



BuiltSpace Android Application User Manual

COMPLETED ON MAY 17, 2020

MICROSOFT ACCOUNT

Table of Contents

Conventions	1
Installation Instructions	2
Required Materials	2
Disable Windows Hyper-V/Enabling Windows Hypervisor Platform.....	2
Environment Variables Setup for Java & Android.....	3
Setting Up the Emulator/Running the Application	5
Extracting the Realm Database File	6
Command Line Extraction.....	6
Instruction Sets	7
Login/Logout	7
Logging In	7
Logging Out	8
QR Code	8
Map a New QR Code	8
Stop Mapping a New QR Code.....	9
Upload/Edit/Delete/Caption Picture(s)	10
Upload From Library	10
Upload From Camera	10
Edit Picture	12
Delete Picture	13
Add Caption to Picture.....	14
Emailing Report.....	14
Selecting Email Address from Contacts	14
Input Any Email Address	15
Remove Email Address.....	15
Start Visit.....	15
Add/Edit an Asset/Space.....	16
Add Space.....	16
Add Asset	16
Edit Asset.....	17
Edit Report	18
Edit Inspection Report	18

Location Services.....	20
Online/Offline	21
Release Notes	22

Conventions

Typed Text

“This is some typed text”, “git pull”

Application Selection Sequences

[Organization] > [Building] > [Details]

Buttons

(Login), (Submit)

Folders

{BuiltSpace}, {android}, {src}

Commands

React-native run-android, cd

Installation Instructions

To get you started, the following instruction set will help guide you through the installation of the BuiltSpace Mobile Application installation. These set of instructions assume that you have installed Android Studio on your system, as well as understanding Android Studio and the command line, as well as, access to the GitHub source code. This will take approximately 2 hours. Please ensure that you have the required materials before starting the installation process

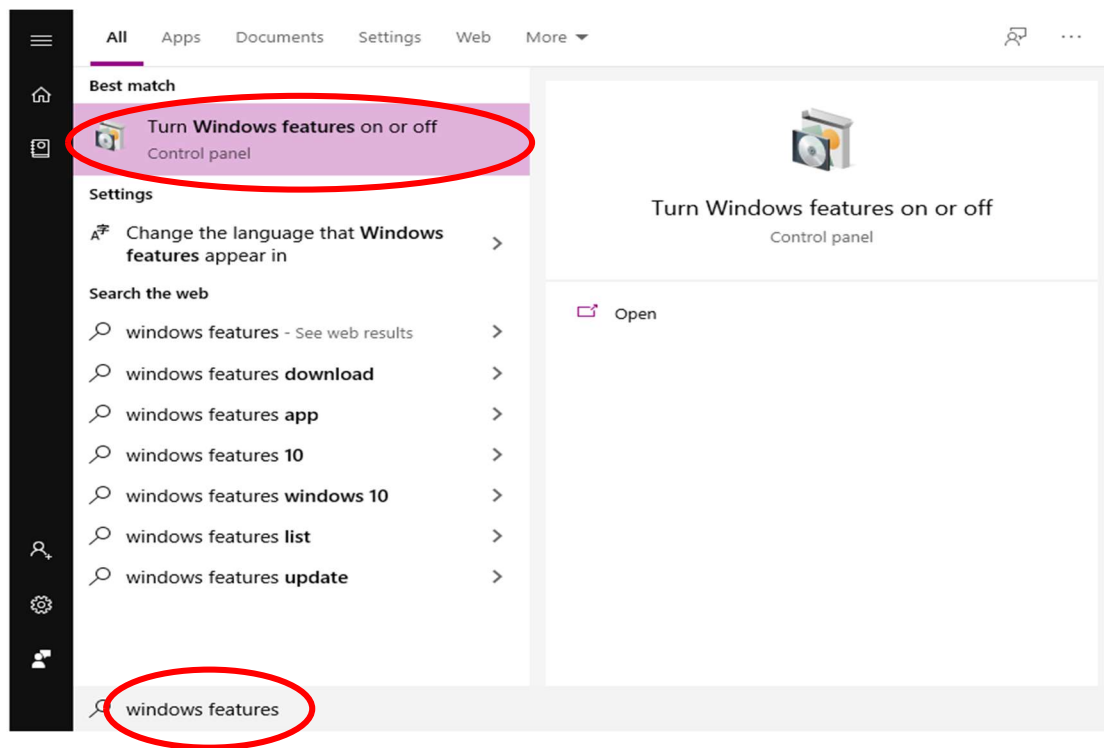
Required Materials

- BuiltSpace Application Source Code from GitHub
- Node v 10.18.1 or earlier
- Node Package Manager
- Java Development Kit 8
- React Native Installation (Latest Version)
- Android Studio 3.6.3 or higher
- At least 12 GB of Space

Disable Windows Hyper-V/Enabling Windows Hypervisor Platform

The first steps are to disable *Windows Hyper-V* and enable *Windows Hypervisor Platform*.

1. Search for “windows features” under the Windows Start Menu
2. Select *Turn Windows features on or off*



3. Find *Hyper-V* and disable it, by unchecking the checkbox

4. Find *Windows Hypervisor Platform*, enable it by checking the checkbox
5. Select (OK)

You have successfully disabled *Windows Hyper-V* and enabled *Windows Hypervisor Platform*. Please note that these are essential steps during the installation process.

