MICHIGAN STATE UNIVERSITY

01/14, 01/16: Capstone Overview

The Capstone Experience

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Professor James Mariani

Department of Computer Science and Engineering
Michigan State University

Spring 2025

From Students…
…to Professionals

CSE498, Collaborative Design

- "The Capstone Experience"
- Professors
  - Dr. Wayne Dyksen ("Dr. D.")
  - Prof. James Mariani
- Team Managers (TMs)
  - Samantha (Sam) Kissel
  - Griffin Klevering
  - Luke Sperling
- Class Meetings
  - Tu, Thu 3:00 – 4:20 p.m. Eastern Time
  - All-Hands:
    - 158 Natural Resources
    - Microsoft Teams General Channel
  - Split-Hands:
    - Sam: 1130 STEM
    - Griffin: 1281 Anthony Hall
    - Luke: 115 International Center
- Website
  - capstone.cse.msu.edu
  - Check it often.
- Syllabus
  - www.capstone.cse.msu.edu/other-links/syllabus
  - Read it thoroughly and carefully.
- Email
  - Check your email often.
  - Read your email immediately, thoroughly and carefully.

Meeting Goals for 01/14 and 01/16

- 01/14
  - Introduction to Capstone Logistics
  - Overview of Projects
  - Team Member Survey
- 01/16
  - Capstone Logistics
  - What's ahead?

Capstone Overview

- Course Logistics

- Client Projects

- Course Logistics (Continued Next Meeting)

Course Goals

[1 of 3]

- Give You Experience In
  - Real World
  - Corporate Setting
- Start Your Transition
  - From Student…
  - …To Professional
- Start Your Transition
  - From… “Make one of these.” –CSE Professor
  - …To “Solve my problem.” –Customer/Client

Course Goals

[2 of 3]

- Teams of 5-6 Students
- Build Significant Software System
  - Design
  - Develop
  - Debug
  - Document
  - Deliver
- For Project Sponsor / Client
  (Note: We'll use "project sponsor" and "client" interchangeably.)
- In 14 (Short) Weeks

Course Goals

[3 of 3]

- Build a significant software system for a customer.
- Gather requirements.
- Work in a team environment.
- Learn new tools and environments.
- Build and administer systems.
- Develop communication skills.
- Develop interview talking points.
- Learn to do stuff on your own.
- Etc…

Professional Meeting Expectations

- Starts at 3:00 p.m. ET (Eastern Time) Promptly
- Meeting Ready
  - In Person: Seated
  - Microsoft Teams: Joined
  - Ready to Go
  - Looking Professional
- Not Meeting Ready Include But Not Limited To…
  - Entering a Room
  - Walking to a Seat
  - Being in the Process of Sitting Down
  - Joining a Meeting
- No…
  - Using Any Electronic Devices
    - Phones
    - Laptops
    - Etc.
  - Wearing Hats or Hoods
  - Wearing Coats
  - Eating
  - Sleeping
  - Taking “Breaks”

Project Deliverables

- Project Plan Presentation & Document
- Alpha Presentation
- Beta Presentation
- Project Video
- Project Software
- Design Day

See Major Milestones.

All-Hands/Split-Hands Meetings

- All-hands
  - Instructors
  - Guest Speaker(s)
- Split-Hands
  - Team Status Reports
  - Team Formal Presentations
  - Team Project Videos

Weekly Schedule

- 01/14: Capstone Overview
- 01/16: Capstone Overview
- 01/21: Risks and Prototypes
- 01/23: Project Plan
- 01/24: Team Photos
- 01/28: Team Status Report Presentations
- 01/30: Schedule and Teamwork
- 02/04: Team Project Plan Presentations
- 02/06: Design Day Booklet Process
- 02/11: Team Project Plan Presentations
- 02/13: No Meeting
- 02/18: Creating and Giving Presentations
- 02/20: Team Alpha Presentations
- 02/25: Team Alpha Presentations
- 02/27: Team Alpha Presentations
- 03/04: (Spring Break, No Meeting)
- 03/06: (Spring Break, No Meeting)
- 03/11: Team Status Report Presentations
- 03/13: Resume Writing and Interviewing
- 03/18: Design Day and the Project Videos
- 03/20: Intellectual Property
- 03/25: Ethics and Professionalism
- 03/27: Team Status Report Presentations
- 04/01: Team Status Report Presentations
- 04/03: Team Beta Presentations
- 04/08: Team Beta Presentations
- 04/10: Team Beta Presentations
- 04/15: Team Status Report Presentations
- 04/17: Team Status Report Presentations
- 04/20: Project Videos Due
- 04/22: Project Videos
- 04/23: All Deliverables Due
- 04/24: Project Videos
- 04/24: Design Day Setup (12:30 p.m. – 3:00 p.m.)
- 04/25: Design Day
- 05/01: Capstone Wrap Up (5:45 p.m. – 7:45 p.m.)

The Capstone Labs

[1 of 2]

- 3340EB, 3352EB, 3358EB
- Door Lock
  - Electronic Keypad
  - Code = #########
  - Do Not Give Out to Other Students
- Systems
  - Up to Three per Team
    - Two 27” iMacs
    - Optional DECS Virtual Machine
    - Optional Dell Rack-Mounted Server
  - Team 100% Responsible
    - Building
    - Maintaining
    - Securing
    - Backing Up
- Appliances
  - Water Cooler/Heater
    Nota Bene: The water cooler is not connected to a drain. Do not pour things into it, like rinsing out your water container.
  - Whirlpool Refrigerator
    - Cold Water From Bottled Water
    - Ice From Bottled Water
  - Microwave
- Lockable Storage
  - At Most One Drawer Per Team
  - Only As Needed
  - Assigned by Instructors
  - Obtain Keys from CSE Office

The Capstone Labs

[2 of 2]

- 3340EB, 3352EB, 3358EB
- In-Person Access
  - Sanitizing Wipes
    - Keyboard and Mouse
    - Desktop
    - Before and After Use
  - Hand Sanitizer
- Remote Access
  - Possible
  - Ask Prof. Mariani

