Capstone Abstract

Project Number: S19-33
Project Title: Pet Feeding Notification System
Project term: Spring 2019

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Motivation  
The Pet Feeding Notification System (PFNS) is a solution for families that own pets, to track the status of a pets feeding, and send notifications to family members when a feeding event is missed. This project can be used by families to ensure their pet has received their daily meals, and that a pet has not been fed twice.

Interface  
The PFNS will be physically realized as a touch screen interface that users interact with. The touch screen will be mounted in an enclosure, which will also hold the driving hardware (Raspberry Pi). In addition to the touch screen interface, the enclosure will be fitted with a programmable LED light strip, so that feeding status can be communicated through the LEDs. For example, after breakfast has been fed and the user has pressed the corresponding button on the touch screen, half of the LED strip will illuminate to notify other users walking by that there is no need to feed their pet breakfast. The LEDs can also blink or perform some other action when it is time for a meal.

Mobile Notification and Mobile Application  
The PFNS will have the ability to send notifications to users’ cell phones through an SMS. The PFNS will connect to the user’s wifi network and an e-mail can be sent to the phone numbers of family members when a certain amount of time has passed after a feeding time. The user will be able to configure feeding times, notification times, and mobile numbers to notify through a mobile application. The mobile app will communicate with the Raspberry Pi through bluetooth, with the Raspberry Pi acting as a server.