MICHIGAN STATE UNIVERSITY

Project Plan

MAPT: Manufacturing Avatar Plant Twin

The Capstone Experience

Team Dow

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From Students…
…to Professionals

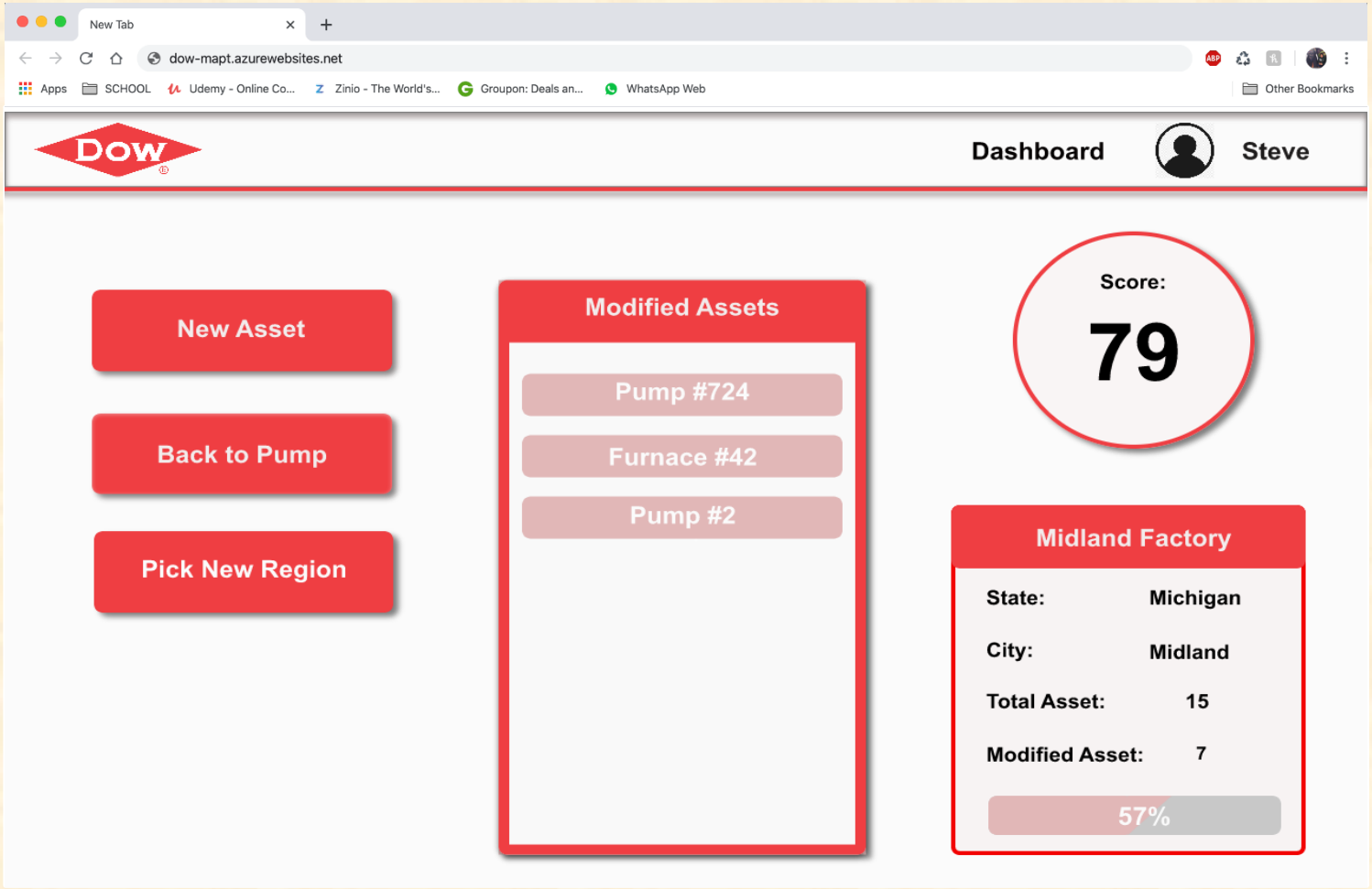
Functional Specifications

- Problem: Difficulty keeping track of potentially hundreds of thousands of sensors for each plant
- Solution: A web application to increase the speed and ease of marking down sensor roles and locations
  - Many potential layouts
  - Machine Learning to track patterns