Scheduled Lab Times

- No Formal Lab Sessions
- “Credit” for Scheduled Weekly Meetings
  - Team Meetings
  - Client Conference Calls
  - Triage Meetings with TMs
- Meeting Times TBA With
  - Team
  - Client
  - TMs
- Students must be available to meet in person on any day MSU is in session.
  - Team Meetings
  - Triage Meetings
  - Client Conference Calls
- Schedule Accommodations
  - Made For Reasonable Requests for Class and Work Schedules
  - Not Made For
    - Personal Travel
    - Working Unreasonable Number of Hours
    - Commuting Distance to Campus

CSE498 Prerequisites

- Must Have Successfully Completed In Advance
  - CSE300
  - CSE325
  - CSE335
  - At Least Two CSE Technical 400-Level Courses Chosen From CSE402, CSE404, CSE410, CSE415, CSE420, CSE422, CSE425, CSE431, CSE434, CSE435, CSE440, CSE450, CSE460, CSE471, CSE472, CSE476, CSE477, CSE480, and CSE482
  - Tier I Writing Requirement (WRA 101 or WRA 195H)
- Ability to Read Email
  - Immediately
  - Carefully
  - Completely

Capstone Overview

✓Course Logistics

➢Client Projects

- Course Logistics (Continued)

Team / Project Generalities [1 of 3]

- Clients
  - Vary in Size and Type
  - Sponsor/client contacts are “volunteers.”
- Team Contact Person
  - Picked By Team
  - Main Point of Contact for Client

Team / Project Generalities [2 of 3]

- Project Types
  - All Significant Software Development
  - Vary in Specifics
- Project Level of Difficulty
  - Hard Enough
  - But Not too Hard
- Deliverable
  - To the Client
  - By the Due Date

Team / Project Generalities [3 of 3]

- Challenges
  - Very Short, Unforgiving Timeline
  - Client Contact
  - Team Dynamics
  - Project Plan (in ~3 Weeks)
  - Entirely New…
    - Languages
    - Environments
    - API's
    - SDK's
    - Processes
    - Protocols
    - Hardware
    - Etc.
  - Project Management
  - Etc…

Project Specifics

- Vary
  - Type
  - Current State of Specificity
- Challenge
  - Connect with Client
  - “Nail Down” the Project
    - Hard Enough
    - Not too Hard
  - Course Feature, Not Bug
- Must Be Approved by Instructors

Intellectual Property and Non-Disclosure Agreements

- Intellectual Property Agreement
  - You agree to assign ownership of intellectual property that may be created as a result of your project to your client.
    - Copyrightable Program Code
    - Patentable “Ideas”
  - Most clients will require an IP agreement.
- Non-Disclosure Agreement
  - You agree not to disclose client confidential information.
  - Most clients will require an NDA.
- To date…
  - Most code has not gone directly into production.
  - No patents have resulted.
- Use agreements provided by MSU to clients. See Downloads.
- Contact Dr. D. or James For Questions.
- Not Willing to Sign Affects Project Choice

Project Teams

1. Ally
2. Amazon
3. Anthropocene Institute
4. Auto-Owners
5. Corewell Health
6. Delta Dental 3DADPH
7. Delta Dental dSLATE
8. GM
9. HAP
10. Henry Ford Innovations eLUG
11. Henry Ford Innovations RSE
12. Henry Ford Innovations RSVP
13. Launch
14. Magna
15. McKesson
16. Meijer
17. Michigan State University CSE RJC
18. Michigan State University CSE SDRC
19. Michigan State University Linguistics
20. MSUFCU
21. NetJets
22. RPM
23. Stryker IST
24. TechSmith
25. Union Pacific
26. Urban Science
27. UWM
28. Volkswagen
29. Whirlpool
30. WK Kellogg Co

Team Ally

Project Overview

AI System Testing Framework

- Functionalities
  - Automate Data and Document Processing
  - By Building an Evaluation Framework
  - Leveraging Generative AI
- Features
  - Design Framework for Evaluating AI Use Cases
  - Build Tools for Monitoring and Evaluation
  - Analyze Accuracy and Robustness of AI Models
- Technologies
  - Python
  - Langchain
  - React

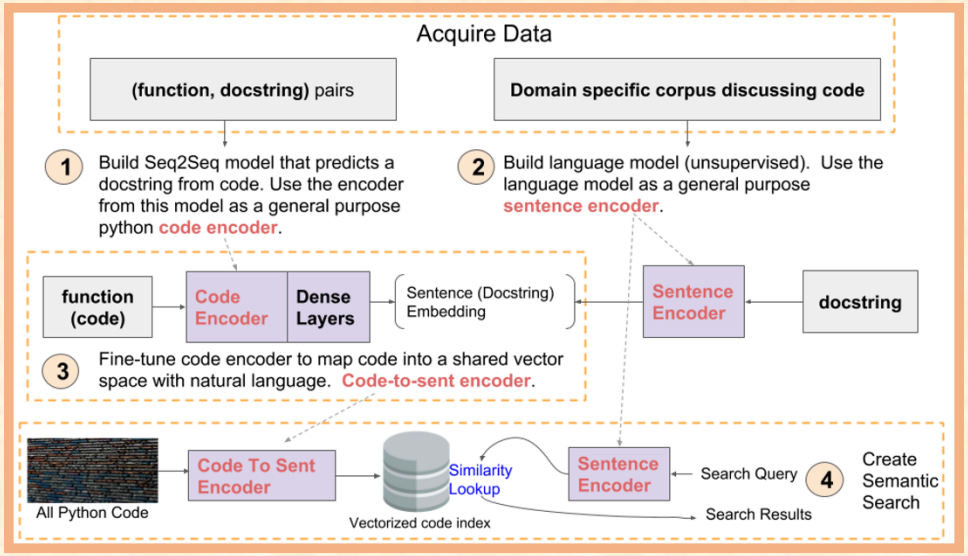
Detroit, Michigan
Charlotte, North Carolina

