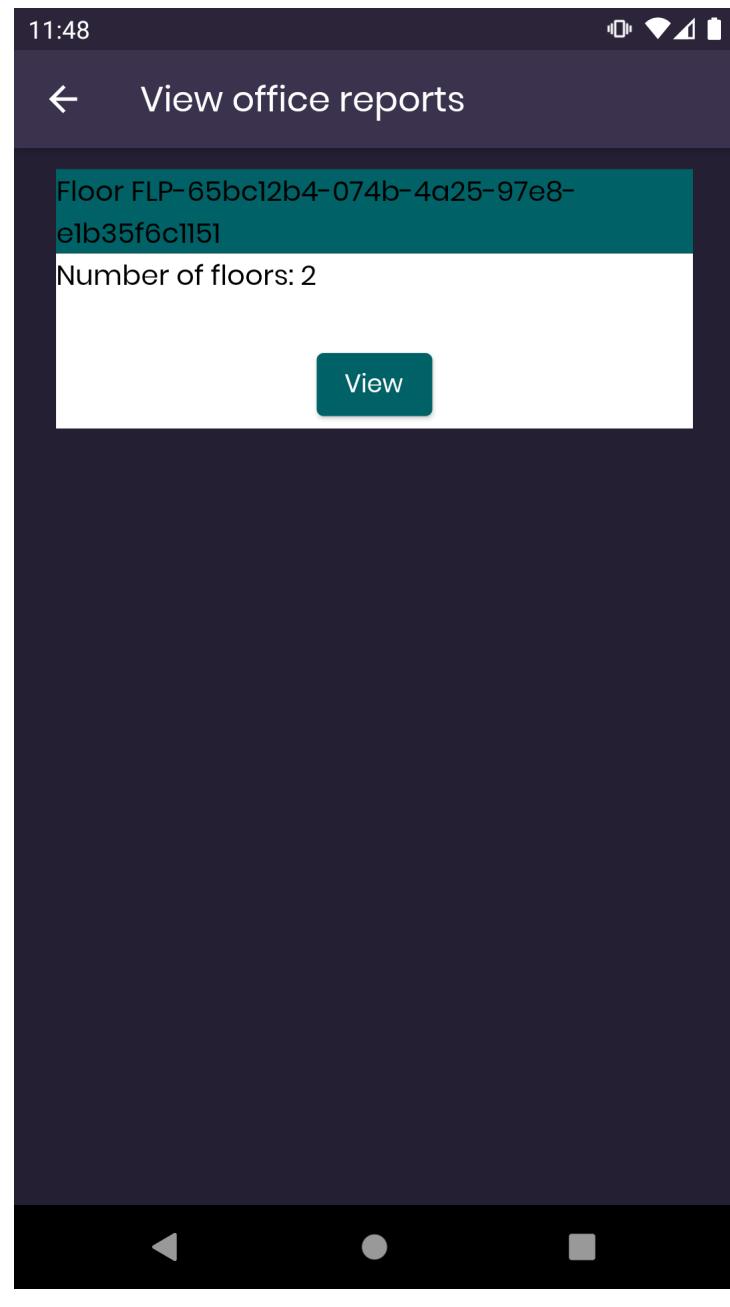


Figure 63: Generate office report

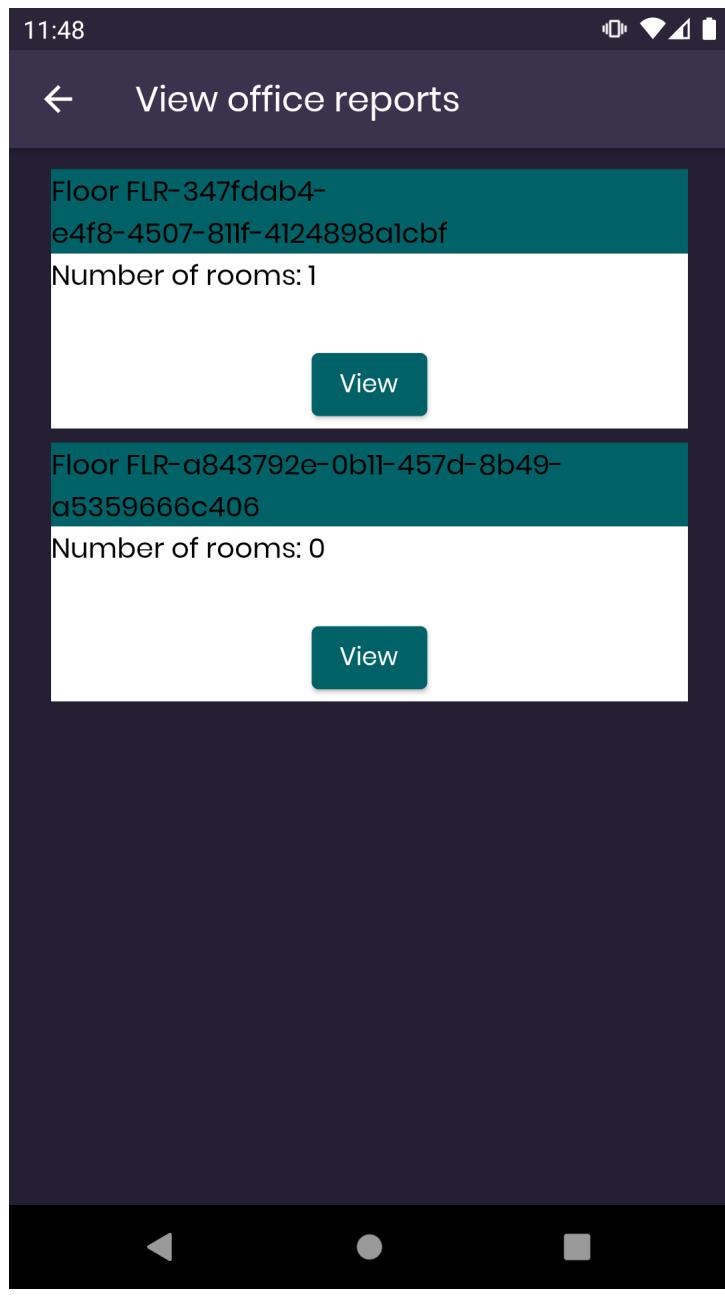


Figure 64: Generate office report

11:48



← View office reports

Room RMN-b254304c-7edc-4fa1-b530-aebf5d421ebc

Room dimensions (in meters squared): 100

Desk dimensions (in meters squared): 1

Number of desks: 10

Occupied desk percentage: 0

View

◀ ● ■

Figure 65: Generate office report

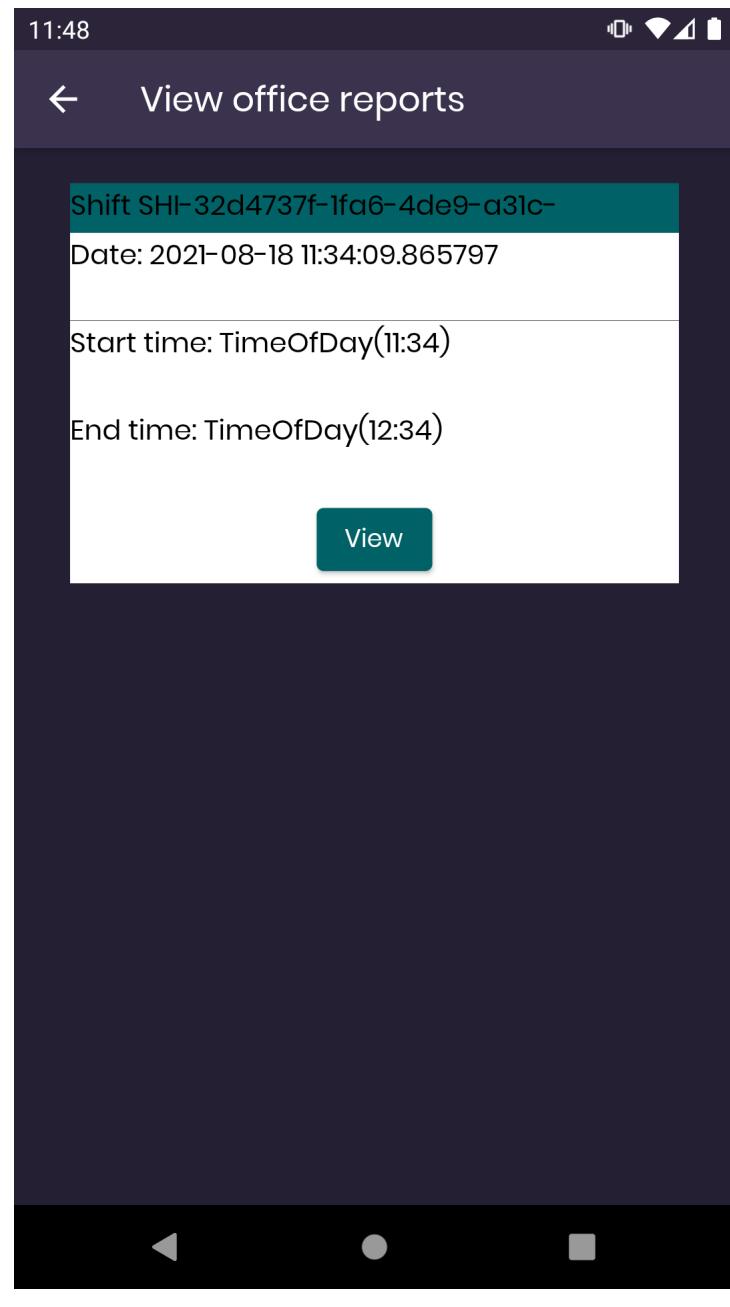


Figure 66: Generate office report

