

Oklahoma Office of Management and Enterprise Services System Requirements Specifications Document

IT Asset Tracking Barcode Mobile Application November 31, 2016

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SYSTEM-WIDE FUNCTIONAL REQUIREMENTS

At the request of OMES, MIS Field Project Team 5 has created design documentation for the IT Asset Management Program including an ERD, DFDs, Wireframe documentation, and Navigation Maps. This program will allow for OMES to track and report on IT assets periodically and easily through utilizing self-reporting on an iOS application. This application will allow employees across the state of Oklahoma to self-scan the pre-assigned barcode on their assets issued by OMES periodically and allow OMES insight as to auditing and asset loss, ultimately allowing OMES to reduce their percentage loss each year.

Functionality for this system must include the following:

- iOS compatible
- location capture, by way of GPS or otherwise
- barcode scanning feature
- date and timestamp
- output excel or delimited file

The completed system will allow for periodic self-audits to take place, minimizing the work required of the IT department to handle this process, ensuring that the process is efficient, and allowing for readily available support. The system will further the goal of OMES to provide IT functions in the most efficient and effective way possible.

SYSTEM QUALITIES

The following are guidelines for system qualities of the proposed system. These guidelines should be met if possible, or altered within reason and without affecting the desired system capabilities. Ease of use, reliability, and fast performance should all be emphasized.

Usability

The application will be used for self-reporting asset location so it must be tailored towards an average user. The application will also only be used from time to time so it needs to be simple enough remember how to use after a large amounts of time. Therefore, it will need to be easy to use, easy to learn, and simple to relearn over time. It should adhere to mobile application general standards of layout and functionality. The user interface should also seek to be as simple as possible, focusing on the main function of IT asset reporting.

Reliability

Most users will not need to scan large quantities of assets at a single time. However, the IT department on occasion will need to scan a large number of assets in the storage. Therefore, the system must be able to scan barcodes for multiple assets at a time effectively and quickly. It must do this without error or failure. If there is an error, the application needs to be able to inform the user of the error, and allow them to restart the application easily. The application should also be able to save any progress in case of error so the user does not need to restart the entire process

Performance

The application must be able to start up quickly. Preferably it will need a few seconds to start up, but should aim to remain under thirty seconds because anything longer can frustrate the user. Button response time and navigation should be near instantaneous. Barcode scanning should take a few seconds to process. The processing of barcodes should aim to be under a minute, preferably under thirty seconds. The application must also be able to scan multiple assets consecutively without any noticeable lag in the processes. When the output reports are sent, this process should also try to stay under thirty seconds to perform if possible.

Supportability

The application will be built in-house and will need to have support available in-house as well. OMES will need to have at least one employee on-hand with knowledge of the application who can troubleshoot any problems that arise or make any necessary changes to the application itself.

Accessibility

The application will need to be available for all State of Oklahoma employees with state IT assets. However, we do not want anyone else to have access to this application.

USER INTERFACE

Overview of Interface

The design of the OMES IT Asset Management application will be sleek and intuitive. Simple in design, the application is designed to maximize functionality and ease of use. Because the application is so simple, this will allow the user to become acquainted with the system and complete the self-reporting process quickly and effectively.

Look and Feel

The application will be very simple and intuitive to allow for a process-oriented application to expedite the self-reporting process as it occurs periodically. The application will include logos familiar to the users, overall simple and neutral colors that do not distract from the mission of the application, and a high degree of interaction in the interface based upon the need for self-reporting.

The OMES IT Asset Management System will not have a log-in screen to ensure ease of use and minimize time and effort spent on the reporting process. Upon entering the application, the user will be presented with a welcome screen with instructions and the user will be able to select settings or choose to begin their scanning session, which will then take the user to a highly interactive screen asking the user to scan their barcodes and enter other needed confirmation. To ensure the user feels confident that their information was successfully submitted, the application will provide a confirmation to the user once all scans are completed and the user has send the file of scanned information to OMES.

Ultimately, this application has been designed to be sleek and simple, lessening any distractions from the self-reporting process and allowing for a highly interactive process with little complication.

Layout and Navigation Requirements

For extended layout and navigation requirements, please reference the Wireframe design and Navigation Maps found in Appendix B and Appendix E.

Consistency

The IT Asset Management application is highly intuitive and consistent in design the user will proceed through a welcome screen, their scanning process, a confirmation page and sending screen, and a receipt of file notice in a typical scanning session. This application is process-oriented due to the need for employees to take part in this process frequently. The design of this application is consistent with design needs for iOS and is designed to be coded accordingly.

User Personalization and Customization Requirements

This application will not be customizable by the user. However the user will be able to enter their own personalized information about their own assets into the system for self-reporting purposes.