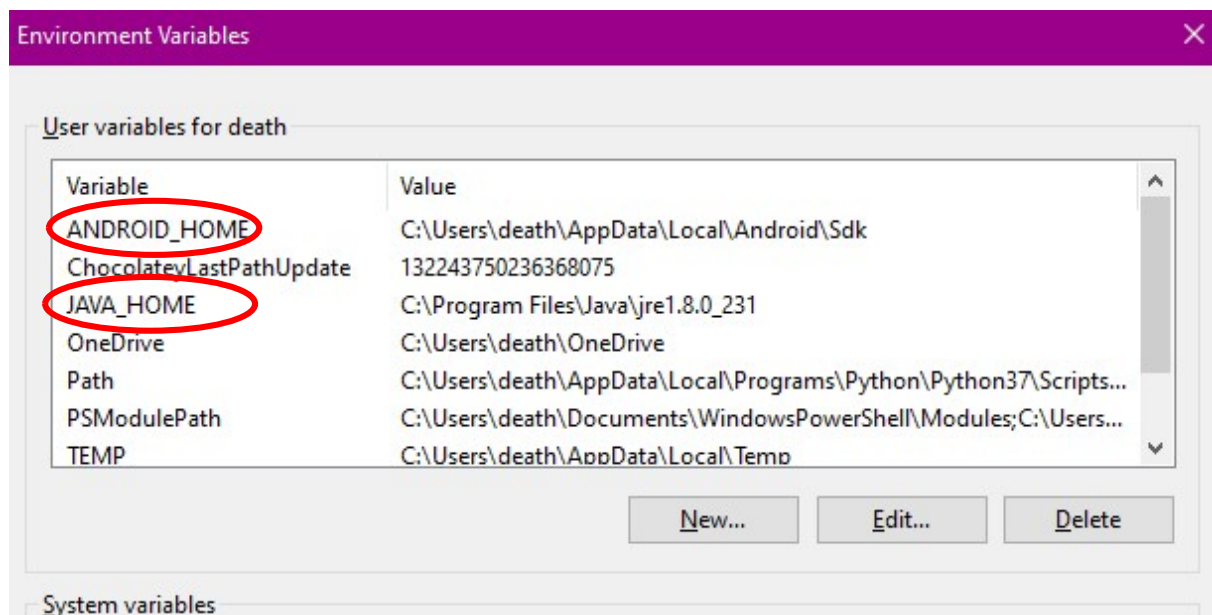
Environment Variables Setup for Java & Android

To run the application using React Native on your emulator, a specific set of environment variable must be setup.

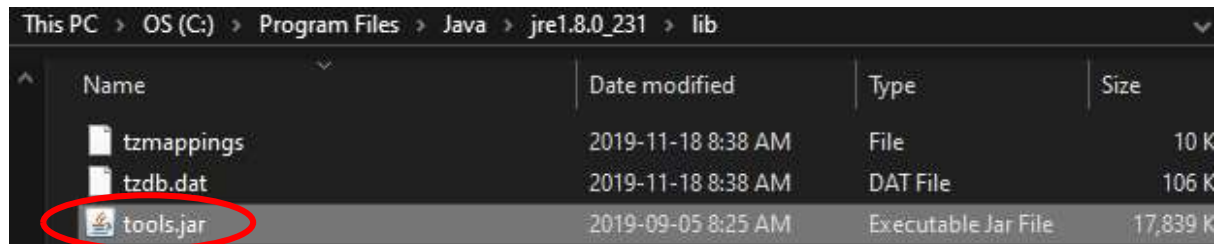
1. Search for “edit environment” under the Windows Start Menu
2. Select *Edit Environment variables for your account*
3. Under Advanced, select (Environment Variables...)

An *Environment Variables* menu will have successfully popped up. There is a section for both the users and systems variables.

4. Under user variables click (New...)
5. Add the *Variable name* of “ANDROID_HOME”
6. Add the *Variable Value* of your android {sdk} path
7. Click (OK)
8. Under user variables click (New...)
9. Add the *Variable name* of “JAVA_HOME”
10. Add the *Variable Value* of your java {jdk} path
11. Click (OK)



Please note, you may have multiple versions of the {jre} or {jdk}, use the version containing the *tools.jar* in {/lib}