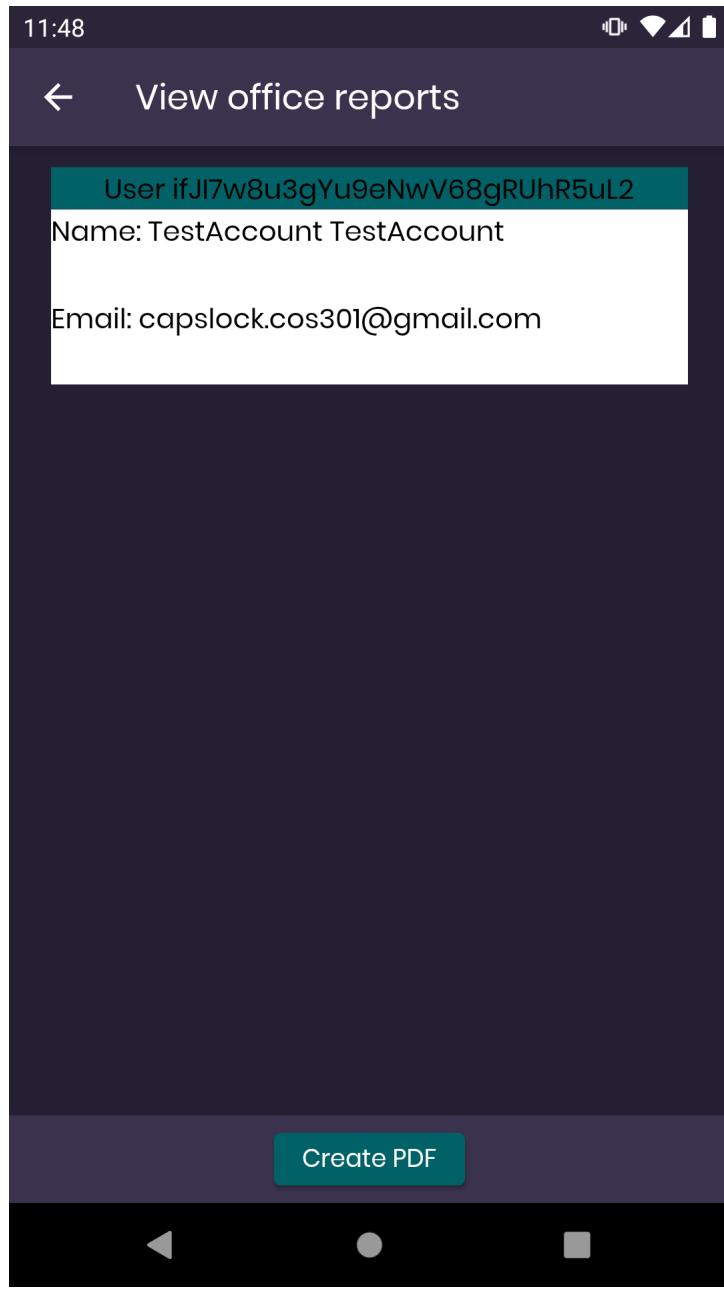


Figure 67: Generate office report

## 7.5 Announcements

This screen will show announcements you or your fellow admins have made in a list format. Each list item shows the announcement ID, type (general or emergency), date and message. You also have a button at the bottom of the screen which allow you to create announcements, as well as buttons on each announcement to delete it. [Figure 68]

You can tap the back button to return to the admin homepage.