SYSTEM CONSTRAINTS

Solution: Build

Platform: IOS10

Programming Language: Swift or Objective-C

Assumptions

- Every employee has a smartphone.
- OMES is able to build this app.
- Barcode cans be universally read

Dependencies

- Internet Connection

Internet connection is required because the app will need to email output files to the email: servicedesk@omes.ok.gov

SYSTEM DOCUMENTATION

Requirements

- Asset management system processes

The asset management system should provide ease of use for old and new employees. For new employees it should provide a way to enter an employee ID as well as allow the employee to scan an asset when received. The existing users should be able to access the asset information (e.g. if they pass the asset on to another employee, that can be reflected). The asset management team should be notified when an asset is leased, returned, lost, or if its location has changed.

- Ease of Use

The phone application should be simple for the employee to use. Aside from the extra security measures, everything else should be pretty simple and straightforward. For the asset management team, all the information should be easy to access in order to make administrative changes.

User Documentation

- Functional Description

The application is meant to allow the employee (user) to scan assets. The scanned asset should be automatically sent to servicedesk@omes.ok.gov so that OMES can keep track of assets.

- Install Manual

- o All versions of the application should be provided by IS staffs.
- o All versions of the application should be installed by supervisors.

- Introductory Manual
 - Enter employee ID, and location information
 - Scan the asset barcode.
 - Submit scanning logs.

- Reference Manual
 - Ability to create a username and password.
 - Ability to scan a barcode.
 - Ability to enter location manually or automatically using GPS.
 - Ability to edit employee information and asset location.

USE-CASES

Install App

- IT staffs make installation tutorial for supervisors.
- Employees give their company iPhones to their supervisors.
- Supervisors install the app and return iPhones to employees.
- Employees trust the developer on iPhone to make the app executable.

Uninstall App

- Retired employees return company iPhone.
- IT staffs uninstall the application.

Receive New Asset

- Scan received assets to generate initial scanning logs.
- After the initial scanning, employees can use assets normally.

Borrow Asset

- Borrower should do a scanning before taking asset from others.
- After the scanning, borrower can use borrowed asset normally.

Return Asset

- Receiver should do a scanning before receiving asset from others.
- After the scanning, receiver can use returned asset normally.

Lost Asset

- If employee finds asset is missing, the employee will report it to supervisor.
- Supervisor contact IT staff to retrieve all scanning logs.
- Supervisor contact management for further actions.

Send Scanned Assets

- After performing any of the asset scanning cases, review list on screen
- Rescan assets or delete incorrect entries
- Enter your email for a copy of the output file email.
- Click send to email output file to servicedesk@omes.ok.gov

Need Help

- Tap the HELP button in the app.
- Read user manual.
- If questions persist, report questions to supervisor.

APP Crash

- Restart the app.
- Check internet connection.
- If questions persist, report questions to supervisor.

ENVIRONMENT

Summary of Impacts

The organizational impacts are minor because IS staff will have to monitor this system just as every other IT program at OMES is monitored. The organizational impacts are also minor because OMES processes will not change in a major way. The developmental impacts are small because no additional IT staff will need to be hired to build this mobile application.

- IS Organizational Impacts

For this proposed system, staffing levels, location and position identification will not change. IS staff responsibilities will include controlling and maintaining the mobile application produced by OMES employees across the state of Oklahoma and making sure these inventories are recorded.

- IS Operational Impacts

The operational procedure will remain mostly as it is currently. Currently, employees use a mobile application built by an external company to complete their periodic IT asset audits and the only operational difference in procedure will be that employees will now use the mobile application built by OMES.