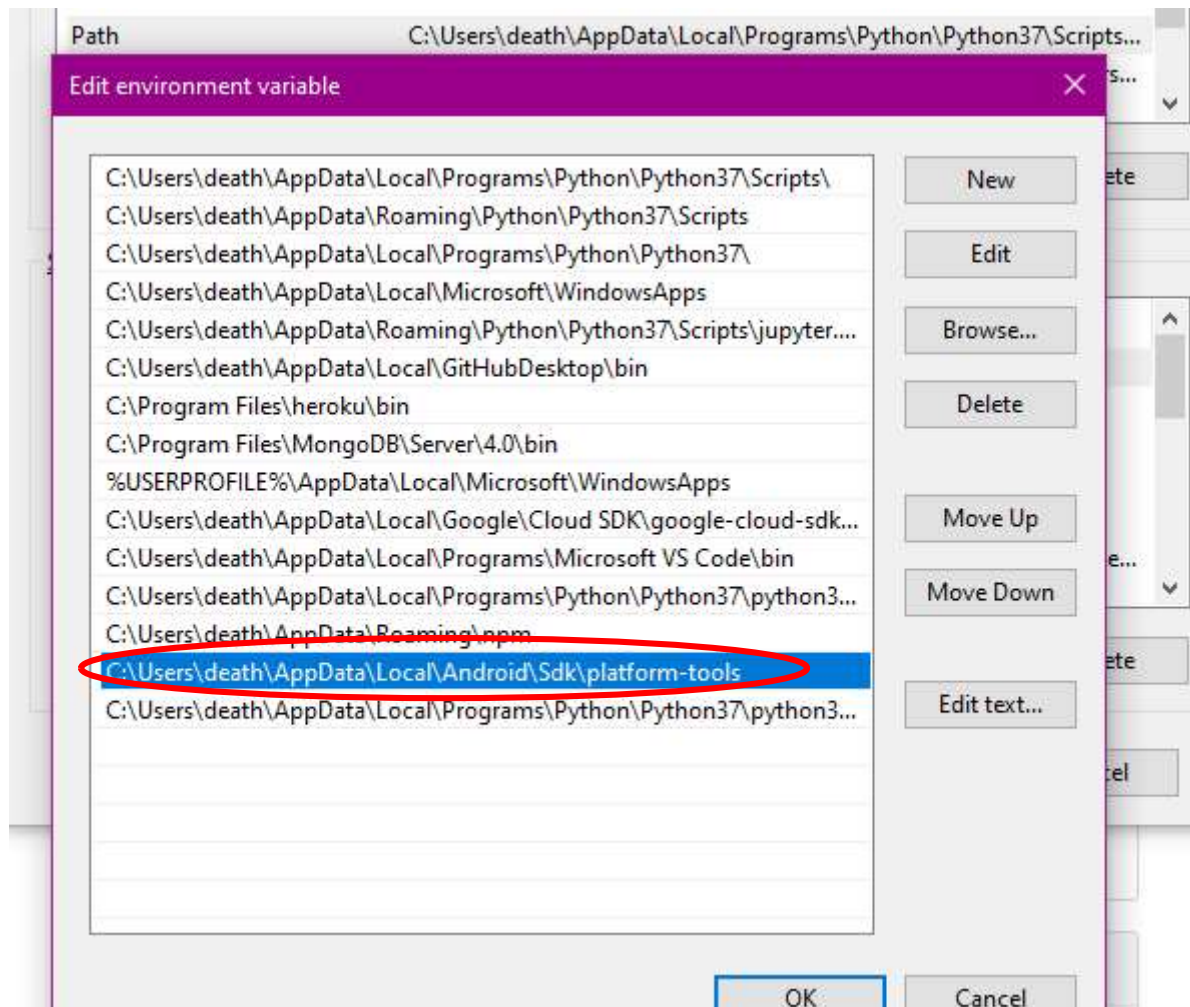


12. Under user variables, search for the variable *Path*

13. Select *Path*

14. Click (Edit...)

15. Add the android sdk {platform-tools}



16. Select (OK)

17. Under the *Environment Variables* windows select (OK)

If everything is added correctly, you have successfully added your Java and Android environment variables

Setting Up the Emulator/Running the Application

The next step is to set up the android emulator in Android Studio. Please open {BuiltSpaceApp} in Android Studio

1. In the top-right corner select (Virtual Device Configuration)
2. Select (Phone)
3. Choose (Your Phone) and click (Next)
4. Under *x86 Images*, (Download) API 29
5. Once the download has completed, select (Finish)
6. Name your device
7. Select (Finish)

Your emulator has been created.

8. In the top-right corner select (Android Virtual Device Manager)
9. Find your created device and click (Play)

Your emulator has been started. Please be patient, as your emulator may take a few minutes to start up. Once started, your device will open up to the home screen

10. Open up a command terminal and **cd** into {BuiltSpaceApp} under {MobileAPP}
11. In {BuiltSpaceApp}, **npm install**
12. **cd** into {android}, **npm install** once again
13. **cd..** into {BuiltSpaceApp} and run the command **React-native run-android**

Please note, these commands are not case-sensitive. The **npm install** commands will install the packages in the directories. The initial start of the app will take longer as the emulator is installing the app

Once the installation is complete, congratulations, you have successfully created and run the application on your system.

Extracting the Realm Database File

The application is using Real Database; therefore, it is necessary to extract the database file for Realm. These set of instructions assume that you have installed Realm Studio on your system, as well as understanding Realm Studio. To extract the data, please ensure that your device is turned on and running {BuiltSpaceApp}. In addition, please ensure that you have logged in once.

Command Line Extraction

The first way of extracting the Realm data is through the command line. Please have a command line open to get started on the following steps.

1. Enter **adb root**

This command restarts the android debug bridge mode in root mode

2. Enter **adb pull /data/user/0/com.builtspaceapp/files/realdbtest.realm**

This command will extract the files to the current directory. Please note, **com.builtspaceapp** and **realdbtest.realm** may be different if the name of {app/db} is changed. If the commands have been entered correctly you have successfully extracted the Realm database file and are capable of viewing the data in Real Studio.

