

MICHIGAN STATE

UNIVERSITY

Project Plan Presentation

Driven Connect Application, Server, and Backend

The Capstone Experience

Team Driven-4

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Spring 2023



*From Students...
...to Professionals*

Project Sponsor Overview

- Consultation, Solutions, and Operations
- IoT/IIoT PLM, Service Management, Security
- One-Stop Shop for IoT Solutions



Project Functional Specifications

- Eases access to products
- Creates interface for user interaction with product
- Visually Intuitive Web App



Project Design Specifications

- App is a Web Application
- Follows Driven-4 Branding
- Left-hand Menu (collapsible) Navigation



Screen Mockup: Admin Dashboard

For Company X

Home
Devices
Data
Accounts
Logout

Welcome Admin | ryans@drive-4.com

DRIVEN-4

Time: 05:22 PM Date: 01/22/2023

Dashboard

Status | Module Info

Total Boards: 10

Active: 6
Non-active: 4

Active		Non-Active	
Driven-4	WU5X9VHM9PER9A4N IMEI: 990877998545225	PTC	BRQEFB5RVW5BVE8F
Siemens	6974GMS3NR9MS58H	Oracle	SARXEQXG4CATV7SA
Microsoft	JRAGZPQDQW45C5NY	HCL Software	VCW822KJN7C6F6GC IMEI: 993623116952530
Planview	GPETU6X78NVK8RUF	Cisco	JGWHDFGL85LC3P9B
Garmin	8CCCGHDDUCT3TYBS IMEI: 868810258723512		
IBM	9RJLMSMZB5JVXKSM		

Subscription Information

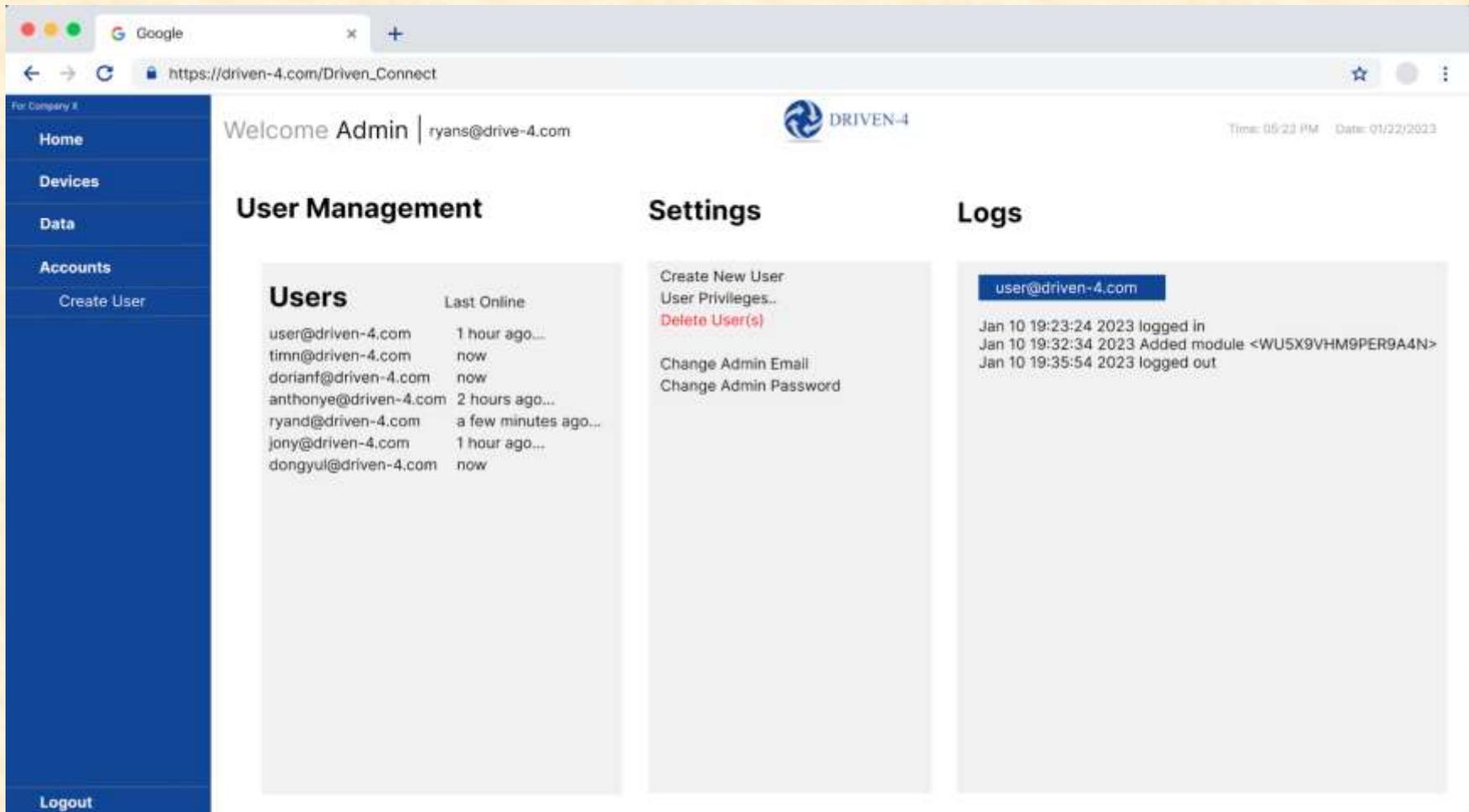
Qty: 10
Rate: 120
Amount: 1,200
Subtotal: 1,200
Sales tax(6%): 72
Total: \$1,272

