



Beta Presentation

An AI Tool for Enhancing Medical Education

The Capstone Experience

Team Corewell Health

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*From Students...
...to Professionals*

Fall 2025

Project Overview

- Medical students lack a realistic environment to practice responding to patient needs using Electronic Health Records (EHRs)
- An AI Tool for Enhancing Medical Education provides an interactive platform where students can respond to a variety of patient messages, order labs, refill prescriptions, and take practice medical licensing examinations
- Our future physicians will be more confident in using EHRs, and feel more proficient in their ability to provide accurate feedback within today's healthcare systems

Team Member's Technical Tasks

Technical Tasks Assigned

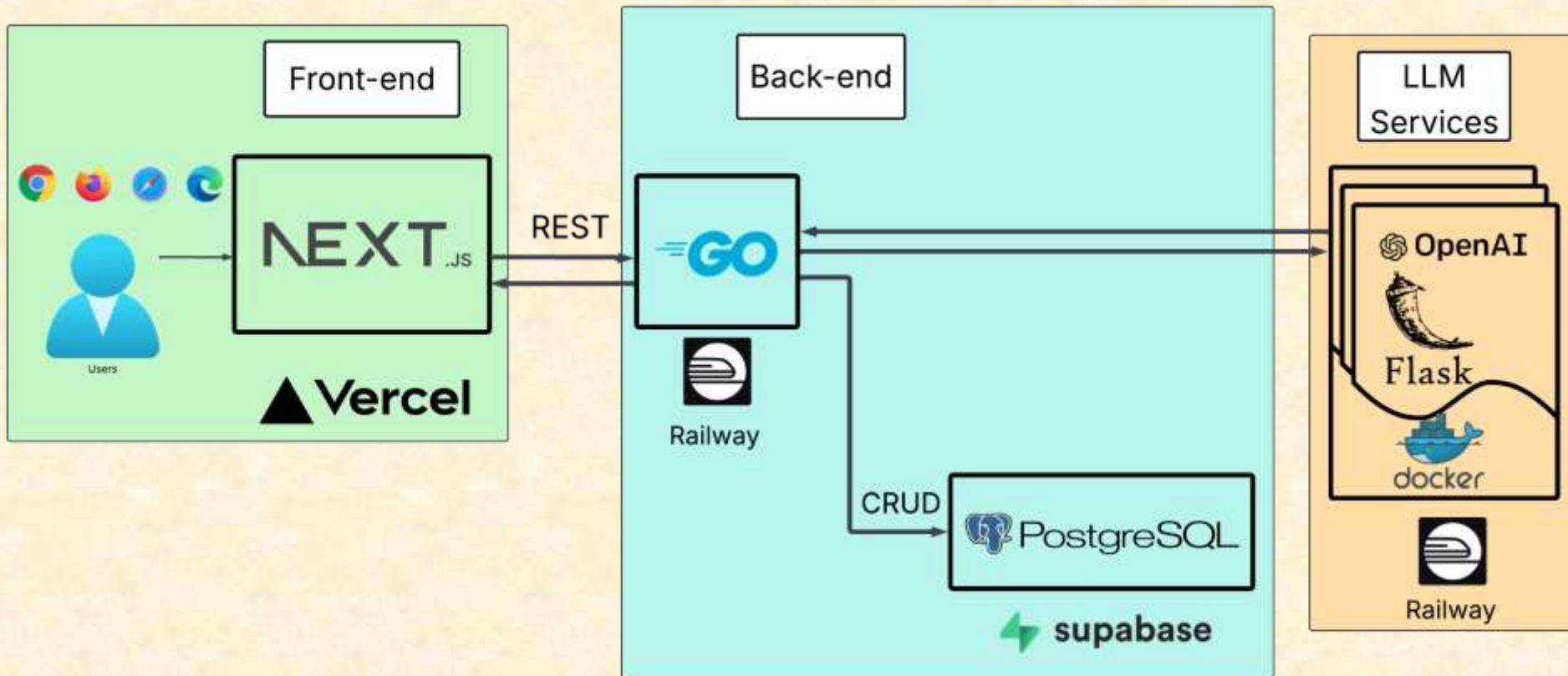
- Noah Austad
 - Generated adult and pediatric synthetic patients
 - Generated realistic patient messages
 - Generated realistic lab results and prescriptions tasks
 - Generated AI images to accompany visual medical conditions
- Chase Grove
 - Implemented Filtering System to Sort Patients
 - Designed Patient "Tags" to create defined categories with which to sort Patients
 - Enabled Instructors to Edit/Create new Orders for the application
 - Designed and Implemented Student "Progress Report" pdf using gofpdf library
- Tri Khuc
 - Built AI chat bot and AI give feedback on tasks
 - Created back-end for exam dashboard and quiz page with questions given daily
 - Implemented flagging questions feature and update question
 - Implemented report a problem feature and support ticket dashboard
- Sabrina Lee
 - Orders feature (frontend + AI connection)
 - Ability to specify dose, route and frequency for prescription tasks
 - Updated sign up flow + authentication methods + user storage for FERPA compliance
 - Created product tutorial
 - Question Board frontend and backend
- Graham Parker
 - Created Quiz Page and Exam Dashboard front-end
 - Created the front-end for the profile page and allowed profile data to be saved
 - Added mini tagged quizzes to completed tasks
 - Added functional achievements with customization rewards
- Toan Pham
 - Updated Flagged Patient and Instructor Dashboard
 - Added Leaderboard page for student's ranking
 - Added Notification page for both student and instructor
 - Infrastructure migration, deployment, and UI improvement

