PRODUCT TRACKER

Team: sdmay20-02 [Ryan Connolly, Clayton Nida, Nathan Yasosky, Nathan Shull, Tyler Krueger]

Faculty Advisor: Mai Zheng
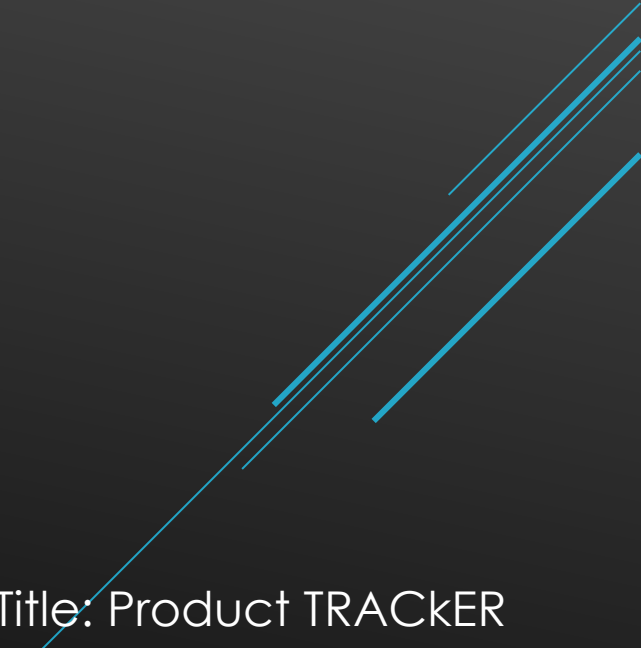
Client: Collins Aerospace

Website: http://sdmay20-02.sd.ece.iastate.edu/

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Speaker: Tyler Krueger

OVERVIEW OF PRODUCT TRACKER

► Web application deployed within Collins' intranet

► Electronic database for storage of data

► Intuitive user interface for ease of use

► Availability to all of Collins Aerospace

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PROBLEM STATEMENT

- ► Collins Aerospace
- ► Product Roadmap Data
- ► Availability Problem
- ► Wrong Equipment
- ► End of Production Dates
- ► Contract Violations

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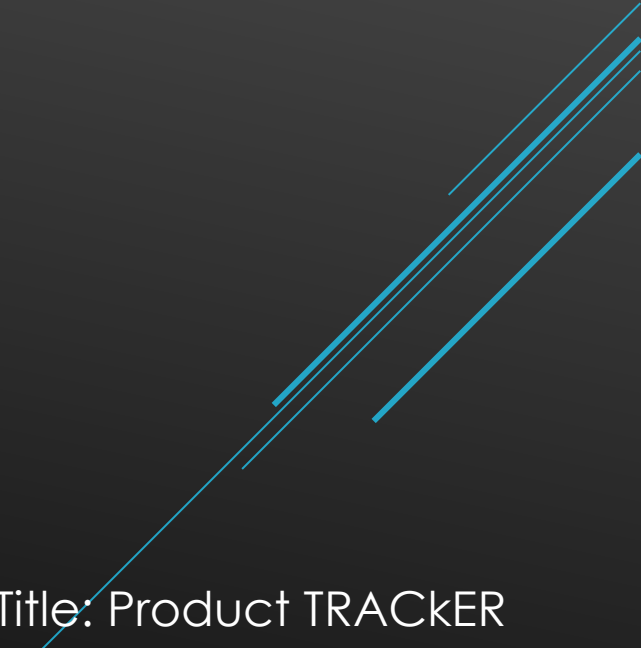
CONCEPTUAL SKETCH

- ▶ Collins Employee will access Product TRACkER via the Collins intranet

- ▶ There they will see the list of all the products, with the functionality to add or edit products

