USER'S MANUAL

HOUSE HAWK

Home Security Application

CS Senior Project - Group HH

USER'S MANUAL

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1.0 GENERAL INFORMATION

The General Information explains in general terms the system and purpose for which the HouseHawk system is intended to be used, and provides organization of this user's manual.

1.1 System Overview

The HouseHawk system is a mixed use hardware and software application which allows users to capture images of an area after motion in that area is detected. The hardware portion of the system is set up by the user and targeted at a general area in which the user would like to take pictures. Pictures captured from the hardware system are collected and saved to a database. The software (mobile) portion of the system provides the user access to their specific images and alerts the user if any new images are captured. The HouseHawk mobile application operates on both Android and iOS mobile operating systems.

1.2 Organization of Manual

The user's manual consists of five sections: General Information, System Summary, Getting Started, Using the System, and Troubleshooting.

General Information section explains in general terms the system and purpose for which the HouseHawk system is intended to be used, and provides organization of this user's manual.

System Summary section provides a general overview of the system. The summary outlines the benefits in using the system, and summarizes both hardware and software requirements.

Getting Started section explains how to set up the hardware system. Additionally, this section explains how to install the HawkHouse application on your mobile device.

Using the System section provides a detailed description of system functions provided by both hardware and software components of the system. The functionality of each screen in the HouseHawk mobile application is also explained.

Troubleshooting section provides insight on any error messages that occur during the use of the HouseHawk mobile application.

1.3 Disclaimer

The HouseHawk system is intended to be used as a security monitoring system for home owners. No other use of the system is intended. HouseHawk takes no responsibility for misuse of the system by owners. It is the responsibility of the user to insure that no private or harmful information is provided or captured by the HouseHawk System.

2.0 SYSTEM SUMMARY

System Summary section provides a general overview of the system. The summary outlines the benefits in using the system, and summarizes both hardware and software requirements.

2.1 Description of Product

The HouseHawk system provides homeowners a cheap and reliable way to monitor their home security without having to be on the premises. A hardware camera system is connected to an internet source and set up to monitor a specific section of the home, IE the living room. The camera system will begin to capture images if any movement is detected, and save image information to a dedicated HouseHawk server. The user is able to log into the HouseHawk mobile application and will receive a notice if any potential home security issues in that area are detected, as well as be able to view any images captured by the hardware camera system.

2.2 Benefits of System

Some brief benefits of the HouseHawk system can be seen below:
- Cheap and reliable way to monitor house security without being home.
- Images saved to a server in case the camera system is compromised by an intruder.
- Image backups saved to onboard memory in hardware camera system.
- Mobile application provides an alert should home security be potentially compromised.
- Mobile application allows ease of viewing past security captures.

2.3 System Requirements

HouseHawk operates on mobile devices using both Android and iOS operating systems.
- It is compatible with Android 5.0 (Lollipop) and higher versions.
- It is compatible with iOS 8 (Okemo) and higher versions.

Both the hardware and software components of the HouseHawk system requires internet connection in order to save information to and retrieve image information from the server. It is recommended that the hardware component of the system be connected to a reliable internet source, such as home wifi, in order to insure reliability with continued use.

3.0 GETTING STARTED

Getting Started section explains how to set up the hardware system. Additionally, this section explains how to install the HawkHouse application on your mobile device.

3.1 Setting Up Camera System

This section explains the installation process for the hardware camera portion of the HouseHawk system. It is important to follow the steps provided below IN ORDER to insure that the HouseHawk system is correctly set up.

3.1.1 Booting Camera System

Before the camera system can be booted up for the first time, all peripheral items must be connected to the camera system. A list of items can be seen below. Once items are connected, the power supply can be connected in order to boot the system.

1) Insert micro SD card into the micro SD card slot
2) Insert keyboard using one of the four provided USB slots
3) Insert mouse using one of the four provided USB slots
4) Connect hardware component to a monitor using the provided HDMI port
5) Connect power supply to boot up the camera system

3.1.2 Connecting to Internet

The HouseHawk system can connect to the internet via two different means: a typical ethernet connection, or using the camera system's built in wifi. It is recommended that the HouseHawk system be hooked up via wifi for simplicity and ease of use, but it is up to the user's discretion.

1) Ethernet - Connect ethernet cable from a router into the ethernet port located on device.
2) Wifi - Locate the wifi icon at the bottom of the desktop, connect to desired home wifi.

3.2 Setting Up Mobile Application

This section explains the installation process for the software mobile application portion of the HouseHawk system. It is assumed that the mobile phone always has an internet connection via wifi or service provided internet.

3.2.1 Install Mobile Application

Install the mobile application to your phone.

