flutr

sddec24-11

Client: Nathan Brockman

Advisor: Dr. Diane Rover

Team Members:
- Muralikrishna Patibandla
- Amanda Friis
- Alex Brown
- Tayler Barnhart
- Nathan Geater
- Piper Ideker

01 User Needs

General Public
- A quick and engaging way to learn about the butterflies in the flight house
- The Kiosk with security features and QR codes to prevent unauthorized access.

Entomologists
- An easy way to track butterflies that come into the house
- An easy way to export data to spreadsheets to report to the USDA
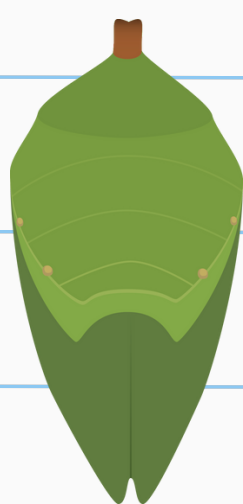
02 Solution Overview

Flutr Application:
Develop an application for pavilions that provides data tracking. Then use that data to display interesting facts and statistics to guests. Thus improving their experience by forming a stronger connection with the pavilion.

Reiman Kiosk:
Build a new computer for Reiman Gardens to fit within the existing case.

03 Requirements

Flutr

Pavilion Administrator
- Add, edit, and delete shipments
- Add butterfly releases
- Customize their home page
- Create, edit, deactivate employees
- Import and export shipment data

Super Administrator
- Create pavilions
- Create and edit master butterfly list
- Export data from pavilions

Guests
- View pavilion home pages
- View butterfly gallery

Data Tracking
- Track number of butterflies in flight

Kiosk
- New computer/touchscreen fits existing case
- Has adequate cooling for constant high heat and humidity
- Kiosk users are unable to leave Flutr
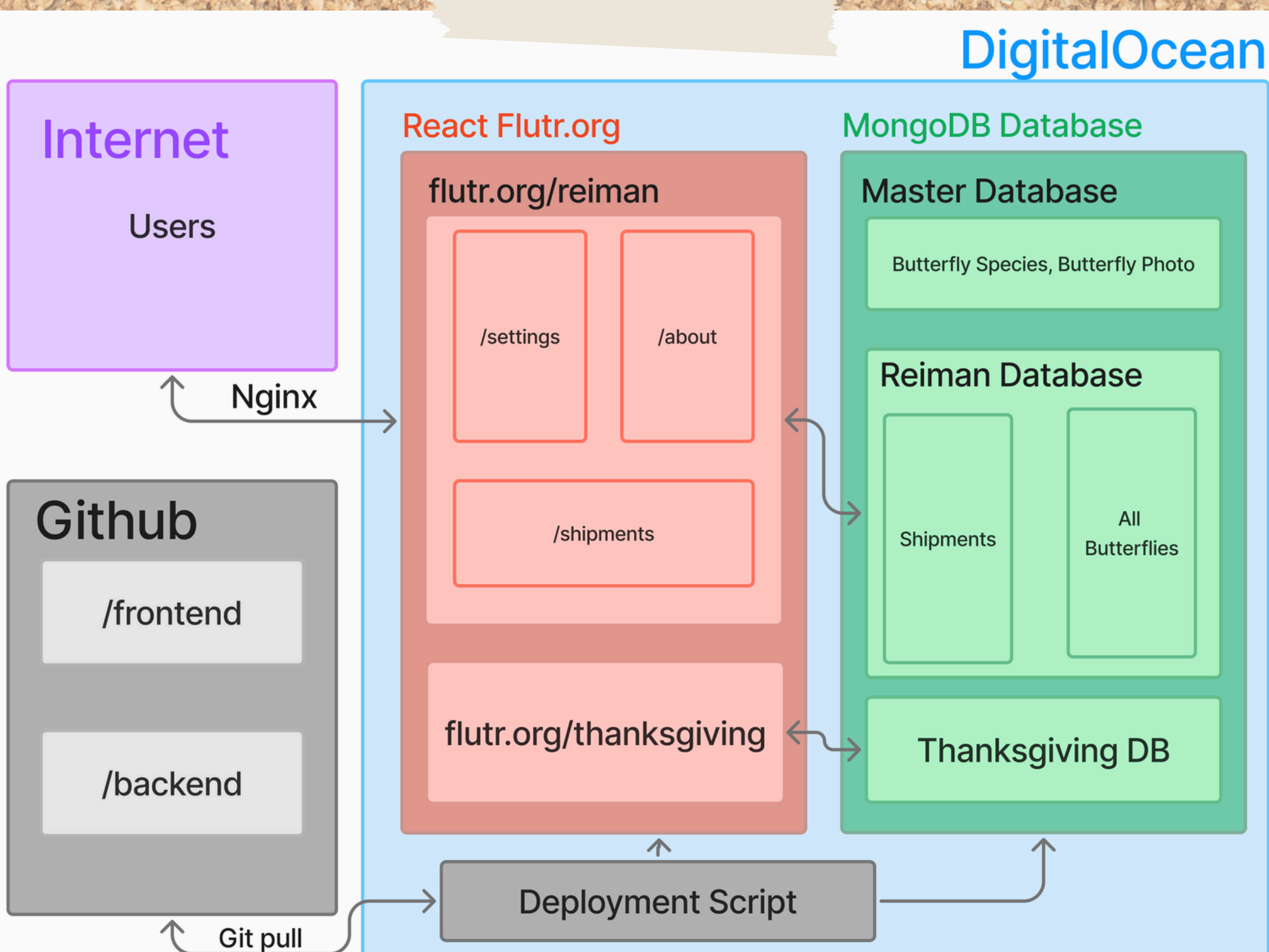- Computer shuts down at close and restarts in time for opening

Application Solution
- A React based frontend
- Connected to a MongoDB backend with Springboot controller
- Hosted on DigitalOcean

04 Kiosk Solution
- Raspberry Pi 4 Running Raspbian LITE
- CPU Fan + 2 Case Fans
- Chronjobs to sleep and wake at desired times
- Opens app in fullscreen
- Reiman Specific Kiosk mode for app

DigitalOcean

Internet — Users

React Flutr.org
- flutr.org/reiman
  - /settings
  - /about
  - /shipments
- flutr.org/thanksgiving

MongoDB Database
- Master Database — Butterfly Species, Butterfly Photo
- Reiman Database — Shipments, All Butterflies
- Thanksgiving DB

Github
- /frontend
- /backend

Nginx

Git pull

Deployment Script

Check it out!