- ▶ They can navigate between contracts and products
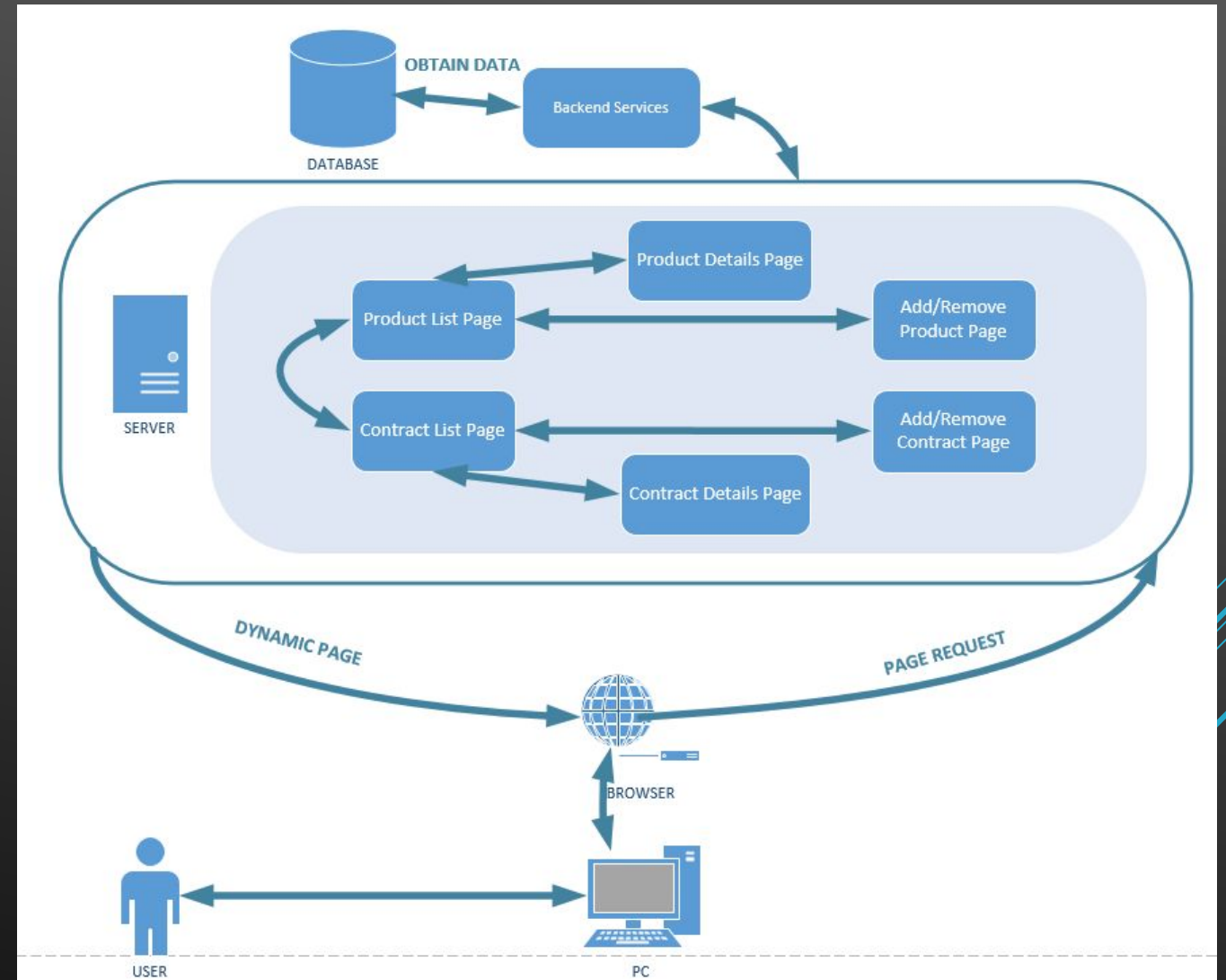
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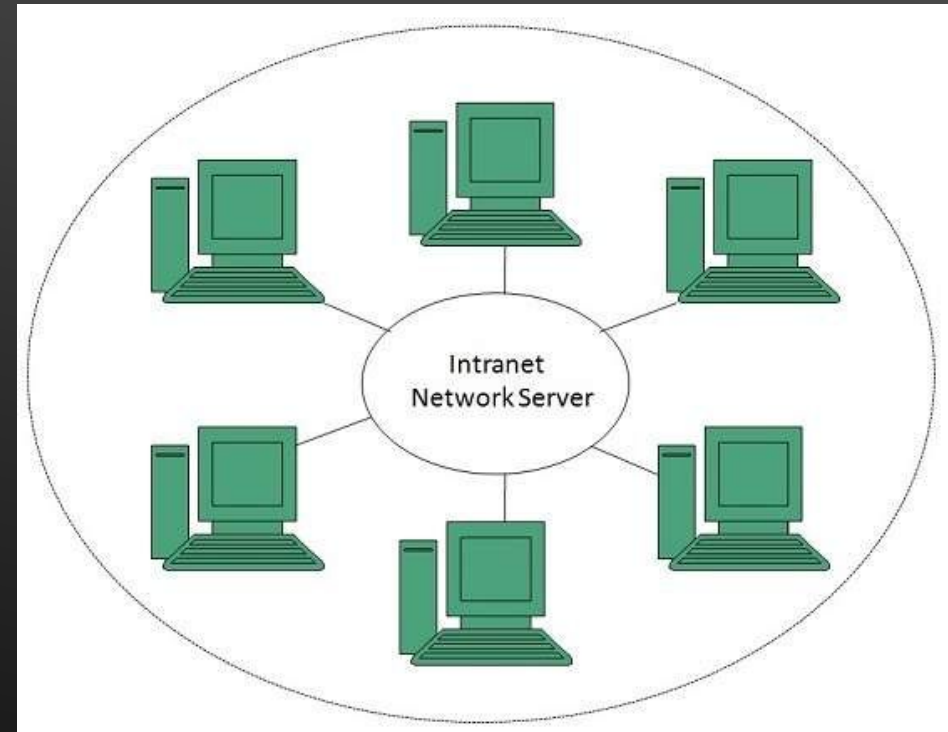
FUNCTIONAL REQUIREMENTS

