Presidential Initiative for Artificial Intelligence and Computing (PIAIC)

https://www.piaic.org

Blockchain Specialist Program

Course Syllabus

Quarter IV: BC-501 Dapp Development and How to DeFi

Version 1.0.0 - 2020 (12 Weeks)

Teaching Team: Zeeshan Hanif, Qasim Shabbir Ferozpurwala, Muhammad Hammad Ahmed, Umair Munaf Moon, Muhammad Mudassir Khan, Mirza Fasihullah Baig, Muhammad Ali Raja, Yousuf Hanif, Aaly Malik, Jawad Ahmed, and Ahmad Manzoor

Class Duration: 4 hours

Course Description: We start the course by learning Redux. Then we will learn to build world class Dapps using Truffle, Drizzle, and React. We will end the course by hosting our Dapp on IPFS.

Please bring a Laptop with you for the Classes (Required, but not mandatory)

PIAIC Announcements Facebook Group: https://www.facebook.com/groups/piaic/

Course Facebook Group: https://www.facebook.com/groups/cryptowitai.blockchain/

Portal for online and onsite students:
https://portal.piaic.org/

Chat on Telegram:
Group Name: PIAIC-BC
https://t.me/piaic_bc

Grading:
Students will be graded based on Percentile
https://en.wikipedia.org/wiki/Percentile
https://en.wikipedia.org/wiki/Percentile_rank

A-Grade: 78 - 99 Percentile
B-Grade: 41 - 77 Percentile
C-Grade: 23 - 40 Percentile
D-Grade: 1 - 22 Percentile
F-Grade: Anyone who did not appear in two or more exams

Note: Anyone who receives a F-Grade will be removed from the program. Students who receive a D-Grade will be put on probation, and be required to earn a grade of C or above in the next quarter, to remain in the program.

Important Note:
If a PIAIC candidate doesn't appear in a Quiz at the scheduled time announced by management 10% score will be deducted from the test score for every week of delay.

DeFi Textbook:
How to DeFi by CoinGecko, Darren Lau, Daryl Lau, Sze Jin Teh, Kristian Kho, Erina Azmi, TM Lee, Bobby Ong
https://landing.coingecko.com/how-to-defi/

Course Outline:

1. **Redux Basics (Weeks 1 - 2)**
   https://redux.js.org/basics/basic-tutorial
   https://redux-toolkit.js.org/

   Project Due: Todo App using React and Redux due in Week 4

2. **Truffle Fundamentals (Weeks 3 - 4)**
   https://www.trufflesuite.com/docs/truffle/overview
   https://www.trufflesuite.com/docs/truffle/getting-started/creating-a-project
   https://www.trufflesuite.com/tutorials/pet-shop

   Project Due: Build an App using Truffle due in Week 5
   Example: https://www.edureka.co/blog/developing-ethereum-dapps-with-truffle

3. **Building Frontend with Drizzle and React (Weeks 5 - 7)**

   https://www.trufflesuite.com/tutorials/getting-started-with-drizzle-and-react
   https://medium.com/block-journal/drizzle-for-react-introduction-and-dapp-integration-breakdown-4176ddb759f9
   https://itnext.io/how-to-use-drizzle-truffle-and-react-to-make-the-best-front-end-for-your-ethereum-dapp-ee09c8e94eae

   Project Due: Build an App using Drizzle and React due in Week 11

4. **Hosting your DApp on IPFS (Week 8)**
   https://medium.com/coinmonks/a-hands-on-introduction-to-ipfs-ee65b594937
   https://ipfs.io/#get-started
   https://energyweb.atlassian.net/wiki/spaces/EWF/pages/514555905/How+to+host+your+DApp+on+IPFS

5. **How to DeFi (Week 9 - 13)**
   https://www.bitkom.org/sites/default/files/2020-07/200729_whitepaper_decentralized-finance.pdf

   How to DeFi by CoinGecko, Darren Lau, Daryl Lau, Sze Jin Teh, Kristian Kho, Erina Azmi, TM Lee, Bobby Ong
   https://landing.coingecko.com/how-to-defi/

   Final Quarter Project Due: Build a Full Stack Dapp (required for Graduation)
   Example: https://www.dappuniversity.com/articles/the-ultimate-ethereum-dapp-tutorial