Data: 1.04TB
Used: 483GB

Account information: Administrator,
Access to all companies and modules
User @ company



Screen Mockup: User Management



Screen Mockup: All devices page

The screenshot shows a web browser window with the URL `https://driven-4.com/Driver_Connect`. The page is titled "All Devices" and features a sidebar with navigation options: Home, Devices, Data, Accounts, and Create User. The main content area displays a list of devices with their status and a "Download" button for each. The status is indicated by a green dot for "online" and a red dot for "offline".

DRIVEN-4
Time: 05:22 PM Date: 01/22/2023

All Devices

Devices

Driven-4	online	●	Download
Siemens	online	●	Download
Microsoft	online	●	Download
Planview	online	●	Download
Garmin	online	●	Download
IBM	online	●	Download
PTC	offline	●	Download
Oracle	offline	●	Download
HCL Software	offline	●	Download
Cisco	offline	●	Download

[Update All](#)

Screen Mockup: Device management

Google x +

← → ↻ https://driven-4.com/Driven_Connect ☆ ● ⋮

for Company X

Home

Devices

Data

Accounts

Logout

Welcome Admin | ryans@drive-4.com

DRIVEN-4

Time: 05:22 PM Date: 01/22/2023

Device Info

Name: **Driven-4** [EDIT](#)

Serial # WU5X9VHM9PER9A4N

IMEI: 990877998545225

IP: 643.45.22.134

Active time: 4 Days 3 Hours 23 Minutes

Status: online ●

Updates

Version: 1.2.21

[Check for updates...](#)

Update available..

Version 1.2.22	Download
Version 1.2.21	Download
Version 1.2.20	Download
Version 1.2.19	Download
Version 1.2.18	Download

Change Logs

Jan 10 19:26:53: Update version 1.2.21 downloaded

All firmware versions

All firmware versions..

[Visit page...](#)

API_1
API_2
API_3
API_4

Logs

Jan 10 19:23:24 2023 Driven-4@643.45.22.134: Connection Established

Jan 10 19:23:26 2023 Driven-4@643.45.22.134: New Data Available

Jan 10 19:24:28 2023 Driven-4@643.45.22.134: New Firmware push received, downloading OTA updates