► Maintainable electronic database

► Integration of products and contracts data

► Search by field values

► Search by CSV

► Interactive linking

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TECHNICAL/OTHER CONSTRAINTS/CONSIDERATIONS

- ► Big Data Sets

- ► Collins' Intranet Access

- ► Portability and Deployability

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POTENTIAL RISKS AND MITIGATIONS

- ▶ Communication

- ▶ New practices/standards

  - ▶ Documentation & task tracking

- ▶ New technologies

  - ▶ Languages & frameworks

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RESOURCE/COST ESTIMATE

- ▶ Resources:
  - ▶ Database
  - ▶ Computer with access to the internet
- ▶ Cost Estimate:
  - ▶ Software Project
  - ▶ Database

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PROJECT MILESTONES/SCHEDULE

- Milestone 1: Setup and Deployment
  - Jan. 13th - Feb. 2nd
- Milestone 2: Add Pages and Endpoints
  - Jan. 13th - Feb. 2nd
- Milestone 3: Search Pages and Endpoints
  - Feb. 3rd - Feb. 23rd
- Milestone 4: Details Pages and Endpoints
  - Feb. 3rd - Feb. 23rd

- Milestone 5: Edit Pages and Endpoints
  - Feb. 24th - Mar. 15th
- Milestone 6: Admin Authentication
  - Feb. 24th - Mar. 15th
- Milestone 7: Test cases/Testing
  - Mar. 23rd - Apr. 12th
- Milestone 8: UI and Feature Enhancements/Final Turnins
  - Apr. 12th - May 3rd