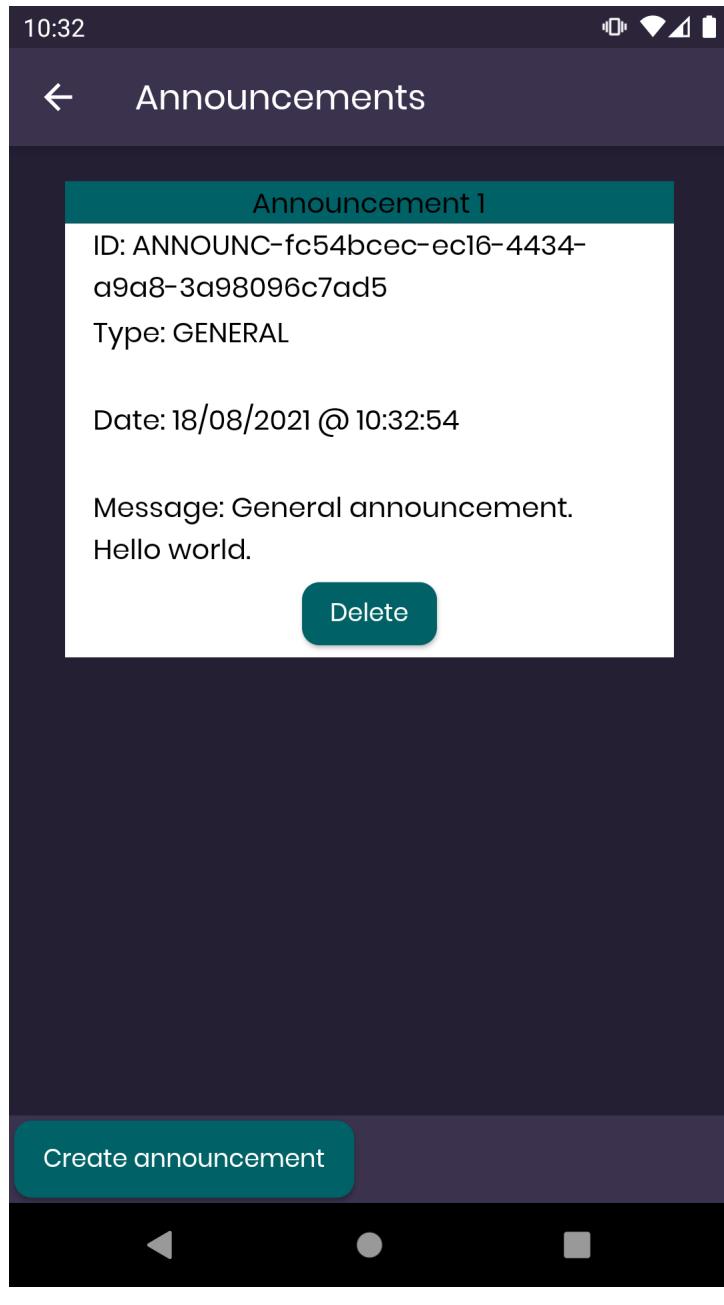


Figure 68: View announcements you or other admins have made

### 7.5.1 Create announcement

On this screen, you can create a new announcement. Select its type, enter a topic, and enter a message to display. [Figure 69]

You can tap the back button to return to the view announcements page.