Instruction Sets

The following instruction sets will be for the added for the features implemented into the application. To follow these instruction sets, the user must have his/her login credentials

Login/Logout



Email Address

Password

Login

Logging In

Employees who wish to have access to the system will first need to login, using their Email Address and Password. Before accessing the system, all employees must login first

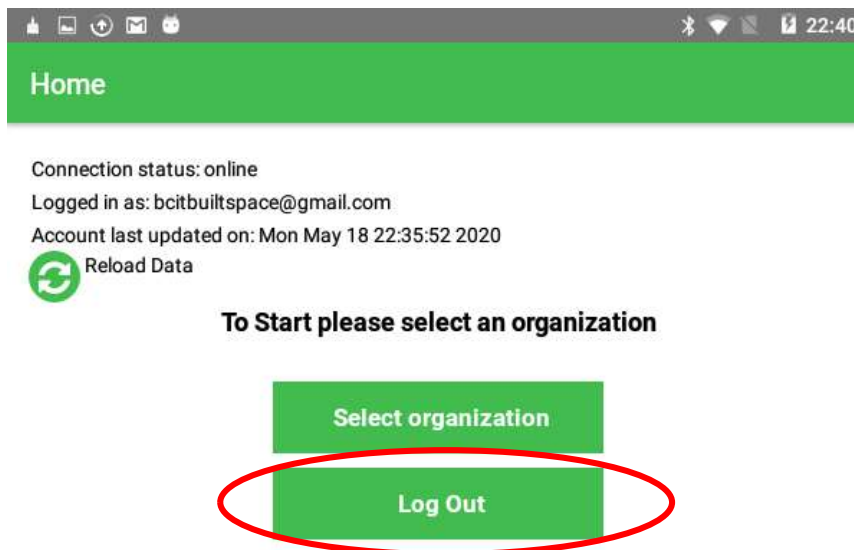
1. Open the application
2. Enter your Email Address in the first text field
3. Enter your Employee Password in the second text field
4. Click (Login)

After a successful login, you should enter the [Home].

Logging Out

Once finished with the application, users are encouraged to logout of the application. To logout the user must enter [Home].

1. Select (Log Out)



Please note, the user may have no navigate back to [Home], they can do this by select (Back) at the top of each page. (Back) is located on the headers of each page.



After a successful logout, you should return back to the login page.

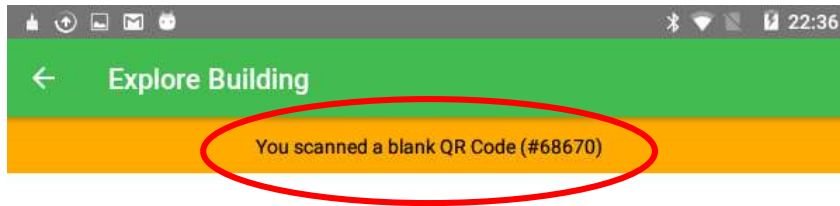
QR Code

Map a New QR Code

Employees can scan QR codes in order to map them to the assets and spaces in a building.

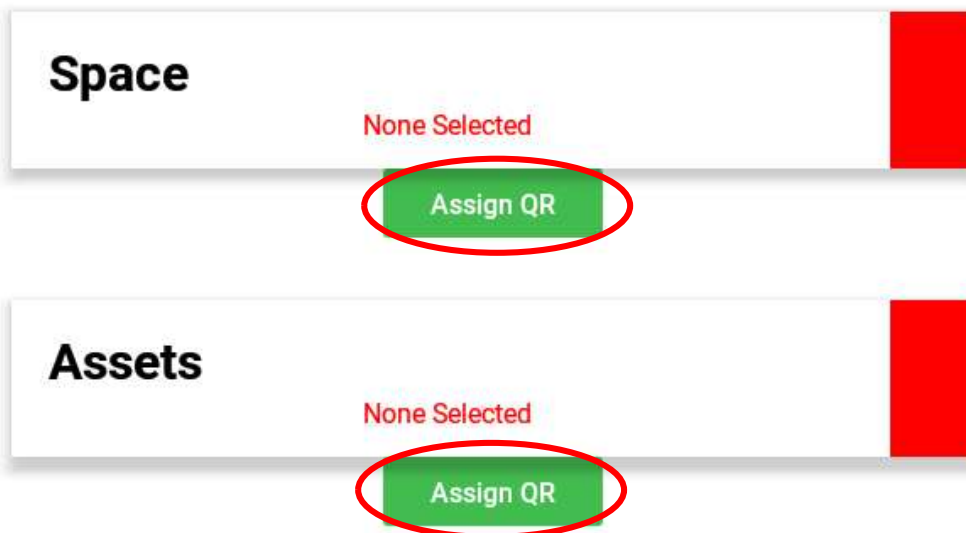
1. Navigate to [Explore Building]
2. Select *Scan QR*
3. Scan the QR Code with the QR scanner

Check the code number on the banner at the top of [Explore Building] to confirm the code.



4. Select the *Space* or *Asset* in which you would like to map to the code
5. Select (Assign QR)

This will be under the *Space* or *Asset* you have selected



6. Click (OK)

This will be selected from an alert box and confirm the mapping

The new mapping is now stored in the device's local storage and can be used with the "Scan QR" functionality in [Explore Building].