Team Amazon

Project Overview

Semantic Search for Code and Architecture Assets

- Functionalities
  - Streamline Computer Programming
  - By Recommending Code Templates
  - Utilizing Machine Learning Models
- Features
  - Analyze the Amazon Codebase
  - Train a Machine Learning Model
  - Receive User Prompts
  - Recommend Templates or Code Snippets
  - Generate Commit Summaries
- Technologies
  - Amazon Open Search
  - Amazon RDS
  - Amazon Bedrock
  - Amazon Sagemaker
  - Amazon S3
  - React



amazon

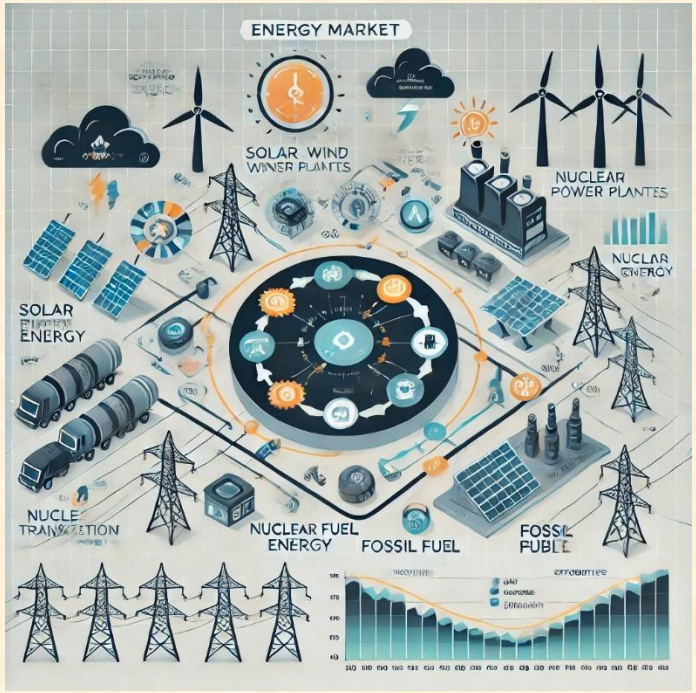
Seattle, Washington
Detroit, Michigan

Team Anthropocene Institute

Project Overview

Balancing the Power Grid with Nuclear Power

- Functionalities
  - Highlight the Benefits of Nuclear Power
  - By Analyzing Power Grid and Electricity Data
  - Within a Trading Market Model Web Application
- Features
  - Create Market Model for a State Power Grid
  - Handle Real-Time Electricity Data
  - Assess Capabilities of Nuclear Power
  - Explore Potential Energy Market Improvements
- Technologies
  - HTML and CSS
  - Federal Energy Regulatory Commission Data



Anthropocene Institute
Palo Alto, California

Team Auto-Owners

Project Overview

Next Step Insight

- Functionalities
  - Manage Employee Operations
  - By Analyzing and Summarizing Employee Data
  - On a Web Application
- Features
  - Build Application for Data Entry
  - Automate Analysis of Employee Data
  - Create Data Visualizations
  - Generate Summary Reports
- Technologies
  - Java Spring Boot 3
  - Adoptium JDK
  - Angular 16 / React
  - AI Technologies

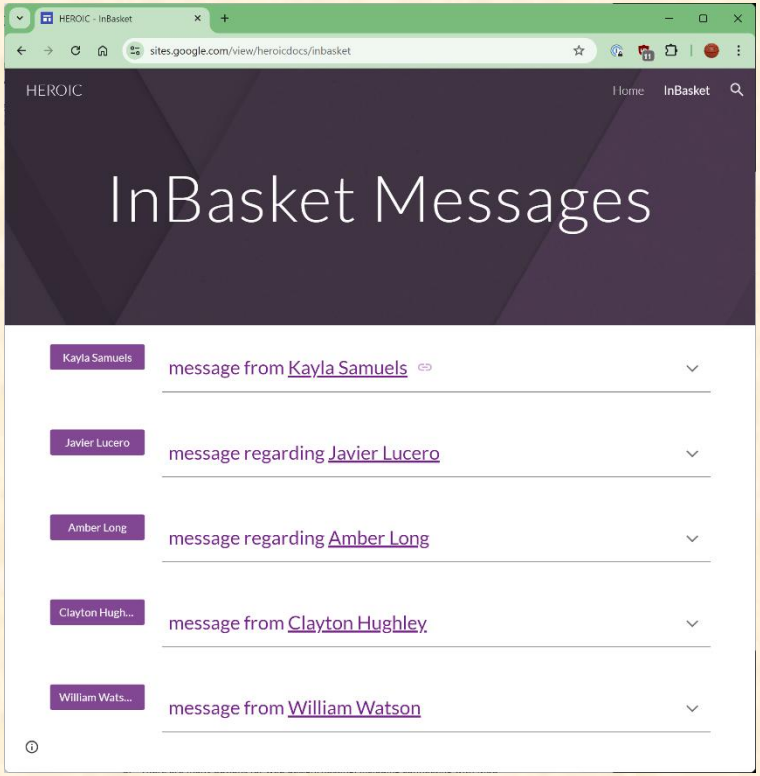
Auto-Owners INSURANCE
Lansing, Michigan

Team Corewell Health

Project Overview

AI for Med Students Learning About Basket Management

- Functionalities
  - Simplify Patient Record Keeping
  - By Designing Large Language Models
  - To Analyze Patient Information
- Features
  - Design an Attractive WebApp
  - Integrate With Corewell Database
  - Visualize Patient Data
  - Train a Custom ML Model
  - Dynamically Respond to Patient Questions
- Technologies
  - Med PaLM
  - MIMIC-III Clinical Database



Corewell Health™
Grand Rapids, Michigan

Team Delta Dental 3DADPH

Project Overview

3D Analysis of Dental Patient History

- Functionalities
  - Visualize Dental Patient History
  - By Creating a 3D Model of a Patient's Teeth
  - Viewed Within a Web Application
- Features
  - Enable Users to Upload Dental Insurance Data
  - Generate a 3D Model of the Patient's Mouth
  - Visualize Areas for Past and Future Treatments
- Technologies
  - Angular
  - Java
  - MongoDB

DELTA DENTAL®

Okemos, Michigan

Team Delta Dental dSLATE

Project Overview

DSL Tooling Ecosystem (dSLATE)

- Functionalities
  - Support Technical Problem-Solving
  - By Building an IDE
  - For Delta Dental's Domain-Specific Language
- Features
  - Create an IDE for Developing Programs in DSL
  - Provide Standard IDE Functionalities
  - Offer Ability to Translate Excel Data to DSL
  - Integrate AI Chatbot for User Support
- Technologies
  - Delta Dental DSL
  - Angular
  - Antlr

