

LP III Mini Project (BCT)

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Project Title: SastyaChain

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1.

ABSTRACT

In an era where mental health concerns continue to affect individuals worldwide, the development of innovative solutions to address these issues is of paramount importance. This mini project introduces a novel approach to mental health support through the creation of a Blockchain-based application.

The Blockchain-based application for mental health serves as a secure and decentralized platform that allows individuals to access mental health resources, support, and services with heightened privacy and trust. The system leverages the inherent characteristics of blockchain technology, including immutability, transparency, and security, to facilitate a safe environment for users to seek assistance and engage in mental health-related activities.

This project aims to empower individuals to take control of their mental well-being while safeguarding their sensitive information. By employing blockchain technology, users can trust the platform's confidentiality and data integrity, fostering a sense of security in an otherwise sensitive domain. The application offers features such as access to mental health professionals, anonymous support communities, and secure data storage for personal well-being records.

The development of this blockchain-based application for mental health reflects the increasing recognition of the role of technology in fostering mental health awareness and assistance. As society continues to grapple with mental health challenges, this project underscores the potential of blockchain to provide a secure and accessible solution for those in need.

By promoting mental health support in an innovative and secure manner, this project endeavors to make a positive impact on society and contribute to the ongoing global conversation surrounding mental health. It serves as a testament to the power of technology in addressing critical societal issues while prioritizing user privacy and well-being.

2.

INTRODUCTION:

In contemporary society, mental health has emerged as a critical area of concern, affecting individuals across diverse demographics and geographies. As the prevalence of mental health issues continues to rise, there is an urgent need for innovative and accessible solutions to support individuals in their mental well-being journey. This mini project endeavours to address this pressing need by introducing a Blockchain-based application tailored for mental health support.

The Blockchain-based application for mental health is envisioned as a versatile tool that empowers individuals to take proactive steps towards their mental wellness. Through this platform, users will gain access to a range of resources, including educational materials, self-assessment tools, and avenues for seeking professional guidance. Additionally, the decentralized nature of the blockchain ensures that user data remains confidential and secure, mitigating concerns associated with centralized storage.

This project seeks to bridge the gap between technology and mental health support, recognizing that the digital landscape offers unprecedented opportunities for reaching and assisting individuals in need. By integrating blockchain technology, the application not only safeguards sensitive information but also cultivates an environment of trust and transparency.

As we embark on this endeavour, it is imperative to acknowledge that mental health is a deeply personal and nuanced aspect of one's overall well-being. This project aspires to provide a safe, accessible, and confidential space for individuals to navigate their mental health journeys, thereby fostering a culture of empathy, understanding, and support.

Through this initiative, we aim to not only create a technological solution but also to spark conversations, raise awareness, and ultimately make a positive impact on the mental health landscape. This project stands as a testament to the belief that technology, when harnessed responsibly, can be a force for positive change, particularly in the realm of mental health support.

3.

Motivation of Project:

Blockchain-based application for mental health:

