

# BITS F452 BLOCKCHAIN TECHNOLOGY

## FINAL PROJECT

Group 05 - BankDapp

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### Motivation:

The concept of crypto-bank has the potential to revolutionize everything right from transactions to how money is generated in the financial market. Many crypto enthusiasts believe that blockchain and digital assets will replace banks in the future. Additionally, many people think that this technology will enhance the traditional banking system and make it more efficient.

The main benefit of cryptocurrency banking is that the exchange platform allows consumers to use the digital coin balance just like any other currency to make day-to-day withdrawals and purchases, just like cash, instead of keeping it as an investment.

Crypto-banks are advantageous because they provide a level of privacy and security that users can't get with traditional payment methods. Many companies offer the chance to earn interest on digital assets, similar to a high-yield savings account. Additionally, many crypto platforms offer crypto-backed loans, which allow you to use your portfolio as collateral to secure a loan, similar to securities-based lending.

### About the Project:

The project titled BankDapp is a DeFi App which serves as a bank for cryptocurrency. It allows customers to deposit their cryptocurrency and then withdraw at a later date. As an incentive for using the bank, customers are issued tokens every time they make a deposit/withdrawal.

### Tools used:

- Truffle - A development environment, testing framework and asset pipeline for blockchains using the Ethereum Virtual Machine (EVM).
- MetaMask - A software cryptocurrency wallet used to interact with the Ethereum blockchain. It allows users to access their Ethereum wallet through a browser extension or mobile app.

- Ganache - Used for setting up a personal Ethereum Blockchain for testing Solidity contracts.
- HTML, CSS, Javascript for frontend and node js for backend.
- Solidity - The smart contracts are coded in Solidity which is an object-oriented programming language for writing smart contracts. It is used for implementing smart contracts on various blockchain platforms, most notably, Ethereum.

## Video Demonstration:

[Link](#)

## FrontEnd:

To develop our front end, we used bootstrap to generate our initial components and elements. Along with this, we used react for the overall frontend development along with HTML, CSS, and Javascript

In the code itself, we used the tab function to differentiate between the 3 main functions of the website. These functions are deposit, withdraw and check the number of food tokens. So, whenever a user clicks on a specific tab between these three, the code ensures that the correct output is given.

Second, we have a balance function. The use of this function is to display the number of ether coins left in your wallet. Next, we used a className variable. This is used to capture the amount of ether entered by the user. This function is used both for deposits and withdrawals. The final tab function is used to fetch the food token balance from the contract after calculating the interest.