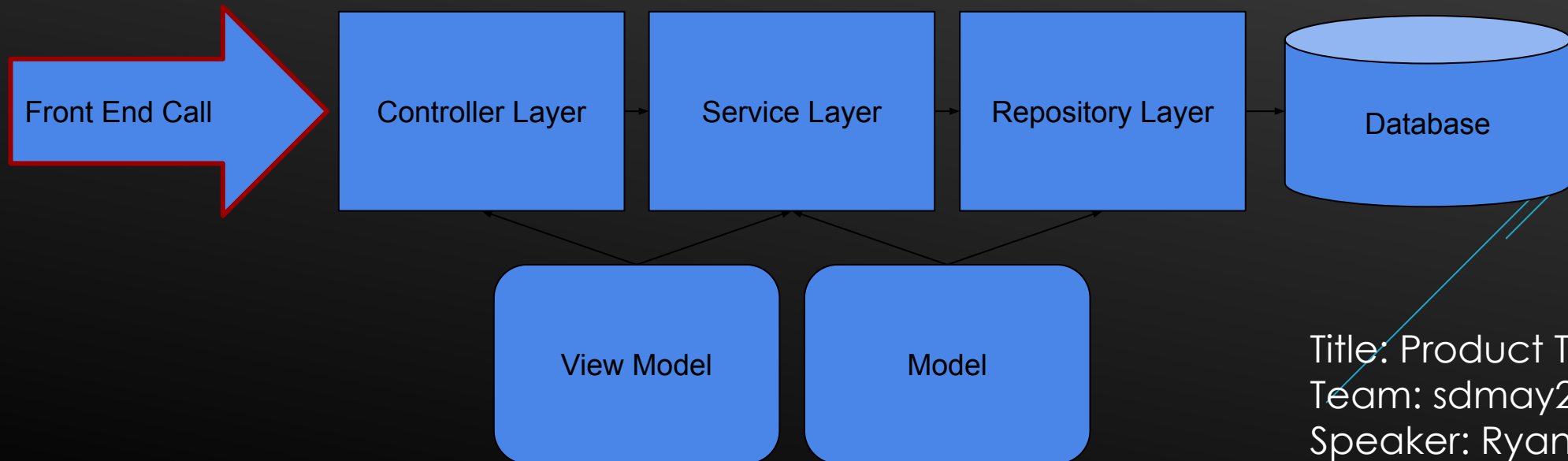Title: Product TRACkER
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FUNCTIONAL DECOMPOSITION (FRONT END)
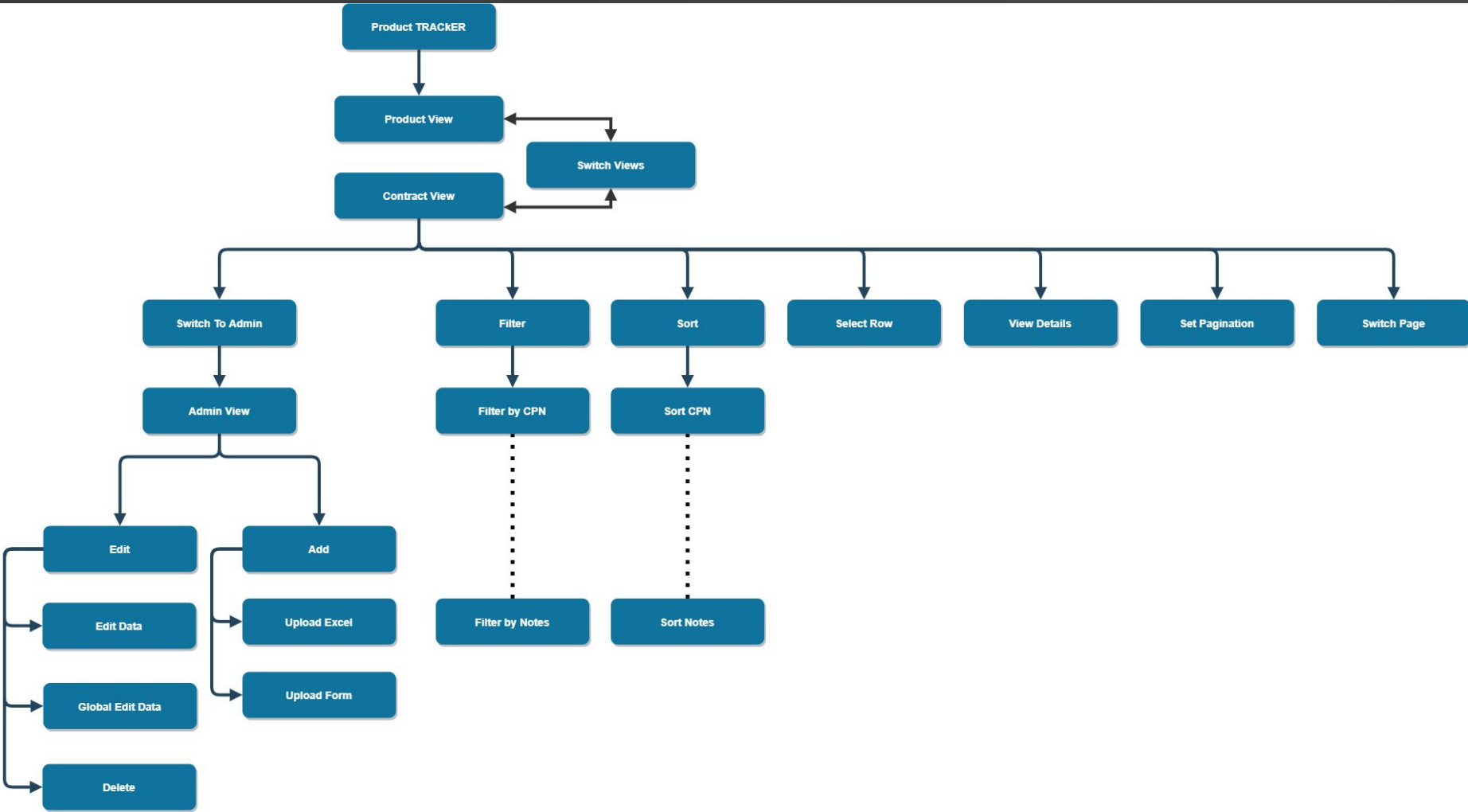
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FUNCTIONAL DECOMPOSITION (BACK END)