DELTA DENTAL®

Okemos, Michigan

Team GM

Project Overview

Global Waste Management System

- Functionalities
  - Improve a Waste Management System
  - By Adding Data Analytics
  - With an intuitive Web Dashboard
- Features
  - Detect Anomalous Data
  - Predict Waste Before it Occurs
  - Integrate AI Suggestions
- Technologies
  - PyTorch
  - GenAI
  - Microsoft SQL

Detroit, Michigan

Team HAP

Project Overview

Customer Intent Engine and Training Tool

- Functionalities
  - Enhance Customer Relations
  - By Analyzing and Visualizing Call Center Data
  - On a Web Application
- Features
  - Save Data from Call Center Transcripts
  - Determine Intent of Customer Questions
  - Build a Web Application
  - Visualize Data Insights with Graphical Tools
- Technologies
  - LLMs
  - Web Development Tools
  - Graphing Technologies

Detroit, Michigan

Team Henry Ford Innovations eLUG

Project Overview

Electronic Laboratory User's Guide (eLUG)

- Functionalities
  - Modernize an Electronic User Guide
  - With Modern Features
  - To Expedite Patient Treatment
- Features
  - Convert the System to a Web-based Structure
  - Facilitate Easy Sharing
  - Standardize Formats
  - Provide Mobile Applications
- Technologies
  - CSS / HTML
  - React
  - Microsoft SQL

HENRY FORD HEALTH
Innovations

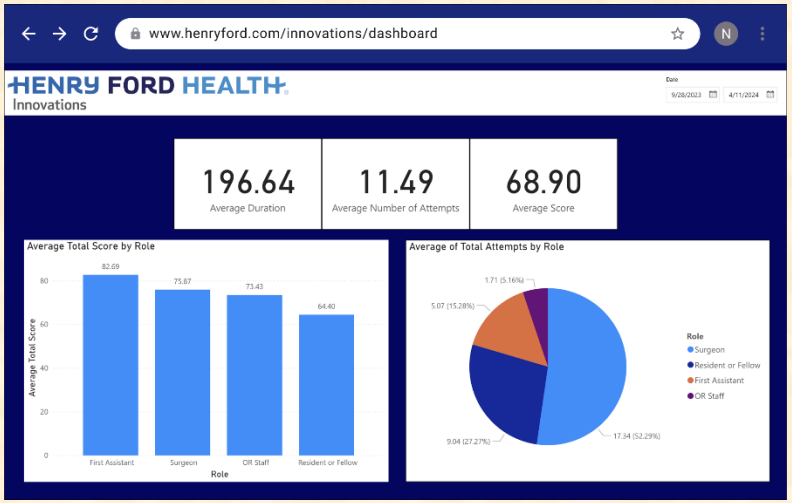
Detroit, Michigan

Team Henry Ford Innovations RSE

Project Overview

Modernizing Robotic Surgery Education 2.0

- Functionalities
  - Streamline and Finalize a Data Visualization Tool
  - Reduce Train Time for Surgeons
  - Using Robotic Surgery Training Data
- Features
  - Provide Statistics and Suggestions for Improvement
  - Include a Dashboard for Easy Access of Data
  - Visualize Relevant Trends and Data
  - Port the Application to Mobile
- Technologies
  - Docker
  - PyTorch
  - Microsoft Power BI
  - React



HENRY FORD HEALTH
Innovations

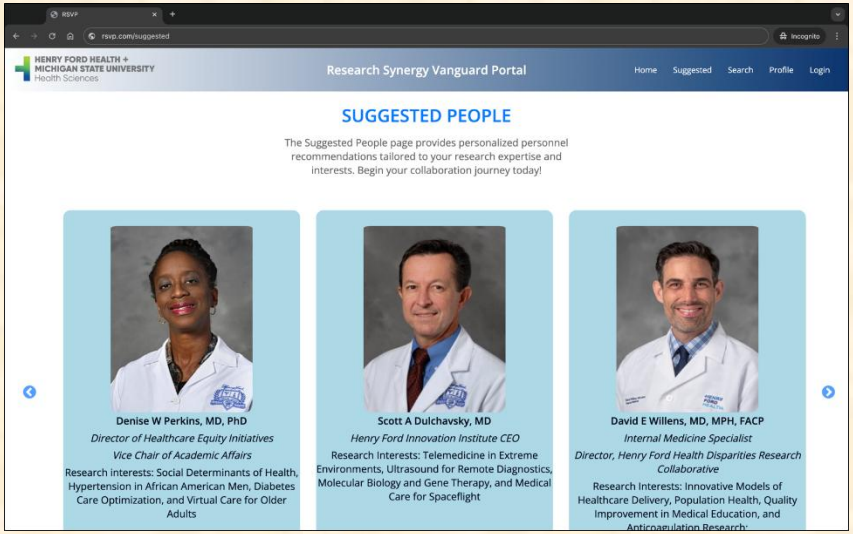
Detroit, Michigan

Team Henry Ford Innovations RSVP

Project Overview

MSU-HFH Research Synergy Vanguard Portal (RSVP) 2.0

- Functionalities
  - Leverage MSU's Vast Research Capabilities
  - Into a Powerful Search Engine
  - To Improve Research
- Features
  - Support Self-Editing of Faculty
  - Accept Inputs from Internal and Public Domains
  - Autonomously Curate Data
  - Port the Application to Mobile
- Technologies
  - Elasticsearch
  - Flask
  - CSS / HTML
  - React



HENRY FORD HEALTH Innovations

Detroit, Michigan

Team Launch

Project Overview

Everyday Agent

- Functionalities
  - Improve Various Daily Life Activities
  - By Tracking Everyday Items
  - With a Wearable Device
- Features
  - Locate Objects through Image Recognition
  - Verbally Describe Object Locations for Users
  - Track Habits and Actions
- Technologies
  - PyTorch
  - Natural Language Processing
  - Generative AI