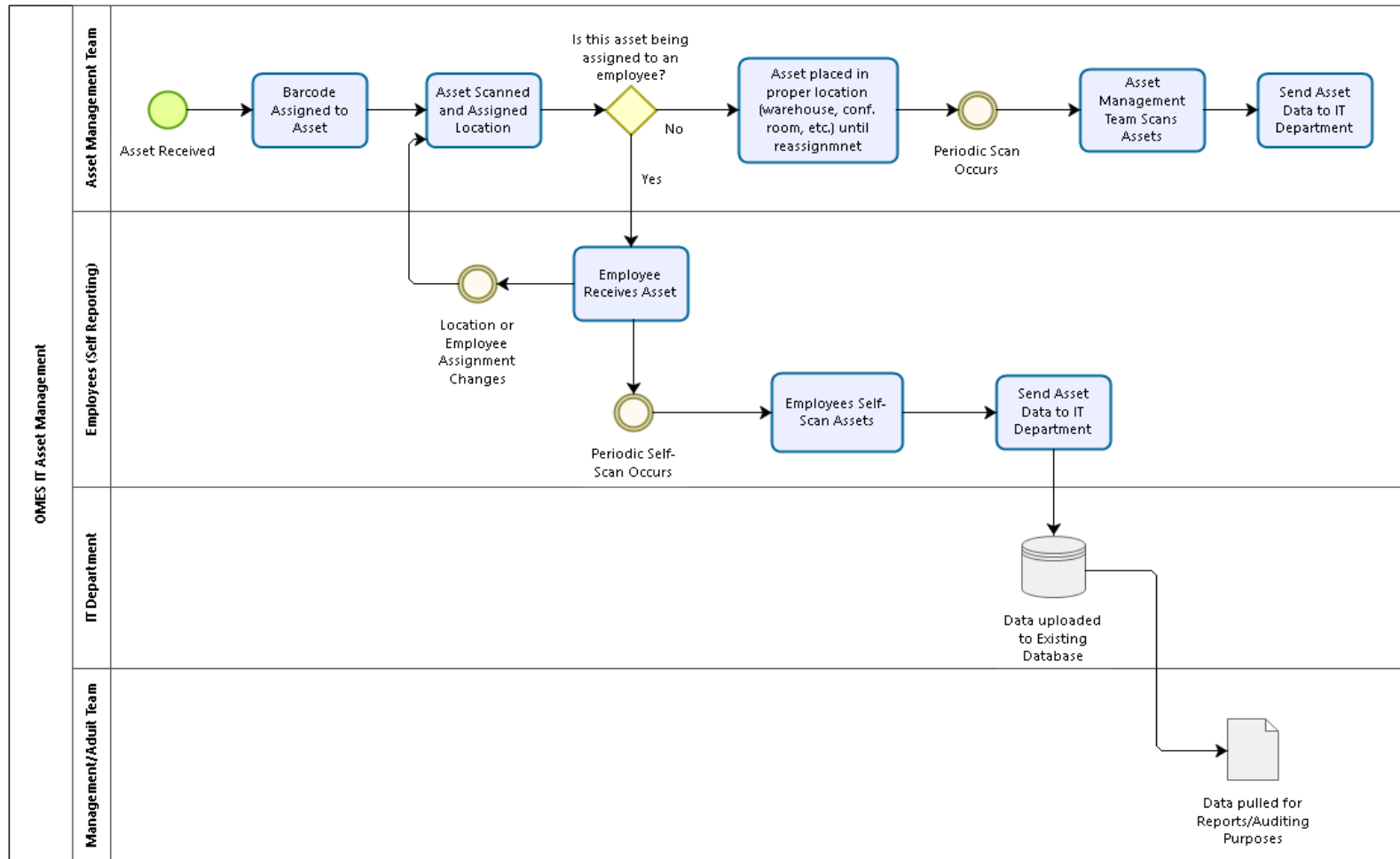
- IS Developmental Impacts

There will need to be IT employees staffed by OMES to develop and test this system. It is unknown if there are any additional requirements for software and data conversion.

