MICHIGAN STATE UNIVERSITY Beta Presentation Dashboard for Data Visualization

The Capstone Experience

Team Magna

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Spring 2023

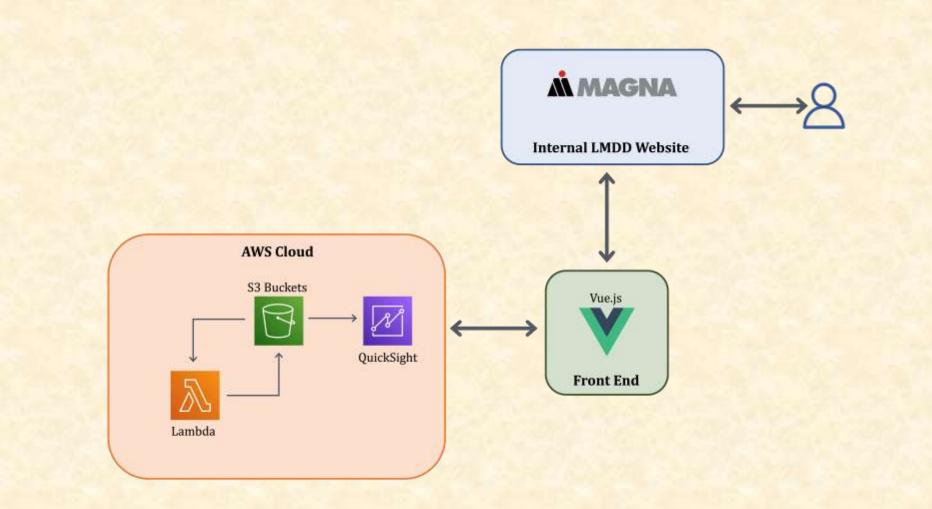


From Students... ...to Professionals

Project Overview

- Our Dashboard for Data visualisation provides real time data from autonomous delivery robots in a Web Application for employees at Magna:
 - Data for each individual robot (robot health)
 - Fleet status data (deliveries and packages)
- Dynamically update QuickSight with new data from the robots on the ground using S3.
- Implement testing for existing LMDD website, including our newly added features.

System Architecture

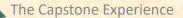


Delivery Dashboard

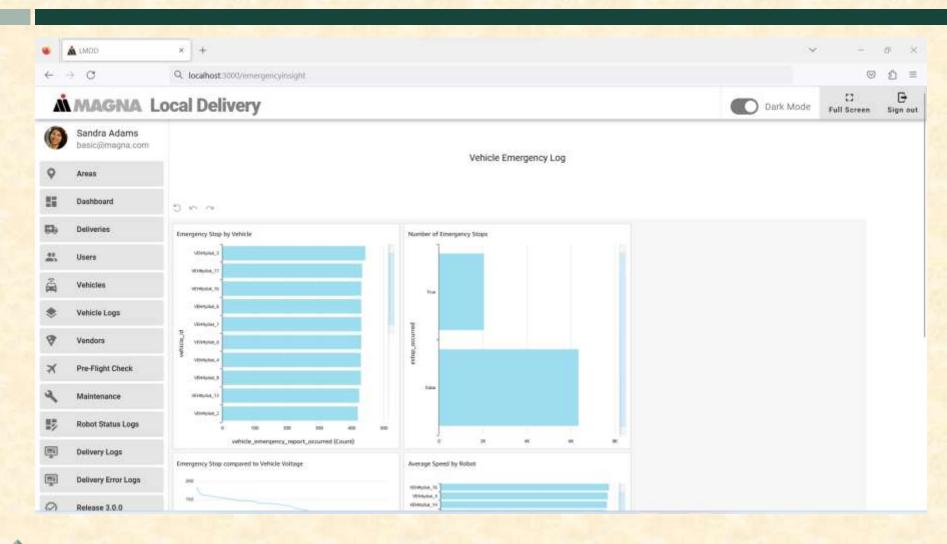
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| Å | MAGNA L | ocal Del | ivery | | | | | | | O Dark Me | ide i | [] Full Screen | Sign ou |
| y, | basic@magna.com | | | | | | | | | | | | |
| 9 | Areas | | Yearly Delivery Logs | | | | | | | | | | |
| 5 | Dashboard | | | 1010 | | 19 | | | | | | | |
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| 2 | Robot Status Logs | VEHApplus,19 VEHApplus,2 | 0ct 1, 2022 Oct 1, 2023 | 3 | inet. | | | | | | 410 | | |
| ġ. | Delivery Logs | VEH4plut_20 VEH4plut_3 VEH4plut_4 | 011 1, 2022 011 1, 2022 011 1, 2022 | 4 | Mentana, a | Minister, d Minister, d Withester, d Withester, d | Visitive - or a | | | | 40 | | |
| | Delivery Error Logs | VEHAphat,S VEHAphat,D | 011 (, 2022 042 (, 2022 | 5 5 | Group By: whicle_id Size: distance_travelled | | | 100 | une Count of Etherge | ene ncy Stage | 430 | 10 | |
| P | | | | | | | ge Battery Consumption for each vehicle #Lifetime) | | | | | | |