Stop Mapping a New QR Code

Continue with steps 1-4 of "Map a New QR Code," if you no longer want to map the code.

1. At the top of the screen, select (Stop Mapping)

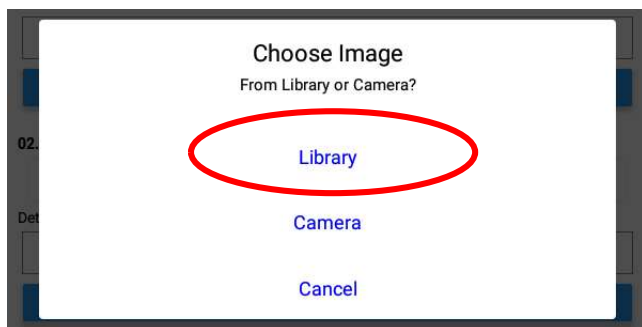


Upload/Edit/Delete/Caption Picture(s)

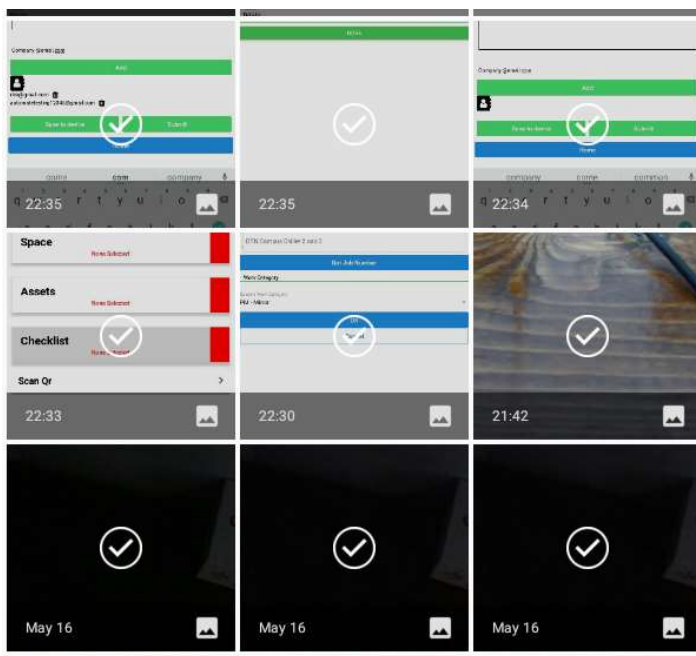
An employee can upload a picture to a checklist question from either their library or take a photo and upload a picture. In addition, an employee can edit or delete the picture taken or uploaded

Upload From Library

1. Navigate to [Explore Building]
2. Select an Asset and Checklist
3. Once completing the question details, select (Upload Picture)
4. Select (Library)



5. Select one or more pictures from your *Photos* library or *Recent Images on Phone* section



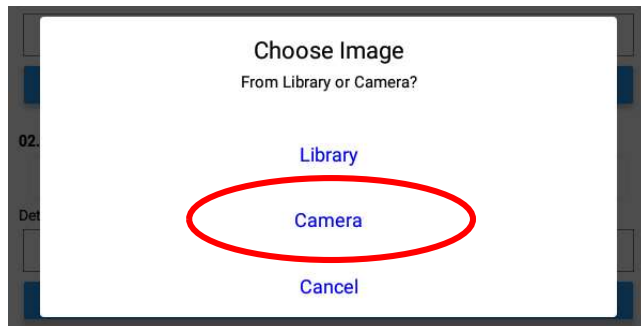
The image(s) will show up under (Upload Picture).

6. Repeat steps 3-5 for all the remaining questions

Upload From Camera

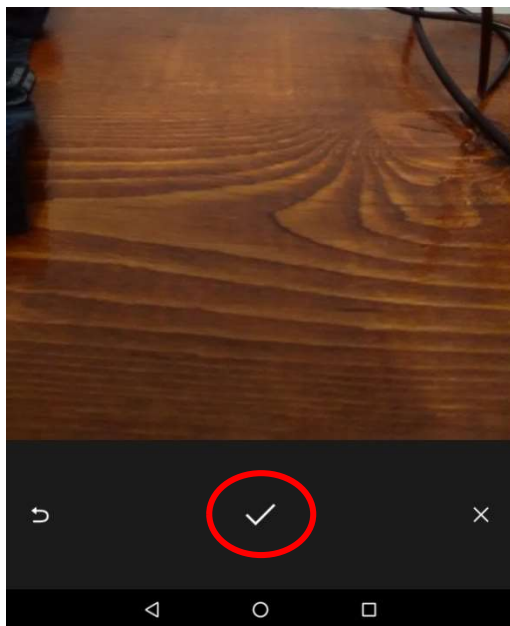
1. Navigate to [Explore Building]
2. Select an Asset and Checklist

3. Once completing the question details, select (Upload Picture)
4. Select (Camera)



The camera will open up, allowing you to set a time, add a grid and flip the camera. When the user takes a picture, he will be given the opportunity to add the image by selecting the check mark, take another image or discard the image.