Launch
by NTT DATA
Tory, Michigan

Team Magna

Project Overview

Manufacturing Tracking System

- Functionalities
  - Revolutionize Supply Chain Management
  - By Tracking Goods and Materials
  - Through an Easy-to-Use Web 3.0 App
- Features
  - Design an Attractive Web App
  - Register Goods and Materials
  - Build an Audit Trail for Materials
  - Visualize Where Materials Travel
  - Decentralize Data Storage using Blockchain Technologies
- Technologies
  - NodeJS, GoLang, Python
  - VueJS
  - Hyperledger
  - VeChain

MAGNA

Tory, Michigan
Aurora, Ontario, Canada

Team McKesson

Project Overview

Vulnerability Scan and Detect

- Functionalities
  - Increase Web Applications Safety
  - By Analyzing Web Pages for Vulnerabilities
  - Within an Attractive Web Application
- Features
  - Analyze and Explore Common Security Flaws
  - Dynamically Scan Web Applications
  - Locate Security Vulnerabilities
  - Design a Web Application
  - Visualize Vulnerabilities
- Technologies
  - OWASP ZAP
  - BURP Suite Community
  - CI/CD Tooling

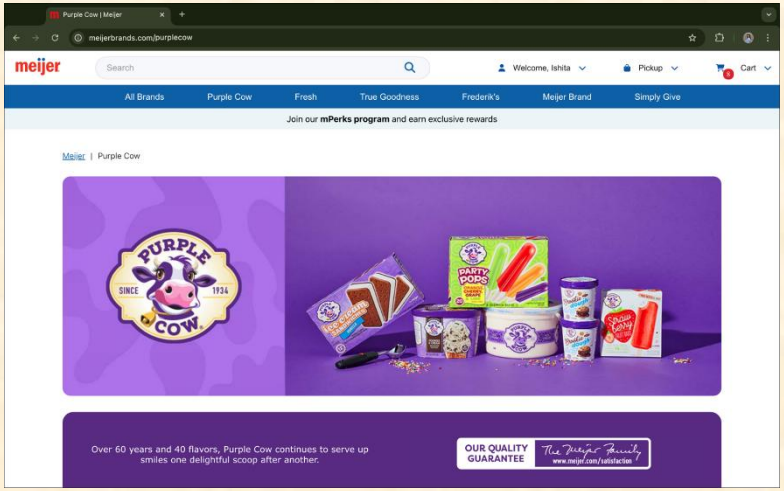
McKESSON
Tyler, Texas

Team Meijer

Project Overview

Online Customer Experience with Meijer-Brand Products

- Functionalities
  - Increase Customer Engagement with Meijer
  - By Providing Incentives to Shop Meijer Brands
  - With a Web Application
- Features
  - Meijer Product Ordering and Pickup
  - Accept and Optimize Orders
  - Develop a Mobile Application for Meijer Employees
  - Develop Loyalty and Coupon Promotions
- Technologies
  - Microsoft Azure DevOps and Web Services
  - Microsoft PowerBI
  - Java or .NET
  - Mobile Development Tools



meijer®

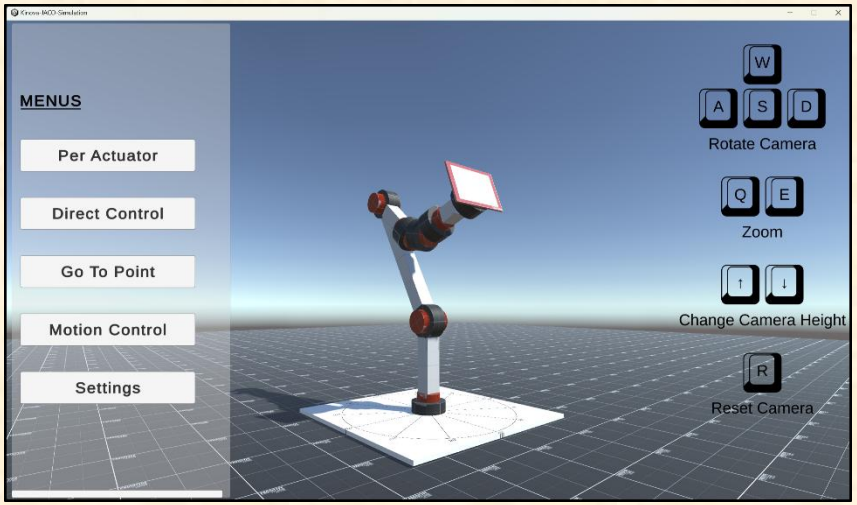
Grand Rapids, Michigan

Team Michigan State University CSE RJC

Project Overview

Robotic Job Coaching 2.0

- Functionalities
  - Improve Remote Job Coaching
  - By Enhancing an Existing Coaching System
  - With New Features
- Features
  - Support Robot Arm
  - Provide Security with Geofencing
  - Allow Coaches to Gesture at Locations in Space
  - Offer a Mobile Port
- Technologies
  - iOS
  - Android
  - Docker



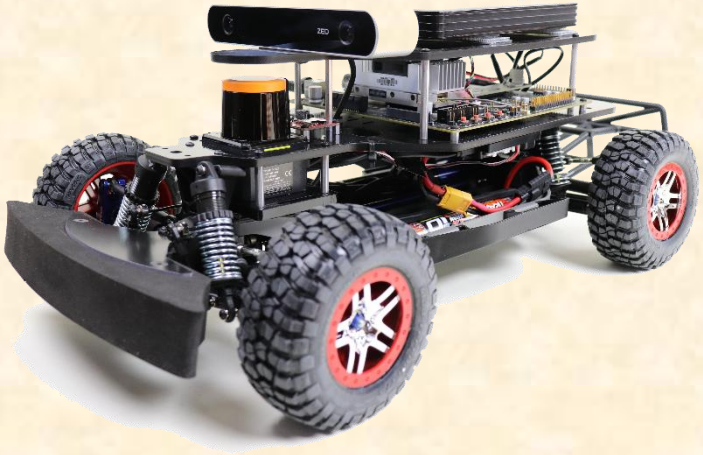
East Lansing, Michigan

Team Michigan State University CSE SDRC

Project Overview

Test Platforms for Self-Driving Race Cars

- Functionalities
  - Improve Autonomous Driving Efficiency
  - By Testing Autonomous Vehicle AI
  - On a Real 1/10th Scale High-Speed Test Platform
- Features
  - Develop a Computing Environment
  - Control Sensors and Capture Data
  - Integrate with Hardware Systems
  - Remotely Operate a Small-Scale Vehicle
  - Run and Evaluate AI Driving Capabilities
- Technologies
  - Robotics and automation Technologies (ROS / ROS2)
  - Linux / Ubuntu
  - Python / C++
  - Hardware Integration



