



Knight Foundation School of Computing & Information Sciences

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Sensor Data Visualization

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PROBLEM

The main goal of Koios is to create a flexible tool that can be used for different types of research and can be expanded in the future. The main purpose is to manage different studies and act as a bridge between organizations and their specific sensing needs. This approach can improve the quality of data, particularly when resources are scarce, and also make it more cost-effective.

CURRENT SYSTEM

The system currently has two ways for users to interact with it: a mobile app created with Flutter and a web app made with Java Web Toolkit. On the administrative side, there is a separate web app that was constructed with React.js, SASS, axios, and Spring Boot. This administrative system can handle login requests, authentication, access to the database to load studies and surveys, and display data in the form of charts. The Flutter app can communicate with the server and store user data in the database efficiently. It also has good data visualization through graph-based representations, which makes it easier for users to understand the data.

REQUIREMENTS

- Installing MySQL workbench to run the Koios Database.
- Install IntelliJ and VSCode to run the backend and frontend respectively
- Learning how to use React in VSCode to write frontend code.
- Learning how to use Spring in IntelliJ to write frontend code.

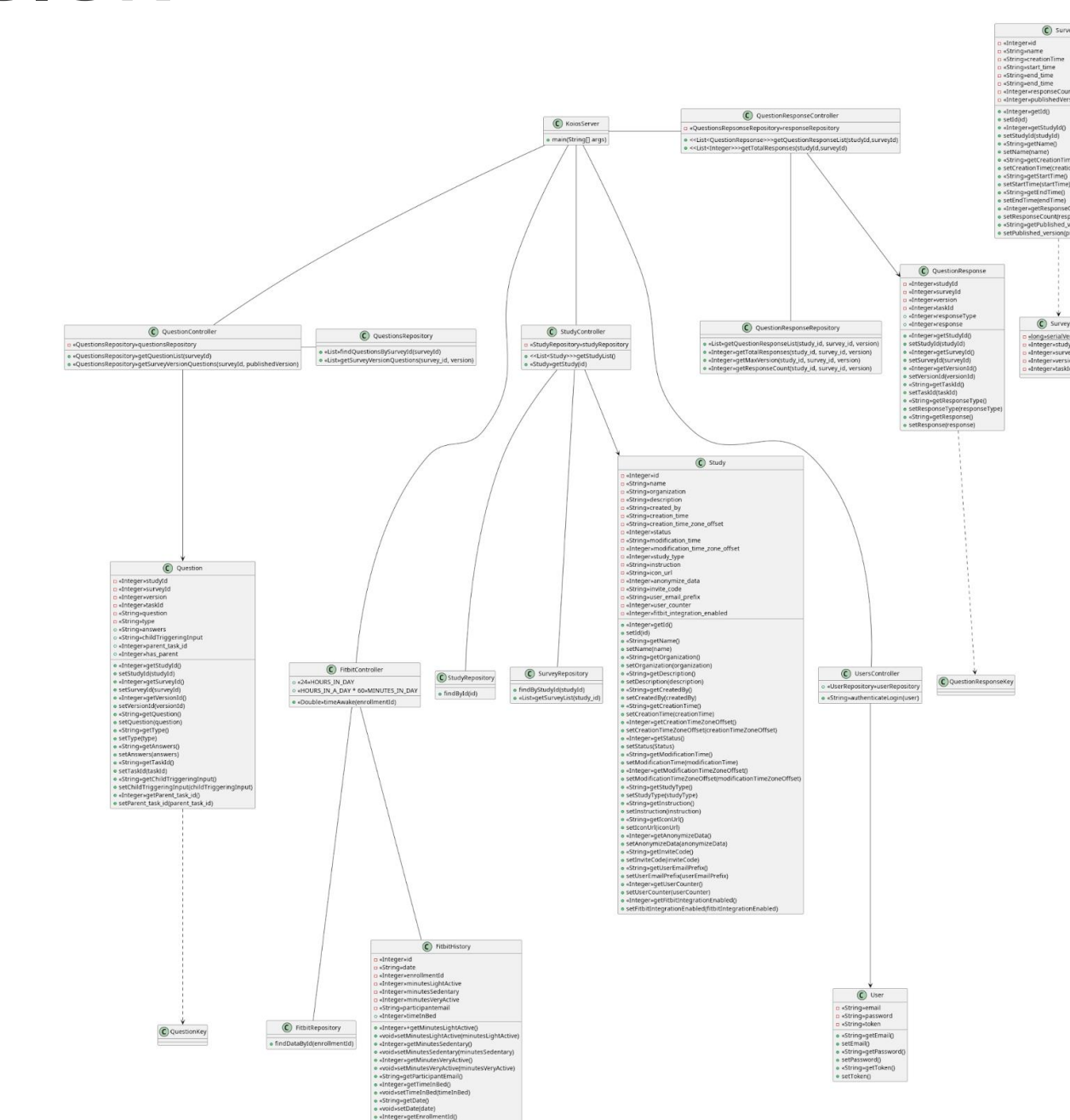