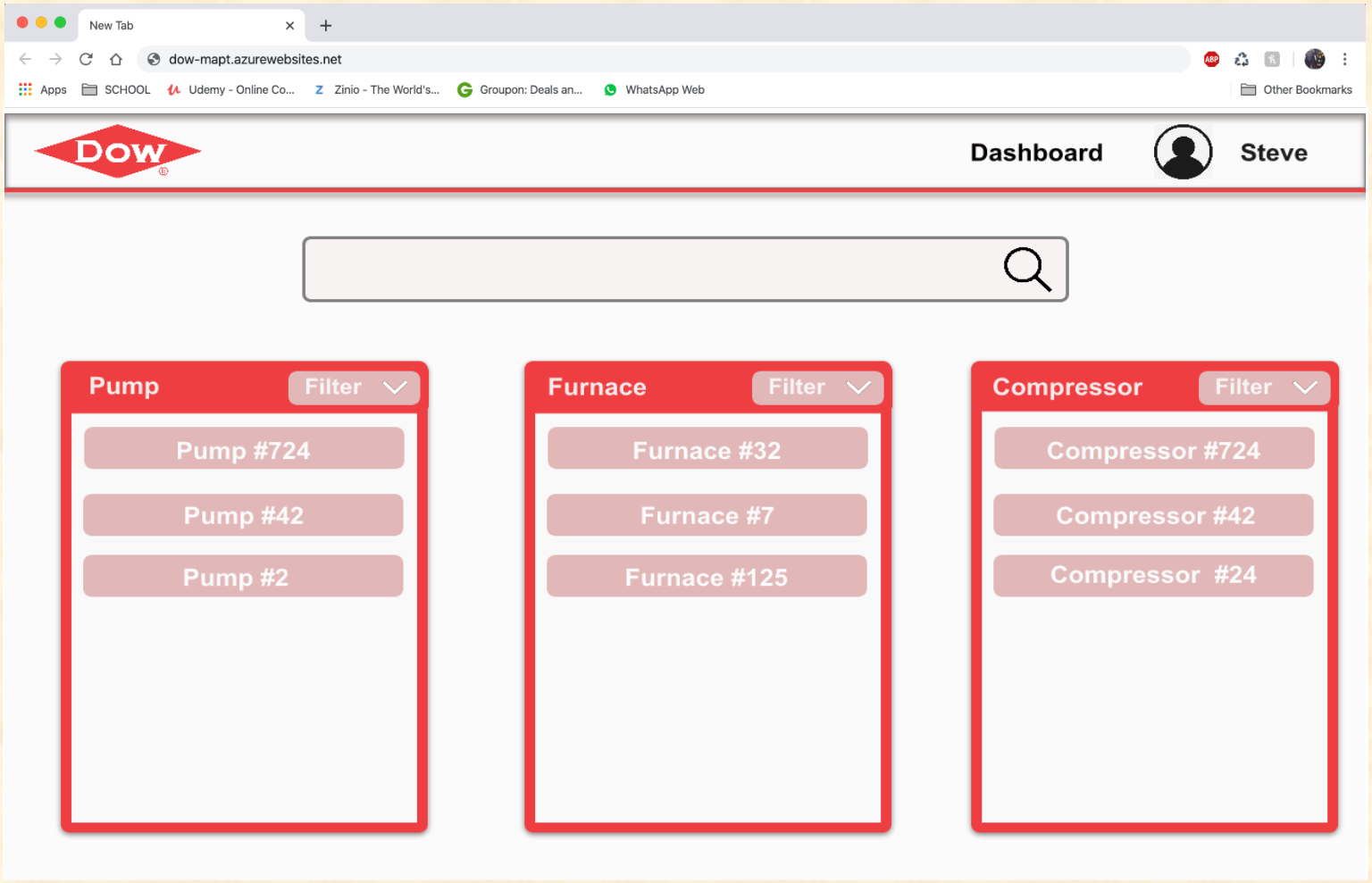
Design Specifications

- Helps Collect Data of Dow's Chemical Plants
  - No current way of collecting Data
  - Excel forms are very dull
- Gamify and Simplify the Experience
  - Facilitates the Search for Assets
  - Make it Engaging
- Supports Desktops and Mobile Browsers