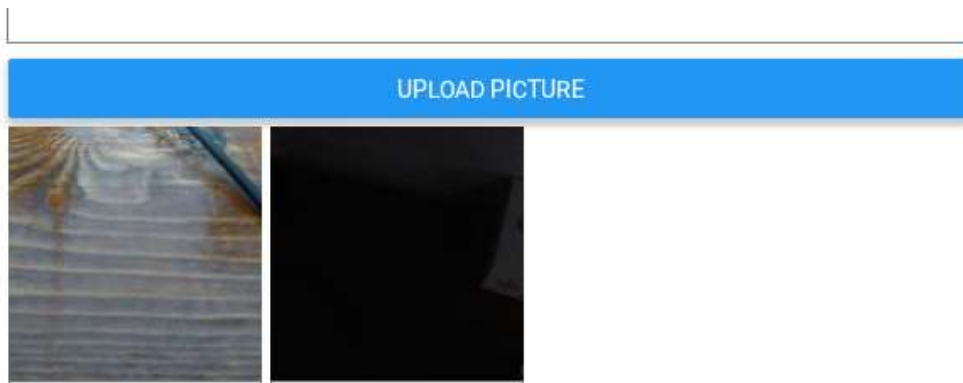
5. Take a picture
6. Select the (Checkmark)



Before you add the picture to the question, you will be given the choice to crop or rotate your picture.

7. Select the (Checkmark) at the top-right corner

The image will show up under (Upload Picture).



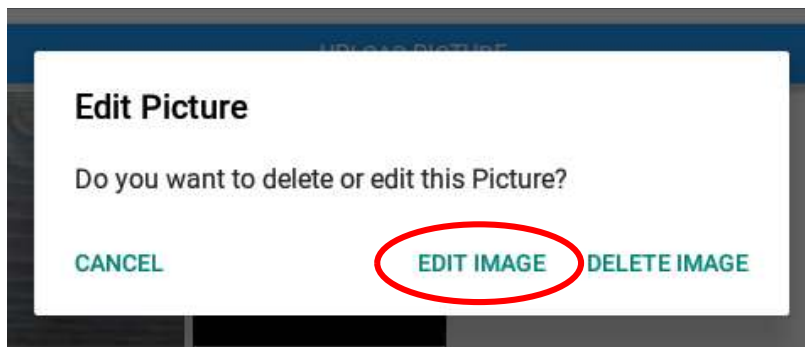
8. Repeat steps 5-7 for all the remaining questions

Edit Picture

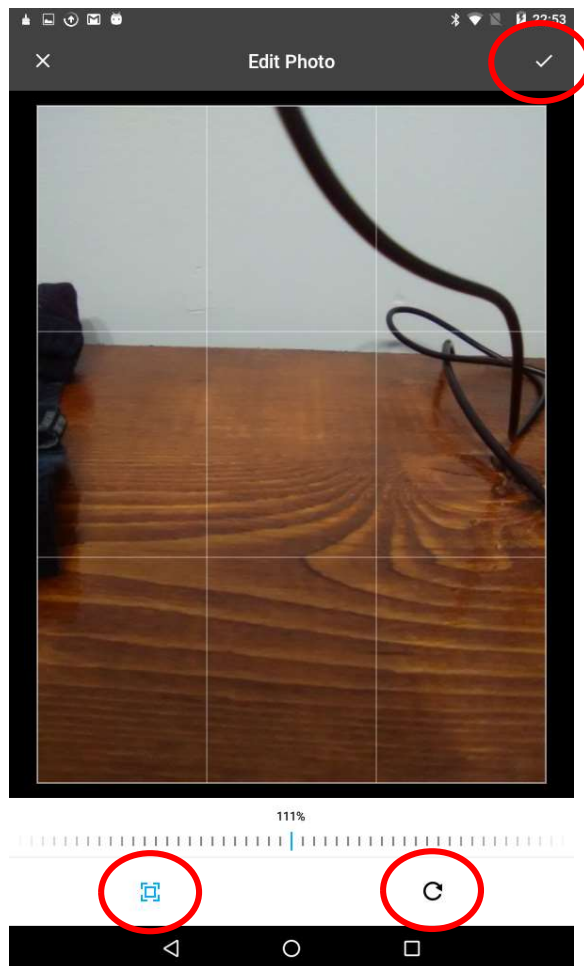
Once a user has uploaded picture(s) from his/her library or camera, the user can view all the pictures from a specific question under (Upload Picture) and edit any picture.

1. Select a picture

An alert box should appear.



2. Select (EDIT IMAGE)
3. Select (Crop) icon on the bottom-left to crop your image
4. Select (Rotate) icon on the bottom-right to rotate your image
5. Select the (Checkmark) at the top right corner when complete



The selected picture will now appear as the edited version

6. Repeat steps 1-5 for any other picture you would like to edit

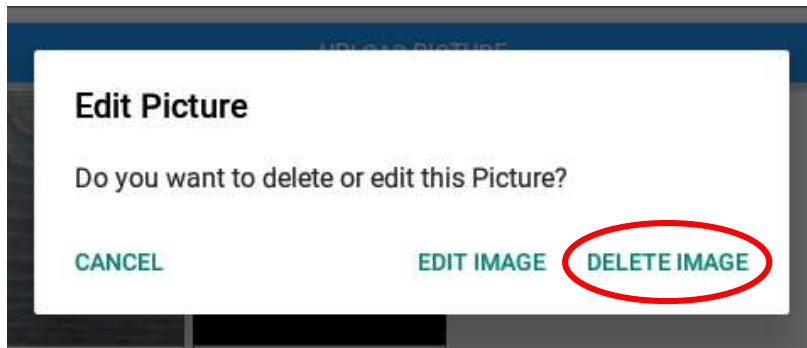
Delete Picture

Once a user has uploaded picture(s) from his/her library or camera, the user can view all the pictures from a specific question under (Upload Picture) and delete any picture.