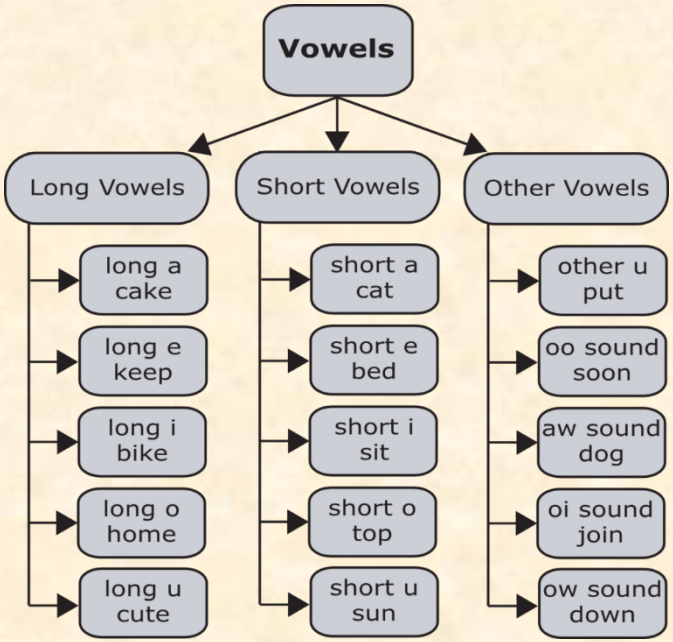
East Lansing, Michigan

Team Michigan State University Linguistics

Project Overview

Crowd-Sourcing Intuitions of Vowel Classifications

- Functionalities
  - Reveal Linguistic Tendencies
  - With Vowel Classification Quizzes
  - To Help Linguists Study Dialects
- Features
  - Tailor Quizzes to Individual Users
  - Incorporate Different Levels of Granularity
  - Offer a Version for Non-Linguists
  - In an Intuitive User Interface
- Technologies
  - CSS / HTML
  - UI / UX Expertise
  - Kotlin



East Lansing, Michigan

Team MSUFCU

Project Overview

Logged-In Branch Experience

- Functionalities
  - Improve the In-Person Banking Experience
  - By Automatically Recognizing Guests
  - Using Facial Recognition Technologies
- Features
  - Register User's Biometric Data
  - Recognize Users via Facial Scan
  - Locate and Display User Data Seamlessly
  - Identify Users Before They Can Sit Down
- Technologies
  - HTML5 / HTML / CSS
  - MySQL
  - Machine Learning Technologies

East Lansing, Michigan

Team NetJets

Project Overview

Airport Capacity and Ground Space Management

- Functionalities
  - Make Airport Management Seamless
  - By Locating Capacity Issues
  - Utilizing Data-Driven Simulations
- Features
  - Simulate Airport Operations Using Real Data
    - Layout of Airport
    - Number of Planes
    - Time of Year
  - Visualize Areas with Capacity Issues
  - Recommend Solution to Problems
  - Design an Intuitive Web App
- Technologies
  - AWS Technologies

NETJETS®

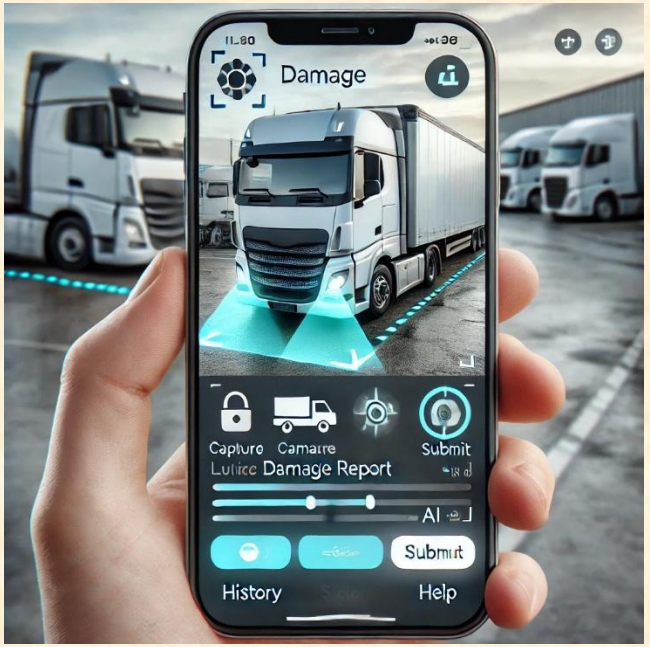
Columbus, Ohio

Team RPM

Project Overview

Automated Damage Logging for Truck Drivers

- Functionalities
  - Manage Damage Logging for Truck Drivers
  - With Mobile and Web Applications
  - Leveraging AI and ML Technology
- Features
  - Enable Drivers to Report Damage
  - Easy Photo Upload of Damage
  - Automate Damage Documentation Process
  - Share Reports Across Business Partners
  - Develop Web Application for Data Analytics
- Technologies
  - TensorFlow
  - Roboflow
  - Flutter
  - React
  - Azure
  - PowerBI



