

Material Atlas

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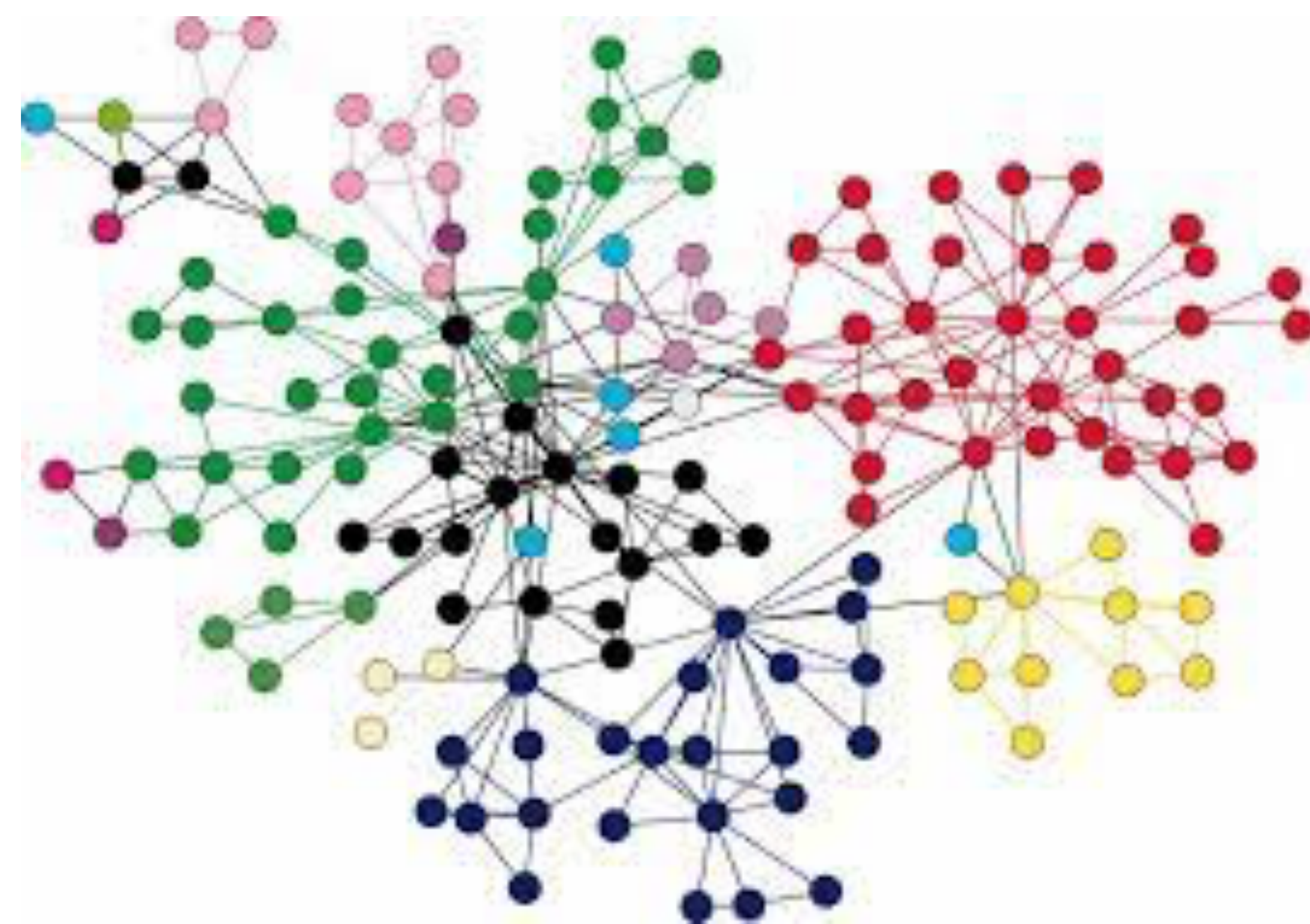
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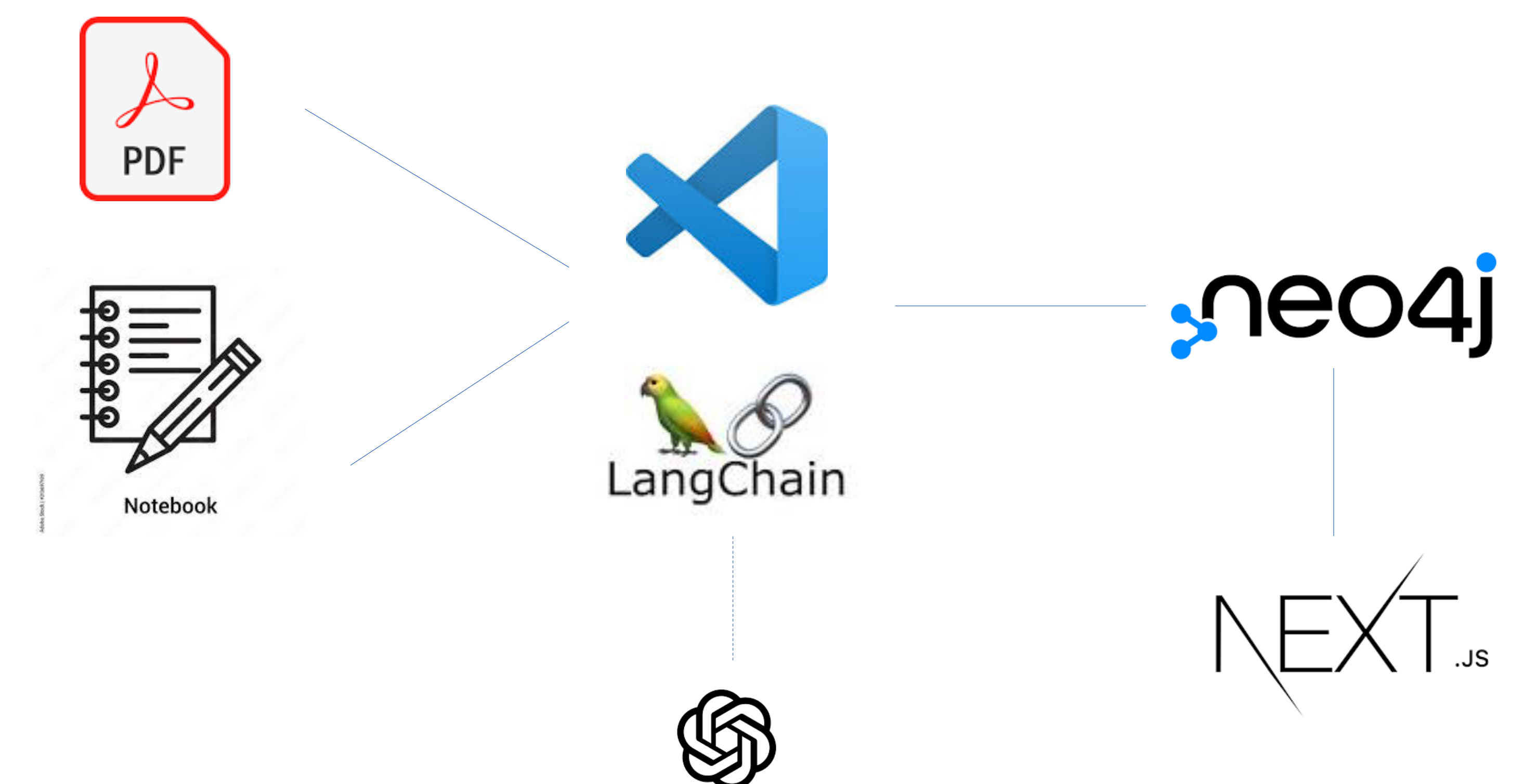
PROBLEM

The collaboration between material science and computer science faces a significant deficiency, lacking a knowledge-sharing platform. To address this gap, our project has been developed—a comprehensive website utilizing OpenAI API and Neo4j to illustrate relationships between materials and elements. This platform serves as a hub for researchers to share insights, and providing a valuable resource for companies seeking materials for their projects. With a focus on user-friendly interfaces, data accuracy, collaboration features, and advanced functionalities such as data visualization and recommendation algorithms, this initiative aims to bridge the gap between these two fields. The platform also prioritizes security, privacy, and community building, offering a space for professionals and learners alike to explore and contribute to the diverse world of material science.

Object Design



SYSTEM DESIGN



Conclusion

In summary, the collaborative material science and computer science platform leverage Neo4j and OpenAI API to create a system for modeling relationships within material science. The backend infrastructure, secure authentication, and machine learning-driven features ensure efficient data management, user-friendly interaction, and personalized insights. Overall, the platform stands as a robust, scalable, and innovative solution.

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ACKNOWLEDGEMENT

The material presented in this poster is based upon the work supported by XXXXX (name of the project sponsor: federal, state or local government, or corporate partners, where applicable). We/I thank XXXX for his/her/their assistance and mentorship that I/we received throughout the senior design project.