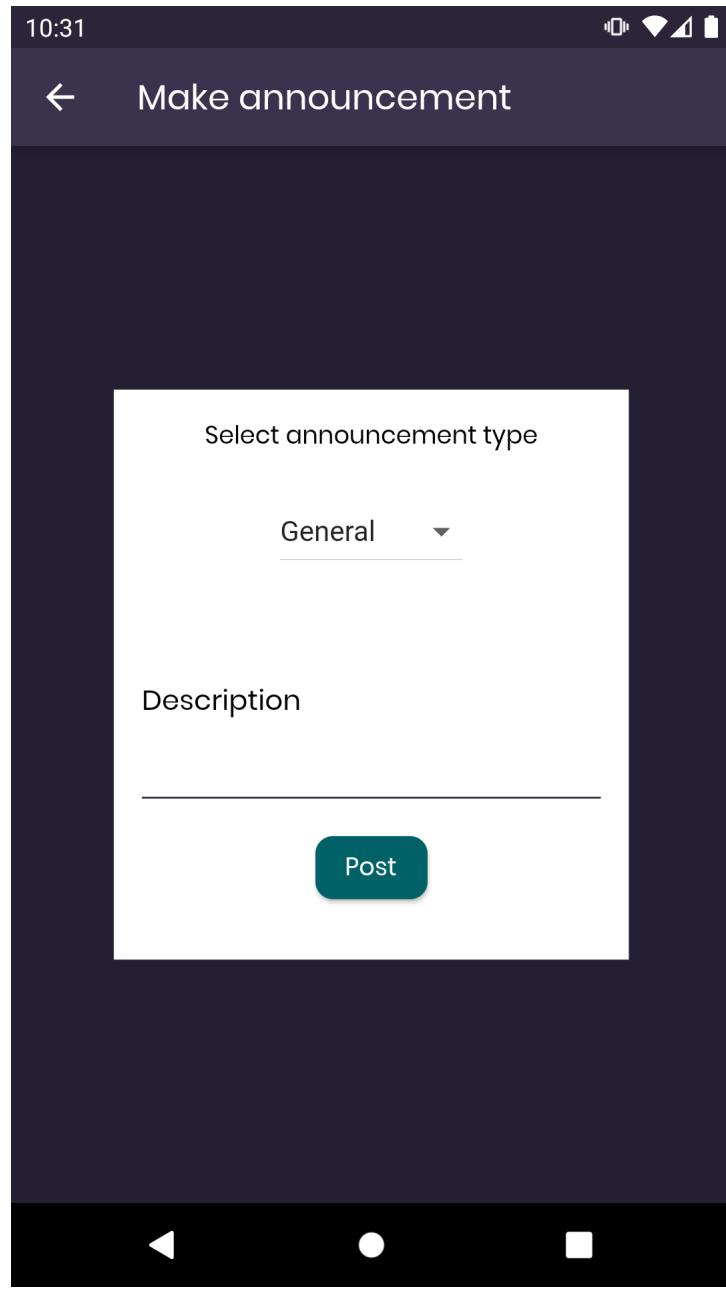


Figure 69: Create a new announcement

## 7.6 Notifications

This screen will show you a selection of two buttons. You can choose either the "Create notification" button or the "View notifications" button. [Figure 70]

You can also tap the back button to return to the admin homepage.

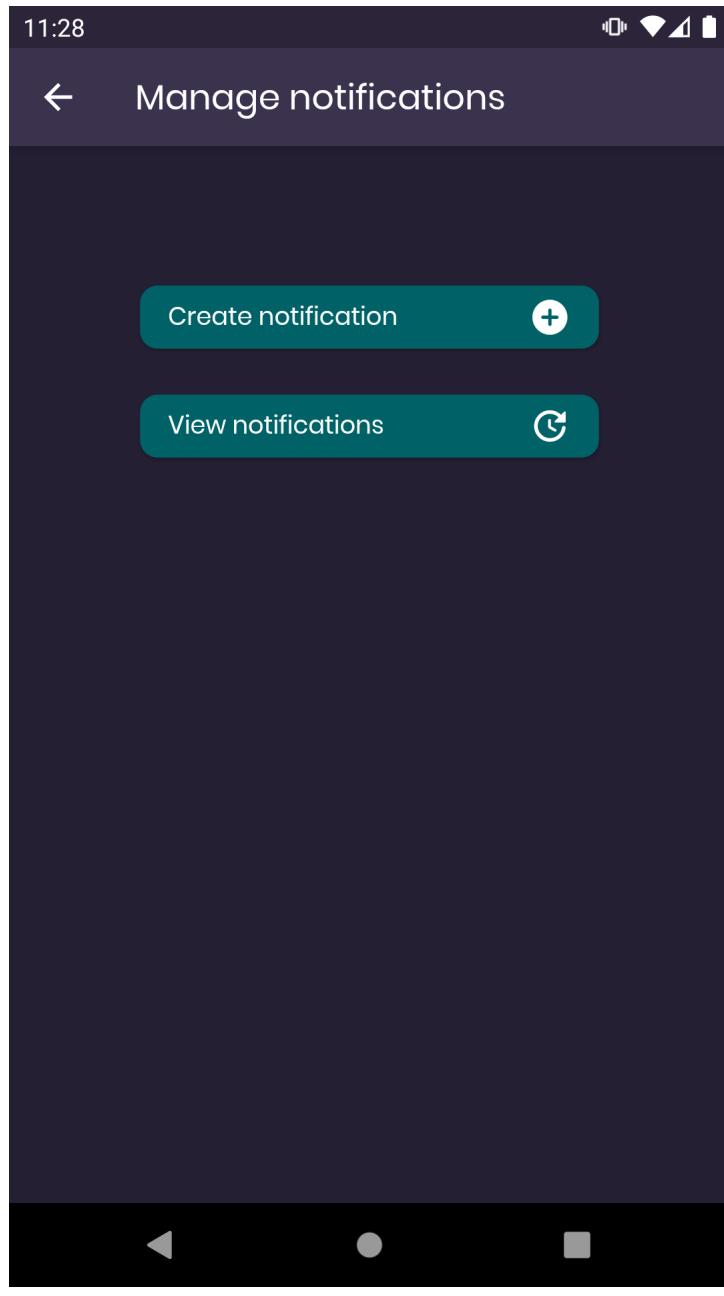


Figure 70: Admin notification homepage

#### 7.6.1 Create notification

Here, you can create a new notification similarly to creating a new announcement. Enter the subject and description for your notification and tap on the "Proceed" button. [Figure 71]

You can also tap the back button to return to the notification homepage.

