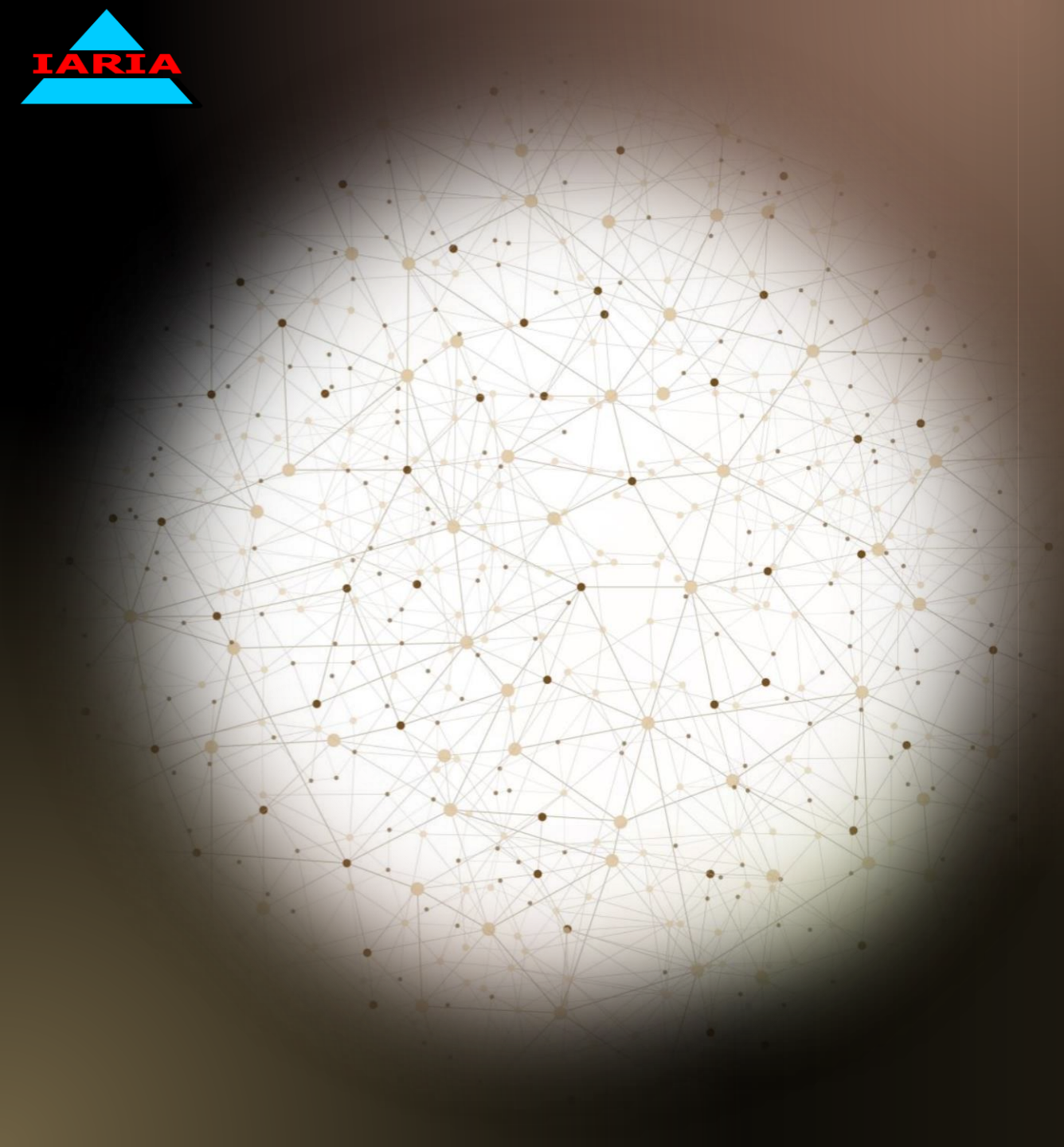


A Blueprint towards an Integrated Healthcare Information System through Blockchain Technology