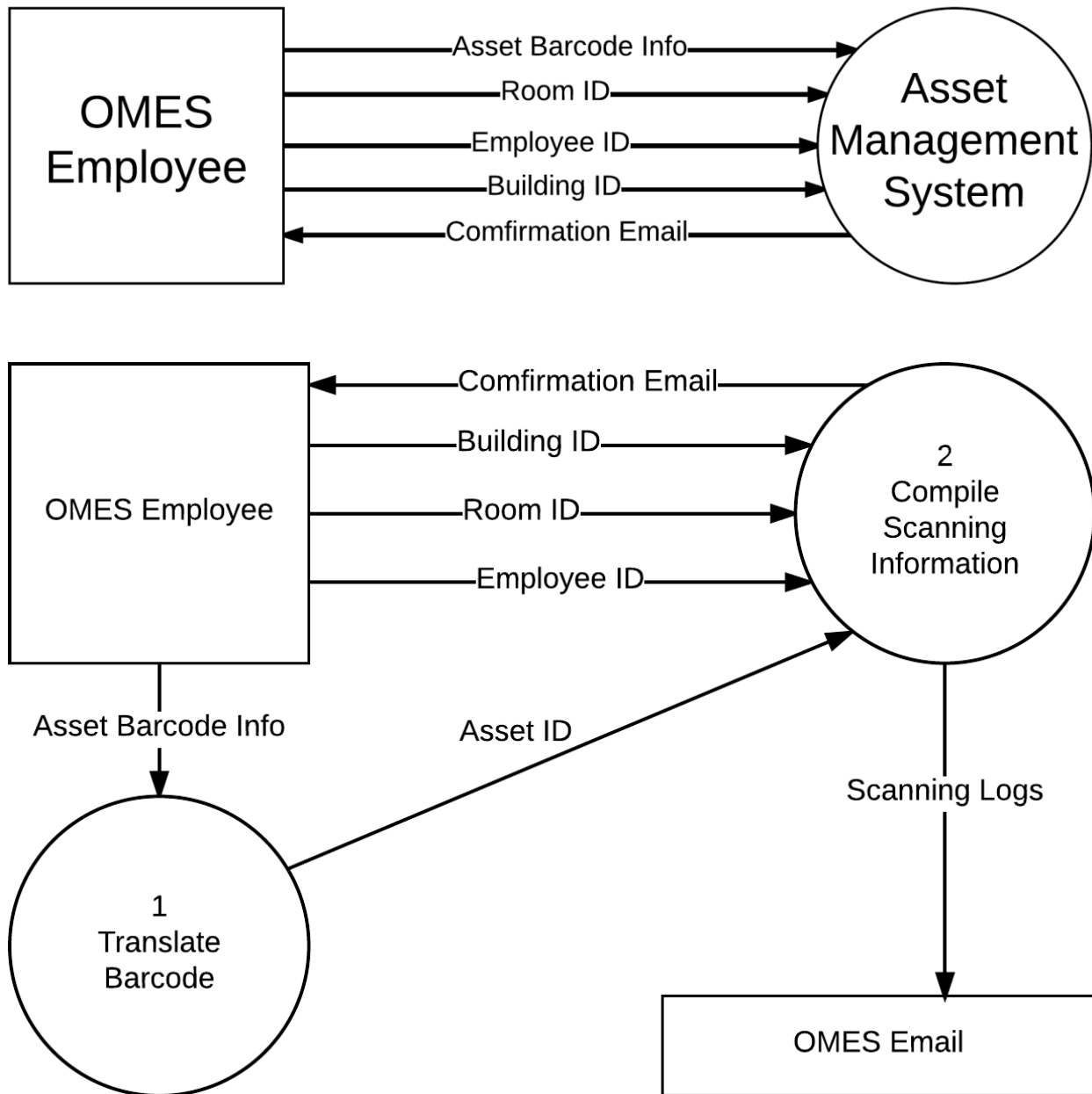
Failure Contingencies

Because this app will be used only periodically (not daily or hourly), if there is a hardware or software failure, the IT asset audit could be conducted at a different time when software and hardware were working properly.