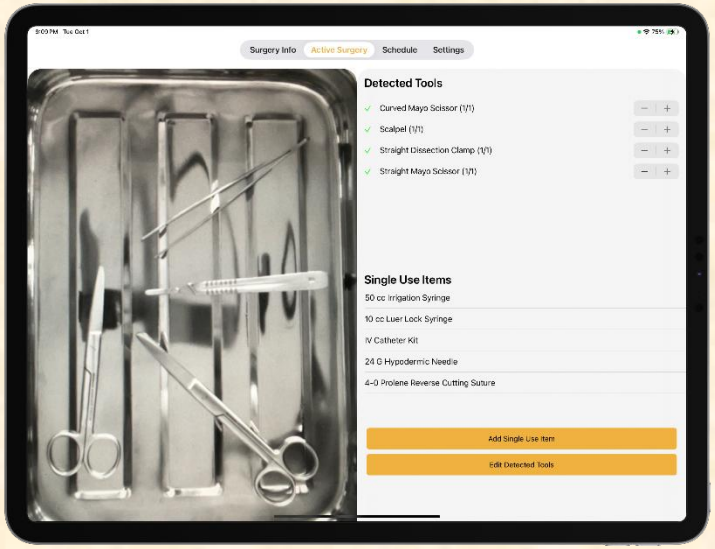
Royal Oak, Michigan

Team Stryker IST

Project Overview

Surgical Needle Tracking

- Functionalities
  - Enhance Patient Safety
  - By Tracking Surgical Needles and Instruments
  - With a Software Solution
- Features
  - Add New Capability to Medical Device Tracking
  - Develop Method for Tracking Surgical Needles
  - Build Mobile Application for Use in Operating Rooms
  - Integrate Tracking into Mobile Application
- Technologies
  - SurgiCount Gen 3
  - Mobile Development Tools
  - AI/ML Tools



stryker

Kalamazoo, Michigan

Team TechSmith

Project Overview

Watcher of Attuned Video Experiences (WAVE)

- Functionalities
  - Enhance the Video Viewing Experience
  - By Editing Videos to Fit View Needs
  - Utilizing Machine Learning Strategies
- Features
  - Display a Video to a Viewer
  - Receive Viewer Feedback
  - Edit Content of Displayed Video in Real-Time
  - Generate Insight on Video Topic
  - Dynamically Learn User Preference
  - Tailor Future Videos Using Preferences
- Technologies
  - Microsoft Azure
  - React
  - Ffmpeg
  - OpenAI

TechSmith®
East Lansing, Michigan

Team Union Pacific

Project Overview

Training Simulator Using GPS-Indexed Video

- Functionalities
  - Simulate Locomotive Operation
  - To Improve Conductor Training
  - With a Fully-Featured Video Player
- Features
  - Display Videos Based on GPS-Indexing
  - Support Basic Video Player Features
  - Integrate Videos Stored Locally and on Network
- Technologies
  - Unity
  - Microsoft C#
  - FFmpeg

BUILDING AMERICA®

Louisville, Colorado
Omaha, Nebraska

Team Urban Science

Project Overview

Automotive Service Advisor AI Assistant

- Functionalities
  - Streamline Vehicle Servicing
  - By Autogenerating Customer Insights
  - Using Computer Vision Strategies
- Features
  - Scan a Vehicle's VIN and Mileage
  - Generate Customer Insights
    - Customer Information
    - Tailor Sales Approach to Customer
  - Visualize Vehicle Information
  - Store Sales Statistics for Future Insights
- Technologies
  - Microsoft SQL Server
  - Angular
  - Azure AI Search
  - Azure OpenAI

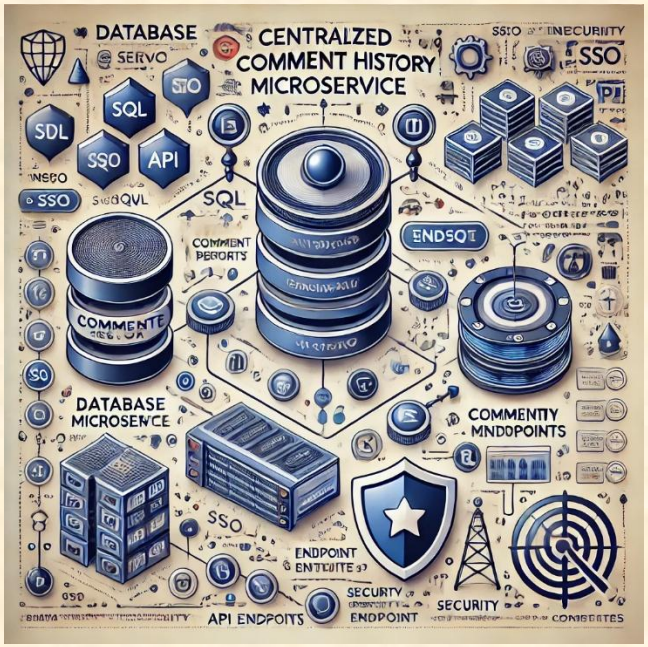
URBAN SCIENCE
Detroit, Michigan

Team UWM

Project Overview

Centralized Comment History Microservice

- Functionalities
  - Track Comment History on Loan Transactions
  - By Decoupling the Loans Database
  - To Reduce Archive Sizes
- Features
  - Consolidate Data from Multiple Databases
  - Support Standard Database Operations
  - Adhere to Strict Privacy Requirements
- Technologies
  - Bitbucket Git Enterprise
  - JIRA
  - Microsoft SQL