Technical Tasks Completed

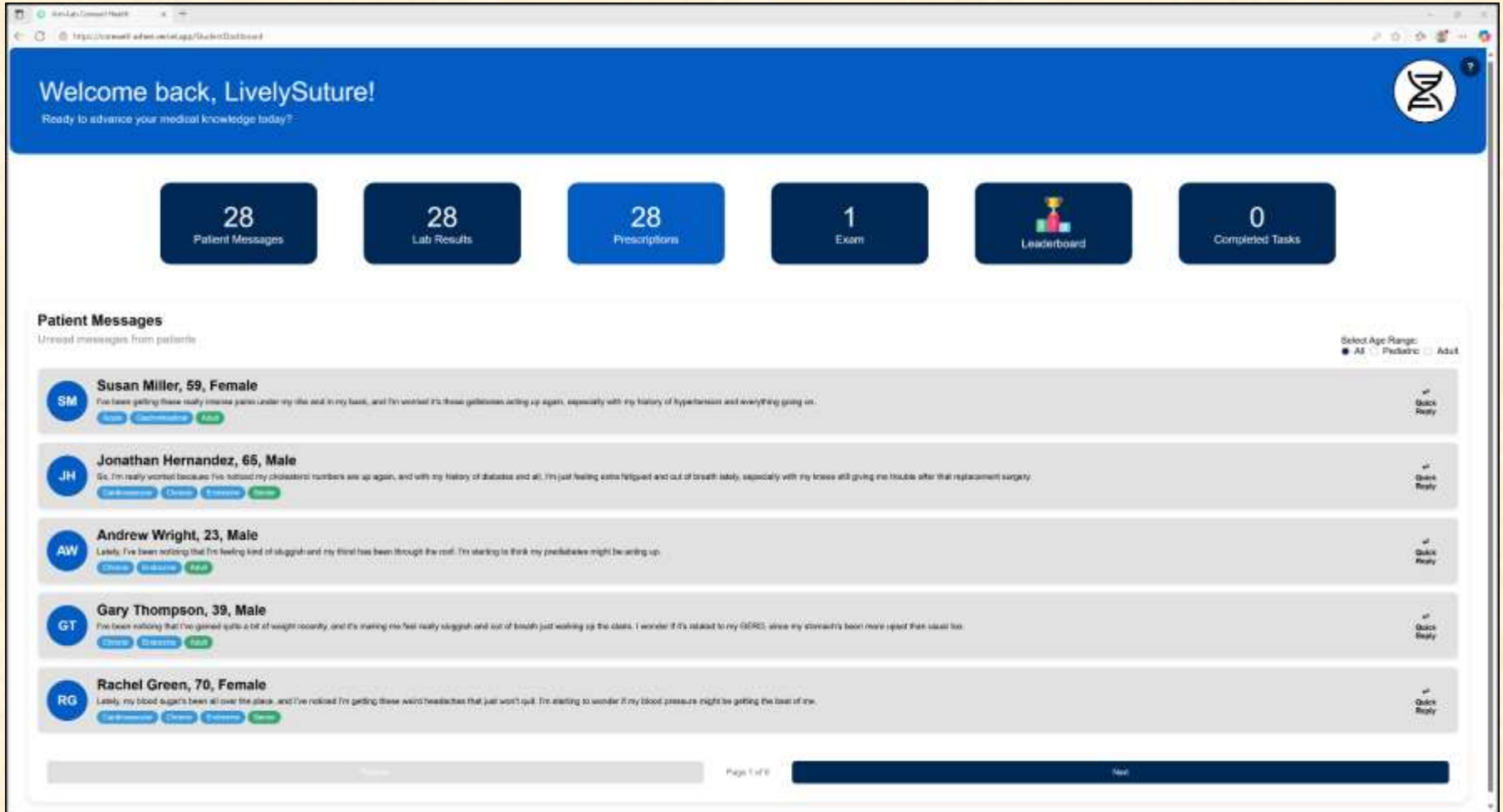
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 - Ability to specify dose, route and frequency for prescription tasks
 - Updated sign up flow + authentication methods + user storage for FERPA compliance
 - Created product tutorial
 - Question Board frontend and backend
- Graham Parker
 - Created Quiz Page and Exam Dashboard front-end
 - Heavily optimized Student Dashboard/Completed Tasks page querying
 - Created the front-end for the profile page and allowed profile data to be saved
 - Added mini tagged quizzes to completed tasks
 - Added functional achievements with customization rewards
- Toan Pham
 - Updated Flagged Patient and Instructor Dashboard
 - Added Leaderboard page for student's ranking
 - Added Notification page for both student and instructor
 - Infrastructure migration, deployment, and UI improvement



