Project Plan Presentation
Next Gen Smart Factory

The Capstone Experience

Team WK Kellogg Co

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Project Sponsor Overview

- WK Kellogg Co, is an American multinational food manufacturing company headquartered in Battle Creek, Michigan.

- Best known for being a leader in breakfast cereals, including iconic brands such as Kellogg's Corn Flakes.

- In the summer of 2023, Kellogg's underwent a split, while WK Kellogg's Co maintains a focus on cereals, Kellanova specializes in snack foods.
Project Functional Specifications

• Existing software solution is reaching end-of-life and is unintuitive to end-user
• Need an innovative and simple web-based solution
• Solves usability issue by simplifying UI
• Implements application functionality using different tech stack that is more cost effective
Project Design Specifications

• The project outlines three main goals:
  ▪ The app allows supervisors to create checks and tasks for the workers
  ▪ Allows for operators to complete checks and tasks along with creation of manual checks
  ▪ Allows those with administrator access to visualize historical data of completed checks across factories
Screen Mockup: Checklist

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Smart Factory
V2.3
Screen Mockup: Create Check
Screen Mockup: Check Execution
Screen Mockup: Data Visualization
Project Technical Specifications

- **Front-End**: HTML/CSS/JavaScript
- **Back-End**: Python/MySQL
- **Data Visualization**: Power Apps / Power BI
Project System Architecture

Operators

Supervisors

Frontend/Interface

HTML / CSS / JS

Data Visualizations

Power Apps

Power BI

Backend

Python

Web Server and SQL Database

docker
Project System Components

• Hardware Platforms
  ▪ MSU Server System

• Software Platforms / Technologies
  ▪ Visual Studio Code
  ▪ Microsoft PowerApps / Power BI
  ▪ MySQL
  ▪ Windows 11
  ▪ Docker
Project Risks

• Risk 1 – Real World Usability
  ▪ Ensure our software is usable in-practice by operators and administrators in factory
  ▪ Learn detailed perspectives of users by visiting factory and watching operator training videos

• Risk 2 – Data Security
  ▪ Ensure data cannot be accessed in unintended way
  ▪ Maintain secure log-in protocols, ensure only supervisors can access data, and encrypt the data

• Risk 3 - Database Integration
  ▪ Compatibility issues between the two data schemas may arise, leading to incomplete or erroneous data sets
  ▪ We will coordinate tests and reviews to ensure seamless data transfer and alignment between the old data schema and the new one.

• Risk 4 – Balance Simplicity and Cost with Functionality
  ▪ Ensure that our software is simple and cost-effective without losing key functionality
  ▪ Clarify “must-have” features, so that UI is not cluttered with unwanted or costly features like the existing software
Questions?