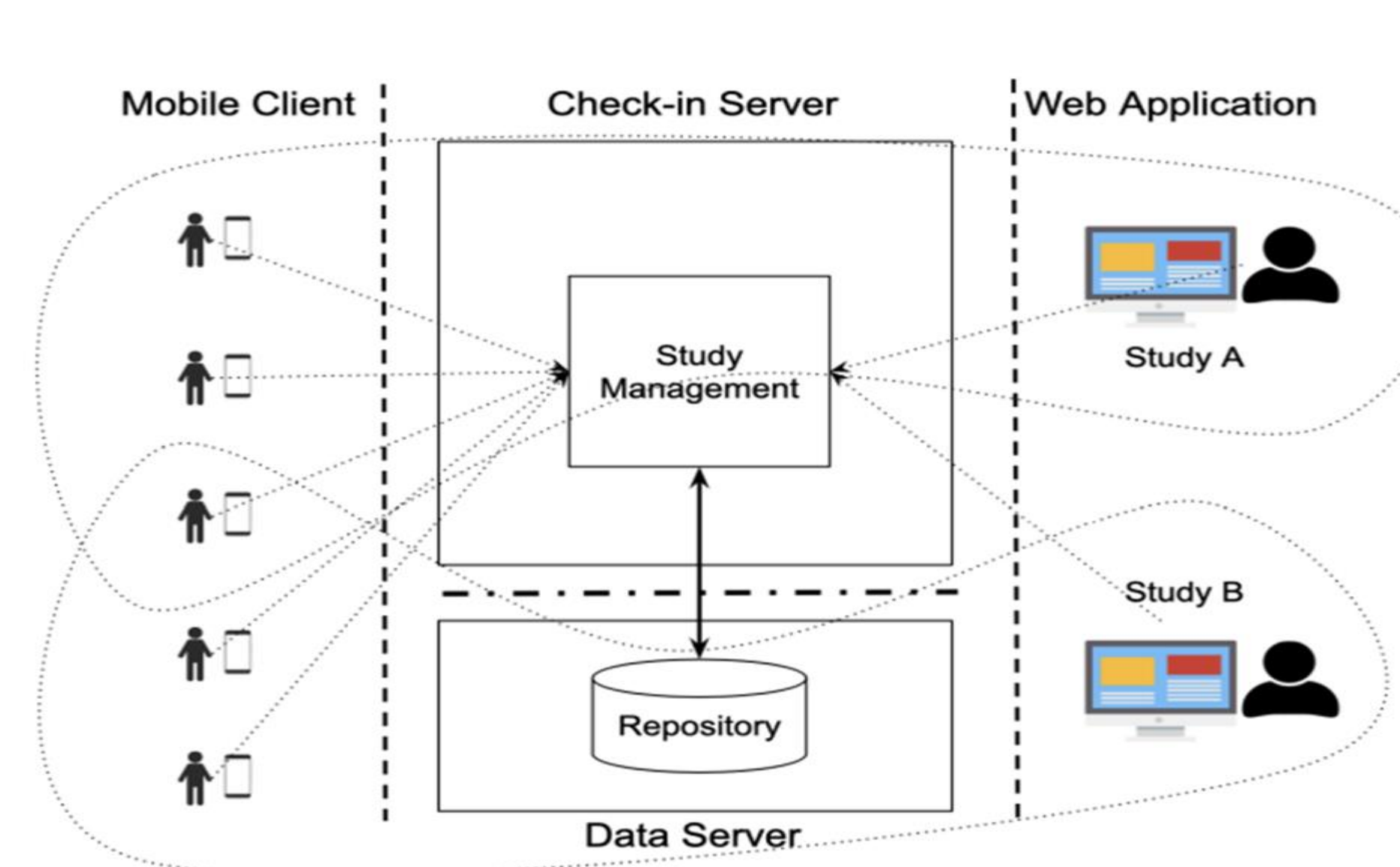
IMPLEMENTATION

- GitHub was used to create and store all the project documents and updates.
- React in VSCode was used to display the front end of the code.
- Spring was used to create .
- IntelliJ was used for the back end of the code.
- Postman was used to test the back end
- MySQL was used to grab queries from the database.

SCREENSHOTS

Home Studies Login		
Id		Name
1	Initial Data Collection One-Time	Questions
2	Initial Data Collection Always	Questions
3	Event Questionnaire	Questions
4	Audio Test	Questions
5	Periodic Mental Health Questionnaire Every Two Days	Questions
6	Periodic Mental Health Questionnaire Always	Questions
Back		

SYSTEM DESIGN



SUMMARY

To sum up, we have developed a comprehensive full-stack application that streamlines research studies and offers a wide range of features such as processing user data and monitoring health-based studies on the user. Our development process has covered various areas, starting from the planning phase to development, deployment, and security. We have also focused on data visualization for different studies and have taken into consideration the needs of the end-users while developing the mobile application. Additionally, we have extensively monitored the system after deployment and have highlighted the future work that needs to be undertaken to ensure the project's continued success.

ACKNOWLEDGEMENT

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REFERENCES

<https://spring.io/guides/tutorials/rest/>
<https://legacy.reactjs.org/docs/react-api.html>