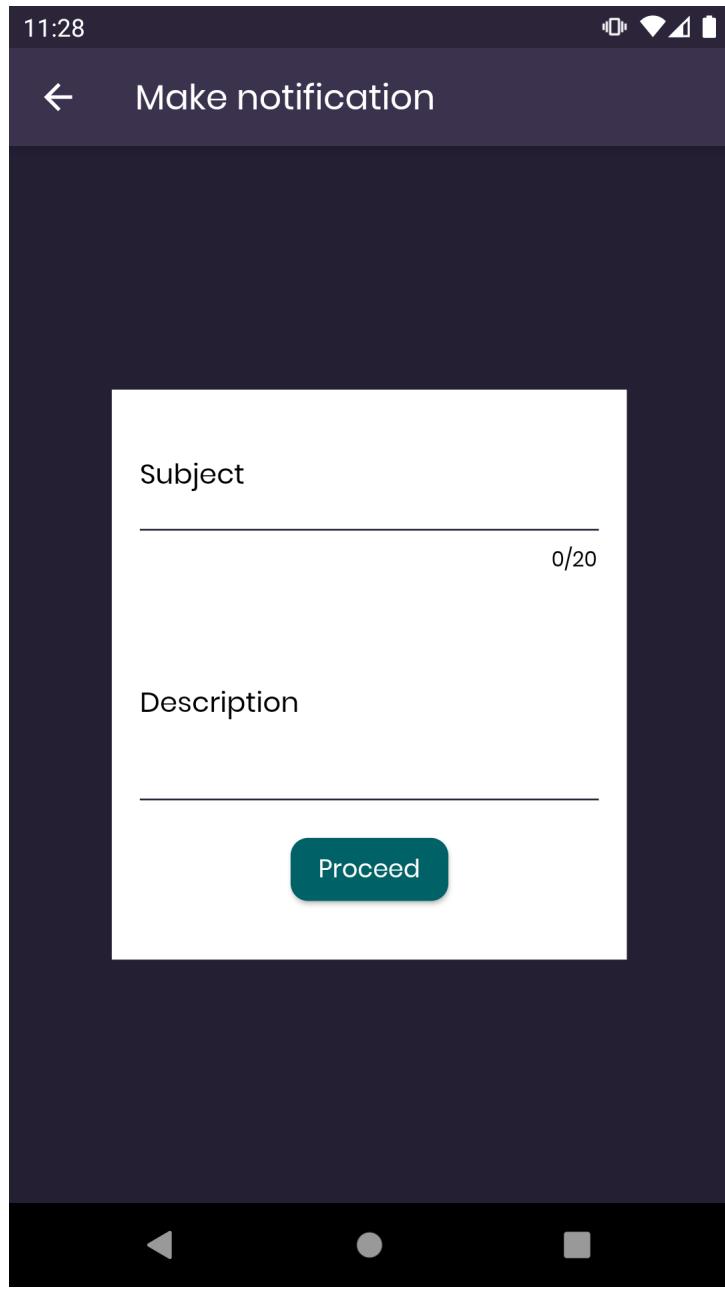


Figure 71: Create notification

Next, you can view all employees who have been assigned to this notification. If there are none, you will be prevented from sending it. Tap on either the "Add employee" button to add recipients, or the "Finish" button to send your notification. [Figure 72]

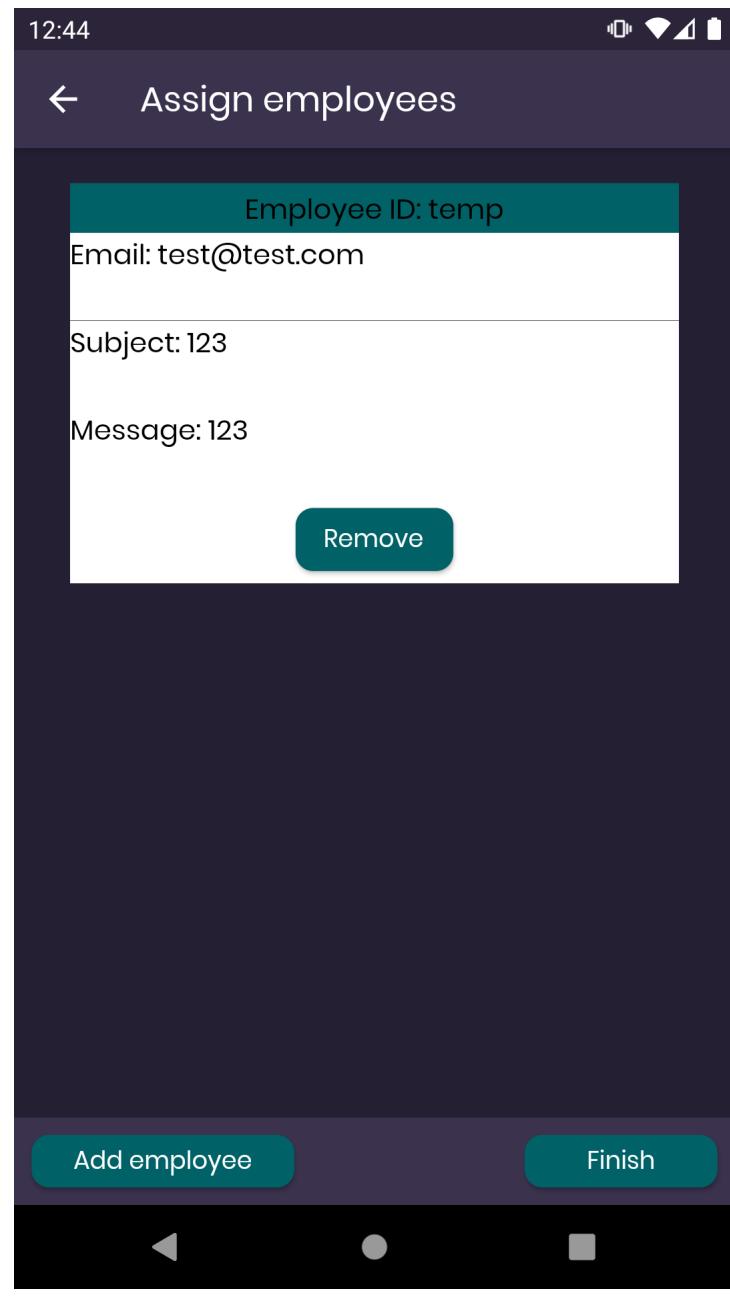


Figure 72: Assign employees to notification

To assign an employee to the notification, enter their email address. [Figure 73]

