



Knight Foundation School of Computing and Information Sciences

**Knight Foundation
School of Computing
and Information Sciences**

Spring 2024 Senior Design Project

DemoEd

Students: Alisa Chavez

Mentor: *Dr. Sat Gavassa Becerra*, Product Owner

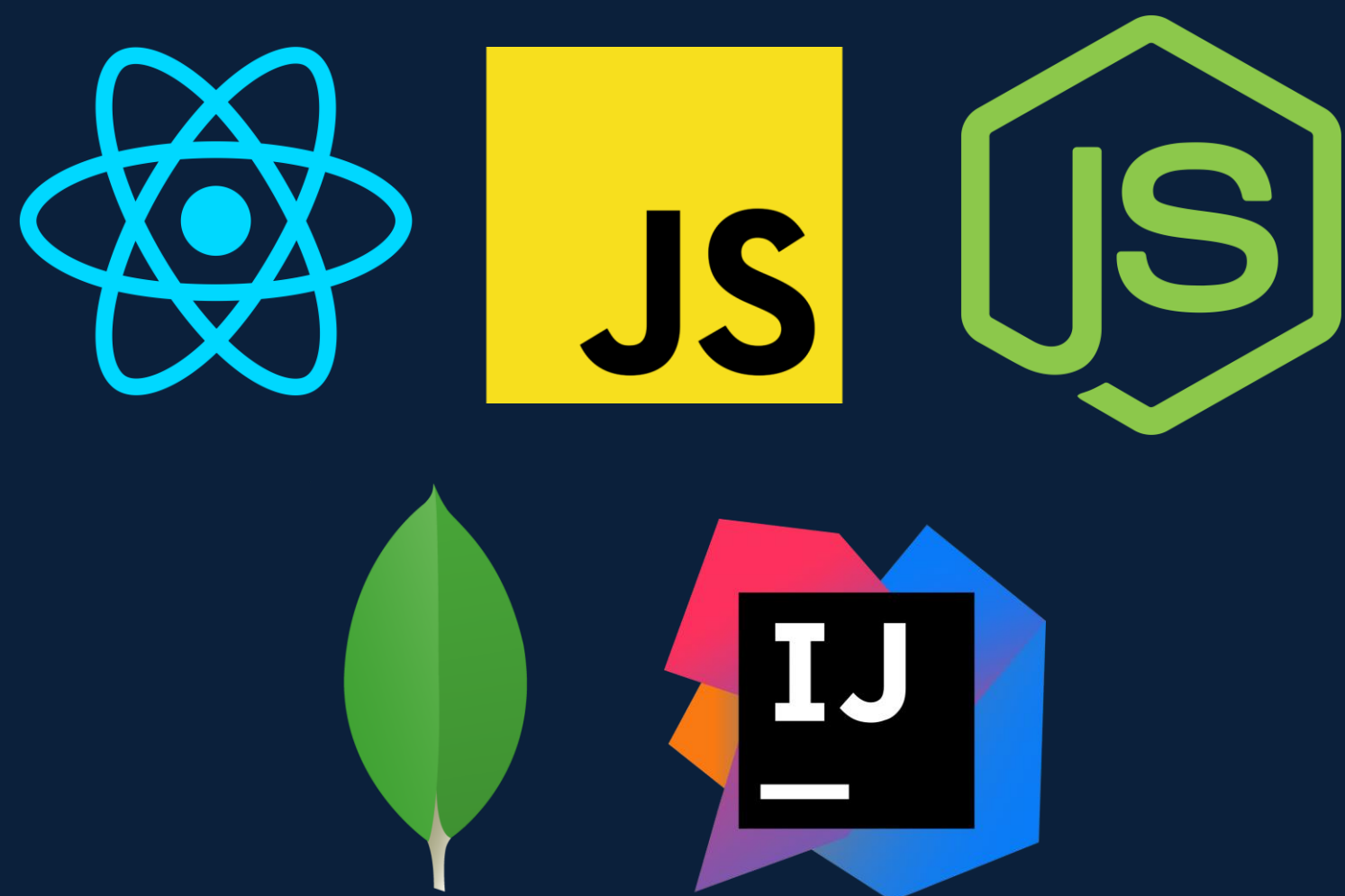
Instructor/Faculty: *Dr. Masoud Sadjadi*, Florida International University

PROBLEM

- Existing educational software does not offer the flexibility of creating instructor-configurable content to students; i.e., editable quizzing features. The existing product, DemoEd, aimed to solve this problem by offering a content creation tab to instructors to easily create and implement such features. The web application had successfully been able to create student and instructor accounts, manage classes, and even add assignments. However, there were issues in implementing this content section, which became the primary focus of our project this semester.

SOFTWARE SPECIFICATIONS

- DemoEd is a web application with a server backend structure running on MongoDB, connected with the NodeJS framework and managed by Nodemon utility library. This schematic works for easy deployment and testing of frontend and backend services.
- The frontend portion of this application uses Javascript, HTML, and CSS. The React library was decided for this implementation due to its lightweight and easy-to-use interface, along with its simple development process and readily available documentation.
- Finally, the recommended IDE is IntelliJ IDEA. Below is brief picture of requirements and current system overview to run the software, including but not limited to:



APPLICATION DESIGN

IMPLEMENTATION

- The multiple-choice editor and interactive elements were implemented through React. This portion integrates it directly into the application's existing source code. This was successfully completed by adding it under the 'Create Content' tab for instructors.
- This multiple-choice allows for instructors to be able to create and preview quizzes, add correct answers, questions and options.
- Existing research was used as well as repositories, libraries, and packages in assisting with the creation of interactive quiz elements.

VERFICATION

- All progress had to be documented and pushed to separate GitHub branches, which were all part of Professor Gavassa's project repository. Collaboration was done in groups of two, so each one would evaluate the successful completion of his or her portion together before contacting the product owner for verification.

SUMMARY

- The addition of the multiple-choice component and other interactive elements aim to add configurable features to instructors that can be given to students.
- The purpose of the multiple-choice is to allow professors and teachers the ability to create customized content that cater to whatever flexibility of learning and teaching they need. With the multiple-choice, instructors can create quizzes of any kind to students in their class.



**Engineering
& Computing**

ACKNOWLEDGEMENT

The material presented in this poster is based upon the work supported by Professor Gavassa and Hamilton Elsik. I thank Gavassa and her team for their assistance and mentorship that we received throughout the senior design project.

FLORIDA INTERNATIONAL UNIVERSITY