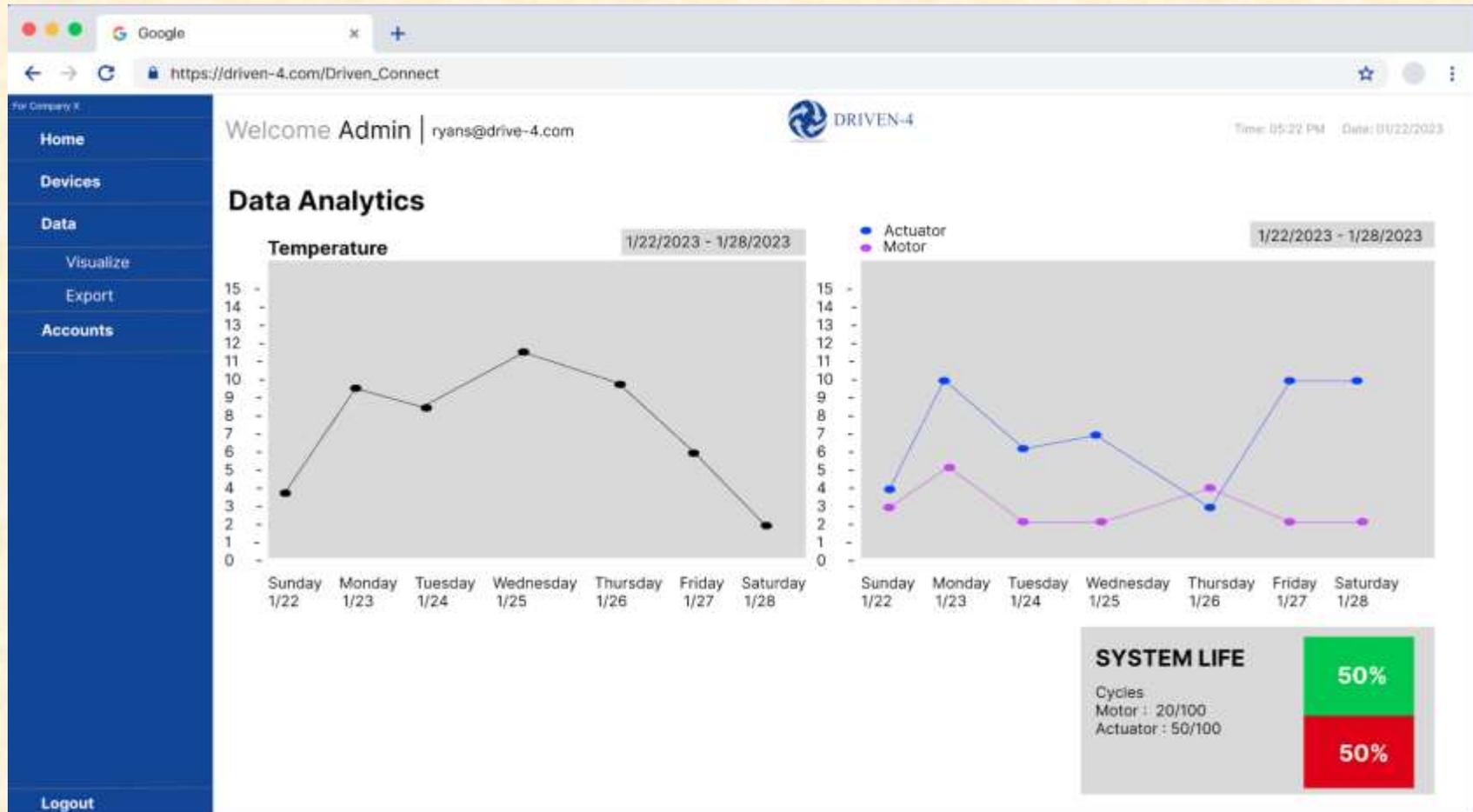
Jan 10 19:23:30 2023 Driven-4@643.45.22.134: New Firmware push downloaded, attempting to flash OTA updates

Jan 10 19:24:20 2023 Driven-4@643.45.22.134: Rebooting...

