Iowa State University

College of Engineering

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Product TRACkER

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

Client:
Collins Aerospace

Faculty Advisor:
Mai Zheng

Introduction & Motivation

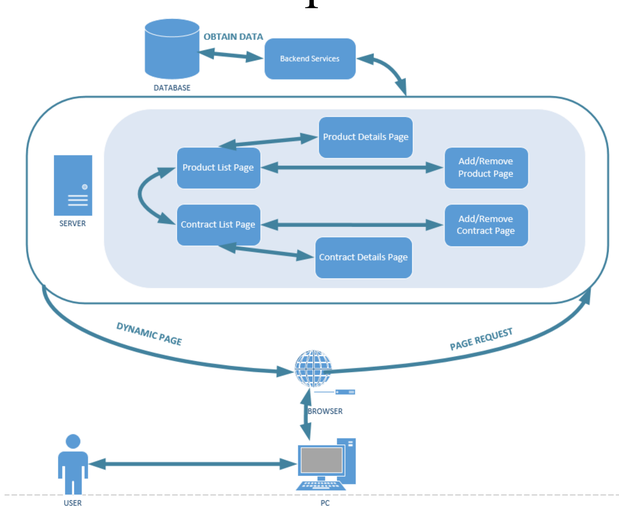
Collins Aerospace came to us with the following situation: their product roadmap data, which is the timeline of product life showing redesigns and projected end of production and end of service dates, was at the time being maintained in spreadsheets and slides. The data was not widely available which led to pursuits choosing equipment that may not fit their needs, programs unaware of pending end of production, and products ending production/service in violation of contract requirements.

Our solution was to create Product TRACkER (Track Roadmap And Contracts – Electronic Repository)- an electronic database to that stores product roadmaps and contracts data. It needed to be something that was available to all Collin's employees, so our goal was to create an intuitive user interface.

Design Requirements

- Maintainable electronic database
  - Edit data manually
  - Upload new/updated data via Excel file
- Search by field values or upload CPN list via excel
  - Display results on screen
  - Download results to Excel file
- Integration of product and contract data
  - One product can be on multiple contracts
  - One contract can include multiple products
- Interactive
  - Linking allows movement around between products/contracts

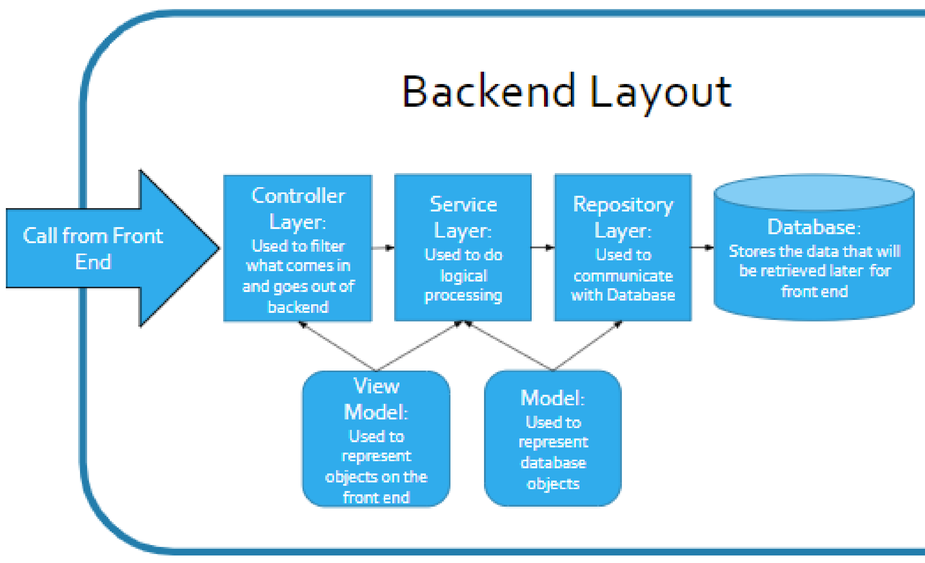
Conceptual Sketch



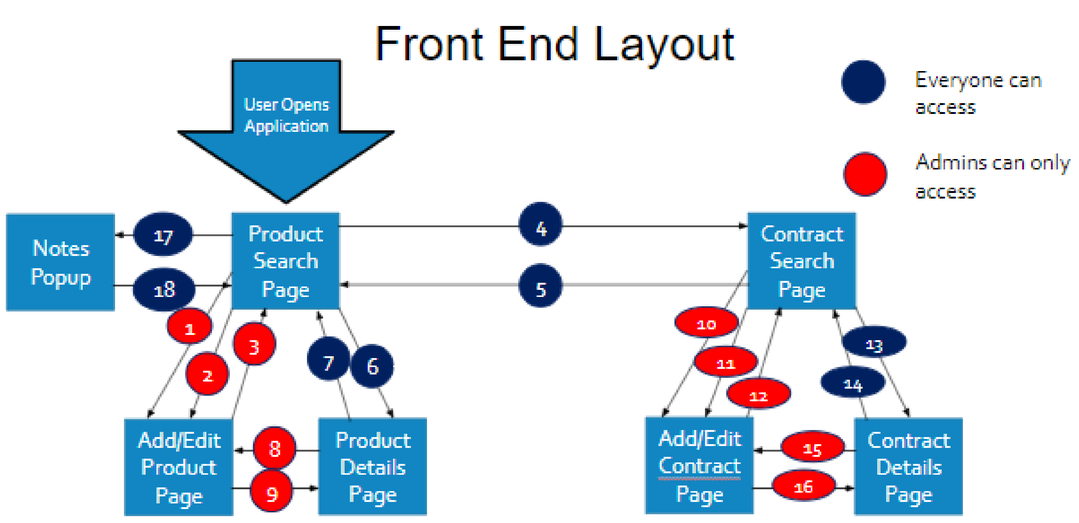
Technical Details

- Programming Languages:
  - JavaScript
  - Java
- Frameworks:
  - React.js
  - SpringBoot
- Database:
  - MySQL
- Environments:
  - IntelliJ
  - Visual Studio

Backend Layout



Front End Layout



Testing:

- Environments:
  - Google Chrome
  - IntelliJ
- Strategies:
  - Use Postman to test endpoints
  - Use JUnit for the backend
  - Manual testing of the modules on the frontend