3.2.2 Create User Account

First time users will require a HouseHawk account to be created prior to them using the product. This account will allow the user to add new camera systems to their account, and provide access to the HouseHawk server for storage and retrieval of account information. After a user has created a HouseHawk account, they will be brought back to the login screen to log into the

HouseHawk application using their provided email address and password. Below are steps required to create a HouseHawk account.

1) Click the 'Create Account' text located under the login button
2) Enter user specific information including:
   a) User's first and last name
   b) Email address
   c) Requested password
   d) Home street address
3) Click the 'Create Account' button to create your HouseHawk account

4.0 USING THE SYSTEM

Using the System section provides a detailed description of system functions provided by both hardware and software components of the system. The functionality of each screen in the HouseHawk mobile application is also explained.

4.1 Running Camera System

The camera system can be set to run by using the terminal (command line) built into the camera system. This method is recommended as it allows the user to easily enable the camera system with one line of code. Additionally, the user is able to run and disable the camera capturing system whenever they would like.

1) Locate and click the terminal button at the bottom left of the desktop.
2) Type 'python ~/Code/main.py' to run the camera script.
3) Hold alt and click the 'c' button to cancel terminate motion monitoring.

4.2 Mobile Application

The mobile application can be run after being installed on the mobile device of choice. This portion of the user's manual will explain the functionality and how to interact with each screen.

4.2.1 Login Screen

The login screen is the very first screen seen when the mobile application is opened. It allows the user to set up their HouseHawk account, and log in to the HouseHawk mobile application using their account information.

If this is your first time HouseHawk and you do not have an account created yet, then click on the 'Sign Up' button to navigate to the 'Create Account' screen. Details about the 'Create Account' screen will be explained in section 4.2.2.

If you have an active HouseHawk account, then enter your account information into the email and password fields. Then click the 'Login' button to navigate to the 'Home Screen'. Details about the 'Home Screen' will be explained in section 4.2.3.

4.2.2 Create Account

The create account screen can be used to create a new HouseHawk account. On this screen the user will enter all of their personal information and create an account with the HouseHawk system. Note that the email address provided must be unique, and not match an existing email address listed in the HouseHawk system. After information has been added, press the 'Create' button to create a new account and navigate back to the 'Login' screen.

4.2.3 Home Screen

The home screen is the first screen seen after logging into a user specific account. It allows the user access to all information stored in the HouseHawk server. Users can view their account information, navigate to each camera system, or view the most recent exposure. At any point the user can click the 'Logout' button to sign out of their account and return to the 'Login' screen.

To update your account information, click on the 'Account' button to navigate to the 'Account Information Screen'. Details about this screen will be explained in section 4.2.4.

To view each camera or add another camera to the HouseHawk system, click on the 'Cameras' button to navigate to the 'Cameras' screen. Details about the 'Cameras' screen will be explained in section 4.2.5.

To view the most recent exposure taken by any of your cameras, click on the 'Most Recent Exposure' button. This will navigate you to a 'Pictures' screen with all the pictures provided in the most recently captured exposure. Details about the 'Pictures' screen will be provided in section 4.2.7.

4.2.4 Account Information

The account information screen can be used to display any user account information. This information will match that provided when the user's account was first created. At any point the user can press the 'Back' button to navigate back to the home screen.

4.2.5 Cameras

The cameras screen can be used to display all camera systems attached to that user's account. Additionally, this screen allows users to add a camera to their account. At any point the user can press the 'Back' button to navigate back to the home screen.

To display all exposures for a specific camera, click on the button associated with the camera to navigate to the 'Exposures' screen for that camera. Details about the 'Exposures' screen will be provided in section 4.2.6.

To add a new camera to the system, click on the 'Camera' button. This will prompt you for information used to identify the camera such as the location where the camera is going to be set up and the serial number of the camera.

4.2.6 Exposures

The exposures screen provides a list of all the exposures ever taken by a camera. At any point the 'Back' button can be pressed to return to the 'Cameras' screen.

In order to view the pictures in an exposure, click on the button associated with that specific exposure to navigate to the 'Pictures' screen. Details about the 'Pictures' screen will be provided in section 4.2.7.

4.2.7 Pictures

The pictures screen provides a listing of all pictures associated with a given exposure. The pictures will automatically loop through all pictures available at the time of loading the screen. At any point the 'Back' button can be pressed to return to the 'Exposures' screen.

If additional pictures become available while viewing the pictures screen, the pictures may be updated by pressing the 'Update' button to refresh the pictures provided.

4.2.8 Recent Pictures

The recent pictures screen functions roughly the same as the 'Pictures' screen explained in section 4.2.7 with one key difference. Because this screen is navigated to once the user clicked on the push notification, the recent picture screen includes a button to indicate to the camera that the pictures can stop being taken. This functionality can be used if the user decides that the pictures being taken are not important, such as a dog or cat set off the camera but home security is not in any imminent danger. At any point the 'Back' button can be pressed to return back to the home screen.