APPENDIX A - Business Process Analysis

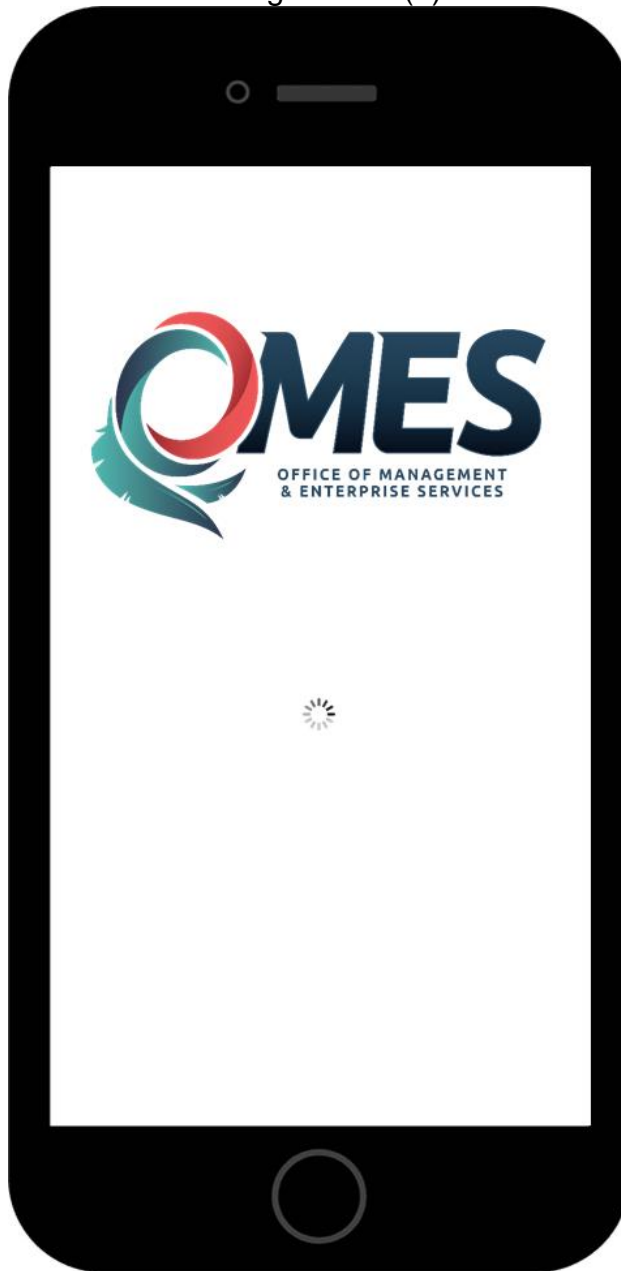


APPENDIX B - DFD

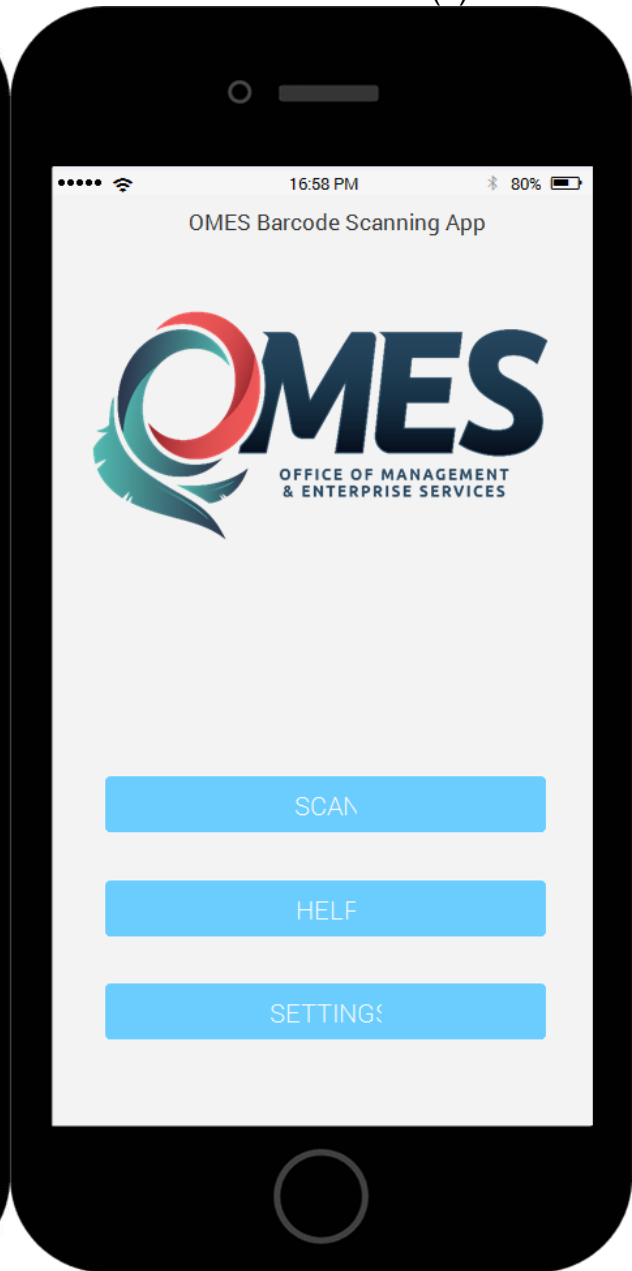


APPENDIX C – Wireframe

Loading Screen (0)



Menu Screen (1)



Enter Asset Information (2)

A mobile application interface for entering asset information. The screen is white with a black header bar. The header bar contains a 'Back' button on the left, the title 'Enter Information' in the center, and a 'Scan' button on the right. Below the header, there are three text input fields. The first field is labeled 'Employee ID:' and contains the text '12345678'. The second field is labeled 'Room Number:' and contains the text 'A789'. The third field is labeled 'Building:' and contains the text 'Main building'. The status bar at the top shows the time as 16:58 PM, a battery level of 80%, and a signal strength indicator.