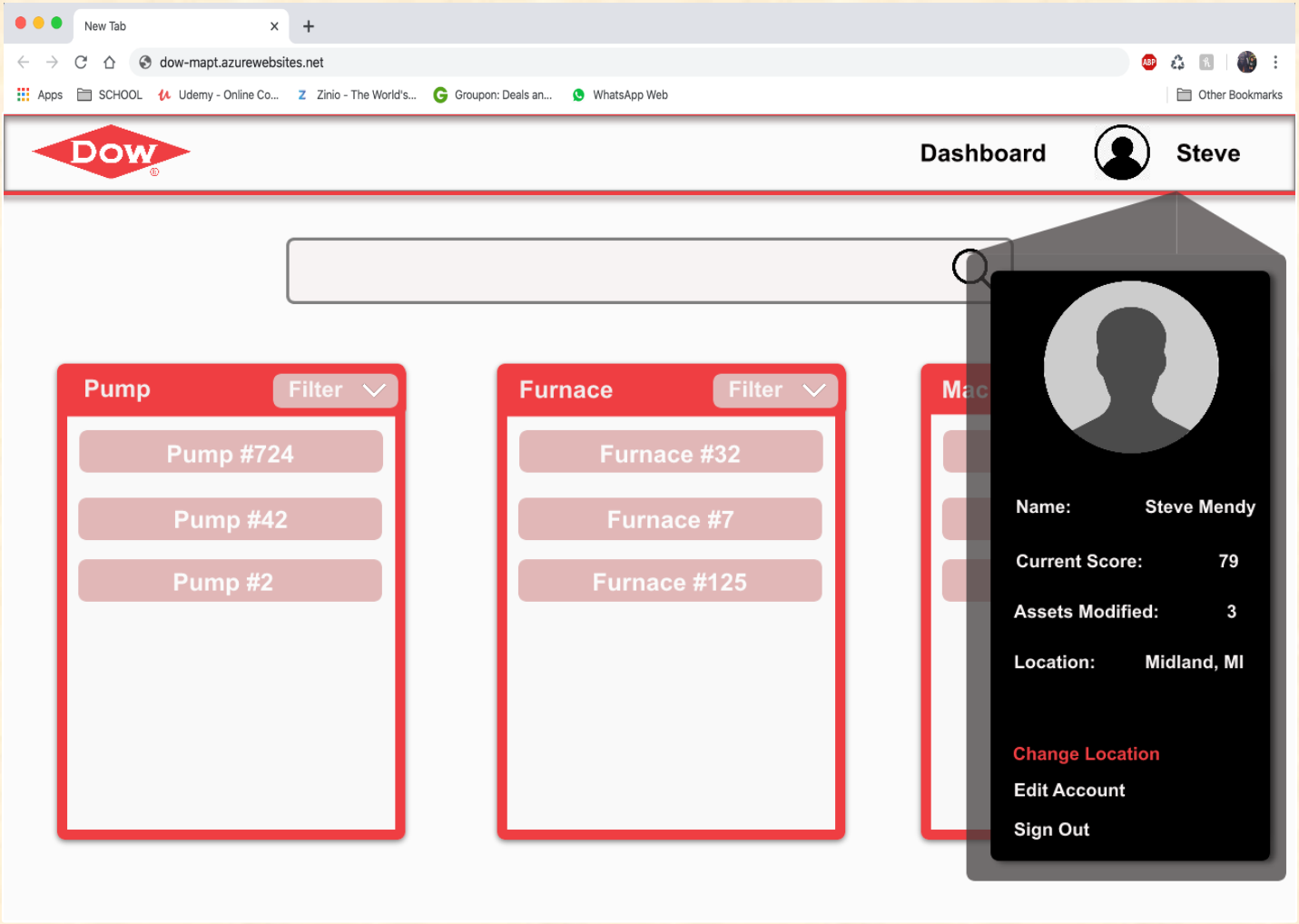
Screen Mockup: Dashboard



Screen Mockup: Asset Search



Screen Mockup: User Information

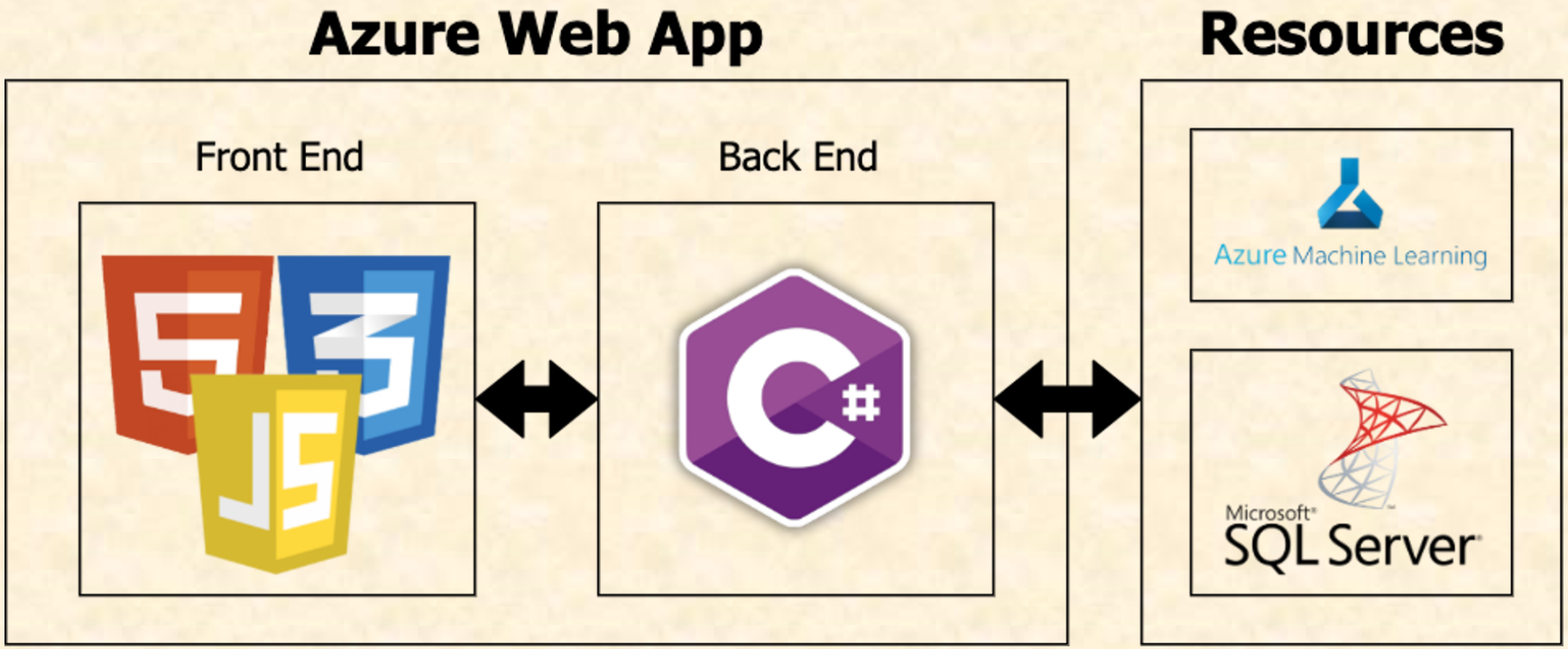


Screen Mockup: Sensor Page

Technical Specifications

- Web Development
  - Azure Web Application (C#)
  - HTML/CSS/JavaScript
- Machine Learning
  - Azure Machine Learning
  - Cognitive Service
- Database Technology
  - Azure SQL Database

System Architecture



Risks

- Technical Knowledge of Project Area – **High Risk**
  - Our Team does not know optimal layout of sensors
  - Continual Contact with Customer to Clear up any Misunderstandings
- Amount of Data – **Medium Risk**
  - If not provided enough data, It will be difficult to train accurate AI model
  - Request as much information as we can from customer
- Needs to be Interactive – **Low Risk**
  - People will not use system if it is not engaging
  - Get feedback from client at various stages of development

Questions?