System Architecture



Student Dashboard



Exam Page

[← Back to Exam Dashboard](#)

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USMLE Step 2 Question

A 10-year-old boy is brought to the pediatric clinic by his mother due to persistent cough and difficulty breathing that have worsened over the past month. The cough is worse at night and often accompanied by wheezing. He has a history of allergic rhinitis and eczema. The mother notes that the boy has been using an over-the-counter antihistamine regularly but has not experienced significant relief. He does not have any fever, and his appetite is normal. On examination, vital signs are stable, with an oxygen saturation of 95% on room air. Lung auscultation reveals expiratory wheezing and prolonged expiration without crackles. A peak flow meter reading is 70% of the predicted value for his age. Which of the following is the most appropriate next step in the management of this patient?

☐ A. Inhaled corticosteroids

0%

☐ B. Short-acting beta-agonist (SABA)

0%

☒ C. Oral prednisone

100%

☐ D. Montelukast

0%

Explain

Back

Next

🚩

AI Assistant

Hello, I'm here for explanation 🗨️

Type your message here

Send



Patient Page

[← Back to Dashboard](#)

Patient Details
Jonathan Hernandez - DOB: 1960-06-28

Respond to the patient's message!

General Info

Results

Prescriptions

Orders/Referrals

PDMP

General Info

[Demographics](#)
Date of Birth: 1960-06-28 (Age: 65)
Gender: Male

[Immunizations](#)
Status (Not UpToDate)

[Surgical History](#)
Knee replacement (2020), Diabetic foot procedure (2020)

[Patient Message](#)
So, I'm really worried because I've noticed my cholesterol numbers are up again, and with my history of diabetes and all, I'm just feeling extra fatigued and out of breath lately, especially with my knees still giving me trouble after that replacement surgery.

[Problem List](#)
Hyperlipidemia

[Medical History](#)
Hypertension, Osteoarthritis, Obesity, Anemia (on treatment), Diabetes, Appendicitis

[Vitals and Measurements](#)
Cholesterol: 167.0 mg/dL
Height: 5'11"
Weight: 248 lbs
Blood Pressure: 126/65 mmHg

[Allergies](#)
No known allergies

[Family Medical History](#)
Sibling: Diabetes, Sibling: Stroke

AI Assistant

Your Response: Thank you for sharing your concerns. I understand it can be worrying to see your cholesterol rise again, especially given your history of diabetes and hypertension. Your most recent cholesterol level of 167 mg/dL is within the general target range for total cholesterol, but depending on your LDL and HDL breakdown, your provider may still want tighter control considering your cardiovascular risk factors. Your fatigue and shortness of breath are important symptoms to mention. These could be related to several things — for example, anemia, medication side effects, deconditioning from limited mobility after your knee replacement, or possibly your cardiac or pulmonary health. It would be helpful for your care team to evaluate these symptoms further with lab work (like a CBC and metabolic panel) and possibly a cardiovascular assessment.

AI Feedback: Your response shows good empathy and understanding of the patient's concerns regarding their cholesterol and symptoms. However, it lacks specificity about the next steps regarding lab work or referrals since you mentioned the need for lab work such as a CBC and metabolic panel, but these were not included in the order field of the patient information. This could lead to confusion about what actions will be taken next. To improve clarity and completeness, you could explicitly state that while you recommend further evaluation with lab work, you will ensure that these are ordered in the patient's care plan. Additionally, mentioning the potential need for a follow-up appointment or further discussion with the care team could provide a clearer path forward for the patient.

