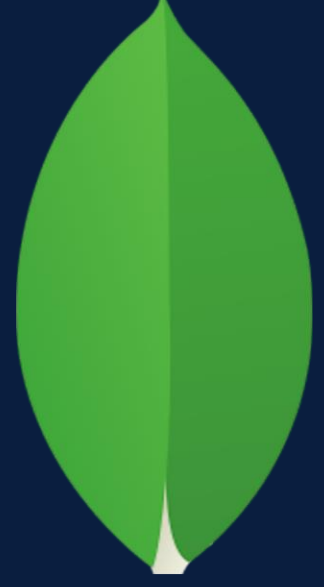




mongoDB®



Florida International University

Fall 2022 Senior Design Project

P2P Drive

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PROBLEM

P2P was founded on our team goal of creating a fast, secure, user-friendly drive system that utilizes Interplanetary File System (IPFS), operating on content addressing rather than location addressing.

CURRENT SYSTEM

As there are no existing drive storage systems that operate using content-addressing localization to build our project from, our team created our own front-end and back-end via existing API's and plugins through IPFS.

SUMMARY

P2P is a drive storage system that operates via content-addressable storage (CAS), a way to store information so it can be retrieved based on its content, not its name or location.

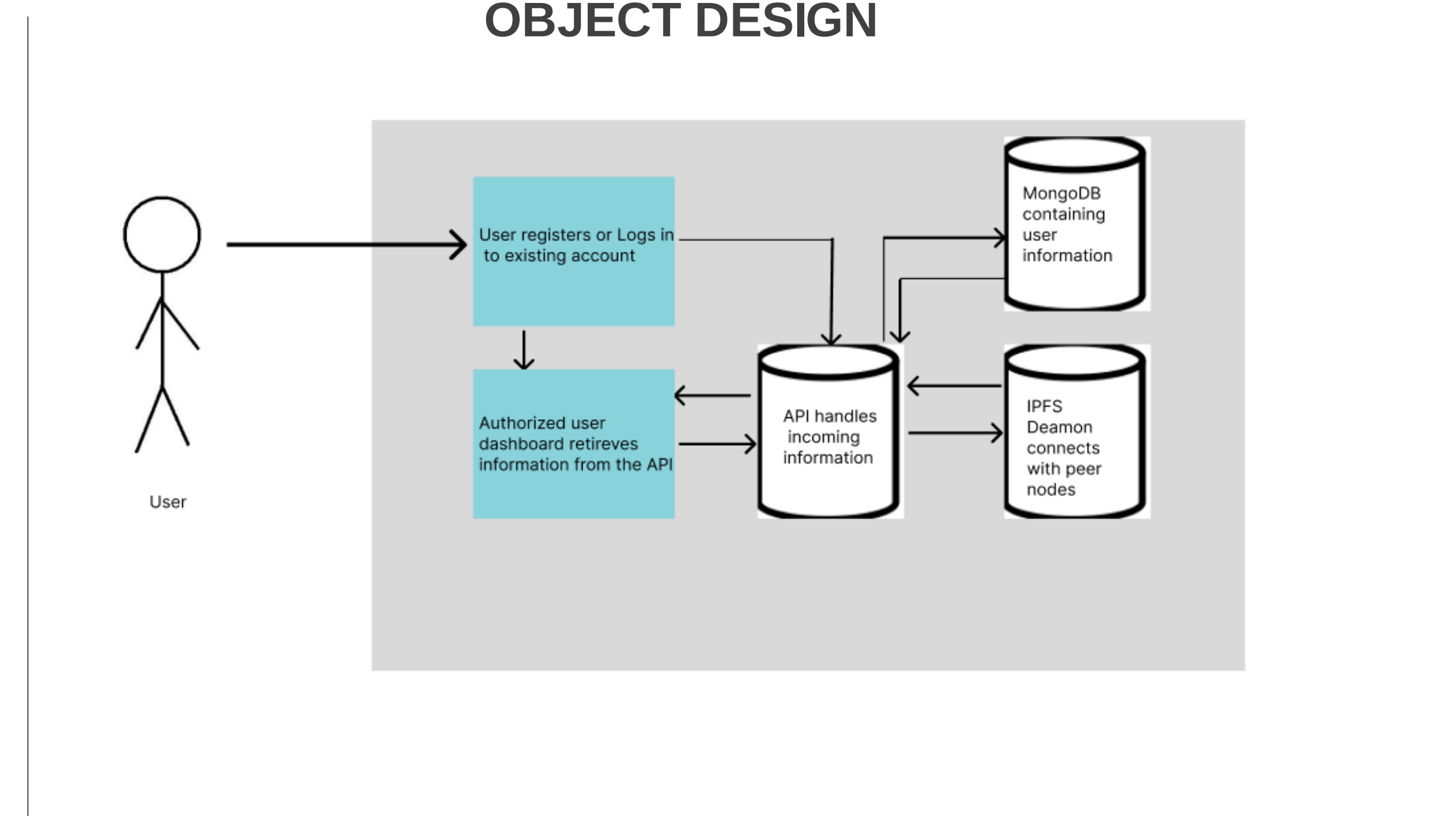
ACKNOWLEDGEMENT

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.