Jan 10 19:26:50 2023 Driven-4@643.45.22.134: Connection Established with Server

Jan 10 19:26:53 2023 Driven-4@643.45.22.134: Update Completed

Screen Mockup: Data Analytics

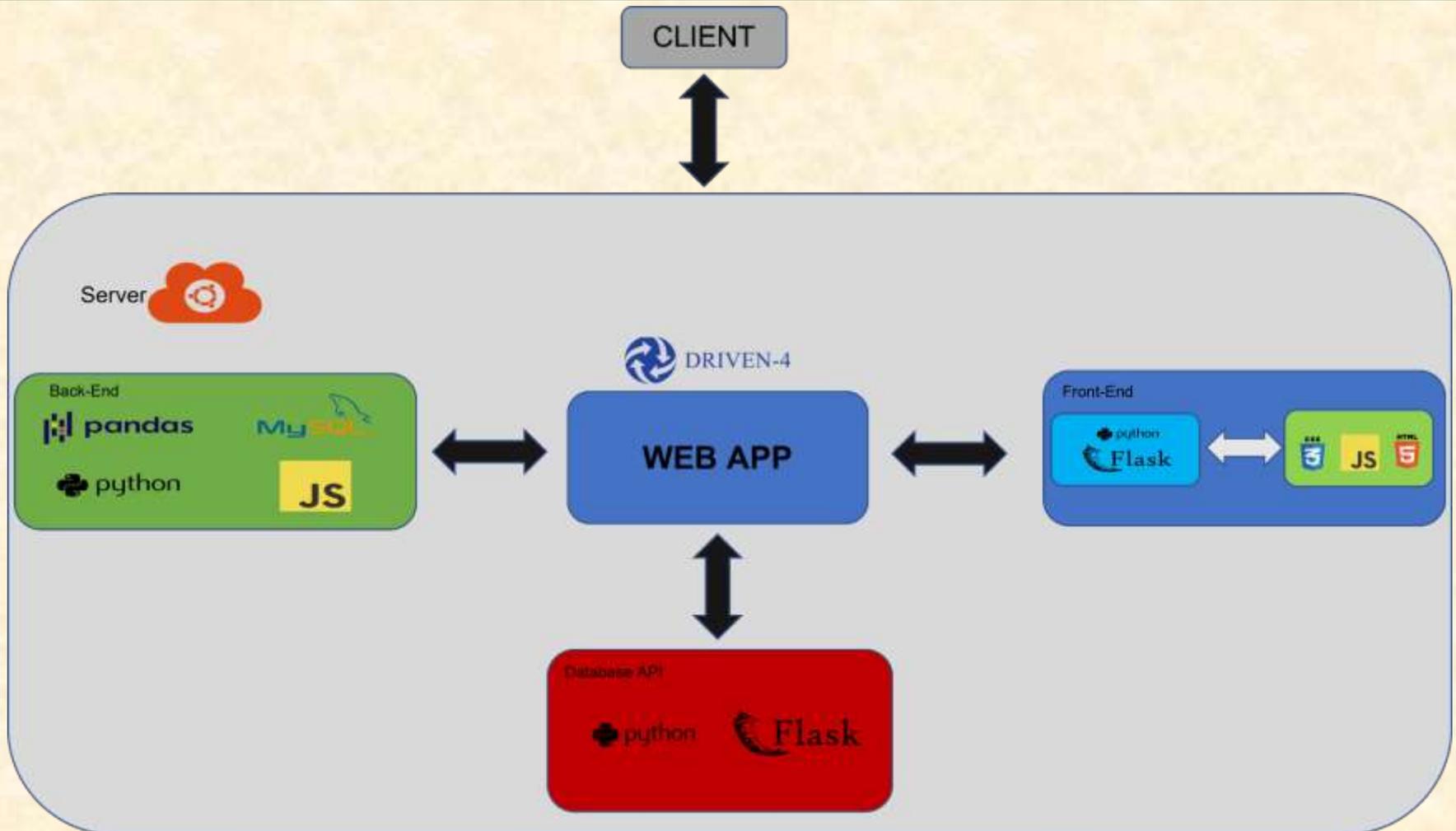


Project Technical Specifications

- System Architecture
- Database Schema
- Style Guide



System Architecture



Project System Components

- Hardware Platforms
 - Driven IoT Connectivity Board
- Software Platforms / Technologies
 - Python, Flask
 - MySQL
 - Pandas
 - HTML, CSS, JS, Bootstrap
 - Amazon Web Services (AWS)



Project Risks

- Performing data analysis on data in unknown formats
 - The user will have the ability to view different kinds of data regarding their device
 - Data abstraction into a Matplotlib graph
- Linking parts of our system together
 - Our application allows users to access information from different parts of the server
 - Set up communication between all parts of the server
- Real-time notifications and updates
 - Several aspects of our application require us to send information in real-time
 - Set up real-time communication inside our system
- How to make an OTA server work with cellular
 - The OTA server for now can only send updates over wi-fi
 - With proper research we will rewrite the OTA function and allow cellular updates.



Questions?

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