

Material Atlas for Coastal Construction

Students: Laura Penza, Daniel Brizuela, Hansel Soberao, Thuong Nguyen

Mentor: Lyla Wu, Product Owner

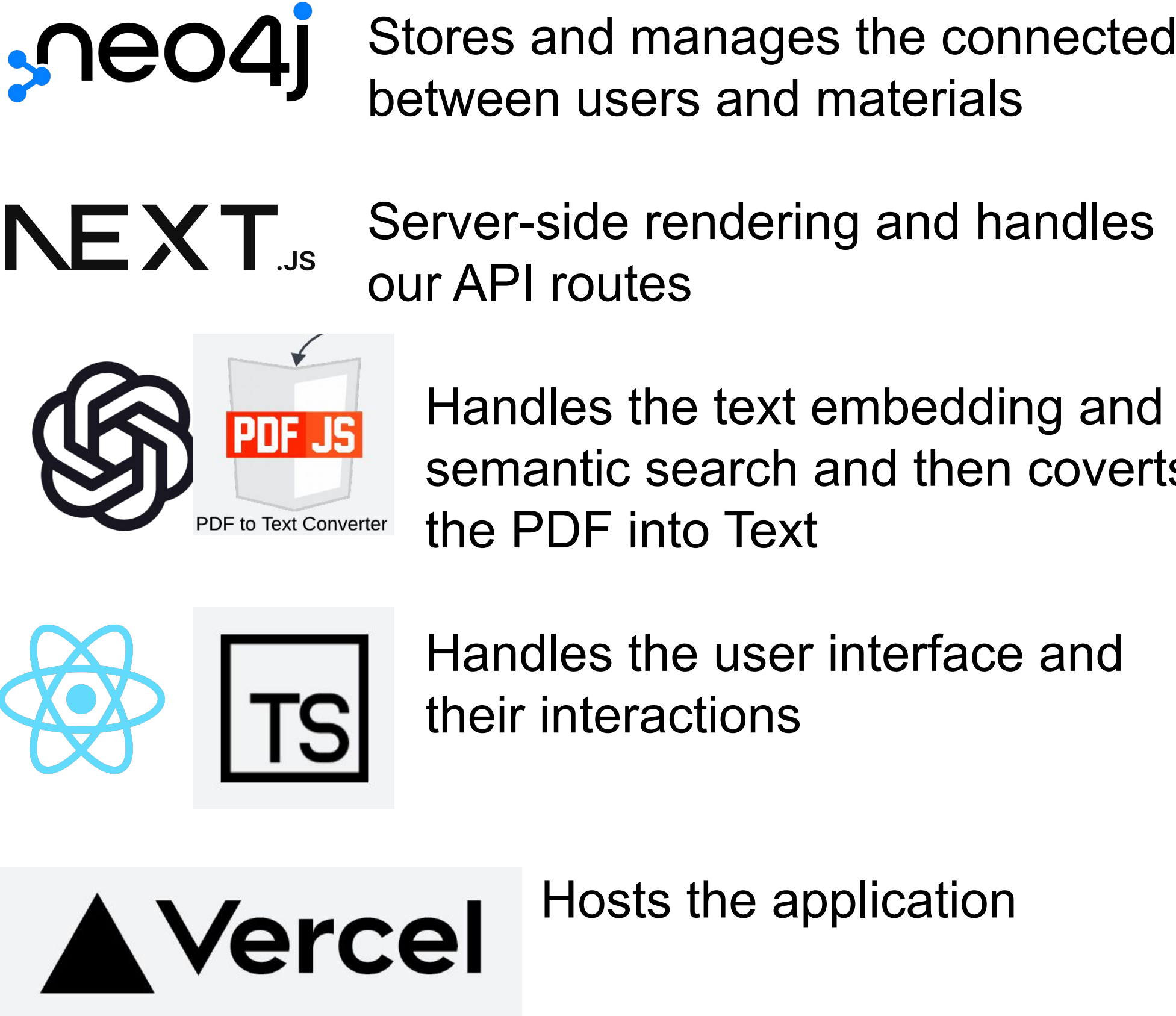
Faculty: Dr. Masoud Sadjadi, PhD, Florida International University

PROBLEM

There is currently a significant gap in cross-collaboration between material scientists, engineers, architects, and researchers. This lack of interaction hinders the progress of advanced materials and their knowledge in various projects.

Material Atlas aims to bridge this gap by creating a knowledge-sharing platform that connects materials to their practical applications. This platform will facilitate collaboration and information exchange among professionals and students, fostering innovation and more effective use of materials.

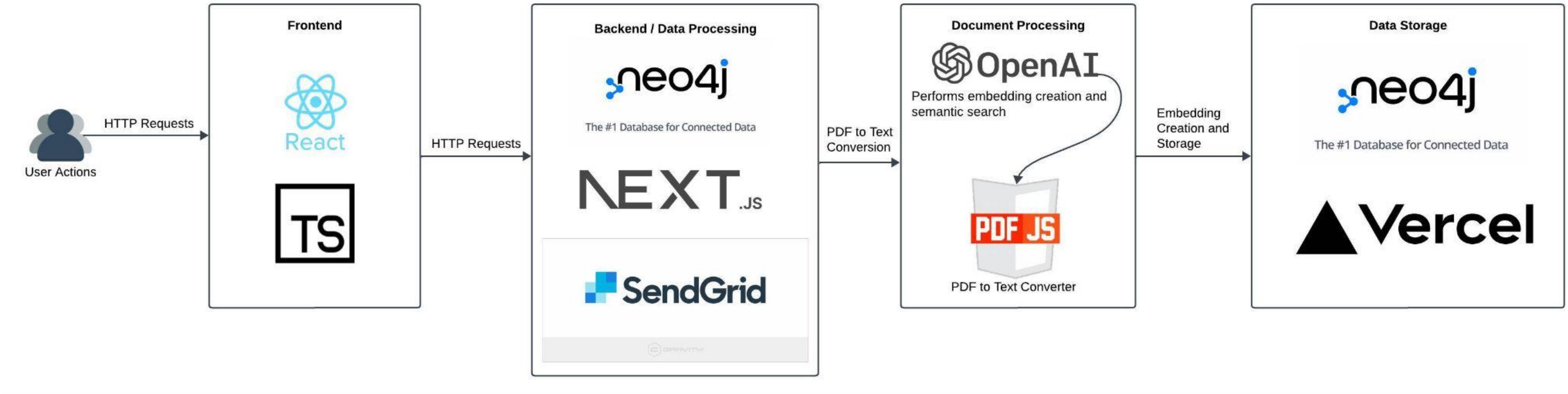
CURRENT SYSTEM



REQUIREMENTS

- Stable hosted website and database.
- Improving website interface with fluid navigation features and user/admin interfaces.
- Robust registration system allowing new users to create accounts and implemented input validation to ensure data integrity.
- Functionality to send verification email through Twilio SendGrid to new users' requiring email confirmation before activating their accounts.
- Users can explore the relationships between materials, elements, properties, and applications.

SYSTEM DESIGN



SUMMARY

As part of the senior design team at Florida International University, we continued the work of "Material Atlas for Coastal Construction" to meet the need for sustainable coastal development.

Utilizing technologies such as OpenAI, Neo4j, Next.js, and TypeScript, the project offers a comprehensive and user-friendly platform for uploading and researching elements and ingredients in construction materials suitable for coastal environments. Ultimately, the application serves as an attractive, innovative, and scalable solution.

ACKNOWLEDGEMENT

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