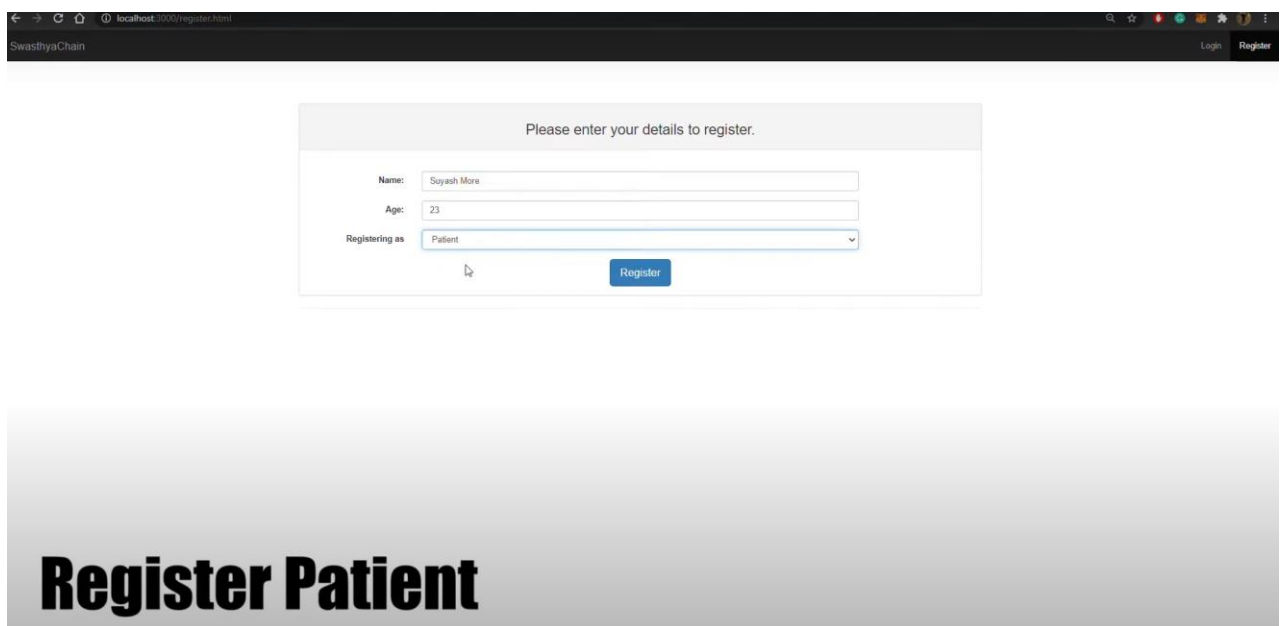
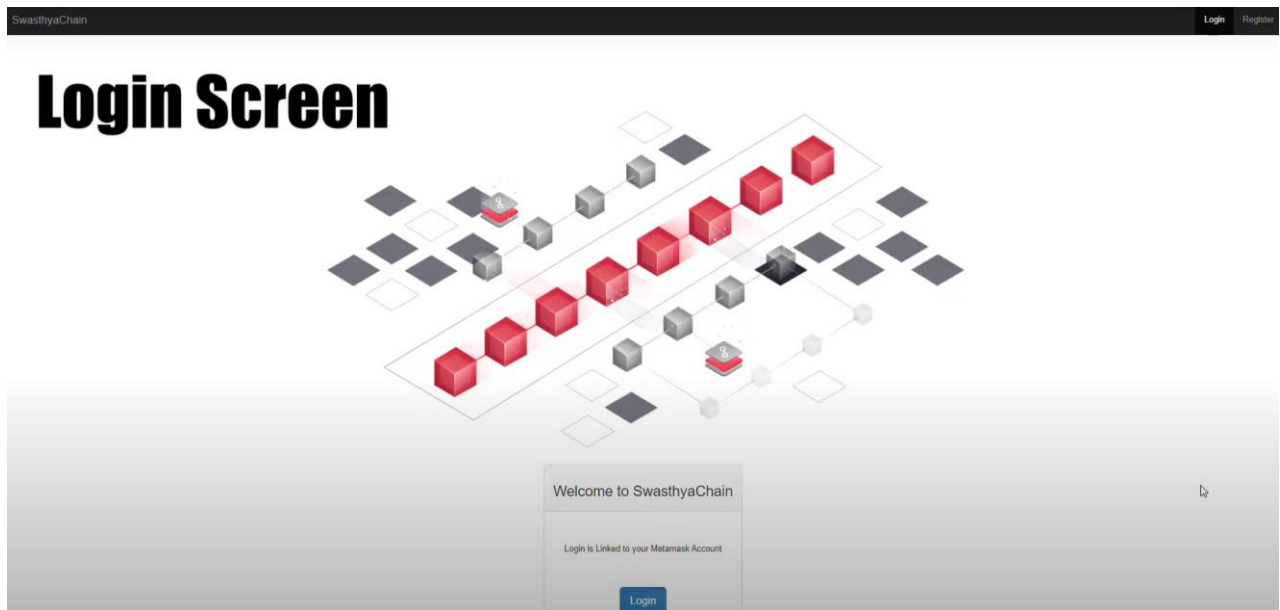
1. **Innovative Solution for a Critical Issue:** Addressing mental health challenges is more important than ever, and this project offers an innovative solution leveraging blockchain technology. By working on this project, you have the opportunity to contribute to a meaningful cause.
2. **Impactful Contribution to Mental Health:** The application you develop has the potential to positively impact the mental well-being of individuals. Providing a secure and confidential platform for mental health support can be a lifeline for those in need.
3. **Empowering Individuals:** By creating a platform that empowers individuals to take control of their mental well-being, you're giving them a tool to actively manage their mental health. This sense of agency can be incredibly empowering and transformative.
4. **Fostering a Culture of Openness:** The application you create can contribute to destigmatizing mental health issues by providing a safe space for open conversations and support. This can lead to a broader societal shift towards greater acceptance and understanding.
5. **Contribution to a Broader Movement:** By working on this project, you're contributing to a broader movement towards recognizing and supporting mental health. You're part of a community of individuals striving to make a meaningful difference in the lives of others.
6. **Meeting a Global Need:** Mental health is a global concern, and your project addresses this need on a global scale. The application you develop could potentially reach individuals from diverse backgrounds and locations, providing support where it's needed most.