AUTHORS

GHASSAN AL_SUMAIDAEE

RAMI ALKHUDARY

ZILIC ZELJKO

PIERRE FÉNIÈS

PRESENTER

GHASSAN AL-SUMAIDAEE

MCGILL UNIVERSITY

GHASSAN.AL-SUMAIDAEE@MAIL.MCGILL.CA

Presenter's resume

Ghassan Al-Sumaidaee is a Ph.D. candidate in the Department of Electrical and Computer Engineering at McGill University. He received his B.Sc. degree in Computer and Communication Engineering from Iraq and his M.Sc. degree from Amman Al-Ahlyia University, Jordan, in 2012 and 2017, respectively. His M.Sc. focused on research in machine learning and AI systems, including the development of an Intrusion Detection System based on hybrid artificial intelligent layers. Currently, his research interest is to develop a blockchain-based database for the Canadian healthcare with the goal of integrating multiple stakeholders in real-time and solving the current challenges of the Canadian healthcare system. He has been hired as a teaching assistant for several courses at McGill University.

OUTLINE

INTRODUCTION AND BACKGROUND

RELATED WORK

METHODOLOGY

PRELIMINARY FINDINGS

CONCLUSION

INTRODUCTION AND BACKGROUND

Blockchain is decentralized database or distributed ledger of digital records or financial transactions that are immutably registered following a precise consensus mechanism.

Blockchain technology proposed in the literature to integrate the healthcare information systems through a decentralized database which could solve the industry's heritage challenges.

Various corporations had been testing blockchain in supply chains to improve quality and information flows.

This research is motivated by the need to develop an integrated healthcare information system through blockchain.

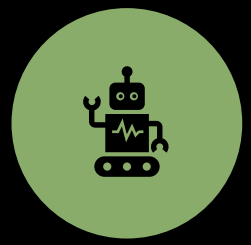
RELATED WORK

- McGhin Work
- Benil and Jasper work
- Zhuang wokrk
- Shi work

METHODOLOGY

PHASE 1:
SYSTEMATIC
RIVEW

PHASE2:
EXPLORATORY
STUDY

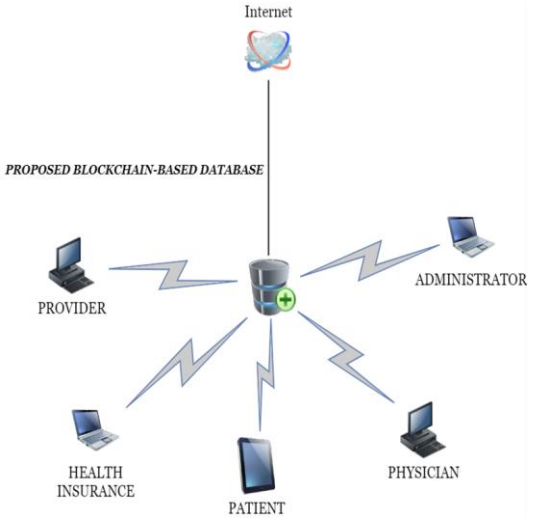


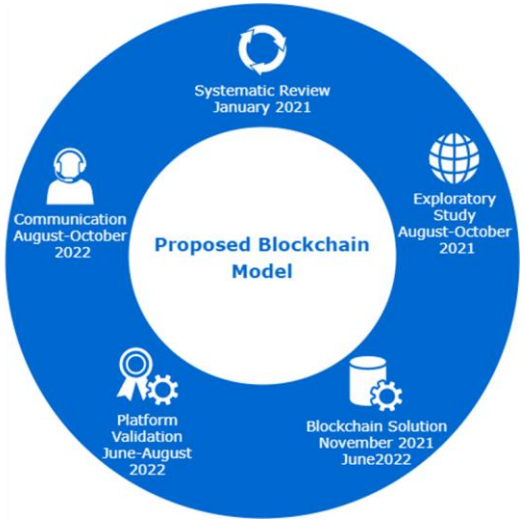
PHASE3:
TECHNICAL
SOLUTION

PHASE4:
PLATFORM
VALIDATION

PHASE5:
COMMUNICATION

PROPOSED SYSTEM





PRELIMINARY FINDINGS

SUITABLE CONSENSUS MECHANISMS FOR HEALTHCARE

HEALTHCARE SYSTEMS FRAGMENTATION

CONCEPTUAL FRAMEWROKS

CONCLUSION

BLOCKCHAIN CAPABILITY PROVEN IN THE LITERATURE

ACTUAL NEED IN HEALTHCARE INDUSTRY