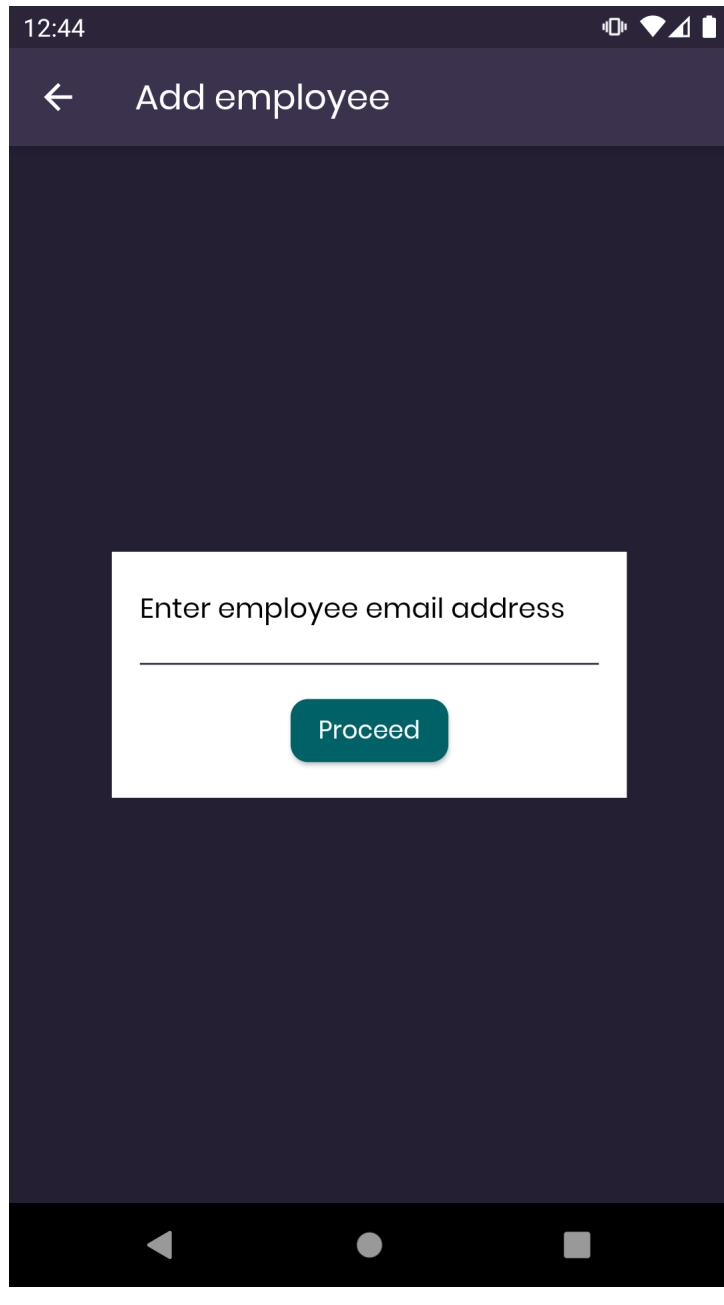


Figure 73: Add employee to notification

#### 7.6.2 View notifications

This screen will show notifications employees, visitors or another company admin have sent to you, specifically. Each list item shows the notification sender, date, and message. You can tap on one of the "Dismiss" buttons to dismiss a notification, or on the "Clear notifications" button to dismiss all of them. [Figure 74]

You can tap the back button to return to the admin homepage.

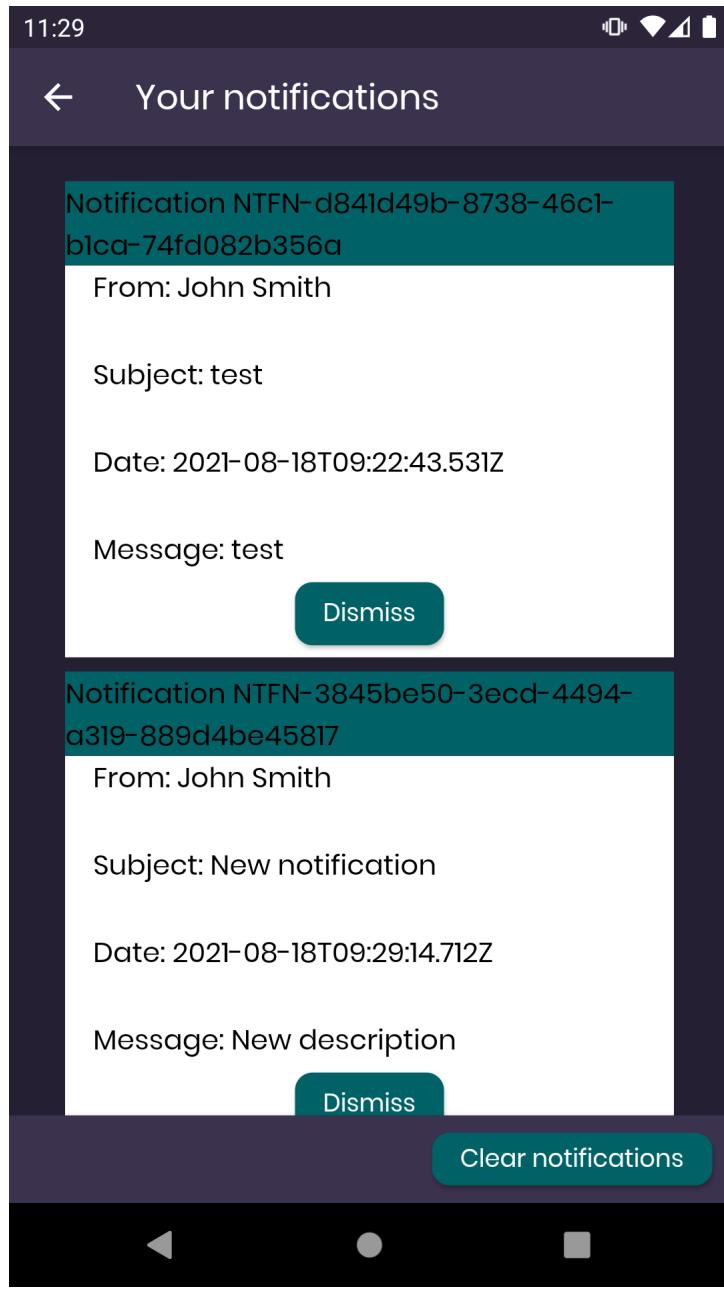


Figure 74: View your notifications

## 7.7 Manage account

On this screen, you can choose to update your account credentials (email, username, etc.), reset your password, or delete your account. [Figure 75]

You can tap the back button to return to the admin homepage.