1. Select a picture

An alert box should appear.

2. Select (DELETE IMAGE)



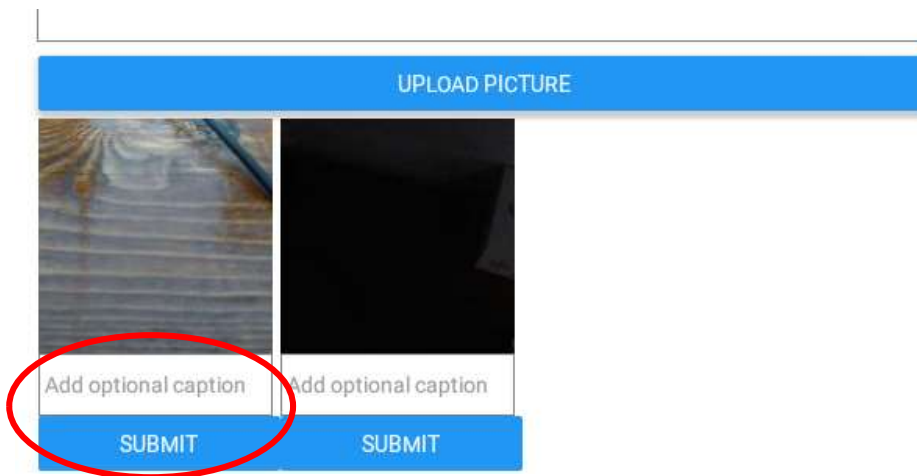
The picture will now be deleted and will not show under the questions (Upload Picture).

3. Repeat steps 1-2 for any other picture you would like to delete

Add Caption to Picture

Once a user has uploaded picture(s) from his/her library or camera, the user can view all the pictures from a specific question under (Upload Picture) and add a caption to the image. Under each image, there will be an input field that allows the user to enter a caption and (Submit).

1. In the *Add Optional Caption* text field, enter a caption if you would like to
2. Click (Submit)

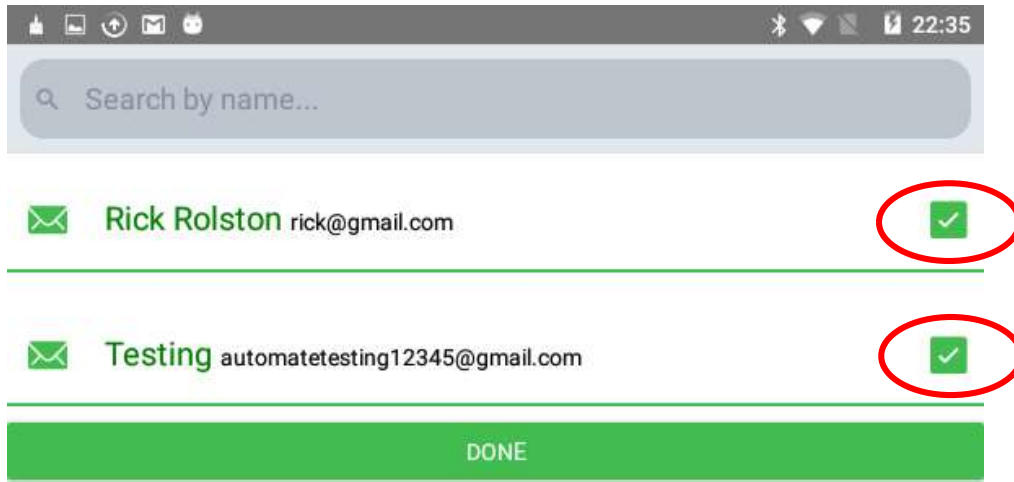


Emailing Report

A user can select email addresses from contacts, or manually type in email address to send inspection report through email. These email addresses will be stored within the inspection report, once the inspection report has been submitted to the server, the server will send out the inspection reports to the added email addresses.

Selecting Email Address from Contacts

1. Navigate to the bottom of [Explore Building]
2. Click on (Contacts) icon
3. Select emails from contacts



Search in the search bar if needed.

4. Click on (Done)


Input Any Email Address

1. Click on (Add Emails Here) text field
2. Enter in an email
3. Click (Add)



Remove Email Address

1. Click on the (Delete) icon

automatetesting12345@gmail.com 

The email will now be removed

Start Visit

A user can start visit, select asset groups, and work categories to filter assets and checklists.

1. Navigate to [Building Detail]
2. Click on (Start Visit)
3. Select (Dropdown) for (Asset groups) and (Work category)
4. Click (OK)
5. Click on (Cancel) to go back to [Building Detail]

Add/Edit an Asset/Space

Allow users to add a space or asset, as well as edit an asset. The user must select a building of their choice to start.