- ► Backend Components (Layer): Controller, Service, and Repository
- ► Backend Models: View Model and Model

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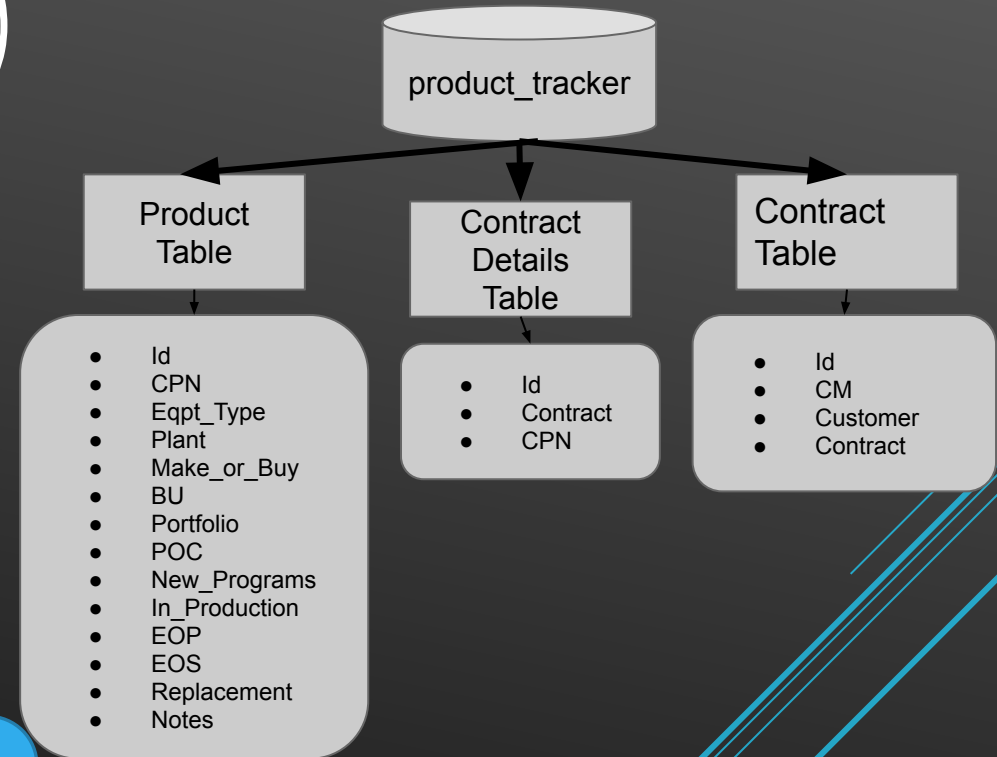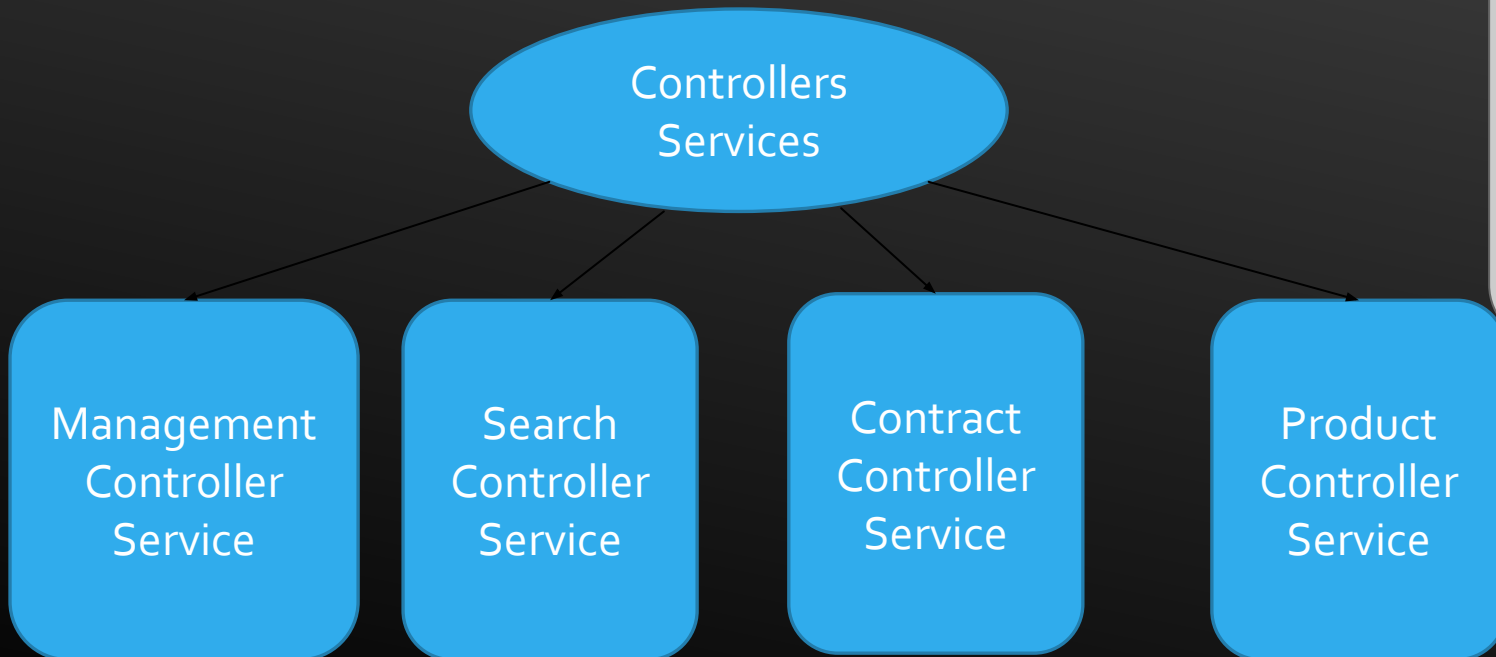
DETAILED DESIGN (FRONT END)

