Dexercise
CS6440 Practicum

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Jonathan Marple, Evan Strat

Team Roles & Contributions

- Jonathan Marple
  - Backend developer
- Evan Strat
  - Full-stack developer
  - Diabetes domain knowledge

Research

- Type 1 Diabetes (T1D)
    - Autoimmune disease
    - Affects ~1.5 million individuals in U.S.
    - Blood sugar levels
        - Insulin (decrease)
        - Carbohydrates (increase)

Problem

- Exercise
  - Helps prevent complications with T1D
  - Effect on blood sugar level ill-defined
    - Varies based on individual

Solution

- Dexercise
    - Web application
    - Exercise + blood sugar visualizations
    - Help identify impact of exercise on blood sugar levels
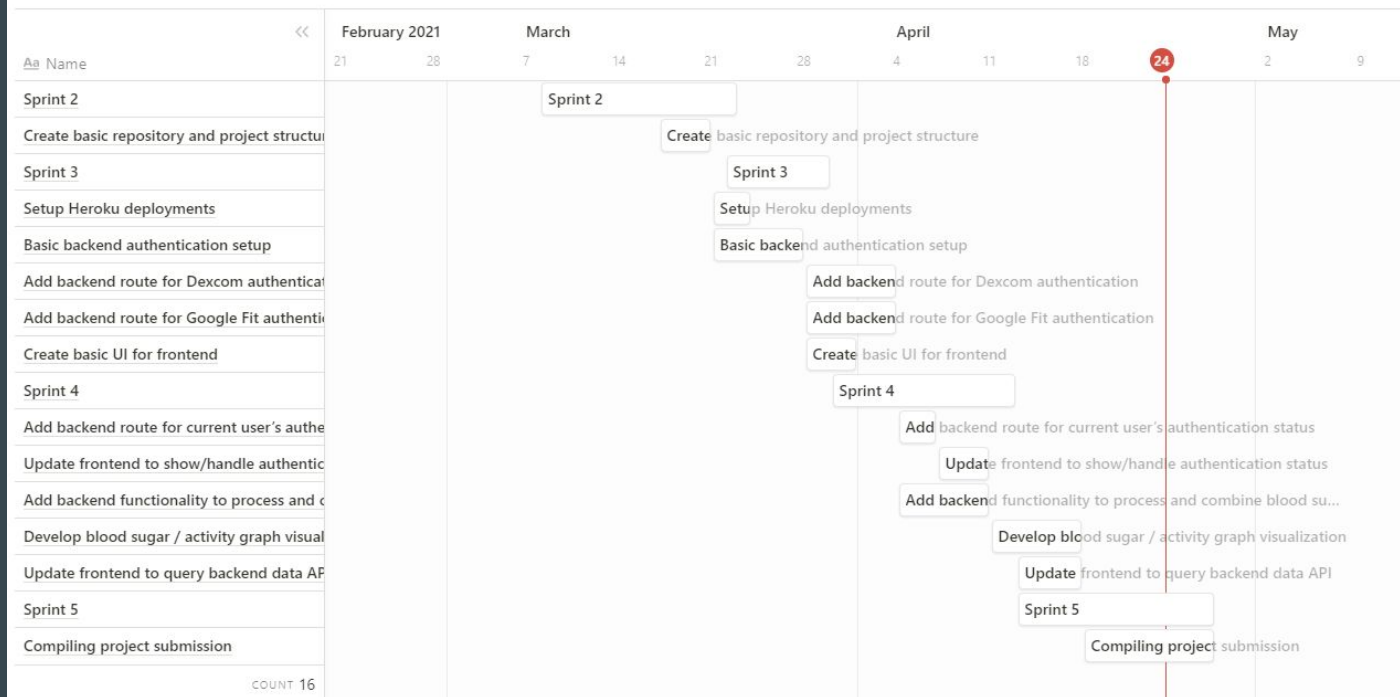
Project Goals & Requirements

- Visualization
  - Data
    - Activity levels
      - Google Fit Heart Points
      - Smart watch/phone
    - Blood sugar levels
      - Dexcom Estimated Blood Glucose Levels
      - Continuous glucose monitor
  - Time Range
    - Based on user input

Demonstration

Project Status & Gantt Chart

Future Plans and Opportunities

- Freeform notes
- Connection to other fitness services
- Integrating insulin dosing and carbohydrate intake data to add additional context
    - Via a smart (connected) insulin pen or an insulin pump download
- Pattern recognition

Thank you!