Add Space

1. Navigate to [Explore Building]
2. Choose *Space*
3. Click (New Space) and fill out the text fields
4. Click (ADD SPACE)

An alert box will pop up to confirm the added space, select (OK). This ensure that you have successfully added a space.

Add Asset

1. Navigate to [Explore Building]
2. Choose *Asset*
3. Click (New Asset) and fill out the text fields
4. Click (ADD ASSET)

The screenshot shows a mobile application interface for adding a new asset. At the top, there is a status bar with various icons and the time 23:15. Below the status bar, the title 'Add Asset' is displayed. The form consists of several input fields, each with a placeholder text '- Add [Field Name] -':

- Name**: A single-line text input field.
- Make**: A single-line text input field.
- Model**: A single-line text input field.
- Serial #**: A single-line text input field.
- Category**: A single-line text input field.
- Description**: A multi-line text input field.
- Physical Space(s)**: A single-line text input field.
- Service Space(s)**: A single-line text input field.

At the bottom of the form, there is a prominent blue button labeled 'ADD ASSET'.

An alert box will pop up to confirm the added Asset, select (OK). This ensure that you have successfully added an asset.

Edit Asset

1. Navigate to [Explore Building]
2. Choose Asset
3. Select an Asset you would like to edit

Once you select the asset you would like to edit, you will automatically be navigated back to [Explore Building]. Inside the Assets section, your selected Asset name will appear. Next to it, will be an option to (EDIT)

4. Select (EDIT)

Edit the text fields that you would like to edit.

Edit Asset
 Name
 CH-01
 Make
 Multistack
 Model
 MS50X6C2W1-R410A
 Serial #
 AJ 12-144
 Category
 Chiller
 Description
 Chiller
 Type: Water Cooled - Modular Chiller - 2 Scroll Compressors per Module
 Refrigerant Charge: 20 LBS per circuit X 2 circuits = 40 LBS Total
 Capacity: 25 Tons per circuit X 2 circuits = 50 Tons
 Refrigerant: R-410A
 Physical Space(s)
 Mechanical Room 52
 Service Space(s)
 - None -
 SUBMIT

5. Click (EDIT ASSET)

An alert box will pop up to confirm the added Asset, select (OK). This ensure that you have successfully edited an asset.

Edit Report

Once a user has completed an inspection report, the user can view all the information under *Saved Inspections* in [Home].

Edit Inspection Report

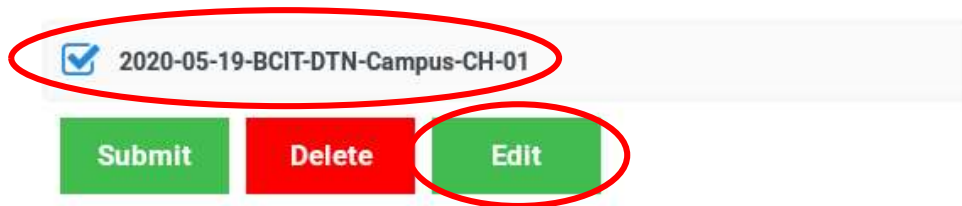
Fill out a checklist inspection of your choice from [Explore Building].

1. Select (Save to Device)
2. Select (Submit)
3. Select (Home)

Once a user has completed an inspection and saved and submitted the inspection, the user can view all the information under *Saved Inspections* in [Home].

4. Select the saved inspection under [Home], by check boxing your saved inspection
5. Click (Edit)

Saved inspections



Your saved inspection information will show up. The user can edit the information for the saved inspection. Edit your inspection.

6. At the bottom of the screen, click (Save)

Please note, if you would like to discard your edited information, click (Back) at the bottom of the screen.

Congratulations, you have successfully gone through the “Instruction Sets” for the mobile application

Location Services

The application detects the user's location through location services. If the user changes to another location, their location will be updated. When the user clicks (saveToDevice), their final location will be saved into the Realm database

Longitude string?	Latitude string?	Altitude string?	Accuracy string?
-123.1152533	49.28345	0	20

Online/Offline

The user can load organization data and building data before going offline. The user can do the inspection in offline mode, then saved in the database. When the connection restores, the report can be submitted. In addition, during offline mode certain buttons will be grey scaled.

Connection status: offline

Logged in as: bcitbuiltspace@gmail.com

Building last updated on: Tue May 19 01:55:49 2020



Reload Data

Release Notes

- Contacts with multiple emails only show the first email.
- One email can be duplicated from inputting and contacts
- Visit start does not filter correct work package and asset group
- Red underlined validations for add/edit an asset/space
- Add/edit filtered to Aerospace building
- Add/edit, may need to go back a page to see results
- Caption/URI not saving to DB
- QR Scanner goes black screen at first launch, launch it second time will resolve this issue
- Must reload data to rescan a QR code after leaving explore building screen.
- Unknown error cause QR not to map at times (cannot re-create error from demo)
- Text color will not show on the edited report on the first load
- Edit report only apply to select button, input text, measurement/labor/material info, but excludes contact/photo
- Work Category does not have data (No data in database), start Visit work Category does not filter
- Asset Group filter work on only DTN Chiller (DB only have available data for that Asset Group)