- ► JSON compiled and sent to backend

- ► JSON data is returned and then parsed to be dynamically added as rows

- ► The data displayed is determined by pagination values

- ► All add/delete/edit functionalities are created as modal windows
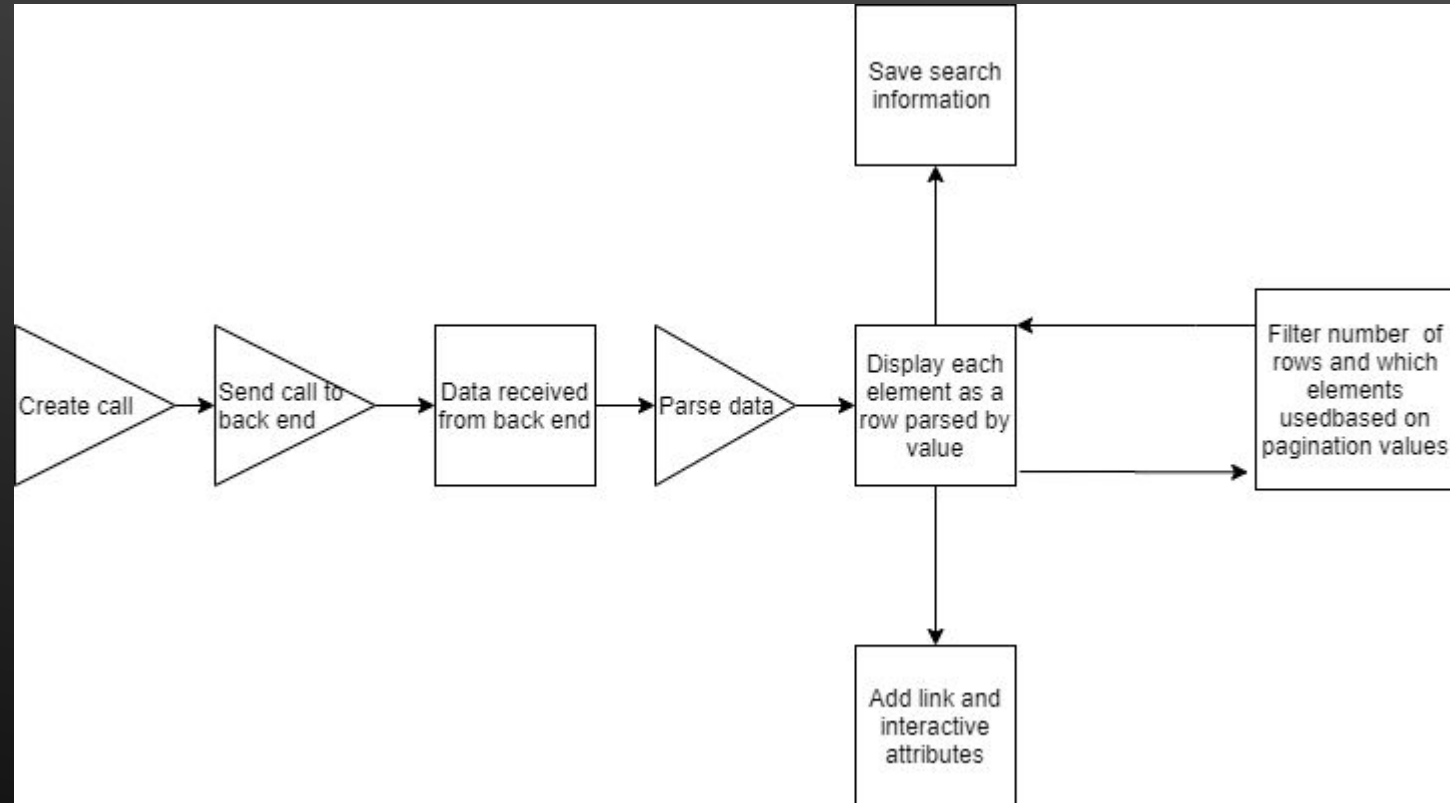
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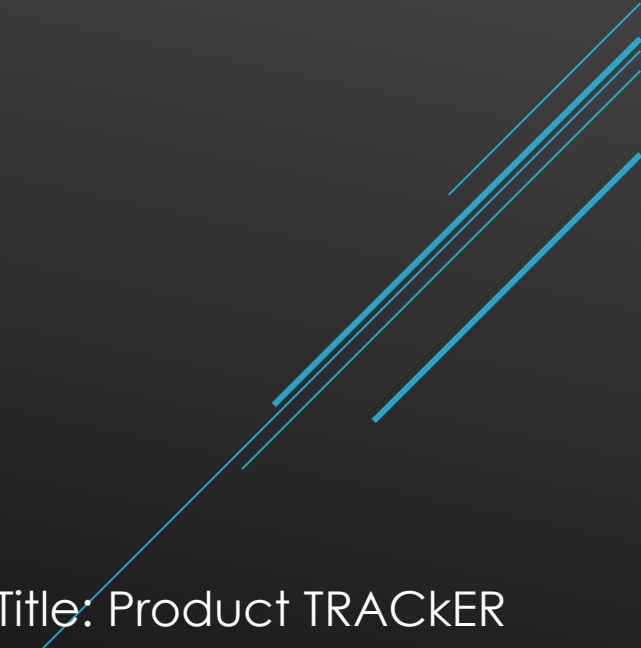
DETAILED DESIGN (BACK END)