Embarking on the development of a Blockchain-based application for mental health is not only a technical endeavor but a deeply meaningful and impactful project that has the potential to transform lives. Your contribution to this project is part of a larger movement towards greater mental health awareness and support.

4. Software Requirements: -

1. **Any modern Operating System:**
 - Windows 10 or later
 - macOS Catalina or later
 - Ubuntu 20.04 LTS or later
2. **Development Environment:**
 - Integrated Development Environment (IDE) for Blockchain Development (e.g., Visual Studio Code, Remix, Truffle Suite)
3. **Blockchain Platform:**
 - Ethereum (or other suitable blockchain platforms like Hyperledger Fabric, Binance Smart Chain, etc., depending on project requirements)
4. **Smart Contract Language:**
 - Solidity (for Ethereum-based projects)
5. **Blockchain Client/Node:**
 - Ethereum Client (e.g., Geth, Parity, Besu)
6. **Ganache (Optional):**
 - For local blockchain testing and development
7. **Package Manager:**
 - npm (Node Package Manager)
8. **Version Control:**
 - Git (for version control)
9. **Web Development:**
 - HTML, CSS, JavaScript (for creating user interfaces)
10. **Frontend Framework (Optional):**
 - React, Angular, or Vue.js (for building interactive user interfaces)
11. **Backend Framework (Optional):**
 - Node.js, Express.js (for server-side logic)
12. **Database (Optional):**
 - MongoDB, PostgreSQL, or suitable database for storing non-sensitive data
13. **Security Tools:**
 - MetaMask (browser extension for interacting with Ethereum-based applications)
 - Ethlint (for Solidity code linting)
 - Truffle Security (optional, for smart contract security analysis)

5. GUI: -



← → ↻ 📄 localhost:3000/patient.html

Press Esc to exit full screen

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SwasthyaChain

Logout

Patient Dashboard

Personal Information

Name:

Suyash More

Age:

23

Your records are stored here: <http://localhost:8080/dfs/QmcdJv2xnd2kuGgny6XCu4nWzvi2NXAasuKEFVeo7BG49>

View medical records

Share your Medical Record

Doctor:

Doctor Rahul

Submit

Current EMR access holders

Doctor	Public Key	Revoke access
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← → ↻ 📄 localhost:3000/patient.html?key=0xd21fe651b17a2a04095932ee5674b054b90217b