AI Response: Jonathan, I understand your concerns about your cholesterol levels, fatigue, and breathlessness, especially in light of your medical history. Your recent comprehensive metabolic panel shows elevated glucose levels, which can indicate issues with diabetes management. I recommend focusing on a heart-healthy diet rich in fruits, vegetables, whole grains, and lean proteins while reducing saturated fats and sugars. Regular physical activity, tailored to your knee condition, can also help. It's crucial to adhere to your prescribed medications, including insulin and lisinopril. Additionally, we should consider rechecking your lipid panel and HbA1c levels to monitor your cholesterol and diabetes control. Please let me know if you have any questions or need further assistance. Best Regards,

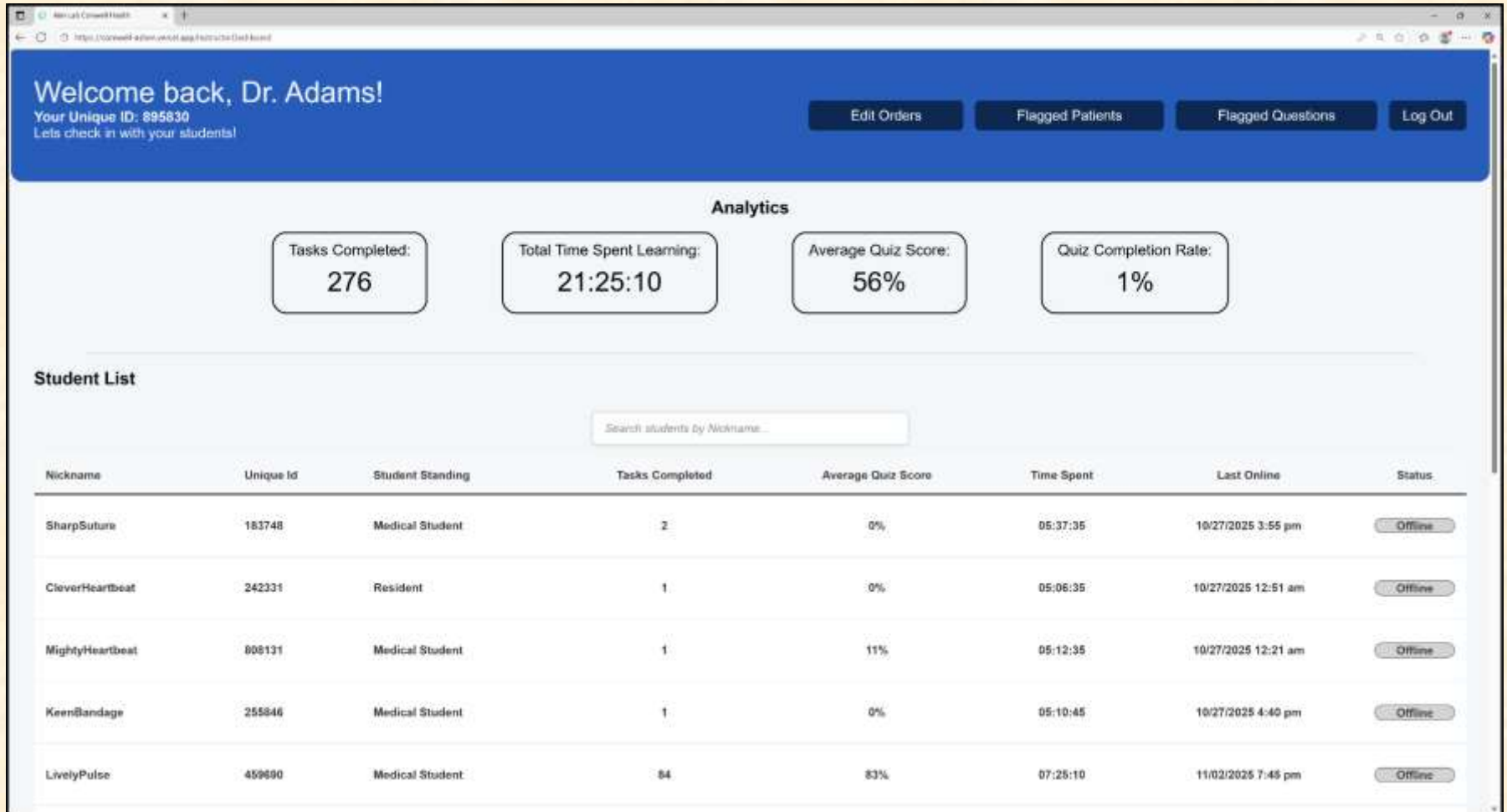
 [Take A Related Quiz Question?](#)

The Capstone Experience

Team Corewell Health Beta Presentation

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Instructor Dashboard



What's left to do?

- Features
- Stretch Goals
 - Adaptive/mobile UI
 - Increase the pool of medical conditions
 - Implement routine patient cycling
- Other Tasks
 - Read Me
 - Bug fixes
 - Improving AI generated visual medical condition images



Questions?

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