PROGRAMMER MANUAL
RS-9

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P446
Indiana University Southeast | Spring 2021

1. Vision statement

For farmers who are in need a system to schedule daily tasks, FarmHand is a mobile application for IOS devices that integrates weather information into the scheduling process. Unlike standard scheduling applications this program allows you schedule tasks based on weather events.

2. Introduction

I am a senior in the Computer Science department at Indiana University Southeast. I am developing Farmhand as an application to assist farmers in the scheduling of daily tasks and chores.

3. Component Overview

a. Google Calendar Integration

Allow for the scheduling of tasks in the users Google Calendar.

b. Weather Integration

Ability to pull meteorological data into the app, such as forecasts and sunrise information.

c. Weather Based Task Scheduling

Ability to combine Google Calendar and Weather integration to provide scheduling options suited towards farmers.

4. Tool overview

a. Swift programming Language

Developed by Apple and the open-source community in 2014.

b. xCode integrated development environment

A development environment to develop applications for Apple devices. xCode runs exclusively on Apple operating systems.

c. Alamofire HTTP networking library

An HTTP networking library to assist in the API calls.

d. SwiftyJSON JSON handler

A JSON parser that is more user friendly than the Swift alternative.

5. Project Repository

a. Software

All files are located on GitHub at the following link:
https://github.com/jamespclay/CAPSTONE_JPC_FARMHAND

b. Test Cases

Five test cases were run in the following areas

- Functionality
- Security
- Performance
- Usability
- Compatibility

c. Documentation

Testing documentation is available in the document TEST_PLAN_REPORT_RS-6

d. Test platform description

The testing platforms used were the xCode IDE and the Farmhand application itself.

e. Test scripts

Test scripts were incorporated into the xCode environment and available in the source code.

6. Installation for new install

Currently, the application is installed by enabling developer mode on the device, then connecting the device an instance of xCode where it is pushed to the device.

7. Installation for new platform (preserves data from previous)

An installation on a new platform that will preserve the data from the previous installation is performed using the same method mentioned above. Since Google login is used, the users' data persists among installations.

8. Further development

There are three areas I would focus on with further development of the application. First, I would improve the API functionality so the calls that are dependent upon one another would function better. Second, I would refine the user interface so that calendar and weather forecasts are presented in a more appealing way, perhaps with a function to hide the forecast. And finally, I would make all necessary refinements to ready the app for submission to the Apple App Store to ease distribution.