16:58 PM 80%

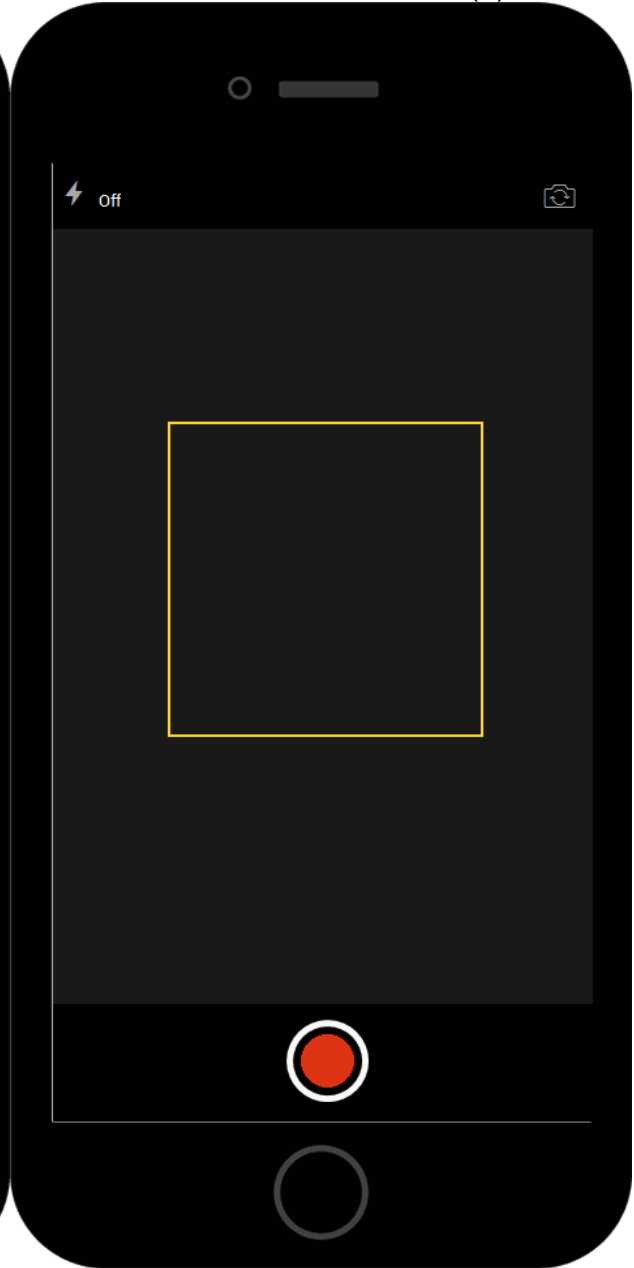
Back Enter Information Scan

Employee ID: 12345678

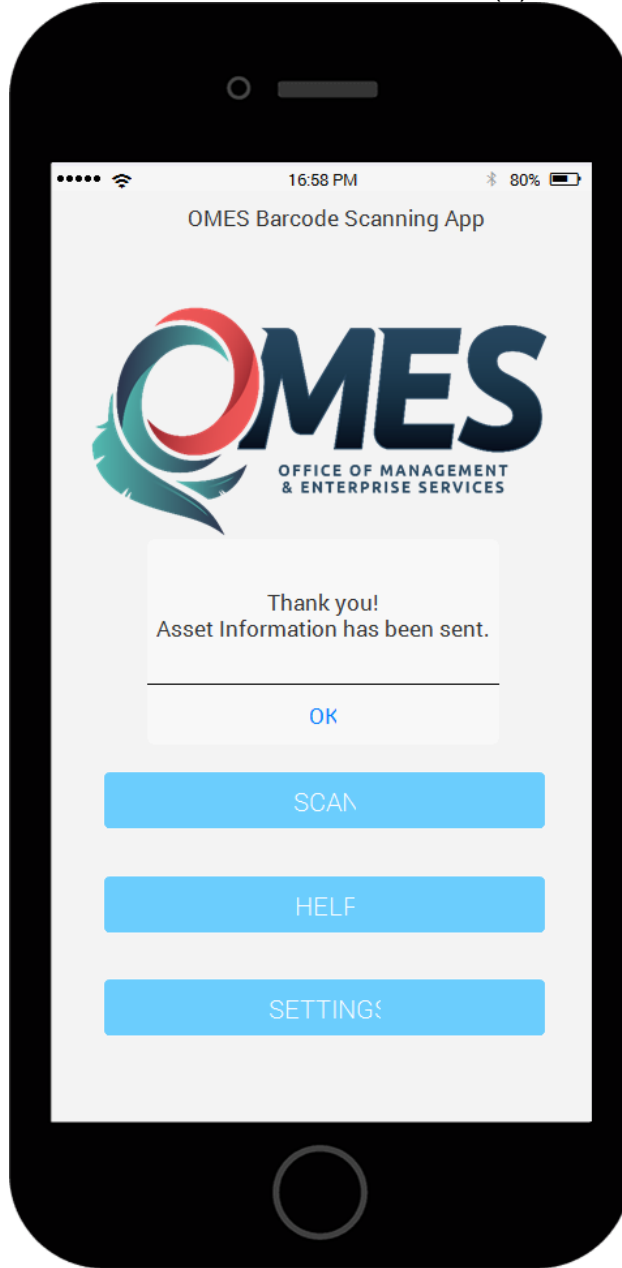
Room Number: A789

Building: Main building

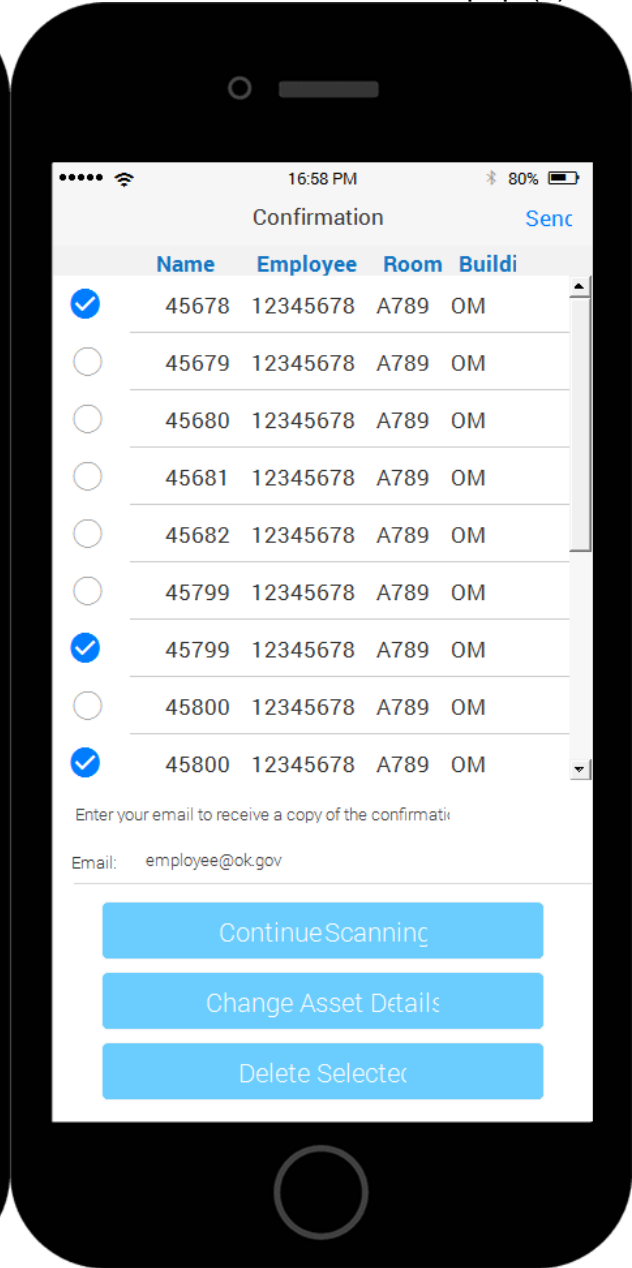
Scan Assets (3)