Robot Status Dashboards

| A LMDD | × + | | | | | | | | | | .~ | | 17. J | |
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| MAGNA L | ocal De | livery | | | | | | | | | Dark Mode | [] Full Screen | G Sign os | |
| basic@magna.com | | | | | | | | | | | | | | |
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| Dashboard | | | | | | | | | | | | | | |
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| Vehicle Logs | Emergency Stops by Time and Pobot Vehicle Control Unit Valia | | | | | age by Time and Robot Max Battery Volkage by Vehicle | | | | | | | | |
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Delivery Error Dashboard



Internal Testing Log

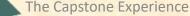
.... CSE498 — -zsh — 120×52 jannik@quicksilver CSE498 % python3 test.py ε ERROR: testLogin (__main__.MagnaLMDDTest) Traceback (most recent call last): File "/Users/jannik/Documents/CSE498/test.py", line 28, in testLogin browser.find_element(By.XPATH, self.loginButtonXPath).click() File "/usr/local/lib/python3.18/site-packages/selenium/webdriver/remote/webdriver.py", line 855, in find_element return self.execute(Command.FIND_ELEMENT, { File "/usr/local/lib/python3.18/site-packages/selenium/webdriver/remote/webdriver.py", line 428, in execute self.error_handler.check_response(response) File "/usr/local/lib/python3.10/site-packages/selenium/webdriver/remote/errorhandler.py", line 243, in check_response raise exception class(message, screen, stacktrace) selenium.common.exceptions.NoSuchElementException: Message: no such element: Unable to locate element: {*method":*xpath" ,"selector":"/html/body/div/div/div/main/div/div/div/form/button"} (Session info: chrone=111.0.5563.146) Stacktrace: chromedriver 0x00000000107516428 chromedriver + 4899880 ø 0x00000000000107493a23 chromedriver + 4364835 chromedriver 1 8x08800081078ddbf6 chromedriver + 474182 chromedriver chromedriver 8x000000001071214f0 chromedriver + 750832 chromedriver 8x000000000000107121751 chromedriver + 751441 chromedriver 0x0000000107165834 chromedriver + 1030196 6 chromedriver 0x000000010714758d chromedriver + 906637 chromedriver 0x0000000107162b5b chromedriver + 1018715 8 chronedriver 0x00000000107147333 chromedriver + 906035 chromedriver 8x0000000010711155f chromedriver + 685407 9 10 chromedriver 0x0000000107112a7e chromedriver + 690814 11 chromedriver 0x00000001074e379e chromedriver + 4691870 12 chromedriver 13 chromedriver 0x00000001074ef2ff chromedriver + 4739839 14 chromedriver 0x000000001074e985a chronedriver + 4716634 15 chromedriver 0x00000001074bbfce chromedriver + 4530126 16 chromedriver 0x00000000000005095c8 chronedriver + 4847048 17 chromedriver 0x0000000107509747 chromedriver + 4847431 18 chromedriver 0x0000000000010751e87f chromedriver + 4933759 19 libsystem_pthread.dylib 0x00007ff81359a259 _pthread_start + 125 0x00007ff813595c7b thread_start + 15 20 libsystem_pthread.dylib

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FAILED (errors=1) jannik@quicksilver CSE498 % python3 test.py

Ran 1 test in 4,597s

OK jannik@quicksilver CSE498 % 🎚



Team Magna Beta Presentation

What's left to do?

- Features
 - Finalize testing requirements and implementation
 - Finalize visualization requirements
- Stretch Goals
 - Improve efficiency of Lambda function
 - UI interface for testing
- Other Tasks
 - Resolve access permissions with Magna AWS
 - Integrate project into Magna's existing infrastructure

Questions?