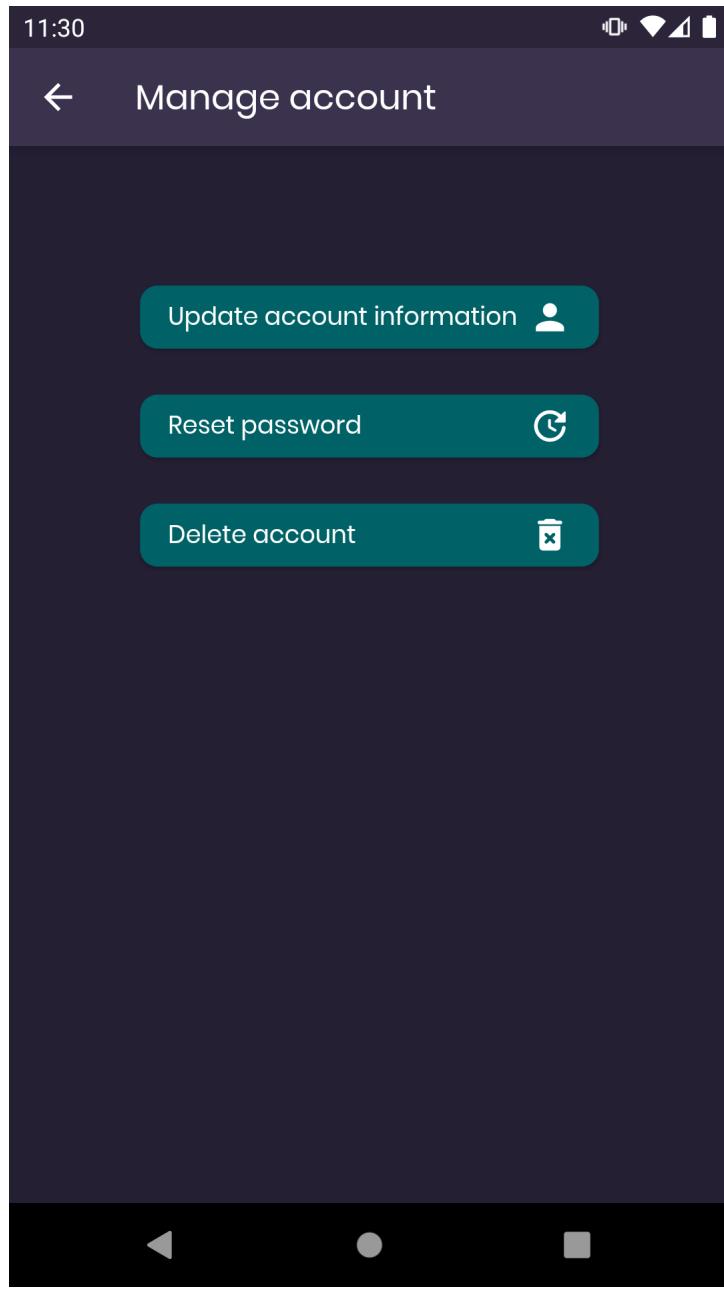


Figure 75: Admin manage account

#### 7.7.1 Update account information

On this screen, you can update your account information, such as your name or email address. You are also required to enter your current password and confirm that you allow these changes to be made. [Figure 76]

You can tap the back button to return to the manage account screen.

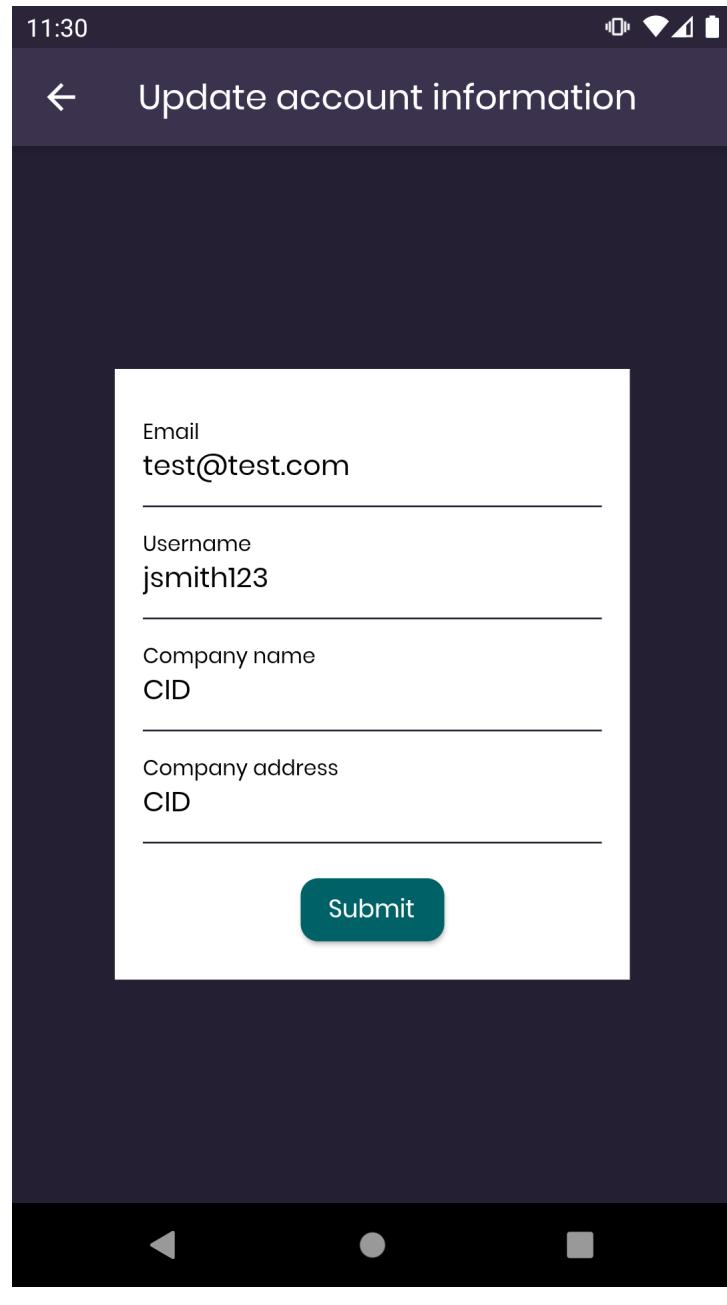


Figure 76: Update account information

### 7.7.2 Reset password

To reset your password, enter the email address you registered with, and tap "Reset password". An email will then be sent to you, containing instructions on how to reset your password. [Figure 77]