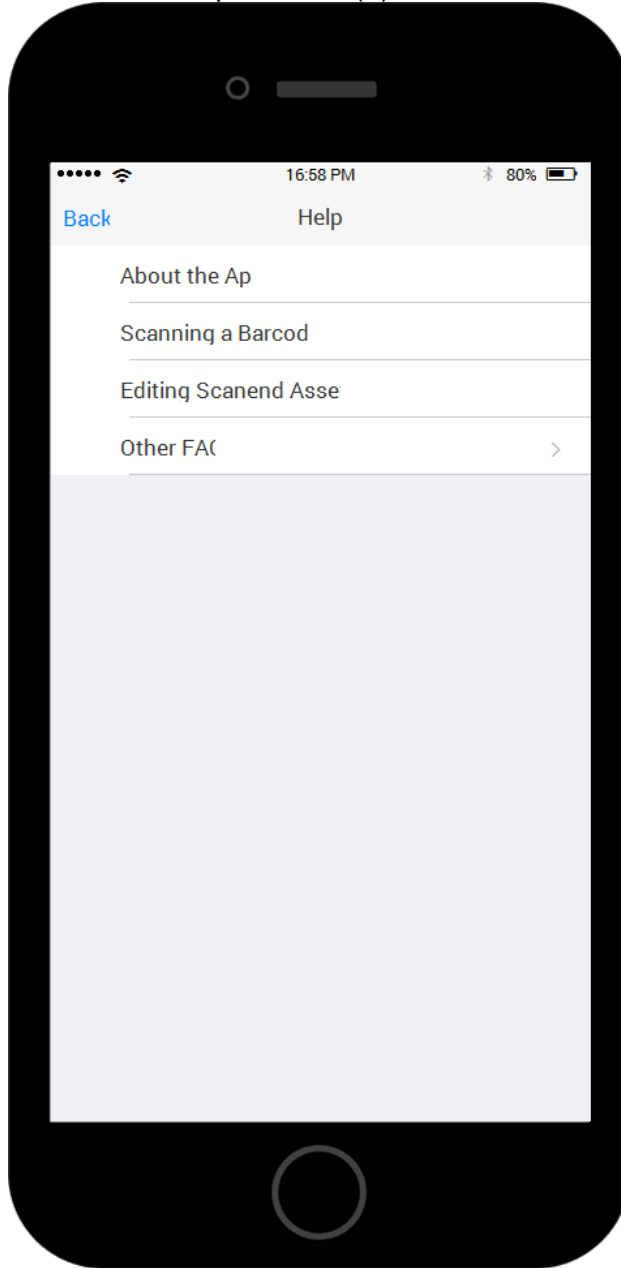
Confirm Before Send Screen (4)



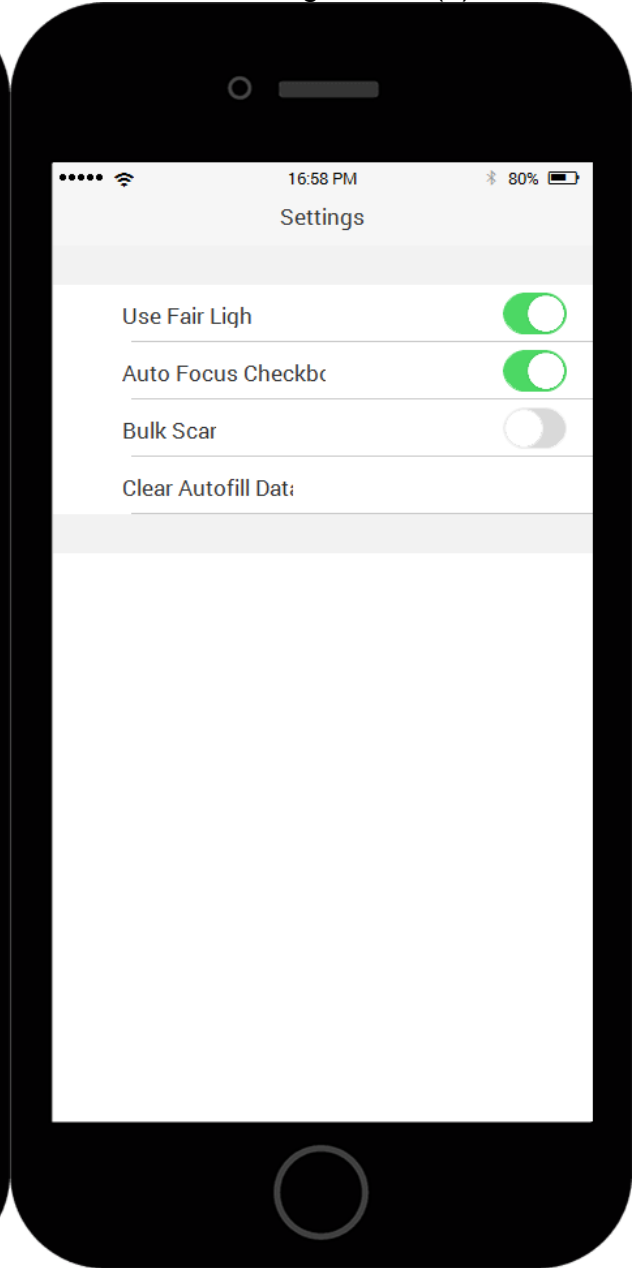
Confirmation of Submission Popup (5)