► Service/Controller: Broken up based on functionality

► Database: Broken up by table for each object and a table for connection

Controllers Services

- Management Controller Service
- Search Controller Service
- Contract Controller Service
- Product Controller Service

product_tracker

Product Table
- Id
- CPN
- Eqpt_Type
- Plant
- Make_or_Buy
- BU
- Portfolio
- POC
- New_Programs
- In_Production
- EOP
- EOS
- Replacement
- Notes

Contract Details Table
- Id
- Contract
- CPN

Contract Table
- Id
- CM
- Customer
- Contract

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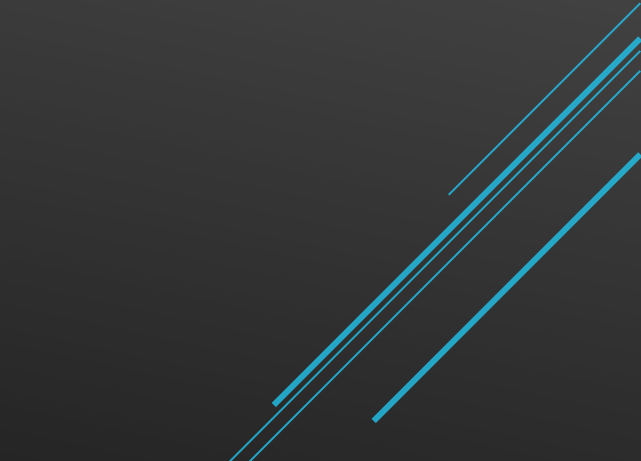# SOFTWARE TECHNOLOGY PLATFORMS USED

- ▶ Frontend
  - ▶ JavaScript
  - ▶ React.js
  - ▶ Google Chrome
- ▶ Backend
  - ▶ Java
  - ▶ SpringBoot
  - ▶ Postman
- ▶ DataBase
  - ▶ MySql
- ▶ Version Control
  - ▶ Git

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TEST PLAN

- ► Continuous Integration

  - ► Unit testing

  - ► Integration testing (React/Springboot & Database/Controllers/Services)