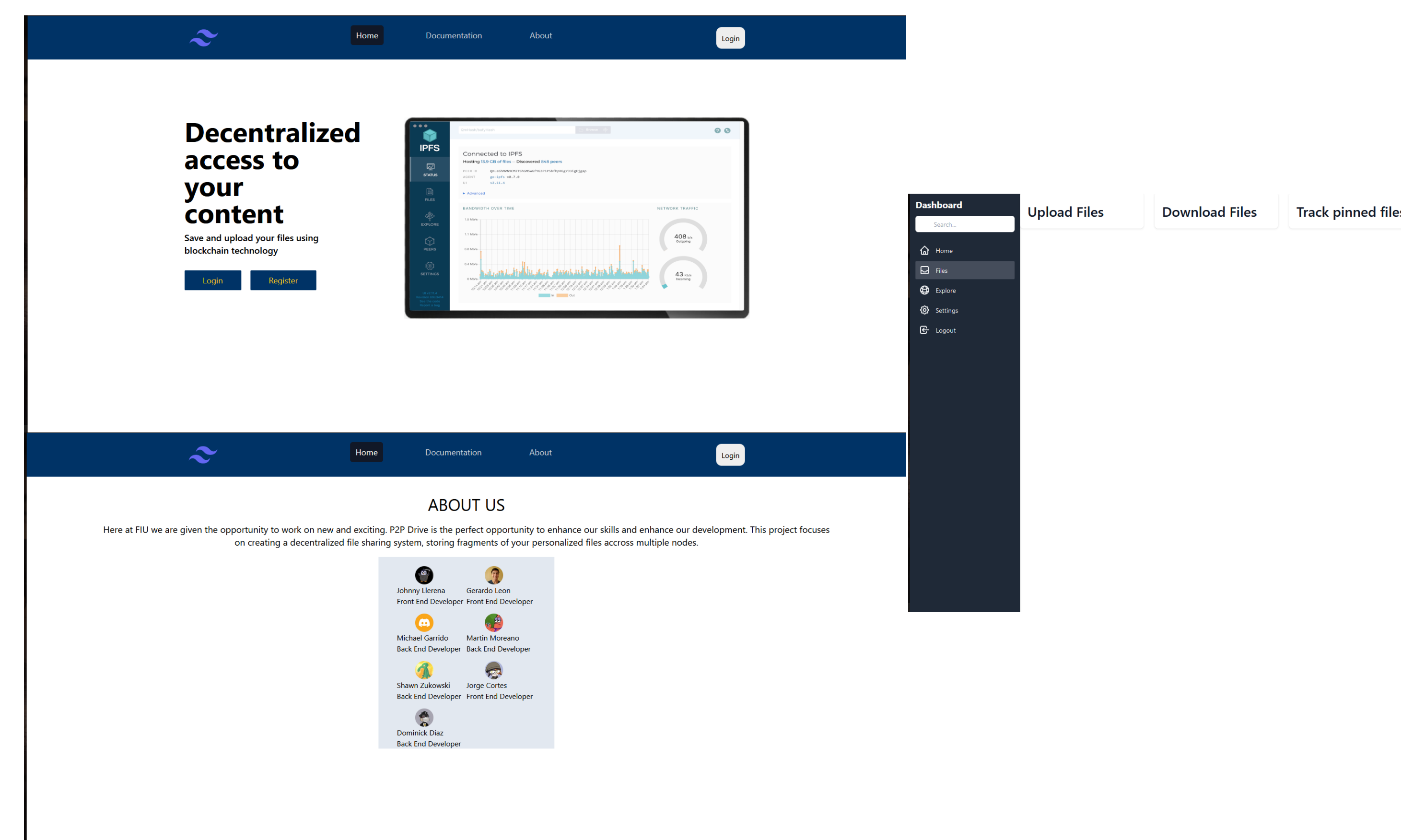
REQUIREMENTS

- Create a solid bedrock for a storage system designed for basic, yet secure, file exchange
- Design a simple and effective UI that is both easy to navigate and easy on the eyes
- Implement a database to store basic user information such as login/signup credentials

OBJECT DESIGN



SYSTEM DESIGN



VERIFICATION

We used Postman to verify the API's offered to us by the IPFS API CLI section on their website (see references)

IMPLEMENTATION

- Securely encrypted user credentials and information
- MongoDB used for storing user data
- API containing routes and models connecting to our database and daemon designed in Golang Fiber
- Web application designed in React.js with TailwindCSS
- Swagger UI to document our API
- Forms and Axios used to transfer data to and from web application

REFERENCES

- <https://ipfs.io/>
- <https://docs.ipfs.tech/>
- <https://github.com/mmoreano/P2P-Drive/tree/main>
- <https://docs.ipfs.tech/reference/kubo/rpc/>
- <https://proto.school/tutorials>
- https://github.com/PenguinAmbush/P2P_Drive_Web/main