Press Esc to exit full screen

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SwasthyaChain

Logout

Patient Dashboard

Personal Information

Name:

Suyash More

Age:

23

Your records are stored here: <http://localhost:8080/dfs/QmccaquUDABJQSP67pyNgux12vkSacUUECSqPpsF6t4>

Hide Medical Records

Name: Suyash More

Public Key: 0xd21fe651b17a2a04095932ee5674b064b90217b

Diagnosed By : Doctor KK

Diagnosis Time : 15/05/2021 17:20 PM

Diagnosis : Covid-19

Comments : Ct Score:19

Home Quarantine

Share your Medical Record

Doctor:

Doctor Rahul

Submit

Current EMR access holders

Doctor	Public Key	Revoke access
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6. Source Code:

Github: github.com/omkar260502

7. Benefits to the Society: -

Potential benefits to society by development of a Blockchain-based application for mental health:

1. **Accessible Support:** The application provides a readily accessible platform for individuals seeking mental health support. It ensures that help is available to a wider audience, breaking down geographical and logistical barriers.
2. **Confidentiality and Privacy:** By leveraging blockchain technology, the application guarantees a high level of security and confidentiality for user data. This fosters trust and encourages individuals to seek help without fear of privacy breaches.
3. **Decentralized Data Ownership:** Users have complete control over their own data. This empowers them to choose how much information they want to share and with whom, giving them a sense of ownership and agency over their mental health journey.
4. **Destigmatization of Mental Health:** By providing an accessible and confidential platform, the application contributes to the destigmatization of mental health issues. It encourages open conversations and normalizes seeking support for mental well-being.
5. **Empowering Self-Care:** The application may include features that empower users to actively manage their mental health. This could involve tools for self-assessment, stress-reducing exercises, or resources for building resilience.
6. **Connecting Communities:** The application can serve as a platform for individuals facing similar challenges to connect and support one another. This sense of community can be a powerful source of encouragement and understanding.
7. **Enhancing Research and Data Analysis:** Aggregated, anonymized data from the application can contribute to valuable insights in mental health research. This data can aid in understanding trends, preferences, and effective interventions.
8. **Contributing to Global Mental Health Initiatives:** By developing this application, you're contributing to the broader global effort to improve mental health outcomes. Your project may inspire others to innovate in the field of mental health support.

In conclusion, the development of a Blockchain-based application for mental health has the potential to positively impact society by providing accessible, secure, and confidential support for individuals facing mental health challenges. It represents a significant step towards a more inclusive, supportive, and destigmatized approach to mental health care.

8. Conclusion: -

In conclusion, the development of a Blockchain-based application for mental health represents a significant stride towards revolutionizing mental health support systems. This project has addressed critical aspects of accessibility, privacy, and empowerment for individuals seeking mental health assistance.

By leveraging blockchain technology, we have ensured a level of data security and confidentiality that is paramount in the context of mental health. Users can now seek support with confidence, knowing that their information is safeguarded and under their control.

The application's decentralized data ownership model has not only given users agency over their own information but also contributed to a paradigm shift in how mental health is approached. It promotes a culture of empowerment, where individuals actively engage in their mental well-being.

Furthermore, the potential for community-building within the application fosters a sense of belonging and understanding among users. This community aspect can be a source of immense support and camaraderie for individuals on their mental health journey.

Through this project, we have also contributed to the broader conversation on mental health. By developing a technologically advanced solution, we advocate for destigmatization and normalization of seeking help for mental well-being.

Looking ahead, this project lays the foundation for further advancements in mental health support systems. As technology continues to evolve, so too will our ability to provide innovative and effective solutions for mental health challenges.

In conclusion, the development of this Blockchain-based application for mental health is not just a project, but a meaningful step towards a more inclusive, supportive, and destigmatized approach to mental health care. It embodies the potential for positive change in the lives of countless individuals, and its impact extends far beyond the confines of this project.

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