- ► Manual Testing

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PROTOTYPE (FRONT END)

http://producttracker.ece.iastate.edu/

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PROTOTYPE (BACK END)

Backend Demo Video

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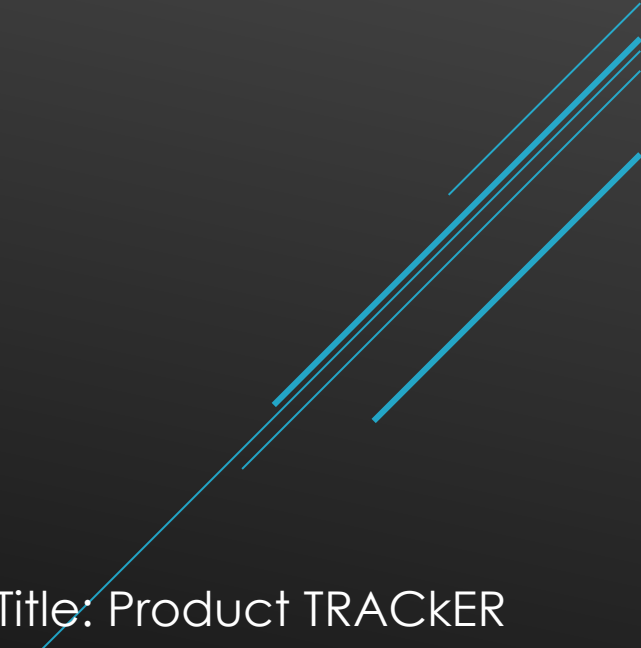
ENGINEERING STANDARDS AND DESIGN PRACTICE

- ▶ Agile and SCRUM Development Styles

- ▶ Continuous Integration

- ▶ Model View Controller Setup

- ▶ Controller, Service, Repository Backend Design

- ▶ Clean Coding Practices

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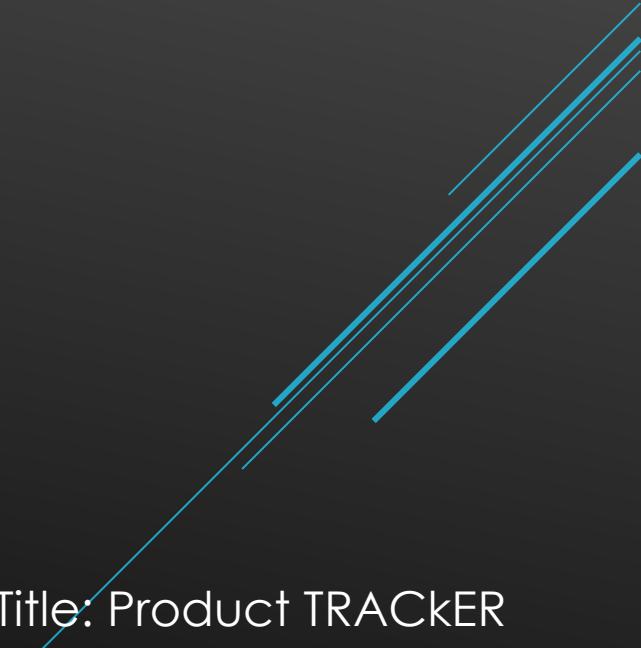# TASK RESPONSIBILITY/CONTRIBUTIONS (FRONT END)

- ► Clayton Nida
  - ► Initial Project Setup
  - ► Product Details Page
  - ► Search and Filter
  - ► Admin Control
  - ► Product and Contract Linking
- ► Tyler Krueger
  - ► Product Add
  - ► Product Edit
  - ► Excel Upload
  - ► Manual Testing
- ► Nathan Yasosky
  - ► Contract Add
  - ► Contract Edit
  - ► Contract Details
  - ► Global Edit
  - ► Delete Functionality

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TASK RESPONSIBILITY/CONTRIBUTIONS (BACK END)

- ► Ryan Connolly
  - ► Spring Boot setup
  - ► Form upload (product) endpoint
  - ► Product & contract details endpoint
  - ► Product edit endpoint
  - ► Add/edit testing
- ► Nathan Shull
  - ► Connecting backend
  - ► Form upload (contract) endpoint
  - ► Product & contract search endpoint
  - ► Contract edit endpoint
  - ► Search testing

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FUTURE PROSPECT OF PRODUCT TRACKER

► Hand off to Jenny and Collins Aerospace

► Prototype to test feasibility of the project

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