(Optional) Blockchain Research Area Exploration Assignment

Purpose

This assignment is **optional**. If completed, you may earn extra credit. Write a report on the findings from the Interest Area Discussions in which you analyze applying blockchain technology to your area of interest and propose a solution. The goal for this assignment is to consolidate your knowledge from the discussions, which include your findings as well as your classmates' responses on your thoughts, and compile your report in standard IEEE format that describes a current issue and a potential solution to resolve it. This task will allow you to apply your current experience with blockchain from this course to your career development for future endeavors.

Objectives

Learners will be able to:
- Identify an industry that can be improved with the benefits of blockchain
- Describe applications of blockchain technology
- Identify trade-offs and attack vectors associated with different consensus algorithms

Technology Requirements

- None

Description

Required prerequisite: Prior to beginning this optional extra credit opportunity, you must have completed all of the Interest Area Graded Discussions in order to qualify for this opportunity and to be eligible to receive extra credit.

Your goals for this task is to:

- Identify an area of industry of interest (healthcare, finance, immigration, education, identity, etc.), taking the beneficial properties of blockchain technology into account.

- Determine what phase would consider the intersection to currently be at (1. Thought/discussion phase, 2. Small scale projects and experimentation phase, or 3. Well-established projects and large scale effort phase)?

- Conceptualize applying blockchain technology to your area of interest.

- Distinguish private blockchain networks or a public blockchain network better for your use case.

- Identify the most important tradeoffs with respect to your conceptualization of introducing blockchain technology to your area of interest.

- Recognize the substantial roadblocks to implementation/adoption of your envisioned blockchain application in your area of interest.

- Propose a solution directive.

Directions

Report Preparations

Before starting, complete the following tasks in order to correctly gather the required information needed to write your essay:

1. Complete all the Interest Area Graded Discussions.

2. Gather information on each prompt specified in each Interest Area Graded Discussion.

3. Note valuable information/suggestions from your classmates' responses that could potentially strengthen your report's argument.

4. Analyze the pros and cons from their responses that could support your argument.

5. Conduct additional research and annotate peer reviewed articles and other credible sources to strengthen your argument.

Report Directions

Write a proposal addressing your findings in the provided order:

1. An introduction to your interest area which includes the issue you would like to resolve.

   a. Select an issue that is not already being addressed nor has an existing solution in the industry.

2. Conceptualize how and where you would apply blockchain technology to your area of interest.

3. Describe the roadblocks and important tradeoffs that happen within your area of interest.

4. Propose and explain your solution to the issue in relation to your interest area.

5. Cite at least four (4) references within your body of work in IEEE format.
   a. [Purdue OWL - In-Text Citation](#)

6. Provide a reference section at the end of your report in IEEE format.
   a. [Purdue OWL - IEEE Style: Reference Guide](#)
   b. [IEEE Reference Guide](#)

Submission Directions for Assignment Deliverables

You are given an unlimited number of attempts to submit your best work. The number of attempts is given to anticipate any submission errors you may have in regards to properly submitting your best work within the deadline (e.g., accidentally submitting the wrong paper). It is not meant for you to receive multiple rounds of feedback and then one (1) final submission. Only your most recent submission will be assessed.

You must submit your Blockchain Research Area Exploration Assignment deliverable in the appropriate submission space in the course. Learners may **not** email or use other means to submit any assignment for review, including feedback, and grading.

The Blockchain Research Area Exploration Assignment includes **one (1)** deliverable:

● **Typed Report:** Your Blockchain Research Area Exploration Assignment must be a single PDF with the correct naming convention: *Your Name_CSE 598 EBA_Blockchain Research Area Exploration Assignment.*

Evaluation

If your report is accepted, you may receive fifty (50) points extra credit. Partial credit will not be given for this assignment.

Your report will be evaluated based on the following:
● Problem statement is clearly stated and explained.
● You synthesized information from the existing Interest Area Graded Discussions
● Your arguments are well described and/or supported with appropriate citations.
● Your solution is thoroughly explained that it is actionable and possible to implement.

Rubric

Rubrics communicate specific criteria for evaluation. Prior to starting any graded coursework, you are expected to read through the rubric, so you know how you will be assessed. The rubric is provided to you, so you can self-assess your work and make informed revisions before submitting. Engaging in this learning practice will support you in developing your best work. Points may be deducted at the discretion of the faculty for disorganized submissions that convolute the grading process.

Criteria	Underdeveloped	Meets
Organization	Report did not follow assignment guidelines as stated and/or one or more elements is missing.	Report completely followed the assignment guidelines which includes maintaining the established order of the contents.
Introduction and Problem Statement	Selected topic is not clear and details did not relate to the Interest Area Graded Discussion topics. There was little to no connection made between the selected problem and the discussions. The problem is not related to current industry standards, already exists, and/or is already resolved. Citations were not provided correctly when needed.	Topic selected was clearly stated in relation to the Interest Area Graded Discussion topics. The problem selected was explained thoroughly with relation to the discussions. The problem is realistic to current industry standards. Citation provided to support ideas if needed.
Synthesis of Information	Ideas do not reflect the discussions and explanations lack clarity and understanding. Report is missing explanation of blockchain technology application and/or a description of the road blocks and important tradeoffs that occur with the selected interest area. Citations were not provided correctly when needed.	Drew ideas and/or references from the discussions and provided explanations in your own words. Explained how and where blockchain technology is applied. Described the road blocks and important tradeoffs that ocurr within the selected interest area. Citation provided to support ideas if needed.

Argument	Arguments lack details that it is difficult to conceptualize and does not motivate improvement to the application selected. Citations were not provided correctly when needed.	Arguments are thoroughly explained that they persuade a necessary change in relation to the chosen interest area. Citation provided to support ideas if needed.
Solution	Solution is not practical, not explained well enough, and/or does not provide realistic concepts to be implemented based on current industry standards. Citations were not provided correctly when needed.	Solution is practical and thoroughly explained that it is possible to be implement per industry standards. Citation provided to support ideas if needed.

Learner Checklist

Prior to submitting, read through the Learner Checklist to ensure you are ready to submit your best work.

- Did you include your legal first and last name in the document?

- Did you include Asurite ID in the document?

- Did you title your document correctly and convert it into a single PDF?

    - **Last Name_First Name_CSE 5##_Name of Assignment**

- Did you answer all of the prompts to the best of your ability?

- Did you make sure your answers directly address the prompts in an organized manner that is easy to follow?

- Did you self-assess your open-ended responses using the rubric and make any necessary revisions?

- Did you include references and proper citations in IEEE format?

- Did you proofread your work?