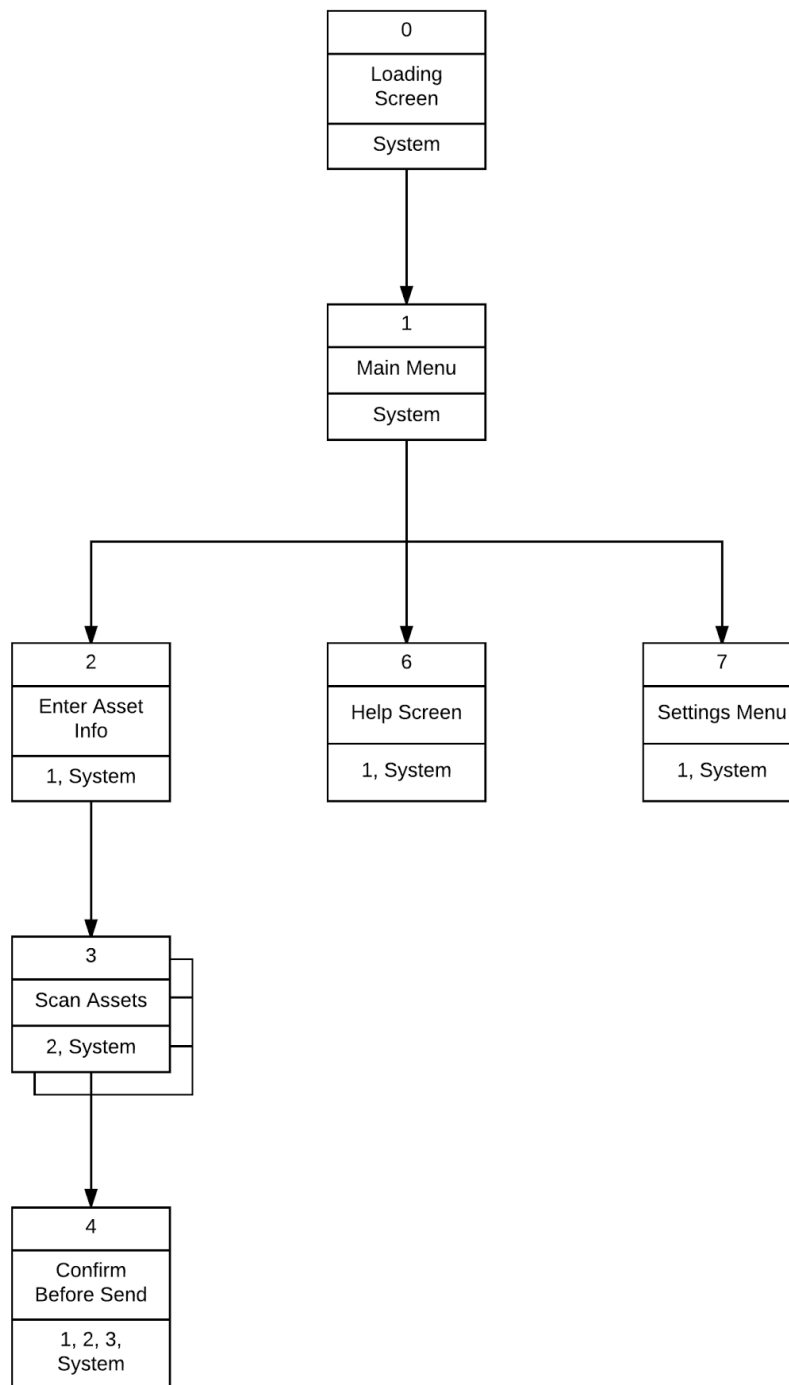
Help Screen (6)



Settings Menu (7)



APPENDIX D - Dialog Diagram



APPENDIX E - Features List

Mandatory	Desirable
1. Scan barcode	1. Android support
2. Employee ID input field	2. GPS (for building location)
3. Location input field (room number and building)	3. Interface with Cherwell or other database
4. Date and timestamp	4. RFID
5. Self-managed	5. Alerts or reminders to phone
6. iOS support	
7. Export file (excel or delimited file)	
8. Offline storage (if no signal)	
9. Method to transfer ownership	
10. Lightweight	
11. Email input field	