Project Plan Presentation
Microsoft Excel Data Extractor/Modeler

The Capstone Experience
Team Delta Dental Knowledge Science
Ethan Bransdorfer
Morgan Mundell
Peter Ro
Xochitl Weiss

Department of Computer Science and Engineering
Michigan State University
Fall 2021
Functional Specifications

• Make Excel sheets easy to understand
• Adds implied context to data
• Data tethered to labels not just location
• Ability to retrieve data at a different time without Excel
• Improve Efficiency of Delta Dental Employees
• Dynamic, functional for all data models
• Remove Reliance on code developers
Design Specifications

- Intuitive web application
- Drag & Drop upload
- Previously uploaded spreadsheet viewer
- Browser based spreadsheet with labeling functionality
- Simple display to sort through labeled data
Screen Mockup: Upload
Screen Mockup: View

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<th>Update</th>
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Screen Mockup: Label
Screen Mockup: Browse

- **View Root**
- **Assignments**
  - Names
  - Homework
  - Homework 1
  - Homework 2
  - Homework 3
- **Exams**
  - Midterm
  - Final
- **Questions**
  - Points
  - Answers

**Homework 1**
- Alice: 39
- Bob: 40
- John: 99
- Max: 12

**Homework 2**
- Alice: 42
- Bob: 53
- John: 98
- Max: 114
Technical Specifications

- JavaScript/TypeScript
- Microsoft Excel
- HTML/CSS
- NoSQL
System Architecture
System Components

• Software Platforms / Technologies
  ▪ MongoDB
  ▪ Express/Node.js
  ▪ Angular
  ▪ SheetJS
  ▪ X-Spreadsheet
Risks

• UI Rendering Constraints - High
  ▪ Rendering large datasets dire to frontend performance.
  ▪ Virtual scrolling or progressive rendering.
• X-Spreadsheet Integration - Medium
  ▪ Difficult integrating front-end package x-spreadsheet.
  ▪ Investing production cycles to decide: resolve or pivot. Fallback to refactor.
• Loading Data
  ▪ A key feature is the reproducibility of the input excel file from our backend.
  ▪ Could save the excel spreadsheet in an open source json-based object for little additional cost.
• Multidimension Data Saved into JSON Form
  ▪ No way to support turning an excel file into JSON unless it only has the first row as data labels and the rest as data. Need to support multi-dimensional and unique files.
  ▪ Detailed labels and indications of dimension from user input will allow us to create a function to achieve this. We can look into SheetJS source code to aid in making this function.
Questions?