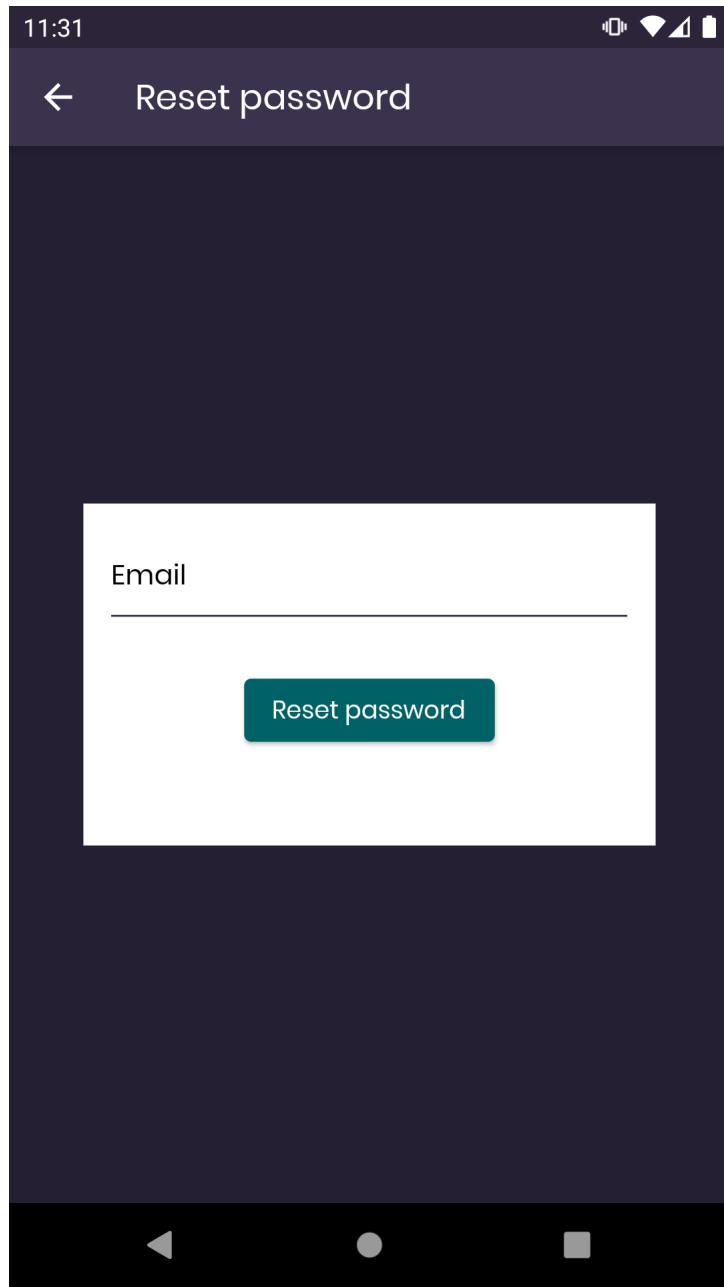


Figure 77: Reset password screen

#### 7.7.3 Delete account

To delete your account, enter your email, password, and company ID. A dialog box will pop up to confirm whether you really want to delete your account or not. Please note that this operation is **not reversible** if you choose to go through with it. After your account is deleted, you will be returned to the login screen. [Figure 78]

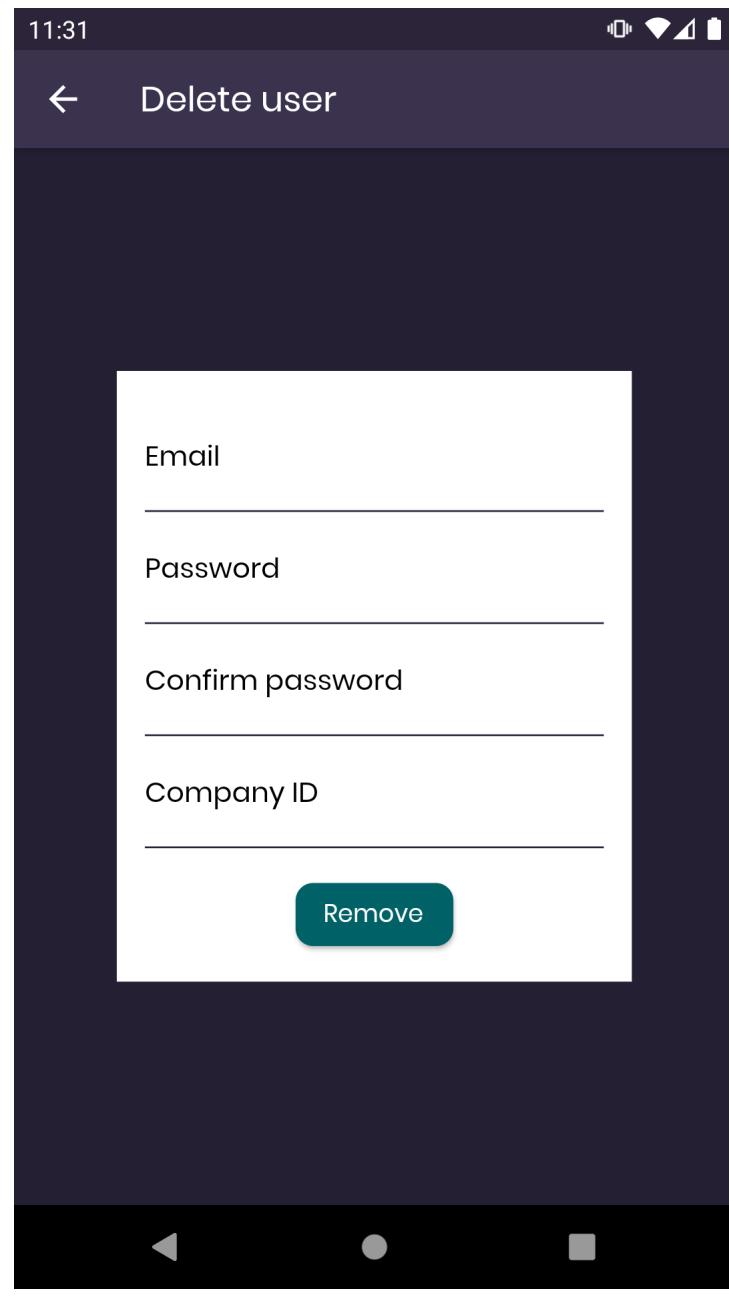


Figure 78: Delete account screen