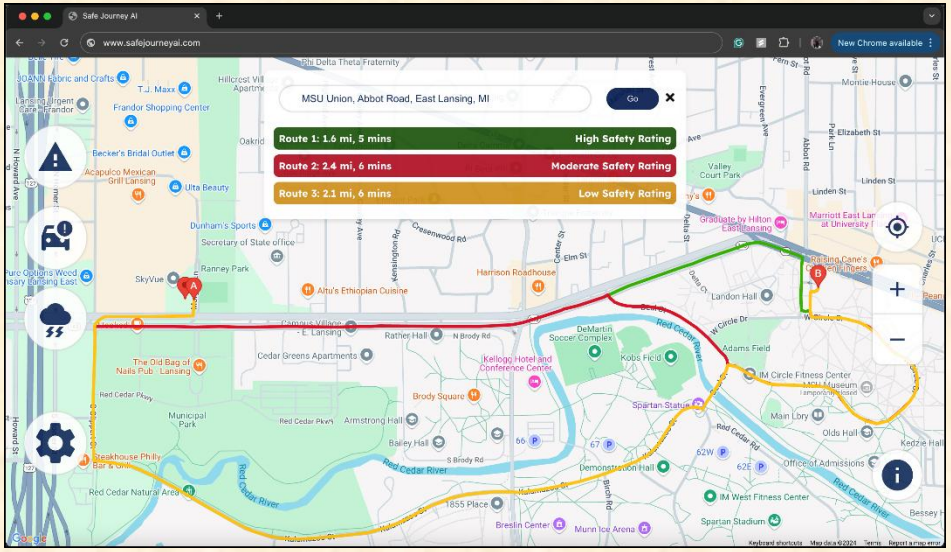
UNITED WHOLESALE MORTGAGE

Pontiac, Michigan

Team Volkswagen

Project Overview

Safe Journey AI 2.0



- Functionalities
  - Enhance Driving Safety
  - By Planning Routes
  - To Avoid Dangerous Areas
- Features
  - Enhance the Existing VW Driving Model
  - Dynamically Recommend Driving Routes
    - Avoid High Crime Areas
    - Avoid Hazardous Weather Zones
  - Visualize and Avoid Potholes and Accidents
  - Track Users During Walk from Vehicle to Destination
  - Integrate with Carplay
- Technologies
  - Machine Learning Framework
  - Natural Language Processing
  - Microsoft Azure

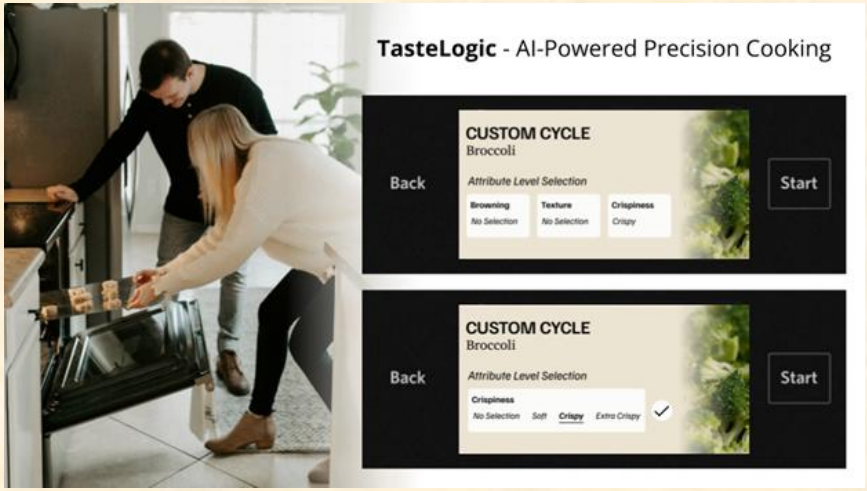
Auburn Hills, Michigan

Team Whirlpool

Project Overview

AI-Powered Precision Cooking with TasteLogic

- Functionalities
  - Create an Interactive Cooking Experience
  - Offering Personalized Cooking Settings
  - Utilizing LLM and ML Technology
- Features
  - Automatically Identify Food Types and Recipes
  - Gather and Integrate User Preferences
  - Determine Optimal Cooking Settings
  - Build Application into Whirlpool Appliances
- Technologies
  - Android Java
  - Flutter
  - Python



Whirlpool

Benton Harbor, Michigan

Team WK Kellogg Co

Project Overview

Intelligent Ticketing and Release Management

- Functionalities
  - Leverage Web Hosting Capabilities
  - To Improve the Sustainability of Technology
  - And Streamline Configuration
- Features
  - Unify Configuration Management with One Platform
  - Provide Incident Routing
  - Analyze Ticket Language to Identify Priority
  - Web scrape for Release Notes
  - Update Version Requirements Automatically
- Technologies
  - Amazon Web Services
  - Amazon Connect

Battle Creek, Michigan

Team Member Survey [1 of 2]

- Check Student ID
- NetID
  - Yes: dyksen
  - No: dyksen@msu.edu
- Use Upper and Lower Case
  - Yes: Lansing, Michigan
  - No: LANSING, MICHIGAN
- Hometown Country, NOT County
  - Yes: USA, China
  - No: United States, Ingham, Wayne
- Use Floating-Point Numbers Only For GPAs
  - Yes: 3.7, 2.8
  - No: 3.1415926, 3.5-3.7, ~3.5, About 3.5

Attendance Today

- Get out your laptops.
- Open browser.
- Log into Google with MSU credentials.
- Go to www.capstone.cse.msu.edu.
- Click on…
  - + Other Links
  - > Downloads
  - First Meeting Attendance: Google Form
  - URL
    - https://shorturl.at/Z9Hri
    - https://forms.gle/rhUNx3uWQGD5Zsf1A

Team Member Survey [2 of 2]

- Get out your laptops.
- Open browser.
- Log into Google with MSU credentials.
- Go to www.capstone.cse.msu.edu.
- Click on…
  - + Other Links
  - > Downloads
  - Team Member Survey: Google Form (https://forms.gle/FD6GarB5wqSRFWnn6)

First Assignments

- Read the Syllabus.
- Check out the Website.
- Check out the Lab.
  (3340EB, 3352EB, 3358EB)
  - See if you can find it.
  - See if you can get in.
- Find the meeting slides.
  capstone.cse.msu.edu/schedules/weekly-schedule

What's ahead? [1 of 3]

- Teams
  - Receive team assignments later today. (Keep checking your email.)
  - Meet initially later today or by tomorrow morning.
  - Start researching technologies.
  - Start configuring lab machines.
    - Team assignments given in emailed project proposals.
    - Instructors will email iMac instructions.
- Project Sponsor / Client Contact
  - Contact by email ASAP and certainly by tomorrow COB. (COB == Close of Business)
  - Complete conference call or online meeting by Friday.
  - Review project proposal.

What's ahead? [2 of 3]

- Team Photos
  - Coordinated by Prof. Mariani
  - Friday, January 24, 9:00 a.m. – 5:00 p.m.
    - Every Team Member Required to Attend
    - On-Time Attendance Required
    - Put on your calendar now. ← Note
  - Scheduled via Google From
    - Email From James
    - Look for it. Respond to it as a team ASAP.
    - Give Times When Available. Not Just When Desired.

What's ahead? [3 of 3]

- Scheduled Weekly Triage Meetings
  - Email from TM
  - Look for it.
  - Give Times When Available. Not Just When Desired.
  - Respond ASAP.
  - More On Thursday

Questions?